

Stock Price Volatility and Countermeasures of China's Pharmaceutical Industry under COVID-19

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Abstract: The COVID-19 outbreak has different impacts on the stock prices of all industries. This paper focuses on analyzing the factors affecting the stock prices of the pharmaceutical industry and puts forward relevant suggestions. In this paper, the impact of the stock price of the pharmaceutical industry on the background of the novel coronavirus epidemic was analyzed, and six pharmaceutical companies were selected as the objects of analysis. This paper analyzes the reasons for the rise and fall of the stock prices of the six pharmaceutical companies, and provides some suggestions for the development of the pharmaceutical industry and the pharmaceutical industry stock market from the perspectives of pharmaceutical companies, regulators, and investors.

Keyword: COVID-19, pharmaceutical industry, stock price analysis, policy suggestion

1. Introduction

At the end of 2019, the novel coronavirus pneumonia epidemic swept the world rapidly, and governments around the world have taken certain measures against the novel coronavirus epidemic. Financial markets have been hit by "black swan" shocks, fuelled by fears of a new coronavirus and measures such as regional controls. Among them, the pharmaceutical industry is closely related to the development of the epidemic, and its stock market changes deserve people's close attention. Existing studies show that the novel coronavirus epidemic has a strong positive impact on China's Shanghai pharmaceutical stocks on the whole, and the impact on China's pharmaceutical industry will last for a long time and cannot be ended in the short term. Most of these studies are descriptive studies, using quantitative methods to determine whether the impact of the epidemic on the pharmaceutical industry is established and how long it will last. There are few analytical studies in published papers to provide practical and effective solutions for businesses and governments. Therefore, this paper selects several representative enterprises in the pharmaceutical and biological industry, and explores the path of enterprises turning upside down in emergencies by analyzing their specific behaviors and stock price fluctuations.

2. Analysis of the Reasons for the Stock Price rise

Although the share prices of the pharmaceutical and biological industries have performed well during the epidemic, there are great individual differences. As shown in Figure 1, six selected enterprises belong to the pharmaceutical and biological industry, but their stock price rises and falls have

significant differences[1]. Intek Medical, the highest, saw its share price rise by 256% in just five months, while Huasu Holdings, the lowest, saw its share price fall by 51%. Therefore, this paper selects these six companies as representatives to analyze the external and internal reasons for the rise and fall of their share prices.

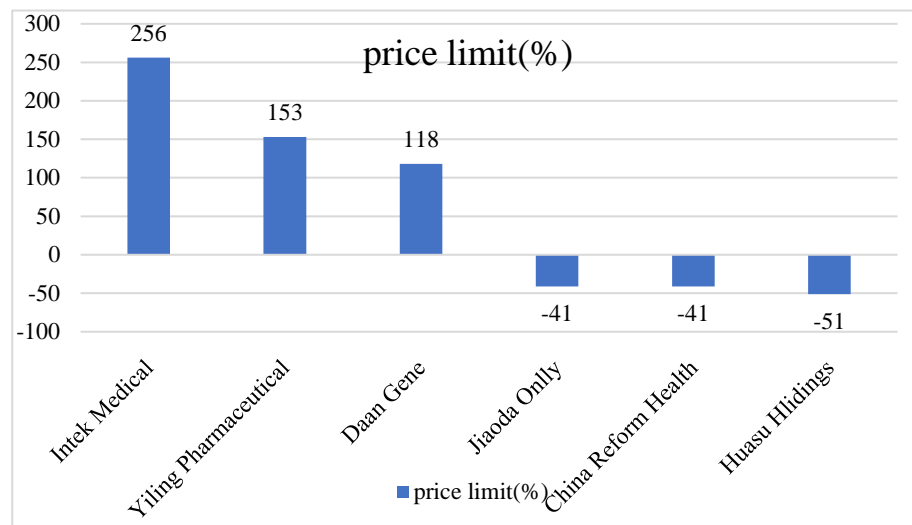


Figure 1: Some pharmaceutical enterprises 2019.12.27 to 2020.4.29 period stock price rise and fall.

