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CASE STUDY:

Bristol-Myers Squibb & Celgene Corporation: Dream or disaster deal?

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Abstract

The following case-study describes the circumstances surrounding Acquisition of Celgene Corporation by Bristol-Myers Squibb. This paper's structure is divided between the narrative and a teaching note. The case narrative describes the pharmaceutical industry in recent decades, with particular emphasis on Bristol-Myers Squibb and Celgene Corporation. The teaching note seeks to analyse the rationale behind the takeover, namely the economic prospects of the deal and its immediate consequences.

Key words: Synergy; Bristol-Myers Squibb; Celgene; M&A; EPS

CASE STUDY

Introduction

In May 2015, Giovanni Caforio was appointed CEO of Bristol-Myers Squibb ("**BMS**") and two years later, Chairman of the board. Caforio has sought to target R&D investment associated with transformational medicines, strengthening BMS's position in its oncology portfolio.

Nearly four years later, in January 2019, Bristol-Myers Squibb announced a definitive merger agreement to acquire Celgene Corporation ("**Celgene**") in a cash and stock transaction with an equity value of roughly $74 billion. This acquisition would only be completed in November, after several procedures, and divergent reactions from shareholders. The Celgene acquisition was a key aspect of Caforio's strategic plan of action that would enable a sustainable expansion and a robust pipeline. In his words:

"Together with Celgene, we are creating an innovative Biopharma leader, with leading franchises and a deep and broad pipeline that will drive sustainable growth and deliver new options for patients across a range of serious diseases. As a combined entity, we will enhance our leadership positions across our portfolio, including in cancer and immunology and inflammation. We will also benefit from an expanded early- and late-stage pipeline that includes six expected near-term product launches. Together, our pipeline holds significant promise for patients, allowing us to accelerate new options through a broader range of cutting-edge technologies and discovery platforms".

Pharmaceutical Industry

A Decade of Growth for Pharma

Technological advancements, together with the globalization phenomena, have been responsible for the expansion of the pharmaceutical industry in the past few decades. As illustrated in **Exhibit 1**, in 2018 the industry generated $1.2 trillion in revenues, representing a 35 percent growth, compared to 2008.

To understand the worldwide market share distribution of the pharmaceutical industry, it should be outlined how the growing population, due to the growth in average life expectancy, contributes for the expansion of this particular market. Thus, it can be easily understood that China's advancements in the area make the country one of the leading forces in pharma (moving from third place in 2010, to second place in the largest pharmaceutical market in the world). This can also be observed by China's drug reimbursement list, which has increased by 218 new medicines in 2019. **Exhibit 2** displays the growing market share of other emerging economies, such as India and Indonesia. Nevertheless, the largest pharmaceutical market remains the US, which has 11 companies in the top 20 largest biomedical companies by revenue. This ranking is led by Johnson & Johnson, with revenues of $82.06 billion, up 17 percent from 2015 (**Exhibit 3**).

With developments in science, innovation and technology, companies within the industry have sought to adapt and develop new strategies to succeed in an increasingly competitive market. However, research and development productivity has now plummeted, and the environment has also changed.

In an article published on February 20th, 2019 *Pharma World Magazine* mentioned some opportunities and challenges that outline the current standing as well as the future of the industry:

- Artificial intelligence and machine learning will be a growing area of interest for business investment as it can provide an important support for the identification and development of new innovative treatments, especially in the fields of pre-clinical validation, target identification and efficiency of clinical development.
- The growth in demand for medicines has been higher in developing countries than in developed countries, which is contrary to where the majority of the investment in the area is concentrated.
- The growth of government investments in the prevention of diseases, to the detriment of treatment.
- The increasingly easy and common data collection has helped companies to measure the pharmacoeconomic performance of various medicines. This makes it easier to set prices based on results.
- The increased caution concerning the acceptance of innovative medicines by regulators.
- The edges between different forms of healthcare are flourishing, clinical advances render formerly fatal diseases chronic, and the self-medication sector is expanding.
- The fact that chronic diseases are on the rise has put even greater pressure on governments' health budgets.

However, one of the biggest challenges and barriers to the industry's growth is the difficulty and time required for a drug to be authorised by the Food and Drug Administration ("FDA"). With the purpose of assuring medical care to the general public as quickly as possible, the federal agency founded in 1906 has grown from a simple department of the US Patent office to one of the major consumer protection agencies worldwide. In short, the FDA does not approve a drug if it determines that it is not safe and beneficial compared to other available drugs.

