

A Financial Analysis and Valuation of Livzon Group

Yonghao Liu*

Faculty of Business and Economics, Monash University, Clayton, VIC 3800, Australia

*Corresponding author: yliu0315@student.monash.edu

Abstract. The outbreak of COVID-19 in 2020 has brought significant disruptions to global consumption and production patterns, triggering structural changes in both supply and demand dynamics. Amidst these shifts, investor sentiment in China experienced notable fluctuations, particularly within the pharmaceutical sector, which emerged as an attractive investment destination amidst economic uncertainties. Livzon Group, a prominent player in China's pharmaceutical landscape, has garnered increasing attention from investors due to its diverse product portfolio and commitment to research and development (R&D). However, the pharmaceutical industry in China faces multifaceted risks, including policy uncertainties and challenges related to R&D investment. This paper aims to analyze Livzon Group's growth prospects and risks using the SWOT method. Leveraging insights from both the external environment and internal performance metrics, the study assesses Livzon's position within the pharmaceutical industry. Despite the company's emphasis on R&D and innovative product development, challenges such as policy-driven economic fluctuations and the competitive landscape pose significant considerations. Additionally, the study delves into Livzon's response to evolving government regulations and market dynamics, particularly in the context of reduced clinical trials and tightened drug approvals. By examining Livzon Group as a case study, this research contributes to a broader understanding of China's pharmaceutical industry dynamics and provides valuable insights for investors and industry stakeholders. Through a comprehensive analysis of Livzon's strengths, weaknesses, opportunities, and threats, this study offers nuanced perspectives on the company's growth potential and navigates the complexities of operating within China's policy-oriented economy.

Keywords: Livzon Group; Pharmaceutical Industry; Financial Analysis; Company Valuation.

1. Introduction

Since the outbreak of COVID-19 in China in 2020, consumption and production activities in China and around the world have been disrupted, and structural changes have occurred on both the supply and demand sides. Public anxiety about the new crown has led to significant changes in the inflation rates of eight consumer categories and ultimately triggered changes in investment sentiment [1]. Research shows a significant shift in Chinese investor sentiment following the COVID-19 outbreak. Before the outbreak, investor sentiment was on an upward trend. However, investor sentiment continued to decline after the outbreak [2]. Although the direct effect of the government's COVID-19 intervention measures was positive and effective and briefly boosted investor sentiment [2]. After 2022, Stricter zero-coronavirus policies have led to a 30% drop in China's economic liquidity and caused an economic downturn [3]. In the context of a downward economic environment and the outbreak of significant health security issues, investors are eager to find a high-yield and sustainable investment direction, so the pharmaceutical industry has attracted more and more attention. China has one of the most exciting emerging pharmaceutical markets, with production and sales growing more than 10% yearly since the mid-1980s. In 2000, its growth rate had reached 20% [4]. Livzon Group is a leader in China's pharmaceutical industry and has attracted increasing attention from investors, so research on this company is precious. On the one hand, Livzon has a diverse product line and sells products in chemical preparations, traditional Chinese medicine preparations, raw materials, biological preparations, testing reagents, and equipment. On the other hand, Livzon Group attaches great importance to research and development and has many self-developed high-threshold products. In a context where most Chinese companies have shunned high-risk, capital-intensive R&D activities and instead focused on the commercialization of more mature, less risky technologies such

as generic drug manufacturing, Livzon Group, Company with a large number of independent patents and high investment in scientific research deserve attention to their business performance [5].

At the same time, China's pharmaceutical industry has many risks that must be considered. The main issue is China's policy-oriented economy. Although policy guidance from the Chinese government has generally made China's economic growth more resilient and sustainable than other Asian countries, policy uncertainty also hurts the economy [6, 7]. Livzon's R&D-led investment is also worth studying. In the current general environment, many Chinese pharmaceutical companies have reduced clinical trials and new drug applications, and the Chinese government has also tightened new drug approvals [8]. Livzon's decision needs to be discussed. Research by Hao and Ce shows that China's medical welfare policies are not conducive to the research and development of some drugs (such as vaccines), which has brought additional difficulties to Chinese pharmaceutical companies [9]. At the same time, due to the high cost and high failure rate of R&D, Chinese companies rarely participate in the research and development of new concept drugs. Their focus is primarily on increasing the production and reducing the cost of low-end drugs, such as low-cost generics or existing drugs [10]. Livzon's high investment in R&D may make the company less competitive in the low-end market.

