

# ***Analysis of Pfizer Profitability Based on Dupont Analysis Method***

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**Abstract:** As a leader in the pharmaceutical industry, Pfizer has maintained a long-term leading position in the industry through technology R&D investment and product innovation. Especially in recent years, the drugs and vaccines produced by Pfizer have been widely used worldwide to treat new coronary pneumonia. Pfizer's sales have increased significantly and occupied a significant market share. The rapid accumulation of Pfizer's wealth and the improvement of its operational capabilities have attracted more and more attention from investors. The goal of an enterprise is to obtain profit, and profitability is an essential indicator for evaluating the profit of an enterprise. No matter which stakeholder of the enterprise pays excellent attention to the profitability of the enterprise, standard analysis methods need to convey more information to investors. This article analyzes Pfizer's 2020-2022 financial statements using the DuPont analysis method to find out the problems that Pfizer has in terms of profitability and puts forward some opinions for investors' reference.

**Keywords:** DuPont Analysis, Profitability, ROE, Pfizer.

## **1. Introduction**

In recent years, the increased demand for vaccines and drugs for COVID-19 has driven the rapid development of the industry. Pfizer's 2022 financial report shows that Pfizer's annual total revenue reached US\$100.33 billion, a year-on-year increase of 23%, making it the world's first pharmaceutical company with annual revenue exceeding US\$100 billion. However, the influx of a large amount of capital has also intensified the competition in the pharmaceutical industry. The high demand for drugs and vaccines used to treat the new crown epidemic is a crisis and a business opportunity for pharmaceutical companies [1]. When the enterprise has sufficient cash flow, managers are prone to excessive investment, which leads to the reduction of investment efficiency and profitability of the enterprise. Harsh and others analyzed 46 articles that directly studied the connection between working capital management and profitability and further suggested that effective working capital management practices can greatly increase business profitability [2]. The DuPont analysis method considers the overall indicator reflection and the detailed analysis of the indicator achievement. It effectively sorts out the core factors that affect the group company's return on net assets to achieve better daily operation management and corporate income improvement. However, affected by the epidemic prevention policies of various countries, the future demand for drugs and vaccines produced by Pfizer is predicted to decline, and it is difficult for Pfizer to maintain high-speed revenue growth

for a long time. This paper selects Pfizer as the research object for analysis and compares it with the same industry, hoping to find out the problems existing in the business operation through financial data, and put forward feasible suggestions to improve the management mode and marketing method of the company, to help Pfizer's sustainable development.

## 2. Analysis of Pfizer using the Dupont Analysis Method

In the United States, the DuPont Company developed and used the DuPont analytical method. It is an effective method widely used to evaluate corporate and financial performance. The DuPont analysis starts from the rate of return on equity and splits the calculation results. Through splitting, the author knows the ability of the enterprise to obtain income, the ability of asset investment income, and the impact of equity multiplier on equity income. Variations in the various indicators of the DuPont analysis method will cause changes in other indicators. Finally, the results will be fed back into the net interest rate of equity [3]. According to the needs of the analysis, the indicators can also be further split and analyzed.

### 2.1. Selection of Indicators

This article can obtain the sales revenue, net profit, total assets, equity, and other competitors through the financial statements. The author gets:

$$\begin{aligned} \text{ROE} &= \frac{\text{Net income}}{\text{Total equity}} \\ &= \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Total equity}} \quad (1) \\ &= \text{ROA} \times \frac{\text{Assets}}{\text{Total equity}} \end{aligned}$$

$$= \text{Profit margin} \times \text{Total asset turnover} \times \text{Equity multiplier} \quad (2)$$