The process of developing a drug is very costly and takes an average of 12 years. (**Exhibit 4**). After FDA approval, a patent or exclusivity is attributed to the developer. Both statutes function identically, with a patent consisting of a property right that usually lasts 20 years, while exclusivity refers to time penalties or bans on approving competing medicines, which can last up to seven years. Patent and exclusivity have the ultimate purpose of preventing drugs from being replicated, thus rewarding companies for their innovation by granting them more pricing power and a larger share of the market. Nevertheless, it is also important to understand that in some cases the drug formula developed is so complex that it turns out to be difficult to replicate, which reduces companies' concerns about the patent cliff.

One of the main trends over the last decades is growth through mergers and acquisitions ("**M&A**"). High returns combined with potential market growth has led to increasingly aggressive investments by pharmaceutical companies. The rise in M&A activity has resulted in an increased market concentration, and this trend is expected to continue in the future.

Oncology

Oncology is the leading therapeutic class in terms of revenues, reaching $123.8 billion in sales of products related to cancer treatment and detection in 2018 (**Exhibit 5**), representing 14.3 percent of worldwide sales of prescription and over-the-counter drugs. This figure is substantially higher than the $48.5 billion of the second highest revenue from related drugs in the industry – the treatment and detection of Diabetes.

According to a study conducted by *IQVIA Institute of Human Data Science* in 2018, the industry anticipates the release of nearly 70 - 90 new oncology products over the following five years, out of a total of 700 currently in a late clinical phase. The worldwide sales of prescription and over-the-counter drugs associated with Oncology are projected to reach $236.6 billion by 2024, indicating a rise of over 91 percent in comparison with 2018. This growth is largely justified by the increase in the average life expectancy of the world's population, as well as the escalating prices of drugs related to cancer diagnosis and treatment.

At the same time, as society develops globally, the resources available for widespread access to both cancer diagnosis and treatment are also increasing. On the other hand, with health policies geared toward early detection of the disease, more will be users with diagnosed cancer. These factors explain the market potential and the potential revenue growth in this area.

M&A Activity

One of the key factors for the expansion of the pharmaceutical industry is the gradual increase in M&A deals between companies within the industry (**Exhibit 6**). Mergers and acquisitions have led to the expansion of mega players and the early disappearance of small and medium-sized companies from the industry.

A fast-changing scenario in the pharmaceutical industry, with government legislation heading the way, has caused difficulties for small and medium-sized companies that lack the capital to keep up with such changes. Furthermore, as the healthcare costs shoot up, despite government attempts to control them, many of these companies find it almost impossible to compete successfully in the market and tend to be absorbed by larger and more capitalised companies. When looking at the top 10 prescription drug companies in the world in 1995 and compare with the top in 2019 (**Exhibit 7**), it is evident that the majority of them either no longer exist or re-appeared with a new identity. By 2019, most of the players were just pharmaceutical units, constituents of multinational chemical companies. As the value and dominance of these companies increased, M&A deals began to emerge more and more in the industry, eventually forming the pharmaceutical giants that dominate nowadays.

Synergies

According to Aswath Damodaran, Professor of Finance at New York University's Stern School of Business, synergies consist of the incremental value that is created by combining two companies, thereby generating opportunities that would not exist either or two independent ones. Synergies are often distinguished between operational and financial synergies.

Operational synergies are those that boost operating income by increasing returns on existing assets and/or increasing peak growth. Economies of scale, enhanced pricing power, the integration of diverse functional capabilities, and improved expansion in new or existing markets are the four forms of operational synergies identified by Damodaran. Margins, returns, and return growth are all affected by synergies They are frequently expressed in higher cash flows when it comes to valuation. The latter is frequently seen as more realistic when dividing the potential for operating synergies into higher cash inflows and reduced cash outflows.

The operating income is unaffected by financial synergies. Tax benefits, increased loan capacity, avoidance of underfunding, and risk diversification are examples of financial synergies. They usually result in lower capital expenses in terms of valuation. After calculating the worth of the combined firm without synergies, the synergy valuation process begins.