In summary, the research on Livzon Company not only caters to the needs of most investors but can also be used to study the Chinese pharmaceutical industry using this company as an example. Therefore, this article intends to use the SWOT method to analyze the company's external environment and, at the same time, focus on the performance of its products and R&D results on each product line in the internal environment to conduct a more comprehensive assessment of Livzon Group.

2. External Environment Analysis

2.1. Strengths

Livzon Group has apparent advantages in product lines. Livzon Group has a more diversified product portfolio than other pharmaceutical companies. Its product lines include chemical preparations, traditional Chinese medicine preparations, APIs, and diagnostics, including gastrointestinal, psychiatric, and anti-infective drugs and gonadotropins: reagents and equipment. Livzon Group is also committed to developing new tracks. Its biologics product line, including monoclonal antibodies and COVID-19 vaccines, is gradually gaining momentum to promote the company's sustainable development. Livzon Group has a wide range of pharmaceutical products, allowing it to operate in various medical fields and reduce dependence on a single market segment. At the same time, Livzon Group attaches great importance to research and developing new products. Livzon Group's multi-line layout is innovative, and the value of its high-barrier microsphere platform is expected to continue to be realized. Triptorelin Microspheres (1M) have been submitted for reissue and will be approved in the first half of 2023. Leuprorelin Microspheres (3M), Aripiprazole Microspheres (1M), Octreotide Microspheres (1M), etc. are expected to follow declare. High-end microsphere preparations continue to realize value, providing long-term growth points for the company and contributing to sustainable development. At the same time, the company is actively developing high-barrier complex preparations and specialty biological drugs, and its recombinant new coronavirus fusion protein vaccine and tocilizumab have been approved for marketing. In terms of raw materials, Livzon's subsidiary Joincare and Xinbeijiang Pharmaceutical jointly invested in the establishment of Henan Joincare Biopharmaceutical Research Institute Co., Ltd. to focus on biological fermentation products (dalbavancin, oritavancin, telavancin, Wanxing, etc.) centralized research and development. Its high-end pet drugs, such as Orellana and Alana, are undergoing industrial verification batch production and registration application. Eighty-six diagnostic reagent projects are under development, including one in the clinical stage, and 15 technical transformation projects, including seven registration changes. In terms of traditional Chinese medicine preparations, Livzon Group focuses on the clinical positioning of traditional Chinese medicine to treat dominant

diseases and exclusive varieties, focusing on promoting a total of 9 projects, including "ancient classic traditional Chinese medicine compound preparations", "new improved traditional Chinese medicine drugs", and "innovative traditional Chinese medicine drugs". SXSHL gel, a new, improved traditional Chinese medicine, has completed preclinical, experimental research. TGDG granules, an innovative, conventional Chinese medicine, has completed a single-center clinical trial of in-hospital preparations and obtained a summary report. Overall, Livzon has invested heavily in research and development, and its results are gratifying; it is in a leading position in the industry. If Livzon Group remains firmly committed to research and development in the future, it can stay competitive by continuously innovating and bringing new products to the market. Livzon Group products tend to have higher quality standards. Livzon Group attaches great importance to research and development, and its products often have high threshold, high quality, and innovative characteristics and are in an advantageous position in market competition. If the company continues to maintain the quality of its products, it can build trust among consumers and healthcare professionals and increase customer loyalty.