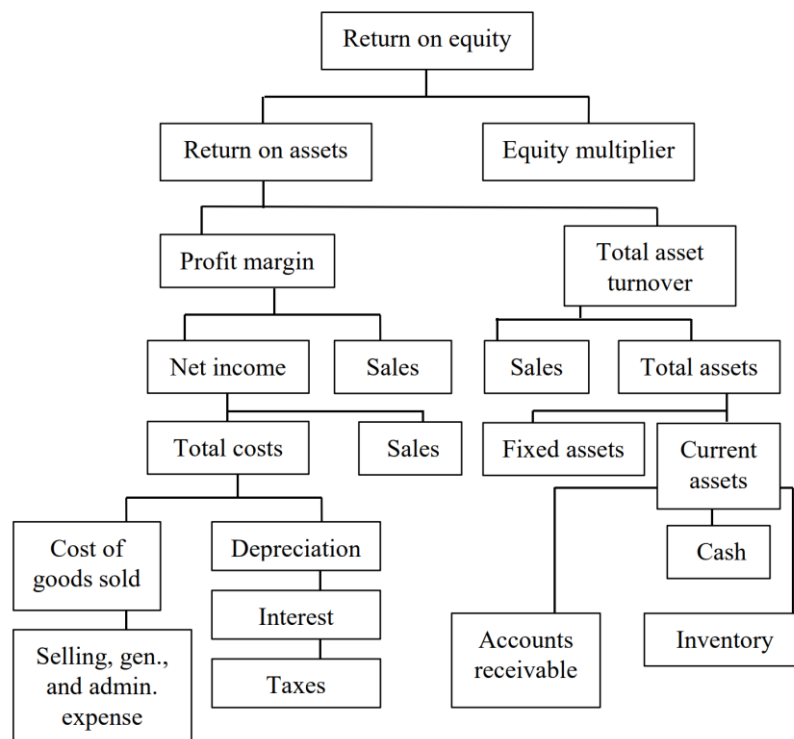


Fig. 1. Extended DuPont Chart for DuPont

Figure 1 shows the process of the DuPont analysis, which has the advantage that it allows the author to calculate several ratios to obtain a better overall picture of the firm's performance and to identify items with potential for improvement. The above equation has decomposed ROA into profit margin and total asset turnover. The final expression of the above equation is called DuPont identity. The author learns from the DuPont identity that ROE is impacted by operational efficiency, asset utilization efficiency, and financial leverage [4]. This article will focus on selecting the above three indicators for a comparative analysis of Pfizer and its competitors in the same industry.

According to Pfizer's 2020-2022 financial statements, the financial data of various indicators of the DuPont analysis system are calculated [5]. The absolute value indicators are comparable in the same industry. This paper also compares AbbVie and Novartis's data in the same industry [6,7]. This paper finds problems in Pfizer's profitability and development capabilities in the comparison.

## 2.2. Analysis of Operating Net Profit Margin

The author determines that the operating net profit margin is equal to the net profit divided by the sales revenue using the formula (1) above. A higher operating net profit rate can bring more working capital to the enterprise and maintain its operation of the enterprise. Based on the financial data in the three companies' annual reports, this paper calculates the Operating Net Profit Margin shown in Table 1.

Table 1. Operating Net Profit Margin of Pfizer, AbbVie, Novartis, 2020-2022

Year Corporation	2022	2021	2020
Pfizer	31.30%	27.10%	23.03%
AbbVie	20.40%	20.55%	10.09%
Novartis	13.42%	45.42%	16.18%

The author sees from Table 1 that Pfizer's operating net profit margin has risen steadily in the past three years, and the three-year average operating net profit margin is higher than that of AbbVie and Novartis, which has a relatively high level in the industry and has a leading edge. There is good profitability within the industry.

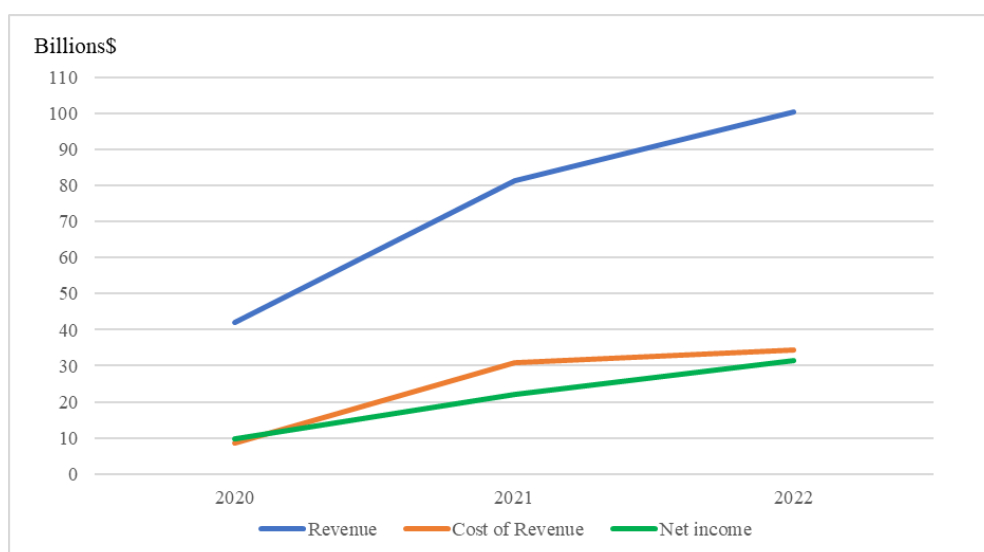


Fig. 2. Trend Chart of Pfizer's Revenue, Cost of Revenue, and Net Income

Table 2. Cost and Expenses of Pfizer (Millions\$)

