Accounting and Financial Analysis on AbbVie

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Abstract. Since the outbreak of the COVID-19 in 2021, the pharmaceutical industry has received a significant impact. Abbvie, one of the top research-based biopharmaceutical companies around the world, has faced a large amount of challenges during this period. To explore Abbvie's operating status during this particular time, we have studied its annual report for 2021 and provided an analysis and assessment. This paper summarizes Abbvie's complex accounting policies regarding revenue recognition, research and development expenses, pensions and other post-employment benefits, and analyzes the company's trends in revenue and net income over the last 5 years in order to make basic projections for the next developments. In addition, the paper also calculates various financial ratios to obtain the financial performance of the company for the current year, and derives its short-term solvency, long-term solvency, asset management and profitability. Finally, the paper summarizes the risks that Abbvie is facing and the strategies to deal with them, in order to better expose the problems faced by the company and help it to better define its development direction.

Keywords: Financial analysis; forecast; AbbVie; pharmaceutical industry; COVID-19 epidemic.

1. Introduction

AbbVie is an American pharmaceutical company specializing in immunology, virology and other fields, which is one of the biggest biopharmaceutical companies around the world. Abbvie's mission is "to discover and deliver innovative medicines that solve serious health issues today and address the medical challenges of tomorrow" [1]. Abbvie debuted its first drug called Humira in April 2013, and it was an immediate success that year, with first-year net sales of just under $18.8 billion. After years of continuous development, Abbvie is currently headquartered in Illinois and has 30,000 employees in 75 countries. Abbvie has created more than 30 products and has 50 more in the pipeline. Several of these hit products bring in billions of dollars a year [2]. Humira, a treatment for arthritis, cowhide moss and Crohn's disease, is the best-selling product, accounting for more than half of annual sales and crossing the $20 billion mark in 2021 [3]. The present era is the era of rapid development of pharmaceutical preparations industry, there are a huge number of pharmaceutical companies in the world. The main competitors of Abbvie include Pfizer and Merck & Co., Inc., especially due to the COVID-19, the competition between these companies is becoming more and more intense. COVID-19 is an extensive and have far reaching crisis for the whole world, which is embodied in healthcare area including disruption of medical supply chain and overburden of the existing medical system, economic area including obvious slowing down of revenue growth and losses of domestic and international business, and social area including the closure of public places and the huge pressure of the population [4]. These impacts definitely influence the financial performance and financial situation of pharmaceutical companies including increase of net sales, increase of cooperation, and increase of R&D costs and challenge the production, finance, and other aspects of these companies.

There is no denying that Abbvie as a pharmaceutical company is influenced by COVID-19 as well. It is one of the first pharmaceutical companies that respond to worldwide COVID-19 crisis by supplying Kaletra/ Aluvia and by cooperating with WHO, Chinese CDC, and the Innovative Medicines Initiative (IMI) to build up research partnerships. As a result of the above actions, there are a lot of subsequent challenges including higher leverage and lower liquidity on Abbvie in 2021. In order to assist Abbvie to overcome these challenges, and utilize the short-term impacts and long-term impacts of COVID-19 on pharmaceutical preparations industry to break through, the remainder

of the paper is organized as follows. Section 2 conducts accounting analysis of Abbvie related to major accounting polices including revenue recognition, Research and development expenses, pension and other post-employment benefits, and goodwill and intangible assets. Section 3 analyzes the performance trend in a dimension of time, calculates different kinds based on financial ratios (performance measures, efficiency measures, leverage measures, and liquidity measures) of Abbvie, and compares these financial ratios with the corresponding ratios of Pfizer and Merck & Co., Inc.. Section 4 discusses risk management and strategic objectives of Abbvie. Finally, Section 5 concludes all contents of the paper.

2. Accounting Analysis

For Abbvie, accounting policies about Revenue Recognition, Research and Development Expenses, Pension and Other Post-Employment Benefits, and Goodwill and Intangible Assets should be considered firstly when carrying out accounting activities since these aspects are sensitive and hard to evaluate.

2.1. Revenue Recognition

During 2021, the net revenue (net earnings) of Abbvie is 11,542 million. Abbvie makes most of its revenue from product sales, and sales, value add and other taxes collected at the same time as revenue-generating activities are not counted as revenue. For the majority of sales, the business hands over control, bills customers, and records revenue upon delivery to customers. Furthermore, shipping and handling fees are included in the cost of goods sold (or COGS). Payment terms are basically less than one year and are based on customary commercial terms, so Abbvie does not adjust the amount of revenue when Abbvie estimates a period of one year or less between the transfer of goods or services and collection.