However, there is a heated debate over whether M&A adds value and, if so, for whom. "The popular knowledge is weakly anchored in the scientific data on the topic," writes Robert Bruner et al. in *Applied Mergers and Acquisitions.* The popular opinion is that mergers and acquisitions are a loser's game." Eccles et al., for example, claim that M&A pays inadequately for the buyer and cite studies measuring M&A performance in the 70s and 90s. He also shows how the value of a good acquisition differs between potential acquirers for the same target. The buyer must ensure that there are sufficient synergies to justify the premium paid over intrinsic value. Erik Devos et al. examined 264 large mergers and discovered that the average gains in firm value from synergies are around 10 percent of the combined company's value.

Although the drivers for a successful and value-creating merger are unique to each transaction, Bruner's review of literature and data on the issue of M&A value creation has yielded eighteen conditions in which M&A tends to perform well and eighteen features in which it tends to perform poorly, as shown in **Exhibit 8**.

Research and Development ("R&D")

One of the main reasons for the growth of companies through mergers and acquisitions relies on R&D. The increasing competition within the industry has justified a progressively higher investment in R&D. In the first decade of this century, there has been an 84 percent increase in the total number of pharmaceutical companies with active R&D pipelines worldwide (**Exhibit 9**). This number rose to 118 percent by the second decade, indicating the exponential growth of competition in this specific field of the industry.

On average, developing a new drug costs about $1.4 billion, if pipeline failures are taken into account. It typically takes ten years from synthesis to approval, generating time costs (the expected returns that investors forgo while a medicine is in development) of $1.2 billion, which when added to the amount above results in an average total cost of $2.6 billion to develop a new drug.

Considering that 15.2 percent of revenues are invested in R&D in the long-term (**Exhibit 10**), one of the solutions that allows obtaining enough income to finance the activity is the strategic merger or acquisition of companies. Thus, instead of assuming all the costs and risks associated with drug research and development, Big Pharma have been turning to the acquisition of late-

stage drugs from smaller companies, as is the case of Biotechnology companies ("**Biotech**")[1]. The biotechnology market size has increasing significantly, considering it was valued at more than $330.3 billion in 2015, and is expected to be more than doubled by 2024 (i.e. around $775.2 billion), at a CAGR of 9.9 percent. According to *Contract Pharma*, the Biotechnological market is dominated by the Biopharmaceutical companies, which held roughly 60 percent of the total market size in 2015 (**Exhibit 11).**

Biotech are essentially dedicated to drug research and development, often supported by venture capitalists who end up bearing the inherent risks. As illustrated in **Exhibit 12**, in 2019 the market of active clinical-stage drug programmes was already dominated by Biotechnological companies, a clear indication of the increasing involvement of this industry in the innovation and development of new drugs. In certain cases of success, these companies even end up being acquired by Big Pharma, finding a way to improve earnings performance in the cliff period, to boost the breadth and depth of its portfolio in biologics and vaccines and to diversify its revenue stream by investing in ancillary businesses.

Bristol-Myers Squibb

Squibb

In 1848, recent graduate of Philadelphia's Jefferson Medical College, Edward Robinson Squibb decided to spend the first years of his career as a surgeon in the United States Navy. Robinson grew increasingly conscious of the need for high-quality, standardized pharmaceuticals. He formed E.R. Squibb, M.D., a pharmaceutical manufacturing company in Brooklyn, ten years later, to create dependably pure pharmaceuticals. During the American Civil War, from 1861 to 1865, Squibb made his first wealth of money by manufacturing and distributing medicine chests that contained a variety of supplies and equipment, including morphine. In 1892, E.R Squibb & Sons, which he founded with his children, had $1.5 million in capital assets. Squibb created its first quality control laboratory, employing 100 employees, a decade later, and decided to build the world's largest penicillin production facility in New Jersey in 1944.

Bristol-Myers

Meanwhile, in 1887, William Bristol and John Myers joined the Pharmaceutical industry, investing $5,000 to acquire the bankrupt Clinton Pharmaceutical Company. In 1929, following the success that led to gross profits of $1 million and a presence in 26 countries, Bristol-Myers became a publicly held firm on the New York Stock Exchange. Years later, in 1943, Bristol-Myers acquired a new laboratory in New York so that it could massively produce penicillin during World War II. After joining cancer research and acquiring several companies such as Mead Johnson & Company, Bristol-Myers began to dominate. The success of cancer treatment research began to be evident and numerous products were approved by the FDA, which would lead to great awards and a clear shift in the company's focus on industry.

