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Do M&A Transactions create value? An empirical analysis of the EssilorLuxottica - GrandVision case

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Introduction

The global mergers and acquisitions market has experienced substantial growth in recent years, with many companies from different countries and industries identifying M&A operations as the most effective tool to achieve both short- and long-term growth and expansion targets at high pace. As a matter of fact, according to KPMG Global M&A report 2021, the global M&A market recorded double-digit increases compared to the previous year (+47% in value and +31% in volume), specifically with 48,948 closed deals and an overall value of $4,418 billion. This is also a new market peak, breaking the all-time highs of 2007, when 37,437 deals were closed for a total value of $3,833 billion.

Having made this preliminary observation, which gives an initial idea of the dimensions of the phenomenon, the aim of this work is to answer the question posed by many scholars and researchers regarding the effective creation of value through M&As, by looking for empirical evidence in the analysis and evaluation of a case study.

The analysis will be conducted in three chapters. The first chapter aims to define the concept of mergers and acquisitions from a strategic perspective through a literature review based on the most relevant papers on the subject and reports from some of the world's major consulting firms that seek to find global evidence on various aspects of the mergers and acquisitions phenomenon. Therefore, a definition of takeovers as a tool for inorganic growth will be given before going on to identify the main managerial, financial, strategic and operational motivations for undertaking such extraordinary operations. Secondly, I will enter into operational practice, describing the main pitfalls and challenges associated with M&As, from the planning phase through to the famous post-merger integration. Finally, we will provide an overview of the global merger and acquisition market throughout history, illustrating the main waves up to the current situation.

The second chapter aims to illustrate the more financial aspects related to acquisitions, according to a buy-side and sell-side approach. Firstly, all the financial analyses that a potential acquirer has to do will be described, starting from the due diligence, passing through the valuation of the target company and the subsequent offer, and then moving on to the financial issues on the target company side. There will also be a careful analysis and description of the main valuation methods in M&As, as the valuation itself is one of the crucial steps on which the subsequent creation or destruction of value often depends.

Finally, in the third and final chapter, the case study will be analyzed. The case examined is the acquisition of GrandVision, an international player in optical retailing by the leading international group in the design, manufacture and distribution of eyewear and ophthalmic lenses EssilorLuxottica. This acquisition was one of the most significant in economic terms (€7.2 billion) and in terms of growth in the consumer markets industry in 2021, as well as the second largest in value in Italy.

Specifically, after an initial description and presentation of the case, the target company will be valued first with the discounted cash flow method (DCF) and then with the market multiples method in order to make a comparison of the final outcomes. The GrandVision's value resulting from the valuation will then be checked against the market price of the target company before the deal was announced and against the price actually paid by the acquiring company, so as to be able to define whether the latter (which is comprehensive of the acquisition premium) is reasonable and justifies future value creation. Finally, the last part of my analysis consists in trying to understand what growth rate would imply that EssilorLuxottica paid a fair price to acquire GrandVision.

Chapter 1: M&A transactions Overview

1.1 External growth strategy: definition of the M&A concept

In the recent economic context, the purpose of a company is to maximize its profit and, at the same time, create sustainable value for all its shareholders and stakeholders in the medium to long term. Having said that, profitability as well as growth are crucial variables for the achievement of this specific objective: value creation. Both variables are placed at the beginning of every strategic and financial decision of any company, as they have always been key factors for success and, a fundamental requirement for business survival in today's extremely dynamic and global market.

Over the years economic literature has often disagreed on what the primary purpose of the enterprise is, or rather the interests of which actors should be pursued by the business. According to the Shareholder Theory, the only aim and responsibility of the company is to maximize profits for the shareholders, thus excluding other social, environmental or ethical causes from the management agenda. The main contributor to this theory is Milton Friedman, a leading exponent of the Chicago school, who argued that: "there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rule of the game, which is to say, engages in open and free competition without deception fraud" (Friedman, 1970).
As mentioned above, the mere business objective of maximizing profits has been challenged by the development of the Stakeholder Theory, which has significantly blurred the boundaries between the company itself and the whole society, introducing the need for creating shared value for all stakeholders and not just shareholders. Therefore, only following this root the enterprise can acquire social legitimacy to be active on the market.

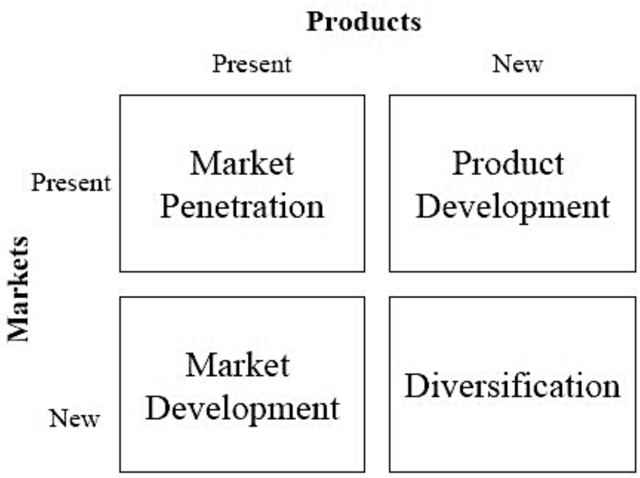
While the concept of company has changed over time, it is commonly agreed that growth must be pursued in order for the business to survive and evolve in the long term. As a matter of fact, strategy at the corporate level set growth as a vital objective for a variety of reasons. Companies in all industries strive to expand with the aim of gain the size and resources required to compete on a global scale, to invest in new technologies, to control distribution channels and secure market access, to achieve economies of scale and scope, to increase reach and complementarity, to increase bargaining power with customers and suppliers. Enlarging dimensional boundaries thus constitutes an opportunity for development and a response to the threats posed by the external environment's overwhelming dynamism.
In this sense, the way forward is essentially articulated in 4 different directions in terms of changes in the characteristics of the market and the company's product line, and consequently risk:

- *Market penetration*, which is intended to increase the company's share in the market where it is already present and with the existing product. The objective of business performance improvement can thus be achieved either by raising the sales volume of the current customer base or by enlarging that base reaching new individuals.

- *Market development*, in this case the choice is for expansion into new areas, to new customers or in new countries, hence opening up to new markets, but adapting the existing product line.
- *Product development*, which is the launch and offer of a new range of products or services by the company to its customers (existing market). This option is riskier than the previous one and can be implemented either by renewing or extending the current product range, improving its quality, or introducing new features.
- *Diversification*, which includes expansion into new markets with at the same time a new product mission, meaning a description of the job that the product is designed to do. Diversification can be attributed to a variety of factors, according to business literature and history. Companies diversify to adjust for technology obsolescence, utilize extra capacity, spread risk, reinvest earnings and so on. Indeed, depending on the goal to be achieved, the diversification opportunity can be vertical (i.e., upstream or downstream along the value chain), horizontal (also known as related) in which potential synergies can be realized, and lateral (or unrelated) which is "wide open", moving beyond the boundaries of the belonging industry (Ansoff, 1957).

This is graphically summarized by the so-called Product/Market expansion grid, proposed by H.I. Ansoff (**Figure 1.1**).

Figure 1.1 – Ansoff Matrix



Source: Ansoff, H.I. (1957). *Strategies for Diversification*. Harvard Business Review.

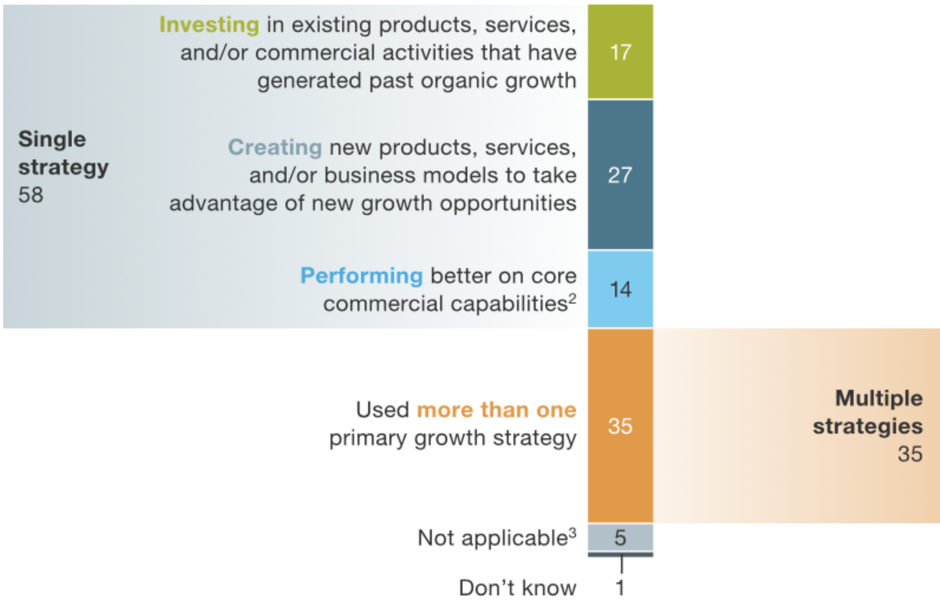
Once the organization determines that size development is required for the implementation of its corporate strategy, it can pursue it through two main growth paths: organic (or internal) growth and inorganic (or external) growth. Therefore, there is a tradeoff between opting for a *make* decision or a *buy* one, taking into account advantages and drawbacks.

Organic growth involves the use and reinvestment of the company's internal resources (in terms of financial, technological, and human capital), as well as the reliance on the skillset and know-how already present within the corporation. Digital transformation and the speed of competition, bring up new chances for internal growth for organization with the ability and dexterity to capitalize on them, and companies can follow three different strategies (or a combination of them) to achieve organic expansion. The first of these is the investment of sources in the most profitable activities, and thus the reallocation of funds from low-growth projects or unproductive costs to the activities with the highest growth potential within the business (*investing*). Therefore, management identifies where, or in which areas, the major growth drivers are and tends to push and enforce them, if it has sufficient financial resources required.
The second growth strategy, on the other hand, seeks to innovate by creating and developing new products, new services, or even new business models, typically through discovering emerging customer needs or unserved segments (*creating*). Companies that go for this solution work at the frontiers of change so as to disrupt the market and identify a "blue ocean" strategy to dive into.
Finally, the third alternative approach entails continuously optimizing commercial activities and capabilities, including as sales, pricing, marketing, and customer experience, in order to outperform competitors (*performing*). The main objective is to build a medium to long term competitive advantage as well as focus on the company's key success factors.

However, according to a McKinsey global survey, there is not a single formula for delivering organic growth. In fact, among the respondents, a large majority stated that they had pursued an organic growth strategy in the last three years, and of these, approximately 60% decided on a primary organic growth strategy, while the remaining portion was in line with a diversified approach of two out of the three alternatives, or even all of them (**Figure 1.2**)[1]. These findings make logical sense: giving the fact that companies creating new products or services usually need to reallocate funds in order to invest in the new product development, and commercial capabilities are crucial for pushing a wide range of new product or service initiatives. Moreover, according to respondents, this diversified approach is more prevalent in larger firms rather than in smaller ones.

[1] The survey received responses from 1,175 C-level executives, senior managers, and midlevel managers in 2017. This group includes the entire spectrum geographical areas, industries, firm sizes, and functional expertise.

Figure 1.2 – Organic growth strategy, McKinsey global survey



Source: Ahuja, K., Segel, L.H., & Perrey, J. (2018). *Mastering three strategies of organic growth*. McKinsey & Company

Among the advantages of organic growth strategy, the cross-sectional transfer of intangible resources – such as technological know-how – is clearly one of the most prominent, and it is achieved through the deployment of human capital across the organization. Moreover, the use of internal resources in the development of a new business, encourages the creation and enhancement of an entrepreneurial culture. Another benefit to be considered is that internal growth is shaped by gradual investments that allow the company to closely follow the whole process of dimensional increase and value creation under its own control, and therefore without massive upfront investments as in the case of extraordinary operations. However, on the disadvantages side the length of time it takes for these activities to bear fruits varies. The implementation of organic growth initiatives usually requires a long period of time to acquire the necessary capabilities and competences. Given the high level of dynamism and rapid evolution of a competitive market, the time factor is critical as a delay may result in a missed opportunity and obsolete investments, and therefore negative results. Another drawback is the risk that companies may miss internally some technological resources, management capabilities, or other key resources for the dimensional development.

The alternative to an internal growth strategy is to embark on a path of inorganic growth, thus overcoming the potential disadvantages of a development that is solely confined to the company's own internal structure and resources. As a matter of fact, inorganic growth allows companies to expand in size and scope by leveraging on external resources and capabilities within a wide range in both quantitative and qualitative criteria. On one hand, this approach considerably shortens the time needed to realize the dimensional growth, thus affecting company performance in a short space of time; on the other hand, it requires a high level of supporting activities for its implementation, in order to ensure that the different economic entities are integrated and do not clash. Eternal growth operations include:

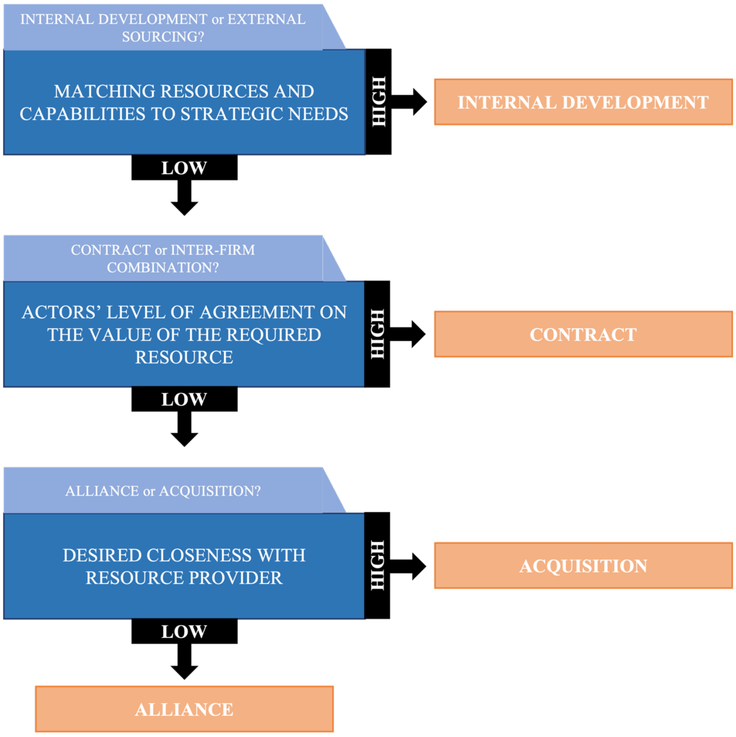
- *Collaborative Agreements*, these are mainly contractual agreements in which two or more economic actors cooperate but remain autonomous and independent of each other. The most frequent contracts belonging to this category are franchising and licensing. The former is a commercial affiliation relationship whereby the owner of a certain business and trademark (franchisor) concedes to a franchisee to market its product or service and to adopt its organizational and commercial formula, in return for a financial remuneration and the commitment of the franchisee to operate in accordance with specific standards, in order to preserve image as well as interest of the franchisor. The latter is a restricted business agreement in which a party (licensor) grants another party (licensee) the right to utilize or benefit from an underlying trademark, technology, or asset, in exchange for the payment of royalties. On one hand, collaborative agreements ensure a contractual source of income and a limited economic and financial exposure, on the other hand, the disadvantages consist of the difficulty in finding good partners and the likelihood of losing competitive advantage.
- *Strategic Alliances*, which are bilateral or multilateral agreements that build partnerships aimed at pursuing agreed common goal in the medium to long term. The purposes for which a strategic alliance is created are of a wide range, such as technology, marketing and distribution, operations, standard setting, lobbying. They may or may not involve equity participation, in the former case we often refer to join venture which consist in the constitution of a jointly-owned enterprise for the pursuit of the common objectives established by the alliance (Grant, 2019). As potential benefits of alliances, we can include the access to partner's complementary resources and capabilities concerning the business, the high level of flexibility in the creation and dissolution, the rationalization of investments as well as the risk sharing. As a matter of fact, forming an alliance can provide strategic optionality by allowing firms to absorb quickly new competences and to learn rapidly about a new market space without devoting a massive investment of time or capital. On the other hand, the main challenge is the management of the relationship with the strategic partner: relational capability is essential for the intended benefits to materialize.
- *Mergers & Acquisitions (M&As)*, which are a set of extraordinary financial transactions whose objective is to create corporate value by changing the corporate and operational structure of the company involved. They are part of what is known as "the market for corporate control[2]". More precisely, Merger means the formation of a new economic entity as a result of the amalgamation of two or more pre-existing companies. It requires, of course, an agreement between the shareholders of the firms, who then exchange their shares for those in the new merged company. The purchase of one

[2] This concept was published by H.G. Manne in his article *Mergers and the Market for Corporate Control*. According to Manne, the lower the stock price is in comparison to what it could be with more efficient management, the more appealing the takeover becomes to individuals who feel they can run the business more efficiently. Hence the potential profit from a successful acquisition and revitalization of an underperforming firm may be substantial.

company by another is referred to as an acquisition (Grant, 2019). This kind of operation entails the acquiring firm (acquirer) making an offer for the other company's common stock (target company or acquiree). Moreover, there is often a tendency to distinguish acquisitions from so-called takeover. The former refers mainly to the case in which the transaction is "friendly", that is, also supported by the management board of the target company, and therefore both companies define a strategy aimed at mutual benefits. Once all obligations and financial valuations are commonly accepted, the acquisition is finalized. The latter is hostile in the sense that the target company obstructs the deal. The word "friendliness" is interpreted by many as a synonym or replacement for "negotiating power" (Stallworthy and Kharbanda, 1988). The most basic M&A deal is the purchase of all assets utilized by a firm, thus taking control of it. Once a target company sells all its assets, it normally liquidates or otherwise distributes the proceeds from the deal to its owners. But sometimes target assets are complex, wide, or difficult to specify, or even their transfer is subject to regulatory obligations, and consequently assets purchase may be intricate, demanding, and time-consuming. Considering this, the acquiring company can buy all the stock (and hence control) of the corporation that owns a business, rather than just the assets.

Given the alternatives, therefore it is useful to identify the one that best suits a company wishing to pursue growth and its own strategy (Capron and Mitchell, 2010). In order to do this, executives must start from an internal diagnosis with the aim of identifying their own resources and capabilities within the organization, and then checking whether these assets fit the strategy to be undertaken. The greater the gap between the resources required for future development and those currently held, the greater the need to seek them externally. According to this three-step approach, if internal development doesn't seem sufficient, a contractual agreement (such as licensing) may be the most feasible solution for raising resources outside the organization. However, for it to succeed it is essential that the parties agree on the real and concrete value of the contract's subject matter. If one party is less knowledgeable about that value than the other, it will be hesitant to negotiate a contract for fear of being taken advantage of. When the current or future worth of the new resources is illusive, the two parties will struggle to agree on conditions and enforce them in a way that is satisfactory to both parties. Over time, coordination will become time-consuming and costly. In the scenario under which a contractual agreement is not a feasible solution (because of parties' low level of agreement over the value of the required resource), the third step is to answer the company's desire to be close to the resource provider. Sometimes an alliance may not be enough for a proper integration and full fruition of resources and capabilities. As a matter of fact, if a partnership will not get you far enough toward your goal or creating the resources you require will necessitate the participation of numerous people and organizational units, an acquisition may be your best option, especially if your company's relationship with the resource supplier involves extremely strategic assets (**Figure 1.3**).

Figure 1.3 – Finding the Right Path Framework



Source: Capron, L., Mitchell W. (2010). *Finding the Right Path*. Harvard Business Review.

Back to the concept of M&A, Acquisitions are therefore a way of achieving strategic and dimensional goals, which is faster than internal growth approach. This is definitely one of the reasons behind the increase in the use of this type of operation over time. Obviously, in addition to pace, acquisitions are also justified and motivated by other reasons, such as market conditions (which may have low growth rates and drive the company to look for new opportunities outside), the company's strategic plans, or even market opportunities that are not necessarily the result of a predetermined strategy. The definitive aim of acquisition operations is, however, to create value through the synergistic effect generatable by the union of the entities that take part in the deal. Nevertheless, M&A remains a widely discussed topic, due to its complexity and main challenges in implementation (as will be analyzed later). In the last century, there have been numerous cases of mergers or acquisitions of different kinds and with different final results on companies' performance and shareholders' returns. For what concern shareholders' return empirical studies on M&As impact have found that:

- The result on average is a small increased in the combined market value of the two companies involved of around 2%. However, this trend has been improving over the years, with mergers and acquisitions in 2000-2009 showing a decrease in combined value of 2%, and those occurred between 2010 and 2014 bringing returns of 12% (Economist, 2014).
- Target firms mainly benefit from these gains. This is justified by the acquisition premium paid in the deal by the acquiring company, which was around 27% between 2000 and 2014 (Economist, 2014).

Regarding evidence of the effect of mergers on corporate profitability, studies have shown that there was little consistency. The main reason is that it is complex to separate the effects of the merger from all the other variables that affect corporate performance over time. Therefore, the recognition of the change between pre-merger and post-merger business performance is not immediate.

1.2 Reasons behind M&A operations

The rationales for undertaking M&As are various and over time even the literature and research have generated a small mountain on the subject, debating whether they actually result in greater value and greater profitability. For this reason, in the present paragraph we will first review the literature supporting Mergers and Acquisition and then consider the several strategic and financial motives of extraordinary operations.

Over time, the literature has defined efficiency as the optimal allocation of resources. In this sense, a contract, routine, process, organization, or system is efficient if there is no alternative that consistently yields unanimously preferred results (Milgrom and Roberts, 1992). According to *Efficiency Theory*, M&As are feasible if synergies can be achieved, resulting from the combination and coordination of resources and capabilities of both companies. As evidence, synergies occur when the sum of the two separate businesses' values is lower than the market value of the two merged firms. This gain results from several explanations, such as the better allocation of resources of the combined company, thus overcoming pre-existing inefficient management turning to a better use of combined assets. Finally, value is created and the deal is finalized when there is mutual recognition of common benefits to both parties.

Agency Theory also tried to provide some reasons for Mergers and Acquisition, seeing them as a possible answer to the so-called agency problem. Michael Jensen and William Meckling defined a quantitative economic rationale for maximizing shareholder value through share-based compensation to executives who would perform well in terms of profit in the long term. In this way, the personal interests of managers, which are rational and wealth-seeking individuals, could be aligned with those of the firm, and therefore with its shareholders. Through this form of managerial incentive, profit maximization objective may be protected from any behaviour and strategies that might have led to losses. By doing so, of course managers will try to maximize the shares value to benefit from their bonus scheme. As a result, the market will read the acquisition bid started by the company with long term performance objectives (and managerial incentives) as positive news because of the link between manager's wealth and the firm's value, similarly to shareholders.

Agency Theory leads us to the *Free Cash Flow Hypothesis*, as they are closely connected. Free cash flow is the exceeded cash flow (amount of money) once the company has paid all its financial obligations and investments. According to Jensen, managers are often reluctant to distribute excess to shareholders, firstly because it reduces the amount of resources under management control, secondly, distributing dividends does not increase executives' wealth as they represent just bonus schemes. On the other hand, managers are concerned about the dimensional development of the firm, since this is connected to their own remuneration, which means that they might consider financing potential takeovers with free cash flow. Moreover, because raising funds in the market for future investment options exposes management to the direct scrutiny of the stock market, there is an incentive for management to save some free cash flow or internal funds for such initiatives. Ultimately, managers prefer to invest in M&A to promote growth, even though sometimes the ex-post rate of return is shown to be lower than the cost of capital. While not promoting the dividend payout, a huge hold of free cash flow makes the firm an attractive target for a potential acquisition. This is because, the capital-intensive character of the project, a company with a good financial position is preferred in order to reduce the borrowing costs of debt.

The *Market Power Hypothesis* aims to provide further justification for vertical and horizontal takeovers. Market power refers to the ability of a company to sell its products or services at a higher price than the competitive market level, as well as controlling supply (Motta, 2003). This is directly correlated to the scale of the firm, and thus with M&A activities. In fact, mergers ensure rapid growth and allow companies to increase their control over the market an widen it geographically. According to oligopoly and monopoly theories, the potential benefits to achieving market power are mainly higher profits and barriers to entry, because of market concentration. Therefore, Market Power Hypothesis explains the trend of M&As waves that were reported in the 20th century, mainly of horizontal type. In this context, an important role is also played by antitrust authority, which through its legislation must intervene to ensure that competition is not harmed by damaging concentrations. Specifically, in the US the Clayton Act (1914) prohibits mergers if their effect may be to substantially lessen competition or tend to create a monopoly (section 7), whereas in the EU antitrust legislation is primarily built on TFEU articles 101 and 102[3].

