Analysis of Investment Value of Listed Companies' Stocks - An Example of Merck & Co.

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Abstract. With the development of society and economy, people's income level has gradually increased. The recovery and rebound of the economy make more and more people join in the investment of stocks. This paper takes MRK company in the pharmaceutical industry as an example, and use SWOT analysis, financial analysis and valuation analysis to comprehensively analyze the stock of MRK company. It aims to assess its investment value, provide reference for investors' investment, and provide theoretical basis for the direction of stock investment in the pharmaceutical industry. The results shows that the development trend of Merck is steady and positive.

Keywords: Merck & Co, investment value, valuation assessment.

1. Introduction

In recent years, with the development of social and economic development and the aging of the population increases year by year, people's attention to the pharmaceutical industry has gradually increased. Among them, there is no lack of investment in the Chinese medicine industry for the stock market.

Investing in value is an investment strategy whose core concept is to select investment targets based on the intrinsic value of a company.

Fan takes Amazon as an example and proposes a DCF absolute valuation model combined with a multiplier method relative valuation model to calculate its market value by analyzing its annual financial data disclosed in the past five years. The study takes December 31, 2021 as the benchmark, compares the stock price on that day with the valuation results, and concludes that the valuation method is reasonable and credible [1]. Liu investigates Pfizer's fundamentals and valuation under the Covid-19 pandemic to determine whether Pfizer, one of the world's premier biopharmaceutical companies, is worth purchasing for value investors by investigating its fundamentals and valuation under the global crisis. Bloomberg data for the past five years is used to analyze its fundamental performance by comparing it to its peer group. Multivariate valuations were used to determine whether it was undervalued or overvalued. The results show that Pfizer is an undervalued quality stock [2]. Zhu takes Tesla as an example, analyzes Tesla's internal, external and industry environment with the help of SWOT and other tools, and adopts relative valuation method to evaluate Tesla, and concludes that Tesla's stock is overvalued and will show a downward trend soon [3]. Zhan takes Minsheng Bank as the main research object and conducts a SWOT analysis on it to explore its competitive strengths and weaknesses as well as future opportunities and threats, and studies the future industry development trend based on exploring the current economic environment [4]. Liu et al. study the investment value of Ningde Times Company. Based on the valuation analysis, they summarize the investment value of CATL [5]. Wang adopts ratio analysis to find out the ratio of financial indexes needed by comparing and analyzing the relevant data on the financial statements to analyze and evaluate the business activities of the enterprise, which helps managers and investors to understand the business situation of the enterprise in all aspects, and it is an important tool for financial analysis [6].

Merck&Co., Inc. is a multinational pharmaceutical company headquartered in New Jersey, U.S.A. The stock code is MR. This paper adopts SWOT, financial data analysis and valuation analysis based on existing research. It comprehensively explores the stock movement fact sheet of MRK Inc. and analyzes it in conjunction with the development of competitors to arrive at a comprehensive

conclusion. Analyze the investment value of MRK company, provide reference and guidance for investors' investment, and provide some reference for the further development direction of MRK company.

2. Method

2.1. SWOT

SWOT analysis is a commonly used tool for strategic management. Starting from the internal and external environment of the enterprise, it comprehensively analyzes the factors that may have an impact on the market value of the enterprise from different perspectives. Starting from the internal strengths and weaknesses of the enterprise, combined with the external opportunities and weaknesses, the conclusion is systematically drawn. Specifically, the SWOT analysis method mainly starts from the following four aspects.

Strengths: The strengths of the enterprise are mainly analyzed from the internal environment. It is elaborated in terms of consumer trust and R&D technology.

Disadvantages: mainly from the internal environment, analyze the disadvantages of the enterprise. From the policy regulation, patent protection and R & D investment in three aspects to elaborate.

Opportunities: mainly from the external environment, analyze the opportunities faced by the enterprise. From the overall situation of the industry and the company's own development strategy to analyze.

Threats: mainly from the external environment, analyze the threats faced by the enterprise.

By comprehensively analyzing its elements, it clarifies how MRK can continue to exert its strengths, weaken its weaknesses, seize the opportunities, and cope with the threats in its development, to strengthen its competitiveness in the market [7].

2.2. Financial Analysis

EPS forecast is a forecast of a company's earnings per share for a period in the future. It is used to help investors assess a company's profitability and future growth potential.