[1] Biotechnology and pharmaceutical companies both make medications, however biotechnology medications are generated from living organisms, whereas pharmaceutical company treatments are usually chemically based.

Bristol-Myers Squibb

In 1989, Bristol Myers merges with Squibb, creating a global leader in the healthcare industry, and the second largest pharmaceutical company in the world. Just six years later, Bristol-Myers Squibb had a line of 60 products generating over $50 million in annual sales worldwide. With its performance in R&D in various areas of health, but mainly in the diagnosis and treatment of cancer, BMS was awarded by National Medal of Technology in 1998 with America's highest honour for its technological innovation. In 1999, in order to promote the advances of HIV/AIDS research in five African countries, Bristol-Myers Squibb announced SECURE THE FUTURE^{TM}, a $100 million fund that has funded a local HIV tracking and research laboratory, an HIV nursing curriculum, physician mobility exchanges between Africa and the US, large-scale research on the viability and effectiveness of anti-retroviral therapies in Africa for both preventing and treating HIV, a childrens' health facility of distinction in Botswana, and many community-oriented initiatives such as orphan care, domiciliary care, mentoring and other services.

In 2000, BMS joined UNAIDS Drug ACCESS Initiative together with three other pharmaceutical companies. This initiative was intended to boost more widely accessible antiretroviral medicines and treatments for opportunistic diseases in African countries. Purposefully, Bristol-Myers Squibb committed to lowering the price of HIV/AIDS drugs in Africa by 90 percent. The following year, BMS acquired DuPont's medicines, reinforcing Bristol-Myers Squibb's HIV and cardiovascular disease businesses and also adding to its medical imaging.

Bristol-Myers Squibb was then subject to several controversies and lawsuits involving antitrust issues and accounting scandals, leading to relatively high costs for the company. Subsequently, BMS agreed to pay over $515 million to settle this wide range of cases. In 2007, Bristol-Myers Squibb launched a corporate strategy to transform the company from a diversified pharmaceutical company to a specialty Biopharma company. This would require several cost cuts, either in selling infrastructure or reducing subsidies and pensions. The strategy began to show results, and by 2013 Bristol-Myers Squibb would be named "the best drug company" by *Forbes Magazine*, with a market capitalization of $87 billion and stock appreciation of 61.4 percent.

In the following years, Bristol-Myers Squibb displayed reasonable metrics, largely due to the cancer drug Opdivo, which alone went from $942 million in 2015 to $3.8 billion in 2016. Furthermore, Eliquis, the blood thinner drug went from $1.9 billion in 2015 to $3.3 billion the following year. Nonetheless, the fact that two drugs account for 45 percent of revenues in the first quarter of 2017 has led to serious public concern and criticism.

Celgene Corporation

Celgene Corporation is a pharmaceutical company focused on the treatment and diagnosis of cancer and immunology drugs. Celgene was originally a unit of Celanese[2], but in 1986

[2] Celanese Corporation operates as a global integrated producer of chemicals and advanced materials. The Company offers products such as acetyl, acetate, vinyl emulsion, and engineered polymers.

Celgene's corporate spin-off took place, beginning its path as an independent company. In the 1990's, and after several acquisitions and product launches, Celgene decided to use thalidomide to focus on the area of oncology, namely multiple myeloma which it proved to be effective. This drug was previously marketed in the 1960s, especially to treat sickness in pregnant women. However, years later, a side effect that caused a malformation in the babies was detected. In an innovative strategy, Celgene sought to relaunch it and patent it for new applications related to oncological treatment. At the same time, Celgene licensed another Pharmion Corporation to market the product globally, outside the US market. This international expansion led to a significant growth in revenues and in the value of Celgene (**Exhibit 13**), gaining worldwide reputation. Meanwhile, Celgene developed a thalidomide analogue – effective for the treatment of multiple myeloma but with a safety profile, which would reduce the effects of malformations in babies. In 2006, after several years of research, studies and clinical trials, the U.S. Food and Drug Administration granted accelerated approval of thalidomide for the treatment of newly diagnosed multiple myeloma patients. This product completely revolutionised the treatment of multiple myeloma.