2.1. Intek Medical

Inke Medical is a comprehensive medical care product supplier whose main business includes medical protection, rehabilitation care, health physiotherapy, and examination consumables in four sectors. In the early 1990s, the head of the company began to contact the sales business of disposable gloves in California. After returning to China, Inke Medical started with disposable gloves. After years of precipitation, the company's main source of income is still disposable gloves, and it has become the industry leader of disposable protective gloves in China. Figure 2 shows that, due to the epidemic, demand for disposable protective masks, the company's core product, increased from the end of 2019 to the first quarter of 2020, and market supply was less than demand[2]. Therefore, the price of gloves also increased to a certain extent, making the company's main business income surge. In addition, Inco Medical also engaged in the production of masks and other protective products, which just corresponded to the demand of the masses of people under the epidemic situation, and the stock price of the company went up all the time.

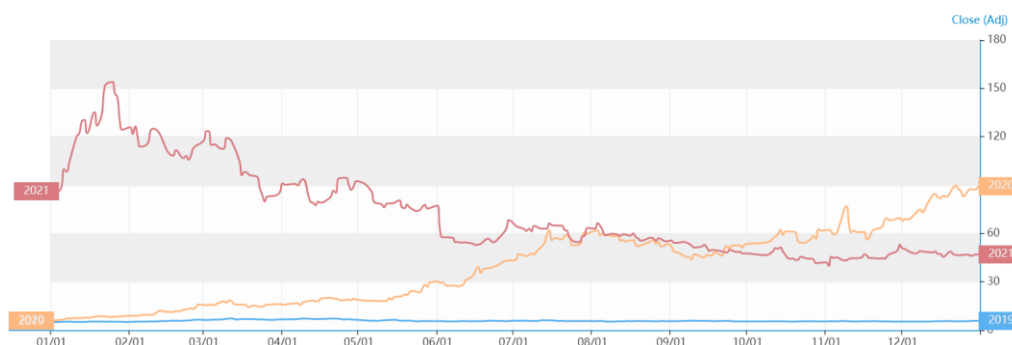


Figure 2: Stock price changes from 2019 to 2021 of Intek Medical.

2.2. Yiling Pharmaceutical

The founder of Yiling Pharmaceutical is Professor Wu Yiling, who has been devoted to the research of collaterals of traditional Chinese medicine for 40 years. After the establishment of Yiling Pharmaceutical, the company is committed to driving the industrialization of traditional Chinese medicine with academic innovation of traditional Chinese medicine, and developing traditional Chinese medicine, Western medicine and biological medicine with modern high technology. The company has developed more than 10 kinds of new national patented drugs and won six national major achievement awards. The development theme of the company also conforms to the general trend of "vigorously promoting the reform and development of traditional Chinese medicine" proposed in the "13th Five-Year Plan".

Figure 3 shows that during the epidemic period, traditional Chinese medicine intervention has become the focal point of China's plan [3]. Traditional Chinese medicine such as Shuanghuanglian and Lianhuaqingwen played a significant role in the epidemic prevention and control war. The main manufacturer of Lianhuaqingwen is Yiling Pharmaceutical. With the public buying Lianhua Qingwen, the stock price of Yiling Pharmaceutical rose accordingly. Because it always insisted on the research and development of traditional Chinese medicine, it not only developed rapidly during the anti-epidemic period, but also successfully replaced other cold medicines with less effective effect in the follow-up regular prevention and control, rapidly expanding its market share and achieving sustained development[4].

