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Strategies and Motivations for External Growth in the Pharmaceutical industry: The Pfizer Case

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1. Introduction:

Throughout the course of the last decade, the global outlook has witnessed a continuous series of mergers and acquisitions in almost every sector. Each of these massive operations contributed to creating colossal companies that have affected U.S. and European economies alike. This wave of deals, which started in the 20th century, continued and increased throughout the 21st, after a brief pause at the beginning of the same century. Just before the beginning of the new millennia, Exxon Corp and Mobil Corp merged, forming the largest "supermajor" in the oil and gas sector. The result of the 81$ billion deal is ExxonMobil, a company which to this day prides itself as being the world's largest publicly traded international gas and oil company. However the truly impressive deals started in the 21st century. In particular, the first years of the millennia saw some of the biggest and most valuable mergers and acquisitions recorded through history. In February 2000, Vodafone Group Plc's acquisition of its German rival Mannesmann set a new record for most valuable deal (180$ billion), thus consolidating Vodafone as the most renowned mobile operator. Furthermore such a deal set a new standard for following acquisitions in the telecommunications sector as well as other growing industries. The value of the transaction was twice that of ExxonMobil, which only a few months ahead had established itself as a record in its sector. However not all billion dollar deals result in acclaimed successes; the AOL, Inc / Time Warner Inc. merge, falls short of only a few billion dollars, from being considered the most valuable deal recorded in history (164$ billion). Nonetheless it is without doubt the most disastrous merger procedure ever to be witnessed. Lasting for only 9 years the merge was a complete failure from the start, forcing a spin-off of AOL Inc. , in December 2009 into a separate company after an extended period of negative profits. History has taught us that "An acquisition based on an underlying strategy is much more likely to succeed than one that results from an impulsive reaction to an "attractive" opportunity… An acquisition is unlikely to increase shareholder value unless opportunities exist for significant sharing of benefits that improve the competitive position of the participants."[1] Nevertheless 2015 has been the richest year in history for M&A activity volume reaching an impressive 4.9$ trillion, surpassing the previous 4.6$ trillion record in 2007. These remarkable figures are the result of several billion dollar deals, as well as many other smaller accords between middle and small companies. The latter has grown in percentage in 2015 compared to the overall M&A

[1] Bernhardt III, Richmond G. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print. p.1

activity recorded in 2007, meaning an increase in the number of M&A deals apart from the evident increase in value.

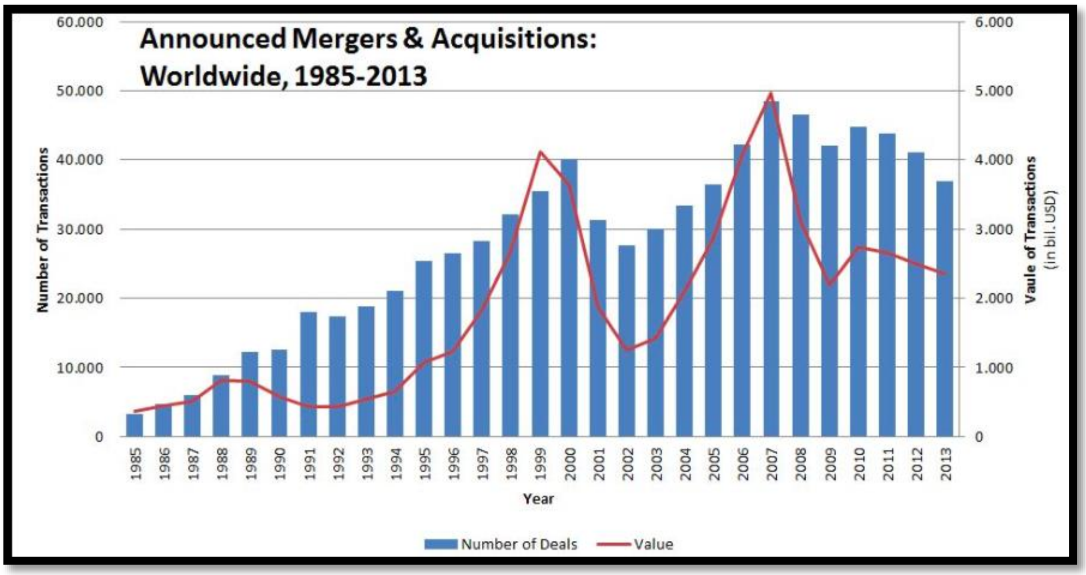

Figure 1: Announced Mergers & Acquisitions

However the terms merger and acquisition have been and are frequently misused; one is replaced with the other and often enough the distinction between the two phenomena is entirely overlooked. Although the overall outcome is somewhat similar, a formal distinction must be included in order to avoid any misunderstanding. A merger can be defined as a combination of two or more companies in which the assets and liabilities cease to be of one company or the other, but become property of a third and new company. On the other hand an acquisition can be defined as a corporate action in which a company buys a part or all of the target company's ownership stakes to assume control of the firm. This process can also be carried out by buying certain assets appertaining to the target firm, such as a plant, a division or even the whole company.[2] Nevertheless, the two terms are conjointly used to intend the final result: "two companies (or more) that had separate ownership [before the merger or acquisition] are now operating under the same roof, usually to obtain some strategic or financial objective"[3]. The term "acquisition", or "takeover" has obtained a negative connotation; therefore many deals refer to mergers when they are actually acquisitions. When tackling specific examples a targeted explanation will be given, clarifying the distinction on

[2] Sherman, Andrew J., and Milledge A. Hart. *Mergers & Acquisitions from A to Z*. New York: AMACOM, 2006. Print. p.11
[3] Sherman, Andrew J., and Milledge A. Hart. *Mergers & Acquisitions from A to Z*. New York: AMACOM, 2006. Print. p.11

the matter. In less specific cases, the term M&A will be used, referring to the overall effect of the merger or acquisition. The motivations behind such activity however, are many and diverse, covering all the needs of a firm. Numerous reasons can be found describing the urge of corporations to merge; Sherman and Hart give a thorough description of the motives in the first chapter of *Mergers and Acquisition from A to Z.*

Mergers and acquisitions are the first and foremost operations corporations choose when opting for *external* growth. The latter is a term devised to describe a process of growth, may it be in market share, geographic coverage, or product supply and that is carried out by using methods which do not include factors that are part of the firm. Instead many companies prefer relying on their own operations to achieve the same goals, through targeted financial investments on behalf of the finance department with any excess cash, efficient marketing techniques held by the company experts or storage related cost compression by the logistics team. This kind of growth is known as *internal* growth, and is the sort that many companies adopt almost unconsciously.[4]

Instead of repeating continuously the terms merger and acquisition throughout the thesis, I will hereafter be using the widespread abbreviation M&A. In context, the abbreviation M&A will be put to use to describe the overall kind of activity in question. In certain occasions "M&A" will be used, but only one of the two activities is actually implied, in doing so the text will be clear in specifying which of the two is being analyzed.

From a strictly microeconomic point of view, it is possible to identify the overall effect of mergers and acquisitions that lead to a monopoly on the market. Monopolies or agreed oligopolies have frequently been accused of robbing consumers of their incomes. Many institutions have been formed to prevent this particular kind of behavior, nevertheless many examples prove that monopolies and cartels exist, and are able to continue their unfair conduct undisturbed thanks to clever maneuvers to communicate without the warrantors and the public knowing.

The following paragraph is an extract of the dissenting opinion of Justice Douglas in one of the most famed American market competition lawsuits: United States v. Columbia Steel Co.

> *We have here the problem of bigness. Its lesson should by now have been burned into our memory by Brandeis. The Curse of Bigness shows how size can become a menace--both industrial and social. It can be an industrial menace because it creates gross*

[4] Danescu, Andreea. "mergers, Acquisitions, and External Growth." *Economics, Management and Financial Markets* 6.3 (2011): 179. Web.

inequalities against existing or putative competitors. It can be a social menace...In final analysis, size in steel is the measure of the power of a handful of men over our economy...The philosophy of the Sherman Act is that it should not exist...Industrial power should be decentralized. It should be scattered into many hands so that the fortunes of the people will not be dependent on the whim or caprice, the political prejudices, the emotional stability of a few self-appointed men...That is the philosophy and the command of the Sherman Act. It is founded on a theory of hostility to the concentration in private hands of power so great that only a government of the people should have it.

The excerpt portrays the social loss that is brought upon the American people as result of a monopoly in the steel industry. Microeconomics teach us that competition is what renders the market fair, it is the engine of innovation and what makes our economies stronger and healthier than others. Corporations tend to place personal interests before society's interest, raising prices up to levels that place them out of the reach of the needy. A recent example in the pharmaceutical sector is that of the famed Martin Shkreli who, in September 2015, raised the price of a life-saving drug from 13.50$ per pill to a shocking 750$. After buying the rights to the drug for AIDS and cancer patients, Daraprim, Martin Shkreli raised the price by almost 5000%, resulting in the impossibility of payment by most of the patients[5]. A microeconomic study can roughly depict what sort of profit a monopoly can result in, if the elasticity of the offered good or service is very low. Elasticity can be defined as the degree to which consumers change the amount demanded of a certain good or service when its price is altered. Commodities such as water and petroleum, which are indispensable today, are considered inelastic, as many consumers would still buy them even if their prices rose. In the same manner, a lifesaving drug is probably more inelastic than water, as stopping a treatment can mean death.

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[5] Chandler, Adam. ""Who Is Pharma Bro?"" *The Atlantic*. Atlantic Media Company, 17 Dec. 2015. Web. 24 Apr. 2016.

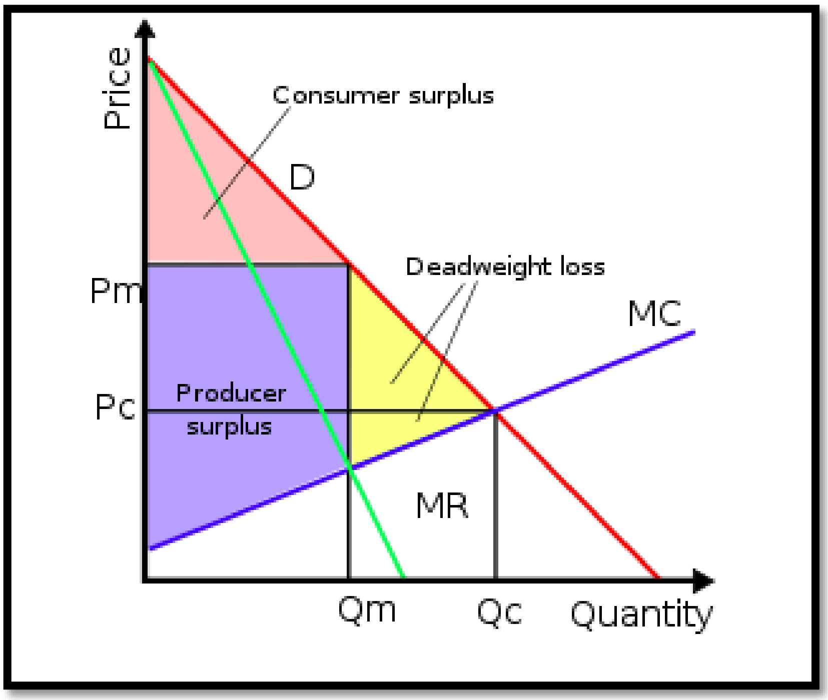

Figure 2: Social Inefficiency caused by Monopolies

The figure shows the social inefficiency (deadweight loss) brought upon by monopolies, which produce at level P_M and producing Q_M. In perfect competition (a hypothetical scenario, in which the following hypotheses are valid: every company is identical, as is their output, the number of firms in the industry is so high that the price for each consumer is identical to the cost of production and finally no barriers to entry or exit exist in the industry) this deadweight loss for consumers is inexistent. By following these unlikely set of conditions companies set their price at level P_C and therefore produce a quantity Q_C, at which point all the producer surplus (area confined between the Demand curve, y-axis and the price set) becomes consumer surplus. However as a monopoly can choose freely what price to set, in order to maximize profits (in microeconomics it is assumed that all companies competing pose the maximization of profit as its main objective) it sets the price corresponding to the level at which the Marginal Revenue curve (MR) intersects the Marginal Cost curve (MC), therefore at level P_M, and consequently producing only a quantity Q_M. As the graph demonstrates there is a deadweight loss, represented by the yellow-shaded region, which could be redistributed to consumers and producers if a healthier competition regime existed. In microeconomics, as in real life, this results in an increase of profits for the producer, and a loss for consumers in terms of higher prices and the lost amelioration of the offered good or service, as a result of lost innovation.[6] The overall outcome carried-out by a pre-agreed cartel (or oligopoly) towards society and itself is very similar to that of a monopoly. By shrouding an accord amongst main companies in a sector, the participants can arrange specific policies by which all the members of the cartel obtain larger profits. The cartel would then block the entry to new companies, or making competition unsustainable for any new competitors. A distinguished example is the Vitamin cartel, which the European Commission fined its eight participants a total of 855.22€ million. They were accused of secret market sharing and price-fixing for vitamins: A, E, B1, B2, B5, B6, C, D3, as well as Biotin (H), Folic Acid (M), and Beta Carotene. The damage caused to consumers was not as evident as the Martin Shkreli case, but its continued existence caused millions of damage to consumers all over the world. Hoffman-La Roche was given the highest cumulative fine of 462€ million (at is was proven to be the main instigator of the cartels), next on the list are BASF (296€ million fine), Aventis, Solvay, Merck, etc.[7]

Throughout my thesis I will give a thorough listing of possible motivations behind a merger or acquisition, as well as the possible strategies it can use to reach its objective. Additionally the major steps to concluding a deal will be mentioned to give a sense of continuity to the chapter. Once these steps have been properly studied, I will give an overview of the pharmaceutical industry and its strongest components. Having done so, I intend to apply the content of the first chapters to three specific cases of mergers and acquisitions in the pharmaceutical industry. In particular I will consider Pfizer's deals with Pharmacia, Wyeth and Allergan, which promptly describe Pfizer's motivations and strategies in concluding the merger or acquisition in question.

