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Capital Structure and Risk Profile Comparison of Pharma Leaders

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Abstract: The pharmaceutical industry is in the spotlight nowadays. The financial situation of the pharmaceutical industry has experienced a lot of ups and downs due to the COVID-19. Therefore, analyzing the financial data of the pharmaceutical industry becomes significant. This report looks at three headline companies in the pharmaceuticals industry, Pfizer, Johnson & Johnson and Amgen. By analyzing and comparing their D/E ratio, weighted average cost of capital (WACC) and business risk, this report explores the reasons for the differences in the data of these three companies, forecasts the growth prospects of them and gives relevant advice to investors. The pharmaceutical industry is in the spotlight nowadays. The financial situation of the pharmaceutical industry has experienced a lot of ups and downs due to the COVID-19. Therefore, analyzing the financial data of the pharmaceutical industry becomes significant. This report looks at three headline companies in the pharmaceuticals industry, Pfizer, Johnson & Johnson and Amgen. By analyzing and comparing their D/E ratio, weighted average cost of capital (WACC) and business risk, this report explores the reasons for the differences in the data of these three companies, forecasts the growth prospects of them and gives relevant advice to investors. A basic result turn out to be that Investors should weigh the financial strategies of these companies against their individual risk tolerance and the dynamic landscape of the pharmaceutical industry before making investment decisions.

Keywords: Pharmaceutical Industry, Financial Valuation, Risk Assessment

1. Introduction

The research will be based on the analysis of the three enterprises' balance sheet data in pharmaceutical industry. The three companies all have salient features in different aspects, such as products, industrial chain, production places and so on. The following will be brief introduction of the three companies.

The first company Pfizer is a science-based, innovative, patient-first biopharmaceutical company [1]. The company's main focus is the manufacture of chemical compounds, and their first success was the development of an antiparasitic known as santonin. Afterwards, the company improved further with the industrial production of citric acid, which is extremely useful when it comes to industries and manufacture. The company continued to develop and grow, expanding the company's scope, exceeding an annual sale of $3 million by 1906. The main products includes cancer, vaccines, anti-infection, inflammation and immunity, rare diseases and other fields of prescription drugs and

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vaccines. Founded in 1886, Johnson & Johnson is one of the world's most comprehensive and diversified healthcare companies, with businesses in medical devices, pharmaceuticals and consumer products. Johnson & Johnson (JNJ) has been committed to introducing and producing high-quality innovative products to meet the growing needs of healthcare and provide a range of products for healthcare professionals, as well as doing research, manufacturing and selling pharmaceutical products and medical devices [2]. The enterprise has few operating companies which help it to conduct business. As one of the most prosperous companies in pharmaceutical industry, it provides medicine for cancer, neurological, infectious, cardiovascular, metabolic diseases and so on, as well as medical devises for caring and surgeries. The company’s products have been spread to all corners of the world.

Amgen, founded in 1980, has total revenue of $26.3 billion in 2022. Primarily engaged in the exploration, research and development, production and marketing of innovative human medicines, dedicated to unlocking biological potential for the benefit of patients suffering from serious diseases [3]. By leveraging tools such as cutting-edge human genetics, Amgen seeks to uncover the complexity of disease and gain insight into the fundamental mechanisms of human biology. Amgen is devoted to making full use of the potential of biology for patients suffering from serious illness. To reach this goal, Amgen develops, manufactures, understand the fundamentals of human biology and deliver novel human therapeutics by referring to advanced human genetics.

Obviously, the three companies have many in common. However, they still have a lot of differences in way of managing the companies. The following will be analyzing the balance sheets of Pfizer, JNJ and Amgen, respectively. By comparing the significant differences between data, some valid results can be found.

2. Data Analysis

Table 1: Financial ratios of Pfizer, JNJ, and Amgen (FY2023).

Financial ratios	Pfizer	JNJ	Amgen
Market value of equity	162,548,345,646	377,285,417,755	154,205,902,111
Market value of debt	70,845,000,000	29,332,000,000	64,613,000,000
Leverage	0.31278	0.17506	0.66506
D/E ratio	1.53675	1.43636	14.58953
Marginal corporate tax rate	21%	21%	21%
Equity beta	0.56	0.53	0.58
Risk-free rate	4.5%	4.5%	4.5%
Market risk premium	5.70%	5.70%	5.70%
Expected cost of equity capital(r_E)	7.69%	7.52%	7.81%
Expected cost of debt capital	3.12%	2.63%	4.45%
Weighted average cost of capital(WACC)	7.90%	7.79%	6.57%
Business risk(β_A)	0.25293	0.24828	0.04630
All-equity expected return on assets(r_a)	5.94%	5.92%	4.76%

It can be noted that there are a few data items in Table 1 where the differences between these three companies are very significant, leverage, D/E ratio, WACC, business risk, expected return on assets and so on [4]. In this report, three of them are selected to be analyzed, D/E ratio, WACC, and business risk respectively. These metrics collectively inform on the firm’s financial stability, investment risk, and cost efficiency. They are essential for investors and managers in making informed decisions about valuation, capital allocation, and comparative risk assessment.

