Stock and Foreign Exchange Markets under the Pandemic

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Abstract. The background of this paper is that the outbreak of the pandemic had a great impact on the financial market, and the stock market and foreign exchange market had significant fluctuations under the influence of the pandemic. This paper mainly adopts the literature research method and qualitative analysis method. The first part of the research is how the stock prices of the pharmaceutical industry and the gaming industry change under the pandemic and the intrinsic factors of the changes, and the second part is the fluctuation changes of the RMB exchange rate and the US dollar index under the pandemic and analyses the reasons for the abnormal changes. Through the study, it was found that both the pharmaceutical industry and the gaming industry did not see stocks plummet due to the outbreak of the pandemic but instead rose significantly. The main reason for this phenomenon is that these two industries have been affected by the pandemic and the demand has greatly increased, thus making the company's earnings have increased and the stock price has also risen. The main purpose of this paper is to enhance the stability of financial markets by analyzing the causes of their volatility.

Keywords: COVID-19; Stock Market; Foreign exchange market.

1. Introduction

1.1. Research Background

The novel coronavirus (2019-nCoV, or COVID-19) outbreak first broke out in Wuhan and spread throughout the country and globally. New infections and deaths in Wuhan continue to increase, raising significant public health and governance issues. With the support of the central government, provincial and municipal governments have taken a series of mandatory actions, such as restrictions on cross-city travel, case detection and contact tracing, quarantine, public guidance and awareness, and test kit development. The worldwide outbreak of COVID-19 has had a broad and far-reaching impact on global financial markets since early 2020. The outbreak has led to a worldwide public health crisis that has triggered a series of economic and financial market upheavals. The market turmoil caused by the pandemic has affected many industries such as catering, tourism... But at the same time there are also many industries that have eaten the dividends of the pandemic, such as the biomedical industry, online games industry... These industries not only did not suffer from the impact of the pandemic and become depressed stock decline, but the impact of the pandemic in the industry's share price increased greatly [1].

1.2. Purpose and Significance of the Research

The study of the impact of the Covid-19 pandemic on financial markets is of great significance because this global health crisis has triggered widespread volatility and change in financial markets. The study of market behavior during the New Crown pandemic will help reveal market sentiment, investor behavior and risk transmission mechanisms, thereby improving the ability to predict market volatility. Besides, the Covid-19 outbreak has exposed the vulnerability of the financial system, particularly the resilience of financial institutions. Studying the impact of the new crown on the financial system can help assess the health of financial institutions and improve the resilience of the financial system.

The following sections of this paper are organized as follows: Section 2 is Stock Market; Section 3 is Foreign exchange market.
2. Stock Market

2.1. Stock Market of Pharmaceutical Industry

The outbreak has been a major boon for the pharmaceutical sector, with several healthcare-themed funds managing to return almost 50% (i.e., doubling) in the first half of 2020. Figure 1 is a line graph of the daily closing prices of the Pharmaceuticals and Healthcare Sector Index from January to June 2020 for two exchanges, through which the direction of price changes in the Pharmaceuticals and Healthcare Fund can be seen more clearly and intuitively.

![Figure 1. SSE pharmaceutical and healthcare industry index.](image)

Since mid-January since the new crown pandemic, China entered a "wartime" state, the full anti-pandemic, after the Spring Festival resumption of production delayed across the board. The anti-pandemic related material sector was the first to pull up, leading the pharmaceutical sector to improve. At this stage, because the market is still worried about the negative impact of other non-pandemic-related plates, coupled with the global outbreak of the pandemic, investors out of capital security considerations switching investment styles, the plate rose steadily to March after a sharp decline [2]. Domestic in April quickly end anti-pandemic "wartime" state, non-medical anti-pandemic materials industry also recovered rapidly; at the same time, superimposed on the outbreak of overseas pandemic in March, anti-pandemic materials in the domestic "shortcomings" and overseas emergency relief under the surge in demand; pharmaceutical plate to enhance the full start [3].

2.1.1. Analysis of Operating Income Changes and Stock Market Changes of Pharmaceutical Companies under the Pandemic

Table 1 and Figure 2 below show Yiling Pharmaceuticals' revenue structure and net cash from operations and investments, respectively. Yiling Pharmaceutical Co., Ltd. was founded by Wu Yiling, an academician of the Chinese Academy of Engineering, in 1992 and went public in 2011.