[6] Besanko, David, Ronald R. Braeutigam, and Michael Gibbs. *Microeconomics*. Hoboken, NJ: John Wiley, 2011. Print.
[7] Guyot, Marc. *Economie Managériale: Théorie, Cas, Exercices Corrigés*. Paris: Gualino, 2008. Print.

2. Motivations Behind Mergers & Acquisition

2.1 To Enter a New Market

The first, and perhaps the most obvious reason is that a well-planned merger or acquisition "can be the most effective and efficient way to enter a new market, add a new product line, or increase distribution reach"[8]. This reason is perhaps a given when expressing intentions to the general public or investors through a formal M&A proposal. However it is also usually the basis of an attack on behalf of the relevant antitrust institutions. May it be the European Commission (EC) or the U.S. Antitrust, this reason can lead to thorough investigation of the proposing company and the target company, inspecting whether the union of the two or more companies would harm consumer interests by implementing unfair practices or limiting product choice.

Dealing with competition authorities is a key factor to consider when planning M&A deals, especially if the size is very large (in terms of value). The two main authorities that I will hereby report are the European Commission and the U.S. Antitrust. The two present different characteristics in specific matters, but overall their objectives are the same: guaranteeing fair competition amongst companies on the market. Abusing a market position includes: directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions, limiting production, markets or technical development to the prejudice of consumers, as well as applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage. In order to avoid such practices each market needs a warrantor that is able to detect and stop it. "The European Commission is a collegiate institution composed of 27 Commissioner from the 27 Member States of the European Union. It is this College of Commissioners that, on a proposal of the Commissioner for Competition, adopts final decisions in individual competition cases as well as on policy documents such as guidelines and notices, and legislative proposals to the Council"[9]. Although the fundamentals of competition law have only barely changed since the Treaty of Rome, the truly significant addition is the Merger Regulation. "first adopted in 1989 [the Merger Regulation] created a one-stop shop where companies apply for regulatory

[8] Sherman, Andrew J., and Milledge A. Hart. *Mergers & Acquisitions from A to Z*. New York: AMACOM, 2006. Print.p.13
[9] van Kranenburg, Hans, and Tristan Ross. "Corporate Political Strategies Related to Decisions of European Competition Commission on Regulatory Issues in the European Telecommunications Industry." *Journal of Media Business Studies* 11.4 (2014): 51-66. Web.

clearance for mergers and acquisitions above certain worldwide and European turnover thresholds (5000 mil EUR combined worldwide turnover is the threshold for intervention)… The recast Merger Regulation (2004) [gives the power to the Commission] to investigate all types of harmful scenarios in a merger, from dominance by a single firm to coordinated and non-coordinated effects in oligopolistic markets."[10] Once the EC has reached its verdict it may veto, approve or conditionally approve the merger or acquisition. Although approval and veto can be interpreted as a simple yes or no answer, a conditional approval usually states one or more conditions to ensure fair competition on the market.

An example is the ETIHAD takeover of Alitalia in November 2014. The European Commission noticed that the merger would lead to a single firm with the chance of exploiting the route Rome-Belgrade, and therefore forced the new group to sell two slots on the route to other companies, to avoid the possibility of setting unfair prices.[11] Whenever the EC discovers any sort of dishonest competition policy, it intervenes with warnings (if too much damage has not been inflicted) or if necessary with fines. However the number of M&As that are notified each year follows the pre-discussed pattern of M&A "popularity" trend, meaning that numbers boom (up to 402 in 2007, during a boost in M&A activity) when corporations tend to merge, but smaller numbers when not (277 notifications in 2013). Overall the percentage of mergers and acquisition that have been notified to the EC, and that have then passed to the second and more scrupulous phase of investigation is relatively low.

[10] van Kranenburg, Hans, and Tristan Ross. "Corporate Political Strategies Related to Decisions of European Competition Commission on Regulatory Issues in the European Telecommunications Industry." *Journal of Media Business Studies* 11.4 (2014): 51-66. Web.
[11] Cardoso, Ricardo, and Carolina Luna Gordo14. "Mergers: Commission Approves Etihad's Acquisition of Joint Control over Alitalia, Subject to Conditions." *European Commission*. N.p., 14 Nov. 2014. Web. 18 Apr. 2016.

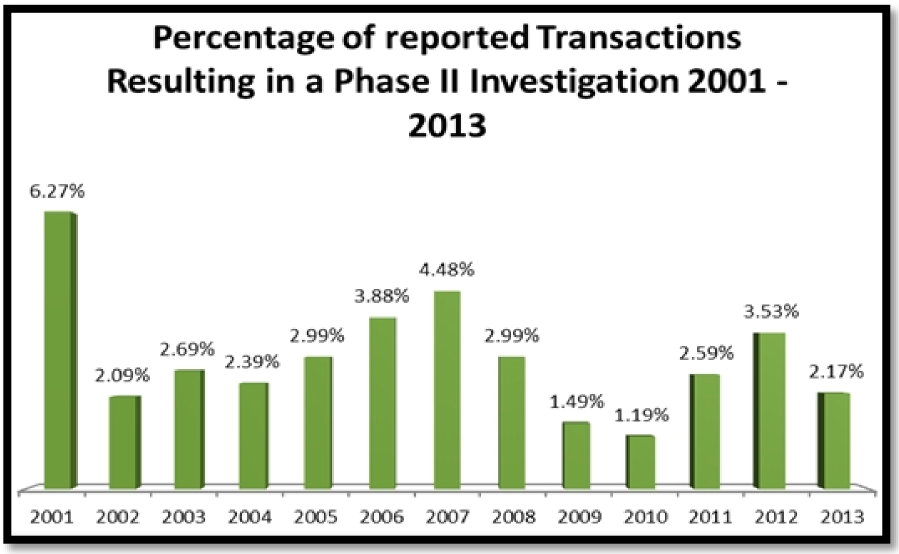

Figure 3: Percentage of reported M&A transactions (2001-2003)

On the other hand lies the American system, which follows roughly the same main concepts, but offers a certain degree of difference on punitive matters. Similarly to the EU the U.S. offers three levels of enforcement: the Federal Trade Commission, the Department of Justice, and private parties (contribution on behalf of private parties is largely incentivized in the U.S.). The first two can present civil lawsuits; but only the United States Department of Justice may bring criminal antitrust suits on the basis of the federal antitrust laws. The U.S. Antitrust laws rely on a series of acts, dating back to the 19th century. The main statutes are: the Sherman Act (1890), the Clayton Act (1914) and the Federal Trade Commission Act (1914). The following "restrict the formation of cartels and prohibit other collusive practices regarded as being in restraint of trade. Secondly, these acts restrict the mergers and acquisitions of organizations that could substantially harm competition. Third, they prohibit the creation of a monopoly and the abuse of monopoly power."[12] This last excerpt refers to monopolies that are not supported by patents, and therefore do not have strictly the state's permission to act as such.

Nevertheless acquiring a company oversees to increase distribution reach or penetrate a new geographical market is often the most cost-effective choice. Repercussions with competition warrantors tend to focus on massive corporations that intend to monopolize the whole market, while a firm which is simply trying to grow in size with no intention to harm fair trade is unlikely to be audited by the EC, US Antitrust or any other similar figures.

[12] "Federal Trade Commission | Protecting America's Consumers." *Federal Trade Commission | Protecting America's Consumers*. N.p., n.d. Web. 20 Apr. 2016.

2.2 To Acquire Strategic Assets

A second reason that is frequently behind an M&A transaction, is that of gaining access to the acquiree's strategic assets, intellectual property or "knowledge workers". This motivation is usually behind the various acquisitions in the pharmaceutical sector (to avoid extremely high costs of research and development, and therefore access highly profitable patents for new or improved drugs) and the technology sector (in which acquiring the target company's employees is almost as meaningful as acquiring its intellectual property, due to the fact that a particular set of skills and experience can define a knowhow that cannot be materialized in a single patent). The sum of a company's intellectual property is usually defined as the intellectual capital. Its value is regularly subject to debate, it is frequently undervalued in a firm's books, but it often is the true engine of a company. Without intellectual capital, the financial capital appertaining to a company is useless, as it cannot be properly employed to increase the overall value. These intangible assets possess unique qualities that differentiate them from regular tangible assets. First of all these assets are the result of a long accumulation process, usually the fruit of intense research and further learning on behalf of employees. This property is called *sedimentation*, as a consequence of this feature, these assets are *firm specific*, meaning that its transition to other firms is possible, but with major difficulties, and is rarely thorough. Intangible assets are also *perishable;* this is due to the fact that they may be rendered obsolete by a change in the business environment, or by lack of regular maintenance to keep it alive. However intangible assets are also *flexible* inside the boundaries of a firm, its content can be transferred from one operation to another; it encounters difficulties in doing so once it metaphorically exits the firm.[13] Nevertheless once a part of the intellectual capital is well defined and morphed into the form of a patent, it can be bought and sold easily.

As previously hinted, the pharmaceutical sector regularly deals with this sort of transaction. An "*everyday*" example is that of Pfizer, who apart from its billions of expenditures in R&D, paid around $130 million for the patents of two meningitis drugs from GlaxoSmithKline (Nimenrix and Mencevax) in June 2015[14]. Pfizer bought the right to produce

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[13] Fontana, Franco, and Matteo G. Caroli. *Economia E Gestione Delle Imprese*. Milano: McGraw-Hill, 2013. Print.
[14] "Pfizer Buys Two GSK Meningitis Vaccines for $130M." *www.genengnews.com*. N.p., 22 June 2015. Web. 25 Apr. 2016.

the drugs, without a clear knowledge on how to do so, but it did not acquire the ability of the research teams from GlaxoSmithKline that discovered the treatments.

2.3 Financing is Presently More Advantageous

Given the immense costs required to finance such a significant operation, companies and banks have found different ways to promote M&A. An example is the growing trend that consists in offering the target company payment in the form of the acquiring company's shares (in the case of an acquisition), thus motivating "both parties to work together on a post-closing basis to truly *enhance* shareholder value."[15] Additionally, credit availability has started to flourish steadily again. The data shows mortgage rates reaching pre-2008 financial crisis-levels.