2.2. Weaknesses

Although Livzon Group has a wide range of product lines, its core business is still the research, development, and sales of pharmaceuticals, where Livzon Group also faces many challenges. Livzon Company lacks international experience and heavily depends on its primary market, the mainland Chinese market. If Livzon Group relies heavily on specific geographic markets, economic downturns, policy changes, or regulatory changes in those regions may affect its financial results. For example, in 2022, the company's core product, omeprazole injection, will be included in centralized procurement, and the medical insurance price will be implemented (a price reduction of 54%), which will significantly impact revenue. At the same time, the recurrence of the new crown epidemic in China has led to the decline of China's economy, which has also affected Livzon Group's sales in China. Secondly, China's pharmaceutical industry faces relatively strict regulations, which challenges Livzon Company. For example, it is difficult for new drugs to be approved for sale. Livzon Company invested much money in researching and developing the new coronavirus vaccine. Still, it was not approved for sale in time due to supervision and review, resulting in its revenue falling short of expectations. Livzon Group also needs to comply with regulatory requirements, and any non-compliance may have adverse effects, and its operating costs may increase. Third, competition from competitors is equally fierce. Competition in China's pharmaceutical industry is fierce. Not only are there many similar substitutes competing for general products, but after the patent expires, other companies will also participate in the market competition by manufacturing many generic drugs at low cost. If Livzon Group faces stiff competition from different pharmaceutical companies, it may need to invest more in marketing and innovation to maintain market share. To strengthen the competitiveness of high-barrier drugs and innovative drugs, Livzon's investment in research and development in 2022 alone will be as high as 1.427 billion yuan, a year-on-year increase of 24.51%. Finally, its sales channels also have more significant risks. More than 70% of Livzon Group's product sales are contributed by dealers, channel dealers, and local drug stores, while Livzon Company directly sells less than 30%. These dealers are difficult to supervise, and Livzon needs to pay them high commissions based on sales. This increases product selling prices and sales costs, thereby reducing market competitiveness.

2.3. Opportunities

Livzon Group continues to explore opportunities to expand its business globally, hoping to enter new markets with different healthcare needs and growth potential. The company's core product, Aprazole, has been approved for marketing in Indonesia, expanding the company's market and improving sustainability. At the same time, Livzon Group attaches great importance to R&D investment and benefits from it so that Livzon Group will be very sensitive to technological progress. If advances in pharmaceutical technology and manufacturing processes can develop more efficient

and cost-effective drugs or significantly reduce costs, it will provide a strong growth point for Livzon Group. Livzon Group also attaches great importance to strategic partnerships. The company's collaborations or strategic alliances with other pharmaceutical companies may provide access to new technologies, markets, and resources. It conducts self-research and introduces pipeline construction from co-construction companies. In January 2023, the asenapine transdermal patch of German company LTS Lohmann Therapie-Systeme AG, authorized by Livzon Company, was approved for clinical use in China, enriching the company's pipeline in the psychiatric field. In March 2023, Livzon Company introduced the innovative potassium ion competitive acid blocker (P-CAB) Zastaprazan from Onconic, which complements the company's core product in the digestive tract field, omeprazole. Livzon continues to track the latest global drug action mechanisms, targets, and clinical application research progress, strives to build a full-cycle differentiated innovative product pipeline, and improves the company's core R&D capabilities.

2.4. Threats

Pharmaceutical companies in China are facing intense policy pressure, and Livzon is no exception. This is due to China's particular medical insurance system. Not all drugs consumers purchase in China can be reimbursed to the government through the social and medical security welfare system. Only a few medications included in the government's medical insurance list can be reimbursed by medical insurance. Therefore, drugs not included in medical insurance are at a competitive disadvantage when facing similar products included in medical insurance, thus affecting sales performance. On the other hand, to ensure the stability of drug prices, the Chinese government generally does not directly allow pharmaceutical companies to enter into commercial cooperation with hospitals for drugs included in medical insurance. Instead, the government purchases them from pharmaceutical companies and distributes them to various hospitals according to quotas. This is centralized purchasing. In centralized procurement, the government will have professional personnel to evaluate the cost of drugs and reduce the purchase price as much as possible. So pharmaceutical companies often face pricing pressure, especially with the rise of generic drugs (off-patent) and government mandates to control the cost of health care. The centralized purchase price is often less than half of the retail price, which may affect Livzon Group's profitability. At the same time, policy uncertainty will also have some impact, such as health care reform. Changes in healthcare policy or reforms in significant markets may affect drug pricing, reimbursement, and market access. Intellectual property risks also deserve attention. The expiration of patents on essential products may expose Livzon Group to competition from generic drug manufacturers in centralized procurement, thereby reducing profits. Supply chain disruptions also require attention. Any disruption in the supply chain, whether due to natural disasters or geopolitical events, can negatively impact production and distribution. For example, the trade war between China and the United States may result in a ban on importing or exporting some raw materials and products, causing supply chain disruptions.

3. Internal Environment Analysis

3.1. Financial Performance

This paper intends to study the financial performance of Livzon Group through its financial reports for the past five fiscal years. As a pharmaceutical company, Livzon Group's primary business is the production and sales of pharmaceuticals. Its main business lines include chemical preparations, raw materials, traditional Chinese medicine preparations, biological products, diagnostic reagents, and equipment.