<table>
<thead>
<tr>
<th>Date of reporting</th>
<th>2020-06-30</th>
<th>2019-12-31</th>
<th>2018-12-31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total operating income</td>
<td>44.87</td>
<td>58.25</td>
<td>48.14</td>
</tr>
<tr>
<td>Anti-cold</td>
<td>20.24</td>
<td>17.03</td>
<td>12.05</td>
</tr>
<tr>
<td>Cardiovascular and cerebrovascular class</td>
<td>17.44</td>
<td>30.96</td>
<td>28.05</td>
</tr>
<tr>
<td>Others</td>
<td>7.00</td>
<td>9.63</td>
<td>7.62</td>
</tr>
</tbody>
</table>

It has many molecular companies around the world. Ealing has developed into a comprehensive pharmaceutical company with annual sales revenue of over RMB 8 billion and market capitalization of over RMB 40 billion. Taking Yiling Pharmaceuticals as an example, we can see that cardiovascular and anti-flu products are the main business of the company. Among them, anti-flu drugs, from the beginning of 2020 to the middle of the year, the sales revenue increased by more than 600 million yuan in only half a year [4].
Figure 2. Net cash from operations and investments.


2.1.2. Medical Devices and Equipment

Table 2 and Table 3 is a comparison of the TOP 5 medical device product registrations and the number of product registrations with medical device industry in 2018-2020. It is clear to see that the TOP 5 medical device registrations in 2020 are all products related to pandemic protection. Combined with the second table, these five products have a very low demand in 2018 and 2019, and have a skyrocketing growth in 2020. Each product sells almost 100 times more than before.

Table 2. Comparison of the number of product registrations in the medical device industry from 2018 to 2020.

<table>
<thead>
<tr>
<th>Product name</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation gowns</td>
<td>14</td>
<td>40</td>
<td>2555</td>
</tr>
<tr>
<td>Disposable medical masks</td>
<td>38</td>
<td>28</td>
<td>2170</td>
</tr>
<tr>
<td>Medical surgical masks</td>
<td>17</td>
<td>18</td>
<td>1227</td>
</tr>
<tr>
<td>Medical isolation masks</td>
<td>5</td>
<td>78</td>
<td>1177</td>
</tr>
<tr>
<td>Medical isolation eye mask</td>
<td>7</td>
<td>9</td>
<td>953</td>
</tr>
</tbody>
</table>

Table 3. Top5 in the number of medical device product registrations from 2018 to 2020.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Medical cold compresses</td>
<td>Medical cold compresses</td>
<td>isolation suit</td>
</tr>
<tr>
<td>2</td>
<td>Customized fixed teeth</td>
<td>Liquid litter</td>
<td>Single-use medical masks</td>
</tr>
<tr>
<td>3</td>
<td>Customized removable dentures</td>
<td>Cold gel compress</td>
<td>Medical Surgical Masks</td>
</tr>
<tr>
<td>4</td>
<td>Cold gel compress</td>
<td>Customized fixed teeth</td>
<td>Medical isolation masks</td>
</tr>
<tr>
<td>5</td>
<td>Medical antipyretic post</td>
<td>Customized removable dentures</td>
<td>Medical Isolation Eye Mask</td>
</tr>
</tbody>
</table>

2.2. Stock Market of Game Industry

As a result of the pandemic, people's access to offline activities has been blocked. Lacking offline consumption scenarios, people's consumption demand was curbed to a certain extent during the pandemic prevention period, and people's entertainment consumption scenarios began to gradually shift from offline to online [5]. Online entertainment has become the main way for the public to relieve their anxiety, and games have become the preferred choice as a more interactive form of entertainment.
2.2.1. Increased Demand for at-home Entertainment

With the majority of people forced into home quarantine, gaming has become the preferred choice of at-home entertainment for many. Online games, e-sports, and other more interactive game genres received more attention during the pandemic, and gaming companies saw an increase in revenue and user activity. We can know this from a paper which is about an interview with Yanfeng Tan [6]. As people try to avoid gathering in public places, digital entertainment has become the preferred choice of consumers, and gaming, as a major component of digital entertainment, is favored by more consumers. During the pandemic, the e-sports industry was in the spotlight due to its online and remote nature. Online streaming and viewer interaction of e-sports events suffered growth, and stocks of related gaming companies and e-sports platforms benefited as a result.

2.2.2. Delays and Postponements

As a result of the outbreak, some gaming companies may experience delays or postponements in their game development and release programs, which may have a short-term impact on the performance of related stocks [7].

3. Foreign Exchange Market

3.1. Exchange Rate of CNY

At the beginning of the pandemic, the exchange rate of the RMB depreciated more significantly and sharply. After the resumption of work in the latter part of the period, the exchange rate of the renminbi again showed a rapid upward trend. This change can be clearly seen in this linear chart of the change in the RMB exchange rate.
There are very many reasons for the erratic fall and rise of the RMB exchange rate

3.1.1. Devaluation Phase at the Beginning of the Outbreak

In the early stages of the pandemic, global investors tend to seek safe-haven assets, such as the US dollar and the Japanese yen, due to heightened uncertainty and panic. This could lead to a sell-off of the RMB, which could trigger a depreciation of the RMB. Besides, the outbreak has led to a slowdown in global economic activity and restrictions on trade and commerce. China, as a global manufacturing and exporting powerhouse, has seen its growth prospects hit. This could lead to concerns about the renminbi, which could have a negative impact on its exchange rate. In addition, China's central bank may have taken a number of monetary policy initiatives in the early stages of the pandemic in response to downward economic pressures [8]. This could include lower interest rates or other stimulus measures, and these policies could have an impact on the strength of the RMB.