Total revenue and gross profit are two key metrics in a company's financial statements that investors and analysts often focus on to assess a company's profitability, operating conditions, and financial health. An increase in total revenue and gross profit can reflect a company's business growth and improved profitability, which is important for investors to make investment decisions and assess a company's value.

Profitability ratios are a set of financial ratios used to measure a company's profitability. These ratios help investors and analysts to assess the profitability of a company and to understand the level of profitability and the stability of profitability of a company. This leads to a better assessment of the investment value of the company.

Gross profit margin is the ratio of a company's gross profit remaining after the sale of a product or the provision of a service, less the costs directly related to the product or service, to its total revenue. Gross margin is usually expressed as a percentage and reflects a company's profitability and efficiency in selling products or providing services. A higher gross margin usually indicates that a company can realize higher profits on the sale of products or the provision of services, reflecting the company's competitiveness and profitability.

2.3. Valuation Method

P/E ratio is a measure of the price of a company's stock relative to its earnings per share, and is used to predict future returns and determine investment risk by evaluating a stock's valuation. If investors expect that the future profitability of the company can increase significantly, it can make the P/E value rise to a reasonable level; on the contrary, if the financial data and so on fail to reach the level of investors' expectations, the company's share price will certainly fall back from the high place and return to a rational level [8].

The disadvantage of the P/E ratio that cannot be ignored is that when using the P/E ratio to compare the value of different stocks, it is necessary to consider that these stocks must belong to the same industry to be comparable. Moreover, P/E ratios are highly affected by changes in the macro environment, and there may be errors in valuation when using the average P/E ratio to make investment decisions after comparable companies have been selected for comparison [9].

$$P/E = \frac{\text{Share Price}}{EPS} \tag{1}$$

TTM P/E (Trailing Tweleve Months Price-to-Earnings Ratio) is a price-to-earnings ratio calculated based on the net income of the past twelve months and the current market price, which is used to help investors assess the current valuation of a company. NTM P/E (Next Tweleve Months Price-to-Earnings Ratio) is a price-to-earnings ratio calculated by forecasting the next twelve months and the current market price, which is used to help investors predict the future earnings of a company. Earnings Ratio) is a P/E ratio calculated by forecasting the next twelve months and the current market price, which helps investors to predict the future earnings of the company.

$$TTM\ \text{P/E} = \frac{Stock\ \text{Price}}{TTM\ \text{EPS}} \tag{2}$$

$$NTM\ \text{P/E} = \frac{Stock\ \text{Price}}{NTM\ \text{EPS}} \tag{3}$$

3. Results and Discussion

3.1. Results of SWOT Analysis

Strength: Firstly, Merck is in a leading position as a leading company in the pharmaceutical industry. Merck has strong R&D and innovation capabilities and continues to introduce new types of drugs and vaccines to meet market demands. According to the news report, Merk was ranked No. 1 on the list of America's Most Responsible Companies 2024 published by Newsweek[10], indicating that Merk has won recognition from various parties for its excellent management and R&D capabilities, and for its active fulfillment of its social responsibility by continuously launching new types of medicines for the benefit of patients around the world. Secondly, new products developed by Merk have been approved and put into use one after another, and its development trend is stable and improving.

Weakness: Our investment in MRK will be subject to three potential risks. First, the pharmaceutical industry is heavily influenced by regulatory policies and regulations, and new drug approval requirements, price control policies or healthcare reforms may affect MRK's product sales and profitability. Second, some of MRK’s products may face the risk of expiration of the term of patent protection. Once the patents expire, the Company may face market share erosion and price competition from competitors, which may affect the Company's profitability. Finally, as an innovative pharmaceutical company, MRK invests heavily in research and development. If the company's key research and development projects fail to achieve the expected clinical trial results or obtain regulatory approval, this will result in the risk of investment failure, product launch delays or product failures, which in turn will affect the company's profitability and share price performance. The above factors may have an impact on the decision to invest in MRK, and investors need to carefully assess these risks and take appropriate risk management measures to minimize the investment risks.

Opportunity: In recent years, the global pharmaceutical industry has experienced a recovery. Firstly, the recovery of the pharmaceutical industry has provided new opportunities for the development of Merck. Secondly, the large market demand also pushes Merck to innovate and develop. mrk seizes

the opportunity to expand its investment in independent innovation, enhance its competitiveness and expand its market share.

