Czech University of Life Sciences Prague

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Department of Economics

Master's Thesis

Analysis of Johnson and Johnson Stock

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Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

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Thesis title

Analysis of Johnson and Johnson Stock

Objectives of thesis

Goals and objectives: the goal of this diploma thesis lies in the evaluation of the financial position of Johnson and Johnson, a large American company specializing in the pharmaceutical industry. The author consequently evaluates the financial situation of the company in relation to financial position, financial performance, and the situation with liquidity, solvency, profitability, and valuation. Ultimately, the author comes up with a conclusion of whether investing in Johnson and Johnson stocks is worth considering as of 2022-2023.

Methodology

Methodology: for the methodology of the work, the author focuses on quantitative approaches, namely horizontal analysis, financial ratio analysis, and dividend discount model. The time interval used for the analysis covers 5 years – from 2016 to 2021 and the author uses information published by the company in their financial statements as the source of data.

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Keywords

Keywords: Johnson and Johnson, valuation, stocks, stock market, liquidity, solvency, profitability, pharmaceuticals

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Declaration

I declare that I have worked on my diploma thesis titled "Analysis of Johnson and Johnson Stock" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break any copyrights.

In Prague on 31.03.2023 ____________________________

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Analysis of Johnson and Johnson Stock

Abstract

The goal of this diploma thesis lies in the evaluation of the financial position of Johnson and Johnson, a large American company specializing in the pharmaceutical industry. The author consequently evaluates the financial situation of the company in relation to financial position, financial performance, and the situation with liquidity, solvency, profitability, and valuation. Ultimately, the author comes up with a conclusion of whether investing in Johnson and Johnson stocks is worth considering as of 2022-2023.

For the methodology of the work, the author focuses on quantitative approaches, namely horizontal analysis, financial ratio analysis, and dividend discount model. The time interval used for the analysis covers 5 years – from 2016 to 2021 and the author uses information published by the company in their financial statements as the source of data.

The author believes that investing in Johnson&Johnson in 2023 can be considered a good idea, especially given the fact that almost all stocks now have lost their value due to the presence of the bearish tendency on the market, which is quite likely to be soon replaced by a bullish one, when the US Federal Reserve will take a decision to lower the interest rates and accelerate all economic processes.

Keywords: Johnson and Johnson, valuation, stocks, stock market, liquidity, solvency, profitability, pharmaceuticals

Analýza akcií Johnson a Johnson

Abstrakt

Cílem této diplomové práce je zhodnocení finanční situace společnosti Johnson and Johnson, velké americké společnosti specializující se na farmaceutický průmysl. Autor následně hodnotí finanční situaci společnosti ve vztahu k finanční situaci, finanční výkonnosti a situaci s likviditou, solventností, ziskovostí a oceněním. Nakonec autor přichází se závěrem, zda investice do akcií Johnson a Johnson stojí za zvážení od roku 2022-2023.

Pro metodiku práce se autor zaměřuje na kvantitativní přístupy, a to na horizontální analýzu, analýzu finančních poměrů a model dividendové slevy. Časový interval použitý pro analýzu pokrývá 5 let - od roku 2016 do roku 2021 a autor jako zdroj dat používá informace zveřejněné společností ve své účetní závěrce.

Autor se domnívá, že investice do Johnson&Johnson v roce 2023 lze považovat za dobrý nápad, zejména vzhledem k tomu, že téměř všechny akcie nyní ztratily svou hodnotu kvůli přítomnosti medvědí tendence na trhu, která je docela pravděpodobné, že bude brzy nahrazena býčí, kdy Federální rezervní systém USA přijme rozhodnutí o snížení úrokových sazeb a urychlení všech ekonomických procesů.

Klíčová slova: Johnson a Johnson, oceňování, akcie, akciový trh, likvidita, solventnost, ziskovost, léčiva

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List of abbreviations

USD	United States Dollar
DDM	Dividend Discount Model
NYSE	New York Stock Exchange Market
WACC	Weighted Average Cost of Capital
IPO	Initial Public Offering
OCF	Operating Cash Flow
FCF	Financing Cash Flow
ICF	Investing Cash Flow

1 Introduction

Consumer products, pharmaceuticals, and medical devices make up Johnson & Johnson's three primary business divisions. The corporation is a leader in the healthcare industry on a worldwide scale. The corporation had a market valuation of roughly $448 billion as of the year 2021 and employed more than 134,000 people throughout the globe. Johnson & Johnson is a significant participant in the global economy because of its prominence in the healthcare business. The company's financial success and stability have repercussions not just for its shareholders but also for the general population at large.

Understanding the financial health of Johnson & Johnson, analyzing the firm's profitability, liquidity, and solvency, and making educated investment choices all require doing a financial analysis of the company. An in-depth analysis of the company's financial statements, which should include income statements, balance sheets, and cash flow statements, can provide investors with important insights into the performance of the company and help them determine whether or not the company is able to generate returns and effectively manage risks.

The purpose of this thesis is to carry out a thorough financial analysis of Johnson & Johnson, which will involve evaluating the company's financial statements, financial ratios, and any other pertinent financial metrics. This analysis was motivated by the desire to fulfill the requirements of the thesis. The research will discover trends and patterns that may be predictive of the firm's future success in addition to providing insights into the performance of the company over the last five years. In addition, the thesis will assess Johnson & Johnson's financial performance in comparison to that of its competitors in the healthcare market, as well as compare the corporation in comparison to the standards and best practices that are prevalent in the industry.

The author's main piece of motivation for conducting this analysis was the fact that she herself was coming across the company quite often, especially during the period of the pandemic, when the vaccine from the company was extremely popular for some time until it was eventually caught in the series of controversy related mostly to its potential danger to humans. For this purpose and also in addition to other facts mentioned by the author earlier, she decided to take an insight into the financial world of Johnson&Johnson since it will help to perfectly explain the real situation behind colorful adverts and unanimously acclaimed name in the world of pharmaceuticals.

The use of financial analysis by investors as a tool for evaluating the investment possibilities of a business and its overall financial health is essential. It entails analyzing the financial statements, performance measures, and market trends of a business in order to get a more in-depth knowledge of the firm's current financial condition and its future development potential. An in-depth financial analysis gives investors the information they need to make educated judgments about whether or not to put their money into a certain firm.

Johnson & Johnson is an example of a corporation that potential investors could take into consideration when making investment decisions. Johnson & Johnson is a huge global company that is well-known for its varied portfolio of healthcare goods. These items include medicines, medical equipment, and consumer healthcare products. Nevertheless, prior to making an investment in the firm, it is essential to undertake an in-depth financial analysis in order to evaluate the company's financial health and determine the possibilities for investment. This might entail examining market trends and competitive pressures in the healthcare business, as well as reviewing important financial parameters such as revenue growth, profitability, and liquidity. Another option is to evaluate market conditions. Investors may acquire useful insights into the strengths and weaknesses of Johnson & Johnson as an investment opportunity by doing financial analysis of the firm. This enables the investors to make a better educated choice on whether or not to invest in the company.

Ultimately, the author’s profound desire is that this master’s thesis will serve as a manual on how to assess potential investors using empirical techniques and also by analyzing the business environment of a given company. Effectively, the author utterly believes that this master’s thesis can contribute well to the world of science since more and more people become interested in the domain of finance and investment due to the increasing digitalization of the world and the fact that people get more and more financially educated with the movement becoming extremely popular in the developing countries, for the majority of which, the presence of Johnson&Johnson was a crucial one helping to create new jobs and providing other benefits to emerging communities.

2 Objectives and Methodology

2.1 Objectives

The goal of this diploma thesis lies in the evaluation of the financial position of Johnson and Johnson, a large American company specializing in the pharmaceutical industry. The author consequently evaluates the financial situation of the company in relation to financial position, financial performance, and the situation with liquidity, solvency, profitability, and valuation.

In addition to the analysis of the financial performance of Johnson&Johnson, the author also provides a series of recommendations for the company's strategic management related mainly to the allocation of financial resources and tendencies related to finance, such as the type of financing. Ultimately, the author comes up with a conclusion of whether investing in Johnson and Johnson stocks is worth considering as of 2022-2023 based on the results obtained in the practical part, where the author incorporates a series of numeric techniques which are described in the next chapter.

2.2 Methodology

For the methodology of the work, the author focuses on quantitative approaches, namely horizontal analysis, vertical analysis, financial ratio analysis, and dividend discount model. The time interval used for the analysis covers 5 years – from 2016 to 2021 and the author uses information published by the company in their financial statements as the source of data.

The practical part of the thesis consists of an empirical assessment of various indicators. The first part of the analysis is horizontal analysis, where the author compares the values for elements of the balance sheet and other financial statements with the base year, which is for the case of the analysis selected as the year 2016. For the comparison, the author uses a base index, which is calculated according to the following formula:

$$Base\ Index = \frac{Value\ from\ a\ selected\ year}{Base\ year\ value} - 1 \tag{1}$$

The vertical analysis is based on the computation of shares, which are computed as ordinary percentages. Yet, when it comes to the ratios of financial analysis, it is wise to say that there are numerous ratios considered by the author for her analysis. Thus, the author presents the following list of ratios incorporated into the practical part of the diploma thesis shown below. The author starts with liquidity ratios.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities} \tag{2}$$

$$Quick\ Ratio = \frac{Current\ Assets - Inventory}{Current\ Liabilities} \tag{3}$$

$$Cash\ Ratio = \frac{Cash\ and\ Cash\ Equivalents}{Current\ Liabilities} \tag{4}$$

For all ratios listed above, figures above the level of 1 are preferred as they indicate that a given company has no problem with liquidity due to the fact that a given element overweighs the company's current outstanding obligations. Then, the author also considers the domain of profitability with formulas presented below.

$$Return\ on\ Assets = \frac{Net\ Income}{Total\ Assets} \tag{5}$$

$$Return\ on\ Equity = \frac{Net\ Income}{Total\ Assets} \tag{6}$$

For every single profitability ratio, higher figures are preferred to lower ones but more specifically, the situation with the profitability is considered to be satisfied as long as the value of profitability ratios is greater than 0. For the situation when a given profitability ratio is lower than 0, it is sensible to consider that a given company experiences problems with the profitability domain. The following list of three ratios are related to the solvency domain.

$$Equity\ Ratio = \frac{Total\ Equity}{Total\ Assets} \tag{7}$$

$$Debt\ to\ Assets = \frac{Total\ Liabilities}{Total\ Assets} \tag{8}$$

$$Debt\ to\ Equity = \frac{Total\ Liabilities}{Total\ Equity} \tag{9}$$

For the case of solvency ratios, it is wise to say that the key finding that should be made in relation to those ratios is whether those ratios have the value greater than 1, which is critical and technically means that debts are larger than a given company's selected element. Then, the author proceeds to another 2 formulas related to the efficiency of company's operations.

$$Receivables\ Turnover = \frac{Net\ Sales}{Receivables} \tag{10}$$

$$Inventory\ Turnover = \frac{Net\ Sales}{Inventory} \tag{11}$$

Those indicators necessarily show the frequency of either collecting debts from customers, while the second ratio shows the frequency of replacing the existing inventory. Then, the two final ratios are related to company's market valuation.

$$Price\ to\ Earnings\ Ratio = \frac{Price\ of\ Stock}{EPS} \tag{12}$$

$$Price\ to\ Book\ Value = \frac{Price\ of\ Stock}{Book\ Value\ per\ Share} \tag{13}$$

For those ratios, lower figures are preferred more often due to the fact that they tend to mean that the company's current market valuation is not overvalued and presents a good investing option. Effectively, based on all those financial ratios, the author will decide on whether the selected company's situation is favorable in relation to a particular domain, where the total number of five are analyzed: liquidity, profitability, solvency, efficiency and market valuation.

Then, the author continues to the creation of a DDM model, which stands for the dividend discount model, where the author will calculate an intrinsic value of a stock, which indicates the price that should be attributed to a given stock based on the dividend that the company is currently paid and will pay in the next period. Intrinsic value is calculated as follows:

$$Intrinsic\ Value = \frac{Value\ of\ Next\ Year's\ Dividend}{r-g} \tag{14}$$

In order to find r (discount rate), the author calculates weighted average cost of capital or WACC, which is calculated as follows:

$$WACC = (Cost\ of\ Equity * Equity\ Share) + (Cost\ of\ Debt * Debt\ Share) + (1 - tax\ rate) \tag{15}$$

For the analysis of the company's market capitalization, the author uses trend analysis, where a trend with the following characteristics is created:

$$y = a + bt \tag{16}$$

Another calculation incorporated into the thesis is chain index, which is used for the comparison of the market capitalization:

$$Chain\ Index\ \frac{Value\ from\ the\ Current\ Year}{Value\ from\ the\ Previous\ Year} - 1 \tag{17}$$

Finally, the very last piece of analysis used in the thesis is related to volatility analysis, which is related to the calculation of standard deviation and of coefficient of variation. Lower values are preferred for both measures as higher measures traditionally mean that stocks are associated with a high degree of risk related to the investment. Both are indicated below.

$$Standard\ Deviation = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n}} \tag{18}$$

$$Coefficient\ of\ Variation = \frac{\partial}{\bar{X}} \tag{19}$$

Consequently, the author produces a conclusion based on all the empirical methods described in this chapter, where the author will rely solely on numeric values.

3 Literature Review

3.1 History of Johnson and Johnson

Johnson & Johnson is a multinational healthcare corporation that has an illustrious history that spans over 135 years. Robert Wood Johnson, James Wood Johnson, and Edward Mead Johnson, three brothers who were motivated by the need of enhancing the level of medical treatment available in the United States, established the organization in 1886. They named it after themselves. From its inception, Johnson & Johnson has developed into one of the most successful and well-respected businesses in the pharmaceutical and medical device industries, which is still buoyant after many years of operations and significant changes not just in the industry due to innovation and other factors but also after structural changes in economies and the ways of how businesses are being managed (Johnson&Johnson, 2023).