Year	2022	2021	2020
Cost of sales	34,344	30,821	8,484
Selling, informational and administrative expenses	13,677	12,703	11,597
Research and development expenses	11,428	10,360	8,709
Acquired in-process research and development expenses	953	3,469	684
Amortization of intangible assets	3,609	3,700	3,348
Restructuring charges and certain acquisition-related costs	1,375	802	579

From Figure 2, the author sees that Pfizer's operating income has increased over the years, and the growth rates in 2021 and 2022 will be 93.96% and 23.42%, respectively. The growth trend is good but also slowing down.

Operating costs also show an increasing trend, with growth rates of 254.66%, 11.42%, and 12%, respectively [5]. The growth rate of its annual operating costs and income fluctuates wildly, by reading Pfizer's 2022 financial statements. The author finds that the rapid growth of operating income in the short term is mainly affected by sales revenue and investment income. The author is aware from the financial statements that the \$4 billion adverse impact from the sale of Comirnaty, which includes a 50% gross profit share charge with BioNTech and associated royalties, is the main cause of the rise in operating costs [8]. The expenditure of this fee needs to be paid attention to in the future. In addition, the author observes from Table 2 that the cost of sales as a percentage of revenue reduced, mostly as a result of the beneficial effects of Paxlovid, foreign exchange, and more affiliate revenue, which is also a good indicator. [8]. However, relying only on a single product to offset costs is also unsustainable due to the new crown epidemic in various countries, which has entered a relatively stable stage, and the demand for this type of product is expected to decline.

From Table 2, the author finds that Pfizer's R&D expenses remain high, and R&D expenses will increase by US\$1.1 billion in 2022 compared to 2021, which is primarily due to a \$1.3 billion increase in investments in certain vaccines and oncology programs and the cost of developing recently acquired assets. In addition, high marketing expenses are also an essential factor affecting net profit [9]. According to the study, Paxlovid and Comirnaty's marketing and promotional costs rose by \$1.3 billion, accounting for the majority of a \$974 million increase in selling, information, and administrative expenses. Marketing and promotional expenses for recently acquired and launched products increased by \$540 million. The above shows that Pfizer needed to control costs better in advertising, technological innovation, and product production, resulting in a low net profit margin growth rate.

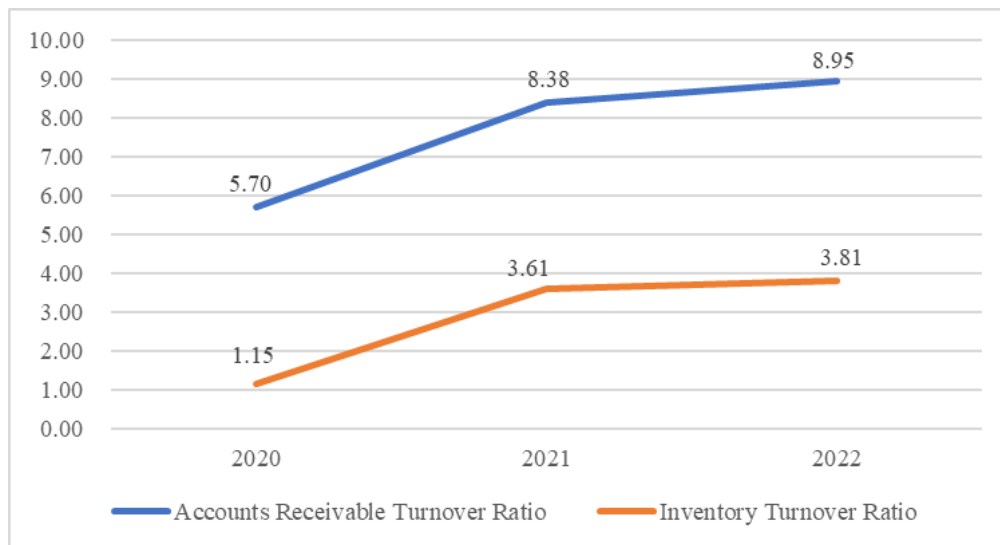
### 2.3. Analysis of Total Asset Turnover Ratio