For Abbvie, rebates, discounts, and sales incentives to customers are recognized as variable consideration. Among these three items, rebates are one significant item. Rebate amounts are usually based on the number of purchases made using the contract and legal price, which is not fixed. Beyond the normal revenue, the revenues from some certain collaborations are considered as well, including the collaboration with Janssen Biotech, Inc. Whether the benefits of a specific cooperation can be counted as revenue depends on the nature of the cooperation.

2.2. Research and Development Expenses

Abbvie records its associated costs for internal research and development (R&D) as expenses when they are incurred. Third-party clinical trial costs are accounted for in the expenses in accordance with the contract's performance. In R&D collaborations, contingent milestone payments are made to third parties: for payments made before regulatory approval, they are expensed when the milestone is reached; for payments made after regulatory approval, they are capitalized as intangible assets and amortized to cost of goods sold (COGS) over the remaining useful life.

The costs of IPE&D will be expensed as an item named IPR&D in the statements of earnings for acquisition of in-process research and development (IPR&D), unless the acquired project has a different future use. When looking at these projects with an alternative future use, it is important to remember that while payments made before regulatory approval are capitalized and treated as indefinite-lived intangible assets, payments made after regulatory approval are treated as definite-lived intangible assets and will eventually be written off. The applicable accounting standards are the same as those for internal R&D for R&D expenses spent after acquisitions.

2.3. Pension and Other Post-Employment Benefits

Abbvie is one of the companies that pay attention to retirement plans. Beyond normal the pension plan, there are deferred compensation plan (DCP), Abbvie saving plan (ASP), and retiree health care in Abbvie. Abbvie pays all cost for their pension plan and puts much efforts on other post-

employment benefits, which means Abbvie needs a complex accounting policy for recording these expenses [5]. Abbvie uses different kinds of assumptions to calculate and record costs related to pension and other post-employment benefits, including compensation increases, turnover rates, discount rates, health care cost trend rates, and rates of return on assets (ROA). Owing to uncertainties, Abbvie have to review its actuarial assumptions annually and modify them in light of current rates and trends. Actuarial gains and losses are deferred to accumulated other comprehensive income (loss) (AOCI), net of taxes, and amortized over the remaining service periods of the employee in accordance with the corridor method.

2.4. Goodwill and Intangible Assets

A discounted cash flow model is used to determine the fair value of intangible assets, and it makes a number of assumptions about risk, capital costs, the timing and magnitude of future cash flows, and the terminal values of market players. Intangible assets with definite lives are amortized over that life. Abbvie will examine the recoverability of an asset if some signs point to the possibility that the value of a definite-lived intangible asset may not be retrieved. First, Abbvie will compare the book value of the intangible assets with definite lives to the anticipated undiscounted cash flows that the assets are expected to produce. Intangible assets will be written down to fair value if the book value of the assets exceeds the anticipated undiscounted cash flow. If cash flows cannot be determined, the lowest level is reviewed, meaning that cash flows are unrelated to the cash flows of other assets and liabilities.

Goodwill and intangible assets with an extended useful life are not amortized, although they are examined periodically and more frequently if there are signs of impairment. Goodwill and long-lived intangible assets will be considered impaired at fair value if their book value exceeds their fair value. After these kinds of qualitative impairment testing, Abbvie conducts quantitative impairment tests using an estimated cash flow strategy and a variety of assumptions, such as future volume, asset groupings, changes in working capital use, and the choice of an appropriate discount rate. The Abbvie's estimates are maybe different from actual results.

3. Performance Evaluation

3.1. Trend Analysis

As Figure 1 shows, from 2017 to 2021, Abbvie's Revenue and Gross Profit showed a continuous trend of growth. Especially because of the soaring demand for immunological drugs due to the COVID-19 pandemic, the growth is even more pronounced in 2020 and 2021 [6]. In terms of Net Income, except for the temporary decline in 2020 caused by the increase of non-operating expense and the surge of SG&A expenses, the overall trend is increasing. Figure 2 describes the changes and proportional relationships of Abbvie's Total Assets, Total Current Assets, Total Liabilities, and Total Current Liabilities in the five years from 2017 to 2021, which indicates Abbvie has long been highly leveraged and slightly illiquid.

3.2. Ratio Analysis

In this section, the paper chooses the other two companies with the similar market capitalization and similar market segment (Pfizer and Merck & Co.) to compare with Abbvie in terms of performance, efficiency, leverage, and liquidity. The related information of Pfizer and Merck & Co. is from their 2021 annual reports [7, 8].