The *Diversification Hypothesis* also attempts to provide an explanation to acquisitions, particularly conglomerate ones. The underlying assumption is the *Coinsurance Hypothesis* which states that the value of a conglomerate is greater than the sum of the individual business, in this case due to risk reduction and increased debt capacity (Lewellen, 1972), which in turn may reduce the corporation's probability of default. The higher debt capacity reflects the merged company's opportunity to carry more tax subsidies, and the tax shields provided by borrowings are a major valuation driver. To sum up, the higher market value of conglomerates is given by tax shields and the reduction of bankruptcy costs.

Information Hypothesis is founded on the *Theory of Efficient Markets* according to which a market is efficient when prices at any given time reflect and absorb all the information available at that time (Fama, 1970). More specifically, there are three different level of informational efficiency:

[3] Article 101 (1) TFEU prohibits "all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market, and in particular those which: directly or indirectly fix purchase or selling prices or any other trading conditions; limit or control production, markets, technical development, or investment; share markets or sources of supply; apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts". Art. 102 TFEU states that "any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States".

- Weak form, the information set consists of all past price information and the current prices incorporate all historical data.
- Semi-strong form, the information set consists of all historical information and all public information (including forward-looking information: prospective analyses, forecasts, news, etc.).
- Strong form, the information set consists of all historical information and all public (including forward-looking information: prospective analyses, forecasts, news, etc.) and private information.

Because of this point, *Information Hypothesis* highlights the communicative function of companies, which announce information not yet publicly available in order to bring about a revaluation of the company on the market, and it is the same story for M&As. During acquisition negotiation, both sides provide some operational and financial information so as to revaluate undervalued shares on the market. This hypothesis is only valid in the case of strong form efficiency of the market.

According to the *Bankruptcy Avoidance Hypothesis*, another reason behind the decision to undertake M&A transactions is to avoid the bankruptcy of financially distressed companies. As a matter of fact, a carefully timed takeover may be an alternative to failure (Shrieves and Stevens, 1979). From the point of view of the acquiring company the main advantage in acquiring a distressed target is the payment of a lower price, from the point of view of the target company the advantage lies in avoiding unemployment and in the fact that the shareholders receive remuneration. To see evidence of this, it is enough to go back to the Great Depression time when large banks were bailed out because their bankruptcy would have had very serious consequences on the whole market[4].

What has been said above allows us to classify the analysis of the reasons behind Mergers & Acquisitions into three different categories: Managerial, Financial, and Strategic motives.

1.2.1 Managerial motives

It is clear that management plays a decisive role in the choice at a corporate level to pursue an expansion strategy based on extraordinary transactions. The fact that these kinds of operations encourage rapid dimensional growth has already been pointed out, so managers push towards this direction as their remuneration schemes are more closely connected to company size rather than to profitability and efficiency levels. In addition to that, another reason behind top management decision to undertake M&A projects is the psychological reward: the implementation of such transactions gives great visibility on CEOs, as well as gain of power and influence, with a strong public attention and media coverage, we might say that mergers confer

[4] Ben Bernanke (former Federal Reserve Chair) defined the expression "too Big to Fail" in 2010: "a too-Big-to-Fail firm is one whose size, complexity, interconnectedness, and critical functions are such that, should the firm go unexpectedly into liquidation, the rest of the financial system and the economy would face severe adverse consequences".

celebrity status on CEOs. As a matter of fact, according to the *Hubris Hypothesis*, decision makers in acquiring firms pay too much for their targets on average and hubris may explain why the bid is not abandoned even if valuation errors occur with an estimation above the current market price. Hubris is an excess of self-confidence which generates ever-growing gap between perception and reality, and which leads managers to overestimates their own skills, also threatening the shareholders' interests (Roll, 1986).

Finally, another factor that influences management towards Mergers & Acquisitions is the imitative factor: as we will see later on, historically there have been numerous M&A waves clustering in specific sectors. Therefore, companies tend to follow these trends (obviously having liquidity at their disposal) to avoid not keeping up with their competitors and losing market share. Overall, shocks, whether economic, regulatory, or technological, cause merger waves within industries (Harford, 2005).

1.2.2 Financial motives

Also from a financial point of view, the motivations that push a company to undertake M&A operations are of a variety of kinds, but all aimed at improving the current financial situation and performance of the party/parties involved.

One of the reasons is taking advantage of opportunities in the market by capitalizing stock market inefficiencies: the valuation of stocks in the market derives from expectations of future performance, estimates of growth and risk factors, so it follows that investors (in this case firms) may use private information, or further analysis, to identify that the real value of equities is not congruent with the current market value (obviously under the assumption of inefficient markets). This opens up to opportunities in mergers and acquisition, where a potential acquiring company can bid for a company that is undervalued in the market or use its overvalued equity to purchase another firm (Grant, 2019). In the latter case, an essential requirement for a stock-swap acquisition to be driven by overvaluation would be that the acquirer's stock is more overpriced than the target's stock. However, the idea and the evidence that this practice can create shareholder value has been challenged, noting that, in practice, overvalued acquirers significantly overpay for their targets. These acquisitions do not result in synergy advantages. Furthermore, these deals tend to be concentrated among acquirers with the most governance issues. The transactions of overpriced acquirers appear to be motivated mostly by CEO remuneration rather than shareholder value enlargement (Fu et al., 2010).

Another financial reason behind M&As is certainly the quest for tax savings. If a company makes some profits, it must pay taxes on them, but if it incurs a loss the government does not rebate taxes. The acquiring company could use the past losses of the target company to reduce its tax bill. Therefore, the post-merger corporation may appear to get a tax advantage over the previous company merely because losses in one division can be offset by profits in another one (Berk & DeMarzo, 2019). In addition, the larger size of the new company may lead to further tax benefits, since if the transaction leads the company to improve its debt ratio, it can benefit from a larger amount of debt whose interest expense can be deducted to a greater extent from its taxable income. However, it should be noted that the legislation of almost all tax systems places limits on the use of M&A transactions whose sole purpose is to benefit from the past losses of a target company, favoring instead transactions of industrial value. As a matter of fact, in the United States the Internal Revenue Service[5] (IRS) mitigates the tax benefit by enabling companies to carry back losses up to 2 year or forward up to 20 years, to offset earnings. Moreover, IRS prohibits all acquisitions where it is proven that there is a mere objective of tax avoidance, and therefore quest for tax savings is no longer a reason by itself to undertake such transactions. In Italy legislation has taken action to limit and prohibit the sale of so-called "fiscal coffins"[6], which are considered as evasive practices.

In addition, many cross-border acquisitions may have the purpose of relocating to countries where the tax regime is more advantageous (tax inversion). Corporate earnings are taxed in the United States even if they are earned elsewhere. Other countries solely tax earnings made domestically. When a US firm relocates abroad as a result of a merger, it must continue to pay US tax on its US profits but no longer pays US tax on profits made elsewhere. Because the corporate tax rate in the United States is far higher than in many other industrialized nations, there has been a substantial incentive for corporations to relocate their domicile elsewhere with different jurisdiction (Brealey et al., 2022).

Companies also undertake M&A transactions to achieve financial efficiency through a process of financial re-engineering. An acquiring company can lower its cost of capital by modifying the capital structure of the target firm and so create value. The most common procedure for accomplishing this is the leveraged buy-out (LBO), which consists of the acquisition of a company using debt to a greater extent. This debt will then be repaid from future profits, or through the sale of part of the assets of the acquired company. Generally, the operation is carried out by setting up a new company, characterized by high level of debt, and proceeding to the purchase of the target company. At this stage, there is usually a merger by incorporation between the two companies, with a consequent transfer of debt to the acquired company. Leveraged buy-out operations concern firms characterized by a solid equity situation; in fact, the acquiring company offers as collateral for the financing received the shares of the companies to be acquired or part of their assets. Because debt is cheaper than equity, such acquisitions can add value. When two companies merge, the merged entity can borrow at cheaper interest rates than each one could independently. This is to be expected in a well-functioning bond market. Whereas the two companies are separate, they do not guarantee each other's debt; if one fails, the bondholder cannot seek money from the other. However, following the merger, each firm essentially guarantees the debt of the other; if one half of the business fails, bondholders may still withdraw their funds from the other. Lenders demand a lower interest rate since these mutual warranties make the debt less risky (Brealey et al., 2022).

An additional financial aspect to consider is that even if a merger does not create economic value in some cases, it leads to a growth in earnings per share compared to the pre-merged earnings per share of the

[5] The Internal Revenue Service, abbreviated to IRS, is the government agency responsible for collecting taxes within the tax system of the United States of America.

[6] Companies with no residual economic activity and a loss-making situation, kept alive for the single purpose of being able to profit from their only possession, i.e., the large amounts of taxable losses that the acquiring companies use to reduce their tax base. This practice was declared to be evasive.

companies. This is what the bootstrap effect looks like; the short-term raise in earnings of the acquirer company because of its merger with the target company, despite the fact that there is no economic benefit from such a combination. This result can be explained more exhaustively with an example:
The established corporation World Enterprises is considering the acquisition of Muck and Slurry, assuming that the deal does not produce any economic benefits. The table below (**Table 1.1**) shows the financial data regarding both pre-merger companies and the post-merger conglomerate, emphasizing the impact of merger on market value and earnings per share of World Enterprises.

Table 1.1 - The impact of merger on market value and earnings per share

	World Enterprises before merger	**Muck and Slurry**	**World Enterprises after merger**
Earnings per share	\$2.00	\$2.00	\$2.67
Price per share	\$40	\$20	\$40
Price-earnings ratio	20	10	15
Number of shares	100,000	100,000	150,000
Total earnings	\$200,000	\$200,000	\$400,000
Total market value	\$4,000,000	\$2,000,000	\$6,000,000
Current earnings per dollar invested in stock	\$0.05	\$0.10	\$0.067

Source: Brealey, R., Myers, S., Allen, F., & Edmans, A. (2022). *Principles of Corporate Finance* (14th ed.). McGraw Hill.

The price per share of World Enterprises is twice that of Muck and Slurry, so the former can acquire the entire 100,000 shares of the latter by paying with 50,000 of its own shares. As a result, the number of shares increases by 50% while total earnings are equal to the sum of those of the two pre-merger companies. Thus, earnings per share rise from \$2.00 to \$2.67 and the price-earnings ratio falls. Prior to the merger, a \$1 investment in World Enterprises purchased 5 cents of current earnings and strong growth possibilities. \$1 invested in Muck and Slurry, on the other hand, acquired 10 cents of present earnings but slower growth prospects. If the merger has no effect on the entire market value, then \$1 invested in the combined business yields 6.7 cents in immediate earnings but slower growth than World Enterprises offered alone. Shareholders in Muck and Slurry benefit from reduced immediate earnings but greater growth. If everyone understands the transaction, no side profits nor loses. Finally, World Enterprises raises current earnings while accepting a reduced pace of future growth by combining with Muck and Slurry. Unless investors are duped by the bootstrap effect, its shareholders should be no better or worse off. We cannot determine whether a merger was advantageous purely based on its impact on the acquiring firm’s earnings.

1.2.3 Strategic motives

As previously mentioned, the primary objective of M&A transactions is to acquire resources and capabilities that are not transferable or difficult to replicate. In the strategic sphere, this is translated into an improvement of the competitive position in the current market or towards new scopes, businesses, and geographies by obtaining a competitive advantage. Therefore, a distinction can be made between horizontal, geographical extension, vertical, and diversifying M&As, depending on the target identified (Grant, 2019).

- *Horizontal M&As*. A horizontal acquisition occurs when a company acquires another company that is in the same industry and works in the same production stage. Due to its nature, this type of transaction leads to an increase in the concentration rate of the market as well as to a consequent reduction in the competitiveness rate of the market. The immediate effect of a horizontal acquisition, thus, is to increase the market share of the acquiring company since, as can easily be guessed, it will absorb the share of the acquired company. This type of M&A is among the most common because it is believed that when two companies operate in the same sector, it is relatively easier to achieve integration between the two structures, thus avoiding the so-called clash of cultures (as we will analyze later). As a result of such a transaction, the market is more concentrated and entry barriers for potential new entrants are drastically raised. This leads to rapid growth in the market for the acquiring firm, which entails an increase in market power together with an increase in its profitability. The latter can be achieved through both revenue-side and cost-side gains. About the revenue side, revenues are by accounting definition the outcome of the sales price multiplied by the quantity of product/service sold; after undertaking a horizontal merger, the bargaining power of the company increases as a monopolistic scenario may emerge and it follows that the company may engage in upward pricing policies to increase its margins. On the cost side, cost savings are mainly due to the achievement of economies of scale and economies of scope. The former occurs when the company can produce the goods in high volumes, which allows it to distribute the fixed costs, which do not vary with the quantities produced, and to decrease certain unit variable costs (e.g., thanks to better commercial agreements with suppliers). The latter is the decrease in overall costs that arises from the combined manufacturing of two or more items when compared to the costs that would be incurred if the two productions were separate; this derives from the sharing of production factors, such as resources, facilities, and know-how (Stigler, 1958). Moreover, from the perspective of the target company, which may be smaller than the acquirer, this operation could give it the resources it needs to improve its performance; while the target company has a very good product, it may lack the resources and facilities required for large-scale development. There is, thus, a tendency to lever the complementary resources to achieve growth in a relatively short timeframe. Alongside the lack of facilities, in some cases the target company may also have poor management which is harmful to the profitability of the company. For this reason, an acquisition may also aim to bring in better management to exploit missed opportunities and eliminate inefficiencies.

- *Geographical extension M&As*. Cross-border M&As are transactions combining the assets of two companies from different countries and they have become very popular in the last few decades. They have the main objective of entering a new foreign market, expanding the company's global presence, and trying to overcome the problem of the so-called *liabilities of foreignness*, which refers to the extra costs that multinational corporations face when operating their business abroad compared to local competitors due to a lack of familiarity with the local environment (Hymer, 1976). These additional costs may result in a lack of brand recognition (or if present, at a lower level than in the home country), lack of local distribution channels, and differences in product demands between the home and host markets. Therefore M&As provide a solution to this issue by identifying local players with whom they can share costs, risks, and benefit from local market knowledge. The difference with a strategic partnership or alliance consists in the fact that it involves a direct investment, implying greater influence and control. According to existing research, the option of a cross-border M&A as a mode of entry into a foreign market is frequently influenced by three kinds of factors (Shimizu et al., 2004):

1. Company-level factors, such as international strategy, transnational experience, local experience, product diversity and internal isomorphism.
2. Industry-level factors, such as capital intensity, technological intensity, sales force intensity and advertising intensity.
3. Country-level factors, such market growth rate in the host country, cultural differences between the home and host countries, and the specific culture of the acquiring firm's home country (particularly in terms of uncertainty avoidance and risk propensity).

According to a Deloitte survey[7], most common cross-border M&A drivers are identified in saturation and slowdown in the home market, regulatory uncertainty in home markets and favorable regulatory environment abroad, technology and productivity enhancement. On the risk side, we can list national and regional regulation, the political stability of the country, the availability, accuracy and accountability of the target company's financial information and business risk.

- *Vertical M&As*. These transactions involve the acquisition (or merger) by a company of one or more firms operating in the same industry but at different stages along the supply chain. In this sense, the acquiring company seeks to expand either upstream (by acquiring its suppliers) or downstream (by acquiring its customers) with the main aim of gaining more control over the entire production cycle. Indeed, it could improve its business by having direct control over the required inputs, as well as controlling the distribution channels of its goods and services independently. As a result, vertical

[7] *The risks and rewards of cross-border M&A*. (2021, April 30). Deloitte United States.

M&As often lead to cost reduction and an increase in operational efficiency and productivity. Activities along the supply chain will benefit from greater coordination because they are aligned to a common objective pursued by the management. Consolidation or downsizing of the merged firms' senior management team might be among the improvements. By removing and replacing underperforming executives, the organization may enhance communication and overall performance of the merged entity. Moreover, the decision to purchase own suppliers and/or customers avoids all the transaction costs of the market, both ex ante and ex post, consisting of the time and money needed to search for contractors, negotiate, and define the contract. Those costs are even higher in situations where there are fewer companies, transaction-specific investments, opportunism and strategic misrepresentation, taxes and regulations on market transactions. Besides the costs, vertical mergers can also reduce the risks arising from an arrangement based on market transactions such as, possibility of unreasonable price changes, supply or outlet foreclosure, and insulation from market (e.g., from technical changes, new products). Mergers and acquisitions are probably the quickest route for a company planning to undertake a strategy of vertical integration and can reduce the setup costs associated with system development and training. On the other hand, there are certainly costs and disadvantages that should be taken into consideration. Vertically integrated organizations are massive and large corporations are more difficult to manage. As a result, not all successful businesses are vertically integrated. Microsoft Corporation is an excellent example. Microsoft has focused on the manufacture of operating systems that are used globally by a large share of computers but has avoided engaging in the production of computers themselves. The fact that it is not vertically integrated has been described by many experts as one of the critical factors in Microsoft's early success compared to competitors IBM and Apple (Berk & DeMarzo, 2019). Among the disadvantages, limits to flexibility are by far the ones more easily seen; given the current highly dynamic and unpredictable context, a large, vertically integrated corporation may have problems responding promptly to demand fluctuations and changes in technology, customer preferences, regulation. Ultimately, however, we can state that when two activities along the same supply chain are highly dependent on each other, it may be beneficial to move beyond a contractual collaboration, opting to merge the two into the same vertically integrated company in order to achieve greater control and coordination (Williamson, 2000).

- *Diversifying M&As*. Diversification is included among the strategic rationales for mergers and acquisitions. It therefore aims to create value for shareholders, seeking corporate growth and risk reduction by entering new markets with new products launch. Depending on the orientation adopted, a distinction can be made between related and unrelated diversification; the former involves entering markets with similar marketing and distribution characteristics, production technology or scientific research activities, while the latter consists in diversifying into product markets with key success factors that are unrelated to core business's key success variables of the acquirer (Salter & Weinhold, 1978). Additionally, the related diversification may rely on the transfer of operating resources such as operating and, or functional skills, excess capacity in distribution systems, production facilities, or research operations to gain benefits associated with increased productivity due to operating synergies, improved competitive position as a result of larger size of business, and lower long-run average costs, all leading to a decrease in the volatility of the revenue stream, as well as an increase in the overall income stream compared to the one resulting from a non-diversified corporate portfolio. The difficulty in realizing such benefits obviously lies in the optimal integration of the two companies in post-merger or acquisition. For unrelated acquisitions, instead, the transferable resources are mainly in terms of management and finance (e.g., general management skills, financial surplus, etc.), which can be mobilized for an improvement in the management and allocation of investment capital, a reduction in the cost of debt through risk pooling, and an increase in profits due to cross-subsidization. Furthermore, it must be said that M&As represent a widely used tool for the pursuit of diversification strategies because of their relative speed of implementation and because they allow to find resources that would otherwise be difficult to transfer or replicate internally (especially when considering the entry into markets far from one's core business); they are preferred especially by companies with excess capital and that are experiencing a stagnant situation in their original business. Finally, it may be said that a company pursuing a strategy of diversification through acquisition creates value for its shareholders when at least one of the following conditions occurs as a result of the combination of the resources and capabilities of the two firms: considerable increase in the income stream and greater than would have been achieved by simply investing in a portfolio with the two companies; a decrease in income stream variability larger than what might be gained through a portfolio investment in the two businesses, meaning a reduction in the systematic risk. A firm that diversifies can only build value for its shareholders if its risk-return trade-offs generate benefits that are not available through simple portfolio diversification.

According to Michael Porter, in order to identify the conditions necessary for undertaking a diversification strategy that creates value for shareholders, it is necessary to carry out 3 tests by answering three following questions: does the target industry have the right traits to be identified as currently attractive or potentially attractive? (Attractivity test); is the acquisition cost likely to fully capitalize the target firm’s profit prospects? (Cost-of-entry test); is there any reason why two different firms should become more profitable if they are combined under the same ownership and control of a single enterprise? Can the target company gain a competitive advantage from the link with the acquiring company, or vice versa? (Better-off test).

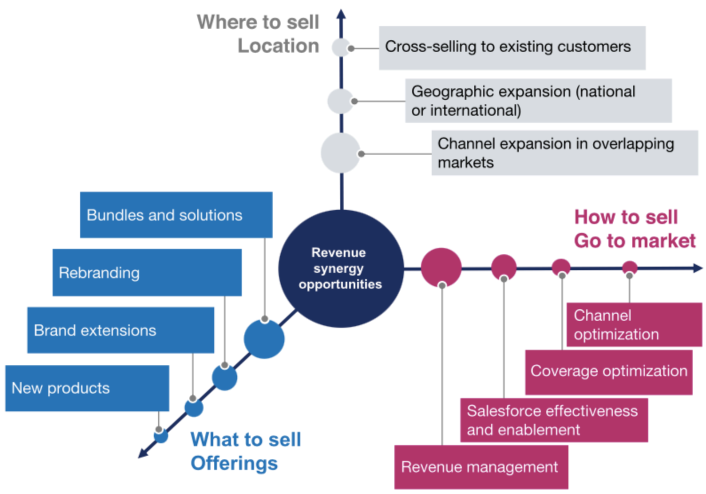
Empirical evidence does not find a consistent relationship between performance and the fact of being a diversified rather than a specialized company; much research has shown a U-shaped relationship, according to which diversification results in value creation up to a certain point, beyond which such an acquisition will harms profits, increasing management complexity as well as costs. McKinsey & Co identified benefits from moderate diversification that is able to exploit its resources and capabilities synergistically, especially for those companies which have run out of growth opportunities and whose core business market seems to be stagnant (Cyriac et al., 2012).

1.2.4 Synergies

As will be analyzed in more detail in the next chapter, the company also pays a so-called premium when acquiring the target firm; how then can the management of the company guarantee its shareholders an investment opportunity with a positive NPV? The answer lies mainly in the ability of a company, unlike an individual investor, to create additional economic value by exploiting the aforementioned synergies. Synergies are based on the concept according to which the combination of two companies generates a positive effect or outcome that is greater than the sum of the two individual businesses. This reflects the idea that resources and capabilities can be complementary and their interaction and coordination results in greater value in terms of growth and efficiency. Synergies can be broken down into revenue synergies and cost synergies; on both sides, achieving such synergies is challenging, as concrete integration needs to be put in place early on, identifying the right directions and targets in terms of revenue growth or cost reduction.

According to an in-depth research and analysis carried out by McKinsey & Co, the first step towards the achievement of revenue improvements is to carefully identify the sources of those synergies, as a lack of clarity in this step could lead to many untapped opportunities. In order to properly capture and prioritize revenue synergies, they can be structured on the following three different branches (**Figure 1.4**):

Figure 1.4 – Opportunities for revenue synergies



Source: Chartier, J., Liu, A., Raberger, N., & Silva, R. (2018). *Seven rules to crack the code on revenue synergies in M&A*. McKinsey & Company.

- *Where to sell* (Location). The probably most intuitive way to have a positive incremental impact on revenues is to implement a cross-selling strategy on the existing customer base, as well as opening up new geographic markets, or new distribution channels.
- *What to sell* (Offering). On this dimension, it is essential to capitalize on the combined R&D capabilities of the two companies to widen the product offering, including through new rebranded product solutions.
- *How to sell* (Go to Market). Mergers and acquisitions might be the ideal stimulus for a broad-scale capabilities upgrading across commercial operations.

Even on the cost synergies side, a careful pre-closing analysis must be carried out so that the final outcomes do not disappoint the cost savings expected before the merger. For this reason, it seems necessary to break down the cost-cutting analysis as much as possible by division and field of interest to subsequently identify potential benefits. Among the cost efficiencies achieved after a merger or an acquisition, certainly a large part of them is related to cost synergies through the volume effect; this allows the unit cost to be significantly lowered by spreading fixed costs over a higher volume in the production cycle. Finally, the sharing of complementary resources allows overlapping operations, redundant processes and workforce to be eliminated.

1.3 Managing M&As

According to the different motivations behind the M&As described above, it is therefore possible to identify advantages resulting from such a strategic choice. Indeed, we have seen how such operations can result in managerial, financial, economic, and fiscal benefits, making the most of the complementarities that distinguish the two or more companies involved. The aspect already mentioned that is common to all types of M&As is undoubtedly the speed with which these tools of strategy make it possible to achieve the objectives set at the corporate level. This is even more relevant when M&As allow to grab resources, knowledge and skills that are scarce, rare, or difficult to replicate.