Livzon is developing at a steady pace. During the COVID-19 pandemic, its operating income growth briefly improved and returned to normal (see Figure 1). Because the source of income is relatively fixed, the income trend and growth curve of Livzon Group's primary business are fairly close to the trend and growth curve of its operating income (see Figure 2). Chemical preparations are

an essential product line of Livzon, and its total sales ratio is increasing yearly, and the growth rate is gratifying.

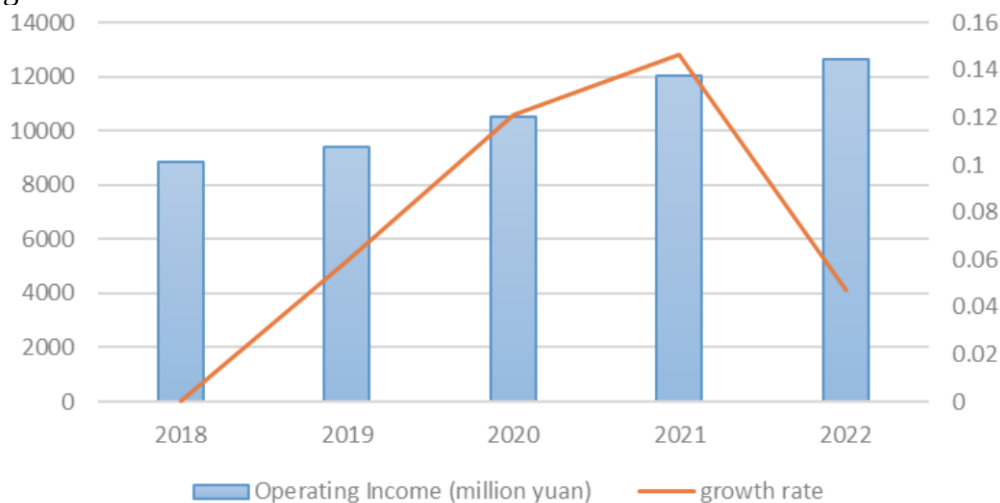


Fig. 1 Operating income and growth rate of Livzon Group (Photo/Picture credit: original)

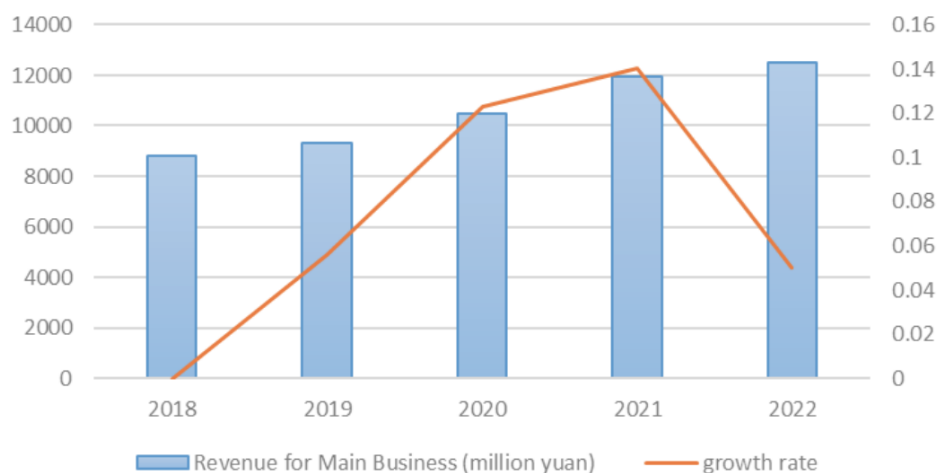


Fig. 2 Revenue for main business and growth rate of Livzon Group (Photo/Picture credit: original)