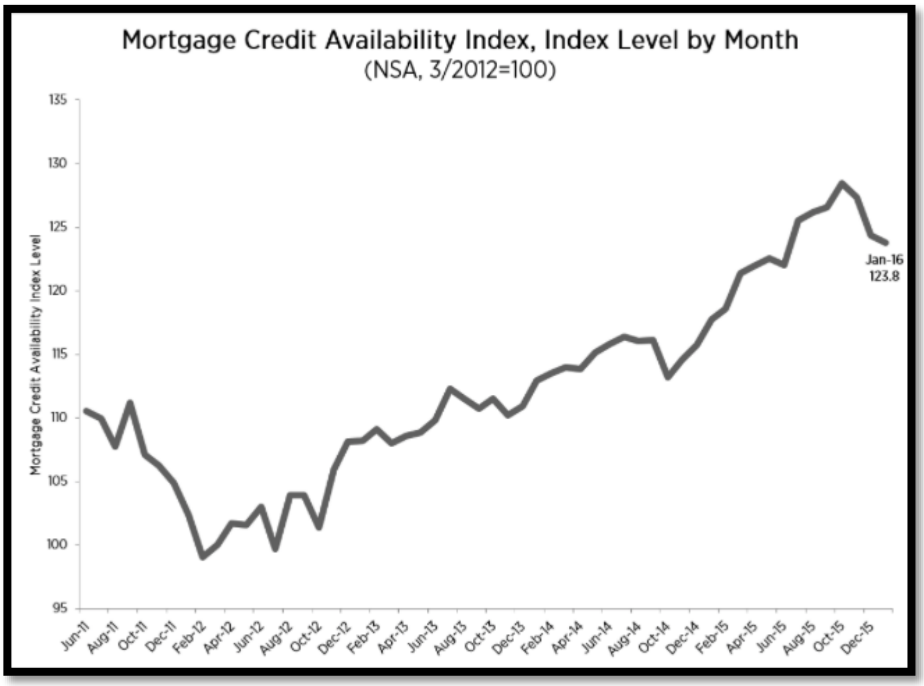

Figure 4: Mortgage Credit Availability Trend

Although the data refers to U.S. statistics, the European scene is not far behind, with few exceptions in Southern European countries, where investor trust in future growth still wavers uncertainly. An increase in the availability of credit and newfound methods of payment can be considered a supporting reason to pursue M&A activity, proposing relative advantages diminishing the towering costs that were once tied to the deal. Banks tended to

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[15] Sherman, Andrew J., and Milledge A. Hart. *Mergers & Acquisitions from A to Z*. New York: AMACOM, 2006. Print.p.13

accommodate only the biggest and most financially healthy firms, fearing that smaller firms, with shakier financial structures would be bad investments on their behalf, rendering credit available only to clients who could ensure payment. Today the scenario has changed, and banks are starting to finance medium to small firms too, in the attempt of encouraging strategic M&A opportunities and enhance shareholder value.

2.4 Changes in Consumer-Demand Requires Innovation

Today, like never before, companies are in dire need of innovation to cope with key trends in their industries and niches. A company's inability to adjourn whole divisions to match competition is a sure sign of its impending deterioration. Several times in the last decade, companies have been crushed by their own weight. Companies tend to follow the same four-step track, which inevitably results in its own demise as result of its own choices.

The company starts in an *entrepreneurial phase*, in which the manager, usually the entrepreneur himself, focuses on surviving on the market place and offering the good or service it produces. Soon the company shifts into a *collectivity phase* in which more personnel is employed, more capital is invested into the company, but the structure is still informal, with only the slightest hints of consolidated procedures. The following phase is the *formalization phase,* in which the company sets a formal hierarchy, fixes clear procedures and implements a research and development team. However innovation obtains a kind of institutionalized angle in the last phase, the *elaboration phase,* during which companies tend to focus on cashing-in instead of giving appropriate weight to the changes of the market and its consumers. Starting with a phase of blindness the company tends to tumbledown a cliff that inevitably leads companies to failure or bankruptcy.

A fitting example is that of Blackberry, the company which led the mobile phone industry up to the rise of Apple. The company failed to notice or accept the evident changes in consumer preferences, and refused to innovate their product in a relevant manner. Consequently the poor choices made by the management team brought the company to its knees, and was forced to reconsider its size and role in the industry.[16]

M&A has been proven an adequate solution to industry-wide changes in consumer preferences (food and beverage industries are valid examples in which companies need to stay in touch with consumers as much as possible, studying whether consumer taste is turning towards one product rather than another), cost structure (healthcare and pharmaceutical sectors in particular have faced a drastic change in its cost configuration, in particular R&D costs have become the most relevant) and reduction in demand ("such as the shrinking federal defense budget, which is driving the consolidation in the aerospace and defense contractor industries"[17]).

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[16] Daft, Richard L. *Organizzazione Aziendale*. Milano: Apogeo, 2013. Print.
[17] Sherman, Andrew J., and Milledge A. Hart. *Mergers & Acquisitions from A to Z*. New York: AMACOM, 2006. Print.p.13

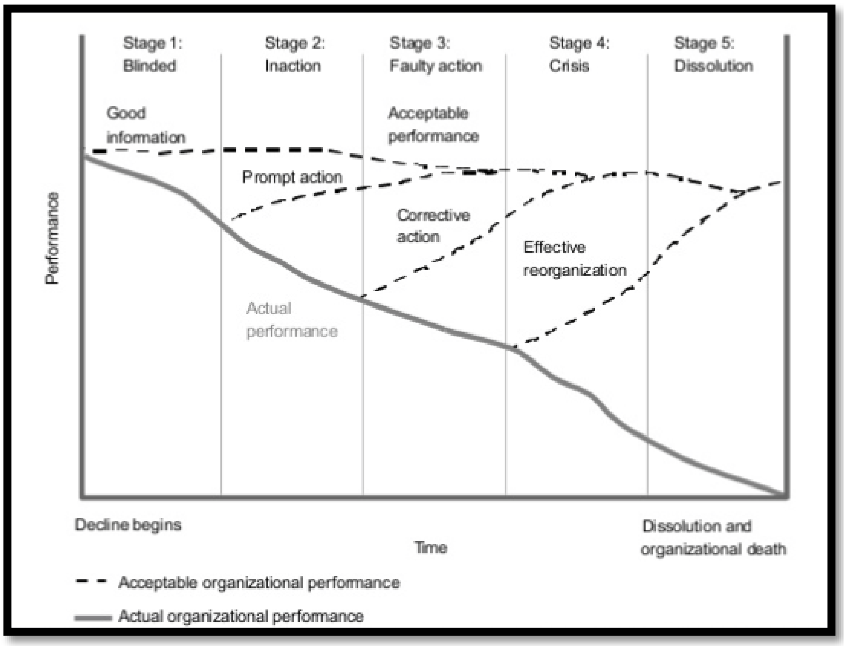

Figure 5: Wietzel and Jonsson's Model of Decline

According to Wietzel and Jonsson's model of decline every firm follows the same steps into deterioration. As mentioned before the first phase is *blindness*, in which companies are unable to recognize visible changes inside or outside the firm, making its present strategies inadequate. The second phase, *inaction,* can be avoided with a prompt reaction to the internal or external changes. Companies stumble through this phase as a result of not acting when clear evidence demonstrates that a reaction is needed to return on a healthy track. Eventually the decline becomes more evident, and an action must be taken to prevent a further fall. Some firms tend to take *faulty actions* that do not truly correct its path, but simply postpone or cover the truth behind the firm's actions. Eventually the dying company reaches a *crisis* stage, in which normal work life can no longer proceed, chaos spreads and shareholders start losing faith, resulting in a drop in share value. A possible solution is downsizing, a radical decision to change the company's dimension, perhaps focusing on only some markets it covers instead of other. Finally, if the company holds no effective reorganization, the remaining phase is *dissolution*, in which the firm has no choice but to wither away.[18] Had Blackberry pursued a different market in which to operate through an M&A deal, its risk would have been better distributed, and its defeat by Apple would not have been as disastrous. However Blackberry proudly continued its own path, following the same predictable steps towards failure,

[18] Daft, Richard L. *Organizzazione Aziendale*. Milano: Apogeo, 2013. Print.

nevertheless the mobile phone company remained alive, although no longer as a market leader in its sector.

2.5 The Need to Transform Corporate Identity

As of today corporate identity is perhaps as important as the product or service offered by the company (if not more). If a firm is unable to promote its output through a convincing logo or marketing strategy, its revenue may never reach significant values. Therefore, no matter the quality or necessity of the good or service, in today's industries, promotion and public relations are fundamental. In many cases M&A activity is a valid strategy, to skip many protracted years of customer fidelity and brand recognition formation.

For example Infogrames, SA (IESA), acquired Hasbro Interactive Inc. in 2003 for a specific purpose, that of using the esteemed Atari brand for its videogames. The latter, although old, had a strong corporate identity, and was highly recognizable for many successful videogames. Infogrames on the other hand did not have the same effect on its consumers. Therefore, through an acquisition, Infogrames Inc. gained access to the Atari assets, and consequently to its brand, name and logo. Shortly after Infogrames Inc. reorganized its operations and named itself Atari Inc.[19].

The same exact procedure can have a venomous backlash. Due to the fact that consumers associate frequently the company-brand to the company-product, should an acquiring company gain control over a firm that has, for example, been in the middle of a financial scandal or has been found guilty of unsound environmental disasters or labor exploitation, the acquiring company is automatically burdened with part of its negative publicity. This sort of situation can lower prices for a company target for acquisition, but might as well doom the acquiring company. Companies today give a notable value to the intangible asset commonly named "goodwill", "the difference between the price an acquirer pays for a business, and the value of the individual identifiable assets it acquires"[20]. It can also be roughly described as the positive reputation, or brand recognition that the company has on the market.

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[19] *Infogrames adopts atari name. (advertising & New/Redirected products)* (2003). EPM Communications, Inc.
[20] HIGSON, C. (1998). goodwill. *The British Accounting Review, 30*(2), 141-158. doi:10.1006/bare.1997.0059

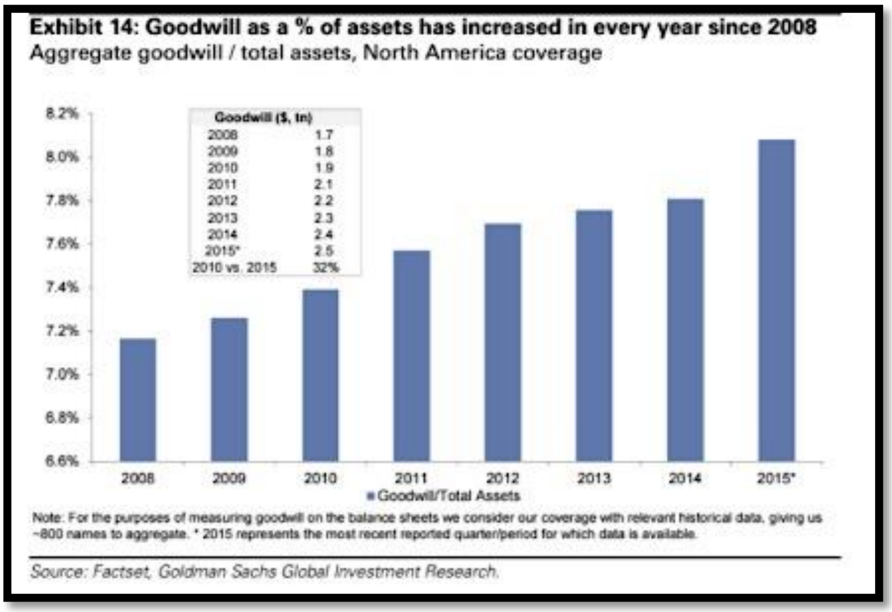

Figure 6: Goodwill as a Percentage of assets

As shown by the graph the percentage value of "goodwill" as an asset has been rising on the overall assets of companies in the U.S., indicating a growing recognition of the term, its validity and what it stands for[21]. Many businesses prefer buying this kind of asset, considering it a less expensive alternative to "building" a similar result. The reason relies on the quasi certainty of brand recognition even when passed to another company, while building from naught (or from "badwill", a negative reputation on the market), can take more money and does not necessarily guarantee success even after years of promotion and marketing-related costs.

[21] Factset, Goldman Sachs Global Investment Research

2.6 In Order to Disperse Risk

The most basic, if not primordial, reason that companies use to justify their merger or acquisition is that of spreading the risk or costs of certain upcoming projects. Various examples can be taken from the technological sectors, in which high costs and uncertain returns on investments need to be balanced by more than one company to sustain a new project or technology. Such ambitious projects can therefore be the basis of a merger, or the opportunity to be incorporated by a financially strong company, which is able to fund and give credibility to the project.

A fitting example is the joint venture between AT&T, T-Mobile and Verizon, a company named Isis Mobile Wallet, which offered its own payment platform relying on near-field communication (NFC). However after only a few years the partnership did not seem to evolve as predicted not gaining enough clients as predicted. In February 2015 Google announced its intention to takeover the company through an acquisition, which proceeded smoothly. The tech-giant then implemented the targeted company's know-how to apply the Isis Mobile Wallet concept to the fast growing Google Wallet, a projected in which Google itself had spent millions. The only way for the Isis Mobile Wallet to "takeoff" was to invest more capital into the project, and provide it with a strong customer basis to prove its worth; both of which it obtained by being acquired by Google.

Another recurring phenomena similar to the latter, is that of M&A activity to spread massive research costs, as in the oil extraction and pharmaceutical industries. Private companies in these sectors have regularly faced these kinds of costs massive. Frequently companies appertaining to these sectors have turned for help to other firms to promote further drilling and exploration for richer sediments of oil or gas, in the case of the oil extraction industry, or the use of certain facilities or data in the pharmaceutical industries to develop new drugs. These expeditions can and usually payoff very well, but can also prove a catastrophe for the firm. Therefore by redistributing the risk that comes with such costly operations (M&A), companies can be sure of enduring a possible negative outcome. Furthermore giving the European commission or the U.S. Antitrust a motivation that revolves around high industry costs, usually forms solid foundations to prove the legitimacy of the operation itself. Additionally any warrantor of fair market competition may look to a merger or acquisition with more or less care depending on the reason behind the operation. The afore mentioned motive shows an enquiring committee that the operation was carried out to safeguard consumer interest, or ensure the company's survival on the market.