In order to guarantee a monopoly and to better Revlimid's global position, Celgene eventually acquired Pharmion in 2008. Being the owner of both molecules (Thalidomide and Revlimid), configured Revlimid as the best option for the treatment of multiple myeloma. With the control of the global market, Celgene set the price of Revlimid about 20x higher than the price of Thalidomide. Between 2013 and 2018, Revlimid revenues grew more than 126 percent, reaching $9.6 billion in the last year of this period, which represented more than 63 percent of Celgene's total revenues (**Exhibit 14**). Nonetheless, Celgene's fastest growing product was Otezla, which in 2014 generated revenues of around $70 million. Otezla's annual revenue increased up to $1.6 billion by 2018. Supported by the growth in sales of these products, Celgene has grown steadily over the years, recording revenues of more than $15 billion and more than $4 billion of net income in 2018 (**Exhibit 15**).

The difficulty with finding a potential blockbuster, and the imminent loss of Revlimid's patent protection by 2022 started raising serious concerns for investors, leading to a 37 percent drop in shares in 2018. As a result, Celgene spent the year attempting to grow its pipeline in order to compensate for the expected revenue decline. Celgene agreed to buy the remaining shares of Juno Therapeutics that did not already own for $9 billion in cash earlier that year in order to gain access to Juno's cancer treatment pipeline. Simultaneously, it was investing in CAR T-cell therapy, a new experimental genetic therapy that involves extracting a patient's own immune cells, genetically altering them to target cancer-specific proteins, and then putting them back into the patient. CAR T-cell therapy was a high-potential, high-competition field in Biotechnology. Moreover, they increased R&D spending, particularly in the areas of ovarian cancer and myelodysplastic disease. The company encountered a succession of drug-pipeline setbacks, including the failure of the Crohn's disease medicine Mongersen and a delay in the development of ozanimod, so the turnover was not as projected.

The Strategy

Considering BMS's goals and vision for the future, Caforio and the rest of the management team (**Exhibit 16**) saw the acquisition of Celgene Corporation as a great opportunity for Bristol-Myers Squibb. Buying Celgene would provide with Bristol more cancer drugs at a time when its immuno-oncology portfolio struggles to keep up with rival Merck's. Moreover, the combination of tangible and specially intangible resources, such as the background and knowledge of each of the companies, would revert in the eyes of shareholders as a greater probability of success, who believed that the different patents would be worth more with their combined hands than separately.

In 2017, Celgene was leading the field of oncology franchises, both on solid tumours and haematology. Given the estimated growth for the industry and Celgene's performance over the past few years, this leadership was an important factor for Caforio's management team. In immunology and inflammation franchise, Celgene was in the top five led by Otezla. Additionally, Celgene's five late-stage assets - three that have successfully completed Phase III pivotal trials, two which are under regulatory review, and a third which is slated to be filed in April - would also support the combined company's ongoing business. Celgene's wide early-stage pipeline, which includes more than 20 Phase I and II programs and more than 30 pre-clinical prospects, would also sustain the combined company's ongoing business.

Caforio believed that, together with Bristol-Myers Squibb, Celgene would thus have a deeper, more diversified and sustainable pipeline across solid tumours and haematologic malignancies, immunology and inflammation, cardiovascular disease and fibrotic disease, leveraging combined strengths in innovation.

According to BMS calculations, the combination would provide revenue growth every year until 2025, be 10 percent accretive to DCF value per share, have an 11 percent IRR, be considerably above the 8 percent cost of capital, and be accretive to EPS in the first year (**Exhibit 17** provides prevailing EPS information), and accretive each year thereafter through 2025, more than 45 billion of diversified free cash flow in the first three years and a Debt / EBITDA lower than 1.5x by 2023. The strong financial position of the combined firm would enable it to finance an increasingly important investment in R&D.

Regarding costs and expenses, the combination of the two companies would lead to significant cost synergies. The key synergies would be realized by eliminating duplicate spends and resources across the board, procurement savings from utilizing the larger spend base and decreasing duplicate areas of spend with third parties, and cost avoidance savings from using skills that are unique to either organization. According to estimates disclosed by Bristol-Myers Squibb, the identifiable and sustainable cost synergies would be valued at around $2.5 billion (pre-tax) annually from 2022 onwards (**Exhibit 18**). The estimated one-time cost of achieving the projected synergies would be $2.2 billion. This analysis was supported by Wall Street research commentary:

"We believe that a healthy mixture of complementary and overlapping capabilities should allow the NEWCO to easily achieve its $2.5 billion cost synergy target by the third full-year."

