Impact of Covid-19 on Chinese Stock Market and Suggestions

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Abstract. Starting at 2020, the sudden out break of Covid-19 had a huge impact in the world. Cities and provinces in China has been going through lockdowns, and the Wold Health Organisation had included Covid-19 into PHEIC. Based on the research done on the affect of sudden outbreaks on the stock prices, this article will give analysis to the discoveries and expand on the results. On top of that, this article will give suggestions that could be applied during and after the pandemic for the recovery of stock market.

Keywords: Covid-19 · SRAS · Stock Market · Suggestions · Recovery

1 Introduction

This pandemic is similar to the 2003 SRAS, but comparing the datas, not only Covid-19 spread wildly and had infected more patients, but the actions done in order to prevent mass infection was more harsh. Due to the developing of economy, the change in economic status, and the international environments, the short-term economic impact would be larger than that in 2003. Up till May 20th 2022, the total infected population in China has reached 1,710,987, and total death caused by Covid-19 is 15,868 [1]. Although the pandemic control measure has successfully controlled the deterioration of Covid-19, but it also restricted the investment, consumption, and exports. With the global Covid-19, many countries and regions have declared a state of emergency and imposed strict quarantine systems and border closures to control the spread of the virus. These measures have severely restricted international trade and had a huge impact on the Chinese economy since it is a highly globalized economy.

Since the start of 21st century, there were 5 pandemics that World Health Organization (W.H.O). had placed in the "Public Health Emergencies of Global Concern", which are SARS (2003), H1N1 (2009), EBOV (2014), etc. these pandemics have severe potentials in impacting the economic society [2][3]. The stock market is a reflection of the country's economic status [4]. Giving quantitative analysis on the impact of Covid-19 on Chinese stock market is the important method of approached on recovering after the pandemic. This article will be using the affect of SARS on Chinese stock market and the recovering approach for SARS, and comparing it with the status of Covid-19 to seek out the impact of pandemic and the method for recovering.

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2 Literature Review

Covid-19 is a worldwide emergency, with a great uncertainty and destructive characteristics. Based on the research by Shelor and Cross (1992) [5] on the impact of 1989 California earthquake on the stock price of the public insurance companies, it turn out that the earthquake had a significant negative effect on the insurance companies' stocks, and it is believed that the investors' pessimistic expectations and uncertainty of future losses are the main reasons for the losses. But the negative shock gradually diminishes as the earthquake is certain to be ending. Andrew and Valadkhani (2004) [6] used ARMA model, selecting the natural disasters that happened during 1982 to 2001 in Australia, analyzing the impact of sudden natural disasters to the value of stock index. The research revealed that only earthquake and hurricane would have a negative affect on stock market in short term and the affect will reverse in 5 days. Then look at the more recent analysis based on Covid-19 by Chen and Qian [7], they used ARIMA model to analyze the data to find the impact of pandemic on the stock market from October of 2019 till March of 2020. The data showed that at the beginning of Covid-19, the impact on stocks were negative, and with a negative push, reaching the peak at February 3rd.

Summarizing the existing literatures, the research of impact on stock markets are mostly based on natural disasters and terrorists, the conclusions are mostly with negative shock in the short terms, while the impact of long term stock prices are minor [8]. This conclusion was based on two reasons. First of all, the pessimistic expectations of the investors caused by the unexpected crisis. This is the main reason causing the stocks' prices to be dropping, since with a crisis, the investors will have negative views on the future of the company or the industry affected by that event, causing them to sell a massive number of shares, which makes the price in short term to be decreasing rapidly. On the other hand, after the crisis has gone, the price of the stocks will rise back again with the disappearance of the pessimistic views, and at that period, the prices of stocks are worth less than investors' expectations, causing a rise back to a normal price. Secondly, it is due to the actual loss made by the event.

Multiple researches have shown that the impact of investors' views are much more larger than the impact of the actual loss. But these researches are mostly based on natural disasters such as earthquakes and tornados, rather than directly on health crisis. Although natural disasters cause loss and chaos, but the impact is way smaller than Covid-19 to the world. This article will analyze the impact of other health crisis, taking SARS as an example and the coronavirus to find a conclusion of trend, and give suggestions of economic recovery.