However, it must also be borne in mind that there is always an underlying component of risk, to a greater or lesser extent, which can easily lead to the failure of the deal itself at the expense of the company carrying out the investment, or in any case produce disadvantages rather than advantages, and hence not lead to the effective creation of value as expected. Among the drawbacks it is worth mentioning the cost of the acquisition, which is likely to be very high, especially in cases of hostile takeovers where the target company's management adopts defensive tactics, and a careful analysis is thus required in the pre-merger stage. Secondly, a reduction in flexibility is also a risk associated with M&A transactions involving a company. Indeed, the new combined corporation is considerably larger and therefore more difficult to manage from an administrative, organizational, and financial point of view. Finally, a risk that affects all types of M&A transactions, even if to a different extent, is definitely connected to the difficulties in integrating and harmonizing the firms involved. Differences in the companies' organizations and corporate cultures, if not addressed and managed properly, might offset the synergies sought by the deal, resulting in a disadvantage compared to internal growth strategies. For this reason, it is essential that any eventual friction, strengths, and weaknesses are identified from the outset, seeking to avoid any post-merger issues.

In summary, disadvantages may result from the pre-merger analysis and administration as well as throughout the post-merger implementation stage.

1.3.1 Challenges of pre-merger planning

From the very beginning, at the pre-merger planning stage, it is crucial to have a clear understanding of the M&A transaction, particularly in terms of knowledge about the companies involved, their strategies, and how such a deal will impact on their strategies, so that overall, it does not result in unsatisfactory performance outcomes. Therefore, questioning which resources and capabilities are relevant is the first step towards and in-depth and careful identification of the goals of a merger or an acquisition. At this point, it is essential to carry out a realistic assessment of the outcomes, which may be more or less difficult depending on the type of M&A, especially due to a lack of complete and comprehensive information about the target company.

Overall, it seems challenging to estimate the benefits arising from mergers and acquisitions, with respect to identifying and quantifying both cost savings (cost synergies) and revenue increase (revenue synergies). According to McKinsey research, the acquiring company is affected by the so-called *winner's curse*[8], as the value creation from the transaction is mainly captured by the target company, which receives an acquisition premium that is usually between 10 and 35% of the target company's pre-market value (Christofferson et al., 2004); this is explained by an erroneous and optimistic estimate of synergies. The research, which looked at a range of industries, geographies, and deal types, found that in 70% of cases revenue synergies were overestimated and therefore targets were not met. One of the main sources of estimation error is related to a failure to account for revenue dis-synergies, such as loss of customers that may offset cost savings resulting from closing some overlapping branches. On the cost-side, estimates are better and closer to final outcomes: about 60% of acquisitions achieve their cost objectives, but about a quarter overestimate cost savings by at least 25% on average.
The problem remains, both in case of hostile and friendly takeovers (to different extents of course), that the seller will have more information than the buyer, resulting in an information asymmetry that will probably induce the acquiring company to overpay, as described by G.A. Akerloff in the *market for lemons*[9].

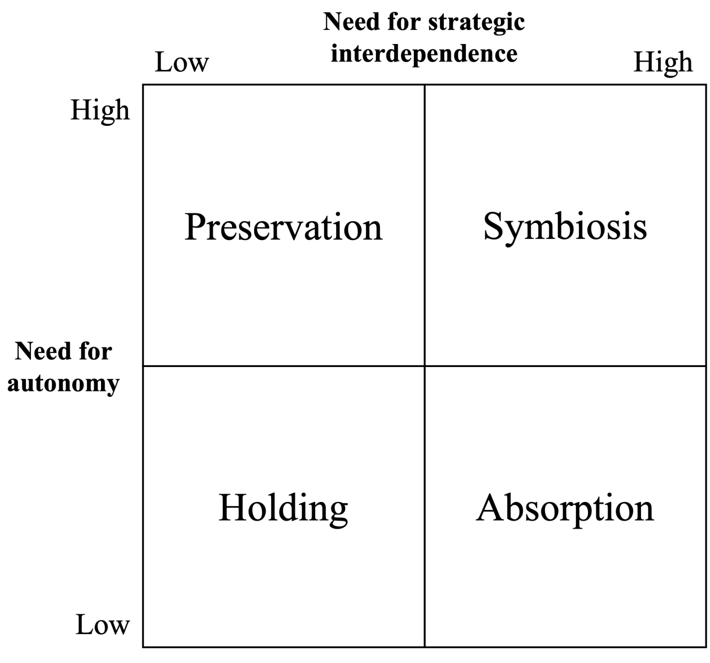
1.3.2 Challenges of post-merger integration

The failure of some M&A transactions is not only attributable to erroneous and inaccurate assessment – in strategic, financial, and economic terms – during the preliminary stages, but a central role towards the value creation lies in the subsequent integration of the two entities once the deal has been closed. As a matter of fact, management's objective is to optimize the new combined company in the most effective way, by exploring operational, organization and cultural aspects in order to identify potential barriers, strengths and weaknesses that the post-acquisition integration has to face, so as to finally achieve the attainable synergy benefits that had been established. Cultural fit is often an underestimated issue, but culture defines the way things are done in any organization, most of which are done automatically and without conscious thinking. When companies merge or acquire employees become acutely aware of how their practices differ from those of the other side and when they feel their practices are threatened, they often hold on to them even tighter. This phenomenon is known as *clash of cultures* and can occur to a greater extent depending on the distance between the two

[8] The winner's curse is a tendency for the winning bidder at an auction to exceeds the item's intrinsic value or true worth and consequently overestimate and overpay the asset. In most cases, the difference between auctioned and intrinsic value can be connected to insufficient knowledge and information, emotions, or several other subjective variables that may affect bidders.
[9] Akerloff, in his 1970 article, analyzed the phenomenon of information asymmetry by looking at the second-hand car market. He assumes that there are two levels of quality in the market, the so-called lemons and the good quality cars, and it follows that buyers who are unaware of this distinction will be willing to pay an average price between the two. at this point, sellers of good quality cars will exit the market, as they are not willing to receive that average price, which is lower than the real value of their cars. The consequence of the mechanism described in the article is that markets, in situations where quality is an uncertain fact, definitely stop existing.

companies involved (Lee Marks et al., 2013). Therefore, integration can only be successful if it respects the cultural identity of the acquired company through a process of exchanging experience and knowledge in a spirit of mutual cooperation. Although two companies may belong to the same industry, in the same country, a cultural clash can still occur, highlighting the differences in history, personalities and ways of running the business when they come together. This happens through common and predictable steps, ranging from the perception of differences (in decision-making, leadership, organizational model) to their polarization, to the eventual creation of stereotypes and the "put down" of one culture over the other (Lee Marks et al., 2013).
Obstacles to capturing synergy, client disruption, structural integration, employee retention, loss of identity and/or independence, customer retention, emotional trauma, loss of status, and learning challenges represent the issues that the post-merger integration process aims to overcome. It can be defined as the process that takes place after a merger is closed to reconfigure combined firms by redeploying, adding, or divesting resources, product lines, or whole businesses in order to realize the expected combination benefits (Bodner & Capron, 2018). According to Haspeslagh and Jemison, the transfer of resources and capabilities is at the core of the value creation process and is thus the main objective of post-merger integration in operational, managerial, and organizational terms. They identified four alternatives in embarking on a process of full implementation, which break down according to the need for strategic interdependence and the need for autonomy and which are synthesized in the following matrix (**Figure 1.5**).

Figure 1.5 – Integration Matrix



Source: Haspeslagh, P. C., Jemison, D. B. (1991). *Managing acquisitions: creating value through corporate renewal*. Free Press, New York.

Going through the four options separately:

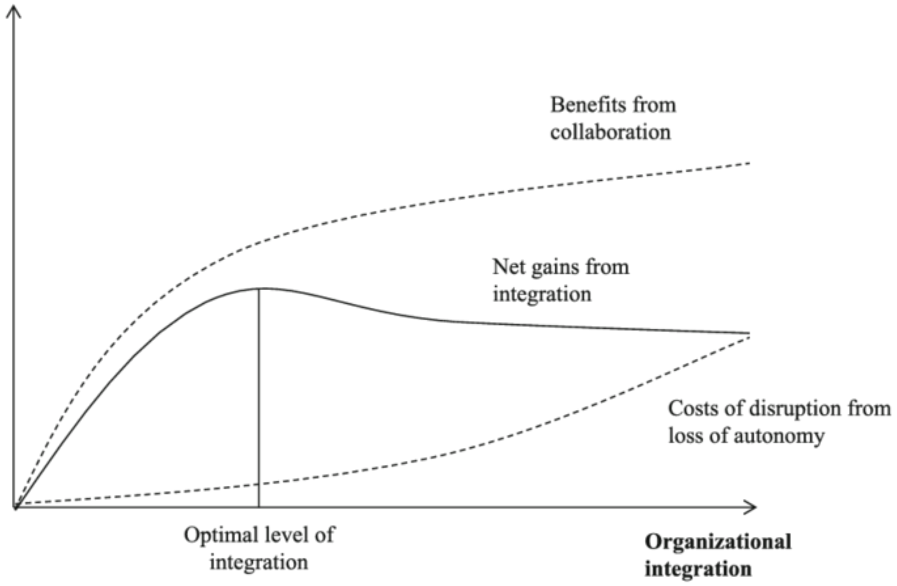
- *Holding*. This kind of approach mainly involves the sharing of financial resources and management skills, without implying further integration in operational and strategic terms. The acquirer holds the target company in its portfolio just keeping the ownership, for the purpose of financial transfers, risk-sharing or general management capability pooling.

- *Preservation*. The acquiring company preserves the target company which is marked by a strong need for organizational autonomy. This is realized through the recognition of the target as a stand-alone business, given the low degree of strategic interdependence.
- *Absorption*. This is probably the most common strategy adopted in M&As, as it is intended to accelerate growth or overcome resource shortages. The level of integration is high as a result of the low degree of autonomy required by the target company to pursue its activities and the strong level of interdependence between the two companies. This is also the case where the risk of a cultural clash is greatest, given the objective of full integration.
- *Symbiosis.* Neither of the merging companies has a dominant position in the newly combined organization, and instead mutually supports each other's efforts. This post-merger integration model is advantageous when interdependencies are strong, and the target company's business necessitate greater autonomy. The acquiring company must seek both boundary preservation and boundary permeability.

The post-merger integration consists of multiple interrelated levels, such as resources-and-capabilities, structural and business integration. With regard to the former, it is important to identify which resources should be integrated, taking into account business units, assets, product lines. This is mainly since not all resources and to the same extent are affected by a merger or an acquisition. According to the reconfiguration studies, resources must be updated on a regular basis in order to create value, and in the context of M&As, it is necessary to assess the existing complementarity and to analyse how those resources and capabilities are redeployed between the acquiring and the target company. Empirical evidence has shown that these resources are redistributed by bridging any gaps within the different divisions. In particular, resources subject to contractual mechanisms are the most likely to be redeployed, such as R&D, marketing, and manufacturing ones, thus allowing for an expansion of their scope (Bodner & Capron, 2018).

The building of the acquisition capability is achieved through the management of the learning process and in the setting up of the most suitable structure so that the expected synergies can be effectively accomplished leading to the creation of additional value. However, the definition of the organizational structure presents a major challenge, since it is necessary to ensure the right balance between organizational autonomy and coordination; the latter being defined as the positive effect of integration on formal processes, communication systems, and group identity. An excessive degree of integration at the expense of autonomy in the target firm could curb its innovative capacities and generate discouragement. This trade-off is commonly known as the "coordination-autonomy paradox" (Puranam & Vanneste, 2016), as graphically illustrated below (**Figure 1.6**).

Figure 1.6 – Coordination-autonomy trade-off in post-merger integration



Source: Puranam, P., Vanneste, B. (2016). *Corporate strategy: tools for analysis and decision-making*. Cambridge University Press, Cambridge.

Concerning integration of the business, it is essential that the acquiring company matches the post-merger management with the strategic objectives of the merger. In this sense, the proper choice of a target company is central whichever of the two strategic directions is taken: either to leverage the firm's existing business model or to reinvent its business model. The former is more inclined to integration, with actions that create additional value to the existing business that has been decided to pursue; in the latter case disruptive reinventions need the right degree of autonomy and therefore full integration should be avoided.

Boston Consulting Group has developed a framework that allows companies to unlock the full potential of M&A transactions, the complexity of which is often underestimated. It begins by defining four objectives that a post-merger integration must achieve, which are[10]:

1. Keep momentum in the current businesses.
2. Unlocking synergies to rapidly deliver value creation.
3. Overcome the cultural clash and set up an organization that aligns the two entities.
4. Leveraging the complementarity of resources and capabilities to strengthen the competitive position.

In order to achieve these goals, we go through a three-step approach that involves setting the direction, capturing the value and building the organization. From the outset, the acquirer's leaders must be clear about the strategic rationale for the deal and hence the integration's objectives. Consequently, it is appropriate to manage the integration as a programme with a rigorous approach, regardless of size, align teams around the

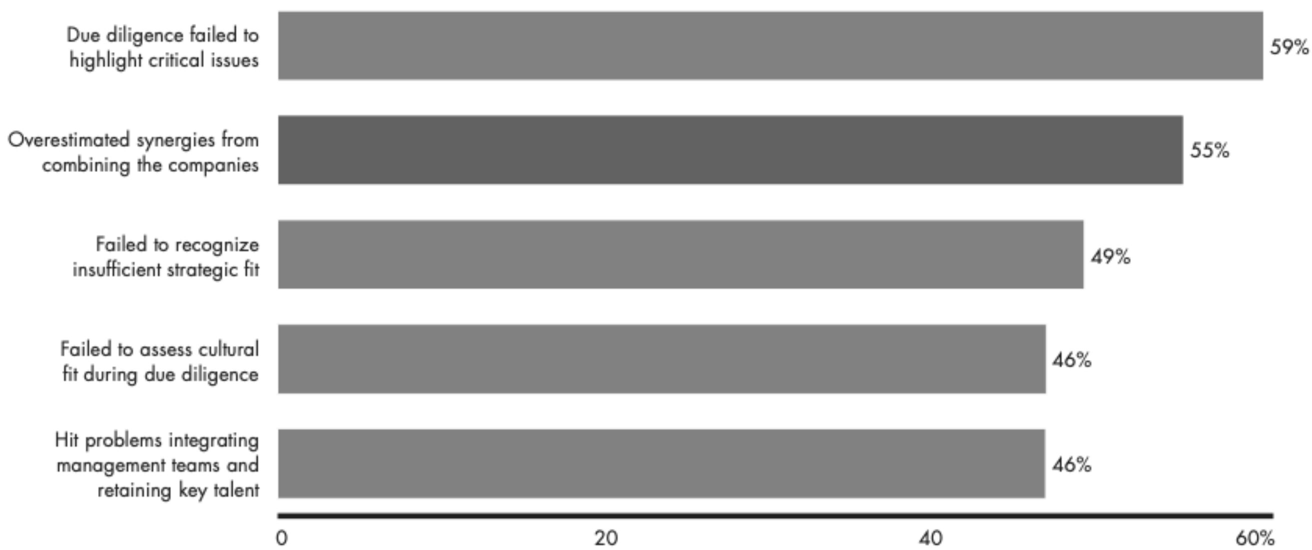
[10] BCG, *Post-Merger Integration*. https://www.bcg.com/it-it/capabilities/mergers-acquisitions-transactions-pmi/post-merger-integration

value drivers and operating model of the target, and identify senior leadership that is engaged, reliable and high profile. Then, to capture value the company must start by redesigning the new reality by emphasizing the synergies to be achieved, with a strong focus on speed. At the same time, it is necessary to keep the ongoing business strong, involving the current customer base in the integration process. Finally, the executives must define the final and future organization, in terms of teams and processes, favoring cultural fit through a rigorous change management process and continuous and clear communication.

In order to provide an empirical response, PricewaterhouseCoopers (PwC) carried out a research study which highlighted the main success factors of the post-merger integration process according to their contribution to the return on investment (ROI) of the deal: they were mainly identified in the achievement of defined synergies, completion of post-merger integration within defined time frameworks, well received culture and change management, and strong project governance implemented. Notably, the implementation of a strong governance project is the objective most frequently achieved by the companies surveyed that have realized a successful deal (about 93%), while cultural fit and change management seem to be quite challenging (around 54%)[11].

Ultimately, only if managed in the right way can an M&A transaction prove to be one of the most important tools for long-term value creation, from pre-merger planning through post-merger integration. The right importance should be given to each step so as not to make mistakes which could damage the final outcome (**Figure 1.7**).

Figure 1.7 - Top five root causes of deal disappointments or difficulties



Source: Miles, L., Borchert, A., & Ramanathan A. E. (2014). *Why some merging companies become synergy overachievers*. Bain & Company.

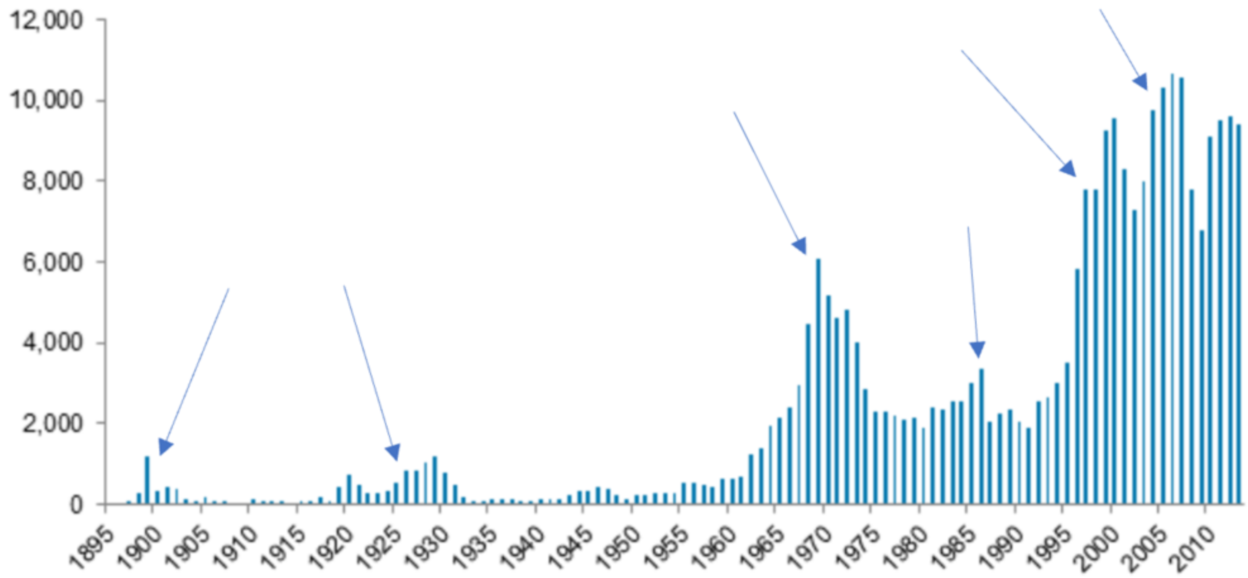
[11] PwC, *Success factors in post-merger integration*. M&As Integration Survey Report 2017.

1.4 M&A waves throughout history

Throughout history, it has been observed that M&A deals were typically driven by cyclical activity – as well as the economic system as a whole – identified in precise time periods when the volume and value of extraordinary transactions increased significantly clustering in specific sectors and industries, to the extent that so-called *M&A waves* could be defined[12]. According to Harford, those trends are strictly connected to and driven by economic, regulatory and technological shocks, which provide opportunities for development, and thus explaining why periods of high concentration of mergers are followed by periods of low activity, defining a fluctuating pattern. Concerning the economic shock, merger waves have often followed periods of economic recovery, in which companies look for fast-growing strategies to accelerate recovery during an expansive economic phase that is about to be opened and, as was mentioned throughout the chapter, M&As allow for expansion in less time than internal development. Secondly, from a regulatory and institutional perspective, shocks may consist of deregulation and the removal of regulatory barriers to mergers or acquisitions. For instance, change in antitrust regulation may facilitate new merger waves. Finally, technological changes can lead to radical transformation in existing industries, expand their boundaries or create completely new industries and markets, representing truly disruptive shocks. For this reason, companies need to react promptly to innovation and extraordinary transactions are one of the tools through which to do so.

Having said that, since the early years of the 20th century there have been six merger waves (**Figure 1.8**) and we are currently in the midst of the seventh wave. Except for the first waves (for which we have no evidence in Europe), this trend can commonly be extended to the European context.

Figure 1.8 – Volume of M&A transactions in the US market



Source: Asset Management Study Association, *Merger waves*. 2019.

[12] Patrick A. Gaughan first came up with this definition in 2002.

First wave (1895-1904)

Closely linked to the American industrial system, the first wave – known as *merger for monopoly* or *Great Merger wave* – was characterized by the consolidation of companies in the manufacturing and mining sectors with the establishment of large monopolies and industrial giants such as DuPont, General Electric, Eastman Kodak. Several industries were thriving, but the effective expansion of transportation and communication networks, as well as the foundation of the first securities market and the development of the metal industry, drove horizontal mergers. These were aimed at increasing the size of players in highly capital-intensive sectors in order to achieve economies of scale and improve competitive position. This wave was the response to the Sherman Antitrust Act of 1890.

Second wave (1919-1929)

The second wave began after the First World War and ended with the Great Crash on 29 October 1929. The main objective was to strengthen the oligopolies, weakened during the First World War, by adopting vertical integration strategies and thus through vertical M&As. The acquisition of suppliers and/or customers would have made it possible to achieve an optimal level of efficiency, strengthening one's bargaining power and eliminating transaction costs. The refocusing from horizontal to vertical operations was also the result of a major regulatory effort that ultimately culminated in the recognition of the Standard Oil Company as an illegal monopoly by the US Supreme Court in 1911. The imposition of stricter constraints on merger processes effectively prevented large horizontal mergers and the further formation of monopolies, with the issuance of the Clayton Act and the Federal Trade Commission Act. This wave includes the formation of holding companies such as General Motors and IBM.

Third wave (1960-1670)

As a result of the expansive period and economic boom of the 1960s, companies had considerable liquidity to undertake mergers or acquisitions. The third wave saw the rise of conglomerate M&As motivated on one hand by the tightening of competition law, which reduced the scope for horizontal or vertical operations, and on the other hand by the desire of US companies to diversify their business by entering unrelated markets. Indeed, diversification allowed a reduction in risk by widening the portfolio of corporations, which thus saw a considerable increase in their income stream. This wave came to an end due to the oil crisis in 1970.

Fourth wave (1981-1989)

The fourth wave was characterized by hostile takeovers, large size of the target companies, the increased role of banks, more sophisticated strategies undertaken by multinationals and higher debt ratios. Hostile takeovers or *bust-up takeovers* with a predominantly speculative purpose became widespread as the buyers acquired underperforming conglomerates and sold their individual business units for more than the purchase price. This period saw also the arrival of corporate raiders defined as investors who purchase a significant number of shares in a company whose assets look to be undervalued. The huge share acquisition would provide considerable voting rights, which may be used to influence changes in the company's leadership and management. This would raise the value of the shares, resulting in a big profit for the raider. An important peculiarity is the volume of transactions in this fourth wave, which is much higher than in previous ones, with mergers and acquisitions also gaining significant weight in Europe.

Fifth wave (1992-2000)

This fifth wave saw the dominance of strategic or global deals – also referred to as *mega-deals* – which were more likely to be friendly and to involve companies in related activities; the main purpose behind such mergers or acquisitions was to strengthen the company so that it could compete globally. Hence, domestic M&As between companies with headquarters in the same country have been consistently joined by cross-border transactions involving companies of different nationalities and with a higher degree of complexity due to regulatory and cultural differences. When compared to prior decades, the volume of deals and overall transaction value in Continental Europe have increased significantly during these years. During the fifth wave, 87,804 M&A transactions were documented for Europe, according to Thomson Financial Securities Data. In the previous one, however, there were only 9,958 such deals. The fifth wave in Europe is also outstanding in monetary terms, with a total value of US$ 5.6 trillion, which is more than eight times the combined amount of the fourth wave (Martynova & Renneboog, 2006). Major transactions in those years included the purchase of the German telephony giant Mannesmann by the British Vodafone in 1999 (US$ 183 billion); in the oil and gas industry, the merger of Exxon and Mobil to form ExxonMobil (US$ 85 billion); and the historic merger of Daimler and Chrysler in the automotive industry.

Sixth wave (2004-2009)

Globalization, private equity, and shareholder activism were probably the main pillars of the Sixth Wave, which came during the recovery stage of the dot-com bubble[13].

Shareholders grew increasingly interested, leading to shareholder activism, in which they demonstrated greater influence and authority over a corporation's activities and conduct simply by exercising their ownership rights over the management. They do not operate the firm directly, but they do have a voice in how the board of directors or management runs it. This aggressive approach taken by shareholders prompted them to act in distributing ownership with the company's management and investors. As a result, private equity poured in, due to its massive growth in those years. After the bursting of the tech bubble, central banks lowered interest rates and thus favored debt-financed acquisitions (LBOs).