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2.1. D/E Ratio

The data shows that the average debt-to-equity ratio of the U.S. pharmaceutical preparations industry in 2023 is 1.59. According to Table 1, the debt-to-equity ratio for Pfizer and Johnson & Johnson are around average. However, Amgen's debt-to-equity ratio is significantly above average, which is nearly 14.59. One of the reasons why Amgen has such a high debt-to-equity ratio is large-scale acquisitions. Amgen has made 26 acquisitions across sectors such as Biopharmaceuticals, Life Sciences-Us, Immunotherapy and others [5]. Such transactions can significantly increase debt. Another reason why Amgen is using so much debt is that it can handle its debt easily. Amgen's net debt is 1.8 times EBITDA, which suggests that debt is being used appropriately. Amgen's EBIT for the past 12 months was 9.1 times interest expense, which is also consistent with the above opinion.

2.2. Weighted Average Cost of Capital (WACC)

According to the data, the average WACC for the healthcare industry in 2023 is 9.20%. Table 1 shows that all the three companies are below average for this figure.

One of the reasons for the low WACC of these three companies is that, they have access to cheaper debt, possibly due to stronger credit ratings, established relationships with financial institutions, or favorable market conditions at the time of borrowing, which lead to a lower cost of debt. Also, they have a low cost of equity. This could be due to lower perceived risk by investors, because they have stable earnings, strong governance, and dominant market position. However, the interesting thing is that Amgen has the lowest WACC of the three companies, despite having a much higher D/E ratio and cost of debt. This is somewhat counterintuitive, as one would expect that higher leverage and cost of debt would lead to a higher WACC.

One of the reasons for this phenomenon is the tax shield effect of debt [6]. Amgen has an extremely high D/E ratio, which means that it is leveraging debt financing significantly. The interest payments on debt are tax-deductible, which provides a tax shield and effectively reduces the company's taxable income, leading to lower net cost of debt. This tax benefit can play a crucial role in reducing the overall WACC, even if the nominal cost of debt is high.

In addition, Amgen has been developing new medicine and trying to enter new markets. According to the report, Amgen expects to deliver substantial financial results by serving more patients around the world with its existing portfolio of marketed medicines, as well as numerous new medicines in development. It plans to payout approximately 60% of Non-GAAP net income on average to shareholders through 2030. These prospects are viewed favorably by investors, so the company might enjoy a lower cost of equity due to anticipated future cash flows, thus reducing its WACC [7].

2.3. Business Risk (β_A)

According to the data, the average unlevered beta for pharmaceutical industry is 0.92. In 2023, both Pfizer and Johnson & Johnson have a business risk of around 0.25, while Amgen has a business risk of only 0.04630. All the three companies have business risks well below the industry average.

Pfizer has a diversified portfolio of medicine and vaccines, including blockbusters and treatments for a wide range of conditions. This diversification across therapeutic areas reduces the risk associated with reliance on a single product or market.

Pfizer's diversity is reflected in the types of medicine, but Johnson & Johnson's diversity is not only in medicine. J&J operates across three major sectors: pharmaceuticals, medical devices, and consumer health products. Similarly, this diversification across healthcare sectors reduces the company's reliance on any single product or market segment, spreading its risk.

What makes Amgen stand out in this data on business risk is its star medicine erythropoietin and filgrastim. According to a research by Jelkmann, erythropoietin can be used for the treatment of

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anemia caused by chronic renal failure and the treatment of anemia caused by HIV infection [8]. Previous studies have shown that filgrastim can be used for the treatment of anemia caused by chronic renal failure and the treatment of anemia caused by HIV infection [9]. HIV and cancer are always a hot topic no matter what time of year it is, and even more so, a challenge worth tackling. So there will always be a market for drugs targeting these two diseases, and there will always be a need for scientific breakthroughs.

What's more, Amgen's buyers include a diverse range of healthcare providers, from large hospitals and clinic chains to specialty pharmacies worldwide. Government and managed care organizations are also stable buyers of Amgen, like the Veterans Health Administration in the U.S.. This diversification in its customer base reduces the risk of dependency on any single buyer or segment.