3 The Differences of SARS' Impact COMPARING with Covid-19

The overall prediction is that the impact of Covid-19 is more severe than the impact of SARS. Covid-19's impact on economy is similar in comparison to SARS, but also very different in some aspects. To be specific, the differences could be separated into four categories.

The first one is that the international environment is different. In 2003, the world economy was in rapid recover after the internet bubble, China had just joined WTO, the exports are growing rapidly from the 6.8% in 2001 till 34.6% in 2003. Where as starting in 2019, the world economy is at the period where it's going for anti-globalization, the trade wars between China and U.S. reached an agreement after two years of negotiations. The increasing rate for exports are only 0.5%, which means that there is a lack of motivation in recovering the economy.

Second, there is a difference in stages of development. During the SARS period in 2003, the Chinese economy is still focused on industrialization, urbanization, and consumption upgrading. The economy is at a high growth stage with strong increasing momentum. However, currently China is facing the problem of increasing rate in aging populations comparing to total working age population. The Chinese economy is facing a large pressure under these circumstance, which means the sudden outbreak of Covid-19 had become more sever.

Thirdly, there is a difference in the economic structure. The industry that is most affected by the pandemics is the tertiary sector, which in 2003 is only 32% of the country's GDP, in 2019, the rate has raised till 54%. With a large increase in the percentage of the GDP, the impact by the Covid is certainly larger. The impact on the manufacturing industry should not be underestimated as well, the quarantines during Covid-19 are more wider in range than SARS, which means the logistics will be restricted, a percentage of the firms will have difficulties in operating under these circumstances, causing a larger percentage of unemployed working age population.

Last is the difference in the ranges of infection. The out break of Covid-19 happened right before the lunar new year, and was at Wuhan, a transportation hub. The virus is more contagious than SARS, it spread quicker and further, which caused the infected population to quickly pass the number during 2003. Meanwhile, the policies are taken more seriously in all the cities and provinces, causing a harsher impact in the economy.

Over all, the impact of Covid-19 would be more larger than SARS. In 2003, the GDP growth rate of second quarter dropped 2% till around 9%, but in the third and fourth quarter gradually increased back to 10%, showing the toughness of the economy. Which means that although the impact would be bigger, but the economy will still be stable and gradually recover from time to time. The impact will be large in the short run, but in the long run, the economy will recover from the pandemic.

4 The Impact of SARS in Chinese Stock Market

SARS, a health crisis in 2003, similar to Covid-19. It is an infectious disease with rapid onset, rapid spread, and high mortality rate. Most of the infected patients are in direct or indirect contact with the patients or live in the area. On March 12th 2003, W.H.O issued a global warning, and then the U.S. Centers for Disease Control and Prevention issued another health warning [9]. W.H.O. recommended isolation and treatment of suspected cases, and a network of health care workers was established to assist in the study of the SARS outbreak, which is similar to the actions done to control Covid-19. Based on these information, SARS could be a good reference for Covid-19.

Stock market is a reflection of the economy. Looking at the Chinese Composite Index and the Hong Kong Hang Seng Index of 2003, we can see that stock prices of the mainland has been rising, but the Hang Seng Index had been dropping. After that, this

Fig. 1. Chinese Composite Index and Hang Seng Index during SARS

article will analyze the impact on specific industries, such as the manufacturing industry, shipping industry, and pharmaceutical industry. These are all industries affected by the pandemic, which could better reflect the impacts of the outbreak on stock market.

4.1 Chinese Composite Index During SARS

Looking at Fig. 1, the Chinese Composite Index could be separated into three categories, the first, from November of 2002 till March 2003, second, from March till mid of April where it reaches a peak in the price, and the last, from mid of April till the end of the pandemic.