[13] The dot-com bubble, also referred to as the tech bubble, was a stock market bubble generated by excessive speculation in tech firms in the late 1990s, during a period of rapid expansion in Internet use.

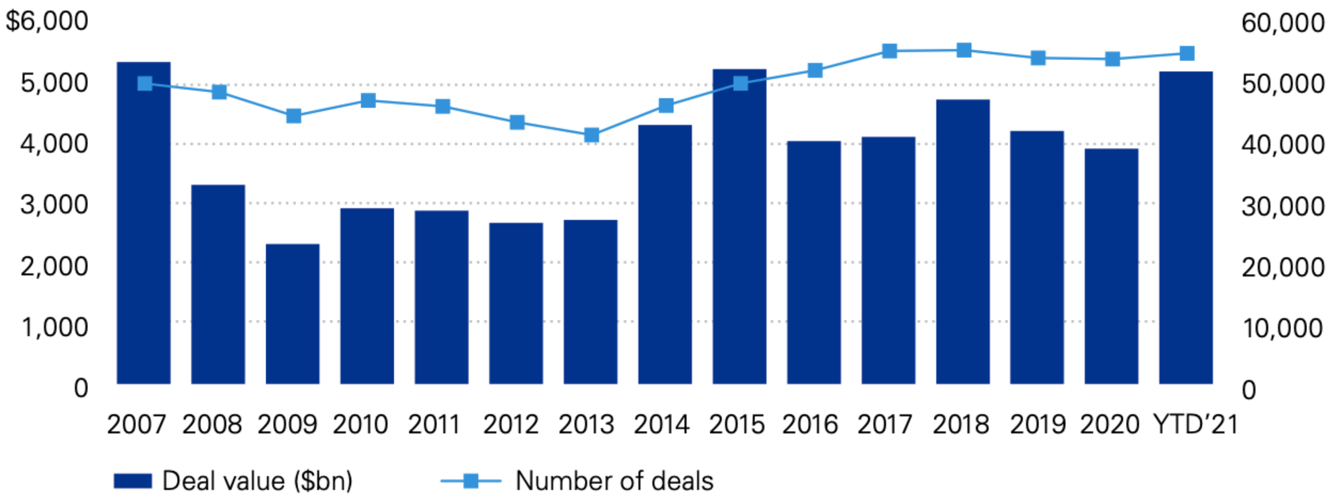
There was a marked expansion of cross-border agreements between Europe and Asia involving various sectors such as energy, finance, pharmaceuticals, high-tech, and telecommunications. Finally, the Global financial crisis that in 2007-2009 slowed down the M&As market and thus ended the sixth wave.

Seventh wave (2014-onwards)

Since 2014, the global M&A market has shown a growing trend in terms of both annual deal volume and overall value. This is attributable to companies' quest for increasingly inorganic growth, capturing synergies and complementary resources and capabilities. Moreover, many sectors such as pharmaceuticals and banking have seen a process of consolidation in recent years which inevitably involves extraordinary operations.
The other factor explaining the significant growth is undoubtedly the advent of the so-called BRICS; Brazil, Russia, India, China and South Africa, five of the emerging national economies of the world, being developing countries or just newly industrialized. This aspect justifies the heavy concentration of M&A operations in these countries in the coming years, as well as the fact that they represent five of the most populous countries in the world.

Evidence confirmed this growing trend despite the Covid-19 pandemic starting in March 2020. The global M&A market, as shown in the KPMG Mergers & Acquisitions Report 2019, had a moderately positive 2019, recording the closing of around 36,834 deals and an overall value of over US$3,112 billion, down 12% year-on-year due to a smaller number of mega deals. Against all expectations, the Covid-19 pandemic did not completely overwhelm the global M&A market, which ended 2020 resilient; 37,230 mergers and acquisitions completed (+1% compared to the previous year), while the countervalues, at US$3,007 billion, were down 3% compared to 2017. Out of the total volume, 50% is accounted for by the Americas, 24% by Asia, 22% by Europe, and 4% by Africa and the Middle East, reflecting the sharp growth of countries such as China and India. Finally, the global M&A market closed 2021 with double-digit growth (+47% in terms of value and +31% in terms of volume compared to the previous year); with US$4,418 billion generated and 48,948 deals completed, it marked a new all-time peak (**Figure 1.9**).

Figure 1.9 – Global M&A market



Source: KPMG Corporate Finance, *Mergers & Acquisitions Report*, 2021.

Chapter 2: Financial aspects of M&As and valuation

2.1 Buy-Side

Chapter one provided an overview of M&A transactions as strategic tools mainly used by companies in their pursuit of long-term value creation. In this chapter two, instead, we will proceed to explore the more financial and accounting aspects of mergers and acquisitions, along the different stages of the process and considering both the Buy-Side and the Sell-Side.

The Buy-Side intuitively encompasses all buyer-related activities and analyses, and consequently in order to have a clear understanding it may be appropriate to distinguish the different types of buyers/investors in M&A deals. On one hand, the so-called strategic buyers seek strategic operations alignment, pursuing long-term expansion and growth by capitalizing on possible existing synergies and on the transfer of resources and capabilities that are difficult to replicate. Their targets are often other companies operating in the same market, and either upstream or downstream along the supply chain (as seen above horizontal or vertical M&As). They are commonly well-established industrial companies with easier access to capital. On the other hand, the group of financial buyers includes venture capital and private equity firms[14], hedge funds and financial institutions whose primary objective is to invest in a target company in order to obtain a return on their investment within a limited time horizon. The financial investors, also known as financial sponsors, are willing to invest in a wide variety of businesses and industries, not only ones that are complementary to current activities in their portfolios.

These two classes of investors involved in M&A transactions differ in several aspects such as objectives, selection and valuation of the target company, time horizon, degree of risk, degree of leverage and degree of control on target's management. A more in-depth analysis of these features follows below.

Objective

- *Strategic buyers* aim to pursue growth and expansion through M&A transactions. This is realized through the achievement of operational synergies and thus efficiency gains thanks to economies of scale and scope. Moreover, as analyzed in the previous chapter, the objective may focus on a strategy of vertical integration, reinforcement of the competitive position, as well as transfer of complementary resources in terms of R&D, technology, sales, and marketing.

[14] Private equity is a form of medium- to long-term investment in unlisted, high-growth companies, mainly made by institutional investors with the aim of obtaining a substantial capital gain from the sale of the stake acquired or from its listing on the stock exchange. Private equity activities do not only involve the provision of equity capital, but also a set of activities related and functional to the realization of the business idea. When an institutional investor enters a high-growth company during the start-up phase, this is commonly known as venture capital (Borsa Italiana, 2022).

- *Financial buyers'* main objective is the maximization of the final return on investment for their investors at the moment of exit. In order to do so, they reorganize the target company with the aim of optimizing and generating higher cash flows. This is also possible thanks to the strengthening of the financial structure following the entry of the financial sponsors themselves (Chiarella & Ostinelli, 2020).

Selection of the target

- *Strategic buyers* tend to acquire companies that are in line with their strategic objectives and characterized by a complementarity of resources and capabilities. these targets are also marked by a higher market-to-book ratio and a higher percentage of intangible assets compared to tangibles (Fidrmuc et al., 2012).

- *Financial buyers*, on the other hand, have as their main target companies with lower market-to-book ratio and good performance, so that they can assure them a high resale value and get the expected return on investment.

Valuation of the target

- *Strategic buyers* cannot ignore the potential synergistic gains resulting from the deal when assessing the target company's value. Therefore, it follows that strategic bidders are willing to pay more for the average target due to the eventual benefits resulting from the combination of the two firms involved. According to this, when the acquirer is a strategic investor rather than a financial investor (such as a private equity firm, target shareholders receive a 63% higher premium. As a matter of fact, the average premium is around 40.9% (Bargeron et al., 2007).

- *Financial buyers*, instead, value their targets on a stand-alone basis as they are less likely to conclude agreements at high values and are less willing to contribute additional equity to compete with corporate bids. This is mainly due to the fact that financial sponsors have a goal in terms of expected return, and a high purchase price would erode investors' gains. They thus pay lower prices and premiums than strategic buyers in order to get a higher exit price at the end of the time horizon.

Investment time horizon

- *Strategic buyers* typically have long-term investment horizon, as the M&A is aimed at achieving growth and expansion objectives which require the full integration of the target company into the existing business. This does not take the form of a mere return on the capital invested.

- *Financial buyers*, on the contrary, have a short or medium-term investment horizon, which allows them to gain the expected return as soon as the target is listed or reaches a certain resale value. Generally, the horizon for financial sponsors ranges from 3 to 7 years, depending on the specific type of investor.

Degree of risk

- *Strategic buyers* are particularly different from financial sponsors because of the degree of risk of the investment. Indeed, they prefer investments with a low level of risk, as otherwise they would threaten to damage the existing business. The degree of risk would be higher if there were very strong strategic motivations behind the M&A transaction.

- *Financial buyers* seek investments with a higher degree of risk, as it would result in a higher return on capital. on the other hand, in order to mitigate the risks taken, investors tend to hold diversified portfolios so as to reduce the so-called specific risk.

Degree of leverage

- *Strategic buyers*, being mainly industrial investors, tend to use a medium level of leverage in M&A transactions to maintain a sustainable equity to debt ratio and to avoid eroding the profitability of the business itself. For this reason, sources of financing are usually excess cash or stocks.

- *Financial buyers*, on the other hand, seeking the maximization of returns on invested capital and the capital gain, tend to use high levels of leverage, even around 70%, as in the case of leveraged buyouts (LBOs).

Degree of control on target's management

- *Strategic buyers* tend to have an influential impact on the management of the target company in most of the cases, as they would otherwise opt for contractual agreements or strategic alliances. Since the rationale of the M&A transaction is to achieve strategic objectives through a new combined structure, strategic investors gain a significant degree of control in the attempt to fully integrate the two entities.

- *Financial buyers* seek from the outset to implement corporate structure and information transparency, demanding regular access to corporate information in order to monitor the company's performance and identify any problems at an early stage. Investment monitoring is carried out both through the analysis of economic and financial indicators and through the presence of representatives on the Executive Board. Private equity firms typically acquire a major equity position while enabling current shareholders to keep an ownership investment in the company. In terms of the target's management, the financial sponsors frequently impact management choices by focusing on financial and economic issues rather than operational ones.

While strategic investors' main determinants of success of the transaction are the proper integration with the target company and the capture of synergies, the success of the deal for financial sponsors lies in the correct

selection and value assessment of the target as well as the fair remuneration and incentives for the management to achieve growth and thus create additional value.
Having said that, the chapter will proceed by describing the key stages for the identification of the economic and financial value of the target company.

2.1.1 Due Diligence

After an initial stage aimed at selecting a target company there comes the formulation of an Investment Teaser, which is a concise document in which a proposal to invest in a company is presented and which provides important information for those who have to evaluate the project. A teaser should ensure that the value of the company is grasped by a large audience highlighting the unique selling features of the company including industry overview, business description, location, financial summary, investment rationale and transaction structure. Being still in the first preliminary steps, a confidentiality agreement called "Non-Disclosure Agreement" (NDA) is drafted, in which the parties undertake not to disclose the information to third parties.

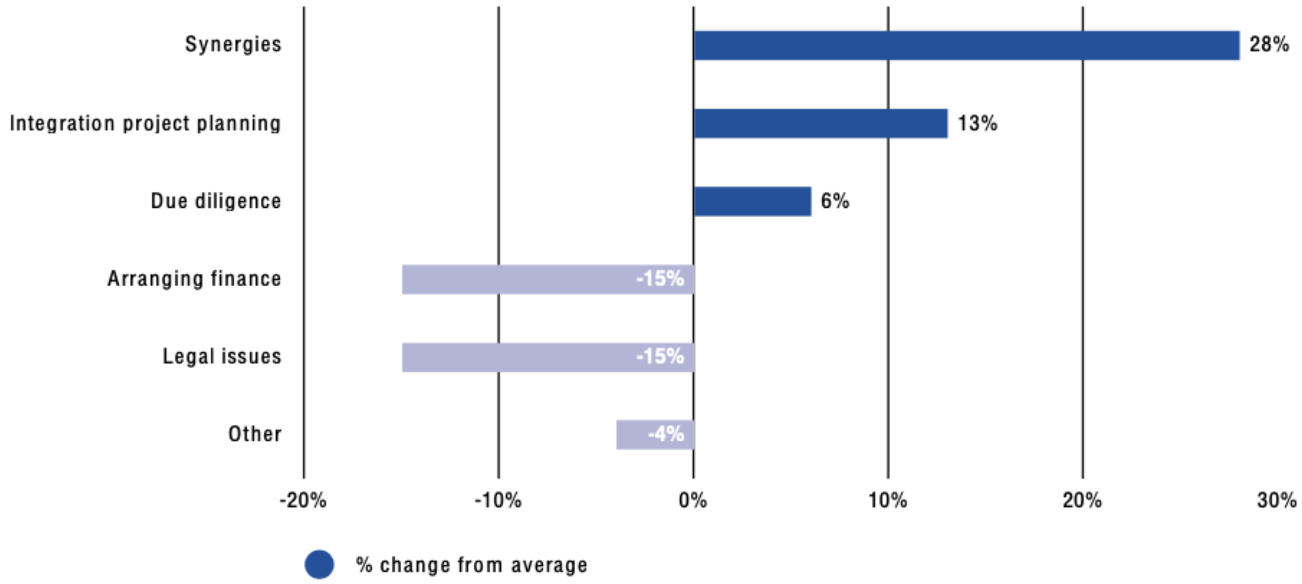
Having thus understood the importance of having a well-defined preliminary strategic plan, we now look at the more analytical aspect of M&A transactions. As a matter of fact, the next stage focuses on carrying out economic and financial analyses that are as reliable and truthful as possible and which enable the company to obtain a necessary and accurate valuation of the target company. The objective of these activities is to reduce information asymmetries existing at the time of extraordinary transactions. This process is commonly referred to as Due Diligence; Due Diligence is an investigation, audit, or review performed to confirm facts or details of a matter under consideration and it simply means that the buyer has been rigorous and thorough (*duly diligent*) in its investigation of a possible acquisition (Frankel & Forman, 2017). It is a tool precisely aimed at assessing the advisability of the deal and identifying the risks involved, in order to negotiate the terms and conditions of the contract. Therefore, Due Diligence has an investigative function, to verify, through the information gathered, whether the desired transaction is feasible, or whether there are critical elements and risks that discourage it. Due diligence has now become a common practice, probably the moment that established its significance and mandatory nature coincides with the introduction of the Securities Act in 1933. This Act came about just a few years after one of the biggest financial crises in history, the 1929 Great Depression, and was intended to protect investors. The key points of this law are based on the respect of a fundamental principle that financial actors must follow precisely and diligently; transparency in financial reporting, so that investors are able to make rational decisions. Failure to comply with the latter, together with false statements and fraudulent activities, also carries criminal sanctions.

When identifying the target company, it is essential to analyze all the financial aspects of the transaction, both in terms of the cost of the acquisition and, above all, in terms of the total final net benefits of the whole operation. The analysis implies the collection of a lot of information, which can be found both in the standard financial statements (e.g., balance sheet, income statement, cash flow statement) but also in other key documents such as the budget plan, the strategic plan and finally the operational plan. In any case, it is evident that this activity requires a lot of time and expertise (as a matter of fact, it is often entrusted to external advisors), as it includes specialized investigations in many areas (accounting, tax, financial, legal, environmental, etc.).

Research carried out by KPMG has highlighted some factors that make M&A transactions more likely to succeed than average. They can be broken down into hard keys to unlocking value successfully, which include synergies assessment, post-merger integration planning and Due Diligence activity; and soft keys related to the selection of right management team, resolution of cultural clashes, and communication.

In particular, as shown in **Figure 2.1**, proper due diligence results in a 6% increase in the likelihood that the deal will ultimately succeed, demonstrating that it is the most important of the non-optional pre-merger activities. On the other hand, acquiring firms that centered their emphasis on arranging finance or on legal issues were 15% less likely than the average to successfully finalize the transaction. This data demonstrates the effectiveness of due diligence when performed correctly.

Figure 2.1 – The three pre-merger hard keys to success



Source: KPMG. (1999). *Unlocking shareholder value: the keys to success*. M&A global research report.

Moreover, proper due diligence is not limited to verifying and auditing past performance and then translating it into an actual fair price, but more important for success, it aims to assess future prospects and demonstrate how they might be met (Howson, 2017).

Keeping in mind that the objective of due diligence is to correctly assess all aspects of the acquisition, (i.e., highlighting the problems related to the business, the risks of failure that would result and the benefits), it is thus essential to integrate different kind of due diligence, in order to obtain a complete view of the target company. For this reason, in this section, we will consider different fields of analysis and diagnosis. Another distinction that needs to be pointed out is that it is not possible to define a set of fixed and defined rules about the correct *modus operandi* to be adopted for the success of the transaction. This is even more evident if we consider a whole series of areas in which the parties involved in an M&A transaction may differ; the main ones are listed below:

- The industry in which the company operates.
- The buyer profile.
- The access to information.

Looking at the first aspect, given the many existing ones, it is very difficult to find a classification that is universally accepted, so I will report the segmentation drawn up by one of the main players in the consulting and advisory services, KPMG.

- ***Energy***, which includes companies operating in the Mining & Metals, Oil & Gas, Chemicals, Power & Utilities sectors.
- ***Financial Services***, covering Banking & Capital Markets, Insurance, Investment Management (e.g., asset management companies and Private equity firms).
- ***Government & Public Services***, such as Civil Government, Federal Health, State, Local and Education.
- ***Healthcare & Life Science***, consisting of businesses that provide medical services, manufacture medical equipment or pharmaceuticals, provide medical insurance, or otherwise help patients get healthcare.
- ***Industrial Manufacturing***, which is responsible for the manufacture of products intended for industrial use from raw materials.
- ***Consumer goods***, which includes firms that sell goods to final customers and households rather than manufacturers and industries (e.g., Retail, food & beverage, health and beauty care sectors).
- ***Telecom***, consisting of Technology, Media & Telecommunications companies as well as internet service providers.

The second area that may require changes in the approach to acquisition is the buyer profile, because there may be specific differences. To highlight this aspect, it is enough to think of companies belonging to different countries and therefore to different legislations. This would imply that due diligence teams would have to operate differently across the several activities in accordance with local regulations in the country of interest.

Differences in analysis also arise from the distinction between strategic and financial investors, described above.

Finally, the third aspect has to do with the access to information, which is a very relevant issue in due diligence. In this respect, acquirers may only have access to public data, such as published financial statements and website information; or full access to information which implies a practically total openness to the target company's information package in which the target's management undertakes to respect the needs of the investigation teams so that proper due diligence can be carried out. In addition to that, in many cases there is limited access; the amount of information, even confidential information, is significant and the management of the target company shares it with potential buyers through a tool named Data Room. Data rooms are places used in M&A due diligence transactions, where a seller must disclose confidential information about the asset being sold to a potential buyer. Traditionally, it was a physical room, permanently under surveillance, into which potential investors were introduced one at a time to examine confidential company data. Currently, however, with the emergence of innovative web-based solutions, the Virtual Data Room (VDR) is commonly used, essentially being more practical, to ensure greater security and efficiency in the due diligence process. Virtual data rooms are websites restricted to those interested in the acquisition, who are given a certificate and password to access them, in order to obtain sensitive data and interact with the target company (Borsa italiana, 2014). The purpose of this tool is to provide potential buyers with information that allows them to make indicative bids.

The following is a presentation of the areas that should be covered by due diligence and consequently the different types of due diligence that need to be carried out. The object of the investigation activity may be of various kinds and differ according to the type of deal; it follows that the acquiring company may prioritize special areas of concern according to its own research and data collection needs as well as the risks related to each single case of transaction. Despite this, the main areas of assessment and, hence due diligence topics, are generally the following:

- *Financial due diligence*, whose focus of enquiries is on the historical trend of profitability indicators, such as revenues and EBITDA, and financial indicators (e.g., net financial position and net working capital) of the target company of the acquisition with the aim of verifying its economic-financial sustainability. One of the reasons why so much importance is given to financial due diligence (FDD) is that it provides the basis for a proper valuation and confirms the underlying profit. This is because accounting is not an exact science and can present uncertainties since it very often leaves space for discretionary judgements and assumptions that may in some way have a significant impact on profitability (e.g., stock valuation, depreciation policies). The due diligence team's task is therefore to analyse this historical data, taking into account future implications (Howson, 2017). This is made possible by the scrupulous analysis of the accounting documents (Balance Sheet, Income Statement and Cash Flow Statement). The primary building component of financial due diligence are as follows:

- Checking the figures on which the offer is based.
- Identifying any potential "deal breakers" (e.g., misvaluation of assets and liabilities).
- Defining arguments for the negotiation and where guarantees or indemnities are required.
- Instilling trust in the underlying performance and, as a result, future profitability.

The aim here is to assess the strengths and weaknesses of the target company in terms of profitability and financial soundness. Of course, knowledge of the accounting documents is a necessary condition for a reasonable determination of the value of a company. This analysis starts by looking at the profit and loss account, which is used to determine the revenues of the target company, its margins and trends and seasonality. Other factors are also highlighted, such as the cost structure, specifically those relating to ordinary/operating management and, finally, any extraordinary components that may clearly alter the economic result. In this sense, EBITDA – which stands for Earnings Before Interests, Taxes, Depreciation and Amortization – is a very accurate profitability indicator. This value makes it possible to measure the operating profitability of a company, considering only its core business and therefore the ability of its revenues to cover the costs related to its operating activities. It can be considered as the first index of cash flow generation by the company through its ordinary management. During due diligence stage, the quality of earnings can be identified through historical EBITDA so as to lay the foundations for defining future performance.

The analysis continues with the review of the balance sheet, which represents the financial position of a company at the end of the period and provides information on the value of the assets and capital available to the company. Naturally, this document is one of the cornerstones of financial statements and company information; it is the subject of a careful examination by the investigation team to ensure that:

- The judgements behind values look to be reasonable.
- The trend does not present a distortion.
- Assets and liabilities are reported correctly. It is not unknown that core assets are not owned by the company or that liabilities are not yet materialized (Howson, 2017).

At this stage, attention must be paid to any discrepancies between the book values and the real value of the assets recorded in the financial statements, and therefore the focus must be on, for example, the valuation criteria used and the depreciation policies. As a matter of fact, a typical procedure carried out is the Impairment test. According to the international accounting standard, it is intended to ensure that the company's assets are reported at a value that does not exceed the recoverable amount attributable to them, which means that the amount do not exceed the amount to be recovered through use or sale of that asset (IAS 36, 2001)[15]. The recoverable amount of an asset is estimated as the higher of the value in use and fair value less costs of disposal. The former is calculated by discounting the operating cash flows associated with the relevant asset

The cash flow statement is also carefully reviewed by the financial due diligence, as cash flow is commonly used in valuation in the same way as profit. Profit-to-cash generation is a critical piece of information that investigation team must report on as comprehensively as possible. The disparity between profit and cash might be caused by valid motivations, such as a long-term investment program or revenue growth. While, on the contrary, it might be a consequence of poor cash management, whose demonstration is given by repeated violations of overdraft restrictions.