3.2.1 Performance measures

The quantity of wealth that may be produced from the same assets varies, even for businesses of comparable sizes in the same sector. Thus, financial managers and analysts frequently determine how much value is added per dollar invested by shareholders when assessing a company's success. Table 1 shows that Abbvie has a market-to-book ratio of 17.44, which is the highest of the three companies.

Therefore, Abbvie's stock might have higher investment value compared to Pfizer and Merck & Co. Inc.

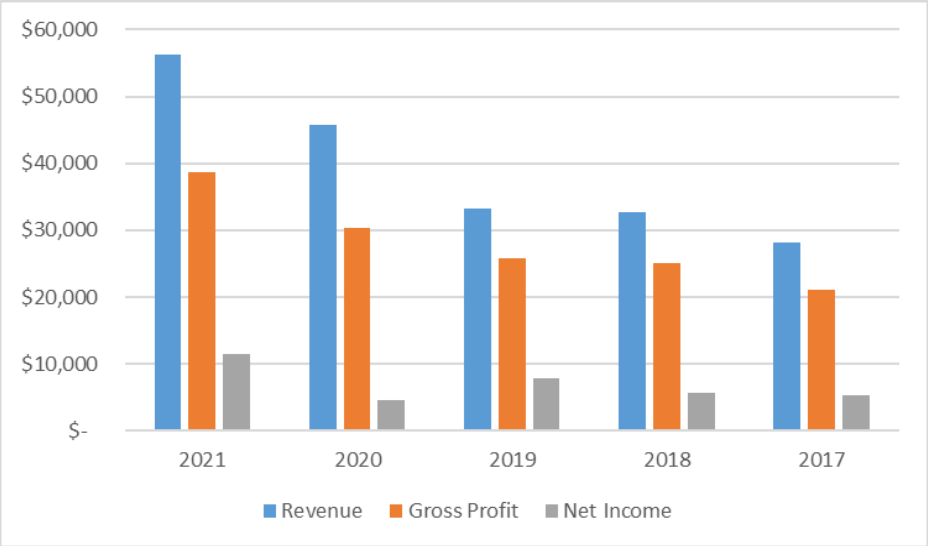


Fig 1. Abbvie's Revenue, Gross Profit, and Net Income (in millions) from 2017 to 2021 (Photo credit: Original)

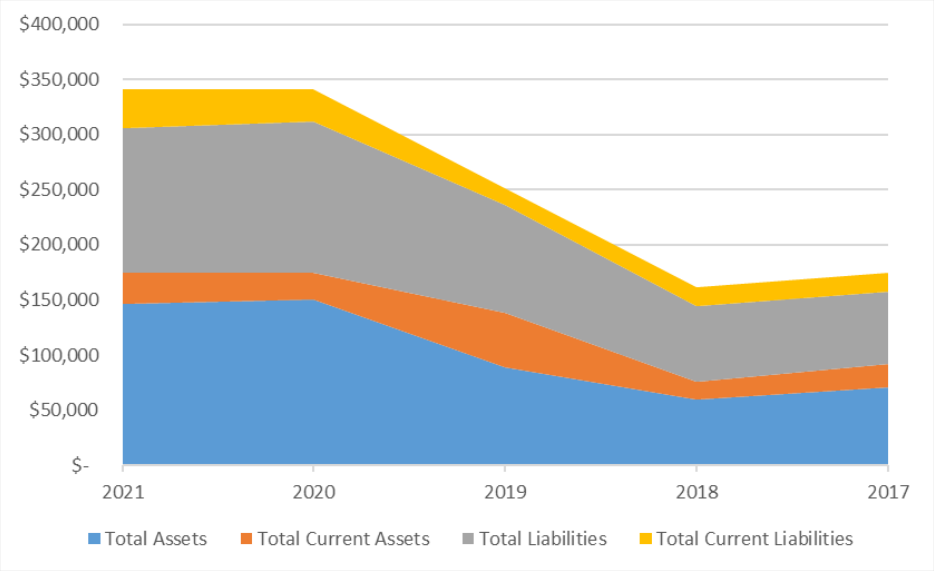


Fig 2. Abbvie's Total Assets, Total Current Assets, Total Liabilities, and Total Current Liabilities (in millions) from 2017 to 2021 (Photo credit: Original)

Second, Abbvie's ratio of return on invested capital to invested capital, i.e. ROE, is the highest among the three companies. This can reflect its profitability as well as the more efficient use of invested capital and the faster rate of profit acquisition. At the same time, Abbvie has a strong "moat", which means a hidden advantage that is not recorded in the assets but plays a huge role in helping the company to generate more real distributable profits.