By 2017, both companies' leaders had already met to discuss a possible merger between the companies, which did not happen at the time. In 2018, however, both Celgene and Bristol-Myers Squibb were affected by several setbacks. On the one hand, Celgene saw its investment in R&D and sales forecasts fail to meet targets in the same year. The investors' worries over scaled back financial forecasts and clinical setbacks led to a drop of about $70 billion in Celgene's market capitalization over the previous 14 months and to a P/E ratio of 7x – which was very low relative to its history and relative to other industry peers (**Exhibit 19** provides forecasted information of its peers). On the other hand, Bristol was losing its commercial edge in immuno-oncology, while one of its main rivals, Merck & Co., was recording several important clinical successes for its rival drug Keytruda (pembrolizumab), leading to a 15.2 percent decrease in that year (**Exhibit 20**). Thus, at the end of 2018, the acquisition of Celgene was again a topic of discussion. After meeting with Mark Alles, CEO of Celgene Corporation, Giovanni Caforio submitted an offer for acquisition. In this offer, Bristol-Myers Squibb proposed to acquire Celgene for $110 per share, with $35 of that offer in cash and the rest in equity. Subsequently, BMS made four more offers between September and December of that year, yet Bristol-Myers Squibb's sliding share price kept the face value of the deal from rising significantly.

Given the offers made by Bristol-Myers Squibb, Celgene then decided to turn to other companies such as Merck & Co, Pfizer and AbbVie, in order to find the most efficient strategic fit. However, the lack of interest from these companies led Celgene to return to the negotiations with Bristol-Myers Squibb, which had in the meantime already withdrawn the last offer made. Hence, with a greater bargaining power, BMS proposed a deal with a lower cash component and a Contingent Value Right arrangement.

The Merger

BMS announced their intention to buy Celgene for $74 billion in cash and stock deal on January 3rd, 2019. Celgene shareholders would receive either one Bristol-Myers Squibb share plus $50 in cash for each share held, or $102.43 per share – a 54 percent premium to Celgene stockholders. Additionally, the shareholders would have the possibility of receiving a payment of $9.00 in cash, due to a tradeable Contingent Value Rights (CVR).[3] The CVR entitled Celgene shareholders to be given a one-time potential payment of $9.00 in cash, upon FDA's approval in specified indications of all three of the following by a specific timeline[4], as stated in **Exhibit 21**. To help fund the acquisition of Celgene, BMS sold $19 billion of unsecured bonds, divided into nine parts. According to *Bloomberg*, the largest portion was a 30-years maturity security with a yield of 1.45 percent.

According *to ESCP Finance Society*, Celgene's stock rose 22 percent to $81.28 in the days after the release, while Bristol-Myers' stock sank more than 16 percent to $45.1 (see **Exhibit 22**), implying $11 billion in market capitalization in less than two days illustrates Celgene's market position's optimistic prospects and BMS's waves of anxiety and pessimism. Amongst the

[3] According to Bloomberg, nearly 715 million CVRs were issued.

[4] According to BMS' financial consultants, the probability of obtaining the three FDA approvals under the CVR deal were 45 percent.

opposers to the deal, there was Wellington Management, BMS's largest institutional shareholder, with approximately 8 percent of participation. According to Wellington, the acquisition constituted a high and unnecessary risk, since BMS would struggle to make the combination work. Alternatively, Wellington's believed the company should be sold. Another opponent was Starboard Value, holder of 1 percent of Bristol's shares. According to Starboard Value, Celgene's expiring patents raised serious concerns, notably Revlimid, whose sales are expected to fall by 90 percent by 2026 accordingly. This is because Revlimid represents about 64 percent of Celgene's sales and by 2022 or so, generic competition will erode most of its sales (Smith Larry, 2019). In addition to these shareholders, Dodge & Cox, owner of a 2 percent stake, also opposed the deal, especially after Wall Street analysts raised doubts and uncertainties about the strategy pursued by Caforio and the rest of BMS's management.

In response, the board of BMS outlined how they undertook in-depth reviews of seven potential transactions in the previous year, of which Celgene had emerged as the most attractive target. According to BMS, the combination would create a company with nine drugs that generate more than $1 billion a year in revenue and would bolster the pipeline of early-stage drugs in development by Bristol-Myers Squibb. The company's board of directors also revealed that cautious predictions from Bristol-Myers Squibb's financial advisors (J.P. Morgan and Citigroup) supported an overall assessment of Celgene's enterprise value of $120 billion, including synergies but excluding CVR. For this assessment, the financial advisors considered a valuation of Celgene's marketed products of $55 billion and the $2.5 billion annual cost synergies as from 2022[5], to which the high expectations of BMS regarding the Celgene pipeline must be added.

