

Strategic Resilience and Financial Analysis of Merck & Co., Inc.: Navigating Challenges and Opportunities in the Pharmaceutical Industry

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Abstract. This study provides a comprehensive analysis of Merck & Co., Inc. (MRK), a prominent player in the global pharmaceutical industry, known for its significant contributions to healthcare through the development of innovative drugs and vaccines. Merck's core focus areas include pharmaceuticals, vaccines, animal health, and healthcare services, with its flagship oncology drug Keytruda being a major revenue contributor. The company faces challenges such as regulatory changes in drug pricing and competition from biosimilars and generics. To mitigate these challenges, Merck has initiated restructuring plans, including the 2024 Restructuring Plan, to optimize operational efficiency and achieve significant cost savings. The paper also presents a comparison of Merck's financial performance with industry peers - Johnson & Johnson, AbbVie and Bristol-Myers Squibb - and evaluates liquidity, solvency and profitability metrics. Despite certain challenges, Merck's robust market positioning, strategic acquisitions, and active involvement in the development of COVID-19 vaccines and therapeutics underscore its potential for sustainable growth. Overall, the study concludes that Merck's strategic investments, coupled with its strong financial position and proactive restructuring efforts, make it an attractive investment prospect, particularly in its core therapeutic areas of oncology and immunology. This paper suggests that future research could delve deeper into the long-term impact of R&D investments, the intricacies of restructuring plans, and evolving market trends to provide a more nuanced understanding of Merck's strategic planning.

Keywords: Pharmaceutical Industry, Financial Analysis, Valuation.

1. Introduction

Merck & Co., Inc. (NYSE: MRK), also known as MSD outside the United States and Canada, is a global leader in the pharmaceutical industry. Merck is widely recognized for its contributions to the development of medicines and vaccines that address some of the world's most challenging health problems [1]. Merck's core businesses include pharmaceuticals, vaccines, animal health and healthcare services. In pharmaceuticals, Merck has strong capabilities in several therapeutic areas, including oncology, vaccines, acute care, cardiovascular and immunology [1]. The company's flagship cancer immunotherapy, Keytruda, has been a key driver of revenue growth, accounting for more than 40% of the company's total revenues in recent years [2]. As of March 2024, Merck's market capitalization was approximately \$307.76 billion, reflecting its strong position in the pharmaceutical industry [1].

Merck faces challenges and opportunities that affect its share price and long-term financial outlook. The company is committed to extending patent protection for its flagship oncology drug Keytruda to maintain market leadership. Merck acquired Prometheus Biosciences for \$10.8 billion to strengthen its immunology portfolio and target opportunities after AbbVie's Humira patent expires [3]. In addition, Merck's involvement in the development of COVID-19 vaccines and therapeutics, including the antiviral drug molnupiravir, has impacted its valuation during the pandemic [4, 5]. However, Merck also faces challenges from legislative and regulatory changes in drug pricing, particularly with the Biden administration's focus on lowering drug prices. Increased competition from biosimilars and generics as patents expire on key products threatens the company's market share and revenues. Investors need to monitor the progress of Merck's R&D pipeline, new drug approvals, clinical trial results and strategic partnerships [6]. To address these challenges and optimize operations, Merck

implemented a new restructuring plan in January 2024 to optimize its global human and animal health manufacturing networks [1]. The 2024 Restructuring Plan is expected to be substantially completed by the end of 2031 at an estimated cost of USD 4 billion, 60% of which will be non-cash. The company expects the program to result in annual net cost savings of approximately USD 750 million by the end of 2031 [1]. In addition, Merck's 2019 Restructuring Plan to optimize its manufacturing and supply network and reduce its global real estate footprint is substantially complete, with total pre-tax costs of \$743 million in 2023, \$666 million in 2022 and \$868 million in 2021 [1]. From the inception of the 2019 Restructuring Plan through December 31, 2023, Merck has recorded cumulative pre-tax costs of approximately \$4.1 billion, of which 70% were cash charges primarily related to employee severance and facility closure costs. The remaining 30% were non-cash charges, primarily related to accelerated depreciation of facilities to be closed or divested. Actions under the 2019 Restructuring Plan are substantially complete, and restructuring charges are not allocated in segment reporting [1].

2. Performance Evaluation

By comparing the stocks of four U.S. pharma-tech companies (Merck, Johnson & Johnson, AbbVie, and Bristol-Myers Squibb) with high industry relevance and comparable market capitalization, investors can compare them by Liquidity, Solvency, and Profitability to find the best investment targets.