Effectively, founders of the company found themselves in a situation when, according to them, there was a real shortage of companies focused specifically on the production of goods related to pharmaceuticals since the overwhelming majority of businesses from that times were mainly represented by numerous merchants selling goods related to other industries and segments. Robert Wood Johnson, who started to receive his professional training as early as from the age of 16 as a pharmaceutical apprentice at a local pharmacy owned by one of his relatives, saw a great opportunity in venturing into the business. However, the first steps towards the success were made only in the middle of the 80s, which was one of the best times in the history of the US with the country's rapid accumulation of wealth and growing international role (Scherer, 2000).

Figure 1, Johnson&Johnson logo

Source: Johnson&Johnson, 2023

Innovation and entrepreneurialism were two of the defining characteristics of Johnson & Johnson's formative years. The first product that the firm ever produced was a sterile surgical dressing that was introduced in 1887, only one year after the company was established. This dressing completely altered the way that wounds were treated at the time. This product was immediately followed by other developments, such as the first commercially available first aid kits, dental floss, and pregnancy kits.

Other products also shortly followed this product. The most important traits that distinguished Johnson&Johnson from other companies was the willingness to innovate and bring something new to the market that had not been developing for a very long time, so the company's creativity and willingness to try something new helped Johnson&Johnson to have a really quick start which helped the company to build a solid fundament (Wilbur, 1983).

Figure 2, first products produced by the company

Source: Johnson&Johnson, 2023

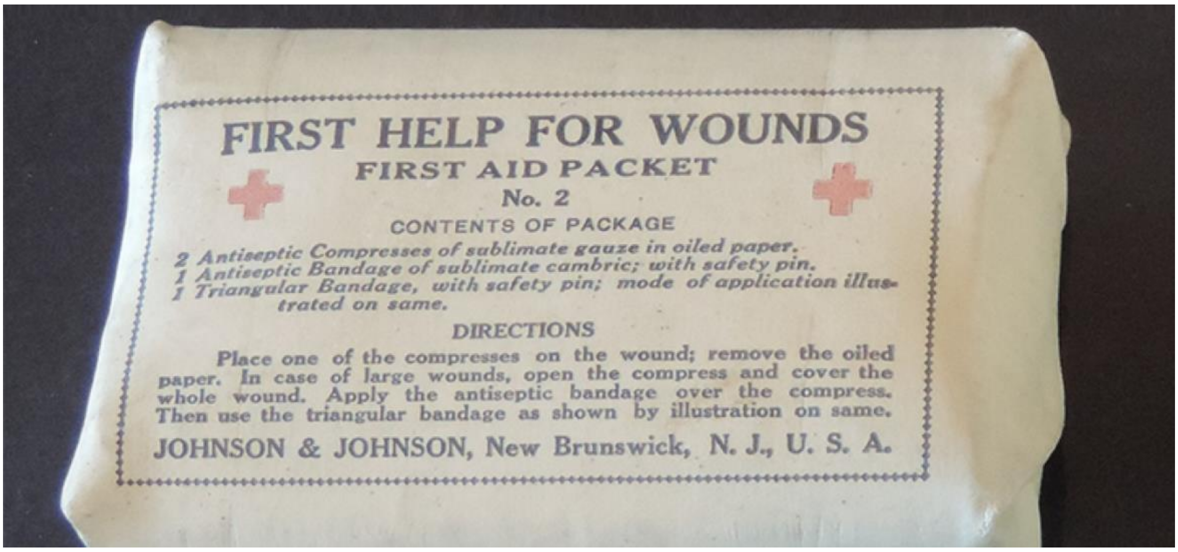
Johnson & Johnson has, throughout the course of its history, consistently expanded both the scope and variety of its product offerings. In the early 1900s, the firm started producing medical equipment such as sterile hypodermic needles and surgical sutures. Surgical sutures were also one of the company's early products. In the 1920s, the company began selling consumer goods such as baby powder and bandages, which led to its expansion into the consumer sector.

When looking in retrospective at the decision of Johnson&Johnson to venture into the consumer sector, it becomes evident that this was one of the most crucial decision taken by the company which brought to the today's success, because Johnson&Johnson were not just an innovative firm working mostly with hospital institutions and government entities, but they also tried to improve the situation with American domestic consumption of goods absolutely essential for children and hygiene.

Furthermore, it is wise to mention that the First World War or the Great War strengthened positions of the company as Johnson&Johnson were actively cooperating with the American government meeting the needs of the army. During the First World War, Johnson & Johnson played a significant role in supporting the war effort. The company was primarily focused on producing medical supplies and products to help care for wounded soldiers. One of the most critical products developed by Johnson & Johnson during the First World War was the first-aid dressing. These dressings were made of sterile gauze and cotton and were used to treat wounds and prevent infection. Johnson & Johnson produced millions of these dressings, which were used extensively in the war. The company also developed a range of other medical products to support the war effort. These included surgical dressings, sutures, and bandages. Additionally, Johnson & Johnson established field hospitals to provide medical care to wounded soldiers.

Apart from the production of medical supplies, Johnson & Johnson also contributed to the war effort in other ways. The company provided financial support to various war-related causes, including the American Red Cross. It also encouraged its employees to participate in war-related activities and provided them with paid leave to do so. Another important milestone that happened in 1910-1930 was the expansion of business operations to Europe, where the company managed to open a manufacturing facility in England, which helped the company to create foundations for the future expansion on the continent (Malerba, 2015).

Figure 3, first help for wounds produced by the company



Source: Shelly, 2023

Effectively, the company continued its rapid expansion and in the 30s, the company managed to open similar manufacturing facilities in South America and notably, in Argentina, Brazil and other countries. During the Second World War, the company cooperated with the American government in quite a similar way as during the First World War, which strengthened their positions even more.

Consequently, as the American economy recovered from the Great Depression and the stock market was finally under the control again, Johnson&Johnson made a crucial decision to go public with their IPO being help in 1943. In the years immediately after World War II, Johnson & Johnson maintained its tradition of both expansion and innovation (Goodman, 2020).

It pioneered the use of acetaminophen as a pain reliever and produced innovative medical technology, such as the first disposable surgical equipment, as well as new goods, such as Tylenol, the first pain reliever based on acetaminophen. In addition to the direction in the segment of developing its own medicine and specific goods related mostly to medicine, the compamy did not stop its expansion in the domain of baby cosmetics and their product from 1942 – Johnson’s Baby Lotion underpinned the international reputation that

Johnson&Johnson had spread the name of the company to even the most distant corners of the world (Malarvizhi, 2020).

Figure 4, baby lotion from the 40 s

Source: Johnson&Johnson, 2022

Yet, as it usually happens, the corporation was confronted with its greatest obstacle in the early 1980s, when a tampering episode resulted to multiple fatalities and illnesses that were caused by cyanide-laced Tylenol capsules happened. The Tylenol crisis, which occurred in 1982, was a significant event in Johnson & Johnson's history. The crisis began when several people in the Chicago area died after taking Extra-Strength Tylenol capsules that had been laced with cyanide. The incident led to the recall of all Tylenol capsules in the United States and a public health scare that lasted for several months. Johnson & Johnson's response to the crisis was widely praised for its transparency and swift action. The company acted quickly to recall all Tylenol capsules from store shelves and halted production of the product. It also worked closely with law enforcement agencies to investigate the source of the contamination and ensure that it would not happen again.

In addition to its recall efforts, Johnson & Johnson also took steps to regain the public's trust. The company introduced tamper-resistant packaging for its Tylenol products, which has since become the industry standard. It also established a toll-free hotline for concerned customers and offered refunds or exchanges for any Tylenol capsules that had been purchased.

The Tylenol crisis had a significant impact on Johnson & Johnson's business. The company's share price initially plummeted, and it took several years for the company to regain its market share. However, Johnson & Johnson's response to the crisis was widely praised and has since become a case study in crisis management. The company's transparent and proactive approach helped to restore public confidence in the Tylenol brand and demonstrated its commitment to customer safety.

This was the company's greatest hurdle to date. As a reaction to the issue, Johnson & Johnson initiated a huge product recall and designed new packaging that is tamper-resistant, therefore establishing a new benchmark for the handling of crisis situations (Syeder, 1983).

Figure 5, tylenol pills

Source: Knowledge@Wharton, 2012

Johnson & Johnson has continued to grow its product portfolio as well as its footprint throughout the world in the decades that have passed since the Tylenol disaster. Currently, the firm has operations in more than 60 countries and provides a diverse array of healthcare items, including medical equipment, prescription prescriptions, consumer health products, and over-the-counter medications. These products may be purchased across the world. All in all, the company managed to recover from the accident and continued its expansion even further. After the end of the Cold War, the company saw a great opportunity in setting its foot in the post-Soviet environment with its subsidiaries being opened in Russia and other countries of the former Soviet block (Benson, 1988).

Johnson & Johnson continues to uphold its original ideals of innovation, quality, and caring for its customers, despite the company's size and level of success. Its credo, which specifies the firm's responsibility to its customers, workers, and communities, continues to govern both the choices and actions that are taken by the organization. As a direct consequence of this, Johnson & Johnson continues to be regarded as one of the most reliable and authoritative brands in the medical sector. As of the 10s and 20s, the company pursuits a strategy of buying smaller pharmaceutical firms that are merged into the main structure of Johnson&Johnson and work for the benefit of the organization. Additionally, it is wise to mention that Johnson&Johnson were among a few pharmaceutical giants who managed to develop their own vaccine as a response to the ongoing pandemic of coronavirus (Newham, 2018).

Effectively, the vaccine developed by the company was far more advantageous in many aspects, where the biggest benefit was the fact that there was just one dose needed instead of 2. At the same time, over the course of field tests and first people being vaccinated with the vaccine developed by Johnson&Johnson, it was revealed that there might be serious drawbacks related to blood clotting, so the vaccine of the company can be considered to be a flop, according to some experts who compare the numbers for the purchase of Johnson&Johnson’s vaccine with Pfizer, for instance. All in all, despite this contretemps, Johnson&Johnson remained the first go-to company specializing in the domain of pharmaceuticals (Livingston, 2021).

Figure 6, Johnson&Johnson's vaccine

Source: Stieg, 2021

3.2 Pharmaceuticals Industry

Of course, when describing any industry, it is wise to concentrate first on the history behind a given industry. For the case of pharmaceuticals industry, it is possible to say that the industry itself is as old as the world itself with its roots dating back to even pre-historic times. Yet, it is wise to understand that practices that were prevailing centuries ago cannot anyhow be compared to the modern ones. Over time, pharmaceuticals stopped being just a domain which ensured people’s wellbeing. Today, with the help of research and development, as well as with breakthrough innovations exercised with the help of cutting-edge technology, pharmaceutical industry is one of the most crucial ones in terms of its impact on modern societies. In addition to that, it is also possible to say that in light of recent circumstances, pharmaceutical companies helped the world to tackle one of the most serious pandemic – the one that happened in 2020-2021 and which left a serious toll on all countries around the globe (Liebenau, 1987).

To put it short, pharmaceuticals industry mainly focuses on the supply, production and distribution of medicals that are essential for normal functioning of humans. However, pharmaceuticals do not only mean sustaining people's lives, but it is also involved in innovation and development of specific disciplines that are expected to help people with increasing their life expectancy and also improving the way how organisms handle various shocks and crises (Liebenau, 1987).

Of course, as in any industry, there are specific companies focused exclusively on the given segment who constantly compete with each other. For the pharmaceuticals industry, it is wise to consider that this is a complicated domain in the sense that it is almost impossible to enter it from the scratch without any background and the market itself is split between just five or six different companies, what makes the industry to resemble something close to the oligopolistic competition. At the same time, the market is concentrated just around particular countries, notably the United States of America, which has a series of companies specializing in the pharmaceuticals and which will be mentioned later in the narrative and Denmark (Malerba, 2002).

Figure 7, the biggest players in the pharma industry

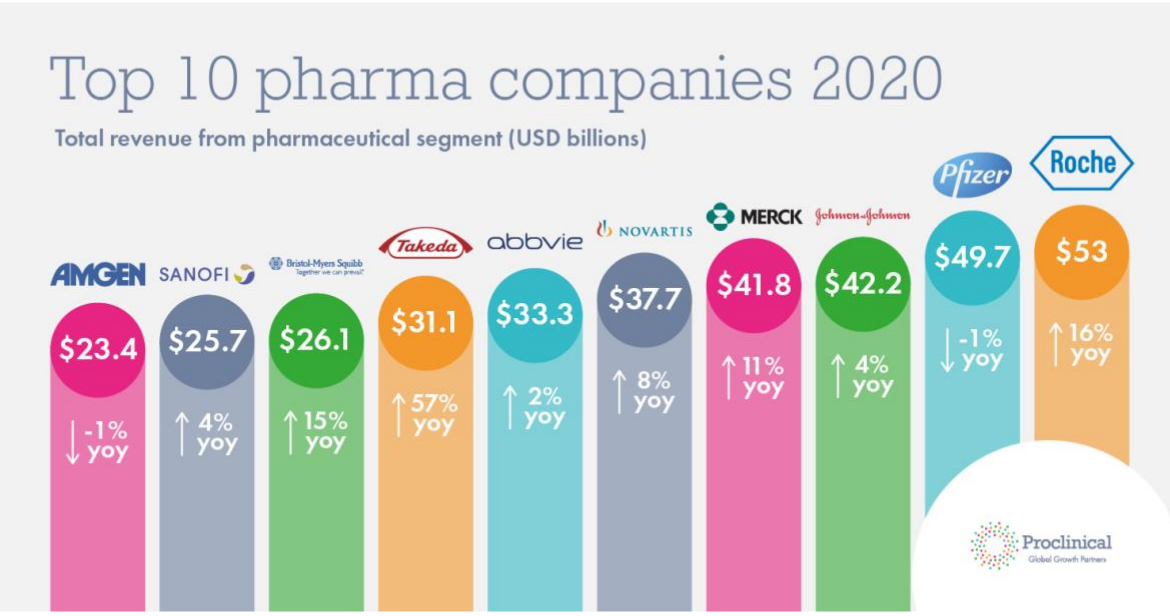
Source: Indian Pharma Jobs, 2022

Effectively, the biggest pharmaceutical company according to its market capitalization is surely Johnson&Johnson that by far exceed all other companies, especially the American ones – Eli Lilly, AbbVie and Merck, which all together make up the big four of pharmaceuticals based and operating with the main headquarter located in the United States. However, the second biggest company according to its market capitalization is not any other American company but actually a Danish one – Novo Nordisk, which specializes mainly in diabetes care and also in hormone therapy. What is notable about all those companies is the fact that the market is highly segmented with competitors focusing on just a particular domain where they are the best. When being compared to other companies, Johnson&Johnson seem to have a really broad span of operations with their products even belonging to absolutely different domains outside of the pharmaceuticals (Malerba, 2002).