2.7 A Vulnerable Firm can be a Good Deal

Although a firm's business cycle can end for a variety of reasons, its death or impending decline can be reversible. In fact, a troubled company that is currently fighting with bankruptcy can be an excellent opportunity for a company to acquire a branch or the whole firm at a convenient price. Although it may have to deal with its newfound creditors, and piles of liabilities, a financially strong firm can turn the situation around, and change the targeted company into a new and active division of the acquiring firm. A "white knight" firm, who intends to save a troubled company aims at salvaging the value of a company (and its assets), however its actions sometimes result into another futile step to avoid imminent bankruptcy. Usually in a merger or acquisition with a healthy company, a buyer has little influence in the decision process, but when dealing with a distressed firm, it gains a certain degree of contractual leverage force, having the chance to assert its interests on the deal. Nevertheless merger booms (starting with the 1980s rush) turned these phenomena around making them a tremendous opportunity, as some of the companies were simply overly leveraged, and could not meet their debt-service burdens. Companies were able to exploit the remaining marketability seeking value in the weakening company's market share, distribution chain, well-maintained facilities and equipment and finally a trademark that has remained undamaged by its current financial situation. Companies looking for a convenient sale, try to understand whether the targeted firm is having problems that are operational or financial in nature. A true opportunity lies with companies facing financial problems, rather than operational ones, meaning that its ability to generate operating cash flow is not affected. On the other hand, a company with operational issues, such as poor overhead cost-control, inefficient production methods, or offering obsolete products, will not stimulate shareholders to invest or generate relevant cash flows for the company. Should a firm consider an acquisition of a large firm with distinct divisions it needs to consider the strengths and weakness of each division, and evaluate which is still profitable. Furthermore tackling a troubled company for M&A means discussing with additional parties during the negotiation process. A third sales dimension is to be considered in the deal (apart from the *sellers*: shareholders, board of directors and management, and the various *buyers*), that is the company's creditors, and their objectives. The scenario entangles itself further when the target company officially files for bankruptcy; inevitably a fourth player enters the deal. The court will be the final arbiter mediating the common and conflicting objectives of the other parties involved. The government itself may have an interest in the deal, wanting to avoid the company's total demise for strategic reasons, or to preserve a vital component of the economy. Obviously governments will be reluctant to yield a company to foreign investors, especially if it has strategic value. An important player in a country's economy means an inevitable leakage of funds to other countries, instead of reinvesting in the same country.

The transaction is complete only when all sides (the court included) have reached a valid outcome. Once the financial advisors have been chosen, the due diligence completed and the contract been properly finalized, the deal can be considered concluded. [22]

[22] Bernhardt III, Richmond G. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print.

2.8 Distribution and Overseas Companies: Buying is Better than Building

In the 1970s firms focused on giving their clients products at the lowest possible prices, focusing on efficiency and productivity of each machine and worker, Porter called this kind of strategic orientation *Cost Leadership*. In the 1980s the focus shifted towards a different route: making the company's output distinguishable from the one offered by its competitors; this strategy was identified by Porter as *Differentiation*. Some firms brought this procedure another step forward to what is called *Total Quality Management* (TQM), which consists in organization-wide efforts to create a permanent climate where the company continuously improves its potential to offer high-quality goods and services to its customers. Today many companies pursue a strategy focused on its supply chain, on top of a lean production (a systematic method to avoid producing waste). Supply chain management is defined as the planning, execution and control of supply chain components with the overall objective of creating value for the final consumers by synchronizing supply and demand, through the weighing of worldwide logistics and appropriate distribution channels. Current consumers expect certain auxiliary services added to the core product or service that is being purchased. Therefore several firms are deciding to adopt a "one-stop shopping" feature to maintain competitiveness, which offers consumers all the additional services it could require (ex. Shipping, packaging, online service, maintenance, etc). A merger or acquisition can be the appropriate solution for a company to reach this sort of result. By incorporating the correct target, the new company might have the ability to offer services that it could not sell before, or have an even wider reach.

This motivation relies on the widespread belief that buying a sorely needed partner is usually more effective than starting a whole new company or division from start. A company that is already working in a foreign market does not have to face marketing costs to attract local consumers. Furthermore, maintaining a local brand avoids a a negative consumer reaction on new products. The same concept applies to an already functioning distribution network. Creating a whole web of new retail vendors and connections in a new and foreign market can be extremely challenging and costly, in time and cash. Since a definitive outcome can never be assured through an entirely new initiative, companies prefer buying or merging with other firms (suppliers or distributors) that already work in the market.

2.9 A Fiscal Impetus

A less common motive behind M&A is the one regarding taxation. Many lucrative companies try to bypass their homeland's fiscal regime when corporate taxes become too much of a burden for their balance sheet. However warrantors and the country itself (should the company be a strong player in its industry) frown upon this dishonest approach, and do what they can to avoid this exit. Although it cannot be considered "tax evasion" it is still considered by experts as a sly maneuver to avoid paying what is due to the government. A M&A which is being concluded with this motivation as its foundation is rarely ever carried through successfully. Although the true reason is quite obvious when proposed, firms usually try to cover up their intent with a fictitious strategic motivation to justify the M&A that would give the company a great deal of fiscal advantages. Nevertheless this particular reason, also known as tax inversion, has already been seen in the last years, as Actavis, a US-based pharmaceutical company, "bought Ireland-headquarted Warner Chilcott, paving the way for the company to relocate its tax base away from the US and leading to aggressive acquisition that culminated in the takeover of Botox-maker Allergan."[23] Today Actavis is known entirely as Allergan; it has been able to avoid the high US corporate taxes, and is now based in low-tax rate Ireland. In the upcoming case study, the Pfizer – Allergan failed merger will be discussed, as a prominent example of a merger focusing on tax inversion as its principle motive.

[23] Jopson, Barney, David Crow, James Fontanella-Khan, and Arash Massoudi. "Collapse of $160bn Pfizer and Allergan Merger Shocks Corporate US." *www.ft.com*. Financial Times, 6 Apr. 2016. Web. 27 Apr. 2016.

3 Strategies in Mergers & Acquisition:

3.1 The Fundamentals of M&A

M&A deals are extremely complex transactions and can take years to follow through correctly. However given particular circumstances firms rush through certain steps of the tedious procedure to obtain more advantageous terms. At times, when proposing a deal to a target company's shareholders and executives, the proposed price fails to impress, starting a negotiation that can take months. The time required by investment banks and consultancy firms to perform the due diligence and valuations can take even more time to complete. Nevertheless some deals, like the Shire – Baxalta acquisition, have been swift and efficient, proposing the right price to shareholders, who were eager to see their company becoming part of the top 10 pharmaceutical companies in the world.

When executing a takeover an important distinction must be emphasized between a *hostile* takeover and a *friendly* takeover. A *hostile* takeover occurs when one corporation (acquirer) attempts to take over another corporation (acquiree/target) without the agreement of the target's board of directors. On the other hand a *friendly* takeover takes place when one corporation acquires another with the mutual consent of both executive teams. Overall the number of friendly takeovers is greater than the number of hostile takeovers, even though the latter has risen significantly in numbers since the year 2000 merger boom. In particular a hostile takeover can be carried-out in two ways: using a *tender offer* or a *proxy fight.* The former is a strategy that consists in offering the outstanding shareholders of the target corporation a price to buy a certain number of their shares. Obviously a premium will be offered to incentivize shareholders to sell (an offer at the current market price would not be considered attractive at all) their shares to the acquiring company. The offer has a limited time frame for the targeted shareholders to accept. A *proxy fight,* a more subtle and aggressive technique consists in persuading shareholders to use their proxy votes to install a new management team or pursue other types of corporate actions. Once a new board of directors has been elected, the company has a smoother way to steer the target company towards its own interests.[24]

[24] Loyola, Gino, and Yolanda Portilla. "A Bargaining Model of Friendly and Hostile Takeovers." *International Review of Finance* (2015)Web.

3.2 Evaluating a Target Company:

"The key to evaluating an acquisition candidate is a thorough understanding of the acquirer's business strategy"[25]. In this section the basics of M&A evaluations will be studied, as well as who are the main actors involved and how they perform these evaluations. Many of these studies rely on Michael Porter's research and the extensive empirical studies by PIMS (Profit Impact of Market Strategy), which have proven their validity in several different occasions. Every M&A operation gives a unique set of possibilities to the acquiring or merging firms, offering an increase in competitiveness on the market through horizontal integration, vertical integration, or diversification. The first, tends to aim to lowering costs and increasing market share, and is therefore considered a relatively safe M&A operation. Vertical integration, on the other hand, refers to deals up or down the supply chain, targeting the firm's own suppliers or distributers. Such deals tend to make a company less flexible, and often increases capital intensity. Diversification, similarly to vertical integration, is an operation that is heavy with risk. Although a diversified portfolio may diminish the financial risks associated with cyclical, seasonal, or highly competitive industries, it may have a negative impact on the firm's benefits arising from synergies in shared costs with other companies, and the utilization of other distribution channels.

According to PIMS' empirical research about two-thirds of a target's profitability is determined by its operating strategies, while industry factors and competitive position determine the other third. Operating strategies include the pursuit of total quality management, market share enhancement, and low capital intensity.

Total Quality Management is the operating strategy that is gaining more attention in the last few decades, it consists in maximizing quality inside and outside the company. Meaning that a company will pursue greater quality in its internal operations and procedures, but also maximize its output, its delivery to the consumer, and its image on the market. The PIMS empirical study demonstrate that a greater focus on quality guarantees a greater Return On Investment (ROI), however evaluating an acquisition candidate's internal focus on Total Quality Management involves a determination of the candidate's cost of quality. If a company can do business pursuing quality, keeping its costs of quality under the average of 20/25% of its sales, then it can be considered a good candidate for acquisition, and a good partner for a

[25] Fort, Dan C. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print.p.19

merge. "By performing a cost-of-quality analysis, the acquirer gains significant insight into how the performance of the target company can be enhanced"[26].

The second most renowned operating strategy is *Market Share Expansion*. An increase in market share can have a significant impact on a company's profitability. Some of the advantages include: a more effective utilization of fixed capital, better market presence, lower costs through economies of scale and ultimately higher profits which can be reinvested in research and development, advertising technology and many other productive segments. The PIMS research also indicates that there is almost a 200% difference in profitability between the market-share leader and the fifth largest competitor, although it fails to specify what companies were used in the study and to what industry they appertain to. Nevertheless market share is a crucial criterion to focus on when planning a merger or acquisition. A target company's market share can augment the buying company's market share, or it may be considered a necessary action to avoid that a growing start-up becomes a relevant threat for a market-leader.

The third operating strategy, *Capital Intensity*, refers to evaluating an acquisition or merger candidate on the basis of fixed capital assets in relation to other assets, mainly labor. Usually high capital intensity adversely affects profitability for a market follower, therefore the company's role in the industry must be examined before proceeding (leader or follower). High fixed capital creates an environment for aggressive competition as companies compete for business so as to utilize its plants, equipment and new technology. However, apart from creating barriers to entry, high levels of fixed capital represent exit barriers, making exiting an industry and gaining a return from one's own investment not very profitable and quite difficult. Therefore a targeted company's capital intensity can compromise future flexibility for the resulting company. When judging potential candidates for a merger and acquisition a thorough study must be conducted on its present state, its historical investments and performance, using the afore mentioned operating strategies. To give a numerical figure to a deal, and a fair price to an M&A transaction We must refer to different methods, or valuation techniques.

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[26] Fort, Dan C. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print.p.30

3.3 M&A Valuation Techniques:

The main valuation techniques that are commonly used today in any kind of deal are: the *Discounted Cash Flow analysis*, the *Comparable Transaction analysis* and the *Comparable Companies analysis*. These methods will be covered in this paper, while other techniques exist, they are used less frequently in the valuation of M&A transactions.

