



# Industry Outlook

Pharmaceutical

# The Industry Outlook Team

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## Summary

The Pharmaceutical industry is comprised of companies that engage in the discovery, research, development, manufacturing and distribution of medications and drugs. This industry has grown significantly in the past decade and is expected to continue to grow in the near future. Just last year in 2020, this industry totaled \$1.27 trillion dollar in global revenues according to Statista, with almost half of the revenues coming from Northern America and \$99.5 billion dollars coming from Oncologics which was the leading therapeutic class.

In the past two years, with the Covid-19 pandemic, investors and the market have begun to pay much more attention to the pharmaceutical industry. Many governments and organizations are relying on the expertise of this industry to help deal with the ongoing pandemic.

Furthermore, this is an extremely important sector that affects all economic growth. New technologies are an opportunity for this sector that, through biotechnology, can develop break-through cures for diseases. In this way, it can increase the quality of life of the population, which is increasingly aging and with more problems associated with sedentary lifestyles.

From this industry perspective, we aim to provide a balanced assessment of this sector that has great potential for further growth, especially in the light of the recent events.

# Environmental Analysis

## Political Factors

	Political	
	Regulatory frameworks	Price control
Duration of Impact	Medium term	Medium term
Type of change	Neutral	Negative
The factor's rate	Increasing	Increasing
Importance	Critical	Critical

In almost every country, the pharmaceutical industry has a strict regulatory framework to follow. This regulatory framework, which consists of numerous governmental agencies and various drug-related laws, as the purpose to lay out crucial rules for operations within the industry. A complex regulatory framework is a serious barrier to entry for new competitors in the pharmaceutical industry, meaning that established drug manufacturers and distributors have it a lot easier. This can lead to established companies in the industry increasing their market power, or new ones failing to establish themselves in the market. While these laws are not so strict in many countries, they are quite harsh in not so developed countries and do not allow the pharmaceutical industry to evolve.

As for price pressure, in the United States, pharmaceutical companies are free to price medications however they want. Because of this, companies have been abusing this practice, as many drug manufacturers choose to sell their drugs at hugely marked-up prices. As such, governments are starting to take interest in limiting drugs prices. Ultimately, this would mean that pharmaceutical companies will face major losses.

## Economic Factors

	Economic	
	Growing Healthcare Spending	Global Economic Growth
Duration of Impact	Long term	Long term
Type of change	Positive	Positive
The factor's rate	Increasing	Increasing
Importance	Important	Important

The pharmaceutical industry, like many others, is also affected when the economic conditions of a country are on good or bad terms. As the economic conditions of the countries are developing, the household income of people will likely also increase. In fact, the general trend of household spending is very important for this industry as they spend a large part of it towards it. The purchase of drugs has become more common than ever, and one of the primary causes is that people can now own drugs that were previously of a high price.

Growing healthcare spending is also very important because researchers are constantly working on drug modification, resulting in more beneficial drug production. This may lead to bigger revenues in the long term.

## Social Factors

	Social		
	Better lifestyle	Growing Obesity Rates	Aging Population
Duration of Impact	Medium term	Long term	Long term
Type of change	Negative	Positive	Positive
The factor's rate	Increasing	Increasing	Increasing
Importance	Important	Important	Critical

As health care improves around the world, we face the issue of an aging population. In fact, this increase offers a range of opportunities and threats to the pharmaceutical industry because older individuals generally have more health problems than younger ones. The most audacious companies will capitalize on the opportunities.

There is also the problem of the increasing obesity amongst the population, and it's association with health risks. There are a number of secondary health issues associated with obesity, and many of these require pharmaceutical treatment. As a result, growing obesity rates are actually driving more sales of some drugs, thereby increasing the overall revenue of the pharmaceutical industry.

As for lifestyle, we see that, in general, people are more aware of the importance of that. In medium term, if they are concerned about their health, they will adopt a better lifestyle. As a result, the chances of developing illnesses or medical care may decrease. In the end, the pharmaceutical industry loses with this factor.

## Technological Factors

	Technological		
	Growth in the Biotech Industry	Direct Advertising	Customized Treatments
Duration of Impact	Long term	Medium term	Medium term
Type of change	Neutral	Positive	Neutral
The factor's rate	Increasing	Increasing	Increasing
Importance	Important	Important	Important

Of course, technological advancements will create new business prospects, both in terms of new therapy systems and service provisions. This can be a booster for the industry.

In fact, the growing biotechnology industry will improve our lives in areas such as medicine. Consequently, the pharmaceutical industry will be affected by this improvement because as new medications are created from various biological sources, pharmaceutical companies might have a wider range of drugs to produce and distribute, generating additional revenue. On the other side, the growing biotechnology industry can produce healthier foods options, which may reduce health problems and the need for pharmaceutical drugs.