Viewing the first stage, we can see that the price shrank rapidly, with only a small rise before March. During this period, two things that happened had a large impact on the stock market. First of all, the discovery of SARS, causing a pessimistic view in the current stock market by the investors, by selling shares out, the prices decreased rapidly. Then it is because of the announcement made by W.H.O, once more, it made the investors more pessimistic and caused panic in the investors. Moving to the second stage, the government quickly made decisions and put policies into use, which helped the index prices to rise. There are several reasons for the prices to be rising instead of what it is suppose to do, which I dropping. First, it is due to the large increase in the amount of M2, causing investment to increase, which helped Chinese Composite Index to be rising. Other than that, looking back to 2003, the main industries during that time is not affected a lot by the pandemic, since they are the brokerage industry, auto industry, and the banking industry. All of these industries had an over 30% increase in price, causing a 16% increase in the Shanghai Composite Index and 27% increase in the Shenzhen Composite Index, which shifted the Chinese Composite Index into a increase in price. Third stage, which is where the pandemic has gone to an end. Although the warning of the pandemic is ending, the price is still decreasing with a stable manner.

Over the three stages, we can see that the price of stocks does not have a lot to do with SARS, because of the country's current economic status, and the policies involved during the crisis. Here, the conclusion could be the pandemic have a impact on the short term price, causing a pessimistic view in the market, and making the investors panic.

4.2 Hong Kong Hang Seng Index

Moving on to Hong Kong Hang Seng Index, as Fig. 1 have shown, at the start of the pandemic the stocks gradually decreased, and came to a turning point at May, and started rising quickly. The first stage of decrease was caused by the pandemic, due to the impact of SARS in the tourism industry of Hong Kong, and led to a loss in the catering industry and the hotel industry, this caused the investors to be viewing the stocks of Hang Seng Index unfavorably. The turning point was because of the announcement which put the SARS to an end in Hong Kong, making the investors confident in the market, increasing the investment due to the low price. And the market gradually recovered from SARS and had a stable rise in price.

As the evidence and researches provided, it is easy to see that the Hang Seng Index came to a quick recovery after the pandemic and the Chinese Composite Index did to have such a big rise. The reason is still due to policies of China. The policy imposed rose the required reserve ratio of Chinese banks from 6% to 7% which lowered the money supply of the country, causing a decrease in the investment. This showed that the impact of policies would influence the stock market more than the pandemic, which is the direction to search for outcomes of recovery after pandemic.

5 The Impact of Covid-19 in Chinese Stock Market

Coming to Covid-19, as we can see it has been wildly spread through countries and cities, it is contagious and not only harmful to our health, but also to the economy. With the trend seen in 2003, SARS affected the stock of Hang Seng Index, the study could be continued with current pandemic.

5.1 Chinese Composite Index

Looking at the Chinese Composite Index in Fig. 2 first, it could be separated into 3 stages according to the years. The values of the index is generally reflected by the positive cases found in China, but was also affected by foreign cases and monetary policies.

First of all, the year of 2020. The price of Chinese Composite Index dropped 10% as soon as the outbreak in Hunan which is around February of 2020, since the city was on lockdown for around two month. Chinese government soon imposed policies to support stock market, lifting it up, but with a outbreak of Covid-19 in the United States, the stock went to a complete fall in March. With the affect of imposing policies the investors' views became more optimistic, and with a increase in the supply of M2, which was first led by the U.S., the investment has increased rapidly, which caused the stock price to have a steep increase.

As Fig. 2 has provided, the year of 2021 is peaceful in terms of stock prices over all. With a small influence of the pandemic, the price of the index is gradually under a increase with the policies applied at the beginning of Covid-19. The policy lowered the

Fig. 2. Chinese Composite Index and Hang Seng Index During Covid-19

loan interest rates, which helped a lot of companies that are suffering with a loss during Covid-19. Here we can see that the influence of Covid-19 is very slim, and with the impose of policies, the stock market is uprising instead of declining.