Consequently, BMS's share price started increasing gradually to the point where it was being significantly affected by the increasing number of coronavirus cases outside China and by fall of the crude oil prices by more than 20 percent after Saudi Arabia increased production.

Nevertheless, motivated by BMS board' statements and convictions, reluctant investors, such as Starboard and Willington Management, changed their position and came out in favour of the merger. As a result, on April 12th, 2019 Bristol-Myers Squibb announced that shareholders voted to approve the $74 billion acquisition of Celgene.

Despite the announcement, there were no significant fluctuations in the share price of BMS until 24 June. However, following the publication that the proposed acquisition would close later than originally expected and would involve a divestiture of Celgene's psoriasis drug Otezla, shares of Bristol-Myers Squibb fell 7 percent[6].

Bristol-Myers and Celgene reported strong earnings in the following quarters of the year, with BMS' EPS rising 7 percent year on year and Celgene's up 33 percent in the third quarter. These strong results turned out to be the starting point of an exponential stock price increase and

[5] For the purpose of such analyses, BMS financial advisors considered a WACC ranging between 7.5 percent and 9 percent and a perpetual growth rate of 1.25 percent.

[6] In a Securities and Exchange Commission filing, BMS said it expected to close the planned $74 billion deal by the end of 2019 or beginning of 2020. It had originally expected to close the acquisition by the third quarter.

relative growth compared to NYSE Arca Pharmaceutical Index[7], with a share price increase of almost 30 percent in the third quarter alone.

On August 26th, BMS announced that Celgene, in connection with the merger agreement, had begun negotiations with Amgen for the latter to acquire the global rights to Otezla for $13.4 billion in cash. Bristol-Myers Squibb added that it expects to use the proceeds to reduce its debt, and that it plans to focus near term on maintaining strong investment-grade credit ratings and a ratio of debt to EBITDA of less than 1.5, by 2023. In light of the announcement, BMS shares were up more than 4 percent on that same morning, as the divesture represented an important step towards the completion of the merger with Celgene. Investors, increasingly optimistic about the second and third quarter results of the two companies, were now more and more sure that the merger would go ahead.

Bristol-Myers Squibb publicised on November 15th, 2019 10 months after the first announcement, that the US Federal Trade Commission (FTC) had accepted the proposed consent order in connection with the planned merger of Bristol-Myers Squibb and Celgene, allowing the parties to finalize the transaction.

Will the acquisition prove to be as favourable as believed by BMS' management? Only time will tell. Yet, in spite of the uncertainty and doubtful environment that surrounded and defined Bristol-Myers Squibb and Celgene's merger, the prospects for the companies' combination are not only positive but might also be defining for the future landscape of the pharmaceutical market.

[7] The NYSE Arca Pharmaceutical Index (DRG) is designed to represent a cross section of widely held, highly capitalized companies involved in various phases of the development, production, and marketing of pharmaceuticals.

REFERENCES

[I] Bristol-Myers Squibb. (2019, March 25). *Bristol-Myers Squibb and Celgene: Transaction Fact Sheet* [Tech.]. Retrieved from: https://s21.q4cdn.com/104148044/files/doc_presentations/2019/BMY-Transaction-Fact-Sheet-03-25-19-01074879-8xA26CA.PDF

[II] Bristol-Myers Squibb. (2019, February 22). "Merger Proposal" [Publication]. Retrieved from: https://d18rn0p25nwr6d.cloudfront.net/CIK-0000816284/42f69804-805b-4f67-adab-7f0514e9e748.pdf

[III] "Bristol-Myers Squibb". (2021, March 07). *Wikipedia*. Retrieved from: https://de.wikipedia.org/wiki/Bristol-Myers_Squibb

[IV] Bristol-Myers Squibb Company and Bristol-Myers Squibb Foundation. (n.d.). "Secure the Future" [Publication]. Retrieved from: https://www.who.int/management/SecureTheFutureC&SforW&CwithHIV.pdf

[V] "Celgene Completes 2.9 Billion Acquisition of Pharmion". (n.d.). Retrieved from: https://www.businesswire.com/news/home/20080307005659/en/Celgene-Completes-2.9-Billion-Acquisition-of-Pharmion