Table 1. Performance ratios on Abbvie and its competitors

	Market value added	Market-to-book ratio	ROC, %	ROE, %	ROA, %
Abbvie	253762	17.44	0.14	0.81	0.08
Pfizer	191135	3,47	0.21	0.32	0.14
Merck & Co.	246342	7.44	0.22	0.41	0.13

3.2.2 Efficiency measures

Calculating the value that Abbvie adds to its shareholders and the profit it produces after deducting capital costs was the first step in the examination of Abbvie. Next, it's important to know what affects the company's overall profitability, and one of the factors must be how efficiently it uses its various assets. Table 2 shows that Abbvie's asset turnover and inventory turnover are both significantly higher than the other two companies, indicating that the company's capital is being used efficiently, and it has a low backlog of inventory, strong inventory liquidity, a fast collection of accounts receivable and efficient corporate management.

Table 2. Efficiency ratios on Abbvie and its competitors

	Asset turnover	Inventory turnover	Days in inventory	Receivables turnover	Average collection period (days)	Profit margin (%)	Operating profit margin (%)
Abbvie	0.37	5.27	69.25	6.37	57.30	0.20	0.31
Pfizer	0.53	3.84	94.98	10.27	35.53	0.27	0.30
Merck & Co.	0.53	2.45	148.78	7.16	50.98	0.27	0.28

3.2.3 Leverage measures

Since debt increases shareholder returns in a good economy and decreases them in a bad economy, financial leverage is created. CFOs pay close attention to leverage ratios to ensure that lenders are willing to continue to assume the company's debt. Table 3 shows that Abbvie's long-term debt ratio and total debt ratio are the highest among the three companies and its Cash coverage ratio is much lower than the other two companies, indicating that it has a lower ability to pay interest expenses from its cash balance and is at a higher risk of bankruptcy. For this situation, Abbvie should reduce its debt ratio in its financing to ensure the company's normal operation.

Table 3. Leverage ratios on Abbvie and its competitors

	Long-term debt ratio	Total debt ratio	Times-interest-earned	Cash coverage ratio
Abbvie	0.81	0.89	5.45	5.79
Pfizer	0.32	0.57	17.40	17.72
Merck & Co.	0.45	0.64	15.33	17.32

3.2.4 Liquidity measures

The opposite party is concerned with more than simply the company's leverage when a company seeks to extend credit or obtain a short-term bank loan. It also needs to know if the company can get the cash to pay it back. This is why credit analysts and bankers look at several indicators of liquidity. Table 4 shows that Abbvie's net-working-capital-to-total-assets ratio, current ratio and quick ratio are all lower than those of the other two companies. This indicates that the company has a short-term low solvency. Although it may not have a significant impact on operating profit in the short term, it might seriously affect the company's efficiency in the long run.

Table 4. Liquidity ratios on Abbvie and its competitors

	Net-working-capital-to-total-assets ratio	Current ratio	Quick ratio	Cash ratio
Abbvie	-0.05	0.79	0.70	0.28
Pfizer	0.09	1.40	1.19	0.05
Merck & Co.	0.06	1.27	1.02	0.34

4. Risk Management & Strategic Objectives

There are different dimensions of risks including finance, management, and technology for Abbvie, however, the attention should be paid attention to controllable risks. Controllable risks are "those which you can do something about", and dealing with controllable risks are extremely significant for Abbvie to utilize the least resources to improve the situation of the company [9]. The most material controllable risk is COVID-19, it is also a challenge or a rare opportunity for Abbvie to break through. For short-term impacts, COVID-19 leads to demand change for COVID-19-related drugs, and research and development (R&D) process changes; for long-term impacts, COVID-19 leads to approval delays for drugs that is not related to COVID-19, and consumption trend changes in health-related products [10]. In addition to the macro impact, COVID-19 has also created employee and workplace challenges for Abbvie. Hence, tweaking production lines, tweaking research and development processes, and providing telecommuting opportunities are all things Abbvie needs to deal with in a timely manner. Another important risk for Abbvie is its over-reliance on third parties. Specifically, Abbvie's over-reliance on a single supplier of raw materials meant that production could not be guaranteed if the supplier went wrong. Moreover, Abbvie relies on third-party cooperation in pharmaceutical pipeline, which is not conducive to product sales and research and development. Finally, Abbvie relies on wholesale distributors to distribute its products. If the distributors run into financial problems, it will be a challenge to sell the products. As a result, Abbvie needs to diversify its value chain of third-party partners, or expand its own value chain functions. The last obvious risk is financial leverage, Abbvie has a high debt ratio, which will affect the company's financial flexibility and thus its growth, and Abbvie may not be able to borrow on acceptable terms or refinance its debt. Therefore, adjusting the financial leverage ratio will also be one of Abbvie's important tasks.