3.1.2. Rising Phase after Resumption of Work

China has achieved an earlier economic recovery, fuelled by the resumption of work and production as control measures for the pandemic have gradually been eased. This provided support for the RMB exchange rate as the recovery increased demand for the RMB, including for payments and investments by domestic and foreign businesses. With the outbreak under control, market sentiment may improve and investor confidence gradually return [9]. This could lead to an appreciation of the renminbi, as investors may be more willing to invest in the Chinese market. Besides, with the opening up and reform of China's financial market, the trend of foreign capital inflows into the Chinese market is gradually increasing. This may support the appreciation of the renminbi to some extent [9].

3.2. U.S. Dollar Index

3.2.1. Uptrend at the Beginning of the Pandemic

In the early stages of market uncertainty or heightened risk, investors generally tend to flow funds into safe-haven assets that are perceived to be relatively safe, and this is called “initial hedge liquidity”. The US dollar is often seen as one of the world’s most important safe-haven currencies. As a result, the US dollar index experienced a rise in the early stages of the pandemic, which indicating the safe-haven demand of investors for the US dollar [10].

Figure 5. US dollar index.

3.2.2. Federal Reserve Actions

The U.S. Federal Reserve took swift and aggressive actions to support the economy during the pandemic. These measures included slashing interest rates, implementing quantitative easing
programs, and providing liquidity support to financial markets. While these actions aimed to stabilize the economy, they also put downward pressure on interest rates, which can reduce the attractiveness of the U.S. dollar for investors seeking higher returns, potentially leading to depreciation in the USDX. So there was a significant drop in the dollar index in the middle of the pandemic, which can be seen clearly in the linear graph [11].

3.2.3. Rapid Growth Phase in 2022

Firstly, the Fed entered an aggressive rate hike cycle. 2022 since then, the Fed has made four interest rate hikes, two of which were as large as 75 basis points. The U.S. Consumer Price Index (CPI) rose 8.5 per cent year-on-year in July, a decline of 0.6 percentage points from June. Although declining, but still at a 40-year high. 26 August Powell said publicly that the Fed will firmly fight high inflation, release or will continue to raise interest rates in September interest rate meeting of hawkish signals. The Fed continued to raise interest rates in the background, short-term interest rate differentials become the main driver of capital flows, which in turn led to the dollar index rose [12]. Second, the United States economic fundamentals are better than the euro area. Thanks to strong fiscal and monetary policy, the United States inflation containment and economic recovery is better than the euro zone countries, the market bearish euro sentiment is obvious, to promote the appreciation of the dollar. Inflation, the U.S. consumer price index (CPI) rose 8.5% year-on-year in July, lower than the market expected 8.7%. And the eurozone CPI hit a record high in July, up 8.9% year-on-year. On the economic front, the risk of recession in the eurozone is on the upswing, especially in Germany, France, and Italy, where the manufacturing sector declined markedly. On 1 August, IHS Markit released the final value of the eurozone manufacturing PMI for July at 49.8, which was below the glory line. The third is the weakness of non-US currencies [12]. The euro, the pound and other non-U.S. currency weakness to give the dollar index rising power. Relevant survey data show that JP Morgan (154.45, 0.89, 0.58%) predicted that by December, the euro will fall to 0.95 U.S. dollars, the Royal Bank of Canada (94.84, -0.16, -0.17%) Capital Markets expects the British pound will fall by more than 5% over the same period. The dollar index, the euro against the U.S. dollar accounted for 57.6%, and thus the weakness of the euro also largely drove the dollar index to the upside.

4. Conclusion

The background of this paper is that the sudden new crown pandemic in 2020 broke the calm and had a very significant impact on both the stock market and the foreign exchange market. The purpose of this paper is to find out how the pandemic has affected the stock market and the foreign exchange market and the market factors behind these effects. The analysis of the changes and their causes is also aimed at better reducing the negative impact on the financial markets due to the uncertainty of the pandemic. For the analysis of stocks, this paper is divided into two parts: stocks in the pharmaceutical industry and stocks in the gaming industry. Pharmaceutical stocks rose significantly during the pandemic because of the pandemic prevention causes pharmaceutical, vaccine, medical equipment, and other companies to greatly increase the demand for their products, which led to a significant increase in company sales, and the increase in sales led to significant growth in the stock fund. For gaming stocks, there will be significant growth at first and then start to fall. In terms of foreign exchange, this article is also divided into two aspects, one is the rise and fall of the RMB exchange rate and the other is the change of the US dollar index.

References