For sure, the role of pharmaceuticals industry was not regarded as a key one until the beginning of the pandemic of coronavirus since the world had not been facing any serious pandemic of a similar scale as the coronavirus almost over the course of the last century with just temporary problems with poliomyelitis in the middle of the previous century and smallpox which was eventually successfully tackled. The last pandemic whose scale could be compared to the coronavirus was the pandemic of Spanish flu that is believed to have killed more than 20,000,000 people all over the globe making it the world's deadliest pandemic of modern times. However, it is wise to highlight the fact that vaccines for the overwhelming majority of illnesses were not developed by commercial companies in the 20th century with the remedy being found often with the help of government-affiliated agencies or independent scientists working for independent big research centers and universities (Kavanagh, 2019).

Effectively, what is rather interesting that the tendency changed in the 21st century, where the biggest pharmaceuticals company saw an opportunity in developing their own vaccines for occurring illnesses thus artificially increasing the importance that they play for the world, where they do not just supply people with medicals, but they also help to tackle international problems. In fact, this is exactly something that happened during the pandemic of coronavirus, when the world's leading pharmaceutical companies were in the process of developing their own vaccine that will eventually help to tackle the biggest concern of all societies at the time – the ongoing pandemic of the coronavirus. Clearly, succeeding in developing a vaccine that will finally help the world to return to normality would not just improve the way how matters stand with a given company's financial and reputational situation, but it would ultimately lead to a completely different international status and boundless commercial success all over the world (Caves, 1991).

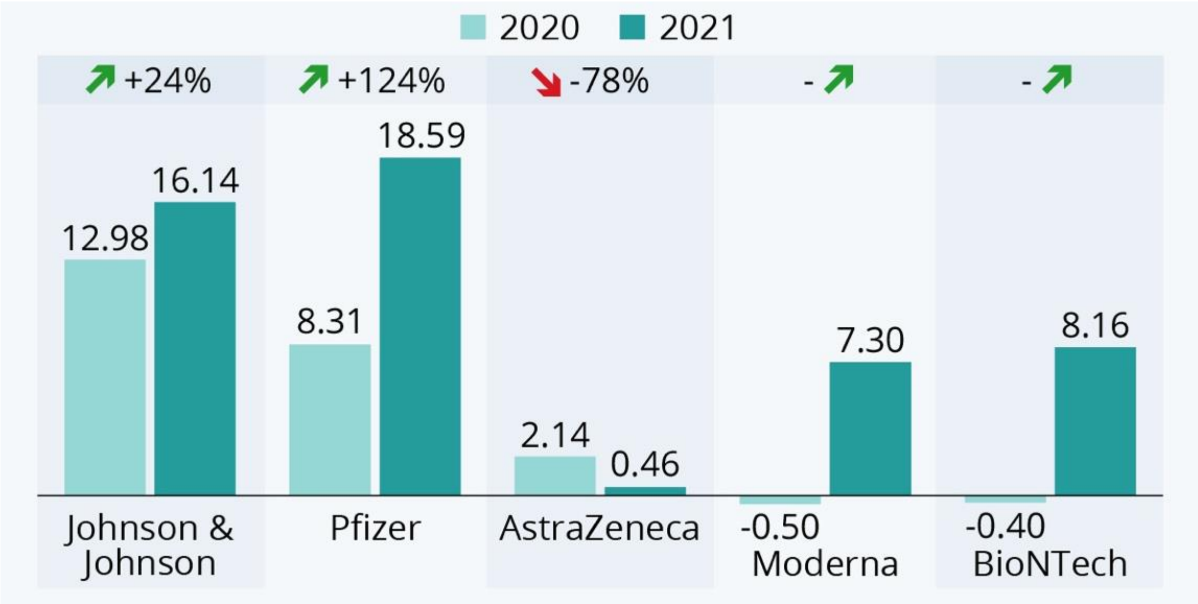
Figure 8, pharmaceuticals companies by revenue in 2020



Source: Wilshire Labs, 2022

Interestingly enough, a smaller company was eventually to develop the world's first effective vaccine against the coronavirus – Pfizer, whose success was followed by others, such as Moderna and finally Johnson&Johnson, which is the main focus of the author's research. Undoubtedly, the future of those companies is expected to be highly promising as they reserved a significant boost in sales during the pandemic of the coronavirus and due to this influx of cash, they will be able to continue to deliver their long-term projects and also fund additional research and development, which is the main driving force of the industry (Saville, 2022).

Figure 9, changes in companies' profit after developing vaccines



Source: Healthcare, 2023

3.3 Stock Valuation and Stock Markets

3.3.1 Stock Markets

The most important stock markets in the world have a significant impact on the whole economy and are responsible for a variety of factors, including investment flows and international commerce. The following is a list of some of the major stock markets in the world, along with some commentary on their significance:

1) The New York Stock Exchange (NYSE) is the biggest stock exchange in the world in terms of market capitalization. The NYSE has over 2,400 businesses listed on its platform, and the total market capitalization of those companies is over $30 trillion. Moreover, it was established in 1792, making it the oldest stock exchange in all of the United States. The New York Stock Exchange (NYSE) is a significant institution due to the major role it plays in the financing of American corporations and the provision of a platform for foreign companies to obtain cash.

2) The Nasdaq is the second-largest stock exchange in the world, and it has a market value of more than $15 trillion. The Nasdaq is also known as "The Big Board." It is well-known for the technological listings it provides, such as those for Apple, Amazon, and Facebook. In addition to being home to a large number of cutting-edge new businesses, the Nasdaq is renowned for its role as an early investor in rapidly expanding businesses.

3) The Tokyo Stock Exchange (TSE) has a market capitalization that is more than $6 trillion, which places it in the position of the world's third-largest stock exchange as measured by market capitalisation. It is the most important stock market in Japan and plays an essential role in the financing of the Japanese economy. The Tokyo Stock Exchange is not only a significant participant in the Asia-Pacific area but also draws a large number of worldwide investors.

4) The Shanghai Stock Exchange (SSE) has a market value of over $5 trillion, making it the fourth-largest stock exchange in the world as measured by market capitalisation. As China's economy continues to expand, the country's primary stock market has emerged as a significant participant in the economy of other countries across the world. It is essential for the SSE to provide a platform for Chinese enterprises to obtain cash and to attract international investment because of its role in these areas.

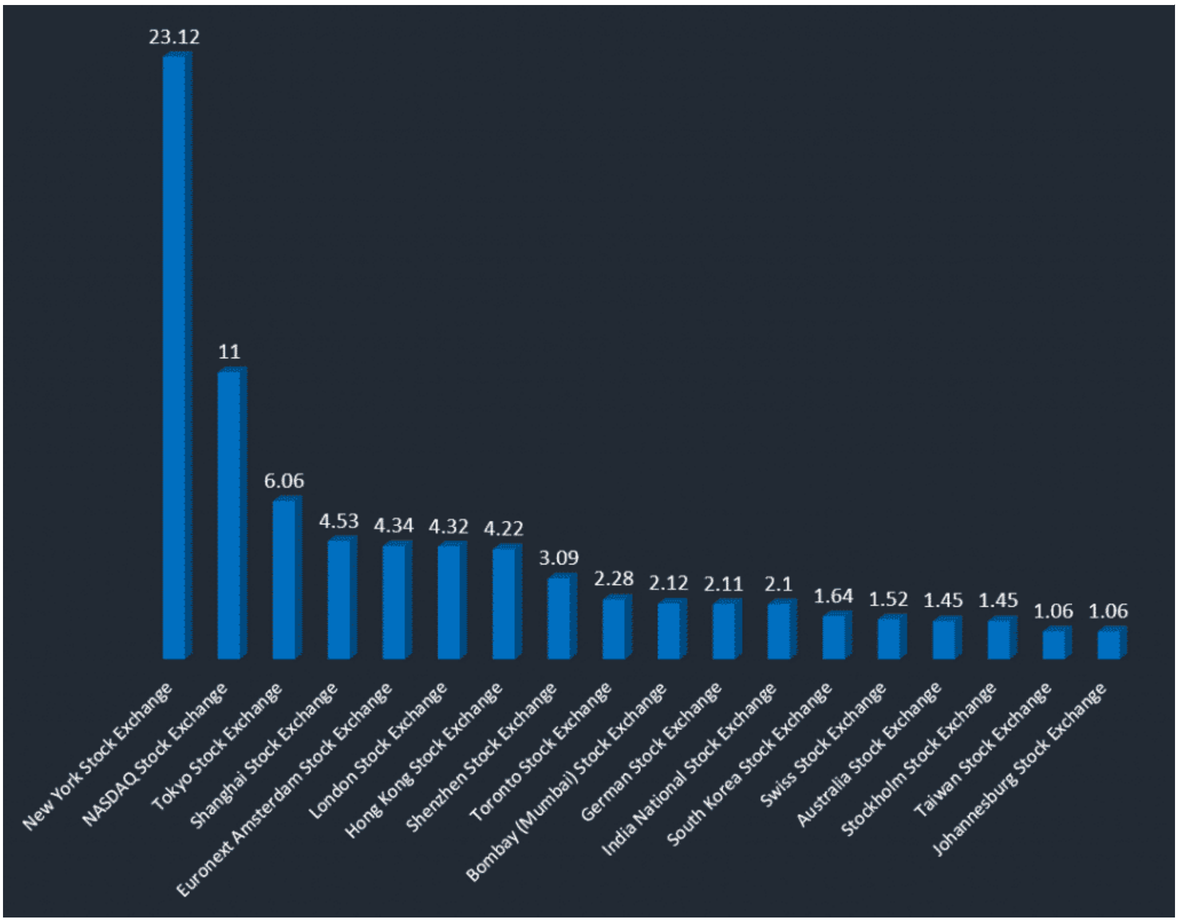
5) The Hong Kong Stock Exchange, often known as the HKEX, has a market value that is more than $4 trillion, making it the fifth-largest stock exchange in the world as measured by market capitalization. Since it permits foreign firms to list on its market, it serves as a significant gateway for international investors who are interested in making investments in China. In addition to this, the HKEX is essential for the financing of Hong Kong's economy and for luring international investment (IG, 2022).

Figure 10, map of top ten exchange markets around the world in 2022

Source: IG, 2022

These stock markets are very important to the functioning of the global economy because they serve as a venue for businesses to gather funds, as a medium through which investment may be channelled, and as a factor in international commerce. As a consequence of this, investors, politicians, and experts from all over the globe are keeping a careful eye on them.

Figure 11, biggest stock exchange markets



Source: Taylor, 2021

3.3.2 Stock Valuation

Stock valuation refers to the way of measuring or assessing the exact cost of stocks, where stocks represent a given share of ownership in a company. Traditionally, the world's biggest companies go public by conducting an IPO, which helps companies to significantly boost their reputation and enter international markets. In addition to that, there are other advantages of going public for companies, which are presented below:

1) Going public provides multinational enterprises with the option to access a larger pool of investors and capital markets, which may lead to increased access to financial resources. This gives the firm access to the cash it needs to build and extend its business on a worldwide scale, make investments in research and development, and make strategic acquisitions.

2) Increased market visibility and credibility are two benefits that accrue to a business when it makes the decision to become publicly traded on a stock exchange. This is due to the fact that the corporation is mandated to provide the public with access to certain vital data and information, including financial details. This has the potential to assist in the development of investor confidence and trust, which may ultimately result in an enhanced demand for the company's shares.

3) Increased liquidity Being able to acquire and sell shares of a company is made more simpler for shareholders when the company becomes public, which is one of the benefits that multinational businesses get when they go public. As a result, the firm will have an easier time recruiting and retaining high-quality workers, and those workers will have a greater chance of receiving equity-based remuneration.

4) Valuation and pricing: Going public may offer an international company with a more accurate appraisal of its business and its assets. This can be a benefit for the firm when it comes time to price its products and services. When negotiating strategic alliances or acquisitions, this may be useful in gaining a competitive advantage.

5) Going public provides multinational businesses with access to a larger pool of investors and gives them access to more financing markets, which may assist these businesses grow their operations on a worldwide scale. This may enable them finance growth initiatives and pursue acquisitions in new areas, which can be beneficial to their business (Draho, 2004).

At the same time, it is wise to talk about potential disadvantages associated with companies going public, that are listed below.