[VI] Chressanthis, G., Bhandari, A., & Thaper, R. (2020, June 17). "Making Money Through M&As". *Medicine Maker*. Retrieved from: https://themedicinemaker.com/business-regulation/making-money-through-mas

[VII] Cola, G., & Hähnel, E. (2019, March 19). "Giant deal in the pharmaceutical sector: Bristol-Myers Squibb buys Celgene". *ESCP Finance Society*. Retrieved from: https://financescp.net/2019/03/19/giant-deal-in-the-pharmaceutical-sector-bristol-myers-squibb-buys-celgene/

[VIII] Devos, E., Kadapakkam, P., & Krishnamurthy, S. (2009). "How Do Mergers Create Value? A Comparison of Taxes, Market Power, and Efficiency Improvements as Explanations for Synergies". *Research Gate*. Retrieved from: https://www.researchgate.net/publication/254072736_How_Do_Mergers_Create_Value_A_Comparison_of_Taxes_Market_Power_and_Efficiency_Improvements_as_Explanations_for_Synergies.

[IX] Haas, R., & Hodgson, A. (n.d.). "M&A deal evaluation: Challenging metrics myths". *Kearney*. Retrieved from: https://www.co.kearney.com/private-equity/article/?/a/m-a-deal-evaluation-challenging-metrics-myths

[X] Han, S. H., Kim, M., Lee, D. H., & Lee, S. (2014, October 16). "Information Asymmetry, Corporate Governance, and Shareholder Wealth: Evidence from Unfaithful Disclosures of Korean Listed Firms". *Wiley Online Library*. Retrieved from: https://onlinelibrary.wiley.com/doi/abs/10.1111/ajfs.12064#:~:text=Information%20asymmetry%20between%20management%20and,et%20al.,%201998).&text=For%20example,%20management%20can%20delay,reflected%20in%20the%20stock%20price

[XI] Hronszky, I. (2012). "Expectations and visions in industrial practice on the case of modern biopharmaceutics". *Science, Technology & Innovation Studies*, 8(1). Retrieved from: https://www.academia.edu/6632135/Expectations_and_visions_in_industrial_practice_On_the_case_of_modern_biopharmaceutics.

[XII] Keown, A. (2019, February 28). "Two of BMS' Biggest Shareholders Object to Celgene Acquisition". *Biospace*. Retrieved from: https://www.biospace.com/article/one-of-bms-biggest-shareholder-objects-to-celgene-acquisition/

[XIII] "Massive growth for the Biotechnology Market by 2024" (2018, January 26). *Contract Pharma*. Retrieved from: https://www.contractpharma.com/contents/view_breaking-news/2018-01-26/massive-growth-for-the-biotechnology-market-by-2024/

[XIV] Neville, S. (2019, January 11). "Big pharma raises bet on biotech as frontier for growth". *Financial Times*. Retrieved from: https://www.ft.com/content/80a21ca2-136b-11e9-a581-4ff78404524e

[XV] Pagliarulo, N. (2019, February 01). " 'Strategic fit' with Bristol-Myers kept Celgene from casting wider net in deal negotiations". *Biopharma Dive*. Retrieved from: https://www.biopharmadive.com/news/strategic-fit-bristol-myers-celgene-deal-net/547435/

[XVI] Silvestrini, E. (n.d.). "Bristol-Myers Squibb (BMS)" (K. Connolly, Ed.). *Drug Watch*. Retrieved from: https://www.drugwatch.com/manufacturers/bristol-myers-squibb/

[XVII] Sullivan, T. (2019, March 21). "A Tough Road: Cost To Develop One New Drug Is $2.6 Billion; Approval Rate for Drugs Entering Clinical Development is Less Than 12%." *Policy & Medicine*. Retrieved from:

https://www.policymed.com/2014/12/a-tough-road-cost-to-develop-one-new-drug-is-26-billion-approval-rate-for-drugs-entering-clinical-de.html

[XVIII] Team, T. (2020, March 13). "Bristol-Myers Squibb Stock Set To Outperform S&P 500 Post Coronavirus?". *Forbes*. Retrieved from:

https://www.forbes.com/sites/greatspeculations/2020/03/13/bristol-myers-squibb-stock-set-to-outperform-sp-500-post-coronavirus/?sh=7b9596f34aa4