The *Discounted Cash Flow analysis* (DCF) is perhaps the most common technique to give value for any asset or internal development decisions; some experts believe that almost half of all acquisition valuations rely solely on this method. This technique is "future-oriented" meaning that it assigns value in today's dollars to the expected cash flows of the future, relying on the founding principle that a dollar today is worth more than a dollar tomorrow, as the today's dollar can be reinvested for a return. This sets the focus on future expectations as a correct method of valuation, instead of trusting a company's past performance as a fair indicator of its future cash flows. "The discounted cash flow technique begins with a projection of sales and operating profit. These projected financial results are based on an assessment of the company's recent historical financial performance, adjusted for nonrecurring and nonoperating income and expense items, as well as on certain assumption regarding the company's prospects for the future. The projected operating profit estimates (after taxes) are then adjusted by adding back depreciation and deducting net investments in working capital and capital expenditures. The projected free cash flows from operations and residual value are discounted back to the current period using an appropriate discount rate to compute the total value of the company for debt holders and stockholders. The net equity value is then determined by deducting the market value of interest-bearing debt and adding the market value of any excess assets."[27] Obviously, the reliability of this technique depends on the degree of veracity of the underlying assumptions, mainly the income statement, followed by the length of the projection period, reinvestment requirements, residual value and the utilized discount rate. The ideal length of the projection period to consider for this technique is 3 to 7 years, as to include any possible peaks and valleys for a firm's business cycle. Reinvestment requirements are also an important variable to consider when applying the DCF technique, as after-tax profits are not an accurate representation of available cash flow for the company. It is necessary for the firm to reinvest a part of profits in the form of working capital or fixed capital investment. Residual value, or the remaining value of the

[27] Oesterle, Steven D. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print.p.44

target company after an acquisition, can be calculated with the perpetuity approach (capitalizing the final year's projected cash flow by the discount rate) or by the multiplier approach (applying a multiple of the earnings before interest and taxes (EBIT) to the final year's EBIT, the higher the discount rate used in the technique, the lower the effective EBIT multiple). The possible sources of the discount rate used are many, but the correct discount rate is derived singularly for each different scenario. This technique can change its figures very easily, by just modifying one of the several variables included. Therefore the analysts in charge of this valuation provide the management team with a series of different "what if" scenarios, slightly changing each variable, on the basis of what is considered more likely for the targeted company and for the whole industry.

A second, and less widespread instrument for calculating value is the *Comparable Transactions analysis*. The market provides various examples of transactions, within an industry, between rival companies, some of which present similarities amongst one another. Some of these transactions are private, and are rarely disclosed to the company, while others gain press coverage. By viewing this disclosed data, in the form of cash flows and balance sheets, an acquiring company can obtain a general view of how the sector values the targeted company, and how well it is positioned in comparison with its rivals. Such a comparison can result in helpful insight in merging or acquiring the best option in the industry. The overall objective of the comparable transactions approach is to determine some pricing relationships, such as: price / earnings ratios, EBIT multiples, and/or market/book value premiums for transactions consummated.[28] Finding two companies that are identical in distinct data sources is unlikely, therefore a notable difference can always be found between two potential candidates for a merger or acquisition.

The last method for value calculation in M&A transactions that will be discussed is the *Comparable Companies analysis*. This process is similar to the Comparable Transactions analysis in that it identifies a pricing relationship and then applies it to the potential acquisition's earnings or book value. However it differs in that it compares the value of the potential acquisition with market prices of publicly traded companies subject to similar economic trends and risks.

Other methods exist for calculating value in similar deals (*Book Value* or *Adjusted Book Value, Liquidation analysis*, etc.), but can be used only in very specific scenarios. Although the *Discounted Cash Flow analysis* may not reflect the reality of pricing trends in the markets, it

[28] Oesterle, Steven D. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print.p.48

provides a method to model expected performance and to understand sensitivities. Furthermore it can be tailored to fit the facts of each specific situation, by making simple adjustments to each of the variables. Finally, these valuation methods flawed, as they fail to adequately reflect other strategic reasons to complete the merger or acquisition, which cannot always be explained in figures.

3.4 Due Diligence:

"After the roaring decade of the 1980s, merger and acquisition activity has entered a new phase…There is increasing emphasis on high quality deals that have realistic pricing. Investors are placing greater importance on due diligence-the intense examination of a target by an objective third party"[29]. This fundamental ensemble of analyses and calculations is carried out by consultancy firms and investment banks. These entities broker the deal as well as propose guidance for a smooth and successful outcome. These firms such as: Deloitte, Merril Lynch and JP Morgan, are responsible for the valuation and evaluation of target firms in acquisitions and possible partners in a merger. Every piece of advice these firms give to their clients carries a great deal of weight when taking final decisions. Additionally their name and reputation is at stake in each deal, therefore any unsuccessful transaction can result in negative consequences for these companies too, especially as they operate in one of the most competitive sectors in our economies. In preparation for such an important step, these firms must focus in finding and correcting any discrepancy in prices offered by the selling and the buying firms. This refers in particular to overvalued and undervalued assets that may have different values due to the fact that some companies and institutes measure their assets in distinct ways, creating a chasm between the two valuations.

For example, some companies might value property, plants or equipment on the basis of their historical costs, with or without depreciation; this figure is likely to above or below the market value. A further example is that of valuating inventories. Whether a company uses the LIFO (Last In First Out) method of valuation or the FIFO (First In First Out) can have a tremendous effect on a balance sheet. Companies tend to dilute their future assets to seem more appeasing, or even postpone upcoming liabilities, but eventually an honest valuation is made, revealing the fair price for a target company and its assets.

[29] Bowne, Martin J. And Gage, Glenn H. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print.p.59

3.5 Financing an M&A Deal:

As previously stated, M&A is always an expensive transaction and can rarely be entirely funded by using excess cash in a company's balance sheet, therefore many different solutions have been proposed, fitting every corporation's needs. The structuring objective should be to meet both the acquirer's and the seller's demands at the lowest cost with a suitable level of risk. A thorough review of both financial positions (capital structure, liquid asset position, unused borrowing capacity, projected cash flow) and future expectations can help avoid potential problems during and after the deal. Once an impartial value of both positions is completed, the acquiring company (or merging ones) needs to discuss its financing options. The four main mechanisms are: senior debt, subordinated debt, preferred stock and common stock. Senior debt is the cheapest solution, followed by subordinated debt, preferred stock and finally by common stock. This is due to the fact that paying dividends payout, including dilution of ownership makes these methods particularly expensive for the company. On the other hand, financial risk is lower when considering common stock as a viable solution, senior debt being the most hazardous in terms of risk. Whatever the solution, corporations tend not to choose one determinate solution, but adopting a combination of two or more, to find the appropriate balance between cost and risk.[30]

[30] Wujtowicz, Robert P. *Mergers & Acquisitions*. New York: J. Wiley, 1994. Print.p.86

4. The Pharmaceutical Industry:

Reaching an estimated value of 1 trillion U.S. dollars, today the pharmaceutical industry is responsible for the development, production and marketing of drugs and medications. Its relevance in our economy is clear, but as an industry it also plays a vital role in avoiding premature deaths and maintaining our communities healthy. Statistically, North America has the biggest slice of the "revenue pie", reaching more than 40% of the total, this is presumably due to the U.S.' leading role in the industry, but its Chinese equivalent has the highest growth rate, making the overall international environment very competitive. In this chapter the main political, economical, social, technological, and legal variables regarding the pharmaceutical sector will be analyzed. This overview is needed to explain the ongoing patterns in the industry as well as the framework of the main players on the market.

4.1 A General Overview of the Industry's Components:

From a macroeconomic point of view, several variables seem to encourage the continuous and stable growth of the pharmaceutical industry. The industry itself revolves around each company's R&D divisions and their following applications for patents. Having the exclusive right to manufacture a life-saving drug is what makes the pharmaceutical industry so lucrative, and that gives executive teams the possibility to raise prices at its own discretion. However the latter is also the only possible way to guarantee the supplying company a return on the immense R&D expenditures. The average cost of R&D in 2014 among the top companies in the industry was around 6.58$ billions, with peaks reaching almost 10$ billion for some of the companies. However the unfortunate truth is that there is no faster or cheaper way to discover remedies to diseases or enhance human life. The same scientific procedure must be carried out, with clinical trials and with the use of placebos in order to avoid any possible errors. One break through in a particular field can quicken other discoveries that are tied to it, but the process still remains long and laborious. Should final trials be inconclusive, the company would have spent billions without any returns thus facing serious financial troubles.

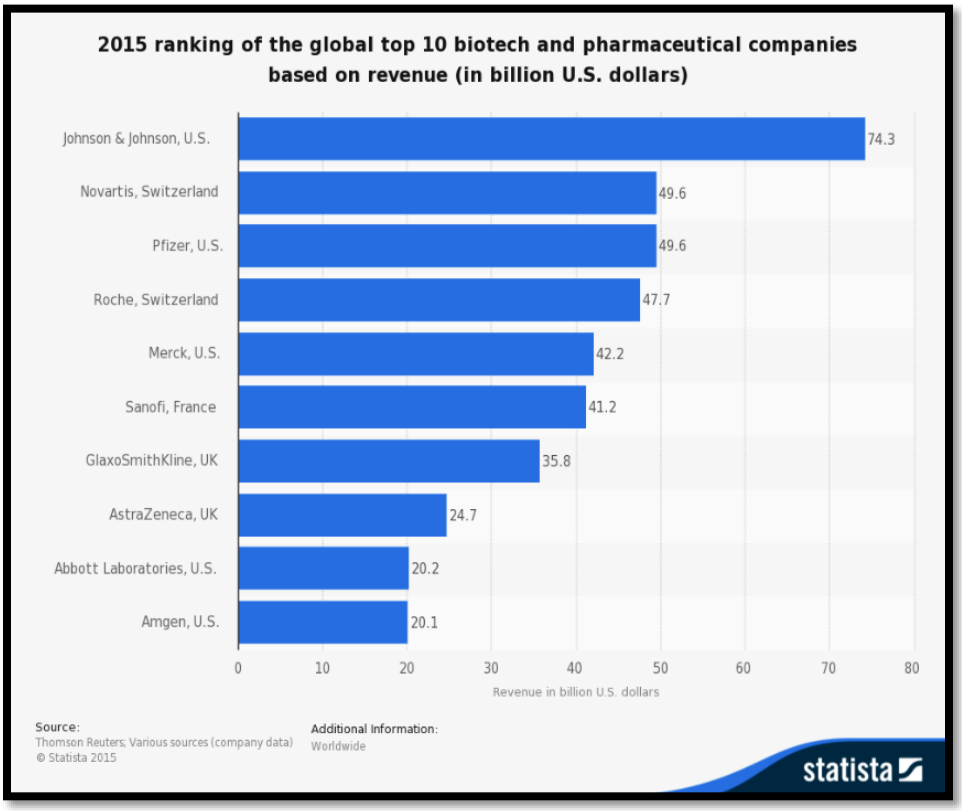

Figure 7: Top 10 Biotech and Pharmaceutical companies based on revenues

The main players in the market are from the United States, United Kingdom and Switzerland. This table shows the main competitors in the pharmaceutical industry and their revenues in 2015.[31] The manufacturing of pharmaceuticals is broken down into two distinct classes. The first class produces supplies and raw materials for products made by the second class (an example is the Dutch company DSM). The second class is known for its pharmaceutical preparations, which include all kinds of medicines (bandages, vaccines, dental fillings, etc) for humans and animals. The second class can be subsequently divided into two more categories: branded companies and generic companies. Branded companies are responsible for the discovery and development of new drugs. These are the companies that have an exclusive right to production through patents, but are also the ones that support the massive research and development costs. On the other hand, generic companies are the ones that imitate the branded companies' products once their exclusive patents expire, offering lower prices to the general public.

With regard to the products of these companies, three groups are frequently distinguished: *Prescription* drugs (prescribed or administered by healthcare professionals),

[31] "2015 Ranking of the Global Top 10 Biotech and Pharmaceutical Companies Based on Revenue (in Billion U.S. Dollars)." *www.statista.com*. N.p., n.d. Web. 07 May 2016.

Over The Counter (OTC) drugs (that can be bought without a prescription) and *Vaccines,* which are considered a whole different class due to the fact that they are not composed of chemical compounds, but live bacteria and viruses, and their development process and supply chain is far more complicated than other drugs. Pharmaceuticals that are part of the first two groups all follow a similar process to pass from the labs to consumers; with few exceptions among the different organizations in different countries that regulate the production and distribution of pharmaceuticals.