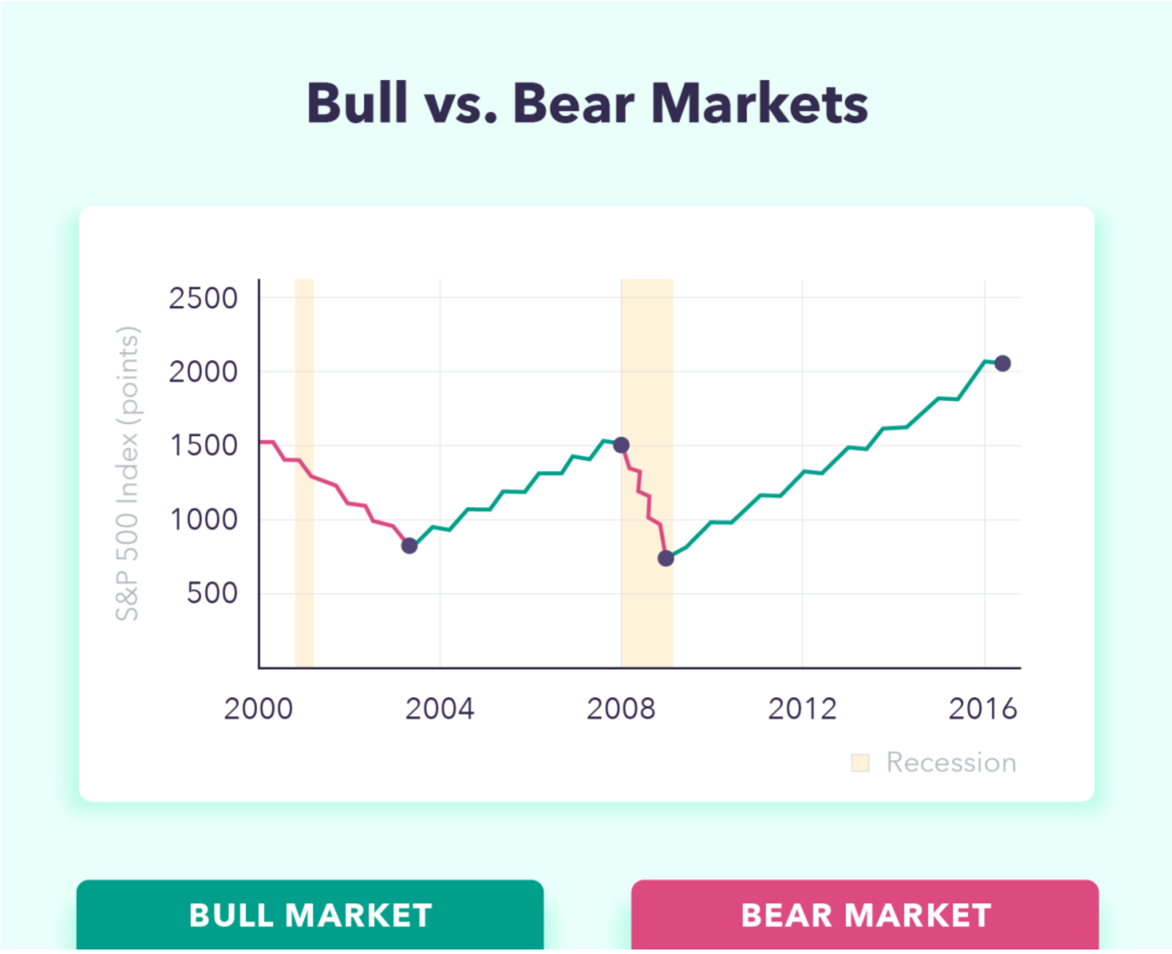
1) Loss of control: When a company goes public, it's no longer solely controlled by its founders or current owners. Shareholders have a say in decision-making, which can lead to a loss of control for the company's original owners.

2) Increased scrutiny: Publicly-traded companies are subject to increased scrutiny from regulators, shareholders, and the public. This can lead to more pressure to meet quarterly earnings targets and higher reporting requirements, which can be time-consuming and costly.
3) Costly compliance: Publicly-traded companies are subject to various reporting and compliance requirements, such as SEC filings and audits. These requirements can be expensive and time-consuming, which can eat into a company's profits.
4) Market volatility: The stock market can be unpredictable and subject to fluctuations. This means that a company's stock price can be impacted by factors outside of its control, such as macroeconomic events or shifts in investor sentiment.
5) Short-term focus: Because of the pressure to meet quarterly earnings targets, publicly-traded companies can sometimes have a short-term focus. This can lead to decisions that prioritize short-term gains over long-term growth and sustainability.
6) Disclosure of information: Publicly-traded companies are required to disclose a lot of information to the public, such as financial statements and executive compensation. This can lead to a loss of privacy and potentially put sensitive information in the public domain (Draho, 2004).

In addition to the explanation of the IPO process and the biggest stock markets around the world, it is also essential to talk about two fundamental cycles in every stock market around the globe. Just like with business cycles, stock markets go through particular stages, which are called bull and bear market. The first stage, i.e., the bull stage or bull market is a stage of rapid expansion or simply a positive cycle where the stock valuation of all companies slowly goes up in light of favorable economic and financial situation, such as low interest rates imposed by Central Banks and no significant shocks related to collapse of other companies or major players, which happened during the Great Depression in the United States of America and also quite recently during the Great Recession and the dot.com bubble (Maheu, 2000).

Contrary to the bull market or bull stage, there is a bearish stage, which is often characterized as an adversary period on a given stock market, where prices of the overwhelming majority of stocks listed slowly go down. At the same time, it is wise to understand that many financial analysists and investors do not share the same pessimism in relation to the bear market. Contrary to that, they believe that the best time for investment is actually during bearish stages, when investors can easily maximize their gains in the long-term perspective (Maheu, 2000).

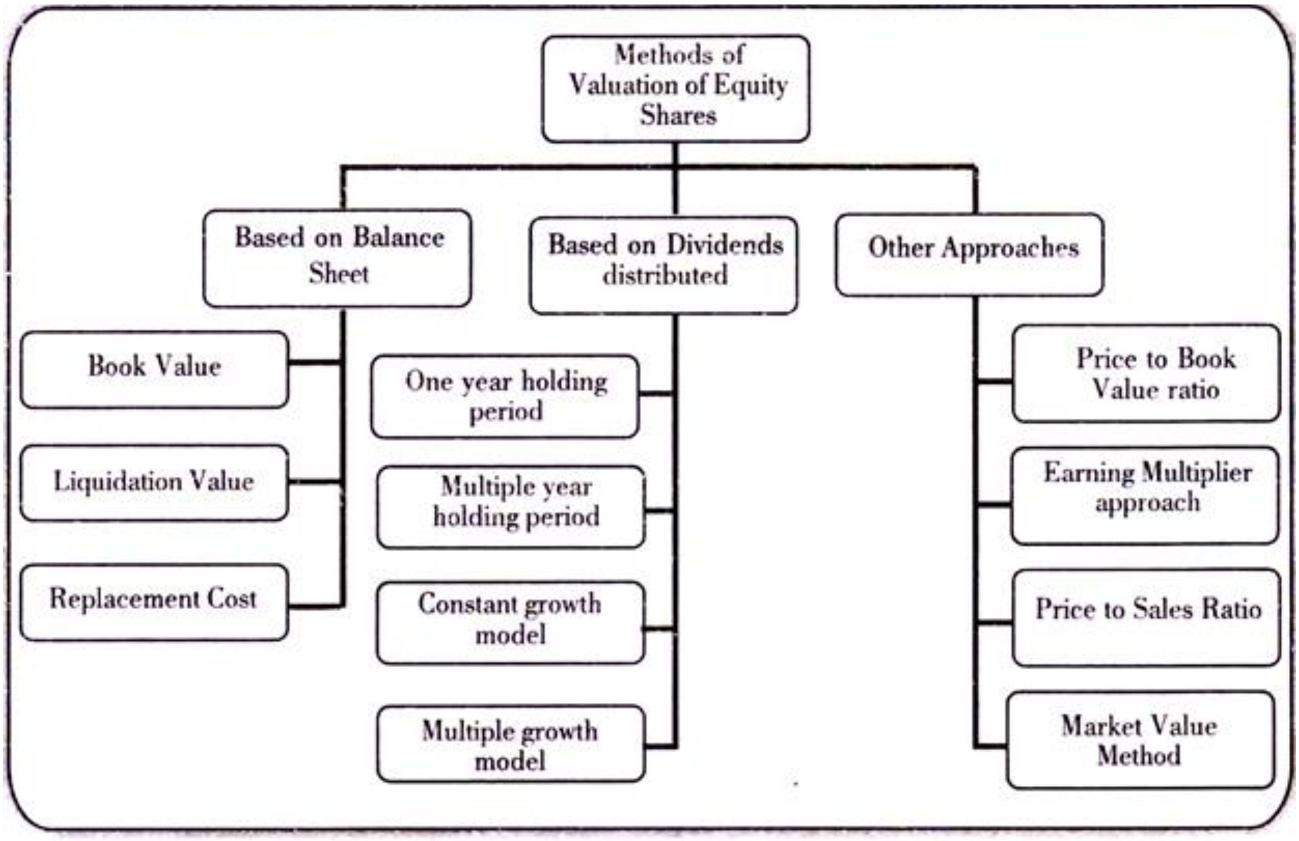
Figure 12, diagram presenting bull and bear markets



Source: Mint, 2022

Of course, when it comes to stocks and generally trading, there are various techniques that help investors to decide on which particular stocks are worth buying more than other ones with many different approaches that are traditionally taken into consideration. The author will gradually discuss the most important ones that help investors to choose a particular stock or bundle of stocks. The first approach discussed by the author is the so-called DDM model, which stands for the dividend discount model, where an intrinsic value of a company's stock is found and then compared to the current value at which a given stock is traded (Farrell, 1985).

Figure 13, broader methods of stock valuation



Source: Nandhini, 2017

The precise formula for the DDM model had already been mentioned in the methodology of this master's thesis, which consists mainly of 3 essential components – a growth rate of dividends, a discount factor or discount rate and the value of the future dividends. For sure, the easiest component to comprehend from the given formula is the growth rate of dividends, which is computed as the average growth rate of all previous dividends prior to the analyzed moment on a selected time period. When it comes to the discount rate, it is wise to consider that the discount rate is not an easy concept to understand at first (Farrell, 1985).

Discount rate is a factor that helps to discount cashflows of a given company thus taking into consideration the time value of money, where the dollar in the present day is worth more than dollar in the future. Traditionally for DDM models, researchers consider the WACC rate since it is something that is usually regarded as a universal discount rate for large companies. Of course, there can be other indicators selected for the discount rate, such as an expected rate of return of another project but in the context of the DDM model, it is quite irrelevant, according to researchers and financial analysts (Ge, 2022).

Then, continuing to a slightly different domain – the financial one, it is wise to consider that out of money domains of financial ratios, there is a specific category of financial ratios that are exclusively focused on the assessment of a given company's current valuation in relation to specific indicators, which will be discussed in this paragraph. First, one of the best and most widely used metrics for the stock valuation related to the financial domain is the price to earnings ratio or to put it simpler, the P/E ratio, whose formula was already discussed in the methodology of the diploma thesis (Wu, 2014).

Price to earnings ratio is an extremely useful tool in a sense that it directly indicates potential earnings that investors will get once investing into a particular company, since the lower part of the formula – EPS, do directly indicate the amount theoretically earned by investors in pure profit of the company for their one share. Clearly, the lower the P/E ratio, the better it is thus making a given investment option extremely attractive for investors (Wu, 2014).

At the same time, P/E ratio is surely not the only ratio that can be implemented for the stock valuation, as there is also another valuable tool represented by the price to book value ratio, where the current price at which a given stock is traded is divided by the company's book value per share. In other words, the ratio itself shows by how much a company's current trading price exceeds its book value, where high value does not necesarilly mean a bad thing but just the fact that with a small book value, companies are quite successful and they are traded at significantly high figures than they should, according to the book value that they have (Athanassakos, 2013).

At the same time, it is well preferred by investors to select investment options, where the value of this ratio is kept as low as possible since some investors consider high P/B ratios as a bad thing indicating that a given company is bubbly and rather overpriced, since all valuations are usually concerned with a particular asset underpinning that price.

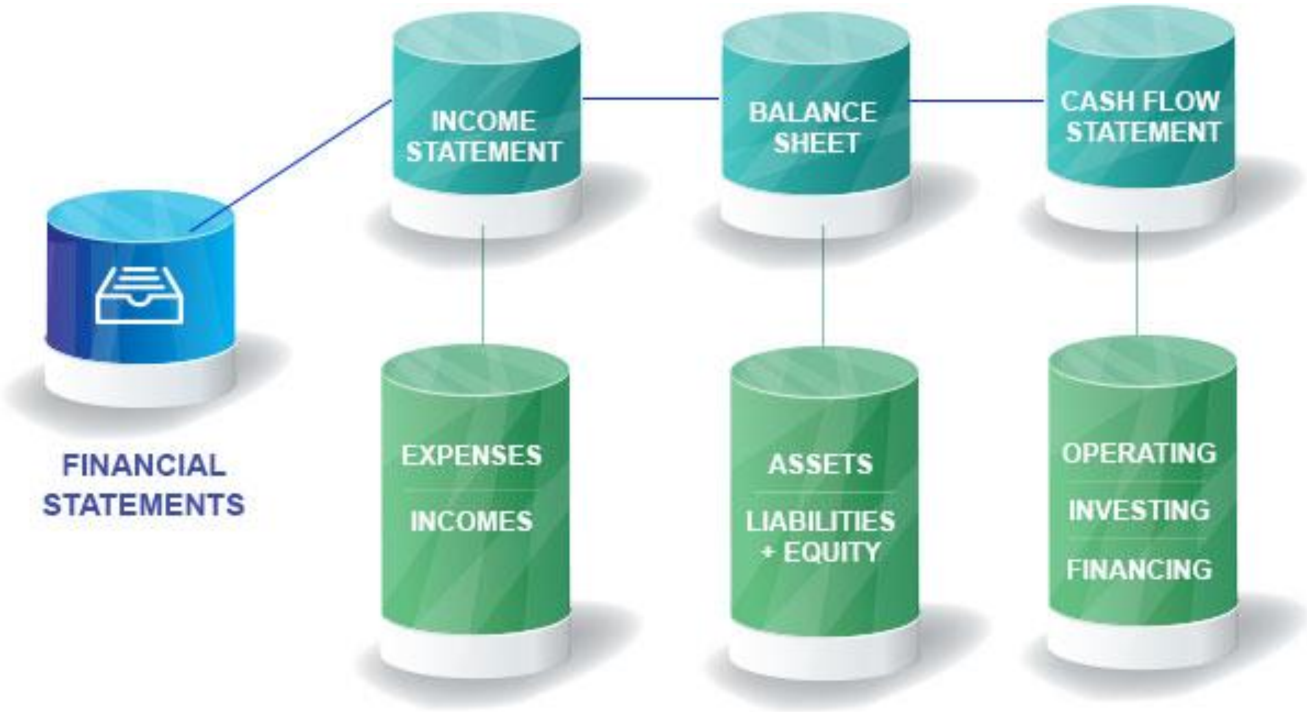
Figure 14, key financial ratios

Source: Datarails, 2023

Apart from those two ratios, a lot of investors do not just analyze the information that lies on the surface, but they also take an insight into internal operations of a given organization, where investors use the information published mostly for them in an intelligent way – they perform a financial analysis, according to which investors decide on investments and generally try to project the future development of the company. Undoubtedly, previous performance is not something that should be regarded as a universal predictor of the future, but it is still quite helpful to understand how a given company makes cash, how their cashflows are dependent on external factors, etc (White, 2002).