Threat: The main threat to MRK comes from its competitors, JNJ, BGNE, and PFE, which are well-known multinational companies in the pharmaceutical industry and compete with MRK in terms of product innovation, market share, technological competition, and branding. These four companies are competing for products in different areas of the pharmaceutical market, competing for scientific research and patented technology through continuous R&D and innovation, capturing market share, and competing for consumers' favor and trust.

3.2. Results of Financial Analysis

The data used in the following analysis is taken from the data provided on March 21, 2024 in the nasdaq website.

3.2.1. EPS Forecast

As can be seen in table 1, based on the forecast of the EPS ratio for the next three years, from 2024 to 2027, the EPS forecast value increases year by year, which shows that analysts are optimistic about MRK's future profitability and believe that the company can have better performance.

Table 1. Yearly Earnings Forecast

Fiscal Year End	Consensus EPS* Forecast	High EPS* Forecast	Low EPS* Forecast	Number Of Estimates
Dec-2024	8.58	8.91	8.44	11
Dec-2025	9.81	10.44	9.12	9
Dec-2026	10.78	11.68	9.56	7
Dec-2027	11.47	12.39	10.26	4

3.2.2. Total Revenue and Gross Profit

According to table 2, MRK’s total revenue maintains a continuous growth. From 2020 to 2023, the total revenue increased by $18,597,000 or 1.4 times, which shows that MRK's performance has been developing positively in recent years. Gross profit margin also increases year by year from 2020 to 2023, and profit increases gradually.

Table 2. Revenue and Profit

Period Ending	12/31/2023	12/31/2022	12/31/2021	12/31/2020
Total Revenue	$60,115,000	$59,283,000	$48,704,000	$41,518,000
Cost of Revenue	$16,126,000	$17,411,000	$13,626,000	$13,618,000
Gross Profit	$43,989,000	$41,872,000	$35,078,000	$27,900,000

3.2.3. Profitability Ratio

According to figure 1, the profit margin has been increasing every year since 2020, which shows that MRK has the ability to sustain profitability and the economic situation is developing positively. MRK's data is also in an advantageous position compared to competing companies in the same industry, which shows that the market is optimistic about MRK's growth potential and better prospects (figure 2).



Figure 1. MRK'S Profitability Ratios (annual)

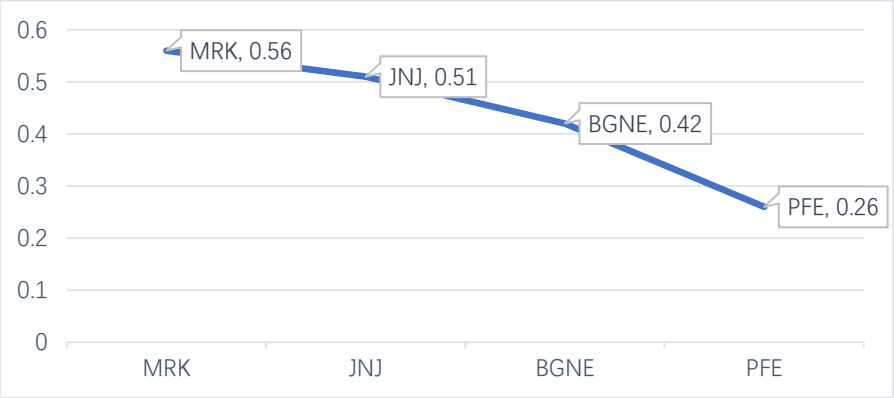


Figure 2. Four Companies' Profitability Ratio (2023)

3.2.4. Gross Margin

Gross profit margin, as the ratio of profit earned to total revenue of an enterprise, is an important indicator to measure the business condition and competitiveness of an enterprise. According to figure 3, MRK's gross profit margin is steadily increasing, which shows that its profitability is stable. Meanwhile, figure 4 shows that MRK also maintains a strong advantage over its competitors JNJ and PFE. Although BGNE's gross profit margin is higher in 2023, BGNE's gross profit margin is highly unstable in recent years. All things considered; MRK is not only more profitable but also more stable compared to its peers.