In this paper only the FDA (for the United States) and the EMA (for Europe) will be considered as examples. The conduct is completed in analogous manners, and differs only on minor details and timing in certain areas. The development of a new drug starts with the discovery of a new chemical compound that is believed to have a therapeutic effect. In this first research phase, once said-compound has been identified, pharmaceutical companies obtain patent protection, giving them an exclusive right to sell and market the new drug for a specified time period, usually twenty years. The next step after the discovery is turning it into an effective and safe treatment for clients, meaning several long clinical trials. Finally, if successful, the drug continues to the last step, where the appropriate regulatory authority may or may not approve the drug. The whole process takes ten years on average, and an estimate of 400$ million to complete. Following this period, most companies have approximately ten more years to meet the high costs and produce a profit. In the first five years after the final approval, companies benefit from a data exclusivity privilege, however once this period is over, the firm is obliged to publish all its data regarding the drug (clinical trials, chemical compound, etc). This period stops generic companies from starting to develop imitation drugs immediately after the branded product is available to consumers.[32]

The data exclusivity protection incentivizes companies to create new and better drugs, instead of "free-riding" by waiting for patents to expire. However, it is also true that many companies that belong to this sector have divided its operations in a way that allows them to be branded companies on one side, but generic companies on the other. By doing so, companies attempt to spread the risk of having unsuccessful experimental drug releases with an almost assured income from drugs developed by competitors, that they need only to imitate without paying the R&D costs. Additionally companies in the pharmaceutical sector share similar figures regarding several other aspects of the way in which they conduct their business. As previously mentioned, all branded companies have high R&D costs to develop

[32] Weyzig, Francis. *Sector Profile of the Pharmaceutical Industry*. Rep. Amsterdam: Somo, n.d. Print.

new drugs, some examples include: Novartis and Pfizer, both of which settle around 8$ billions each year. Other companies in the top ten like GlaxoSmith Kline and Sanofi reach the corresponding value of approximately 5$ billions in 2014. Closely related to R&D costs, is a pharmaceutical company's "pipeline" (name for the ongoing process of inserting new drugs on the market). The process usually can have a positive outcome, or can be shut down before it even reaches clinical trials. Most investors attentively scrutinize a company's pipeline, and judge whether the company has the right amount of drugs that are about to be positioned on the market. An excessive number of projects in the "pipeline" could indicate an insufficient amount of attention dedicated to each project, while a very small number of projects, even if very likely to have success on the market, indicates that the company will rely on the sole drug for years. The expiration of the patent can mean that the company might encounter a difficult financial situation in the near future. Apart from this kind of costs, most companies also have in common high marketing expenditures to appeal to new and regular customers for its branded products they are producing, as well as to promote its generic products, imitations of competitors' products. Companies in this tier do not let geographical distance impede the distribution of their drugs all over the world. Therefore each of these companies tends to be present all over the globe, independently of where it is based, reaching even the most remote countries. The workforce employed by each of these companies changes regularly, but it is relatively high for any industry, with top companies such as Johnson & Johnson surpassing 100.000 employees. However the number of workers cannot be considered a just criterion to compare the companies in the sector, because many have started relying on outsourcing for several operations, including production, thus drastically reducing the number of employees on the company pay roll. Another common trait among branded companies in the pharmaceutical industry is the timing procedure to introduce drugs on the market. The "pipeline" can be overcrowded or almost empty depending on the company, but the time that passes from lab to pharmacies is usually the same for each company, altering only for the kind of drug that is being developed. The final notable pattern that can be seen in the pharmaceutical industry is the companies' trend in following the M&A routine progressions. Each of these companies attempts to grow in size and profit by assimilating and merging with other companies. The industry itself can be seen under different lenses, each of which indicates why the pharmaceutical industry is so profitable, prone to future growth and fertile for subsequent mergers and acquisitions.

4.2 An Economical Perspective of the Pharmaceutical Industry:

The pharmaceutical industry has a huge impact all over the world. In the U.S. and Europe, where the market leaders are from, this industry is responsible for, respectively, 16% and 9% (approximately) of each Gross Domestic Product (GDP).[33] This also relates to jobs, the pharmaceutical industry is bound to 660.000 jobs in Europe, and 810.000 jobs all over the U.S., strong figures for any industry.[34] As the wave of M&A continues this weight becomes more rigid, meaning that a collapse of one single top player can have serious consequences for the whole economy. As the graph from the OECD shows these figures do not seem to be stopping any times soon, the growth in the last 10 years is stable and consumers are ready to spend more on drugs, thus encouraging further growth and employment for the sector[35] (data adjusted for inflation).

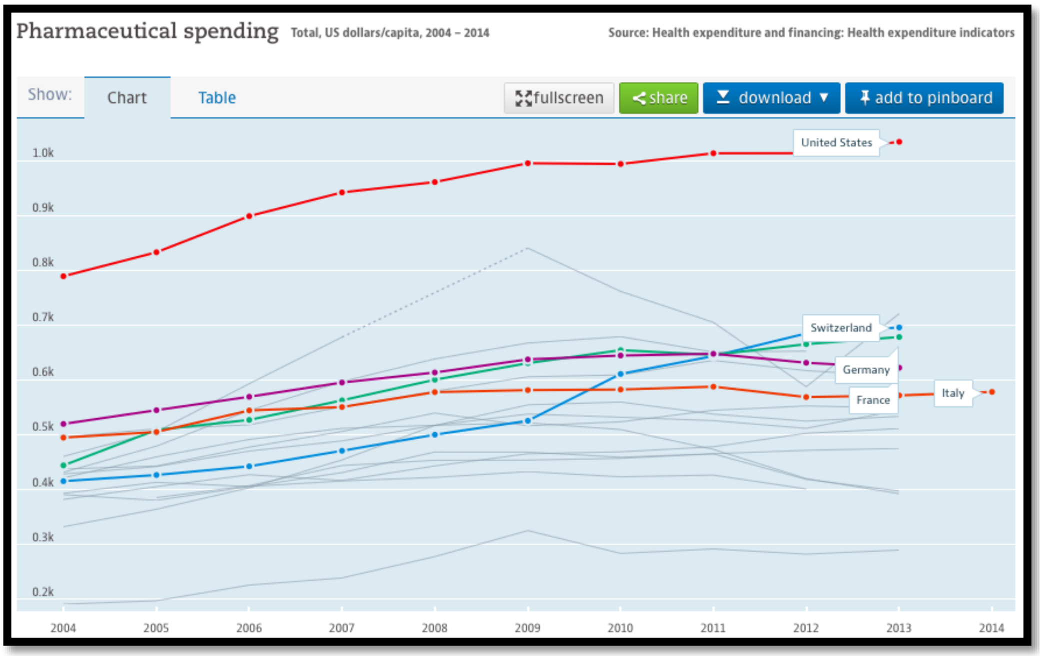

Figure 8: Pharmaceutical Spending per Capita per Country (2004-2014)

33 Tamny, John. "Health Care: 16% Of GDP?" *Forbes*. Forbes Magazine, n.d. Web. 29 Apr. 2016.
34 *http://www.efpia.eu*. European Federation of Pharmaceutical Industries and Assocaitions, n.d. Web.
35 OECD (2016), Pharmaceutical spending (indicator). doi: 10.1787/998febf6-en (Accessed on 29 April 2016)

4.3 A Political and Legal Perspective of the Pharmaceutical Industry:

The pharmaceutical industry has a history of intensive lobbying (the attempt to influence government and business leaders to create or modify legislation to reach particular objectives). In the last few years a notable growth has been recorded in this specific section of costs. As companies grow in size, so do their political influence and weights in the economy, therefore when pharmaceutical companies merge, they tend to become even more influential on certain matters. Lobbying is often frowned upon, and can lead to illegal deeds such as bribing (this particular practice is legal in most countries, and defended by specific legislation). The pharmaceutical industry is said to have totaled 240$ millions in 2015 exclusively in lobbying, to promote favorable legal and fiscal conditions. Another auspicious prospect for the pharmaceutical industry is the introduction of the "Obamacare" welfare program, which is giving health benefits to thousands of uninsured American citizens, boosting demand and revenues for U.S.-based drug suppliers. Canada and most countries in Europe have free healthcare for their citizens, meaning that the kind of boost that the "Obamacare" program is having and will have in the U.S. market, has already been witnessed in a more regular pattern in the last decade.

From a legal point of view this industry is exposed to a lot of pressure and regulations. In the U.S. before actually selling the drug on the market, firms are required to pass through the FDA (Food and Drug Administration), which checks the effectiveness of the proposed medicament, to ensure consumer wellbeing. Seemingly the European Union's equivalent is the EMA (European Medicine Agency), which also conducts tests to guarantee the validity of a drug that is destined to reach the market. The pharmaceutical industry endures a great deal of pressure from consumers who often sue the companies for harmful side effects or for not treating the disease at all. Many, if not all, of the top players are involved in some kind of legal lawsuit, making legal costs a noticeable section of total expenditures.

However these assemblages of lawyers not only defend companies from unsatisfied clientele and competitors, but also pursue a process known as "evergreening", a technique aimed at renovating or extending the length of patents. As the whole industry revolves around exclusive privileges to producing a drug, even a one-month extension can be worth millions. Yet genetic producers are becoming more aggressive and actively try to bring generic drugs into the market before a patent expires, arguing that a patent is invalid or not infringed. Consequently, pharmaceutical companies are regularly involved in several lawsuits over intellectual property, either filed by themselves, to protect many years of hard work, or by generic competitors, who are trying to obtain a slice of the revenue. Inevitably when patents extinguish rival companies will have the possibility to produce the same drug at a lower cost, without having to compensate for the high R&D costs.[36]

Another strategy frequently used by pharmaceutical companies to protect their intellectual property is to launch a slightly improved version or more convenient formulation of the same drug. Firms use this small difference as leverage to obtain a new patent and continue obtaining high revenues. However this technique relies heavily on a company's marketing ability in promoting the new version, convincing consumers that the new version is more convenient and more efficient than the previous version that is being imitated by generic competitors.

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[36] Anderson, Richard. "Pharmaceutical Industry Gets High on Fat Profits." *BBC News*. N.p., 6 Nov. 2014. Web. 29 Apr. 2016.
OECD (2016), Pharmaceutical spending (indicator). doi: 10.1787/998febf6-en (Accessed on 28 April 2016)

4.4 A Social Perspective of the Pharmaceutical Industry:

The growth in the elderly portion of our communities is a first promising variable from a social perspective; this particular segment of our populations consumes a large percentage of the total drugs produced, making this trend extremely profitable for pharmaceutical companies. As shown in the graph, in the last 30 years the percentage of elderly citizens over the total population has significantly grown, encouraging further investments in the sector.[37] However this data can also be interpreted as the pharmaceutical industry's success in prolonging life.

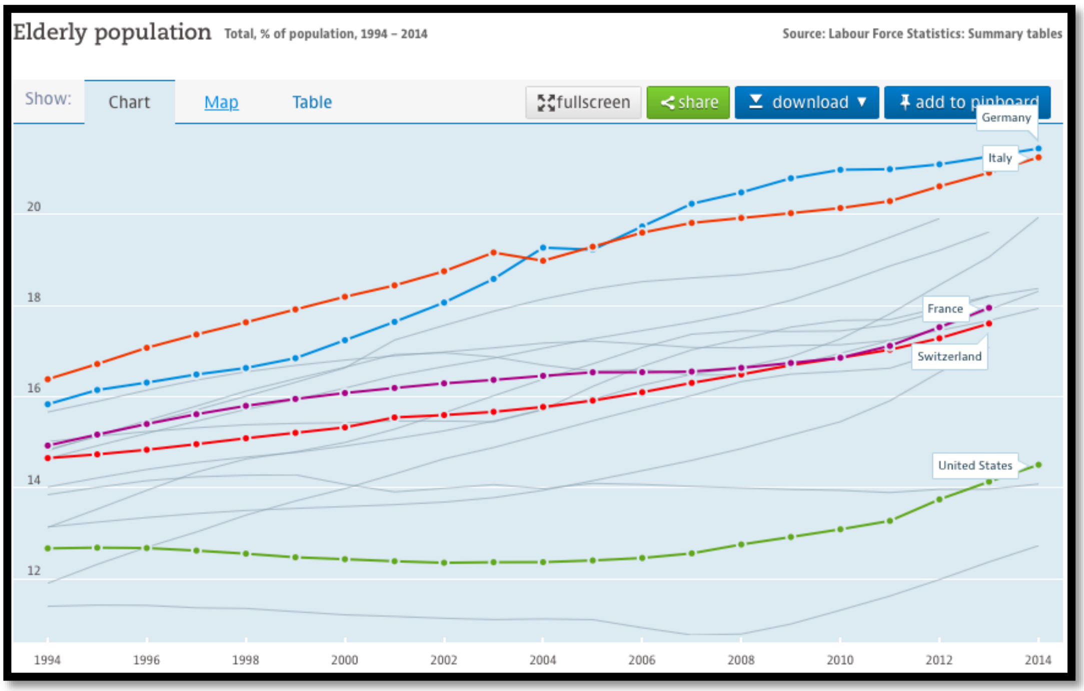

Figure 9: Elderly population as a percentage of total (1994-2014)

Pharmaceutical companies are also known as greater contributors to charity. Companies such as Pfizer and Hoffman-La Roche have instituted foundations and different programs to help customers in their fight against diseases. Furthermore, these companies are usually the first on the field to tackle newfound diseases, and to offer short-term and long-term solutions. There are many examples of important companies intervening in perilous situations to discover important facts on a newfound disease.

Several companies have started restructuring their own CSR (Corporate Social Responsibility) techniques to give their consumers a better image of themselves. These

[37] OECD (2016), Elderly population (indicator). doi: 10.1787/8d805ea1-en (Accessed on 29 April 2016)

restructuring include: health issue awareness campaigns, loan and micro-finance programs and differential pricing sales for resource poor countries. Frequently such corporations are investigated on behalf of third parties to discover which companies truly play a significant role in communities.[38] Nevertheless these corporations are frequently accused of providing help or developing new medicines only when a profit is in clear sight.