Chemical preparations are divided into digestive tract drugs, gonadotropins, and anti-infective drugs. Gastrointestinal drugs and gonadotropins are the primary sources of revenue. Gastrointestinal drugs include Aprazole, available in oral tablets and injections, as the main product. From 2018 to 2021, the average growth rate of digestive tract products is as high as 44%. There will be a slight decline in revenue in 2022, possibly due to competition from other similar oral tablet products, such as rabeprazole and omeprazole. The reasons for the slowdown in performance growth also include the implementation of the medical insurance price of the core product omeprazole injection (price reduction of 54%) and the hospital's priority to meet the procurement volume of centralized procurement products, combined with the impact of repeated domestic epidemics in China. However, gastrointestinal injections still maintain an excellent competitive advantage. Overall, gastrointestinal fundamentals have preserved competitive advantages while proliferating. The main gonadotropin products are leuprolide acetate microspheres for injection and urinary follicle-stimulating hormone for injection. In the past five years, its growth has been relatively stable, with an average growth rate of 13%. This type of product, especially leuprolide acetate microspheres for injection, has less competitive pressure due to its pertinence to the target market and high R&D threshold. Because of its high R&D threshold, no similar products are expected to compete with it in the next five years. Livzon Group's products maintain a solid competitive advantage in this segment and can provide stable cash flow to the company while increasing sales steadily.

3.2. Competitive Advantage

At present, chemical preparations also have advantages in terms of sustainability. While they continue to expand the market, they have also achieved gratifying results in researching and developing new drugs. Regarding the market, omeprazole will be launched in Indonesia on September 28, 2022, and Livzon Group's new indication drugs will be launched in 2023. Regarding research and development results, the production application for triptorelin microspheres (1-month sustained release) for the treatment of prostate cancer was accepted in September 2021, and supplementary information has been completed and submitted to CDE. The company expects to be approved for marketing within the year. The phase III clinical trial for endometriosis has completed enrollment; at the same time, the phase I multiple-dose clinical trial of aripiprazole microspheres (1-month sustained release) has been conducted. The psychotropic drugs blonanserin and lurasidone have been reported for production and are expected to be approved for sale in 2023.

As Figure 3 shown, hospital coverage and sales of omeprazole series products will continue to increase with the inclusion of Livzon's digestive tract drugs into China's medical insurance system. Moreover, Livzon Company has submitted application materials for a new indication to prevent stress ulcer bleeding in severe patients (the company expects to be approved in 2023). The dual-format strategy of tablet cardiology development and injection of high-end acid-suppressing drugs is gradually implemented. Aipla Azole will gradually realize price compensation based on volume in the future and still has excellent growth potential. Driven by the upcoming launch of triptorelin microspheres (1-month sustained release), several new psychotropic products, and the continued growth of leuprolide microspheres, the company's chemical-pharmaceutical sector is expected to accelerate sustainable growth. It can be predicted that chemical preparations will continue to be an essential driving force for Livzon's business development in the future.

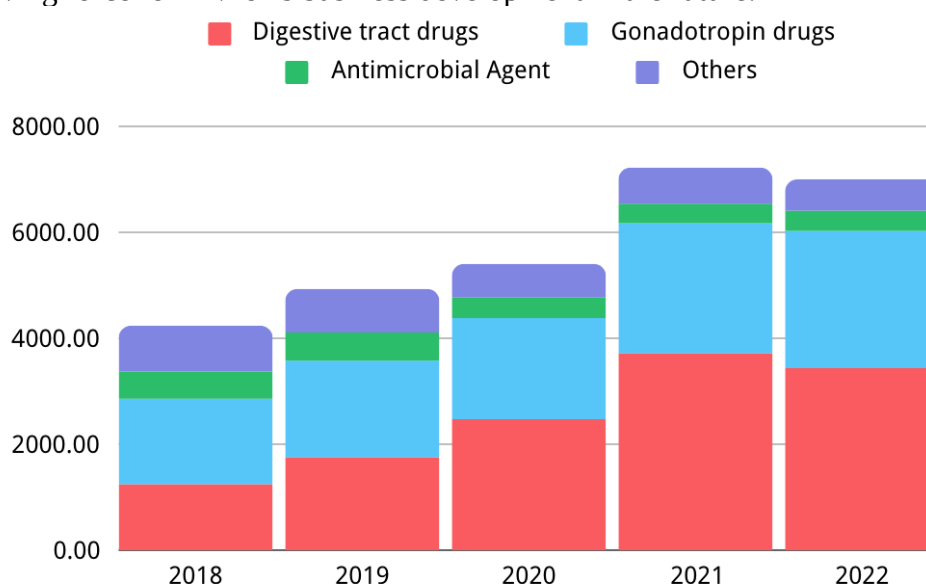


Fig. 3 Sales account for Livzon Group's Main business (Chemical Agent) in ¥million
(Photo/Picture credit: original)