2.1. Liquidity

In analyzing liquidity ratios, Merck's current ratio of 1.25 and quick ratio of 1.00 show good short-term solvency, ahead of JNJ but slightly behind BMY. However, its cash ratio of 0.27, while lower than ABBV's 0.34, indicates less reliance on cash for immediate obligations, but significantly behind BMY's 0.51, indicating less extreme liquidity. These numbers suggest that Merck's liquidity is solid, despite its slightly lower cash ratio, possibly due to its ongoing 2024 restructuring plan to optimize its global manufacturing network and improve efficiency [1]. This strategic realignment, while potentially impacting short-term cash flow, is expected to deliver long-term cost savings and enhance market competitiveness. In addition, Merck's continued investments in R&D, particularly in immunology and COVID-19 therapeutics, may impact short-term liquidity but are expected to strengthen long-term profitability and market position [1, 7, 8]. Thus, despite some liquidity and cash flow challenges, Merck's financial health and market competitiveness remain robust. This analysis underscores Merck's balanced financial strategy, which positions the company well for future growth despite some short-term liquidity constraints.

Table 1. Liquidity ratios of Merck and its competitors

Company Names	Current ratio	Quick ratio	Cash ratio
MRK	1.25	1.00	0.27
ABBV	0.87	0.76	0.34
JNJ	1.16	0.91	0.47
BMY	1.43	1.31	0.51

Data source: Estimize

As Table 1 shown, ABBV's low liquidity ratios may be due to its high debt level (\$59.6 billion), which affects its current and quick ratios. Major mergers, acquisitions, or expansions may increase current liabilities [9]. ABBV's higher accounts receivable, possibly due to extended health insurance payment cycles, affect its quick and current ratios because they can't be converted to cash immediately. In addition, high R&D investments (\$7.7 billion last year) are critical to long-term growth, but don't immediately increase the cash ratio [9]. Significant spending on facility expansion, equipment and technology upgrades for clinical development also drains cash reserves. In 2023, ABBV's mergers and acquisitions, such as the proposed \$10.1 billion acquisition of ImmunoGen and the \$8.7 billion

purchase of Cerevel Therapeutics, will require significant cash outlays, further reducing the cash ratio [9]. Finally, AbbVie's high dividend payout policy, as one of the top performing dividend kings, regularly distributes cash to shareholders, depleting cash reserves. Taken together, these factors explain ABBV's lower liquidity ratios than its peers, reflecting the company's strategic focus on growth and shareholder returns at the expense of immediate liquidity.

2.2. Solvency

As Table 2 shown, MRK's debt-to-equity (D/E) ratio of 1.84 suggests moderate financial leverage, possibly due to strategic investments such as the Prometheus Bioscience acquisition and its 2024 restructuring plan [1]. Although the restructuring may weigh on near-term cash flow, it could strengthen MRK's long-term cash flow and D/E ratio. Conversely, drug pricing regulations could negatively impact cash flow. Despite its debt, MRK's cash flow to debt ratio of 0.37 shows that it can manage its debt and maintain stability. In contrast, ABBV's D/E ratio of 12.00 indicates an aggressive leverage strategy, likely for acquisitions and expansion, and its cash flow to debt ratio of 0.38 suggests some solvency despite high debt [3, 9]. JNJ's D/E ratio of 1.44, the lowest of the four, reflects a conservative strategy and low risk, while its high cash flow to debt ratio of 0.78 indicates strong solvency [3]. BMY's D/E ratio of 2.23, slightly higher than MRK's, may reflect investments in R&D and expansion, but its low cash flow to debt ratio of 0.35 indicates weaker solvency [3, 10]. Overall, JNJ leads in financial health with low leverage and strong solvency, MRK balances its financial strategy well, ABBV's high leverage poses risks but maintains solvency, and BMY should be cautious about its solvency given its lower cash flow to debt ratio.

Table 2. Solvency ratios of Merck and its competitors

Company Names	Debt-to-Equity Ratio (D/E)	Cash Flow to Debt Ratio
MRK	1.84	0.37
ABBV	12.00	0.38
JNJ	1.44	0.78
BMY	2.23	0.35

Data source: Estimize

According to MRK's long-term debt schedules for 2023 and 2022, the company has a well-managed and diversified portfolio of debt instruments with different interest rates and maturities, which helps to diversify risk and manage interest rate exposure [1]. The majority of the debt has moderate interest rates, indicating low-cost financing. Long-term maturities provide stability and flexibility for future planning, while new issues indicate continued access to debt markets [1]. MRK's strategy focuses on spreading debt repayment over time, which is critical to maintaining repayment capacity [1]. The company's ability to service its debt will depend on its future cash flows and financial performance. Overall, the diversification of long-term debt appears to be a good sign that the company's financial strategy is well thought out and that investor confidence is high. However, MRK must continue to generate strong cash flows and maintain profitability to ensure its ability to service its long-term debt.