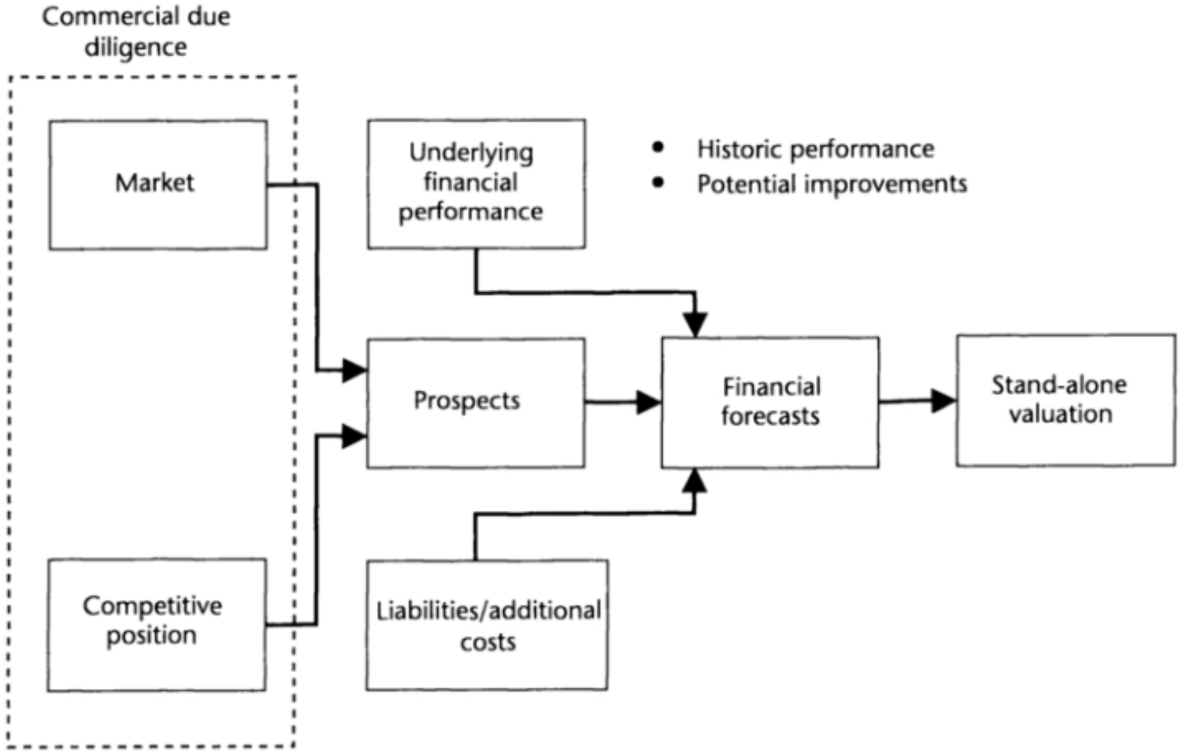
- *Legal due diligence*. whose purpose is to investigate, from a purely legal point of view, what risks may arise with the closing of the deal, and thus to find possible contractual countermeasures to mitigate or reduce them. More specifically, legal due diligence aims to inform the acquiring company about the target's existing contracts and their compliance with regulatory requirements. The analysis covers a variety of issues: contracts (analysis of commercial contracts with customers and suppliers); occupational health and safety; concessions, authorizations and environmental risk; financial relations (analysis of guarantees); intellectual and industrial property (analysis of patents and licenses); competition and antitrust. The objective of legal due diligence can therefore be broken down as follows:
    - Identify possible liabilities.
    - Uncover any legal or contractual barriers.
    - Create the foundation for the final agreement.

- *Commercial due diligence*. Its main purpose is to create the basis for estimating the future performance of the target company, also considering factors and data external to the company itself. The objective of this type of investigation is to draw a complete picture of the target, highlighting its strengths and weaknesses. As a matter of fact, useful tools in this regard are the SWOT analysis and PESTLE analysis, both strategic and diagnostic frameworks aimed at investigating the financial soundness as well as the competitive advantages and disadvantages of a given company. In particular, the former takes into account internal and external factors, thus defining strengths and weaknesses, opportunities and threats for the business; the latter tends to analyse factors purely external to the firm's organization

[15] According to IAS 36, the impairment of assets does apply to land, building, machinery, investment property at cost, intangible assets, Goodwill, subsidiaries, associates and JV at cost, assets at revalued amount. It does not apply to inventories, financial assets, deferred tax, employee benefits, construction contracts, investment properties at Fair value, agricultural assets at Fair value, insurance contracts, non-current assets held for sale.

but of a different nature, i.e., political, economic, social, technological, environmental and legal/regulatory. The focus of enquiries of commercial due diligence concerns with target's market and its relative competitive position, thus laying the foundations for future prospects which have a core role throughout the valuation process, as shown in **Figure 2.2**.

Figure 2.2 – The deal evaluation process



Source: Howson, P. (2017). *Due Diligence*. 1st edn. Taylor and Francis.

In summary, the purpose of commercial due diligence can be broken down into three different aspects. Firstly, to reduce risk, as the purchase price is based not only on historical data but also on future forecasts and elements external to the company; secondly, as already mentioned, it lays the foundations for a correct valuation, making the prediction of future performance more realistic; finally, it can help to define a proper integration plan, highlighting the company's strengths and weaknesses. In addition, it is often discussed how financial and commercial due diligence overlap in a sense; in fact, they should be seen as complementary because the former looks internally at the target company, making sure that the financial and accounting data reflect reality, the latter'Is aimed at putting it in a broader context of market and future scenarios.

Of course, the areas of investigation in due diligence do not stop there and are numerous (up to now we have focused on the areas considered most in line with the subject matter). To mention a few: tax due diligence, whose purpose is to uncover latent tax liabilities which will then fall to the buyer once the deal is done. The discovery of additional tax liabilities should be immediately communicated to the management of the acquiring company prior to closing, as these could lead to changes in negotiation strategies and contribute to the tax cost of the transaction. Environmental due diligence is intended to identify the environmental risks and costs associated with the target company and with the deal and is becoming increasingly important in today's context in which ESG factors also play a major role in valuation. IT due diligence is centered on the examination of IT assets, processes, systems, policies and procedures of the target company and their compatibility with the acquirer (Deloitte, 2021).

2.1.2 Valuation and offer

There are two major actors in each M&A transaction: the buyer and the target. Obviously, the parties have symmetrical and contradictory goals: the former wants to reduce the purchase price, while the latter wants to receive a greater amount. In the case of a friendly acquisition, the price will be determined through a negotiation process between the parties, in which every kind of issue related to the target company is reflected in the final price. The market determines the price in the case of a hostile takeover. In any situation, whether it is a friendly or hostile takeover, the acquirer must determine the fair price for the target firm based on the value creation concept. This indicates that the price will be fair for the acquirer only if the transaction creates value for the buyer. As a result, the price is only feasible if the acquirer's combined value raises because of the M&A transaction.

The valuation process, thus, is unquestionably one of the most critical and relevant phases in any M&A transaction, in which the intrinsic value of the target company as well as the synergies, and therefore the additional value resulting from the combination of the two entities, are determined. According to A. Damodaran, the valuation process stands in the middle between a hard science that leaves minimal space for analysts' assumptions and a true art where analysts' points of view can greatly influence the final outcome. As a result' assessing the value of a company may be particularly challenging, especially when considering three components that are often underestimated: pre-valuation biases, uncertainties and valuation complexity. Firstly, whoever is evaluating a company is often influenced by the ideas and biases he or she already has about the firm, and consequently the evaluation tends to follow that direction. These biases are then made concrete through the assumptions made during the evaluation, their post-evaluation adjustment to reduce any gap between the expected and final result (*post-valuation tinkering*), or justification of this difference based on qualitative factors such as synergistic effects (Damodaran, 2011).
Secondly, uncertainties are a decisive aspect in the outcome of the valuation of a business, as future forecasts must be made. Although we have reliable sources of information, it is then necessary to draw inputs from them and build models. There are many variables, and even if it is possible to correctly predict the future trend and

performance of the business being evaluated, there is still macroeconomic uncertainty, because of the unpredictability of future events that may affect the industry or the economy in general.
Thirdly, on one hand, technological progress in support of calculations and estimates, and on the other hand, the ease of access to massive amounts of historical data, have certainly made valuation models more complex. The cost of such complexity falls mainly on information overload and potentially more errors for the greater number of inputs. However, it must be said that the increase in available information does not always translate into a detrimental effect on the valuation process (Damodaran, 2011).

Therefore, it is clear that the valuation in the context of an acquisition requires special attention from both the acquiring company and the target company; on the one hand, they try to identify a fair price that can make the investment in the target valuable in the medium to long term, on the other hand, of course, the selling company has to make sure that it receives a remuneration corresponding to the actual value of the business (with even greater caution in the case of hostile takeovers). In the context of M&As, valuation is characterized by distinguishing factors that need special analysis. Firstly, as often mentioned in the previous chapter, synergies represent the added value that cannot be ignored at all in the valuation; they justify how the value of the two combined companies is higher than the sum of the two individual businesses, mainly for operational, financial, fiscal, managerial reasons already stated above. The second factor to be considered before making a bid is the so-called value of control, which reflects the impact on value of changes and restructuring of the target company after the transaction, and it is very challenging to assess properly as the final outcome does not always match the pre-merger planning.

These elements described above are measured by an acquisition premium estimated at the time of valuation and paid by the acquiring company once the deal is closed. The acquisition premium is the difference between the price paid by the acquiring company to the shareholders of the target company and the pre-merger market value of the target company. The assessment of the premium is one of the most critical steps in the process of performing a company valuation as such transactions have a high degree of unpredictability. The acquirer will therefore have to break down the amount paid into the value of the target in its present conditions (stand-alone value) and the additional value given by the prospective benefits deriving from the achievement of the intended synergies and the change in management. The estimation of the latter is a very sensitive process since, based on subjective forward-looking forecasts, it may lead analysts to make errors in their valuation by paying a higher amount than what is actually achievable with the M&A transaction. In order to ensure that this takeover premium does not destroy value and make the operation unsuccessful, the assessment of synergies must be consistent and realistically reliable. The price paid by the acquiring company can thus be broken down as follows:

$$Price\ Paid = Target's\ Pre\text{-}Bid\ Market\ Capitalization + Acquisition\ Premium \tag{2. 1}$$

In terms of value to the buyer, he gets the target company as a result of the stand-alone valuation plus the synergies that will be achieved[16]:

$$Value\ Acquired = Target\ Stand\text{-}alone\ Value + PV(Synergies)$$

(2. 2)

Considering the two equations above – *(2.1)* and *(2.2)* – if the target's pre-bid market capitalization and its stand-alone value were to be equalized, the Net Present Value (NPV) for the acquiring company resulting from the acquisition of the target would only be positive if the acquisition premium did not exceed the synergies realized (Berk & DeMarzo, 2019).

To give further justification to M&A transactions in terms of value, as mentioned above, they are value-creating when the value of the combined entity is greater than the sum of the two companies taken individually. It is therefore possible to express the benefit of the operation in the equation as follows:

$$Gain = V_{AB} - (V_A + V_B) = \Delta V_{AB}$$

(2. 3)

If this difference between the new value of the two companies A and B combined is greater than their separate values, it means that there is a creation of value and hence an economic justification for the acquisition or merger. On the other hand, on the cost side, they are the amount paid minus the value of the target company taken individually:

$$Cost = Amount\ paid - V_B$$

(2. 4)

It follows that to the acquiring company, the NPV of such a transaction is the difference between the gain and the cost, which must be positive in order to justify it (Myers, 1976).

$$NPV = \Delta V_{AB} - (Amount\ paid - V_B)$$

(2. 5)

Moreover, it is important to remember that evaluation, whatever its purpose, must be based on universal principles and must reflect them to the greatest extent possible. The first of these principles is rationality, in the sense that the valuation must derive from a logical and clear process, and as such it must be widely accepted. Then verifiability and neutrality; the former refers to the possibility of attributing to the factors that enter the model values supported by checkable data, the latter seeks to preserve the fairness of the estimation excluding purely subjective choices and unmotivated arbitrariness. Finally, stability in the sense of avoiding

[16] Naturally, the present value of future synergies is taken into account, as it is imperative to maintain time consistency at the moment of the valuation.

recurrent fluctuations in value caused by dependent occurrences or changes in viewpoint that are based on beliefs rather than real changes in scenarios (Guatri, 1998).

Once the value of the target company has been assessed, the acquirer proceeds with a tender offer. This consists of a public bid aimed at the shareholders of a company to purchase some or all of its shares at a defined price and within a fixed period of time. Here it is necessary to define the method of payment, which can be in the form of cash, stocks or a mixture of the two. Cash payment method is the most popular and easiest one for acquiring another company. The cash invested in an M&A transaction may be sourced internally or through extra debt by the acquiring company. The primary benefit of cash payment is that the firm identity and ownership structure stay unaffected. The disadvantage of this mode of financing is that there is an immediate requirement for tax payments to be made to target shareholders and it could be harmful for company profitability (Sankar & Leepsa, 2018). The stock payment method involves the issue of new stocks by the acquirer with which it will finance the M&A transaction. These kinds of operation are also known as stock-swap transactions since the shareholders of both companies exchange their shares. As a matter of fact, in order to set the price is necessary to define a rational exchange ratio, that is, a measure of the number of shares the acquiring company must issue for each individual share of the target company. This scheme is often preferred to cash payment by overvalued companies. Moreover, we can state that a stock-financing merger or acquisition results in a positive NPV for the acquiring company if the post-merger share price is greater than its pre-merger share price (Berk & DeMarzo, 2019). It is shown in equation as follow:

$$\frac{A+T+S}{N_A+x} > \frac{A}{N_A} = P_A \tag{2. 6}$$

Where A is the value of the acquiring company, T is the stand-alone value of the target and S is the value of potential synergies. N_A is the number of outstanding shares of the acquirer and x represents the shares issued for the transaction; therefore, it follows that the left-hand side of the equation describes the share price of the combined new entity. The right-hand side is the acquiring company's pre-merger share price. In order to identify the condition for a positive NPV, the equation *(2.6)* can be rewrite in the following way:

$$x\,P_A < T + S \tag{2. 7}$$

This means that the value of the new shares issued must be less than that of the target plus synergies. Assuming $P_T = T/N_T$, it is possible to define the maximum acceptable exchange ratio for the acquiring company's investment to be positive.

$$Exchange\ ratio = \frac{x}{N_T} < \frac{P_T}{P_A}\left(1 + \frac{S}{T}\right)$$

(2. 8)

In addition to that, an earn-out clause can also be defined by the parties. This clause states that the acquisition price is made up of a fixed part paid at the closing and a variable part whose value is linked to the generation of future income results realized after the closing of the M&A transaction and generally related to the trend of accounting measures and performance indicator such as EBITDA. With earn-outs, the parties create objectives tied to the target's prospective performance, which are measured at specific times and each of which is associated with the payment of a portion of the transaction's value. This sort of arrangement is common when the target's owners do not sell their whole share capital but instead maintain shares in the new firm, frequently holding managerial roles.

2.2 Valuation Methods

In accordance with what has just been said above, valuation aims to determine the value of an asset or a company at a specific time. In the specific case of extraordinary transactions such as M&A, the business valuation is functional to the identification of a range of values within which the estimated purchase price can be placed, which may depend on several factors among which the bargaining power of the negotiating parties, the expectations and the respective motivations.

This section illustrates with considerable evidence the contraposition of absolute and relative valuation approaches, the former based on models and formulas, the latter on multiples. Therefore, we can briefly and roughly anticipate that, on the one hand, the intrinsic value is defined on the basis of future forecasts, in terms of cash flows, and on the other, a comparison is made with the value of similar assets or companies, i.e., industry peers. As a result of that, it is generally accepted that the results from absolute and relative valuation methods may physiologically differ, and that their non-coincidence is admissible within certain limits. Only very significant discrepancies, expressing sharply contrasting results, would be a cause for real concern, as they could invalidate or make the whole valuation process unreliable. The fact that the two valuation techniques have traditionally assumed distinct roles and stances may serve as a starting point. Until the advent of relative valuations in the world of merchant banks, multiples played an auxiliary role to absolute valuations, especially from a business perspective. This was also the position in continental Europe much more clearly than in the Anglo-Saxon world, where relative methods were born. The "ancillary" condition is translated into the long-standing rule that absolute methods express the main method and relative methods the checking method. At most, the latter is asked for confirmation, and if this is clearly lacking, the principal method must be rechecked. If there is a clear lack of confirmation, the main method must be rechecked, but this hardly ever leads to rejection or abandonment.

This attitude expresses the conviction that only the absolute approach can explain (and document) everything about the measured value, while the control by multiples expresses a limited vision: it is an opinion extracted from the market; and the market, also because of its volatility, may at a given time express unfounded judgments to which it would be inappropriate to give too much weight. Recent history radically overcomes this view, with multiples becoming very popular and spreading even outside the merchant banks. The reasons behind the change are many, as we need mention here:

I. The great rise in stock market prices in the last decade of the 20^{th} century, with the consequent divergence between stock market prices and book values of equity.
II. The growing importance of intangibles and the difficulty of valuing them analytically.
III. The great expansion of both the primary functions of stock markets and of Mergers & Acquisitions.

IV. Finally, the fact that absolute methods must increasingly refer to expected cash flows, even in the long term, which are difficult and sometimes difficult to forecast. In addition, valuations using multiples appear, at least in less accurate applications, to be leaner, less demanding and less expensive (Guatri & Bini, 2007).

An issue to which proper attention must be paid concerns the possible gap between the results of absolute and relative valuations, in the search for factors and circumstances that can provide rational and concrete explanations. The potential differences between the two major evaluation approaches can be explained by the following points:
The different logical content.

- The peculiar information support, linked to both internal and external variables.
- The different degree of stability over time.
- The object of the valuation.
- The purposes of the valuation (valuations for corporate and balance sheet purposes; for acquisition or negotiation purposes; for performance measures, etc.).
- In some cases, the different use of resources and time for carrying out the research and estimates may also play a role.

Regarding the first point, the absolute methods theoretically contain only rational components (by definition, the formulas should exclude any irrational component). Moreover, the soundness of its outcomes depends on the validity of the information and of the fundamental analysis that selects and structures it; particularly, on the reliability of the forecasts concerning the expected flows and on the rationale of the discount rates. It is largely based on expected flows in the medium to long term: as a matter of fact, very often the impact of distant cash flows is decisive (hence the importance of the choice of rates).
The relative approach, on the other hand, contains both rational components (the performance) and factors of market efficiency, as well as speculative ones (which, together form the market paradigm). It typically refers to very limited time horizons as is well known, results are based on income performance, but referring to the present or the very short term.

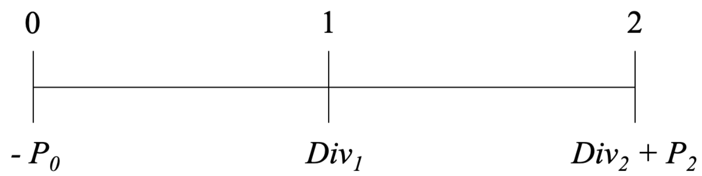
With regard to stability, the two approaches, because of their logical and informative nature, lead to results with different stability over time. The absolute valuation tends to produce results that are stable, at least in the short term, due to the creation of models that are often highly rational and solid; while the relative valuation is by definition unstable, even in the short term, as a consequence of market volatility and deal trends.

Absolute valuation is unfeasible without adequate resources in terms of means and time, due to the extent of the information (historical and forward-looking) and the fundamental analysis on which it must be based, otherwise the conclusions it reaches will be groundless and unreliable. The relative approach is also used as an agile and cost-effective means of evaluation, although the risks of error that such practices entail should never be overlooked.

2.2.1 Dividend Discount Model (DDM)

When carrying out the valuation it is essential to bear in mind the distinction between assessing the equity of the target company (equity side) and assessing the entire business, thus also taking into account the debt (asset side). This will greatly influence the model and in particular the discount rates and cash flows. For this reason, we will start by describing the valuation method that identify equity values and then move on to the other firm valuation models.

The Dividend Discount Model belongs to the first group of valuation methods considering only dividends as cash flows to equity. The principle behind this model states that the price paid by an investor for a stock is equivalent to the expected future cash flows which turn out to be the dividends during the holding period and the final resale price at the end of the investment horizon. This is based on the present value rule, which sees the value of any asset as the result of the future cash flows associated with it, discounted at a discount rate in line with the risk undertaken (Berk & DeMarzo, 2019). Thus, according to what has just been said, looking at a two-year investor it is possible to set the stock price at time 0 equal to the present value of the expected cash flows, getting:



$$P_0 = \frac{Div_1}{1 + r_E} + \frac{Div_2 + P_2}{(1 + r_E)^2}$$

(2. 9)

Even if we were to consider an investment with a time horizon of one year, as well as extending the period by a few years, the valuation method would not have changed. As a matter of fact, if a second investor were to buy the same stock at time *1*, P_1 would be nothing more than the numerator of the second addend of the equation *(2.9)* right-hand side discounted by one year. This procedure is applicable whatever the investment horizon, so that the Dividend Discount model equation can be defined with arbitrary *N* years. Since even the expected prices are determined by future dividends, the value of the stock results as the present value of dividends in perpetuity:

$$P_0 = \sum_{n=1}^{\infty} \frac{Div_n}{(1 + r_E)^n}$$

(2. 10)

The value of the stock is dependent on the two basic inputs to the model: future dividends and the cost of equity. The former is obtained through assumptions about future growth rates and payout ratios, the latter by analyzing the risk scenario and defining a required rate of return based on the CAPM formula[17]. The simplest definition of future dividends is that of the so-called Gordon model, which assumes constant dividend growth. Therefore, it follows that the value of the stock being valued is tied to the dividends expected in the following year (or time period), the required rate of return on the stock and the expected rate of dividend growth.

$$P_0 = \frac{Div_1}{r_E + g}$$

(2. 11)

In a simplified growth model context, for a firm to see the value of its shares increase, it would have to increase both its dividends and its growth rate *g*. However, this is not possible because there is a trade-off: an increase in the growth rate can occur because of investment and this investment would limit the earnings distributed as dividends. We thus, introduce the concept of dividend payout ratio defined as the fraction of earnings directly distributed as dividends in each year. The company may decide whether to retain the earnings internally and invest (retention rate) or to pay dividends to its shareholders. The earnings growth rate *g* will be given by the ratio of change in earnings to current earnings, hence defining the sustainable growth rate (just using retained earnings (Berk & DeMarzo, 2019).

$$g = Retention\ Rate\ \times\ Return\ on\ New\ Investment$$

(2. 12)

This assumption of steady growth can be maintained and so Gordon's model can be used for those companies which are in a stable growth phase. It works best for enterprises that are expanding at or below the

[17] The Capital Asset Pricing Model (CAPM) is a practical way to estimate the cost of capital as the best expected return available in the market on investment with similar risk profile. It is founded on three main assumptions according to which: investors can purchase and sell all securities at competitive market prices and can borrow or lend at the risk-free rate; investors hold only efficient portfolios of traded securities; investors have homogeneous expectations regarding the volatilities, correlations and expected returns of securities. As a result, the expected return on an individual security is determined through the following relationship: $E\ [r_i] = r_f +\ \beta_i\ (E\ [r_m] - r_f)$. r_f represents the return on a risk-free security; r_m represents the return on the market portfolio, and β_i the systematic risk of the security itself (Sharpe, 1964).

pace of the economy and have well-established dividend distribution policies that they expect to maintain in the future.

In practice, new variants of the Dividend Discount Model have also been developed, such as the 2-stage and 3-stage growth models. In particular, the 2-stage model is founded on the initial assumption according to which growth can be broken down into two moments: a first stage in which growth is not steady and a second one in which the company tends to stabilize, defining a constant long-term growth rate. The three-stage model, on the other hand, attempts to overcome a limitation characteristic of the one just described, caused by the fact that, after the explicit time horizon, the growth model suddenly declines towards the long-run g rate without including transitional phases. The solution to this discrepancy is provided by introducing an intermediate stage (using the H model for valuing growth) that is shaped inertially to create a convergence between the initial stage and the final stable-growth phase (Damodaran, 2011).

Despite its simplicity and intuitive logic, the Dividend Discount model has some limitations giving the fact that future dividends are market by a significant amount of uncertainty and small deviations in the growth rate estimates can lead to great changes in the stock value. Moreover, some companies pay out significantly more in dividends than they have in cash flows, typically covering the gap with fresh debt or equity issues and valuing these firms with the DDM may set too optimistic assessment of value (Damodaran, 2011).

2.2.2 Discounted Cash Flows (DCF)

One of the most widely used valuation methods is probably that of Discounted Cash Flows during IPOs, restructurings and investment decisions as well as – and this is where we are most interested – assessments for M&A situations. The DCF model makes it possible to value a company in its entirety, thus considering the equity and the debt. It is consequently one of the asset-side and not the equity-side valuation techniques (such as the DDM described above). It is founded on the assumption that the present value (PV) of a company is given by the sum of future free cash flows discounted at the cost of capital plus the Terminal Value, which represents the FCFs that will be generated after the explicit forecasting horizon. The final outcome, thus, of the model is the Enterprise Value (EV) which determine the overall value of a company to all equity and debt holders. As a matter of fact, this measure expresses the market value of equity, defined by market capitalization, plus Net Debt, that is, the company's debt minus its liquidity.

$$Enterprise\ Value\ (EV) = Market\ Value\ of\ Equity + Debt - Cash\ and\ Cash\ Equivalents \tag{2. 13}$$

Conceptually, the Enterprise value is the underlying business value, unencumbered by debt and apart from any cash or marketable securities and it may be viewed as the net cost of acquiring the target company's equity, taking over its cash, paying off any existing debts, and thereby owning the unlevered business (Berk & DeMarzo, 2019).

Once we have therefore defined what the final result of the DCF model is, we can structure the analysis in a series of successive and crucial steps to achieve the evaluation objective and then be able to put the model into practice by applying the following equation:

$$EV = \sum_{t=1}^{n} \frac{FCF_t}{(1+WACC)^t} + \frac{TV}{(1+WACC)^t}$$

(2. 14)

The steps to be taken in order to assess the target company in a proper way are mainly the following four:

I. *Examine the target and identify the key performance and value-creation drivers*. This first step is common to any valuation method and requires a clear understanding of the target company and its industry before entering into an in-depth cash flow estimation. The due diligence phase described above certainly lays the informative and research foundations for defining solid starting assumptions and identifying the financial and performance drivers of the company.