In terms of raw materials, the sales volume of raw materials, mainly high-end pet drugs, also remained stable, growing steadily at an average annual growth rate of 7% (see Figure 4). High-end antibiotics and high-end pet drugs have experienced significant growth, daptomycin and milbemycin have experienced strong performance growth, and cephalosporin products have taken advantage of China's centralized domestic purchasing opportunities to positively impact both purchase price and sales volume. Part of the reason for the relatively slow growth of APIs is that external environmental factors have led to the overall downturn in the industry, and part of it is that Livzon Group needs more investment in research and development in this area. However, it can still provide stable cash flow.

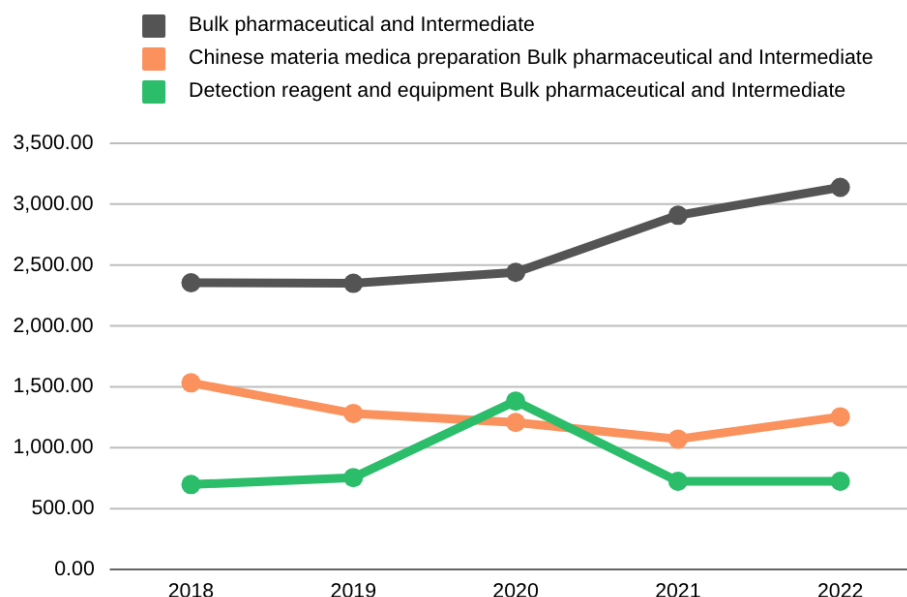


Fig. 4 Sales account for Livzon Group's main business in ¥million (Photo/Picture credit: original)

Traditional Chinese medicine preparations were once an essential source of revenue for Livzon Group, accounting for more than 30% of its sales at one time. However, with Livzon Group's emphasis on chemical preparations and its strong sales growth, the sales proportion of traditional Chinese medicine preparations has gradually shrunk. Although the traditional Chinese medicine sector has rebounded rapidly due to increased medical visits after the COVID-19 epidemic eased in China and the high demand for antiviral particles after epidemic prevention and control was relaxed, the driving force is unsustainable. Livzon Group is also aware of this. The company currently focuses on promoting the update of traditional medicines and developing innovative medicines using modern medical technology combined with conventional medication. Currently, Livzon Group has eight new TCM drug research projects. Among them, SXSHL gel, a new, improved TCM drug, has completed preclinical research and is writing and organizing application materials; TCM 1.1 new drug TGDX granules has completed a single-center clinical trial of in-hospital preparations and obtained the First draft of the clinical trial summary report. Livzon Group hopes to open up a new track through the research and development of innovative traditional Chinese medicines with high barriers, thereby promoting the further development of the traditional Chinese medicine sector.

Diagnostic reagents and equipment significantly boosted during the COVID-19 epidemic, with significant growth. Return to normal levels after the epidemic is over. Of note are biological agents, including coronavirus vaccines and monoclonal antibodies. In September 2022, Livzon's COVID-19 vaccine, Likang (V-01), was approved for emergency use in China's domestic sequential booster immunization. It is now used for booster vaccination in more than 20 provinces and cities nationwide, bringing performance flexibility to the company. The second domestic tocilizumab injection was approved on January 18, 2023, and the first prescription was issued on January 20. This product can be used not only to treat rheumatoid arthritis but also to treat severe cases of COVID-19. Patient. This product will provide a new option for treating severely ill patients with COVID-19. Currently, most biological agents are under development or have just been launched and have broad development prospects. Between 2021 and 2022, the sales growth rate will be as high as 81%, but the proportion is relatively small. Livzon also attaches great importance to the biologics product line, but many research and development costs have yet to be recovered.