Starting from 2022, the price of the index is facing a decline due to the lockdown of Shanghai in March. The rapid decline is due to two reasons. First of all, it is the actual problems that Covid-19 is causing. The companies in Shanghai cannot work, factories, delivery industry, hotel industry and the exports are effected by the lockdown. These will make the economy of Shanghai to move into a recession. The price of the foods and resources in Shanghai is doubled even tripled, causing the money that are in citizens' hands decreasing rapidly, reducing the money put into investment, causing the stock price to drop. Not only the actual loss, but also the expectations. Due to the rising of positive cases in Shanghai, the investors are not sure of when the quarantine is going to end, which they are afraid to invest more into the already declining stock market, causing a greater decline in the stock price. Although the policies are still lifting the index values, but at this point, the impact of pandemic is larger, causing the index to be at a downturn.

At the year of 2020, we can conclude that the impact of Covid-19 in the stock market is big, with the evidence whenever there is a huge outbreak, the stock market will reflect with a shock and have a decline in the price. But a part of the affect could be offset by imposing policies, as the rise in the price during a big outbreak, the policies could change the views and thoughts of the investors on the stock market, which will increase investment to help lift the value of the index. In 2021, the impact is subtle and the influence of policies are stronger than the influence of Covid-19, which made a rise in the stock market. Coming to 2022, we could see that policies under severe situations are not influencing the market. With a lockdown in Shanghai, the impact of Covid-19 in the stock market drove the price back as same as two years ago, causing a great loss in the market.

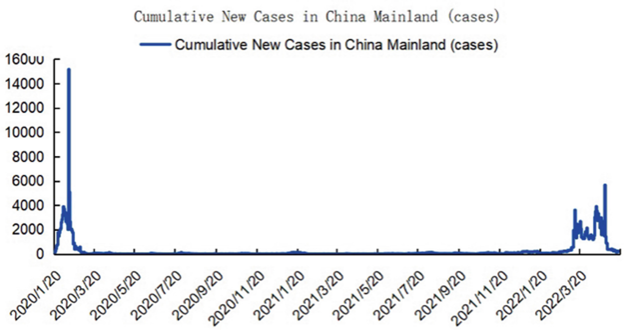

Fig. 3. Cases of Covid-19 Positives in China Mainland

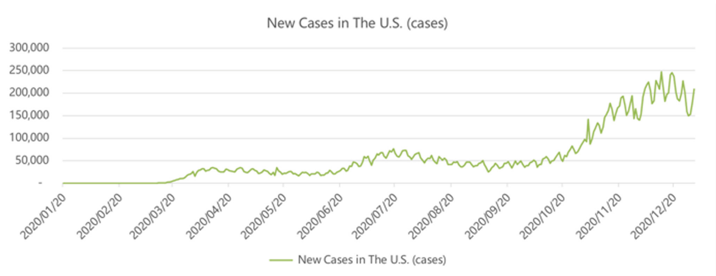

Fig. 4. Cases of Covid-19 Positives in U.S. in 2020

5.2 Hong Kong Hang Seng Index

The Hang Seng Index could be separated into three parts also, with the years, 2020, 2021, and 2022. But this time, the Hang Seng Index is following not the Chinese pandemic, but also the U.S. pandemic.

In 2020, as Fig. 3 has shown, at the beginning of the year, there was an outbreak, which caused the index values to start to decrease. Then, after the government imposed policies, the Chinese Composite Index was starting to rise, the Hang Seng Index continued to decline. Shown in Fig. 4, the U.S. Covid-19 positive cases were starting to increase in February and had a rapid increase during March, causing the value of Hang Seng Index to be decreasing until April. Then, the U.S. government imposed policies to increase money supply, which helped to increase the investment and gave the stock market a upward boost, bringing the Hang Seng Index to a gradual rise in value. The monetary policies did work out while the infected people are limited, and put a rise to the stock market, with consistent new cases in U.S. and China after July, the Hang Seng Index went all the way up back to around 10% more comparing to the base value (Fig. 5).