Last but not least, Amgen sells its products in over 100 countries, with a significant presence in the United States, Europe, Canada, and increasingly in emerging markets. This global reach allows Amgen to mitigate risks associated with any single market.

3. Strategic Forecast

3.1. Pfizer

Firstly, Pfizer's D/E ratio near the industry average suggests a balanced use of debt and equity in its capital structure. This balance may afford the company flexibility in future financing decisions without excessively increasing financial risk. Secondly, with a WACC below the healthcare industry average, Pfizer has a competitive advantage in terms of lower financing costs, which may encourage investment in new projects or research and development without the pressure of high-cost capital. Thirdly, Pfizer's lower business risk compared to the industry average indicates stability. This stability can attract investors and allow for more predictable long-term planning and investment in operations, with less concern for volatile returns. Thus Pfizer is promising for consistent performance. Pfizer's stock could be considered for those seeking stability and consistent returns, as the company's financial health appears robust. However, it's essential to monitor the pipeline of new drugs and market performance of its current portfolio. According to the Q3 2023 financial report, Pfizer achieved revenue of $13.23 billion, down 42% from $22.6 billion in the same period last year. The loss reached $2.382 billion, compared with a net profit of $8.6 billion a year earlier [10]. Paxlovid, which once brought Pfizer nearly $57 billion in revenue in 2022, is no longer in vogue, with revenue of only $202 million in the third quarter of this year, down 97% from a year earlier. This may also be one reason why Pfizer adjusted its 2024 revenue. Holding At present, Pfizer, whose performance has been beaten back to the "original form", is opening a new round of layoffs and further reducing costs. For example, in the past three months, the group has disbanded the 400-member Pneumococcal polysaccharide conjugate Vaccine (trade name: Pei Er 13, Prevenar13) team in China, will lay off 500 employees from its production base in Sanwich, Kent, UK, and plans to lay off 100 employees from its plant in Newbridge, Ireland. In 2024, Pfizer expects to have one approved program and launch four commercialized programs, which, if approved and recommended, will achieve the goal of launching 19 new drugs/indications in 18 months.

3.2. Johnson & Johnson

JNJ's slightly below-average D/E ratio demonstrates a conservative approach to leverage, which can be an advantage if market conditions worsen, as the company may not be as heavily affected by debt servicing requirements. Additionally, JNJ's lower WACC allows for strategic investments and acquisitions at a lower cost, supporting its diversification strategy across various healthcare sectors. The low business risk indicates that JNJ's diversification strategy is effectively reducing its overall risk profile, enabling it to undertake operations in various markets with confidence. Thus JNJ's stock

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may be a good hold for diversified risk profiles. Its spread across pharmaceuticals, medical devices, and consumer health might offer resilience against market volatility. Investors should, nonetheless, stay informed about any significant changes in operations or market trends. On April 16, Johnson & Johnson released its first-quarter report for 2024, with global sales reaching $21.4 billion, an increase of 2.3% over the same period last year. Among them, Johnson & Johnson Medical Technology sales of $7.8 billion, an increase of 4.5%. J&J expects full-year sales of $88.7 billion to $89.1 billion in 2024, up from its previous forecast of $88.2 billion to $89 billion. In August 2023, Johnson & Johnson announced the completion of the stock exchange offer to split Johnson & Johnson and Kenvue, and the consumer health business was fully operated independently. In September of the same year, Johnson & Johnson announced a brand refresh, integrating its two major medical technology and pharmaceutical businesses under the Johnson & Johnson name. From then on, Johnson & Johnson will focus on pharmaceutical and MedTech solutions. Looking at the medical device sector alone, Johnson & Johnson has made big moves in recent years. In October, Johnson & Johnson announced that Ashley McEvoy, global Executive Vice president of Johnson & Johnson and global Chairman of Johnson & Johnson Medical Technologies, will step down. Tim Schmid has been named the new Johnson & Johnson Global Executive Vice President, Global Chairman of Johnson & Johnson Medical Technologies, and joins the company's Executive Committee. On the business side, in addition to a number of large acquisitions, the company is also actively adjusting the internal sector. Among them, the orthopedic reorganization plan has attracted wide attention. The restructuring is expected to be completed by the end of 2025 at a cost of $700 million to $800 million. J&J is looking to move the company's orthopedic division out of "less profitable markets and product lines" through a two-year restructuring plan to improve the division's profitability.