[38] Droppert, Hayley, and Sara Bennett. "Corporate Social Responsibility in Global Health: An Exploratory Study of Multinational Pharmaceutical Firms." *Globalization and Health*. BioMed Central, 9 Apr. 2015. Web. 29 Apr. 2016.

4.5 A Technological Perspective of the Pharmaceutical Industry:

The manufacturing process for a drug is usually not expensive; raw materials are usually bought in large quantities with additional discounts from massive economies of scale, therefore the unit cost is relatively low for the supplying firm. However the markup imposed by the producers clearly reflects the high R&D costs that need to be undertaken to manufacture each drug. On the other hand, pharmaceutical companies have been finding different methods to lower R&D costs, and minimize the time it takes for a drug to pass from the laboratory to actual patients. To do so, companies have been employing the latest innovations in technology. The makers of Claritin (a drug for patients who are allergic to pollen), for example, have started using location-based technology and smart phones to offer its clients useful services such as local pollen count and where to find nearby medication to help ease seasonal allergy symptoms. Additionally the same technology can be used to gather targeted information for research, efficacy and compliance.

These insights however do not come without a cost, which is why a well-structured M&A can turn an expensive maneuver into a low cost formality, offering a pharmaceutical company the material it needs to satisfy the customers' future expectations. Additionally companies are trying to avoid costs related to trials by hoping to implement "data services", which would help find opportunities to use data in many different ways, and for different researches instead of using each piece of data for only one project (maintaining standards which would not compromise results). This technique would also unlock lots of opportunities in R&D, as the use of clinical-trial data in trial simulations would still yield findings, but at a lower cost and with less risk. [39]

[39] Accenture. *Six Tech Trends That Will Shape the Pharmaceutical Industry in 2013*. Industry Week, 10 Dec. 2012. Web. 28 Apr. 2016.

5.The Pfizer Case Study:

This case study presents a short overview of Pfizer's successful and unsuccessful M&A activity, covering three different examples with a positive or negative outcome, each studying underlying motives, strategies and an ex-post assessment when cases were successful. After a thorough inspection of motivations that induce mergers and acquisitions, the strategies to fulfill these operations and an overview of the pharmaceutical industry, giving an in depth analysis of particular cases can be helpful. By doing so I intend to blend a theoretical approach to specific examples, in which what has been just explained has been actually consulted on the field. A preemptive investigation will be conducted, scrutinizing the motivations and strategies behind each example, while the evaluation of the following will be based on the overall impact it had on the result in terms of ex-post revenue, cost structure and product portfolio. Additionally a market-based view of the merger or acquisition will be included to study its effect on competition. First, the immediate outcomes of the case will be studied in terms of anticompetitive behavior, such as price increases or changes in market shares. Secondly, potential or long-term repercussions will be reviewed, with regards to innovation and the entry of new competitors on the market. This last analysis is particularly fitting in the pharmaceutical industry due to its characteristics as an innovation-based sector, which relies heartily on R&D and its fruits.

5.1 Pfizer's Past and Present:

Pfizer has been used as an example in the previous chapters various times; it has followed the trends of the pharmaceutical industry, regarding M&A, R&D expenditures, charitable behavior and many others for the last decades. As such, it is one of the best fitting candidates that can be studied to represent truthfully the whole sector. Started in 1849 by cousins Charles Pfizer and Charles Erhart, the New York based-company started with only 2500$ and soon became a strong presence in the growing industry thanks to a growing demand, due to the Civil War and an ever-growing population. Charles Pfizer who became the sole owner in less than 50 years after his cousin's death, found new partnerships by producing citric acid, a key component of the drinks such as: Coca-Cola, Dr. Pepper and Pepsi. After turning into a public company, Pfizer witnessed another quick growth, giving it a notable position in both World Wars as suppliers of medicines (especially penicillin) and useful equipment for the American army. Soon, subsequent to a series of more well planned strategic moves the company growed into the massive corporation it is today.[40] In 2015 Pfizer CEO Ian Read, declared 48.9$ billions in revenue in the company's annual financial statement. The following graph indicates which of Pfizer's products have generated the most revenue for 2015.[41]

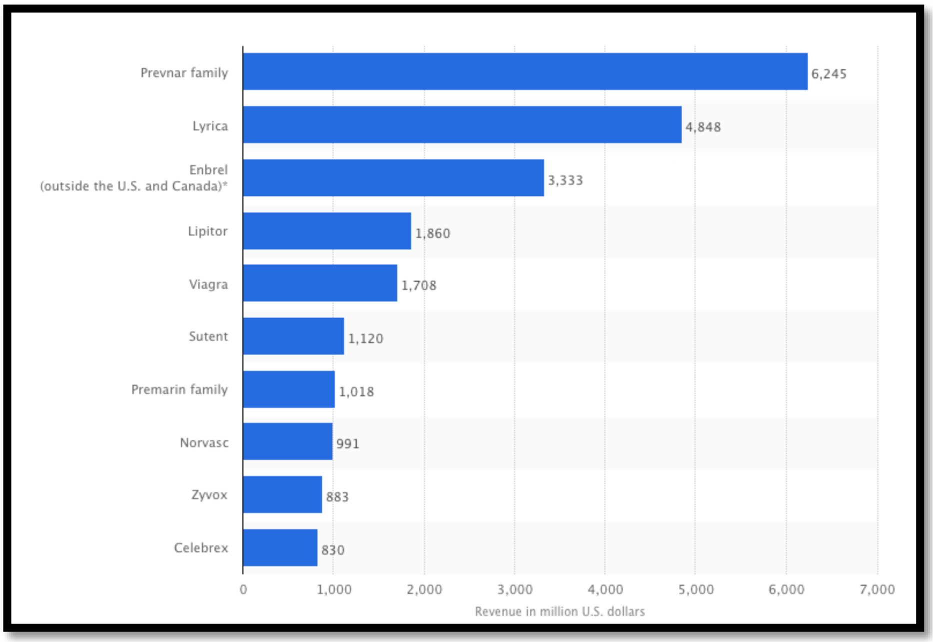

Figure 10: Pfizer Revenue breakdown per products

As illustrated by the graph, the Prevnar vaccine family is the most lucrative, followed by the drugs Lyrica (used to treat epilepsy, neuropathic pain and general anxiety disorder), Enbrel (used to treat autoimmune disease by interfering with the tumor necrosis factor) and Lipitor (a lipid-lowering agent and a prevention for events associated with cardiovascular diseases).
The financial statement for 2015 also includes a guidance for the present year, projecting revenue somewhere between 49$ to 51$ billion accompanied with other useful information for shareholders. Pfizer, as many of its competitors, has used M&A as a cunning strategy to increase its revenues, market share and overall profitability. Of the many examples that are available, the merger with Pharmacia, the acquisition of Wyeth and the attempted merger with Allergan, are the three most relevant cases and thus will be studied in depth.

[40] "Pfizer History: From 1849 to Present." *www.pfizer.com*. Web. 08 May 2016.
[41] Pfizer Inc, and Subsidiary Companies. *Appendix A: 2015 Financial Report*. Rep. New York, 2016. Print.

5.2 Pfizer Merger with Pharmacia (2003)

Historically the 2003 Pfizer – Pharmacia merger is recalled as one of the most successful in the pharmaceutical industry. Although the case is more of an acquisition than a merger, Pfizer, Pharmacia and most journals refer to it as a merger, to avoid the negative connotation of the term "takeover". Pfizer spokesmen address the fact by stating that the solution of the two companies gave life to the "new Pfizer". In truth, the Pharmacia stock stopped trading, and its shareholders were given Pfizer stock, rather than a new company's equity. Horizontal in nature, only a few minor product overlaps had been found between the two merging corporations by behalf of the antitrust authorities. Therefore no serious threat had been made regarding the completion of the operation. The CEO of Pfizer at that time, Hank McKinnell, stated that, "The combination brings together two young, strong, broad and complementary product portfolios, enhanced research and development pipelines and outstanding sales and marketing organizations." [42] Pfizer's global share of total pharmaceutical sales growth from 8% to just more than 11% (in that year) is likely due to the merger, but its fulfillment was without harming the overall level of competition (the minor roadblock was due to the companies' urinary incontinence drugs Detrol and Darifenacin, which would have given consumers a smaller range of choice in that particular niche).[43] Pfizer had also recently been part of another merger with Warner-Lambert just three years prior and hence was growing in terms of market-share very quickly. Pfizer and Pharmacia proposed to divest some of their assets in order to prevent a further strengthening of their dominant position, a symbol of good faith towards a competitive market that was not too happy. In fact, this particular deal encouraged other companies in the industry to strengthen their own portfolios through their own mergers and acquisitions.

The new Pfizer reached a towering 7$ billion research and development budget, its ambition was to guarantee its clients and shareholders innovative and successful products for the several years to come. As if the budget increase had not been enough, "As a result of the merger, the product portfolio of Pfizer was enlarged. Before the merger, Pfizer had a number of own important products such as Zoloft, Lipitor and Viagra. Due to the merger, Pfizer incorporated Pharmacia products such as Celebrex, Beztra, Detrol, Nicorette, Rogaine and

[42] Stamper, Christina. *Pfizer - Pharmacia Merger*. Rep. Toronto: McGraw-Hill Companies, 2005. Print. Western Michigan University, U.S.A.
[43] Frank Robert, and Scott Hensley. "Pfizer to Buy Pharmacia For $60 Billion in Stock." *www.wsj.com*. The Wall Street Journal, 15 July 2002. Web. 9 May 2016.

Luden… The pipeline of products in the last stage of development was enlarged by a number of promising Pharmacia products (such as Eplerenone, Parecaxib, and CDP-870)."[44] This integration opened new market for Pfizer, as well as consolidated its position in fields where it was already present.

Although it is hard to say whether the Pfizer – Pharmacia M&A singularly harmed innovation in the pharmaceutical industry's long-run, it is safe to say that Pfizer's intent in promoting R&D and its greeting of various patent-pending products in its portfolio from Pharmacia, points to an encouragement towards innovation, rather than a threat to it. However as a result of the acquisition, up to 2000 Pharmacia employees lost their jobs in facilities such as the "Discovery" in Kalamazoo, Michigan. The re-organization was vigorously criticized by the employees, but was found as an apt solution to the budgeting dilemma. Under the terms of the takeover, to which both executive teams agreed to, shareholders received 1.4 shares of Pfizer stock for each share of Pharmacia, valuing its stock at $45.08 per share, which represented a 36% premium over the previous week's closing price.

[44] Leheyda, Nina, Patrick Beschorner, and Kai Hüschelrath. *Ex-post Assessment of Merger Effects: The Case of Pfizer and Pharmacia (2003)*. Rep. no. 11-035. N.p.: Centre for European Economic Research, n.d. Print.

5.3 Pfizer Acquisition of Wyeth (2009)

Pfizer's M&A activity had halted after the Pharmacia merger for six whole years. In that period it experienced a steady growth, profiting from drugs like Lipitor, Viagra and Celebrex (the latter obtained through the Pharmacia merger). However, Pfizer's future seemed grim, due to the upcoming patent expiration of several of its key products. The company's R&D operations had not produced any revolutionizing drug in the last years. Lyrica, Chantix and Sutent were the only products that were giving a stable income (4.2$ billion) to the company and that did not face a patent expiration in the following years. Pfizer's reliance on its blockbuster drugs had turned into a weakness and was making the company sorely in need of diversification with new products and markets, new experts in all medicinal fields, and finally a strong partner with whom to spread the risk of market volatility and the risks of the industry itself.

As the solutions to these dilemmas could not come from inside the company, Pfizer decided to enter once again the market to search for a growing and promising ally. In Wyeth, Pfizer saw much of what it needed. The targeted company specialized in high-margin biologics, nutraceuticals and vaccines. In particular Wyeth had started to produce the Prevnar vaccine, which was later fully developed conjointly by the two companies, resulting in Pfizer's top product for the last several years (6.2$ billion alone). At its disposal it had many expert scientists, whose ultimate goal would be to reach higher levels of productivity in the R&D division, as well as who were ready to collaborate with Pfizer's staff in areas such as Alzheimer's disease, inflammation, oncology, pain tolerance and psychosis. The whole animal health division of the two companies was entirely complementary, incentivizing Pfizer further to pursue an additional, diverse source of revenue. Pfizer's management explained the motivations behind the intended acquisition of Wyeth at the 2009 annual shareholder meeting, where many of the present appreciated the proposal. Although the companies competed in the same industry, only a minor overlapping of products was noticed, giving competition authority little or no ground to investigate in possible monopolistic behavior.