In 2021, the Hang Seng Index values got into a complete decline, with the U.S. having more than 90,000 cases per day in average, while China Mainland is stable during the year. The policies with such a severe condition that the Covid-19 had brought did not work out very well in the U.S. stock market, which reflected in Hang Seng Index also,

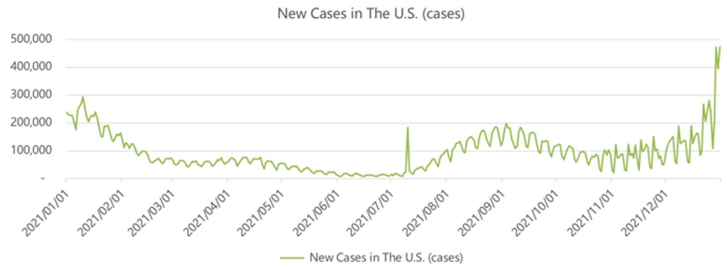

Fig. 5. Cases of Covid-19 Positives in U.S. in 2021

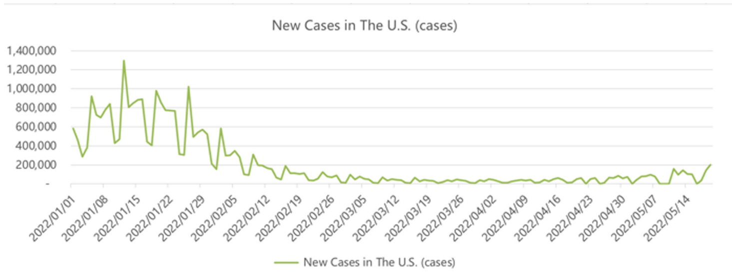

Fig. 6. Cases of Covid-19 Positives in 2022

since the policies Chinese government have imposed could not offset the influence of the pandemic (Fig. 6).

2022, China Mainland had another outbreak in Shanghai, while the positive cases in U.S. continued to grow. These two events destroyed the stock market of Hong Kong, causing a wild decline in the index value. Although Chinese government did put on policies to help and lift the price, but inside Hong Kong, the pandemic is severe, affecting hotel industry and tourism industry due to the restrictions of entering Hong Kong. The outbreak of Covid-19 in three places influenced the Hang Seng Index greatly and causing it to decline approximately 40% comparing to the base value.

From the three years of Hang Seng Index and the change in Covid-19 positive cases, we could see that Hong Kong stock market is influenced greatly by the pandemic in China Mainland, the U.S., and Hong Kong itself. The policies did not impact greatly in the change of prices of stock, where the conclusion could be that when policies cannot offset the affect of pandemic, the stock market will reach a decline.

6 Conclusion

6.1 Main Findings

The influence of Covid-19 in Chinese Stock Market is very big, with causing the price to have big declines twice. In the research, it proved that without policies, or while the influence of policies cannot override the impact of the pandemic, the stock market will reflect a decline in values and will be reflected in several ways.

The first, a direct price decline in the index. This is a short term affect, which is most obvious to see. The impact is larger towards Hang Seng index, because it is not only influenced by the Chinese society and economic situation, but also by the U.S., which causing it to have a bigger decline.

Second, the implicit affect is that the investors views had became more and more pessimistic, which causing a decrease in the investment. The opinions of investors is an important reason for which the short run price is facing a decrease. This will also affect the stock market in longer ranges and will take more time to recover from.

Third, the affect of a spread of opinion will in fluency the over all market of the Chinese stock market. Between regions with different severity of the pandemic, the stock prices of the companies located at the pandemic area and the paired companies have the same upward and downward trend, and the spread of negative perspectives leads to the overall decline of the stock market.

6.2 Suggestions

The suggestions are based on the policies imposed after SARS that helped the economy to recover, and macroeconomics. Not only taking actions after Covid-19 is important, but the policies during the pandemic is also significant.

6.2.1 During the Pandemic

First of all, when emergency health crisis happen, the government should take the role of guidance, take full advantage of the social medias, and give the investors the true impact of the event, update the status of the event in time. This will help the investors ease the pessimistic perspective on economy, and further calming the fears and panic of the investors.

Secondly, the government should provide appropriate help to the small and medium enterprises while giving slight discounts on water, electricity, gas, communications, and railway fees, to lower the operation cost and pressure of the enterprises. This could help companies to operate during the pandemic, and help the index values to be more stable.