In addition, the Chinese mainland market, Lianhua Qingwen has also been approved for market in more than 20 countries and regions such as Hong Kong, Macao, Brazil, Canada, Singapore and Russia, and has become an effective drug choice in the fight against the epidemic in more areas. At the beginning of 2022, the company strengthened the production and export of Lianhua Qingwen due to the severe epidemic in Hong Kong. In the future, as the overseas epidemic repeats, Lianhua Qingwen is expected to further realize its performance

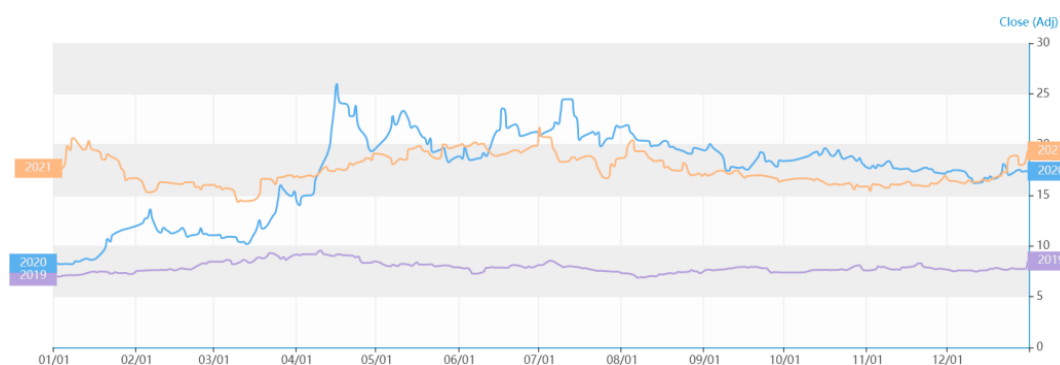


Figure 3: Stock price changes from 2019 to 2021 of Yiling Pharmaceutical.

2.3. Daan Gene

Daan Gene is a state-owned biomedical high-tech enterprise that is led by molecular diagnostic technology and integrates the research and development, production, and sales of clinical testing reagents, instruments, and supporting consumables. Daan Gene was listed in 2004. Daan gene is not only the pioneer of nucleic acid detection technology in China, but also an important contributor to our nucleic acid detection technology products to represent the international frontier technology level. Focusing on the development and application of fluorescent PCR diagnostic reagent products, the company has undertaken more than 30 national and provincial key research projects, and its research

results have successively won the National Science and Technology Progress Award, the National Invention Gold Award, and other awards [5].

Over the past 20 years, Daan gene nucleic acid detection technology has been mature, during the epidemic period to fight against the epidemic made a great contribution, and in the early stage of the epidemic got a huge profit, to achieve a soaring stock price. In addition, the company invested a lot in innovation. After the outbreak of the novel coronavirus, it quickly developed a novel coronavirus nucleic acid test kit, which was quickly approved for market. According to figure 4, during the outbreak of COVID-19, the company rapidly expanded production, the daily production of the company's kits increased from 50,000 to 100,000 copies, ensuring the supply of nucleic acid testing kits[6]. Such innovative ability and response speed enable Daan Gene to lay a solid market foundation, which not only makes the company's stock price rise rapidly in the short term, but also occupies a huge market share in the regular epidemic prevention and control, and long-term sales are guaranteed.