The deal drew to a conclusion on January 26th 2009. Pfizer agreed to pay 68$ billion to Wyeth shareholders. The acquiring company planned to finance the acquisition with a combination of cash (22.5$ billion), debt financing (22.5$ billion), and the issuance of common stock (23$ billion) based on the price of Pfizer's shares. Finally each share of Wyeth common stock outstanding was cancelled and converted to 0.985 shares of Pfizer common stock and a 33$ cash premium without interest.[45] Pfizer's revenue grew the following year from 49$ billion to 65$ billion.[46] Analysts attribute a high percentage of this success to Wyeth's acquisition and the newly diversified product portfolio. With the new R&D possibilities Pfizer was able to introduce many new projects in its pipeline, giving an optimistic view for the future, for shareholders and clients. Following 2009 many experts and journalists started attacking big pharmaceutical companies, accusing them of hindering competition and stalling innovation. The patterns of M&A activity in the industry showed that in less than two decades the number of companies had dropped from 50 to a few more than 10. This troubling fact was at the basis of several accusations on behalf of clients and activists demanding stronger regulation on the matter. Nevertheless Pfizer was able to demonstrate that M&A is a solution not a problem, and that several times it is the sole reason that made manufacturing certain drugs possible. As the year came to a close, Pfizer, and its newly acquired partner, decided to reorganize the company by creating two distinct research organizations: the PharmaTherapeutics Research & Development Group, which focuses on discovery of small molecules and related modalities; and The BioTherapeutics Research & Development Group, which focuses on large-molecule research, including vaccines.

[45] Narayanan, V. K., Mark Tribbitt, and Frank Douglas. "An Analysis of the Pfizer - Wyeth Merger." (n.d.): n. pag. *www.healthlawyers.org*. Feb. 2011. Web. 11 May 2016.
[46] *www.statista.cm*. N.p., n.d. Web. 11 May 2016.

<u>**5.4 Pfizer Failed Merger with Allergan (2016):**</u>

A tax inversion (also known as corporate inversion) is a process by which a company incorporates or merges with a company that is domiciled in another country. This technique is used by companies that receive a significant part of their revenues from foreign sources. Usually said-income is taxed abroad and in the country where it is presently domiciled. Therefore a company that is starting to increase its income from foreign sources has a strong incentive to transfer its domicile elsewhere. Companies then choose countries with a low tax regime and loose corporate governance requirements. However the country that is exited by the corporation looses its own source of income, which would be then redirected to its citizens. Pfizer had been observing the market for a similar process, targeting U.K. based companies such as GlaxoSmith Kline and AstraZeneca. The latter had been a strong candidate, but the 69$ billion hostile takeover was never completed, forcing Pfizer to look for different deals. Shortly after the U.S. pharmaceutical giant was forced to settle for another sort of acquisition. Its new target, Hospira, a smaller U.S.-based company which accepted a 17$ billion dollar deal, that however did not solve Pfizer's tax inversion situation, but only boosted revenues by a few billions.

The Pfizer – Pharmacia merger, which failed on April 6th 2016, would have been one of the most valuable in merger history, combining two massive players in the pharmaceutical industry. The deal's value was 160$ billion, and would have set various records if it had been completed. Although the two companies had several overlapping divisions, Pfizer had planned to sell one or more to avoid any impairment on behalf of any antitrust warrantors. However the obstacle ahead was much more serious, as the U.S. Treasury itself and the U.S. Department of Justice intervened to stop the deal. This kind of inversion had already been "pulled-off" by U.S.-based Actavis which bought Ireland-based Warner-Chilcott, to avoid corporate taxes in the United States. Although the process cannot be considered tax evasion, an M&A deal which is based exclusively on that motivation cannot hope to go through. When the U.S. Treasury proposed solutions that removed the lucrative benefits from the inversion, the Pfizer board decided to abandon its plan to move its domicile to Ireland. If completed the Pfizer – Allergan merge would have been the greatest tax-inversion in history, but the Treasury had recently added a set of rules to the American legislation to impede this sort of transaction. According to the new rules set by the Treasury, when calculating the size of a foreign acquirer, all assets bought by a U.S. company within three years of the signing date of the latest M&A must be ignored. The Pfizer – Allergan merger was structured in such a way that Pfizer stakeholders would control approximately 56% of the combined company, beneath the 60% threshold that would have restricted benefits of the inversion under the old rules. However, by the new rules, Pfizer shareholders would own almost 80% of the resulting company, surpassing the 60% limit. Brent Saunders, the Allergan CEO, released an interview stating that the failure was a disappointment on their behalf too, and that Allergan was “poised to deliver strong, sustainable growth”[47]. If completed the merger would have created undoubtedly a new market leader for the pharmaceutical industry, consolidating two companies which already have a strong market share.

[47] Jopson, Barney, David Crow, James Fontanella-Khan, and Arash Massoudi. "Collapse of $160bn Pfizer and Allergan Merger Shocks Corporate US." *Financial Times*. N.p., 6 Apr. 2016. Web. 14 May 2016.

6. Conclusions:

The continuous pattern of M&A activity in the pharmaceutical industry does not seem to be stopping any time soon. As recent financial news suggest, companies in various sectors have continued to merge and acquire one another to maintain their positions on the market and boost its R&D functions. A few that are gaining much coverage from the new in the last period are: the Bayer – Monsanto merger in the chemical industry, the takeover by Greybull of Tata's UK steel operations Scunthorpe, and finally another deal by Pfizer to acquire the Anacor for 5.2$ billion. 2016's first few months are ripe with strong M&A deals, if the trend continues in this fashion the world could reach a new peak of value and number of deals since 2007.

As the number of deals increases, it is probable that companies will find new strategic motivations to conclude mergers or acquisition. As it is feasible to assume that companies will also come up with new ways to fund the expensive deals, to ultimately give shareholders the best possible value, and the clients the best possible services. However the limit to this ongoing process is not yet in plain sight. Massive corporations seem to be buying smaller companies even before the latter have the opportunity to become a threat to competition. Monopolies have extensively proven their negative influence in societies, from a strictly microeconomic perspective, creating a deadweight loss, and a also very realistic set of examples in which the final consumers were cornered into paying higher prices for essential products. Leaving the supply of inelastic products to a single, or a cluster of companies can, and already has resulted in the exploitation of needy customers, boosting revenues for firms that are already flourishing. Some believe that the inevitable finishing line of this process of consolidations is a single countrywide / worldwide company that produces and distributes its goods or services to its customers. Although this Orwellian prospect may seem dim, some experts believe that a complete monopoly, under heavy regulation on behalf of a competent authority could be solution to such problems, especially in the pharmaceutical sector. However, government agencies, like most business can fall for temptations, such as big money-offs. The history of economics and trade, have ultimately taught us that, free trade is a more efficient solution than a market governed by a government. The whole question is in a morally grey area, which may or may not demand further intervention on behalf of governments to constantly monitor these kinds of areas. Nevertheless the competition warrantors apply competition law as justly as possible, to avoid that M&A harm final consumers instead of offering them better quality and lower prices.

Another relevant matter that will definitely need to be tackled in the near future is the upcoming development of new accounting and financial standards. When drafting consolidated balance sheets or filing a due diligence report, contrasting standards among countries, have resulted in significant obstacles to the smooth processes. Therefore with the inevitable consolidation of accounting and financial standards, the valuation of M&A deals will change, but giving the same results whether the merging companies are American, European or from any other country on the globe.

The industry itself has changed profoundly since the advent of this long M&A process; from an over-crowded mass of more than fifty companies, fighting for supremacy, into a small number of companies uniting with one another to give hope to the most unlikely of life-saving drugs. Apart from the number of companies operating in the sector, the major economic, political, legal, social and technological variables are also crucial matters to consider. The industry itself is prone to changes in these areas, each of which has the potential to transform it, in a positive or negative fashion. A valid example, is the evolution in the demand of pharmaceutical products altogether. Years ago a citizen would ask for medical attention or for a certain drug, only when severely sick. Today many decide to approach the pharmaceutical industry before feeling ill, through vaccines, and seek to remain healthy long before or after a disease by ingesting several kinds of vitamins. It may also be true that this evolving pattern is creating a kind of addiction towards its consumers, which fall into a never-ending cycle of drug buying and consumption.

Pfizer’s recent failed tax inversion by merging with Allergan, has damaged the company’s image, after a short quarterly-drop in the value of stock, Pfizer was able to reconsider its strategy and convince Wall Street investors that although the deal had failed, the firm remained a pillar of corporate America. However a more accurate instrument to measure the effect of a company’s M&A is by attentively studying yearly results in terms of revenues and net income. Forbes’ data offers a general overview of Pfizer’s evolution in its sector, emphasizing the main M&A deals it concluded.

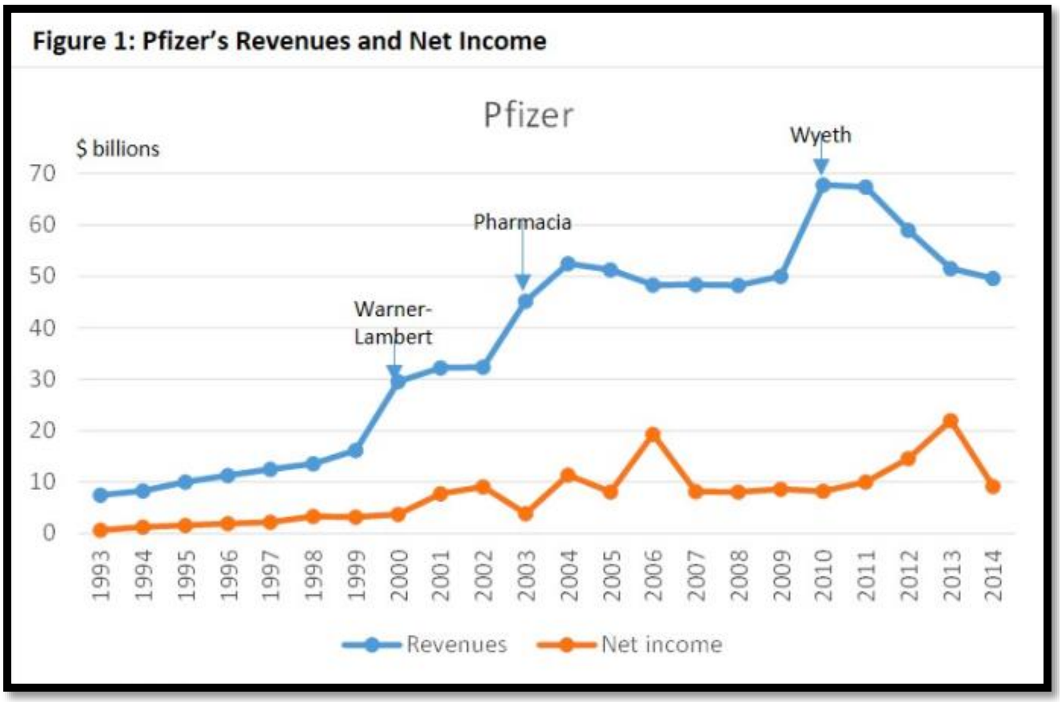

Figure 11: Pfizer's Revenue and Net Income evolution (1993-20014)

The graph[48] shows a constant and steady increase in revenue and net income until 2009, the year in which Pfizer acquired Wyeth, which eventually resulted in a drop of revenue, but not of income. It is impossible to say whether the drop is due entirely to the acquisition of Wyeth, to the expiration of IP protection on certain company drugs or other mysterious reasons. Nevertheless the overall trend for Pfizer is positive and has a strong rate compared to competitors in pharmaceuticals as well as in other industries. Additionally as a result of the M&As it concluded, Pfizer was able to cover a large number of diseases and to produce more life-enhancing products, some of which might have never reached the market due to massive costs they entailed. However Pfizer's role as a "white knight" was definitely crucial in finalizing such products, offering funds, facilities and some of the best scientists in the industry.

Many sector-specific experts, including Munos Bernard, have started to question Pfizer's strategy for growth. Indeed some wonder whether this xxx of M&A is just a cry for help on behalf of Pfizer, which is unable to achieve significant growth results, if not by acquiring entire companies, including its developing products, its assets and clients. Bernard also believes that this kind of actions is only a temporary solution, and its overall value is destined to fall, or stop growing as soon as the effects of merger come to an end. Seemingly,

[48] Munos, Bernard. "Pfizer Does Not Need A Merger, It Needs A Rebellion." *www.forbes.com*. Forbes Magazine, 30 Nov. 2015. Web. 29 May 2016.

other experts on the matter simply believe that Pfizer has reached a ceiling, above which it cannot pass, if not through improvements from within the company itself.

Overall the M&A phenomena in the pharmaceutical industry has played its part in contributing to world health, by focusing resources where they were most needed. The motivations may have been foggy at times, the strategies never entirely effective, but helping its clients has always been the companies’ ultimate goal.

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