II. *Forecast and project the free cash flows*. As can be intuitively understood from the name of the model, this step is the core part of the evaluation. FCF is the cash generated by a business after paying all cash operating costs and taxes, as well as funding capex and working capital, but before any interest expense is paid (Rosenbaum & Pearl, 2020). FCF estimates are guided by reasonable assumptions based on historical data as well as future financial and economic trends and forecasts made by analysts. In financial terms, the free cash flow is calculated from the unlevered net income, given by the EBIT adjusted for taxes, plus depreciation and minus Capex (Capital Expenditure) and the change in Net Working Capital (ΔNWC):

$$Free\ Cash\ Flow = EBIT \times (1 - \tau_c) + Depreciation - Capex - \Delta NWC$$

(2. 15)

III. *Compute the Weighted Average Cost of Capital (WACC)*. It is then required to calculate the rate at which the free cash flows and the terminal value will be discounted to get the target's enterprise value. Unlike the dividend discount model, in this case it would be incorrect to use the cost of equity (as previously determined using the CAPM formula) as the discount rate since we are valuing the company as a whole in terms of equity and debt. Therefore, it is appropriate to use the weighted average cost of capital (WACC), which is defined as the cost of capital provided by both debt and equity and which reflects the riskiness of the company's entire operations, and hence its overall investments. It is the benchmark for assessing the return on investment. The WACC is computed as follows:

$$WACC = \frac{E}{E+D}\, r_E + \frac{D}{E+D}\, r_D\,(1-\tau_c)$$

(2. 16)

The cost of equity (r_E) is generally calculated according to the CAPM formula, while the cost of debt (r_D) reflects the firm's credit profile at the target capital structure. As a matter of fact, the latter is strongly link to the yield to maturity, the probability of default and the expected loss rate, resulting in the equation:

$$r_D = y - pL$$

(2. 17)

Moreover, the weighted average cost of capital includes the benefit of the interest tax deduction when the company also finances itself with debt. For this reason, it can be defined as the effective after-tax cost of capital.

IV. *Determine the Terminal Value*. Free cash flows are generally projected for an explicit time horizon beyond which a stable phase of the target's financial performance is assumed to be achieved. For this reason, the model includes the estimation and discounting of the terminal value, according to the principle of ongoing concern, to determine the trend beyond the defined time period. This component can significantly influence or distort the final outcome, so it must be calculated reasonably and on a sound basis. The Terminal Value can be determined by two widely accepted methods: applying a perpetuity growth model or the exit multiple method (EMM). The former involves calculating the target's remaining value as a perpetuity of the cash flow of the last explicit projection year (*N*) assuming a constant long-run growth rate, whereas the latter determines the Terminal value using an exit multiple of the target's terminal year EBITDA or EBIT.

$$TV = \frac{FCF_N\,(1+g)}{WACC - g}$$

(2. 18)

The discounted cash flows model allows a very accurate assessment to be carried out using specific information about the company's performance, cost of capital and potential future growth rate. It is a highly rational method that can provide a partially exhaustive answer.

2.2.3 Adjusted Present Value Method (APV)

The Adjusted Present Value method (APV) can be described as a two-stage valuation model in that it first determines the so-called unlevered value of the company, meaning the value of the company without the debt, and then calculates and adds the net benefits of borrowing. The main benefit of using debt is the interest tax shield while the cost comes from the risk of not being able to repay it. This can be analytically represented by the following equation where V^U stands for the value of the company without any leverage:

$$V^L = APV = V^U + PV(Interest\ Tax\ Shield) \tag{2. 19}$$

Therefore, the first step is to determine the value of the unlevered target. To accomplish that, FCFs are forecast and projected as seen above; the difference from Discounted cash flow is in the discount rate, which in this case will be the unlevered cost of capital, consistent with the final result. Assuming that the company maintains a target leverage ratio[18], this cost of capital is calculated as the WACC without considering the effect of taxes and is hence also referred to as the pre-tax WACC (Berk & DeMarzo, 2019):

$$r_U = \frac{E}{E+D}\, r_E + \frac{D}{E+D}\, r_D \tag{2. 20}$$

At this point, the present value of the interest tax shield is determined, firstly by computing the tax benefit in the given time horizon and then by discounting them. With regard to this second aspect, keeping the assumption of a target leverage ratio, the discount rate for the interest tax shields can coincide with the company's unlevered cost of capital, as they have the same risk level as the free cash flows. The interest tax shield is calculated by multiplying the corporate tax rate to the interest paid:

$$Interest\ paid_t = r_D \times D_{t-1} \tag{2. 21}$$

$$Interest\ Tax\ Shield = Interest\ paid_t \times \tau_c \tag{2. 22}$$

In addition to that, the effect of debt on a company's increased risk of default (probability) and the resulting costs of bankruptcy may be included in the valuation. However, the assessment of these components is not entirely intuitive, and they are usually estimated indirectly. The probability of default can be estimated based on bond ratings. As for the direct and indirect costs of bankruptcy, many scholars have questioned their

[18] Maintaining a target leverage ratio refers to management's aim to maintain a constant ratio between the market value of debt and the market value of the company.

magnitude and have come up with varying estimates depending on the type of company (Damodaran, 2011). The impact on the firm's value is given by the present value of these bankruptcy costs, which are of course multiplied by the probability of default.

2.2.4 Method of comparables (*comps'*)

As introduced at the beginning of this section, the absolute valuation methods are countered by a relative valuation approach, which bases its implementation on a comparison of the target with comparable assets or companies and which examines the main balance sheet items indicative of income and performance. By looking for comparable firms, we are assuming that they will generate similar future free cash flows and hence have in common a similar risk profile, similar payout rates and growth rates. This kind of approach is based on thinking that there are enough firms similar enough to the one which is the object of valuation (target) and that the "individual" characteristics of these companies are not as relevant as the common ones.

The market multiples technique is based on the concept that market prices are the best representation of a company's worth, and it aims to find the relationship between the price and the company's economic metrics. As a result, the target's value resulting from multiples will be overestimated (underestimated) when the market is overestimating (underestimating) the comparable firms.

Like all methods, comparables have their strengths and drawbacks, which in this case may coincide. Relative valuation is widely used by analysts because of its ease of use and rapidity, being less time and information intensive than DCF models. On the other hand, this lack of specific information may result in estimates that are not exhaustive and complete, ignoring important and distinctive components of the individual company such as risk and growth. The popularity of multiples is also attributable to the fact that they reflect the current market trend, however this can prove to be a double-edged sword, reflecting possible moments of over- or under-valuation in the market. Furthermore, from an analyst's point of view, valuation with multiples may be easier to sell to potential investors and to defend considering that they are based on more intuitive and market-consistent explanations than absolute methods which in turn have several underlying assumptions. By contrast, the latter can create biases due to less transparency of the hypotheses made in the comparables valuation. In M&As, DCF models are more popular. While casual empiricism implies that practically every merger or acquisition is supported by a discounted cash flow valuation, the price paid is frequently decided using a multiple. Many discounted cash flow estimates in acquisition valuation are actually relative valuations in disguise since the terminal values are determined using multiples (Damodaran, 2011).

Having made this introduction regarding the popularity and diffusion of this technique, as well as its limitations, we can proceed by describing how valuation with market multiples is carried out and what the main steps are. So, the steps to be undertaken are three and they are as follows:

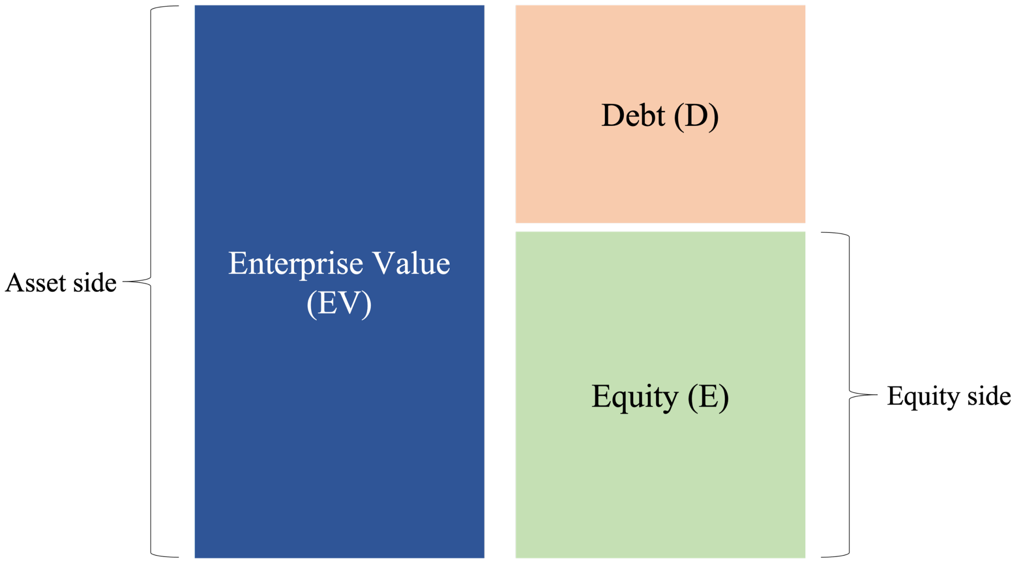
I. Research and select the sample of comparable companies to the target under valuation. Typically, there is a tendency to narrow down the sample to companies operating in the same sector and of similar size, but there is still a strong subjectivity, and it is important to remember that there are factors specific and distinctive to each firm.

II. Standardize market prices through financial metrics such as earnings, revenues and book values. This makes it possible to scale prices when considering companies of different sizes, thus making them comparable.

III. Carry out comparison analyses between the chosen companies and adjust for differences across them. This is done by making qualitative remarks.

Multiples can be broken down into two groups: equity multiples (equity side) and value multiples (asset side). The former expresses a relationship with regard to the market value of equity that is scaled to one of the metrics used such as earnings, revenues, cash flows and book value. The latter, on the other hand, uses the enterprise value as the numerator, which is indicative of the total value of a company, and thus make it possible to analyze firms with different levels of leverage.

Figure 2.3 – Asset side vs Equity side approach



Source: Personal elaboration, in accordance with Berk, J., & DeMarzo, P. (2019). *Corporate Finance, Global Edition* (5th ed.). Pearson.

On the basis of the above, the most commonly applied multiples, both equity and value side, will therefore be listed and described below:

- Price-to-Earnings ratio (P/E). It reflects the ratio between the market value of equity and the earnings generated. The numerator is the price per share and the denominator is earnings per share (EPS), so they are consistent with each other. The valuation methodology of multiples is based on the same variables as the financial methods: the company's ability to generate cash flow, growth and risk. As a matter of fact, to fully understand it we start from Gordon's model of constant growth. Dividing both sides by EPS we get[19]:

$$Forward\ \frac{P}{E} = \frac{P_0}{EPS_1} = \frac{Div_1/EPS_1}{r_E - g} = \frac{Dividend\ Payout\ Rate}{r_E - g}$$

(2. 23)

- Price-to-Book ratio (P/B). P/B is the ratio between the market value of a company and its book value. The numerator then expresses the growth and future performance expected by the market, while the denominator is the difference between book value of assets and liabilities. It measures the company's ability to produce future returns in relation to its invested capital.

- Price-to-Sales ratio (P/S). It expresses the ratio between the market value of equity and the company's revenues. This makes it possible to broaden the horizon of application to many more firms. Moreover, it is not influenced by balance sheet policies, is applicable even to loss-making companies, and is less volatile and more stable than other multiples.

- Enterprise Value to EBITDA (EV/EBITDA). It is the ratio between the total market value of the asset and the operating margin before interest, taxes, depreciation, and amortization. It is also not affected by depreciation and amortization policies. We can get this multiple as follows:

$$\frac{V_0}{EBITDA_1} = \frac{FCF_1/EBITDA_1}{WACC - g}$$

(2. 24)

- Enterprise Value to EBIT (EV/EBIT). This multiple is given by the ratio between the Enterprise value and the earnings before interest and taxes. It can express the ability of the of the company to create value from the core business before taxation.

[19] The multiples can be split according to the indicator used in the ratio's denominator: Current multiples, calculated by comparing current stock market prices to the outcomes of the most recent accessible balance sheet; Trailing multiples, when comparing current stock market values to performances from the past twelve months or four quarters; When comparing current stock market values to predicted returns over the next twelve months, leading multiples. There must be always temporal consistency.

- Enterprise Value to Sales (EV/S). It is the ratio between the enterprise value and the company's revenues. It has similar characteristics to the P/S multiple, but it is generally higher as the debt is often greater than cash in most of the firms.

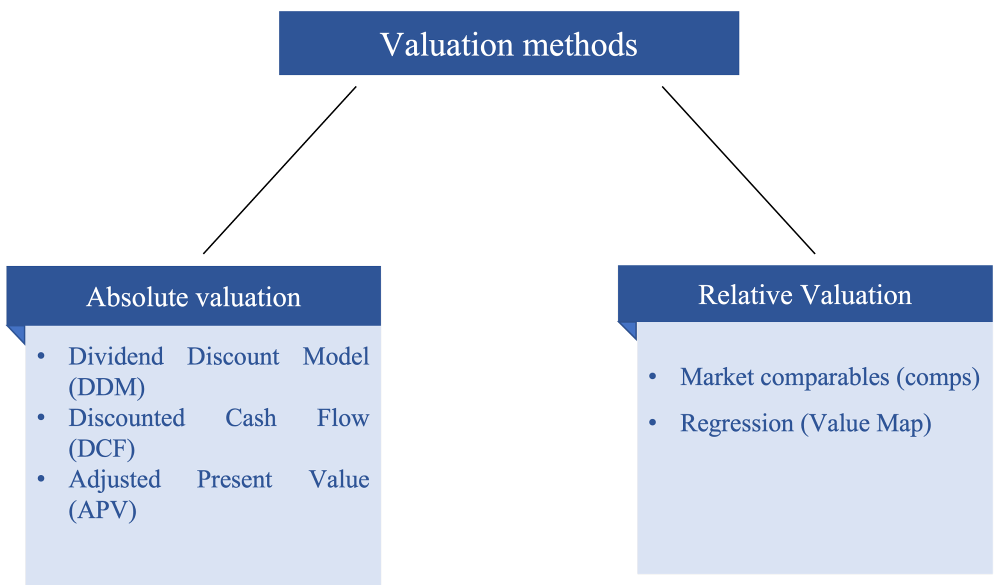
Another market method in valuation is the so-called value map (regression line) which is a statistical tool used in the case of valuation as it allows the economic value of a company to be estimated in relation to specific levels of profitability compared to its peers. A relationship is assumed between ROE and Price to Book Value. This statistical technique can be very useful if the profitability of the company is higher than that of the comparables, but it requires a large number of comparables to be reliable. The value map can be summarized in the following regression:

$$\frac{P}{BV} = \alpha + \beta\ ROE$$

(2. 25)

In conclusion, we can say that no single evaluation method can define a final value of the target company, and all have their own strengths and weaknesses. Uncertainties are numerous and must be addressed using a combination of these approaches, thus seeking consistency (Berk & DeMarzo, 2019).

Figure 2.4 – Valuation methods summary



Source: Personal elaboration.

2.3 Financial analysis and M&A accounting

Over the decades, how to report M&A transactions has been the subject of great interest from the management of companies along with regulators, who were keen to ensure that the representation was as transparent and truthful as possible. As a matter of fact, there has been an evolution in the international accounting discipline that defined the methodology with which a merger or acquisition transaction was reported in the financial statements, limiting the discretion and safeguarding the strong economic, financial and equity impacts that such transactions could have.

IAS 22 on business combinations, issued by the International Accounting Standards Board (IASB) in 1983, allowed merger and acquisition to be reported using two different methods: the pooling of interests and the purchase method. The former substantially involved the implementation of the historical accounting items of the combined company, thus ensuring a continuity in the accounting values. This technique was to be used exclusively for so-called *true mergers* or *mergers of equals* where no party to which control could be attributed could be identified. Therefore, it recorded the assets and liabilities of both companies involved at their pre-merger book value, and the excess amount paid by the acquiring company was not reported. This also meant that intangible assets, such as new goodwill, were not included, which is identified as the difference between the acquisition price and the value of net assets acquired. This additional value can be justified by the value of the target's brand name, an established customer base, proprietary technology, good customer and employees relationships. The pooling of interest method was often preferred as it had a positive impact on the revenue and performance of the post-merger firm. The purchase method, however, states that M&A transactions must be accounted for at current values, therefore the acquiring company records assets and liabilities, even if only potential, at their fair value at the date of acquisition and the difference between the acquisition price and the fair value of net assets, if positive, constitutes goodwill. Through this method, the M&A transaction is treated as a real investment and hence it provides more information with respect to its profitability

With the adoption of IFRS 3 in 2004, the pooling of interests method was eliminated, and the purchase method was recognized as the only conventional accounting measure applicable to different types of mergers and acquisitions. Although IAS 22 confined the use of the pooling of interests method to business combinations labeled as unions, analysts noted that allowing two methods to be used for substantially similar transactions put at risk financial statement comparability. Others claimed that having more than one form of M&A accounting discipline increased the potential of arranging transactions to obtain a desired accounting outcome, especially when the two approaches create quite different results (IASB, 2004). The purpose of this adjustment was to ensure a higher quality of information for extraordinary transactions and to align international accounting standards with US GAAP.

Thereafter, in 2008, the IASB published a revised version of IFRS 3, which defined in more detail the concept of a business combination as those transactions in which an acquiring entity acquires control of one or more businesses. With the revised IFRS 3 the acquisition method has been introduced, according to which the acquirer must record at the acquisition date, separately from goodwill, the identifiable assets acquired and liabilities taken, as well as any non-controlling interest in the acquiree; it must also account for goodwill attributable to both the group and to non-controlling interests on the basis of the full goodwill approach. The acquisition method keeps the assets and liabilities of the acquired entity at the fair value at the acquisition date in the financial statements of the acquirer. The goodwill must be adjusted each accounting period, and if its fair value is lower than in the previous year, the goodwill is impaired. Finally, the acquisition method can be summarized in the following steps (IASB, 2008):

I. Identify the acquiring company, as the entity which takes the control. Control should be considered as the power to govern the financial and management policies of an entity in order to obtain economic benefits from its activities (IAS 27).
II. Define the acquisition date. The acquisition date is the date from which the acquirer effectively gains control of the acquired business, generally coinciding with the payment the acquisition of the target's net assets.
III. Identify and measure the assets acquired and the liabilities assumed, as well as minority non-controlling interests (NCI). At the date of the transaction, the acquirer shall identify and measure the assets, including intangible assets, liabilities, including potential liabilities, and non-controlling interests. For assets and liabilities, these items shall be recognized at their fair value.
IV. Recognize and measure goodwill or a gain from a bargain purchase, either where the amount paid exceeds or is less than the actual value of the target.

2.4 Sell-Side

If on one hand many companies – for the reasons explained above – identify other companies as target for strategic or financial purposes, on the other hand quite often the M&A process is undertaken by the opposite side which have the main objective of selling minority shares or even the equity in its entirety. In order to maximize the return for shareholders who sell their shares, the firm must present itself in the best possible light to potential buyers, and to better structure the process, it should take in account three key elements: timing, number of potential buyers and types of buyers.

For what concern the first point, timing plays a crucial role as it is necessary to identify whether it is the right time to sell or not. To accomplish this, management must define whether there is a need for liquidity, deleveraging, and what the mid-term financial outlook is. Thus, it is a question of identifying on the one hand the needs that drive one to sell, and on the other hand the outlook for the business (or part of it) being negotiated, considering whether today's selling price would reflect the future scenario. In addition, external factors such as the trend and the conditions of the market in question should also be part of the set of considerations that goes to answering the question "is now the right time to sell?".

A second important element is the number of potential buyers, which raises the question of whether it is better to consider a wider range of investors or to focus on a single one. Each of the two approaches obviously has its own advantages and disadvantages, and in any case before choosing which path to take, it is necessary to have access to data and information so as to have a full understanding of the players involved and their suitability for the operation. As a matter of fact, not all investors may be right for all acquisitions as strategic and financial objectives may not be aligned. It is necessary to understand the acquirers' universe. The points in favor of a broader approach can be summarized as follows:

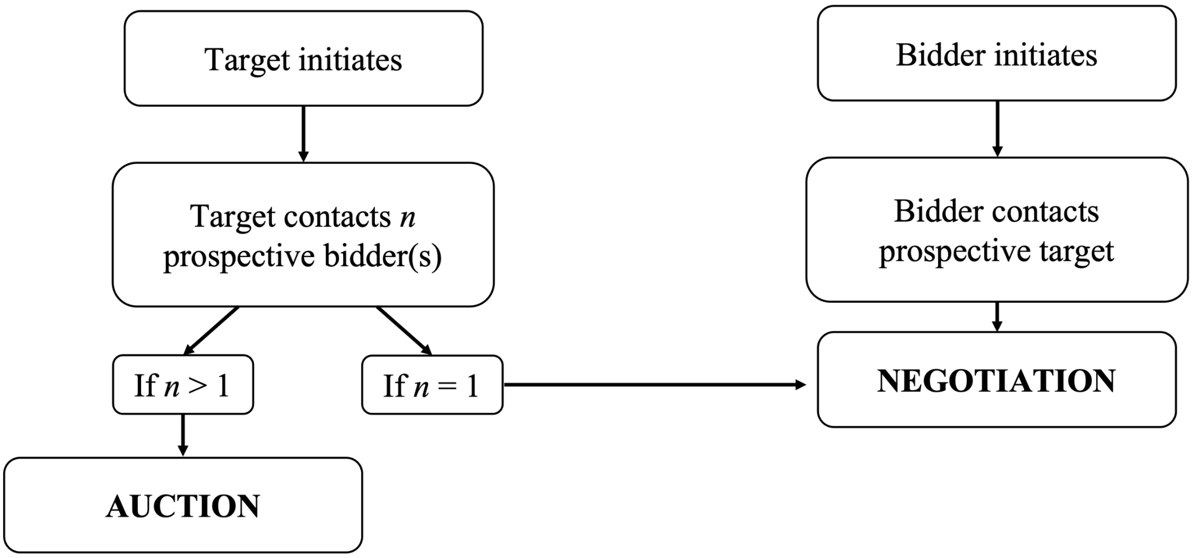
- From a mere statistical perspective, dealing with a wider pool of buyers increases the likelihood of a successful transaction ("no stone left unturned").
- For the linearity of the M&A process and from a negotiating power perspective it would be better to start with a larger number and then narrow it down rather than the opposite if there are problems or bottlenecks with the few buyers considered at the beginning.
- A broader number of buyers would encourage competition and thus push up the target's valuations and subsequent selling price. Also, the ability of investors to set a benchmark and to assess the bargaining power of the seller would decrease as the number of interested players increases.

Conversely, the negative aspects of considering a broad buyer universe are linked primarily to the time and resources required to manage a larger number of buyers; this could also damage the company's core business if it were to focus on the extraordinary transaction at the expense of operating activities. This is another reason why external advisors are relied on to carry out the deal. Secondly, it would limit a special focus to smaller groups of investors, thereby undermining efficiency and rapidity, as well as the fact that some potential buyers might in practice not participate in too wide auction. Finally, a very large buyer universe could also lead to the dissemination of confidential information, thus damaging the company.

The third point concerns the type of buyers, and at the beginning of this chapter we already distinguished between strategic or financial investors, but another aspect to consider in this area is the nationality of the acquirer. This can be important, so much so that some sectors are often protected by the government to avoid foreign ownership.

Once the decision to sell has been made, an auction can be held. An auction is a staged procedure in which a target is presented to a large number of potential acquirers (also known as bidders). A well-run auction is intended to have a significant beneficial influence on the value (both price and conditions) acquired by the seller as a result of a number of elements connected to the establishment of a competitive environment (Rosembaum & Pearl, 2020).

Figure 2.5 – Typical M&A Process



Source: Marquardt, C. A., & Zur, E. (2015). *The Role of Accounting Quality in the M&A Market*. Management Science 61(3).

Typically, it is possible to distinguish between different kinds of auctions and negotiation processes, each with specific and peculiar characteristics. Firstly, the negotiation process is a bilateral discussion with just one selected potential acquirer (could be a pre-emptive party), and it results in a one-step negotiation, going immediately to the final bid. The main advantages are the rapidity and confidentiality as just one player is involved, but also the minimized risk of disruption to the business. on the other hand, this process significantly reduces the seller's bargaining power because of the absence of a competitive market.