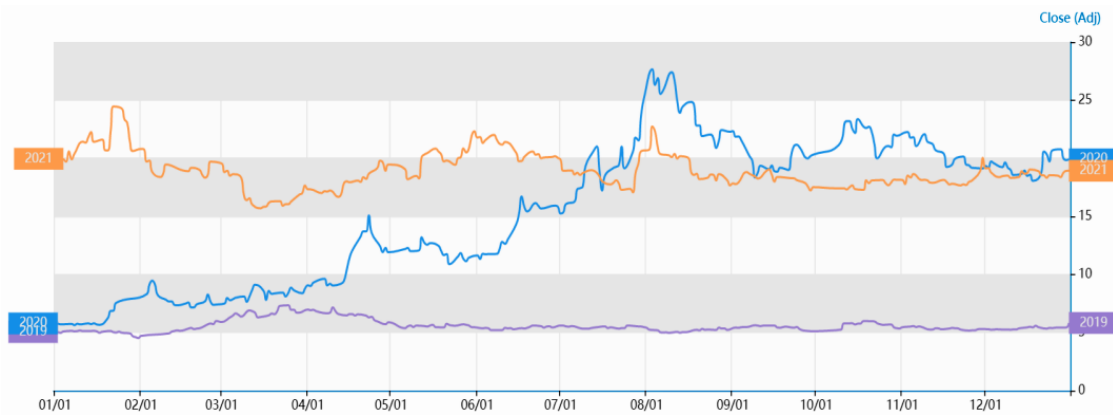


Figure 4: Stock price changes from 2019 to 2021 of Daan Gene.

3. Analysis of the Reasons for the Decline in Stock Price

3.1. Jiada Onlly

Registered in 1997, Onlly is a company engaged in the development, production, and sale of health foods. In 2019, the company's development fluctuated within the normal range, but since 2020, the company's stock price fell due to the impact of the novel coronavirus outbreak. Due to the impact of the epidemic, offline sales of health food have been hindered, while the company's online sales channels have not invested enough, leading to a large drop in its share price. In addition, nursing homes, another major source of revenue for the company, have also been affected by COVID-19, with occupancy rates falling sharply in early 2020. Due to the impact of COVID-19, the medical license approval of the Yingang project in Chuansha, a new medical care institution, was delayed, resulting in the institution's failure to open as scheduled. The newly constructed Suzhou project was inaugurated, but it was delayed due to COVID-19[7]. However, in response to the epidemic, the company accelerated the expansion of online e-commerce channels. According to figure 5, from January to July 2020, on the basis of stabilizing the original channels and sales, developed Ali Health self-operated platform and Pinduoduo e-commerce channels[8]. At the same time, supplemented by new grass planting and short video promotion, the transformation of product sales was improved, and the sales achieved a year-on-year growth of 4.25%. In addition, the company expanded the nursing institution for the aged, set up additional beds and raised the charge for single bed, which increased the company's operating efficiency. Also, the company's stock price rose steadily after May 2020.

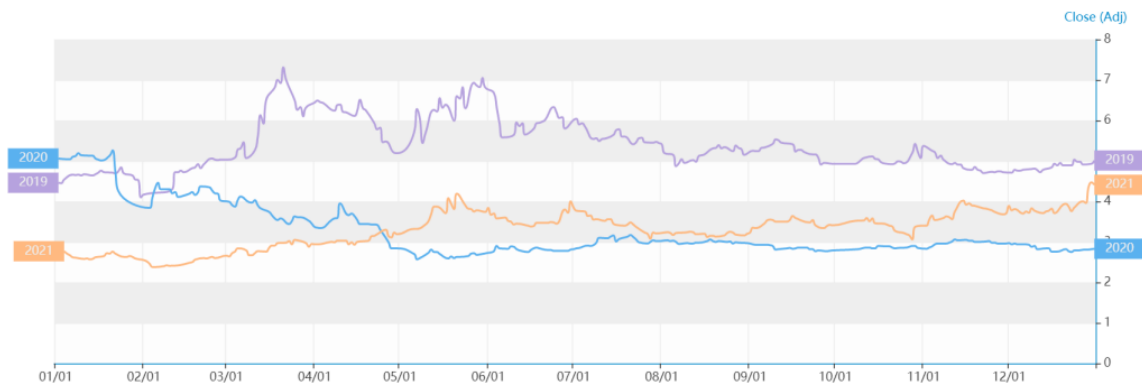


Figure 5: Stock price changes from 2019 to 2021 of Jiaoda Only.