Last, the government should impose expansionary monetary policies to increase the money supply, which could help to increase the investment in the market, to give a push in the value of the index. The government should also encourage banks to support the enterprise that are suffering economic loss because of Covid-19, and give them credit loan support and reduce the cost of corporate financing.

6.2.2 After the Pandemic

After the pandemic, the central government should share the pressure and loss with local governments, private enterprises, and financial institutions. As the pandemic is controlled, the work focus should be on helping the productivity of the society and the citizens' lives to return back to normal.

Firstly, the government should gradually relax the restrictions during Covid-19, and help create favorable conditions for the return to schools, works, and productions. The central government and the local governments should delegate the powers to lower levels to improve the work efficiency and speed up the resolution of the problems that citizens and companies are facing.

Secondly, government should actively support the recovery of local economy, and appropriately give support by the damages caused by the pandemic. The local governments can sell bonds according to their need, and should decrease taxation and give financial subsidies for the enterprises that are greatly impacted by Covid-19.

6.2.3 Long-Term Development

On one hand, the government should speed up the process of reforming health care system [10]. First, the health care system should fill the lack of medical service supplies, gradually increase the government spending on supporting medical services, ensure the primary health care infrastructures, while continuously increase the supply of medical instruments, beds, doctors, and nurses. Next, it is to promote diversified access to medical services, lower the entry threshold, encourage private capital to start medical institutions, and improve the overall level of medical services. Last is to train and form professional teams towards emergency health crisis.

On the other hand, the government should improving governability when facing these events. First of all, the government should strengthen the transparency of information disclosure, the informations given to citizens should be after consideration and true, not changing plans after. Second, the government should strengthening the supervision of public opinion and the people's right of supervision, to prevent abuse of power by incumbent officials. Third, the government should focus more on other aspects of the country rather than only being focused on the numbers of infected people. The government should not ignore the life standards of citizens under lockdown, and the economic situation. Last, the government should continue to complete the law enforcements around the health crisis.

References

1. Wang, Jing, et al. "Short-Term Impact of Covid-19 Outbreak on Price Volatility of Chinese Stock Market." China's Economy and Business Management under the Impact of the Epidemic, vol. 6, 2020.
2. Sohrabi, C, et al. "World Health Organization Declares Global Emergency: A Review of the 2019 Novel Coronavirus." International Journal of Surgery, 2020, pp. 71–76.
3. Liu, Yuzhen, and Chenhao Wang. "Analysis of the Epidemic from a Behavioural Perspective: a Review of Causes, Effects, and Countermeasures." Financial Research, 2020, pp. 1–19.
4. Xu, Hong, and Hongxia Pu. "The Impact of Covid-19 on the Chinese Stock Market - A Study Based on the Event Study Method." Financial Forum, vol. 7, 2021.
5. Shelor, R.M., and A.M.L Cross. "Gaining from Loss: Property-Liability Insurer Stock Values in the Aftermath of the 1989 California Earthquake." Journal of Risk & Insurance, 1992, pp. 476–488.
6. Andrew, W, and A Valadkhani. "Measuring the Impact of Natural Disasters on Capital Markets: an Empirical Application Using Intervention Analysis." Applied Economics, 2004.
7. Chen, Bo, and Huihui Qian. "Study on the Impact of Covid-19 on China's Equity and Debt Markets." Journal of Industrial Technological Economics, vol. 11, Nov. 2021, pp. 53–60.

8. Huang, Jianhui. “Analysis of the Impact of the Covid-19 Epidemic on China’s Economy and Finance and Policy Recommendations.” China Minsheng Bank Research Institute, 2020.
9. Wang, Shuguang. “The Impact of SARS on China’s Economic Growth and Countermeasures.” China Economic Times, 27 May 2003.
10. Guo, Yiwei. “Exploring Financial Market Risks in the Continuing State of the Covid-19 Outbreak.” Rule of Law and Economy, vol. 10, Oct. 2021, pp. 135–138.