2.3. Profitability

In terms of profitability, Merck's performance was relatively weak, especially in terms of operating margin, pre-tax margin and net margin, as Table 3 shown. Its gross profit margin was 0.73, which was higher than AbbVie's 0.62, but lower than Johnson & Johnson's 0.69 and Bristol-Myers Squibb's 0.76, indicating that Merck performed better in controlling the cost of product sales, but there is still room for improvement [3]. However, in terms of operating margin (0.04), pre-tax margin (0.03) and net margin (0.01), Merck's performance is significantly lower than that of its competitors, suggesting that Merck has some shortcomings in terms of operational efficiency and after-tax profit [3].

Table 3. Solvency ratios of Merck and its competitors

Company Names	Gross Margin	Operating Margin	Pre-Tax Margin	Profit Margin	Pre-Tax ROE	After Tax ROE
MRK	0.73	0.04	0.03	0.01	0.05	0.01
ABBV	0.62	0.23	0.12	0.09	0.60	0.47
JNJ	0.69	0.25	0.18	0.41	0.22	0.51
BMV	0.76	0.16	0.19	0.18	0.29	0.27

Data source: Estimote

Comparing the other three companies, Johnson & Johnson's profitability metrics are better overall, with its gross margin and return on net assets higher than Merck's, suggesting that Johnson & Johnson is performing well in terms of cost control and asset utilization. Bristol-Myers Squibb has the highest gross margin at 0.76 and a relatively good pre-tax margin but performs averagely on other metrics [3]. AbbVie underperforms in terms of gross margin, but excels in terms of pre-tax and after-tax return on net assets (pre-tax return on net assets of up to 0.60) [3].

Overall, Merck underperforms in terms of profitability, particularly in terms of operating efficiency and after-tax profit, indicating that the company sells its products with operating costs, taxes, and other expenses consuming most of the revenue. This phenomenon may be due to factors such as high R&D investments, restructuring costs, competitive market and pricing pressures, and global operational challenges [1]. Meanwhile, Merck's competitors, such as Johnson & Johnson and Bristol-Myers Squibb, are performing better on certain profitability measures [10]. As a result, Merck needs to increase profitability by optimizing its operations and improving efficiency to remain competitive in the highly competitive pharmaceutical market. This is in line with Merck's recent strategic realignment, in particular the implementation of its 2024 restructuring plan, which aims to optimize the global Human Health and Animal Health manufacturing networks and improve supply reliability and efficiency [1]. Through these initiatives, Merck expects to improve its profitability over the next few years and achieve annual net cost savings that are expected to improve future margins and remain competitive in the highly competitive pharmaceutical market.

3. Valuation

Table 4. Solvency ratios of Merck and its competitors

	MRK	ABBV	JNJ	BMV
Shared price	120.1	181.3	158.2	52.3
TTM EPS	1.50	11.11	10.43	7.5
NTM EPS	8.57	11.19	10.65	6.8
EPS growth rate	471.3%	0.7%	2.1%	-9.3%
Rev growth rate	6.0%	0.3%	-5.0%	2.3%
TTM P/E	80.07	16.32	15.17	6.97
NTM P/E	14.01	16.20	14.85	7.69
PEG ratio	0.17	22.66	7.19	-0.75
GP/A (most recent)	41.2%	25.2%	35.0%	36.1%

Data source: Estimote & Nasdaq

As Table 4 shown, BMV has a negative EPS growth rate (-9.3%) and a negative PEG ratio (-0.75), which usually indicates poor earnings growth prospects [3]. While the lowest P/E ratio suggests that the stock is cheap for current earnings levels, the negative growth rate could imply a decline in future earnings, making BMV a less attractive investment option.

Next, compare the remaining stocks. MRK has an extremely high EPS growth rate (471.3%) and a PEG ratio (0.17) that is significantly less than 1, which usually indicates that the company's stock price is lower than its expected growth, suggesting better investment potential [3]. Meanwhile, MRK

has the highest GP/A, suggesting strong profitability [3]. ABBV Although its EPS growth rate is only 0.7%, this could be due to the fact that it is already a mature company and its GP/A is also relatively low. However, ABBV has an extremely high PEG ratio (22.66), which would normally be considered overvalued unless there is very strong growth potential in the future [3]. JNJ underperforms in terms of EPS growth rate (2.1%) and revenue growth rate (-5.0%), but its PEG ratio (7.19) is much more reasonable than that of ABBV [3]. JNJ's GP/A is also relatively high.

Based on the above analysis: MRK seems to be the most attractive investment option because it has a high growth rate and a low PEG ratio, suggesting that its growth is undervalued, and it has the highest GP/A, suggesting that the company is efficient and has a strong ability to leverage its assets to generate profitability. JNJ and ABBV are both mature companies that do not have high growth rates, but JNJ has a comparatively lower PEG ratio and higher GP/A and may be a relative ABBV's high PEG ratio may indicate that it is overvalued unless there is evidence of significant growth, and BMY's negative growth rate and negative PEG ratio make it the least suitable investment option.