Also, in this day and age, advertising is more present in the pharmaceutical industry than ever. By advertising directly to consumers, businesses will be able to lower their customer acquisition costs and gain more customers as a result. This should help the industry grow, as marketing professionals attract new individuals to purchase various medications.

Customized treatments are linked with the growth in the biotech industry. With the advance of technology and, consequently, treatments, patients will be treated better, and maybe they will not require so often the use of drugs. As a result, the industry can lose revenue. On the other side, depending on the treatment, it can also gain revenue.



## Legal Factors

	Legal	
	Strong legislation	Cybersecurity
Duration of Impact	Short term	Medium term
Type of change	Neutral	Positive
The factor's rate	Increasing	Increasing
Importance	Important	Important

As mentioned earlier, the pharmaceutical industry has many regulatory and legislative restrictions. There can be some indirect issues that may affect the growth of the pharmaceutical business.

Examples of that can be the government that always uses laws to control the fraud regarding the expiration dates and manufacturing of the batch of drugs. If a company fails to adhere to the set guidelines, it may have to face legal proceedings.

On the other hand, there is an issue with cybersecurity. Pharmaceutical companies are mainly dependent on their databases and, if they get affected by cyber threats, the customer may lose confidence and trust in their products and services.

## Environmental Factors

	Environmental	
	Growing community awareness	Growing carbon footprint
Duration of Impact	Medium term	Medium term
Type of change	Neutral	Negative
The factor's rate	Increasing	Decreasing
Importance	Important	Important

The environment is a significant concern and the impact of waste materials on the environment has worried everyone. In this industry, manufacturing drugs leave a large carbon footprint. As a result, many countries are coming up with regulations to decrease the effect on the environment. Abiding by these regulations may be costly for the new companies.

The growth of community awareness of the environment is directly linked with the growth of carbon footprint in this industry. Companies are already trying to decrease their carbon footprint, but are still far away from the objectives.

## Industry Competitiveness

### Porter's 5 Forces

#### **Competitive Rivalry within the industry:**

- Strong competitive force.
- Most of the players have been here for a long time and are well recognized globally.
- The profit margins are high, and government strict regulations make it a very competitive industry.
- A common trend in the merger and acquisitions activity where large enterprises absorb smaller players.

#### **The Threat of New Entrants:**

- Weak competitive force.
- Extensive costs associated with the establishment of a manufacturing, research and development, marketing sales as well as distribution.
- Very high risk of return on investment due to low success rate of the drug approval.
- Highly developed distribution channels, creating a large obstacle for smaller players.
- Most of the drugs are patented so new entrants will have to develop and create their own products from scratch.

### **Bargaining Power of Suppliers**

- Weak competitive force.
- Most of the pharmaceutical companies in this industry require raw materials for the drugs they produce from their production chain.
- Technology is also another requirement. The manufacturing and production plants must be optimized to accommodate high production levels.

### **Bargaining Power of Buyers**

- Medium competitive force.
- New drug patents often last for twenty years, allowing the manufacturer to dictate the prices for this period. Only after that other competitors are allowed to participate in the manufacturing of set drugs.
- Individual buyers have little or no power. Hospitals, however, possess a certain bargaining power.

### **The Threat of Substitute products**

- Medium / Weak competitive force.
- If the drug is still in its patent period, there is no substitute. However, once the patent expires, generic production begins, and a vast number of substitutes are developed.
- Alternative medicines such as yoga, meditation and other therapies can be seen as substitutes. These are often used more by the eastern nations.
- Promoting a healthier lifestyle such as balanced diet and physical activity is a substitute to many drugs.

## SWOT Analysis

Strengths	Weaknesses
<p><b>S1:</b> Highly skilled workers</p> <p><b>S2:</b> Constant demand for products</p> <p><b>S3:</b> Large base of buyers</p>	<p><b>W1:</b> Low profit margins</p> <p><b>W2:</b> Lengthy drug approval process</p> <p><b>W3:</b> Large startup costs</p> <p><b>W4:</b> Costly and lengthy R&amp;D</p>
Opportunities	Threats
<p><b>O1:</b> Covid-19 treatments</p> <p><b>O2:</b> Government support</p> <p><b>O3:</b> Patents</p> <p><b>O5:</b> Globalization</p>	<p><b>T1:</b> Competition from other companies</p> <p><b>T2:</b> Inflation</p> <p><b>T3:</b> Misinformation</p>

### **W1 & O5: Potential Increase in Profit Margin**

Prices for certain materials in this industry can be quite expensive, also with a lot of money spent on research and development, a lot of companies have low profit margins. However, as the market becomes more global due to globalization, the lack of resources which is one of the main causes for the low profit margins may diminish because there will be access to this material at different places and possibly for cheaper.