This all can be achieved with the help of a financial analysis, where researchers, investors and other groups of people concerned directly take an insight into a given company's financial statements and notably they are interested in just 3, as they have long ago proven themselves to be the most effective and richest in content – statement of financial position, statement of financial performance and the statement of cashflows.

Figure 15, financial statements and their breakdown



Source: Kotak Securities, 2021

All three statements themselves reflect the situation with a particular domain, where the first one shows assets, obligations and capital owned by companies, the second shows the degree of efficiency of making profit and the third one serves as an additional indicator to just reflect the way how companies use cash.

For the financial analysis, the first statement (statement of financial position of to put it simpler – balance sheet) is used most often since it contains information about assets that company own. However, investors do not usually finish on one income statement and they conduct complex analysis that involve various ratios and other techniques such as a horizontal analysis, where base indices and chain indices are calculated (Higgins, 2009).

3.4 Summary of Theoretical Part

There are, without a doubt, a great many additional ratios and other tools that can accurately describe a specific circumstance; however, it is of the utmost significance to comprehend that the author described only those ratios and other tools that will be utilized by her in the practical part of the work in order to improve the coherence and logic of the work. Successfully, the author completed her theoretical review of the provided subject by being able to claim that the corporation of the study, namely Johnson & Johnson, is swimming in a red ocean with many significant rivals striving to alter the way how things stand and capture the market. Yet, based on the information that is currently accessible from many other writers and sites, it seems that they are a considerable distance away from accomplishing this objective.

Studies and independent evaluations show that the pharmaceuticals industry is currently experiencing one of the best times in its history. This is due to the fact that the recent pandemic of the coronavirus had given an astonishing boost to those companies. This boost is anticipated to be used for the research and development campaigns as well as long-term investments with building new sites in emerging markets and environments, places where these companies had not been present before.

According to the findings of the studies that were conducted, the company appears to have an impeccable reputation despite the fact that it was involved in a significant number of controversies as a result of events that occurred in the 1980s and 1990s and also after it developed a vaccine against the coronavirus that was relatively ineffective and ultimately lost the competition to Pfizer and Moderna.

The author now turns her attention to developing her own analysis, in which she will play the part of an independent investor and apply all of the techniques discussed in the chapter before this one that was devoted to the stock valuation. This will allow her to determine whether or not the company's financial situation is adequate and optimistic, as well as whether or not it is worthwhile to consider Johnson & Johnson as a potential investment option in 22-23. With all of this information collected, cited, and analyzed, the author is finally able to focus on his own analysis and elaboration.

The following chapters provide the exact analysis that was described, and at the end of the book, the author also compares her findings with the findings of other relevant authors who were also interested in the internal and external situation of Johnson & Johnson recently or earlier, given that not much has changed for the company in the past couple of years.

4 Practical Part

4.1 Horizontal Analysis of Johnson and Johnson

4.1.1 Balance Sheet

For the first chapter of the practical part, the author begins with the horizontal analysis of Johnson&Johnson's balance sheet, which is a fundamental financial statement indicating the company's situation in terms of its financial position. For the analysis of all financial statements, the author uses information directly published by the company in their financial statements. The author first starts with the horizontal analysis of the company's assets according to the formula (1) indicated in the methodology of the work. The results of the analysis are shown in Table 1.

Table 1, assessment of assets (2016-2021)

	2016	*2017*	*2018*	*2019*	*2020*	*2021*
Cash	$ 41,907	$ 18,296	$ 19,687	$ 19,287	$ 25,185	$ 31,608
Receivables	$ 11,699	$ 13,490	$ 14,098	$ 14,481	$ 13,576	$ 15,283
Inventories	$ 8,144	$ 8,765	$ 8,599	$ 9,020	$ 9,344	$ 10,387
Prepaid expenses	$ 3,282	$ 2,537	$ 2,699	$ 2,392	$ 3,132	$ 3,701
Other current assets	$ -	$ -	$ 950	$ 94	$ -	$ -
Total Current	***$ 65,032***	***$ 43,088***	***$ 46,033***	***$ 45,274***	***$ 51,237***	***$ 60,979***
Property	$ 15,912	$ 17,005	$ 17,035	$ 17,658	$ 18,766	$ 18,962
Intangibles	$ 49,681	$ 85,134	$ 78,064	$ 81,282	$ 89,795	$ 81,638
Other assets	$ 4,435	$ 4,971	$ 4,182	$ 5,695	$ 6,562	$ 10,216
Total Long-Term	***$ 76,176***	***$ 114,215***	***$ 106,921***	***$ 112,454***	***$ 123,657***	***$ 121,039***
Total Assets	***$ 141,208***	***$ 157,303***	***$ 152,954***	***$ 157,728***	***$ 174,894***	***$ 182,018***

	2017	*2018*	*2019*	*2020*	*2021*
Cash	-56%	-53%	-54%	-40%	-25%
Receivables	15%	21%	24%	16%	31%
Inventories	8%	6%	11%	15%	28%
Prepaid expenses	-23%	-18%	-27%	-5%	13%
Total Current	***-34%***	***-29%***	***-30%***	***-21%***	***-6%***
Property	7%	7%	11%	18%	19%
Intangibles	71%	57%	64%	81%	64%
Other assets	12%	-6%	28%	48%	130%
Total Long-Term	***50%***	***40%***	***48%***	***62%***	***59%***
Total Assets	***11%***	***8%***	***12%***	***24%***	***29%***

Source: created by the author based on annual reports

Based on the horizontal analysis, it is perfectly clear that the value of the company's current assets decreased significantly over time, especially from 2016 to 2020. Yet, the company was able to increase its liquidity in 2021, when the level of indicator reached almost the same level as in 2016 when the value was equal to 65,032. Overall, over the course of the selected time period, the value of the total current assets decreased by 6% in 2021 compared to 2017, which is not good, as the company lost a lot of its liquidity and was not really increasing it when compared to the year 2016. Yet, the value of receivables was increasing over time and the base index for 2021 is equal to 31%, which might suggest that the company had a problem with collecting cash from its clients. Overall, the situation with current assets is not critical, but sure enough not favorable as the company seemingly went through a series of financial shocks over the selected time period.

As for the value of long-term assets, the situation is contrary to the one observed in the company’s current assets, as the value of those assets increased by 59% in 2021 compared to 2016, which is a sign that the company is in the stage of expansion, or they try to invest into something or open new subsidiaries overseas. The values of all categories of long-term assets were increasing, which underpins the author’s suggestion that the company was in the stage of rapid expansion.

When it comes to the value of total assets, it is pretty evident that the company increased this amount and the increment was equal to 29% in 2021 compared to 2016, which is a good sign. Overall, the situation with the company's assets is favorable with just minor problems with current assets and receivables. Now, the author proceeds to the breakdown of the company's liabilities and equity, which is indicated in Table 2.

Table 2, assessment of liabilities and equity (2016-2021)

	2016	***2017***	***2018***	***2019***	***2020***	***2021***
ST Debt	$ 5,257	$ 6,107	$ 6,246	$ 7,193	$ 8,499	$ 9,045
Payables	$ 18,401	$ 21,376	$ 21,861	$ 25,175	$ 29,745	$ 31,658
Other current	$ 2,629	$ 3,054	$ 3,123	$ 3,596	$ 4,249	$ 4,523
Total Current	***$ 26,287***	***$ 30,537***	***$ 31,230***	***$ 35,964***	***$ 42,493***	***$ 45,226***
LT Debt	$ 22,442	$ 30,675	$ 27,684	$ 26,494	$ 32,635	$ 29,985
Other liabilities	$ 22,061	$ 35,931	$ 34,288	$ 35,799	$ 36,488	$ 32,784
Total long term	***$ 44,503***	***$ 66,606***	***$ 61,972***	***$ 62,293***	***$ 69,123***	***$ 62,769***
Total Liabilities	***$ 70,790***	***$ 97,143***	***$ 93,202***	***$ 98,257***	***$ 111,616***	***$ 107,995***
Common stock net	$ 3,120	$ 3,120	$ 3,120	$ 3,120	$ 3,120	$ 3,120
Retained Earnings	$ 110,551	$101,793	$ 106,216	$ 110,659	$ 113,890	$ 123,060
Comprehensive income	-$ 14,901	-$ 13,199	-$ 15,222	-$ 15,891	-$ 15,242	-$ 13,058
Total Equity	***$ 70,418***	***$ 60,160***	***$ 59,752***	***$ 59,471***	***$ 63,278***	***$ 74,023***
Total E+L	***$141,208***	***$157,303***	***$ 152,954***	***$157,728***	***$ 174,894***	***$ 182,018***

	2017	***2018***	***2019***	***2020***	***2021***
Total Current	***16%***	***19%***	***37%***	***62%***	***72%***
LT Debt	37%	23%	18%	45%	34%
Other liabilities	60%	53%	60%	63%	46%
Total long term	***50%***	***39%***	***40%***	***55%***	***41%***
Total Liabilities	***37%***	***32%***	***39%***	***58%***	***53%***
Common stock net	0%	0%	0%	0%	0%
Retained Earnings	-8%	-4%	0%	3%	11%
Total Equity	*-15%*	*-15%*	*-16%*	*-10%*	*5%*

Source: created by the author based on annual reports

For the analysis of the company's liabilities and equity, the author selects the same interval. When it comes to the value of total current liabilities, the company increased this amount by almost 100% in 2021 compared to 2016, which is not good and can serve as an indicator of the fact that the company is experiencing some kind of problems. When it comes to long-term debt, the company also increased its values of long-term debt in 2021 compared to 2016 by 41%, which is a lot. However, the biggest increment happened in 2017, so it suggests that the company experience a series of problems in 2017.

When it comes to the company's equity, the total value of equity increased by approximately 5% in 2021 compared to 2016, and the largest part of this increment is explained by the increase in the company's retained earnings, which is good. The company initially experienced problems with this element but over time, they were able to change the situation and finally process an increase in the retained earnings compared to the base year – 2016. Overall, the situation is also acceptable. Based on the horizontal analysis of the balance sheet, it does not seem as if the company is experiencing any problems with its financial position as of 2016-2021. The author then proceeds to the horizontal analysis of the company's income statement.

4.1.2 Income Statement

In Table 3, the author presents the product of the horizontal analysis of the income statement.

Table 3, assessment of profit and loss statement (2016-2021)

	2016	***2017***	***2018***	***2019***	***2020***	***2021***
Revenue	$ 71,890	$ 76,450	$ 81,581	$ 82,059	$ 82,584	$ 93,775
Costs of Goods Sold	$ 21,789	$ 25,439	$ 27,091	$ 27,556	$ 28,427	$ 29,855
Gross Income	***$ 50,101***	***$ 51,011***	***$ 54,490***	***$ 54,503***	***$ 54,157***	***$ 63,920***
Operational Expenses	$ 30,298	$ 33,338	$ 36,491	$ 37,175	$ 37,660	$ 41,144
Pretax Income	***$ 19,803***	***$ 17,673***	***$ 17,999***	***$ 17,328***	***$ 16,497***	***$ 22,776***
Income Tax	$ 3,263	$ 16,373	$ 2,702	$ 2,209	$ 1,783	$ 1,898
Net Income	***$ 16,540***	***$ 1,300***	***$ 15,297***	***$ 15,119***	***$ 14,714***	***$ 20,878***

2017	***2018***	***2019***	***2020***	***2021***

Revenue	6%	13%	14%	15%	30%
Costs of Goods Sold	17%	24%	26%	30%	37%
Gross Income	***2%***	***9%***	***9%***	***8%***	***28%***
Operational Expenses	10%	20%	23%	24%	36%
EBIT	***-11%***	***-9%***	***-12%***	***-17%***	***15%***
Income Tax	402%	-17%	-32%	-45%	-42%
Net Income	***-92%***	***-8%***	***-9%***	***-11%***	***26%***

Source: created by the author based on annual reports

First, it is wise to focus on the value of net sales or sales of the company. The company's sales were constantly increasing and eventually, the company was able to reach the level of 93,775 million in sales. Yet, along with sales, the value of costs of goods sold was increasing as well and the percentual increase in this indicator is even higher – 37% for the base index in 2021. Yet, this did not stop the value of the gross income or gross margin from increasing. Eventually, the company's level of gross income for 2021 was 28% higher than for the year 2016, which is a great result.

Nevertheless, the company's operating expenses were increasing accordingly, which resulted in fluctuations in the level of pretax income. Despite those fluctuations and a series of changes in figures, the company managed to increase its pretax income in 2021 compared to 2016 by 15% - from 19,803 million USD in 2016 to 22,776 million USD in 2021, which is a good result.

However, when looking at the situation with the income tax, the very first thing that comes to mind is the situation in 2017, when the value of the tax imposed surged by an incredible figure of 402% compared to 2016. This is explained by a change in the taxation for the company, which eventually resulted in an astonishingly low value of net income in 2017 – 92% lower than in 2016. Despite this obstacle, the company continued to grow and in 2021, the volume of net income was higher for the last period than for the base year – 26% increase, which is a good sign suggesting that Johnson&Johnson is able to make money and their performance is good.