Therefore, MRK is the most suitable investment from a growth and value perspective. However, it should be noted that this analysis is based on a snapshot of these metrics and should be used in conjunction with industry trends, company fundamental analysis and individual investment strategies to make a final decision. Investment decisions should take into account a variety of factors, including but not limited to these financial measures.

MRK's expected strong sales growth of 6% is due to a combination of strategic initiatives and market dynamics [3]. The patent extension for Keytruda, Merck's flagship oncology drug, is expected to sustain its revenue stream by delaying generic competition [1, 6]. In addition, the acquisition of Prometheus Biosciences strengthens Merck's immunology portfolio and promises new sources of revenue as patents for competing drugs expire [1, 3]. Merck's involvement in the development of COVID-19 vaccines and treatments, including molnupiravir, has the potential to generate significant revenues, especially given the ongoing nature of the pandemic [5]. In addition, Merck's restructuring programs aim to optimize operations and reduce costs, contributing to profitability and supporting sales growth. Finally, Merck's diverse product portfolio across multiple therapeutic areas, coupled with continued investments in R&D and strategic alliances, positions the company for sustainable growth [1, 8]. Together, these factors provide a solid foundation for Merck's optimistic sales growth forecasts.

The recent announcement of the Company's restructuring plan is critical to a comprehensive valuation analysis and forward looking perspective. 2024 The initiation of the restructuring plan, which is expected to cost \$4 billion and has an estimated completion date extending to the end of 2031, marks a significant shift in the Company's strategy [1]. The plan is designed to optimize the company's global human and animal health manufacturing network and reflects the company's proactive approach to adapting to changing market needs and technological advances [1]. 60% of the plan's costs are non-cash, primarily due to accelerated facility depreciation, demonstrating the company's strategic decision to invest in long-term efficiencies at the expense of short-term profitability metrics [1]. The completion of the 2019 Restructuring Plan with a total cost of \$4.1 billion, of which 70% was cash, demonstrates the company's continued commitment to streamlining operations [1]. The plan's focus on optimizing manufacturing processes and reducing the global real estate footprint is consistent with industry trends toward more flexible and cost-effective operations [1]. The substantial completion of the program is a positive development and demonstrates that the company has successfully met the challenge of reducing costs and now has the potential to improve operational efficiency.

From a valuation perspective, the key consideration is the impact of these restructuring plans on the company's future cash flows, earnings potential and overall profitability. While short-term financials may be negatively impacted by the increased costs associated with these programs, the long-term outlook appears positive. In particular, the strategic realignment of the Human Health sector and the focus on new models will position the company well in the rapidly evolving industry landscape.

In terms of reasonable expectations, investors should expect a transition period as the company implements its 2024 restructuring plan [1]. This may result in volatility in financial performance and metrics, such as increased expenses and potentially lower earnings in the near term. However, valuation analysis should take into account the expected long-term benefits, including improved operational efficiencies, cost savings and enhanced competitive positioning.

4. Conclusion

In summary, Merck has demonstrated resilience and strategic foresight in navigating the challenges and opportunities of the pharmaceutical industry. The company's commitment to extending patent protection for its flagship oncology drug Keytruda and strategic acquisitions such as Prometheus Biosciences underscore its focus on top-line growth and portfolio expansion. Despite regulatory changes and increasing competition, Merck's financial position remains solid, as evidenced by its liquidity and solvency ratios.

The company's recent restructuring plans, including the 2024 Restructuring Plan, reflect a proactive approach to optimize operations and improve efficiency, which is expected to result in significant long-term cost savings and enhance competitiveness. Merck's involvement in the development of COVID-19 vaccines and therapeutics underscores its agility in responding to global health crises and the potential for revenue generation in this area.

From a valuation perspective, Merck's strong growth prospects, particularly in oncology and immunology, make it an attractive investment option. The high EPS growth rate and low PEG ratio suggest undervalued growth, while the strong gross profit to assets ratio points to efficient asset utilization and profitability. While the restructuring plan may result in short-term financial volatility, the long-term benefits are expected to outweigh these costs, making Merck a compelling choice for investors seeking growth and value in the pharmaceutical sector.

In conclusion, Merck's strategic investments, robust financial position, and proactive restructuring efforts position the company well for sustained growth and profitability. Future research could further enrich the study by expanding peer comparisons, exploring the long-term impact of R&D investments, examining the potential risks and challenges of restructuring plans, incorporating broader market trends, and focusing on Merck's innovation strategy, expansion into emerging markets, adapting to regulatory changes, leveraging digital health technologies, and aligning sustainability initiatives with corporate social responsibility goals.

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