### **S2 & O2: Government Support for the Greater Good**

Considering the fact that in this industry there is a constant demand from organizations and the general public for treatments and pharmaceutical products, governments oftentimes provide support to companies in this sector to guaranty the well-being of their citizens. Governments tend to provide support through financial grants and sometimes even have the law and taxes in their favor.

**S1 & O3: Protection for Innovation**

Working in the pharmaceutical industry often requires skilled employees, meaning that these employees have spent a good amount of time on education and training. With that in mind, a lot of breakthrough innovations come from this field. With the use of patents, companies can secure a good competitive advantage, contributing to their profit margins.

## The Big Players

### Merck & Co.

**Description**

Merck & Co. is a multinational pharmaceutical company that was founded in America on January 1, 1891, and is headquartered in New Jersey. Outside of the United States and Canada, the company is known as Merck Sharp & Dohme (MSD). Merck & Co. is publicly listed and traded on the New York Stock Exchange (NYSE).

The company mainly focuses on health solutions through its vaccines, production of medicine, biologic therapies, and animal health products.

Currently, Merck & Co. is one of the biggest pharmaceutical companies in the world, with a market capitalization of \$204.104 billion. Merck spends over \$2 billion every year on research and development and about 40% of its revenues from human health products are generated outside of the United States

**Strategy**

The two segments that Merck operates in are pharmaceutical and Animal Health. The company's pharmaceutical segment is their largest segment which takes over 88% of the total sales. This segment includes vaccines and human pharmaceutical products which include therapeutic and preventive agents used to treat disorders. These medicines are usually only made available to the public through a prescription. The products in this segment are mainly

sold to hospitals, government agencies, wholesalers/retailers, and managed health care providers. In the Animal Health segment, Merck manufactures and develops veterinary pharmaceutical and vaccine products specialized for prevention and treatment of disease in animals. These products are then sold to animal breeders, veterinarians, and farms. Merck can maintain market exclusivity in its products through the use of patents.

The sale of these products is Merck's main revenue stream. The company creates product awareness for their customers through marketing. They either do it through campaigns and professional representatives who directly communicate with the end-user or it is done through joint ventures and licenses.

## Financials

In terms of financials, the company's revenues have been on a steady increase annually. Revenues went from \$39.5B in 2016 to \$48.01B by the end of 2020. An increase of 21.5%.

The ROA in the 3rd quarter was 6.14%, growing over 19% from the 3rd quarter of 2016. In 2018 the ROA dropped to 1.53%, the lowest it has been since 2010, however it quickly recovered in 2019, going as high as 11.79%. According to CSI Market, this ratio currently performs above the industry average of 4.06 %. The company's ROE also followed a similar route, going from 11.55% in the 3rd quarter of 2016 to 20.52% in the 3rd quarter of 2021. An impressive 78% increase in the span of 5 years. Similar to the ROA, the ROE also is performing above the industry average of 11.16 %

Concerning liquidity, Merck and Co.'s current ratio has mainly fluctuated from 1.02-1.82 since 2016. There has not been much fluctuation in this ratio and it is stable. Currently, this ratio is at 1.31, which is underperforming the industry average of 2.72. Regardless of this, the company is still able to meet short term obligations efficiently. The company has a quick ratio of 1.06, indicating that there is good short-term financial strength.

Currently, the company's debt to equity (D/E) ratio is performing below the industry average of 0.14. The D/E ratio now is 0.80 and has been fluctuating around 0.6-1 since 2016.

The stock price (MRK) has grown over 30% since the 2020 March crash. The price is currently at \$80.53 (10/10/2021). This year's stock high was in September, with the price hitting \$84 and its low was in early March with the price hitting \$66. Price is currently in consolidation between the high and low, with not much price action on the daily chart.

## Roche

### **Description**

Roche is a company founded in 1896 in Switzerland, which started as a small pharmaceutical laboratory. During the 20th century, the company became world's health reference and global leader in cancer treatments. Nowadays, Roche is represented in more than 150 countries around the world and gives 88,000 jobs, 250 of them in Portugal and it is the 3rd biggest player of the pharmaceutical industry.

Roche presents itself as a company that is “Doing now what the patients need next”. Currently, Roche's offer includes innovative pharmaceutical products and personalized diagnostics, which provide profound information to guide treatments and answer more patients' questions than any other company.