4.1.3 Cash-Flow Statement

Then, continuing to the third fundamental financial statement – the cash flow statement, the author implements the same methodology relying on the computation of base indices according to the formula (1) from the work's methodology. In Table 4, the author presents the result of the horizontal analysis for the company's statement of changes in cash.

Table 4, assessment of cash-flow statement (2016-2021)

	2016	***2017***	***2018***	***2019***	***2020***	***2021***
OCF	18767	21056	22201	23416	23536	23410
ICF	-4761	-14868	-3167	-6194	-20825	-8683
FCF	-8551	-7673	-18510	-18015	-6120	-14047

	2017	***2018***	***2019***	***2020***	***2021***
OCF	12%	18%	25%	25%	25%
ICF	-412%	-167%	-230%	-537%	-282%
FCF	-10%	-141%	3%	66%	-130%

Source: created by the author based on annual reports

When analyzing the situation with the cash-flow statement, it is essential to first take a look at the signs of each component, because they indicate valuable information about the company's situation. For the case of Johnson&Johnson, the company's investing cash flow is negative, which should essentially be treated as a positive aspect. Consequently, the author proceeds to another component of the cash flow, which is called financing. Financing cash flow can have different values, where positive and negative ones are both acceptable as it is related to interest and additional metrics. It is already known that Johnson&Johnson were actively borrowing, so it is not really unusual that they have a negative financing cashflow, also in addition to the fact that the company is paying dividends to its shareholders. Finally, the situation with the operating cash flow is optimistic, because the company has a positive operating cash flow, which constantly increases when comparing different years. In other words, positive figures for this component mean that the company has enough cash to support its daily operations, and this is a positive aspect of the company's performance.

All in all, the author suggests that the situation with the company's cash flows does not seem to be concerning at all and the situation is favorable.

4.2 Financial Ratio Analysis

After analyzing the company's financial statements, it is wise to continue to the financial ratio analysis, which will help to interpret the raw data available in the company's financial statements. The author presents the results of her ratio analysis in Table 5 available on this page.

Table 5, financial ratio analysis (2016-2021)

		2016	*2017*	*2018*	*2019*	*2020*	*2021*
Liquidity	***Quick Ratio***	*2.16*	*1.12*	*1.20*	*1.01*	*0.99*	*1.12*
	Current Ratio	*2.47*	*1.41*	*1.47*	*1.26*	*1.21*	*1.35*
	Cash Ratio	*1.59*	*0.60*	*0.63*	*0.54*	*0.59*	*0.70*
Profitability	***Return on Assets***	*12%*	*1%*	*10%*	*10%*	*8%*	*11%*
	Gross Margin	*70%*	*67%*	*67%*	*66%*	*66%*	*68%*
	Net Margin	*28%*	*25%*	*25%*	*24%*	*23%*	*32%*
	Pretax Margin	*23%*	*2%*	*19%*	*18%*	*18%*	*22%*
	Return on Equity	*23%*	*2%*	*26%*	*25%*	*23%*	*28%*
Solvency	***Equity Ratio***	*0.50*	*0.38*	*0.39*	*0.38*	*0.36*	*0.41*
	Debt to Assets	*0.50*	*0.62*	*0.61*	*0.62*	*0.64*	*0.59*
	Debt to Equity	*1.01*	*1.61*	*1.56*	*1.65*	*1.76*	*1.46*
Activity	***Receivable turnover***	*6.14*	*5.67*	*5.79*	*5.67*	*6.08*	*6.14*
	Inventory turnover	*2.68*	*2.90*	*3.15*	*3.05*	*3.04*	*2.87*
Valuation	***Price to earnings***	*16.7*	*314*	*20.7*	*19.8*	*27*	*27*
	Price to book value	*3.78*	*5.46*	*5.18*	*5.93*	*6.18*	*5.88*

Source: created by the author based on annual reports

First, the author begins with the liquidity domain for which three financial ratios are considered – quick ratio, current ratio, and cash ratio. The figures for the current ratio were above 1, which directly implies that the company had enough assets to pay off its current outstanding obligations or liabilities, which is a good sign. At the same time, it is visible that the company's situation with liquidity worsened in 2017 when changes in taxation were applied to the case of the company. However, even despite this, the situation remained favorable.

At the same time, when looking at the situation through the lens of quick ratio, which subtracts the figures for inventory, it becomes evident that in some years, the company's situation with liquidity was not so favorable, especially in 2020 and 2019, when figures were either around 1 or below 1, which is not good. Yet, the company recovered after the shock of 2020 and improved its level of liquidity in 2021. For the cash ratio, it is pretty evident that the company has a lot of cash as figures around the level of 0.6 are traditional for companies, whereas higher values can suggest that firms have too much cash, which is also not good if not talking about banks or financial institutions. All in all, the company does not seem to have any problems with liquidity as of 2016-2021.

For the domain of profitability, the author starts the breakdown from the return on assets, which is positive, and this is a good sign. Overall, the level of ROA for the company fluctuates around the level of 10%, which is a good indicator. However, there is a visible decrease in 2017, which is once again a consequence of the change in taxation. For the gross margin, the company has a really high figure, which is above 50%. However, according to both pretax and net margins, the situation with profitability is not bad but not perfect either as the figures for those are concentrated around the level of 20%. The final ratio – return on equity, is relatively high, which is an extremely good sign. Overall, the company does not experience any problem with profitability, and they have a decent level of profitability for all analyzed years apart from 2017, which is explained by the problem with the tax imposed on the company.

For the solvency domain, there are just three different ratios that are being considered. First, the figures for the equity ratio suggest that the biggest share of the company's assets was funded through debt-financing rather than equity financing, which is not a bad sign, but it just indicates that the company prefers to borrow rather than invest from its own capital. According to the debt-to-assets ratio, it can be said with a fair degree of confidence that the company's level of debt does not exceed the company's volume of assets for every single year even during the troubled year of 2017 and 2020, which were darkened by the change in taxation and the pandemic of coronavirus, respectively. Yet, when analyzing the situation with the debt-to-equity ratio, the situation is not so favorable as the company's level of debt does overwhelm the level of equity and this is not a good sign. However, despite this, it is still possible to suggest that the company has no problem with its solvency as of now, but the situation with extensive borrowing can be really concerning.

When it comes to the company’s inventory turnover, the company has a really low figure for that and it suggests that the company has problems selling its inventory. At the same time, it is a common situation in the business segment where the company operates, so the situation is not really concerning. According to the receivables turnover, it can be suggested that the company on average collects debts around 5 or 6 times a year, which is an acceptable figure practically meaning that it takes approximately 60 days for the company to collect its debt, which is not a bad result after all.

For the final domain – valuation, the author considers just two ratios – price to earnings or P/E ratio and P/B or price to book value ratio. When it comes to the situation with the first ratio – P/E one, the situation is really favorable as the price that investors pay to get one dollar in earnings is really low and the stock of Johnson and Johnson can be considered a good bargain for all years apart from 2017.

The situation with sharp increase is attributed to the problem that the company had with the tax expense and the company was able to quickly recover afterward. For the price-to-book value ratio, it can be said that the company is being traded at the price approximately 5 or 6 times exceeding its book value, which is a good sign for the company but not really good for investors. Based on those ratios, it can be suggested that the company is slightly over-valued, but it is a common situation for such big and successful companies.

4.3 Dividend Discount Model

Despite the fact that the author quickly reflected on the valuation of the company in the previous chapter, it is wise to select another approach that will help to better understand the situation. In this chapter, the author will create a DDM, which stands for the dividend discount model for Johnson and Johnson.

For the purpose of calculating intrinsic value, the author needs to have a discount rate, which will be selected as the company's WACC or a weighted average cost of capital calculated according to the formula presented in the methodology of the work. Henceforth, the author first proceeds to the calculation of the WACC, which is indicated in Table 6 available on the next page of this diploma thesis.

Table 6, WACC calculation for 2023

Cost of Debt			
Interest expense	$ 759		
Short-term debt	$ -		
Long-term debt	$ 30,395		
Cost of debt	**2.50%**		
Income tax expense	$ 1,898		
Income before tax	$ 22,776		
Effective tax	8.33%		
Cost of debt*(1-T)	**2.29%**		
Cost of Equity			
Risk-free rate	3.93%		
Beta	0.54		
Market return	12.00%		
Cost of Equity	**8.29%**		
Weight of Debt and Equity			
Total Debt	$ 30,395	**7.16%**	**Weights**
Market Cap	$ 393,870	**92.84%**	
Total	**$ 424,265**		
WACC	**7.86%**		

Source: created by the author based on annual reports

According to the calculations presented, it can be said that the WACC for Johnson and Johnson in 2023 is equal to 7.86%, which is a common figure for similar organizations. Then, the author proceeds to the calculation of the DDM model, whose formula had been presented earlier in the methodology of the work. The author presents the complete result of the calculation in Table 7.

Table 7, DDM model for Johnson&Johnson

Year	*2018*	*2019*	*2020*	*2021*	*2022*
Dividend Payout	$ 0.9	$ 1.0	$ 1.0	$ 1.1	$ 1.1
Yearly Dividends	$ 3.6	$ 3.8	$ 4.0	$ 4.2	$ 4.5
g	-	5.56%	6.32%	4.95%	6.60%
WACC	7.86%				
g	5.86%				
Intrinsic value	$ 224				
Current price	$ 151				
Difference	**32%**				

Source: created by the author based on annual reports and Yahoo Finance, 2023

According to the calculation, it is suggested that the intrinsic value of Johnson&Johnson's stock is 224$, which means that the stock, according to the calculation, should be worth 224$. Effectively, the stock's price is 151$, which is 32% lower than it should cost. Therefore, based on the logic behind the calculation, it can be said that the company is rather undervalued, and buying the company's stocks is a good idea if relying on the results of the DDM model creation. Then, the author proceeds to the market capitalization analysis, which is shown in the next chapter.

4.4 Market Capitalization

Analyzing market capitalization is important due to the fact that it will show the company's position and its stance in the international arena. The author presents the dataset used for the analysis in Table 8.

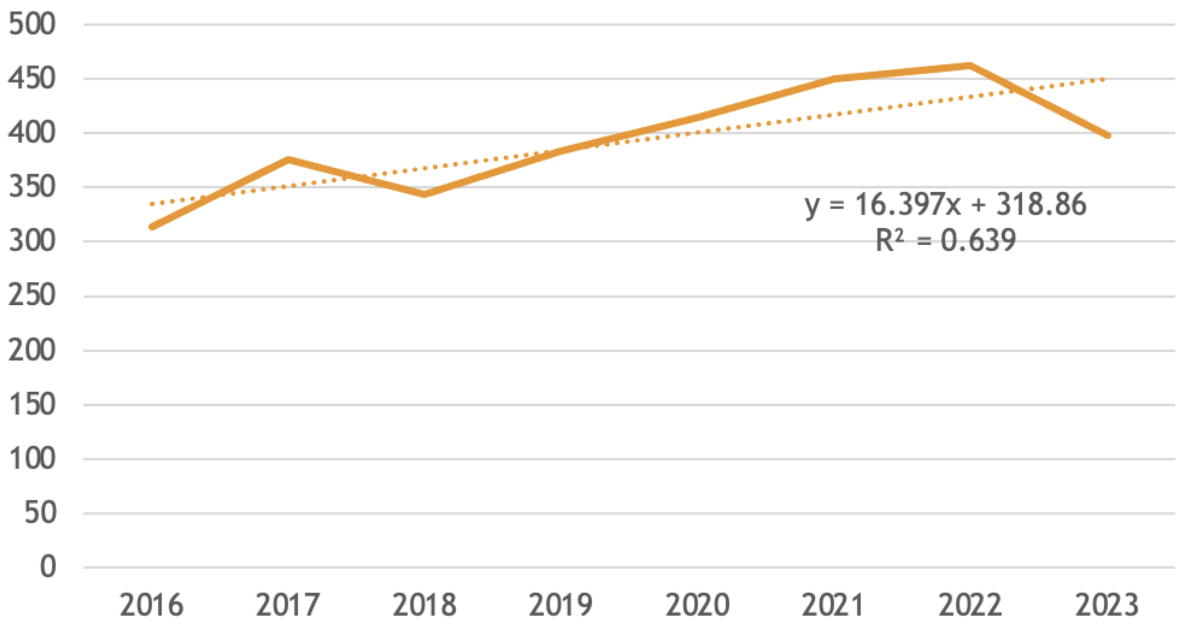
Table 8, market capitalization dataset

Year	Market Capitalization, billion USD	Chain index
2016	313.43	-
2017	375.36	20%
2018	343.57	-8%
2019	384	12%
2020	414.3	8%
2021	450.35	9%
2022	461.81	3%
2023	398.35	-14%

Source: Yahoo Finance, 2023

Then, the author proceeds to the visual representation of each variable with the development of the market capitalization in the time indicated in Figure 16.