Table 3. Total Asset Turnover Ratio of Pfizer, AbbVie, Novartis, 2020-2022

Year	2022	2021	2020
Corporation			
Pfizer	0.53	0.48	0.26
AbbVie	0.41	0.38	0.38
Novartis	0.41	0.40	0.39

Total assets turnover equals sales divided by assets. This statistic is crucial for assessing the operational effectiveness of corporate assets. It is an indicator of how quickly business assets are turned over from input to output. In general, the total assets increase as the total asset turnover rate increases. The better the management, the more effective the use of resources, and the quicker the

turnaround. It can be seen from Table 3 that Pfizer's total asset turnover rate is stable from 2021 to 2022 and is higher than that of AbbVie and Novartis in the same industry, indicating that the company's asset turnover operation and utilization efficiency are better. To further explore Pfizer's total asset turnover ratio, this article splits it into inventory and accounts receivable turnover ratios.



**Fig. 3.** Accounts Receivable Turnover Ratio and Inventory Turnover Ratio

The average number of times that an account receivable is converted into cash throughout the course of the analysis period is known as the accounts receivable turnover. The accounts receivable turnover rate measures the turnover speed of the accounts receivable enterprise and the efficiency and management of the accounts receivable management of the enterprise. From Figure 3, the author sees that the accounts receivable turnover rate is gradually increasing, which means that the capital liquidity of enterprises is becoming more decisive year by year. However, what needs to be vigilant is when the proportion of accounts receivable in the enterprise's assets increases yearly. The occurrence of customers' default on accounts will make the cash flow of the enterprise tense, face high lousy debt provisions, and quickly generate non-performing assets—leading to the deterioration of asset quality, which may make it difficult for a company to realize its high assets of Pfizer [9].

Inventory turnover equals operating costs divided by average inventory. This indicator measures the turnover rate of business inventories. It focuses on the operational management efficiency and quality of inventory in all aspects of the production and operation of the enterprise, from purchase and production to sales. From Figure 3, the author sees that although Pfizer's inventory turnover rate is increasing yearly, Pfizer's inventory realization ability is getting stronger. The inventory management level is gradually improving during this period. The level improvement also indicates that Pfizer has the characteristics of implementing light assets. The inventory to total assets ratio is also declining yearly, from 5.35% in 2020 to 4.55% in 2022 [5]. Although the percentage of Pfizer's stock to complete assets is on a downward trend, there is still a particular gap within the industry. In 2022, AbbVie's inventory-to-total asset ratio will be 1.98% lower than that of Pfizer [6]. What is more, Pfizer should pay attention to the risk of inventory backlog. From 2022, Pfizer has entered a stage of continuous expansion. In June 2022, Pfizer officially announced its plan to invest \$120 million in Kalamazoo, aiming to support the production of the new crown oral drug Paxlovid [10]. In early December 2022, Pfizer successively announced an investment of 1.2 billion euros in expanding its factory in Dublin, Ireland, and an investment of over 1.2 billion euros in developing a production base in Pierce, Belgium [10]. While investing in high-cost projects, Pfizer also needs to focus on controlling project progress and budget.

## 2.4. Analysis of Equity Multiplier

The equity multiplier measures a company's ability to pay its debts. The equity multiplier equals the average total assets divided by the shareholders' equity. The lower the index, the less the amount of external borrowing and financing of the enterprise, which means that it has more funds to repay debts, and the financial risk is lower. However, if the indicator is too low, it indicates that although the enterprise has a safe operating environment, it has given up the high returns brought about by risks.

**Table 4.** Equity Multiplier of Pfizer, AbbVie, Novartis, 2020-2022

Year	2022	2021	2020
Corporation			
Pfizer	2.06	2.35	2.44
AbbVie	8.04	9.51	11.51
Novartis	1.98	1.95	2.33

The author sees from Table 4 that Pfizer's equity multiplier is decreasing yearly, indicating that the proportion of corporate debt used has decreased, and the proportion of shareholders' equity has increased yearly. The gradually reduced use of financial leverage has brought less debt repayment risk and financial risk to the company. The proportion of Pfizer's non-long-term liabilities to total liabilities will remain stable at about 41% from 2021 to 2022, indicating that the company has relied more on long-term liabilities in the past two years. To explore whether the gradually decreasing equity multiplier positively impacts the company, this paper introduces the current ratio index into the analysis to further explore Pfizer's solvency. The current ratio indicator measures the ability of an enterprise to repay non-long-term debts with its current and easily cashable funds when repaying non-long-term debts [10]. The higher the value of the current ratio index, the stronger the ability of the company to pay its short-term debts and the lower the short-term debt repayment risk of the company. By calculating the average current ratio of Pfizer in the past three years is 1.32, AbbVie is 0.86, and Novartis is 1.23. The author sees that Pfizer's current ratio is still higher than the average level of AbbVie and Novartis in the industry, indicating that Pfizer's short-term solvency is strong. With the guarantee of working capital, there will be no situation where non-long-term debts cannot be repaid.