The controlled auction, instead, sees the participation of a limited number of bidders and it is articulated into two steps: the preliminary bids are submitted according to a limited information set, and then a detailed due diligence is carried out by the investors selected in the first phase. This kind of auction enhance the competition leading to an increase in sale prices and terms improvement, also limiting information disclosure. However, it can be time consuming (extra 5 or more weeks compared to the negotiation) and disruptive to the target's business. In addition to that, not every investor would be interested in taking part of an auction process.

As another solution, the broad auction is open to every potential buyer interested in the target company. It facilitates the achievement of price maximization given the large degree of competition and number of participants; yet it may be very difficult to manage, in terms of resources and time as well as the fact of wide information disclosure. In the event of failure, a broad auction can be highly damaging to the target company.

Finally, the non-auction auction involves the target company having a bilateral discussion with selected different buyers who are not aware of a competition, so as to encourage them to participate. It reduces the confidentiality risk, but it can lead to a loss of competitive tension. It's quite hard to achieve the result from a practical point of view and, thus, the non-auction auction seems to be more a theoretical auction than a real one.

Chapter 3: EssilorLuxottica – GrandVision case

3.1 Case presentation

This third chapter aims to provide empirical evidence of what has been said in the previous chapters in both strategic and financial terms. The case that will be analyzed is the acquisition of a global leader in optical retailing, GranVision, by the multinational conglomerate EssilorLuxottica specialized in the design, production and distribution of optical lenses, optical equipment, and eyewear. The decision to present and analyze this case is motivated by the presence of important strategic and synergistic drivers, as well as by the fact that it represents one of the largest deals closed in 2021 by value, and certainly the most significant in the Consumer Markets industry. Moreover, given the strong rationale behind the deal, it may be an excellent focus of investigation for the purpose of this research, which is to prove that M&A transactions lead to value creation.

After years of partnership along the value chain, EssilorLuxottica officially announced its acquisition of GrandVision on July 1st, 2021. The acquisition of one of the leading players in the retail segment within the industry is certainly driven by strong strategic and operational drivers that push for an acceleration in the group's growth over the post Covid-19 pandemic period, by expanding its optical retail presence, and counting on more than 7,400 additional shops worldwide – mainly in Europe – more than 39,000 employees and a turnover of approximately €4 billion in 2019 with an average annual organic growth rate of 4% over the last four years[20]. As a matter of fact, this extraordinary transaction would allow the multinational corporation to further establish itself in the worldwide optical market by realizing significant economies of scale and scope in the coming years. This acquisition can be classified as both vertical and horizontal at the same time, as EssilorLuxottica is already present with its optical retail outlets and is therefore acquiring a competitor and hence increasing its market share, but at the same time benefits from the transfer of more specialized resources and capabilities downstream along the supply chain.

Clearly an operation of this magnitude needed time to come to a successful conclusion, bearing in mind the consequences for the entire optical retailing market. EssilorLuxottica's acquisition of GrandVision was reported to the European Commission at the end of 2019. Having completed its initial reviews on the notification, the European Commission has placed the transaction under final review (Phase II) under the EU Merger Acquisition Regulation, amid various competition law concerns.

[20] GrandVision. (2021). *Annual Report 2020*. Euromonitor for 2020-2024.

The European Commission assesses that the takeover may affect the wholesale market of optical lenses and eyeglasses, while competitive concerns may arise at the retail level as well. European Commission Vice President Margrethe Vestager, after emphasizing that EssilorLuxottica is the largest eyewear supplier in the world and GrandVision has the largest optical retail chains in Europe, expresses her competition law concerns with the view that it could result in harm to end consumers in terms of monopolistic pricing, distribution, and product quality.

Competition law concerns regarding the takeover are for the retail market of optical products. The European Commission's concerns about the transaction are broadly united in the following points:

- By using EssilorLuxottica's market power in the lens and eyewear market, the possibility of GrandVision to worsen the purchasing conditions of its competitors.
- In regions where EssilorLuxottica competes with GrandVision at the retail level, the possibility of the acquisition of the rival undertaking to have negative effects on the market.
- The possibility that after the transaction EssilorLuxottica will block its wholesale competitors from accessing the market through GrandVision.

In line with these concerns, the European Commission conducted a detailed examination with the aim of decide whether to allow the transaction.

In 2019, negotiations began between the EssilorLuxottica group and HAL Optical Investment, the Dutch holding company owning 76.72% of the GrandVision business, with the aim of reaching an agreement upon the acquisition value and completing the deal within the next 12 to 24 months. The terms of the agreement dating back to July 2019 thus stated that the Italo-French group would take over the Dutch investor's stake, in its entirety, on the basis of a price per share of €28, which would, however, increase by 1.5% if the purchase did not go through in the following 12 months (thus bringing the price per share to approximately €28.42).

This scenario was clearly hindered and delayed by exogenous factors, such as the sudden covid-19 pandemic outbreak in the first half of 2020, disputes between the players involved, and the antitrust controls aimed at protecting competition and consumers, mentioned above, which led EssilorLuxottica to have to fulfil and respond to compliance requirements in order to finalize the acquisition of GrandVision, and so it is that the official announcement comes two years after the agreements signed between the parties.

On July 18th, 2020, EssilorLuxottica filed a lawsuit against GrandVision and its parent company with the Rotterdam court, claiming breach of preliminary agreements because of the non-sharing of information about how the business was managed during the months of emergency. Specifically, it referred to relationships with stakeholders and the request for state subsidies without a consultation with the Essilor Luxottica group. In turn, GrandVision and the holding company HAL Optical Investment filed an action with the Dutch Court of

Appeal, claiming that EssilorLuxottica was seeking justification to renegotiate from the agreement at a lower price. In August 2020, the Rotterdam court rejected EssilorLuxottica's claim to management disclosure documents during the COVID-19 emergency, deeming it insufficiently argued. Lastly, in June 2021, the Court of Arbitration approved the optical giant's claim, stating that "EssilorLuxottica has the option not to complete the GrandVision acquisition transaction due to the latter's serious breach of its obligations".

However, the French-Italian group has decided to proceed with the closing of the extraordinary transaction, also following the go-ahead from the European Commission, which is, instead, linked to obligations to ensure the protection of competition within the European lens and eyewear markets. As a matter of fact, the acquiring company is committed to selling around 350 stores located in Italy, Belgium and the Netherlands. Going into further detail:

- Sale of 174 retail outlets throughout the entire Italian territory that are part of the group owned VistaSì chain and additional 72 shops branded 'GrandVision by', resulting in VistaSì brand disposal.
- Sale of 142 stores belonging to the EyeWish chain and of the brand itself, in the Netherlands. The remaining part of the chain owned by Essilux will be rebranded.
- In Belgium the sale of the entire GrandOptical chain consisting of 35 retail outlets. In this case, the brand will remain in the ownership of the group, which will license the use of the brand to the buyer of the stores.

Turkish antitrust authority also gave the go-ahead for the takeover after its analysis. The examination to be made on the transaction in question was very important, because Atasun, GrandVision's Turkish subsidiary, owns Turkey's largest chain of optical stores. Although it is stated that the market share is below 10% in the calculation of the total number of stores including local opticians, it is commented that Atasun has an important position in the market on the basis of turnover. The conflict between local opticians and chain optic stores such as Atasun has been drawing attention recently.

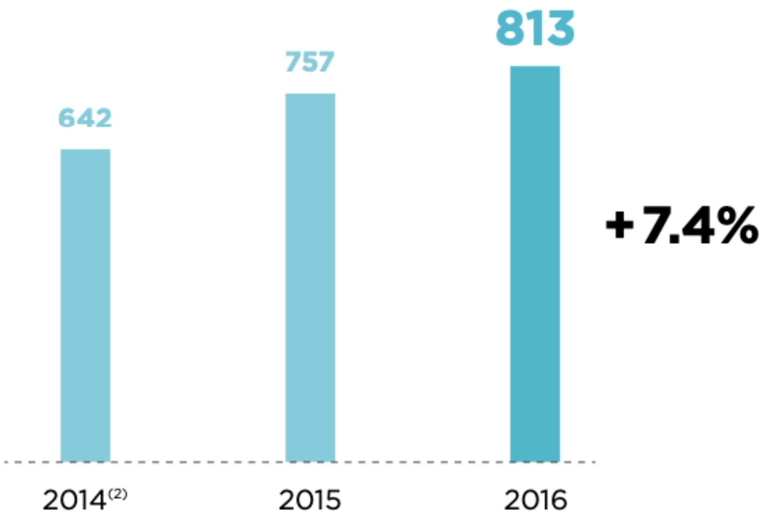
Thus, after the official announcement in July, EssilorLuxottica launched a mandatory public tender offer for the remaining part of GrandVision's outstanding shares, raising its stake to 99.73% on October 7th, 2021. At the end of the post-acceptance period (December 20th), the group held 99.84% of the capital and as a result, GrandVision's shares were no longer listed on Euronext Amsterdam, because of the bidder holding more than 95%. The last trading date of the shares on Euronext Amsterdam was January 7th, 2022, and the actual delisting took place on January 10th. The acquisition price paid by the acquirer is around € 7.2 billion.

3.1.1 EssilorLuxottica

Undertaking M&A transactions can often be facilitated by previous experience in the M&A market: this may be the case of EssilorLuxottica, whose current configuration is the result of the merger of two large companies in January 2017. They are the French company Essilor, positioned as an international excellence in the design, manufacture and distribution of ophthalmic lenses, and the Italian company Luxottica, international leader in the design, manufacture and distribution of fashion, luxury and sports eyewear.

Essilor was founded in 1894 by a workers' cooperative of eyeglass manufacturers in Paris under the name Essel (*Association Fraternelle des Ouvriers Lunetiers*). With a strong expansion strategy, the French company grew very rapidly, also expanding its business vertically downstream and upstream along the supply chain. A milestone for this company was certainly January 1972, when the aforementioned Essell merged with one of its main rivals on the market, Silor, already creating one of the most important companies in the optical ophthalmic sector in terms of size. From then on, there was a strong international expansion, with the acquisition of production facilities in the Americas and Asia and the launch of new distribution channels globally, establishing a presence in Europe, North America, Latin America, Asia, Oceania, Middle East and Africa. In 2016, Essilor's product portfolio included several international brands such as Varilux, Crizal, Eyezen, Transitions, Costa, Foster Grant and Bolon. Going more into the numbers, the French company employs 64,000 people, with a turnover of €7.1 billion and a sharply increasing net result[21] and a Market capitalization of €23.5 billion in 2016.

Figure 3.1 – Essilor net results (in million euros)



Source: Essilor. (2017). *Annual Report 2016 - 2017*.

[21] Essilor. (2017). *Annual Report 2016 - 2017*.

On the other hand, Luxottica is an Italian company founded in 1961 by the entrepreneur Leonardo Del Vecchio. The sharp growth in 60 by this Italian excellence is due to its strong vertical development, so that it can be defined as a vertically integrated company. Vertical manufacturing integration was gradually accompanied by the expansion of distribution, initially with wholesale, then with retail in 1995, and subsequently with e-commerce, as well as the establishment of a significant presence in the high-value-added businesses of lens processing.

The founder and Executive Chairman's successful insight into people's desire to combine the need to wear eyeglasses with the need to buy a fashion accessory led to the signing of the first licensing agreements with the major fashion brands and subsequently to a series of brand acquisitions. As a matter of fact, its portfolio includes seven proprietary brands, including Ray-Ban, Oakley, Vogue Eyewear, Persol, Oliver Peoples, Alain Mikli, and Arnette, as well as seventeen licensed brands, including Giorgio Armani, Burberry, Bulgari, Chanel, Coach, Dolce&Gabbana, DKNY, Michael Kors, Miu Miu, Paul Smith, Prada, Ralph Lauren, Starck Eyes, Tiffany & Co., Tory Burch, Versace and Valentino. All these brands can then benefit from the Luxottica’s global Wholesale Distribution Network which spans more than 150 countries and five continents, and is accompanied by an extensive Retail Network of approximately 9,000 stores, such as LensCrafters and EyeMed in North America, OPSM and LensCrafters in Asia-Pacific, GMO in Latin America, Salmoiraghi&Viganò in Italy, and Sunglass Hut globally. Moreover, Luxottica’s employees are ca. 82,000 and the Italian company closed the 2016 with revenues around €9 billion and a net income of €853 million, increasingly defining its position as a global leader[22].

On January 16th, 2017, the merger of these two large groups distinguished by innovation and excellence was announced by Essilor and Delfin Sarl, the majority shareholder (62.58%) of Luxottica. The rationale behind this transaction is mainly the complementarity of the two parties with a view to capture significant cost and revenue synergies, bringing together “synergistic” expertise in ophthalmic lenses, prescription frames, and sunglasses and mature comprehensive product and service offerings for consumers. In addition to that, two major companies in the optical market with shared values, vision and mission would give novel answers to both the expanding unmet needs in visual health and the growing desire for premium branded products. The combination of Essilor and Luxottica was the largest cross border continental European merger of equals ever, and gave space to high growth potential for the new entity, taking into account combined sales of €15 billion, close to 140,000 employees and sales in more than 150 countries, as well as a sound capital structure.

Delfin had firmly committed to contribute its Luxottica shares to Essilor at an exchange ratio of 0.461x Essilor shares for 1 Luxottica share. Based on Essilor's unchanged share price, this amounts to an offer price of €47.07 per share for Luxottica. As a result, the new entity was named as EssilorLuxottica with Delfin thus

[22] Luxottica. (2016). *Annual Report 2016*.

becoming the largest shareholder with a 38.93% stake. Subsequently, a mandatory public exchange offer was launched on the remaining outstanding Luxottica shares. At the end of the procedure EssilorLuxottica reached 97.54% of Luxottica's share capital (including treasury shares). Since the 95% of the share capital was therefore exceeded and the legal requirements were met, the delisting of Luxottica shares from the Italian Stock Exchange was carried out. EssilorLuxottica group is currently listed on the Euronext Paris Stock Exchange with a Market Capitalization of €68 billion[23].

The strategic motive behind this merger is evident and is linked to leveraging existing complementarities to create a global leader in the optical and eyewear market, which can optimize the design, the manufacture and the distribution, offering a wide range of products and solutions and thus satisfying consumers' needs worldwide. The economic benefit is also very remarkable, and the estimates of cost and revenue synergies at the time of closure of the deal defined a preponderant value creation given a range from €420 to €600 million as a net impact in EBIT per annum in the medium term, with a subsequent acceleration in the long term[24]. Revenue synergies, €200-300 million, would have resulted from the development of new products as a result of the integration of frames and lenses, a more efficient capillary distribution and logistics platform, the strengthening of e-commerce, a greater focus on sunglasses, including prescription lenses, and raising consumer awareness of the importance of correcting and protecting eyesight, combining the need for health with aesthetic appeal. Cost synergies, €220-300 million, would have derived from an improved supplier network, lower general and administrative expenditures, and sourcing cost savings. At the end of 2019, EssilorLuxottica group recorded revenue of €17.3 billion and €14.4 billion in 2020[25] (significant negative impact of COVID-19 pandemic).

3.1.2 GrandVision

As mentioned above, since the EssilorLuxottica group is itself the result of a recent merger, knowledge and expertise in pre-merger planning and post-merger integration may have been an advantage when it acquired GrandVision, up to its full integration. This is also encouraged by the fact that the target company has the mission to provide unique high-quality eye care solutions to every customer worldwide, and hence in line with the acquirer's vision and mission.

GrandVision is a global leader in optical retailing with a wide network of stores in many countries and an increasing focus on innovation and digitalization with the aim of enhancing its online presence, reaching even more consumers around the world. Taking a step back, this company has very deep roots and a 100-year history in the optical market: in 1891 Christian Nissen opened the first optical store in Helsinki, Finland. In

[23] EssilorLuxottica's Market Capitalization as of May 2022 (Bloomberg).
[24] EssilorLuxottica Press Release on October 1st, 2018.
[25] EssilorLuxottica. (2021). *Annual Report 2020*.

1996, the evolution that led to today's GrandVision began with with the rise of HAL Investment holding in the optics market, which began to undertake a succession of acquisitions: the Dutch and Belgian operations of Pearle Vision in 1996, the multinational optical retailer GrandVision SA in 2005. So, in 2011, the two companies, Pearle Europe and GrandVision, were merged into one combined entity under the name of GrandVision in order to unlock strong growth potential in the medium to long term.

From then on, growth has been significant, reaching revenues in 2019 of €4 billion[26] and adjusted EBITDA of €604 million[27], 7,400 stores worldwide, and more than 39,000 employees[28]. This demonstrates the financial soundness of the company, which is strongly geared to seizing opportunities worldwide, and in this regard the acquisition by EssilorLuxottica Group provides the potential to exploit additional revenue levers and make the company more efficient on the cost side. Further financial analysis of the company will be made in the next section, where the valuation of GrandVision is the core topic.

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[26] GrandVision. (2020). *Annual Report 2019*.
[27] Pre - IFRS 16.
[28] The focus on financial data is on 2019, the year when the agreements with EssilorLuxottica for the acquisition were settled, and therefore the stand-alone valuation of the target company, GrandVision, is also based on the data available at that time.

3.2 Valuation

Before diving into detail about my valuation of GrandVision, it is important to start by explaining the approach I used while trying to find the intrinsic value of the company. First of all, I valued this company as of 2019, when the company received a bid from EssilorLuxottica for a buyout. Additionally, I valued the company as a standalone enterprise. In my first valuation, I did not take into consideration any potential synergies that are likely to be realized after the acquisition. In the paper, I will now go into more detail about how I went to value the company and any lessons we can take away from this exercise. Additionally, to make reading the model easier, I used a color scheme common in the banking industry: green for values coming from another sheet, black for formulas, and blue for assumptions that were hardcoded by me.

Finally, when I was estimating the assumptions that played a role in my valuation, I tried to be fair but conservative. As I am trying to value the company as fair as possible, I wanted to be careful and avoid making too aggressive assumptions that might not reflect how an investment bank might value this business.

The first step in my valuation was to take the financial statements of the company and project them into the future in order to complete my discounted cash flow analysis. I decided to projet this company five years into the future for two main reasons. Firstly, over the last few years, the company has had a modest year over year growth rate. When we decide how many years to project our financials, we want to make sure that the company is not still growing at a high rate in the last year of our projections and this was the case in our valuation. Additionally, I found it very hard to accurately predict this business beyond five years from now. Given how technologically advanced the company and this industry are, I was not confident enough to make reliable projections after my projections span and therefore, I believe that using five years of free cash flow and then the terminal value would be an accurate way to value this business.

Table 3.1 – Revenue projection

In Millions 12 Months Ending	FY 2016 12/31/2016	FY 2017 12/31/2017	FY 2018 12/31/2018	FY 2019 12/31/2019	FY 2020 12/31/2020	FY 2021P 12/31/2021	FY 2022P 12/31/2022	FY 2023P 12/31/2023	FY 2024P 12/31/2024
Revenue	3.316,08	3.449,86	3.720,98	4.039,31	3.480,99	3.829,09	4.173,71	4.507,60	4.823,14
% Growth		4,0%	7,9%	8,6%	(13,8%)	10,0%	9,0%	8,0%	7,0%

Source: Personal elaboration from Refinitiv Workspace Data

Let's start by looking at the revenue projections over the years. From the colour scheme, it is possible to see that I was able to use the historical value from 2016 to 2020 (the green means these values are coming from the income statement that was published by the company). My first decision in this valuation was to decide what growth rate to use for future years. This is not an exact science but much more of an art, and the values I chose are based on the historical value of the company's history. At first impact, the values might seem high given the growth seen from 2017 to 2019, but we need to keep in mind that the company saw a strong decrease in revenue during 2020. As a sanity check, I calculated the average annual growth from 2019 to 2024 and this comes out to 3.6%. I feel comfortable with this assumption, and I believe it is very much obtainable. As I said at the beginning of my analysis, the goal of this valuation is to be as fair as possible and avoid making assumptions that are not really likely to happen. An average growth rate of less than 4% seems conservative enough.

Table 3.2 – Costs projection

Cost of Goods Sold	900,63	923,56	1.003,55	1.109,55	988,43	1.033,85	1.106,03	1.171,98	1.229,90
% Revenue	*27%*	*27%*	*27%*	*27%*	*28%*	27,0%	26,5%	26,0%	25,5%
Gross Profit	2.415,45	2.526,30	2.717,43	2.929,76	2.492,56	2.795,23	3.067,67	3.335,63	3.593,24
% Growth		4,6%	7,6%	7,8%	(14,9%)	12,1%	9,7%	8,7%	7,7%
SG&A	2.061,16	2.201,45	2.379,40	2.605,12	2.326,20	2.450,62	2.660,74	2.862,33	3.050,63
% Revenue	*62%*	*64%*	*64%*	*64%*	*67%*	64,0%	63,8%	63,5%	63,3%
Other Operating Expense	(23,05)	(59,24)	(36,31)	(121,81)	(64,00)	(38,29)	(41,74)	(45,08)	(48,23)
% Revenue	*-1%*	*-2%*	*-1%*	*-3%*	*-2%*	(1,0%)	(1,0%)	(1,0%)	(1,0%)
Operating Profit	377,34	384,09	374,34	446,45	230,36	382,91	448,67	518,37	590,83
% Revenue	*11%*	*11%*	*10%*	*11%*	*7%*	*10%*	*11%*	*12%*	*12%*

Source: Personal elaboration from Refinitiv Workspace Data

After estimating the revenue growth, I had to estimate the profitability margin in order to go down in the income statement. As you can see from the color scheme, I made and input assumptions regarding the percentage of margins and then calculated the implied cost.

Starting from the Cost of Goods Sold, I decided to decrease the percentage of revenue from 2020 for two main reasons. The first reason is related to Covid: during the pandemic, companies had to be more careful about safety and this resulted in additional costs that were often capitalized in the Cost of Goods Sold. Therefore, I assumed that in 2021 the percentage of margin would go back to historical values. Additionally, in the long run, as the company grows older and with more experience, it is able to increase its margins. Being in the business for longer periods often leads to more credibility in the market and this results in more negotiating ability with suppliers hence the higher margins.

Gross profit margins were just calculated by subtracting the Cost of Goods Sold from Revenue and this is why I did not make any additional assumptions therefore all the numbers are in black since they are calculated as a formula.

When looking at projecting the Selling General and Administrative expenses, I used a similar idea of increasing efficiency and brand recognition as the company evolves over time. Firstly, these operating costs can be divided into fixed and variable. For example, the rent you pay for the accounting department is fixed regardless of the growth of revenue, while some other expenses might grow with the company's revenue numbers. For example, if the company enters new markets, and therefore increases revenue, this will lead to additional advertising expenses that need to be paid. Putting these fixed and variable costs together, we can understand that the overall percentage of Selling General and Administrative goes down over time since the fixed part of the costs will not grow (while revenue will). Additionally, some costs do not need to increase linearly with revenue. For example, the more a company has existed, the more brand recognition the company acquires, and the less advertising expenses are needed. Take for example a brand like Ferrari, the amount of advertising they invest in is limited given how strong of a brand they have at the moment.

Projecting "Other operating expenses" was very hard given the unpredictability of these expenses and therefore I decided to take a fixed number and keep it constant over my projections since I would not have been able to defend any other assumptions without knowing more information. The only thing I avoided was to say these cannot be estimated so they should be projected as zero. Since these are expenses that appear every year in our historical financial statements, it would be too optimistic to assume that they are going to disappear.

The only other assumption that I made in the income statements was to estimate the tax rate. Since I had no additional information to make this assumption, I wanted to be conservative and therefore I used the historical average of the percentage tax rate in the historical financials.

After completing the income statement protecting all the way down to earnings per share, I had to make other assumptions in order to project part of the cash flow statement and balance sheet that I would need to use later when making the unlevered free cash flow calculation, the basis of our intrinsic valuation.

Table 3.3 – Net Working Capital projection

Net Working Capital Schedule	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021P	FY 2022P	FY 2023P	FY 2024P
Inventories	292,98	349,74	330,50	356,26	310,40	306,33	333,90	360,61	385,85
% Revenue	8,8%	10,1%	8,9%	8,8%	8,9%	8,0%	8,0%	8,0%	8,0%
Account Receivables	291,49	250,65	223,63	245,94	227,76	265,72	289,63	312,80	334,70
% Revenue	8,8%	7,3%	6,0%	6,1%	6,5%	6,9%	6,9%	6,9%	6,9%
Account Payables	588,42	198,65	181,23	207,98	191,31	542,75	595,65	647,67	697,69
% COGS	65,3%	21,5%	18,1%	18,7%	19,4%	19,4%	19,4%	19,4%	19,4%
Net Working Capital Schedule	(3,95)	401,74	372,90	394,22	346,85	29,30	27,88	25,74	22,86
Increase Net Working Capital		405,69	(28,84)	21,32	(47,37)	(317,55)	(1,42)	(2,15)	(2,88)

Source: Personal elaboration from Refinitiv Workspace Data

In order to calculate the unlevered free cash flow, the calculation wants us to subtract the change in net working capital therefore we need to start by projecting the working capital schedule and then continue by calculating the change in working capital year over year.