Figure 16, market capitalization development in time

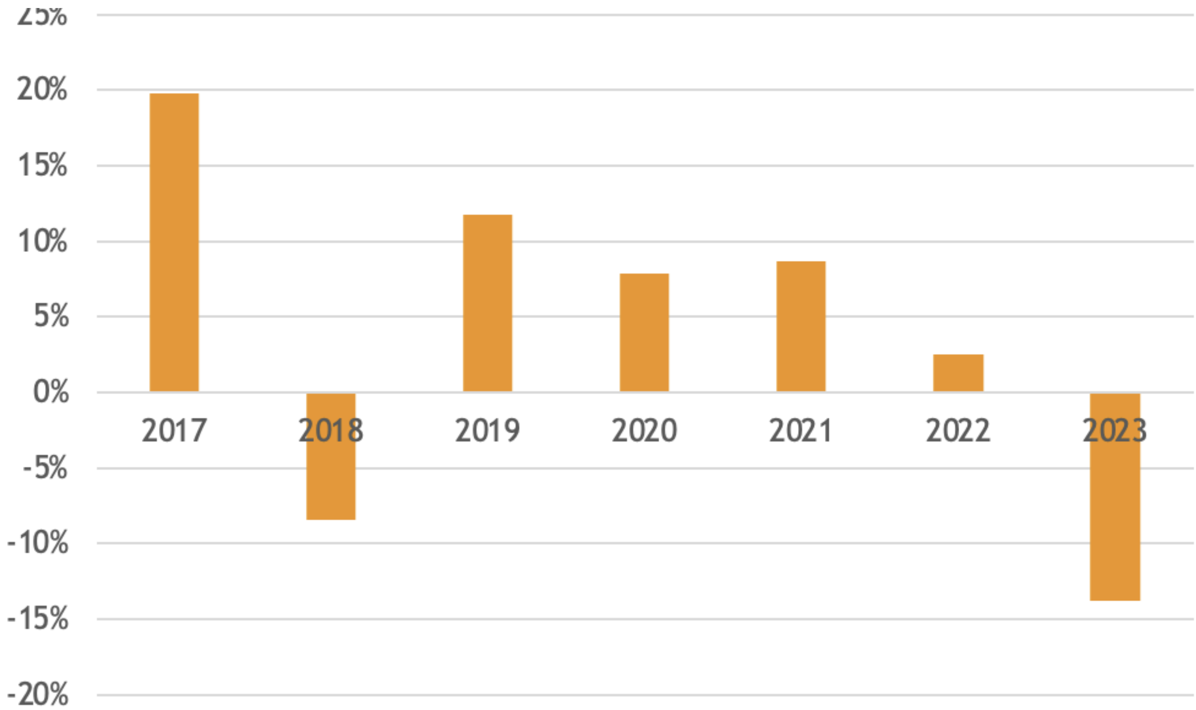


Source: created by the author in accordance with information from Yahoo Finance, 2023

The line that reflects the development of the market capitalization is an upward-sloping curve, which is a good sign suggesting that the company managed to increase its capitalization over time. However, it is visible that the situation in 2023 became worse with the company's capitalization reaching the values from 2017. According to the trend analysis, the company's capitalization was increasing by 16.397 billion USD per year, which is a good result. Then, the author proceeds to the visual representation of the chain index for with the variable, is shown in Figure 17 below.

Source: created by the author in accordance with information from Yahoo Finance,

Figure 17, chain index development in time



2023

Clearly, it is visible that the situation with capitalization became worse in 2018 and 2023, while one of the best years for capitalization was 2017 and 2019. Overall, the company's capitalization behaves according to the positive dynamic.

Apart from analyzing the company’s market capitalization, the author also compares the capitalization of Johnson&Johnson with the biggest competitors of the company also based in the USA – Eli Lilly, Merck, and AbbVie. In Table 9, the author presents the dataset used for the comparison.

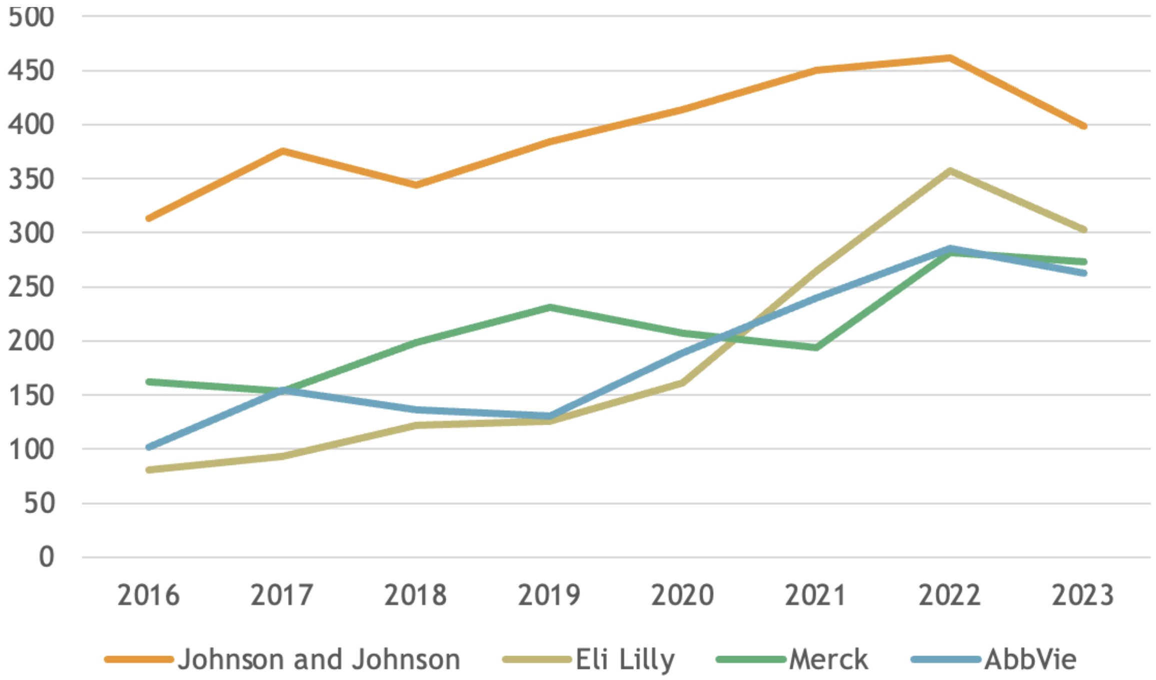
Table 9, market capitalizations (2016-2023)

Year	Johnson and Johnson	Eli Lilly	Merck	AbbVie
2016	313.43	81.19	162.31	101.76
2017	375.36	92.99	153.3	154.39
2018	343.57	122.38	198.09	136.33
2019	384	125.84	230.92	130.94
2020	414.3	161.5	206.95	189.17
2021	450.35	264.22	193.58	239.37
2022	461.81	357.61	281.3	285.8
2023	398.35	302.44	273.25	263.05

Source: Yahoo Finance, 2023

Consequently, the author proceeds to the visual representation of the development of each company's market capitalization over the course of the selected time period in Figure 18.

Figure 18, market capitalizations of the biggest pharma companies (2016-2023)



Source: created by the author in accordance with information from Yahoo Finance, 2023

Evidently, it is visible that there is a huge gap separating Johnson and Johnson and other companies specializing in the pharmaceutical industry. However, other companies are quickly catching up with Johnson and Johnson, while the main company of the author's analysis does not really increase its capitalization by large numbers, which is being quickly exercised by other companies, such as Eli Lilly, Merck, and Abbvie. Effectively, the author believes that Eli Lilly has a chance to catch up with Johnson&Johnson in the nearest future if the company does not manage to increase its capitalization and get away from the listed competitors.

4.5 Volatility Analysis

For the volatility analysis, the author considers the same time interval – from 2016 to 2021 with monthly observations selected. The dataset obtained from Yahoo finance is presented in Table 13 in the appendix of the thesis. Consequently, the author presents the results of the volatility analysis in Table 10.

Table 10, Johnson&Johnson volatility

	Johnson&Johnson
Standard Deviation	20.626656
Coefficient of Variation	17%

Source: created by the author in accordance with information from Yahoo Finance, 2023

According to the volatility analysis, the author suggests that the volatility of the company's stocks is equal to 17%, which is not low but at the same time, this is an acceptable value that indicates that the company's stocks are not extremely volatile, but there is surely enough a fair degree of volatility present in the case of Johnson&Johnson.

In addition to the basic volatility analysis conducted for the case of Johnson&Johnson, the author also calculates the same indicator for other American companies operating in the same index for a better understand of investment attractiveness of alternatives to Johnson&Johnson. In Table 11, the author presents findings about other American companies operating in the pharmaceuticals industry based on the dataset indicated earlier in Table 13.

Table 11, volatility analysis for other American companies from the industry

	Eli Lilly	***Merck***	***Abbvie***
Standard Deviation	55.4607228	11.994049	20.9480476
Coefficient of Variation	48%	20%	29%

Source: own processing based on data from Yahoo Finance, 2023

Clearly, when looking at the table, it becomes pretty obvious that volatility for the selected organization is relatively high with figures lying beyond the boundary of 20%, which is traditionally regarded as the one indicating an acceptable level of risk. At the same time, it is wise to believe that this volatility was mainly caused by an upward movement of the price of the stocks for all companies, but still, the volatility is really high, especially when comparing the case of those companies with Johnson&Johnson, whose volatility is much smaller. Undoubtedly, given that the current market stage is a bear market, it is pretty common for stocks of companies who are yet to establish an impeccable reputation to fluctuate higher than stocks of those companies who had established themselves an impeccable international reputation a long time ago.

5 Results and Discussion

5.1 Financial Position

For a better recollection of the author's findings, the author decides to put the most important facts discovered by her in Table 12 available below.

Table 12, summary of findings

#	Indicator	Finding
1	Market Capitalization	Recent Increase under the bearish market
2	Stock Valuation	Undervalued and traded at a price slightly lower than its intrinsic value
3	P/E and P/B Ratios	A favorable situation for investors
4	Liquidity	High liquidity resulting in a high value of cash and other liquid assets available
5	Solvency	Pretty solvent with just a slight problem with the debt-to-equity ratio
6	Profitability	A relatively profitable entity with good values for all indicators related to the domain
7	Volatility	Average volatility but slowly approaches the boundary of 20%; lower than for the company's American competitors
8	Competitors	Are quickly catching up with the organization

Source: own research based on the findings obtained in the practical part

The author in this chapter summarizes his findings and compares them with the findings of other authors who were focused on either analyzing the financial situation of Johnson and Johnson or similar companies. To begin with, it is wise to say that the financial position of Johnson&Johnson can be categorized as favorable with just a small series of concerns identified by the author. First, it is wise to say that one of the biggest problems identified by the author was relatively low figures for liquidity for all years after 2017 when the company was hit by a large shock associated with the increase in income tax, which resulted in an astonishing drop in the company's net income, which prompted the company to borrow more cash to replace the one spent in 2017. However, over time, the company recovered and the situation in 2021 can be compared to 2016 when quite similar figures were observed for current assets.

Contrary to that, the level of long-term assets was rapidly increasing over the course of 5 years, which helps the author to conclude that Johnson&Johnson were expanding their business operations. Effectively, when analyzing the development of the company's position and observing how was the company behaving in the international arena, it becomes pretty evident that the biggest volume of the company's long-term assets and investments made were being poured into the development of a vaccine against the coronavirus. Of course, given that the pandemic is over and vaccination campaigns are almost finished as well, it is expected that the company will not recover its investments, especially given the fact that Johnson's vaccine is categorized as not to be effective, which can hurt the company's reputation in the long-term perspective and make the company less favorable for potential investors, which is also highlighted by Mahase (2021).

According to the author's analysis, it can be said that the company is focused on debt financing and when comparing the level of the country's debts with equity, it becomes evident that the situation is relatively critical. In addition to that, if the company will continue to exercise debt financing even further and if the total level of debt will continue to accumulate, the situation can become even more critical. Yet, as of now, the company's assets are much larger than the company's debts, so as of 2021-2022, there are no problems, but something has to be changed in the way how the company finances its assets. Overall, the author suggests that the behavior of Johnson&Johnson is typical for large corporations, but in the light of recent circumstances with the failure of the vaccine and a relatively troubled period for all international companies, the company has to reconsider its borrowing as it may become critical if the situation gets worse, which is also highlighted by Nettavanun (2023)

5.2 Financial Performance

For the financial performance of the company, it is wise to understand that from a purely analytical perspective, the company was doing extremely great in 2016-2021 with the exception of 2017, when the level of net income for the company dropped extremely and this decrease in the price is associated with the change in tax expense. This incredibly high tax expense is associated with the accumulated tax from the company’s overseas operations, which had to be paid in the US, so the company was able to quickly recover from the situation and return back to the level of approximately 20% in net margin, which is not incredibly high, but an optimistic result for the financial performance. In addition to that, it is also wise to say that compared to the overwhelming majority of international companies, Johnson&Johnson was not badly hit by the ongoing pandemic of the coronavirus in 2020-2021, but this is largely attributed to the company specializing and focusing on pharmaceuticals as a key industry.

Returns on equity and assets are relatively high, which is also good. If the company will continue to develop in the same way in the nearest future, it is expected that the business of Johnson&Johnson will flourish even further. However, it is wise to say that the upcoming period will test the company, especially due to the fact that the company is keen on long-term borrowing for the financing of its investments and expansions. Given the fact that the world is entering into a period of historically high-interest rates with figures exceeding 4% for the USA, which is really atypical, the company will not enjoy low-interest payments for their ongoing projects, which will badly hit the company's cash flows from the ongoing projects.

At the same time, the author believes that this drop is not likely to be really high as the company's main source of revenue remains to be sales from services and goods. Clearly, the company will have to adapt to new conditions in the market, but the situation is not uncommon, as the overwhelming majority of companies faced the same issue in 2008, right after the Great Recession. Quite similar observations as made by the author were highlighted in the recent article from The Economist, where it was concluded that not just international investors, but also large businesses have to adapt to the new reality if they want to continue to generate cash and benefit for all stakeholders on an annual basis.

5.3 Investment Decision

When it comes to the decision on whether or not to invest in Johnson&Johnson, it is wise to recall the author’s most important findings related to the company. Johnson & Johnson has cemented its position as a preeminent pharmaceutical firm by amassing a significant legacy of commercially viable goods and ground-breaking advancements. In 2023, as the globe begins to recover from the COVID-19 epidemic, there is an increasing demand for healthcare goods and services, which might make Johnson & Johnson an appealing investment option.

The company is in a strong position to respond to the ever-changing requirements of both patients and healthcare providers as a result of its dedication to innovation and its wide range of product offerings. The strong brand and reputation for dependability and trust that the firm has also give a solid basis for the company's potential for future expansion and success.