3.2. China Reform Health

China Reform Health Care Service Group, is a listed state-owned enterprise controlled by China Guoxin. It is a state-owned enterprise providing health care services based on comprehensive medical insurance management services. The company carried out transformation and upgrading in the early 21st century, but the effect was not very significant. For many years in a row, the company made a profit from non-regular profit and loss. On May 11, 2017, the trading of China Reform Health was suspended and resumed on December 4, and during the suspension, the company carried out asset divestiture. This bad asset divestiture meant that China Reform Health in the short term gained a lot of interest, the stock price also rose [9]. However, due to its single profit model, its core competitiveness has in-depth accumulation in data governance, data technology application (such as DRG/DIP), data knowledge base accumulation, medical insurance data fund supervision and other aspects, and other aspects are not impressive, poor anti-risk ability, and the initial good market environment has changed into a fierce competition market environment. In the long run, its performance will eventually decline. This is reflected in its share price (see chart), according to figure 6, which fell further in late 2019 as the company was hit by the pandemic and its main business suffered[10].

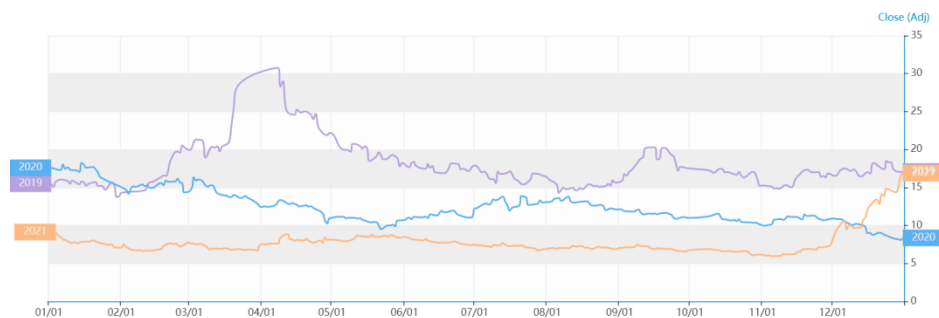


Figure 6: stock price changes from 2019 to 2021 of China Reform Health.

3.3. Huasu Holdings

Huasu Holdings mainly produces PVC, caustic soda, cement, calcium carbide and other products, belonging to the medical services under the medical and biological industry. Due to poor management of the company, it has formed a large debt problem, which has affected the development of the company. The company's net profit in 2018 and 2019 was negative, and its net asset was also negative at the end of 2019. The company's lack of financing ability reflected in the stock price in 2019, the stock price continued to decline.

At the end of 2019, the national market was seriously affected by the epidemic. Due to the serious problems left over from history, Huasu Holding had many unsolved lawsuits and matters to be implemented, making it more difficult for the company to resist the impact of the epidemic. Therefore, during the epidemic in 2020, according to figure 7, the stock price fell significantly, and it did not recover until the epidemic entered the normal prevention and control stage[11]. Subsequently, the actual controller of the company was changed from Li Xuefeng, Zhang Ziruo and his wife to Hubei SASAC. The management of the company re-sorted out the business ideas, actively solved the problems faced by the company, implemented the implementation of reducing the cost of subsidiaries, including open source, and reduced expenditure; stepped up the company's research and development; pushed forward the major asset reorganization; and took other measures so that the company's development situation was good and the stock price also recovered after the epidemic.

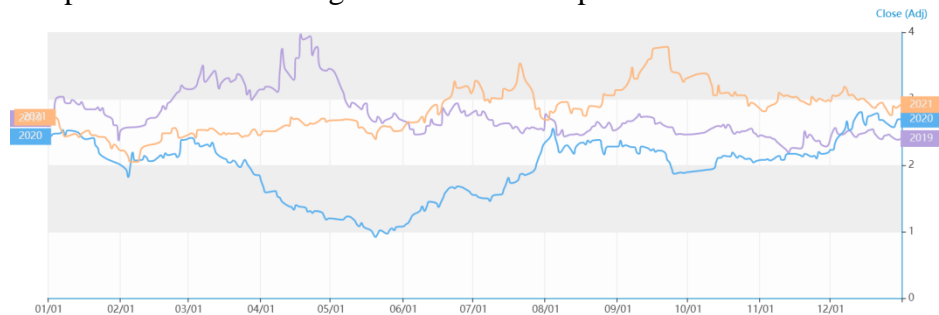


Figure 7: Stock price changes from 2019 to 2021 of Huasu Holdings.