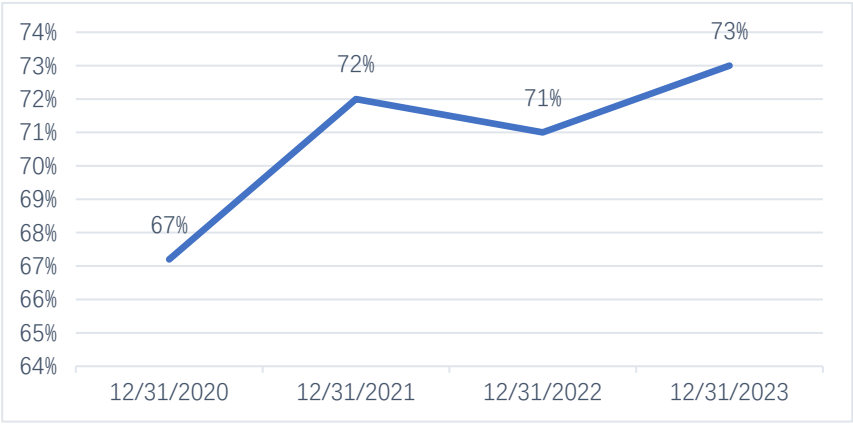


Figure 3. MRK's Annually Gross Margin

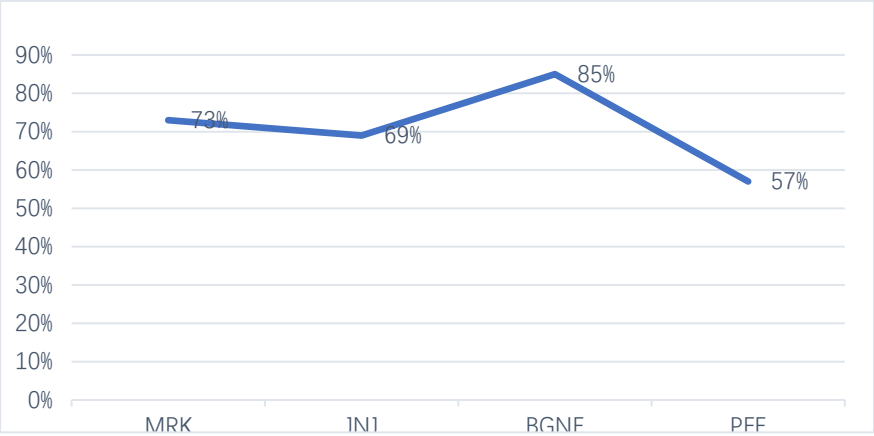


Figure 4. Gross Margin (the most recent fiscal year)

3.3. Results of Valuation

This paper use from March 21, 2024 in the NASDAQ, to calculate the TTM, NTM.
It can be calculated from the data:
TTM P/E=82.50667

NTM P/E=14.37398

On the one hand, MRK's TTM P/E ratio is way ahead of other companies in the same industry. This reflects that the market has high expectations for the company's earnings and is willing to pay a higher price to hold MRK's stock, and investors believe that MRK will be able to maintain an advantageous position in the highly competitive market. On the other hand, the NTM P/E ratio is at par with other companies in the same industry, indicating that the market is neutral on the outlook of the industry, and its investment value needs to be further explored considering external factors.

4. Conclusion

The results of this paper, through comprehensive analysis, show that MRK has a high EPS value, which indicates that the company has achieved significant growth in profitability. According to the news report, MRK was ranked first in the list of "America's Most Responsible Companies 2024" published by Newsweek. This shows that MRK has been able to fulfill its social responsibility by virtue of its excellent management and R&D capabilities as well as its active fulfillment of social responsibility. Meanwhile, new products developed by MRK have been approved and licensed and put into use, and the development trend is steady and positive.

Although BGNE has the highest gross margin, MRK shows steady growth when looking at the annual gross margins of the four companies and combining them with quarterly gross margins. we are positive about MRK's sustained profitability.

Meanwhile, the findings of this paper are instructive for both investors and companies. For investors, MRK has investment value, its market capitalization is stable, and it shows a stable to positive trend in the future market. For enterprises, MRK should further increase its investment in research and actively fulfill its social responsibility to develop more medicines for the benefit of patients around the world.

In addition, the research in this paper has limitations and does not consider the impact of macroeconomics, ignoring the impact of the economic downturn on the development of enterprises.

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