As Figure 5 shown, Livzon Group's EPS growth remains solid. Since Livzon Group's board of directors has promoted share buybacks and cancellations in recent years, its stock value has remained stable despite China's economic downturn. Livzon Company attaches great importance to the rights and interests of investors and has a high sense of ESG responsibility.

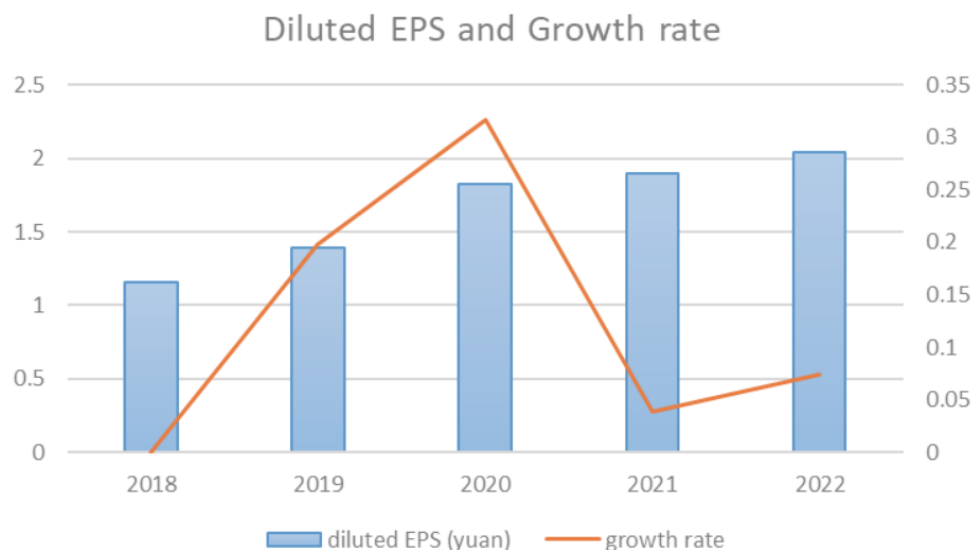


Fig. 5 Diluted EPS and growth rate of Livzon Group (Photo/Picture credit: original)

4. Risk Measurement

Livzon Group attaches great importance to research and development, but the uncertainty of research and development brings risks, mainly including two parts. One is the risk of R&D failure, which may result in no return on project investment. The second is the risk that the project will not perform as expected. For example, Livzon Group's COVID-19 vaccine was launched late, its performance fell short of expectations compared with similar products, and its revenue could not cover its costs. At the same time, when the patent expires, Livzon Group will inevitably face a price war with many similar products, thus affecting its income. Similarly, we must also consider the supply chain risks caused by global economic conditions and geopolitical frictions, such as the uncertainty in the import and export of products and raw materials generated by the Sino-U.S. trade war and currency exchange rate risks. Market access and pricing pressures brought about by China's particular market policies also bring uncertainty. Changes in healthcare policies, reimbursement rates, or pricing pressures may affect drug accessibility and profitability.

5. Conclusion

At present, it seems that Livzon's performance growth is sustainable. There are four main driving forces for Livzon Group's future growth. One is the continued low-speed growth of original products; the other is the growth from new drugs newly approved for marketing in 2023, such as interleukin six and triprelin. The third is the benefits of launching new indications for triptorelin, lurasidone, and progesterone (aqueous formulations; the market is all oil formulations) and the expected launch of PD-1. Fourth, Livzon Group expects to eliminate the impact of the failure to invest in vaccines in 2024 and improve its statement performance.

This study also has certain limitations. First, the company's internal analysis is based on company statements and reports, which may lack multi-perspective review and thus miss some information, especially negative company news. Second, the lack of quantitative predictions about future performance may reduce the credibility of the conclusions. Third, government policies are time-sensitive and challenging to predict. This study's interpretation and prediction of policies may be biased.

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