In December, medical device provider Integra LifeSciences announced it would acquire Acclarent, a unit of Johnson & Johnson Medical Technologies, for $275 million upfront. The latter, previously part of Johnson & Johnson Ethicon, has a portfolio that includes balloon technology for sinus dilation and ear and throat dilation in children, as well as surgical navigation systems. J&J Chairman and CEO Joaquin Duato said earlier this year that going forward, J&J will continue to improve its pipelines and capabilities, shift its portfolio to faster-growing markets, and continue to deliver pipelines. By 2027, one-third of J&J MedTech's sales are expected to come from new products.

3.3. Amgen

Amgen’s significantly higher D/E ratio indicates aggressive leverage, which may increase financial risk. However, if managed well, this can also amplify returns on equity. Future operations may focus on optimizing the balance between leveraging for growth and maintaining financial health. Despite its high leverage, Amgen's WACC is the lowest of the three companies, possibly due to the tax shield from its debt. This low WACC can be beneficial for funding new projects and expansions at a lower cost. Moreover, Amgen’s low risk allows for aggressive investment strategies, with the expectation of stable returns. Its low WACC and business risk, coupled with its strategic market position, suggest a potentially strong performance. Investors holding Amgen stocks should be comfortable with the associated risks and keep an eye on the company’s ability to manage its debt and the success of its product pipeline. Before the US stock market on October 31, 2023, the well-known US pharmaceutical company Amgen (AMGN.US) announced the third quarter of 2023 results, data show that Amgen's total revenue of about 6.9 billion US dollars, better than the consensus analyst expectation of 6.88 billion US dollars, an increase of 4%; Non-GAAP earnings per share were $4.96, better than analysts' consensus estimate of $4.68 and compared with $4.70 a year ago. Analysts from Jefferies and Wells Fargo attributed the quarter's profit growth to lower expenses. Shares of the Thousand Oaks, Calif.-based pharmaceutical giant were up more than 3% before the New York market opened, but reversed course and were down more than 3% at press time. According to the financial data, Amgen's product sales in the third quarter were $6.548 billion, an increase of 5%. Sales of Prolia, an osteoporosis treatment, rose 14% to $986 million in the third quarter. Third-quarter sales of EVENITY, a new osteoporosis drug, rose 53 per cent from a year earlier to $307 million. Third-quarter sales of Aimovig, a migraine prevention drug, fell 12 per cent from a year earlier to $94m. Enbrel, a biologic DMARD drug used to treat rheumatoid arthritis (RA) and ankylosing spondylitis (AS), and one of Amgen's top-selling drugs, saw sales fall 6 percent year over year to $1.035 billion in the third quarter. Sales of the drug, used to boost white blood cell counts in patients, fell 50 per cent year-on-year to $124m in the third quarter. Under GAAP, Amgen's Q3 operating profit was approximately $2.0 billion, compared to $2.7 billion a year ago. On a Non-GAAP basis, Amgen's Q3 operating profit was $3.4 billion, compared to $3.3 billion a year ago.

4. Conclusion

In conclusion, the financial analysis of Pfizer, Johnson & Johnson, and Amgen reveals distinct strategies and outcomes shaped by their respective uses of leverage, cost of capital, and management of business risk. Pfizer's conservative financial approach and diversified portfolio positions it as a stable investment, suitable for investors prioritizing consistent returns and risk aversion. Johnson & Johnson's diversified healthcare offerings across various sectors, paired with its prudent financial leverage, suggest resilience and a promising hold for those seeking a balanced risk profile. Amgen's aggressive leverage strategy presents a higher risk yet also holds the potential for higher returns, appealing to investors who are comfortable with its current debt management and optimistic about its innovative product pipeline. Investors should weigh these companies' financial strategies against their individual risk tolerance and the dynamic landscape of the pharmaceutical industry before making investment decisions. Also, innovation is always the core and fundamental for pharmaceutical companies to maintain competitiveness. Then the dazzling "blockbuster" also has a patent expiration day, in the highly competitive pharmaceutical industry, only innovation can drive the product portfolio to move to the faster growing market, not afraid of the patent cliff. In addition, high sales also need to further expand overseas influence. With the continuous enhancement of innovation strength, China's contribution to the global pharmaceutical research and development field has gradually increased, many multinational pharmaceutical companies choose to locate their research and development centers in China, before the JPM conference in early 2024, the innovation achievements and potential value of Chinese pharmaceutical companies have been recognized by large foreign pharmaceutical companies. In addition, the Chinese market demand is huge, has become a lot of enterprises attributed to the growth of the Chinese market demand is strong, have increased the Chinese market, with frequent exchanges in the post-epidemic era, this effect will become increasingly apparent. What cannot be ignored is that following the trend is also one of the essentials of living.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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