Abbvie has set different goals for fulfilling its own mission which balances finance and medicine. These objectives include:

(1) Maximizing the benefits of a diversified revenue base by leveraging multiple long-term growth drivers.

(2) Increasing revenue by leveraging Abbvie's strong international infrastructure across the therapeutic sectors and the introduction of new products.

(3) Investing in and expanding its pipeline continually to support its eye care, oncology, aesthetics, immunology, and neuroscience.

(4) Raising operating margins.

(5) Distributing growing and strong dividends to shareholders and repaying debts.

In order to perfect the implementation of the above objectives, these objectives are divided into detailed tasks, including (1) implementing integration plans to reduce costs, integrate and optimize the combined organizational structure; (2) maintaining eye care leadership by enriching eye care portfolio; (3) increasing oncology revenue by expanding the market of Venclexta and sustain the leadership of Imbruvica; (4) increasing aesthetics revenue by expanding market of Juvederm Collection and Botox; (5) increasing immunology revenue by increasing the market share of Venclexta and sustaining a strong leadership of Imbruvica; (6) increasing neuroscience revenue by Botox Therapeutic, Ubrelvy, Vraylar, and Qulipta [6].

5. Conclusion

This paper provides a comprehensive analysis of Abbvie's operating performance in 2021. It not only shows the unique policies and financial performance of this company during the year, but also takes into account the various effects of the COVID-19 on the company's financial position. Abbvie's financial data shows that it has high leverage and low liquidity this year due to the impact of the epidemic on the industry. In other words, it has high debt and low solvency. However, Abbvie has a better earnings profile and faster liquidity in 2021 compared to its peers. Despite this, the risks Abbvie faces cannot be ignored, especially the difficulty of carrying out R&D activities during the epidemic. With the acquisition of Allergan, a company that specializes in medical aesthetics, eye care, CNS,

and gastrointestinal businesses, the company is now addressing this issue through its diversification strategy. This has greatly improved AbbVie's strong growth platform and generated significant value for shareholders.

References

[1] Who We Are. AbbVie. https://www.abbvie.com/who-we-are.html. Last accessed 2023/2/5.

[2] Drugwatch. AbbVie Inc.-Company Products, History, Lawsuits and Recalls. https://www.drugwatch.com/manufacturers/abbvie/. Last accessed 2023/2/5.

[3] Humira rings up $20.7B in 2021, but AbbVie still mum on post-biosimilar expectations. Fierce Pharma. https://www.fiercepharma.com/pharma/humira-rings-up-20-7-billion-sales-but-abbvie-still-mum-a-projection-for-2023-when-it-faces. Last accessed 2023/2/5.

[4] Haleem, A., Javaid, M., & Vaishya, R. Effects of COVID-19 pandemic in daily life. Current Medicine Research and Practice, 2020, 10(2): 78–79.

[5] Abbie 2017 Total Rewards Highlights. https://www.abbvie.com/content/dam/abbviecorp/careers/docs/TotalRewardsHighlights1-27-2016. Last accessed 2023/2/5.

[6] AbbVie 2021 Annual Report. https://investors.abbvie.com/static-files/91cf9d6a-8e6f-4059-9575-eda83b7e4623. Last accessed 2023/2/5.

[7] Pfizer 2021 Annual Report. https://s28.q4cdn.com/781576035/files/doc_financials/2021/ar/PFE-2021-Form-10K-FINAL. Last accessed 2023/2/5.

[8] Merck & Co. Inc. 2021 Annual Report. https://s21.q4cdn.com/488056881/files/doc_financials/2021/q4/Form-10-K-2021-Final. Last accessed 2023/2/5.

[9] Risk Factors, Business Basics for Engineers. https://www.sfu.ca/~mvolker/biz/risk.htm. Last accessed 2023/2/5.

[10] Ayati, N. Short and long term impacts of COVID-19 on the pharmaceutical sector. SpringerLink, 2020.