## 3. Proposals to Improve Pfizer's Profitability

### 3.1. Strengthen Cost Control and Increase Net Profit Margin

The author knows from Table 2 that Pfizer's total cost will increase rapidly after 2020, and sales, management, and R&D expenses account for the most significant proportion of the total cost. Pfizer can incorporate it with its current circumstances. To control costs, one should first create a precise budget, work to generate revenue, decrease spending, and eliminate needless spending [11]. To maximize the return on investment ratio for the company, Pfizer should reduce costs, routinely repair essential machines like those used in production and manufacturing, and lengthen their useful lives. In order to better utilize cash and prevent inefficient use, Pfizer should also make a concerted effort to regulate or minimize a variety of operating expenses, such as lowering management and sales costs. In addition, Pfizer should also pay attention to the negative financial impact on shareholders due to investment losses. What is more, Pfizer should control its sales expenses and reduce costs while maintaining high research and development efforts. Most importantly, the company should take the following measures to improve the efficiency of the use of sales expenses: First, optimize the organization and management system and restrict unreasonable expenses from the system, including establishing a cost assessment and incentive system and restricting the development of low-yield



marketing activities; Second, to strengthen the cost management awareness of sales personnel, and the management should take the lead in establishing the concept of cost control.

### **3.2. Improve Asset Utilization Efficiency**

First of all, Pfizer should strengthen asset management and improve asset quality. The first is to establish clear and accurate statistics on asset data to ensure the real-time effectiveness of asset data; the second is to improve the management ability of corporate assets, establish a sound asset supervision system, and use a professional asset management platform; the third is reasonably allocate its asset structure, dispose of idle and low-quality assets promptly, and maintain a reasonable ratio of current assets and non-current assets. Secondly, Pfizer should strengthen the utilization efficiency of assets. One is to make full use of idle monetary funds and use them in research and development and expansion of production; the other is to strengthen inventory management, increase inventory turnover rate, and rationally plan production according to market demand to avoid the backlog of inventory. Thirdly, Pfizer needs to strengthen correspondence because managing receivables can reduce the loss of bad debts of enterprises. What is more, pay attention to the control of the progress of the construction in progress, refine the cost control of the project, do an excellent job in the construction period estimate and budget estimate while ensuring the safety and quality of the project, and establish a strict supervision and acceptance system. The enterprise's assets are quickly turned over to create more cash flow, which can be used to expand the promotion of innovative products to increase income again. Additionally, it can offer targeted financial assistance for the rising R&D costs so that businesses can utilize more of their own money to run their operations and create a fantastic double cycle of cash and inventory.

### **3.3. Maintain Research and Development Advantage**

The core of Pfizer's purpose is to transform cutting-edge science and technology into treatments that have a meaningful positive impact on patients. Pfizer's research and development activities also enhance the value of our current medications by enhancing their efficacy and usability and identifying potential new indications. The therapeutic areas that Pfizer focuses on in its research and development include internal medicine, oncology, rare disorders, vaccines, and anti-infectives. For a long time, Pfizer needs to maintain a high level of research and development capabilities to develop in a highly competitive market [11]. Pfizer has vital research and development capabilities. The company's core revenue growth points are drugs and vaccines for treating new coronary pneumonia to ensure smooth research and development progress.

## **4. Conclusion**

This article uses the DuPont analysis method to analyze Pfizer's financial data from 2020 to 2022 and finds that the problems in its profitability are mainly concentrated in cost control and asset utilization efficiency. Pfizer's net profit from sales has risen sharply since 2020, as has its total asset turnover rate, resulting in high volatility in its return on equity. Pfizer's R&D and sales costs will rise sharply in 2021, and the proportion of sales costs in total costs will increase, indicating problems with Pfizer's cost control. Although Pfizer's total asset turnover index is still good, the large-scale global construction of factories and production will increase the risk of inventory backlog, so we should be vigilant. Pfizer needs to optimize the composition of its assets aggressively, deal with idle and underutilized assets, and improve its control over inventory and accounts receivable. To preserve its edge in the market and boost profitability, Pfizer needs to invest more in research and development.

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