In addition to the pharmaceutical products that are the company's primary focus, Johnson & Johnson also has a significant presence in the consumer health and medical device industries. This diversity serves to limit the risks that are connected with any one section of the healthcare business, which makes Johnson & Johnson an investment decision that is generally reliable. Effectively, the corporation has proved its durability during the pandemic by virtue of the fact that their vaccine has been an essential component in the battle against COVID-19 on a worldwide scale. It is possible that the knowledge and skills Johnson & Johnson has in the area of vaccine research and manufacture will continue to be in high demand as the world progresses towards a future after a pandemic.

Also, the author suggests that the price of the stock is a good bargain when comparing it to the level of earnings per share offered to investors. The company has a really low figure of 20$ per dollar in earnings, which is fundamentally a good result and a not really common one for huge organizations, which is also highlighted by Wu (2014).

However, according to the company's situation with the P/B ratio, which is approximately equal to 6 suggesting that the company is being traded at the price 6 times exceeding its book value, which is a good sign for the company, but not so good for potential investors, as lower figures are preferred. Overall, the situation with these two ratios is favorable. At the same time, it is downright essential to focus on the results of the DDM model, where the author was able to conclude that the company's stocks are undervalued, where the difference between the intrinsic value and the actual stock price was 30%, where the intrinsic value was 30% higher than the actual price of the stock.

Effectively, when summarizing the findings of the analysis, the author believes that investing in Johnson&Johnson in 2023 can be considered a good idea, especially given the fact that almost all stocks now have lost their value due to the presence of the bearish tendency on the market, which is quite likely to be soon replaced by a bullish one, when the US Federal Reserve will take a decision to lower the interest rates and accelerate all economic processes. Xu (2022) also suggests that investors should take their chance to make gains in the long-term perspective by investing during the bearish stages of the market, which is almost likely to bring no decrement in the level of capital.

5.4 Recommendation

When it comes to the recommendations for the company, the author believes that the best that the company can do in 2022-2023 would be trying to find an alternative source of revenue, which will ensure stable cashflows for the company in the nearest future, when borrowing will be relatively complicated due to relatively high-interest rates imposed by central banks all over the world.

Also, the author suggests that the company should accumulate more equity because it is a safer strategy for future development because the company already had a relatively high level of obligations that already exceeds the level of the company's equity and was approaching similar figures as the company's assets, which is a concerning and dangerous tendency.

The author suggests that if no shocks will happen such as in 2017 and 2020 and once the complicated period in the financial world will finish, the company can continue to expand even further, which will eventually result in even higher net margins and other margins of the company's profitability. Also, the company has to bear in mind the fact that competitors such as Eli Lilly, Merck, and AbbVie are catching up with Johnson&Johnson and if a couple of years ago the pharmaceutical industry was largely represented by the presence of the hegemon in the form of Johnson&Johnson, today, the market structure is changing and they are more and more alternatives to Johnson&Johnson, which has to be considered seriously by the company's strategic management.

Finally, the author in fact believes that Johnson&Johnson have all resourced, skills and capacity to reach absolutely unbelievable heights, for which it is needed to make proper strategic decisions and not get distracted on the way. Despite an obvious flop with their coronavirus vaccine, the company did not lose its reputation and status of a company that is the leader of pharmaceuticals but at the same time, it is evident that the company's revenues are somewhat behind Pfizer and Roche, so the company has to either conduct new entries to environments where it had not been operating before or just develop particular strategies that will help to strengthen the company's positions in environments, where Johnson&Johnson have been operating for years if not for centuries. The author does not exaggerate by saying that the company's reputation and impeccable position on the market is in danger since in the world of business, remaining static is one of the worst strategies that any organization can take, so the author suggests to Johnson&Johnson to start to develop multiple projects and develop simultaneously in various segments since it is the biggest competitive advantage of Johnson&Johnson when comparing the company to other players in the industry.

Therefore, based on all things, factors and indicators assessed and discussed in the earlier chapters of this master's thesis, the author indeed believes that the company is entering one of the most crucial periods in its history, especially when considering the presence of other competitors who grew stronger during the pandemic of coronavirus with the help of vaccine that did not just boost their revenues but also the way how those companies are regarded internationally. All in all, the company will either use this opportunity or will slowly be put to the background and replaced by new players who boosted their sales and reputation.

6 Conclusion

The goal of this diploma thesis was to analyze the financial performance, position, and generally the situation with the valuation of Johnson&Johnson, which is the world's biggest company specializing in the pharmaceutical industry, according to the market capitalization of the company. Effectively, after analyzing the company's financials according to empirical financial methods, the author believes that she is sure enough able to conclude whether it is worth not investing in the stocks of Johnson&Johnson in 2022-2023. In addition to the decision on a potential investment, the author is also able to provide a series of recommendations that can be considered for the company's strategic management for the potential improvement of the internal situation, as well as the company's position in the international arena.

First, the author believes that Johnson&Johnson does not really have any serious problems with its financial position as the situation with the company's liabilities, equity, and assets are somewhat under the company's control. However, the author believes that the rapid accumulation of debt exercised by Johnon&Johnson is concerning, especially given the fact that the ratio of the company's debts to assets and equity start to grow really fast recently. Therefore, the author believes that the company has to reconsider its financing policy.

When it comes to the company’s financial performance, the author believes that Johnson&Johnson has an outstanding performance and relatively high profitability even during really complicated times such as the pandemic of coronavirus. Nevertheless, the author believes that it would be wise for the company to diversify its sources of revenue or try to increase its revenue from sales by increasing the margin, since long-term borrowing, which was frequently exercised by the company will be more complicated in the nearest future due to the period of historically high-interest rates everywhere in the world. Apart from that, the author believes that there are no specific negative aspects to be identified in relation to the company's financial performance.

The company, according to the author's analysis, is undervalued with its stocks being traded at a price significantly lower than the real price of the stock, according to the DDM model and the calculated intrinsic value, which is 30% higher than the actual price of Johnson&Johnson stock. Also, the company's situation with P/E and P/B ratios also suggest that the company's stocks are undervalued, which prompts the author to conclude that as of 2022-2023, Johnson&Johnson remains an attractive investment for potential investors, especially when considering the fact that the current stock market situation is bearish with stocks expected to rise as soon as the US Federal Reserve will lower interest rates.

For the recommendation to the financial management of the company, the author believes that the company has to bear in mind the fact that competitors are catching up and as soon as they will increase their presence in the international arena, they are expected to catch up with Johnson&Johnson under the condition that the company will not be able to accelerate its growth.

Johnson & Johnson is a well-known and major pharmaceutical firm that has been in business for a very long time. The company has a long history of developing and releasing very profitable goods. Yet, given the quick pace of change in the business at this time, the corporation cannot afford to rest on its previous achievements. It is just too large to throw away all of its history, and it must be careful not to underestimate the sequence of continuous dangers offered by competition from other pharmaceutical firms.

In order for Johnson & Johnson to remain competitive in this climate, the company has to place an emphasis on innovation, diversify its product range, continue to build a powerful brand, cultivate a culture of innovation, and embrace digital transformation. Putting money into research and development is very necessary in order to come up with creative new goods and technologies that can cater to the ever-changing requirements of patients. It is also essential for the company to diversify its product line in order to lessen the effect of competition in any one sector. This can mean expanding into new therapeutic areas, offering new items within current categories, or purchasing firms whose products are complimentary to the ones your business already offers.

It is crucial for Johnson & Johnson to have a strong brand that is founded on trust and dependability in order to differentiate themselves from their rivals and maintain the loyalty of their customers. The organization needs to proceed with maintaining its commitment to openness and communication with its many stakeholders and consumers. Creating a culture inside the organization that values innovation is essential if the business is to foster creativity, cooperation, and experimentation. This may entail making investments in the training and development of employees, forming cross-functional teams, and giving resources and support for the creation of new ideas. Adopting a digital transformation strategy is crucial to maintaining a competitive edge in the current market, which moves at a breakneck speed.

Using technology might be one way to do this, since it could help expedite operations, boost research and development efforts, and lead to better patient results. The author believes that one of the most important aspects that will shape the company's future development is the ability to cope with the rapid digitalization of communities around the globe. For this purpose, it is essential for the company's strategic management to automize processes, integrate cutting edge-technologies and also implement techniques that will help the company to cope with the ever-changing environment.

Another important recommendation for the company would be focusing on the sustainability side of their business and put a particular emphathis on the environmental aspect of their business since not being able to fully cope with regulations related to sustainability can cause international issues and controversies for the company, which can altogether entail similar kind of repercussions as in the 80s, when the company faced the Tylenol crisis.

In conclusion, Johnson & Johnson is too large to throw away all of its legacy, and the company must not underestimate the persistent dangers presented by the competition from other pharmaceutical firms. The firm will be able to sustain its rapid expansion and continued success in the years to come if it places a priority on innovation, diversification, the preservation of its brand, a culture of innovation, and digital transformation. The author suggests that if the company will properly balance their resources and develop in all aforementioned domains simultaneously, this will provide a significant amount of benefit for the company and also for thousands of people who are actively engaged in work with the company. If all those steps will be taken by Johnson&Johnson, the company will remain an attractive investment option in the nearest future thus creating gains for all stakeholder and also investors affiliated with the company.

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8 Appendix

Table 13, dataset for the volatility analysis

Date	Eli Lilly	Merck	Abbvie	Johnson&Johnson
01.01.2016	68.005966	38.62508	40.049007	86.117798
01.02.2016	61.901764	38.274426	40.255871	86.752731
01.03.2016	62.341522	40.3326	42.106117	89.864761
01.04.2016	65.388924	42.169537	44.96627	93.087257
01.05.2016	64.956047	43.261459	46.834717	93.593887
01.06.2016	68.631859	44.299541	46.075615	101.464149
01.07.2016	72.239922	45.475174	49.290707	104.751511
01.08.2016	67.760345	48.67688	48.12426	99.824661
01.09.2016	70.393555	48.382301	47.350967	99.471718
01.10.2016	64.762764	45.855503	41.877861	97.669716
01.11.2016	58.868866	47.784367	46.067612	93.72049
01.12.2016	64.930847	45.972626	47.446606	97.683289
01.01.2017	68.003006	48.78056	46.302498	96.021484
01.02.2017	73.10569	51.833771	47.328369	103.618416
01.03.2017	74.753044	50.000275	49.869282	106.301224
01.04.2017	72.931076	49.402061	50.466248	105.379448
01.05.2017	70.718117	51.605457	51.030167	109.459091
01.06.2017	73.616699	50.79702	56.0466	113.655876
01.07.2017	73.938744	51.002853	54.036938	114.025337
01.08.2017	72.713257	50.986893	58.726315	113.724609
01.09.2017	77.002876	51.122612	69.301712	112.407585
01.10.2017	73.762154	44.30291	70.38578	120.534889
01.11.2017	76.192703	44.447662	76.115013	120.465759
01.12.2017	76.510811	45.251862	75.950089	121.542679
01.01.2018	73.784096	48.05365	88.130707	120.211746
01.02.2018	69.771057	43.974159	91.618279	112.982864
01.03.2018	70.609726	44.176914	74.865501	112.191772
01.04.2018	73.986473	48.162991	76.36834	110.73848
01.05.2018	77.609566	48.702946	79.069389	104.723984
01.06.2018	78.411209	49.660149	74.042641	107.017647
01.07.2018	90.79821	54.306328	73.706993	116.878036
01.08.2018	97.083633	56.54882	77.487221	118.791908
01.09.2018	99.153938	58.486282	76.356964	122.673233
01.10.2018	100.198067	61.101616	62.850376	124.289124
01.11.2018	109.622818	65.857933	76.92086	130.424088
01.12.2018	107.463074	63.425823	75.22364	115.305756

01.01.2019	111.307678	62.215374	65.513695	118.906517
01.02.2019	117.278885	67.949577	65.449944	122.087387
01.03.2019	121.154366	69.521057	66.564995	125.730293
01.04.2019	109.277992	66.239464	65.573837	126.99852
01.05.2019	108.250946	66.660225	64.200333	117.959282
01.06.2019	104.022781	70.565094	60.861012	126.128708
01.07.2019	102.295158	70.3078	55.755791	117.924232
01.08.2019	106.069633	73.256004	55.858257	116.239845
01.09.2019	105.587883	71.315933	64.338104	118.041489
01.10.2019	107.589539	73.904877	67.592415	120.468346
01.11.2019	110.799759	74.348328	75.629768	125.440735
01.12.2019	124.807564	77.563446	76.328064	134.008377
01.01.2020	132.603928	73.364067	69.845253	136.76442
01.02.2020	119.774628	65.739182	74.886642	123.544548
01.03.2020	132.413025	66.065453	66.568825	121.235168
01.04.2020	147.609238	68.689034	71.819885	138.718231
01.05.2020	145.996063	69.883781	82.175301	137.52562
01.06.2020	157.453247	66.94886	87.06131	130.919617
01.07.2020	144.132339	70.020416	84.161652	135.695358
01.08.2020	142.310196	74.409782	85.960754	142.817184
01.09.2020	142.647324	72.385254	78.618584	139.522446
01.10.2020	125.724693	66.108391	76.383621	128.492218
01.11.2020	140.363358	70.66153	95.14669	135.586411
01.12.2020	163.547668	71.900902	97.484886	148.513062
01.01.2021	201.451126	68.278275	93.236115	153.939102
01.02.2021	198.467667	64.335899	99.168106	149.532211
01.03.2021	181.719788	68.29599	99.609917	156.057465
01.04.2021	177.78038	66.581337	102.628952	154.51918
01.05.2021	194.287094	67.823601	105.460541	160.710205
01.06.2021	224.240662	72.839943	104.938835	157.403732
01.07.2021	237.899094	72.615868	108.34861	164.531479
01.08.2021	252.348892	72.067963	113.776749	165.420074
01.09.2021	226.464325	70.953262	101.615318	155.224945
01.10.2021	249.703735	83.922562	108.021027	156.551346
01.11.2021	243.117142	71.398506	109.912216	149.871353
01.12.2021	271.616943	73.047409	129.095337	165.500107

Source: created by the author in accordance with information from Yahoo Finance, 2023