### **Strategy**

Roche is a global leader in several segments: biopharmaceutical, in-vitro diagnostics, and innovating procedures in many diseases, especially cancer-related. Due to its many business areas, the company has some subsidiaries, for example, Genentech and Chugai Pharmaceutical.

In its three primary departments: diagnostic solutions, medicines, pharmacovigilance, its vision “is to ensure that the screening, diagnosis, treatment and even prevention of diseases will more quickly and effectively transform the lives of people everywhere - ensuring the right treatment for the right patient at the right time” to help patients to live longer and better lives.

The principal purpose of the company inspires the decision-making principles, processes, and structure of Roche. The autonomy of the research and development centers, aligned with the over 200 external partners that foster diversity and agility. Roche primes for a transparent dialogue, clear accountability, and a high degree of empowerment, because it aims to achieve long-term sustainable growth and deliver value to all our stakeholders.

**Financials**

Listed on the Swiss Exchange (SIX), with the acronym (RHHBY), Roche’s Market capital is valued at 329.54B and priced at 48.23\$ per share on October 13th.

After analyzing its performance in the last few years, it is visible an increase in revenue, being 65.86B, in 2020. The most recent data shows a growth in 2021, as well. The Diagnostics Division sales, the major source of revenue, had grown 49% in 2021, while the Pharmaceuticals Division sales decreased 7%. With an operating margin of 30.68%, Roche reached a profit margin of 22.58%, a ROA of 14.16%, and a ROE of 38.87%.

The Swiss company presents a Debt-to-Equity ratio of 39.19. Currently, Roche has 6.83B of shares Outstanding, book valued with 5.53. The number of stocks, accompanying the 15.45B of Net Income, results in EPS of 2.20 and a Price for Earnings (P/E) of 21.55.

Roche pays dividends with a yield of 2.53% and a payout ratio of 56.6%. This rate has been constant, representing the sustainable principles mentioned before.

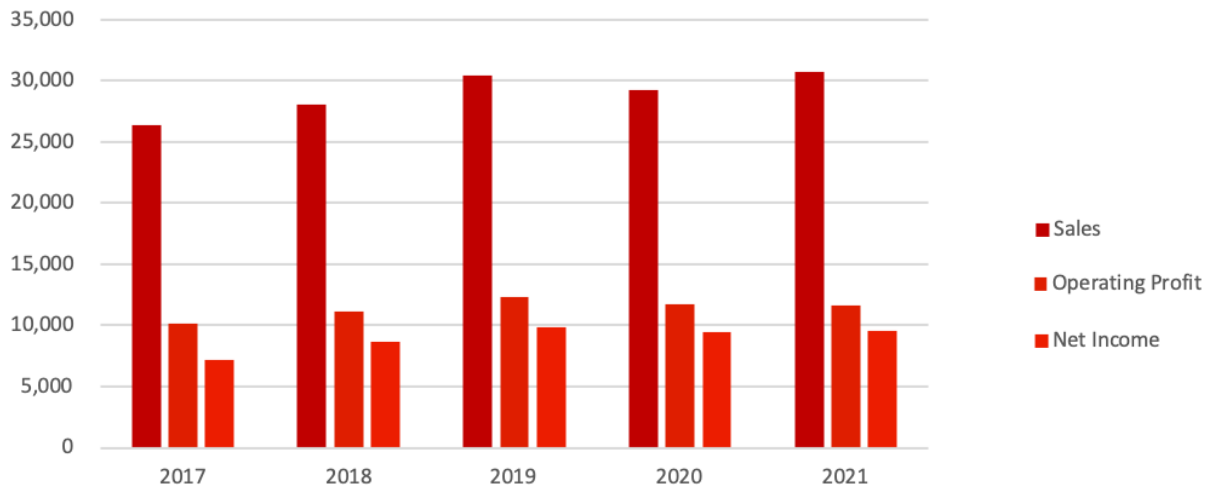


Figure 1: Roche Financial Information (Source: Roche.com)



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## Conclusion

R&D in biotechnology has increased, taking steps towards the early diagnosis of cancer and enabling the development of vaccines and other drugs. However, this sector is highly competitive and regulated, which makes it difficult and increases the waiting time to make a profit, making many investment projects impractical. The profit awarded by these companies is strongly affected by the high R&D costs (about 20% of profits), which is a strong weakness in this sector.

On the other hand, given the Covid-19 pandemic, governments have increased their attention to this sector, investing in private companies, which enables its growth. The inter-company exchange is an opportunity that allows you to alleviate the scarcity of resources and, thus, increase your profits.

That said, there is still plenty of long-term growth potential for investors' benefit, given that with globalization and the consequent cooperation between companies, with the support of the State and technological development, these companies can maximize their profits.

*Tomás Castro, Editor-in-Chief*

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