4. Policy Suggestions

4.1. Implications for Regulators

First, implementing complementary measures to maintain financial market stability. In the context of the impact of the novel coronavirus pandemic, the epidemic prevention and control has reduced the volatility of listed companies' stock prices by reducing market uncertainty, but the function of the epidemic prevention and control to maintain financial market stability cannot be separated from other measures taken by the government, such as the implementation of stimulus economic policies and industrial policies. Second, investor sentiment is one of the important media for the epidemic to affect stock prices. A series of necessary psychological monitoring or emotional management interventions by regulators in special periods can help investors control their emotions, so as to avoid unreasonable and irrational investment behaviors. Third, establish a sound early warning system and management system. Regulators establish a sound safety early warning system and emergency management system to prevent major emergencies from causing a series of risks to the stock market, estimate risks in time before major emergencies occur, and respond positively through various emergency elements after the occurrence of major emergencies, so as to reduce the huge impact of major emergencies on the stock market.

4.2. Enlightenment for Pharmaceutical Enterprises

First, research and development direction and intensity should be correctly positioned. The normalization of the epidemic effectively stimulated the research and development momentum of biopharmaceutical, thus promoting a substantial improvement of the industry level. Pharmaceutical companies should actively cooperate with the government's support and investment in the pharmaceutical industry, learn from each other, master core technologies, rationally arrange the "production, university, research and use" integrated innovation industrial chain, optimize the

utilization of resources, and gradually narrow the gap between innovative drug research and development and international pharmaceutical powers.

At the same time, optimize drug research and development mechanism and management system. The internal operation of pharmaceutical companies is closely related to the stock price. Pharmaceutical enterprises should establish a mature management system and research and development mechanism. The optimization and perfection of corporate governance structure will help promote the development of the company's future business, the improvement of profitability and the enhancement of risk control ability. At the same time, pharmaceutical enterprises need to stand up to the supervision and management of drug regulatory departments, establish a sound internal quality control system by improving the scientific and standardized risk management system, so as to ensure the healthy development of innovative drugs.

Strengthen the stable development of main business, and actively expand the content of medical production services. On the basis of the stable development of the main business, the pharmaceutical industry should actively expand the contents of medical production services, get rid of the simplification of production services and improve profits. While maintaining the stability of the main business, it should keep close to the market demand, optimize and upgrade the existing medical production services business, actively explore and expand the types of medical production services business and business innovation mode, and seek new profit growth points. In this way, it can maintain stable development when hit by major events.

4.3. Implications for Investors

The impact of major epidemic events on biomedical stocks is mostly short-term. After receiving relevant information, investors should fully collect and understand market information, keep rational, and not blindly follow the trend because of herd mentality. Reasonable assessment of their own preferences and risk tolerance at the same time with the investor's own investment logic, rational decision-making, rational investment.

5. Conclusion

Under the impact of the COVID-19 epidemic, the share prices of major pharmaceutical companies have been affected in some ways, among which the share prices of Intek Medical, Yiling Pharmaceutical and Daan Gene have all risen. To explore the reasons for the rise of their share prices, it is no more than the steady development of their main business and the constant pursuit of technological innovation, which is in line with the market needs during the epidemic period. On the other hand, the share prices of Onlly, China Reform Health and Huasu Holding fell, because they did not expand their sales channels, have a single profit model, lack of core competitiveness, and failed to solve the problems left over from history in time. It can be seen that if pharmaceutical enterprises want to maintain stability under the impact of the epidemic, they need to keep pace with The Times, optimize drug research and development mechanism and management system, expand marketing channels, master core technologies, increase innovative drug research and development, give full play to the development potential of traditional Chinese medicine, and attach great importance to the development direction of the pharmaceutical industry under the normal epidemic situation.

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