When looking at the calculation of working capital, I wanted to be conservative and just take into consideration the most important items, and smaller accounts of current assets and liabilities would have been too hard to estimate. Starting from the inventory, I thought that projecting on the basis of revenue would make sense as the more revenue you sell, the more you need to keep in storage and therefore the percentage of inventory based on revenues should stay flat in theory. I could have made the argument that the older a company grows, the more efficient it becomes in its operations, and therefore the percentage of inventory can decrease over time, but I felt this was a bold assumption I would not have been comfortable with defending.

I then had to look at accounts receivable which represents the funds that customers owe your company for products or services that have been invoiced. Accounts receivable are directly tied to the amount of revenues the company generates therefore I projected them as a percentage of revenue. As a general idea, unless we estimate a radical change in the business model of the modus operandi of the company. By reading the company's financials, I did not read anything that would point out at the company shifting its approach regarding this balance and this is why I decided to keep this amount flat over my projection years.

Finally, accounts payable are other current liabilities that are essential in the calculation of net working capital. This balance reflects amounts due to vendors or suppliers for goods or services received that have not yet been paid for, and therefore in this case we should not project it based on revenues but rather on the basis of the cost of goods sold. Projecting based on the revenues balance would not be accurate as it would not reflect any potential change in the gross profit margin that would not change revenues, but would change the cost of goods sold (and therefore the amount of accounts payable). Also, in this case, I had no particular insights into any shift of policy regarding payment of suppliers and therefore I kept this balance unchanged as a percentage.

After putting all these accounts together, I was able to calculate the net working capital and finally the change in net working capital that I would use later when calculating the unlevered free cash flow starting from the Net Operating Profits after Taxes.

Table 3.4 – Capital Expenditures projection

Capital Expenditure Schedule	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021P	FY 2022P	FY 2023P	FY 2024P
PPE and Intangibles	1.901,52	2.142,92	2.132,33	2.093,84	1.894,00	1.991,13	2.128,59	2.253,80	2.363,34
% Revenue	57,3%	62,1%	57,3%	51,8%	54,4%	52,0%	51,0%	50,0%	49,0%
Depreciation & Amortization	163,39	209,66	225,81	632,11	687,66	182,95	195,58	207,08	217,15
% PPE and Intangibles	8,6%	9,8%	10,6%	30,2%	36,3%	9,2%	9,2%	9,2%	9,2%
Capital Expenditure	404,79	199,07	187,32	432,27	784,79	320,41	320,79	316,62	400,43
% Revenue	12,2%	5,8%	5,0%	10,7%	22,5%	8,4%	7,7%	7,0%	8,3%

Source: Personal elaboration from Refinitiv Workspace Data

The other piece of financial information that has to be projected to calculate the unlevered free cash flow are capital expenditures. I decided to project them based on the Property, plant, and equipment balance associated with the depreciation and amortization balance. Since capital expenditures should be the bridge between these two balances, it is possible to calculate it by projecting the Property, plant, and equipment balance and the depreciation and amortization balance, and then calculating the implied capital expenditures needed to balance our statements. I used a percentage of revenues to estimate the Property, plant, and equipment balance as this is related to how many assets the company requires to operate and we can use revenues as a proxy for the size of the operating of a company. The larger the company grows the more assets it will need to operate. I decided to decrease the percentage of revenues year over year because I assumed that as the company grows older, two things happen. The first one is related to assets that are independent of the size of the company and its operations. For example, the office needed for the accounting department does not grow linearly with the company operations. Additionally, as the company grows older and larger it can operate economy of scale and get more efficient with its assets. After projecting the Property, plant, and equipment balance and the depreciation and amortization balance and calculating the implied capital expenditures, I decided to do a sanity check and calculate the implied percentage of revenue based on my calculations of capital expenditures. Besides the anomaly in 2020, the other years of the projects stay quite flat and this can confirm the accuracy of my analysis.

After projecting the income statement, the next step I had to tackle was the weighted average cost of capital I would need to discount the free cash flows and the future values back to present value. The first step in order to calculate the weighted average cost of capital was to find out the percentage of equity and debt that the company currently uses to finance its operations. For the market value of equity, I used the share price multiplied times the number of shares outstanding as reported in the income statement. Something important to note is that I used the share price before the deal was announced. In fact, the general approach to this valuation was to understand the intrinsic value of the company before the deal was announced and therefore using the share price after the acquisition was announced would not have made sense from a theoretical standpoint. For the risk free rate, I used the Yield to Maturity of the 10 years US government bond that is often used as a proxy for the risk free rate as it should reflect the return that an investor can expect to make to invest in a security with virtually no risk (the only risk is that the leading economy in the world is going to default). Also for this value, I looked at the historical value just before the deal was announced. In order to calculate the cost of equity, I used the capital asset pricing model therefore after the percentage of equity and the risk free rate I had to calculate the beta to apply to the market premium.

Table 3.5 – Weighted Average Cost of Capital (WACC) estimation

Weighted Average Cost of Capital	
Equity	
Market Value of Equity	$5.351
% Equity	**69,81%**
Risk Free Rate	1,87%
Beta (Levered)	1,08
Expected Return of the Market	6,90%
Risk Free Rate	1,87%
Market Risk Premium	5,03%
Cost of Equity	**7,28%**
Debt	
Book Value of Debt	$2.314
% Debt	**30,19%**
Cost of Debt	3,30%
Effective Tax Rate	27,72%
After-tax Cost of Debt	**2,39%**
WACC	**5,81%**

Source: Personal elaboration from Refinitiv Workspace Data

The way I calculated beta was as it follows: beta in mathematical terms is the correlation between the returns of a certain stock and the excess return of the index we use for our analysis. In order to calculate the beta for GrandVision, I took several steps. I started by calculating the returns of the comparable companies I decided to use for my analysis. I will explain how I picked the comparable companies later in the paper, but these companies were also relevant to estimating the beta as they reflect the risk that companies similar to GrandVision have. After downloading their historical stock price and calculated returns, I had to calculate the excess return of the index. To calculate the absolute return, I downloaded the historical returns of the S&P 500 and in order to calculate the excess return, I also downloaded the historical returns of the 10-year government bond. By subtracting the returns of the bond from the S&P 500, I was able to calculate the excess return of the index. I then calculated the correlation between each of my comparable companies with the index and got the levered beta of each company.

When we calculate the beta of each, we are incorporating every risk present in that determinate company, and we do not want to include the capital structure risk associated with having debt over having just equity (having debt is considered riskier and will lead to higher beta). Therefore, as we want to take an average beta among our comparable companies, we need to exclude the risk related to companies using debt to finance their operations. This can be done by delevering beta. In fact, unlevered beta (the result of unlevering the levered beta) will be capital structure agnostic and it can be used to take a mean across different companies. It would make little sense to compare risk among companies when they use different amounts of debt to finance their operations. In order to unlever beta, the only thing you need is the percentage of debt and equity used in the current capital structure. Since now the unlevered beta just reflects the intrinsic risk of each business, we can take the numerical average of the values and use our company capital structure to lever it again. We need to remember that we need to lever it again because we need to reflect the fact that the company, we are valuing has a certain risk that is related to having debt, and this risk has to be reflected in the cost of equity.

After having calculated the levered beta to use in the weighted average cost of capital, we could incorporate all the information together and calculate the cost of equity. The only note that I need to include is that I used the Damodaran (Professor of Finance at the Stern School of Business at New York University) database to include the historical value for the expected return of the market when the deal was announced.

After calculating the cost of equity, I had to calculate the cost of debt to finalize the calculation of the weighted average cost of capital. After calculating the percentage of debt used to finance the company, based on the amount of debt on the balance sheet and the equity value previously calculated, I had to calculate the cost of debt. This calculation can be done in different ways, but I thought that the most conservative way would be to calculate a proxy for the average interest debt on the debt by dividing the annual interest payment by the amount of debt outstanding. Putting the cost of debt and percentage of debt I was able to find the total cost of debt after considering the tax shield effect of taxes. In fact, the amount of interest that we have to pay every year offset our taxable income and therefore we pay fewer taxes the more interest we have to pay.

After having completed the weighted average cost of capital and all the assumptions regarding the financials, I could then start the actual valuation part. Since I am doing an unlevered free cash valuation, the first step is to calculate the value of the unlevered free cash flow for each year of the projection period. It is important to note that I used an unlevered free cash flow valuation therefore I did not take into account the effect of debt in the valuation (the two effects are: interest on the debt principal and all the debt repayments). Starting from Earnings Before Interest and Taxes, we only need to take out taxes (and not interest as we are not considering the effect of leverage) and we get to Net Operating Profit after Taxes. Then, we need to take into consideration Capital Expenditures, Non-cash expenses reflected in the Income Statement, and changes in Net Working Capital. After calculating the value of the unlevered free cash flow during the projections period, I used the weighted average cost of capital to discount those cash flows back to the present value. After calculating the present value of the free cash flows, I had to estimate the terminal value of the company.

The calculation of the terminal value can be done in different ways: in this case, I used two methodologies: the perpetuity growth method and the exit multiple method.

Starting from the perpetuity growth method, the idea is to assume that the company will grow at a fixed rate in perpetuity. When I was estimating the rate I should input, I was mainly looking at two parameters: the inflation rate and the gross domestic product growth rate. I believe that a growth rate of 3% should be a fair estimate to understand the terminal value. Using this method, my implied valuation resulted in a share price of €24.27, a price that represents a 15% premium over the price before the acquisition was announced.

Finally, looking at the exit multiple, I decided to apply the Enterprise Value to Earnings Before Interest and Taxes on the last year of our projections. In order to find a multiple to apply to the Earnings Before Interest and Taxes of the fifth projection year, I took the median of the corresponding multiple of the comparable companies I have picked. My decision process in picking the companies was based very much on the business model and the products that the company produces and sells. This meant I had to overlook other factors like geography (I included some companies in the United States while the merger happened in Europe), but I believed that finding companies with very similar business models was more important than finding companies physically next to each other. The first comparable company was National Vision, which is the second largest and one of the fastest growing optical retail companies in the United States. Then I included Fielmann, a German eye-wear company. Furthermore, I added Safilo Group, an Italian company that designs, produces and distributes prescription frames, sunglasses, sports eyewear. Finally, I added Carl Zeiss Meditec that manufactures tools for eye examinations and medical lasers. I decided to use the median and not the mean as I believe it to be more accurate since it is less affected by a very large o very small multiple for a single company that might have reasons that are less related to the company being in that industry (what we care when looking at multiple across comparable companies) and more to factors specific to the company. Using this method, my implied valuation resulted in a share price of €26.44, a price that represents a 26% premium over €21.04, the price before the acquisition was announced.

As a general rule, when we are trying to value a company, we should strive to use different valuation methodologies in order to get a more holistic view of the company. In fact, each of these valuation methodologies has its advantages and disadvantages. For example, the assumptions I had to make for the perpetuity method are very arbitrary and it would be very hard, if not impossible, to explain why I used a growth rate of 3% rather than 2.75%. This is why using different valuation techniques is useful since it allows us to get a sense of the intrinsic value from different perspectives.

3.3 Further implications

The deal in discussion, the buyout of the Dutch eyewear retailer GrandVision from EssilorLuxottica for a total transaction value of over €7 billion, represents a perfect case study of the art of valuation and deal making. In order to analyze the price paid by the buyer let's look at the empirical data. On July 31st, 2019, EssilorLuxottica announced its intention to acquire full ownership of GrandVision for a purchase price of €28.00 per share. The price increased by 1.5% to €28.42 after 12 months from the announcement date on July 31st, 2020. The purchase price of €28.42 per share agreed represents a premium of 35.07% to GrandVision's closing price on 16 July, 2019 of €21.04.

In my opinion, as I was able to determine from our valuation, the intrinsic value of the target company ranges from around 24 to 26 euros per share, less than the value paid by the buyer suggesting that EssilorLuxottica might have overpaid for this transaction. This conclusion is rather simplistic and many other considerations need to be taken into account to make a more informed comment.

In the first place, the valuation I determined considers GrandVision as a standalone enterprise. This means that it values the company without taking into account any benefit that the company can achieve by being part of EssilorLuxottica. These benefits are known as synergies and can be divided into revenues and cost synergies. I believe that in this case, it is important to break these down to get a more accurate picture of the synergies that can be derived from this deal.

Starting from revenue synergies, I am talking about the fact that the combined revenue of the two companies together will be greater than the simple sum of the revenues of the two companies by themself. This is the first way in which Mergers and Acquisitions create value for shareholders as they increase the total value of sales. Revenue synergies are not simple to achieve in large percentages of total revenues, but they can make a deal attractive as they can contribute to an increase in earnings per share. This happens because, assuming a positive net income margin, more revenues lead to higher earnings per share since the deal was completed in cash. In the case of the sector, these two companies are, a way to realize synergies is to sell the goods together to make them more attractive to the customer. For example, the company could now offer some packages that make it attractive to purchase their products. These initiatives could create revenue synergies as they could attract customers that used to purchase products from other companies, but are now attracted by the deal that combines products from the two companies together. Additionally, another way to generate revenue synergies is through pricing power. The single company that will exist after the merger, EssilorLuxottica, could be able to raise their prices as they now provide more products to their customers. By putting together volume synergies, the first example, and pricing power, it is possible to see how the two companies could increase their total revenue more than a simple addition of the individual balances.

After the effect of revenue synergies, another factor that could explain why the company paid a higher price than what we estimated the intrinsic value of the target to be is cost synergies. Cost synergies mean that the two companies together can incur fewer costs compared to the simple sum of the total cost that the companies were incurring as single enterprises.

Cost synergies are one of the most important considerations that need to be evaluated when looking at a merger as they are easier to estimate compared to revenue synergies. In fact, revenue synergies are great in theory, but they are very hard to estimate and this is why they are less of a factor compared to cost synergies. On the other hand, cost synergies can be estimated with more accuracy. The first cost we see going down the income statement is the cost of goods sold. This cost can be reduced, as a percentage of revenue, but the decrease will be moderate as the cost of most products won't change. If the gross margin is able to be increased, and therefore realize the first example of cost synergies, this can be attributed to negotiating power. As the new company is larger than both the individual companies, they might be able to negotiate better deals with suppliers that would result in a higher gross profit.

Among all, the synergies that can make a deal very attractive are Selling, general, and administrative expenses that can really benefit from two companies becoming a single enterprise. These expenses are able to benefit from two companies merging together as they are much more a fixed expense compared to more variable expenses like the cost of goods sold. For example, advertising costs synergies could be very easily realized. In fact, GrandVision, by becoming part of a bigger company like EssilorLuxottica which has strong brand recognition, would be able to cut the advertising costs that it was incurring as a standalone enterprise since it can benefit from being under the mother company umbrella. Another great and very achievable example is administrative costs: these costs are fixed for a company and are not really dependent on size. Let's take as an example the accounting costs needed to create the financial statements of a company. This cost is not related to size and therefore by merging two companies you would be able to cut a lot of costs that would represent a redundant overlap.

By adding together revenue and cost synergies, we can understand how EssilorLuxottica will be able to benefit from acquiring the target. This means that the buyer will be able to afford a higher purchasing price as they will make it up by realizing all these synergies. Overall, I believe it is important to underline the idea that generating synergies, especially revenue synergies, is very hard, and therefore justifying overpaying for a company with respect to its intrinsic price can be a mistake.

Finally, the last part of my analysis consists in trying to understand what growth rate would imply that EssilorLuxottica paid a fair price to acquire GrandVision. I am trying to understand this by changing some of the assumptions I have used to value the target company until I get to an intrinsic value of my valuation that is close enough to the actual price paid to buy the company.

In my opinion, the three biggest assumptions that could be changed to reflect what EssilorLuxottica was trying to understand while valuing the company are the growth rate of revenues, gross profit, and the amount of Selling, general, and administrative expenses. In order to understand how these different assumptions can play a role, I have decided to analyze them one by one to get a better understanding of each one. My general approach was to change just one of these assumptions at a time back solving for the price paid for the acquisition. As a general idea, I think it is important to mention that the revenue growth assumption is the one that can be more dependent on the vision each person has on how the company will perform in the future. It is much easier to argue that the company will grow 200 basis points more compared to the idea that margins will increase by even a smaller amount.

Let's start with the revenue growth assumption. I estimated a growth rate of 10% for the first year of my projections then decreasing by 1% each year. Leaving all the other assumptions unchanged and back solving to get an implied share price equal to what the company was bought for, I could see how the price paid by EssilorLuxottica could be justified by a growth rate of 13% for the first year of my projections then decreasing by 1% each year until the last year of my projections.

Moving on to the assumption about gross margin. I estimated a growth profit margin of 26% for the first year of my projections then increasing by 0.5% each year. Leaving all the other assumptions unchanged and back solving to get an implied share price equal to what the company was bought for, I could see how the price paid by EssilorLuxottica could be justified by an increase of gross profit margin of 0.5% across all my years of my projections. Initially, I was surprised to see that just a small percentage increase in margins could change the intrinsic value of a company by that much but it is worth underlining again how hard a margin increase is to achieve. Companies are always striving to increase their margins and increasing them even less than 100 basis points is not easy at all.

Finally, I believe that it is important to highlight some potentials risk that could result because of the deal. First, talking about the financing, EssilorLuxottica said they are planning to finance this deal entirely in cash therefore strongly reducing their cash balance. Reducing the cash balance is not a problem at all during times of strong economic growth, but it can pose risks as the company has less safety net in case the economy suffers a pullback. The deal was announced in 2019, and I think there is a decent chance that the company might have wished they kept a bit more cash balance to navigate the COVID-19 crisis. Additionally, the company had to pay a considerable premium over the current share price in order to get control of the company. It is very hard to determine which price becomes too high to buy a company, but it is worth noticing that the premium needed to complete an acquisition can often make a company that looks cheap more expensive. The third, and in my opinion, most important risk is to underestimate integration costs to integrate the target company in the buyer. For example, earlier I mentioned how some departments like accounting, and therefore costs, can be eliminated as they will be redundant. In practice, cutting jobs and costs is not as easy and immediate as though so the acquisition might start to pay off in a few years. Additionally, the company should carefully consider the opportunity cost to complete such a large acquisition. Maybe EssilorLuxottica could have paid a large division, paid down some debt, or invest money back into the company so the single fact that that they completed an acquisition does not imply that they found the best way to put capital at work

To conclude, I think it is important to mention that EssilorLuxottica has probably based its acquisition on factors that cannot be included in a financial model. Even if their model would imply that GrandVision was undervalued that would rarely be a good enough reason to buy another enterprise. As mentioned above, the actual process to integrate two companies together is not as easy as adding the two financial statements together and we have seen over the years several examples of deals that looked successful on paper but created little long term shareholder value. To sum up, only time will tell us how successful this acquisition was, but I am confident that a lot of time was spent to make sure to pay the right price for the acquisition.

Conclusion

As the current economic environment keeps changing at a fast pace, growth is one of the main drivers of a business's soundness in the medium to long term. Enlarging dimensional boundaries thus constitutes an opportunity for development and a response to the threats posed by the external environment's overwhelming dynamism. As described in the course of the paper, such growth can be achieved both internally and externally through different tools with their own advantages and disadvantages. M&As are among such strategic actions and are distinguished by the speed through which an acquiring company can acquire resources and capabilities as opposed to an organic growth path that will surely take longer. On the other hand, the path to a successful extraordinary transaction can prove to be quite tortuous, with difficulties and challenges both in the preliminary process up to the final post-merger integration of the two entities involved.

Moreover, the valuation is one of the crucial phases in order to define a deal as successful. As a matter of fact, carrying out a stand-alone valuation of the target company accurately and according to the proper assumptions can result in a positive final outcome for the acquirer. However, high level of complexity lies in the proper valuation of the synergies resulting from the transaction, which will then give justification to the fact that the sum of the two separate companies' values should be lower than the market value of the new combined entity.

The aim of this work was to answer the question posed by many scholars and researchers regarding the effective creation of value through M&As, by looking for empirical evidence in the analysis and evaluation of a case study. According to the Economist survey, acquiring companies paid an acquisition premium which was around 27% between 2000 and 2014. Conversely, the case study analyzed, EssilorLuxottica - GrandVision, recorded an acquisition premium paid by the acquiring company above this benchmark and equal to 35.07%. This may suggest that EssilorLuxottica has overpaid GranVision even beyond the M&A market average. However, the valuation of the target company that I carried out revealed that the intrinsic value of the target company was higher than its price per share before the acquisition was announced. To conclude, this may suggest that the price paid by EssilorLuxottica can be defined as fair and in line with a value creation over the medium and long term, especially considering the great potential for synergies described in the paper.

Summary

The global M&A market has experienced substantial growth in recent years, with many companies from different countries and industries identifying M&A operations as the most effective tool to achieve both short- and long-term growth and expansion targets at high pace. As a matter of fact, according to KPMG Global M&A report 2021, the global M&A market recorded double-digit increases compared to the previous year (+47% in value and +31% in volume), specifically with 48,948 closed deals and an overall value of $4,418 billion. This is also a new market peak, breaking the all-time highs of 2007, when 37,437 deals were closed for a total value of $3,833 billion.

Having made this preliminary observation, which gives an initial idea of the dimensions of the phenomenon, the aim of this paper is to answer the question posed by many scholars and researchers regarding the effective creation of value through M&As, by looking for empirical evidence in the analysis and evaluation of a case study. In order to do so, it is essential to begin by defining the concept of mergers and acquisitions from a strategic perspective and outlining the different specificities.

Once the organization determines that size expansion is required for the implementation of its corporate strategy, it can pursue it through two main growth paths: organic (or internal) growth and inorganic (or external) growth. Therefore, there is a tradeoff between opting for a *make* decision or a *buy* one, taking into account advantages and drawbacks. Organic growth involves the use and reinvestment of the company's internal resources (in terms of financial, technological, and human capital), as well as the reliance on the skillset and know-how already present within the corporation. Digital transformation and the speed of competition, bring up new chances for internal growth for organization with the ability and dexterity to capitalize on them, and companies can follow three different strategies (or a combination of them) to achieve organic expansion.

Among the advantages of organic growth strategy, the cross-sectional transfer of intangible resources – such as technological know-how – is clearly one of the most prominent, and it is achieved through the deployment of human capital across the organization. Moreover, the use of internal resources in the development of a new business, encourages the creation and enhancement of an entrepreneurial culture. Another benefit to be considered is that internal growth is shaped by gradual investments that allow the company to closely follow the whole process of dimensional increase and value creation under its own control, and therefore without massive upfront investments as in the case of extraordinary operations. However, on the disadvantages side the length of time it takes for these activities to bear fruits varies. The implementation of organic growth initiatives usually requires a long period of time to acquire the necessary capabilities and competences. Given the high level of dynamism and rapid evolution of a competitive market, the time factor is critical as a delay may result in a missed opportunity and obsolete investments, and therefore negative

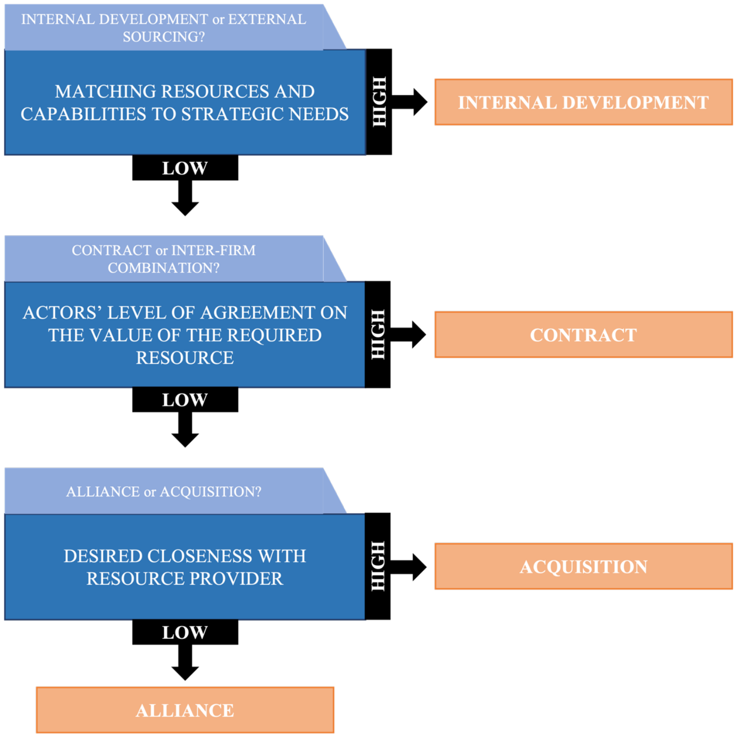
results. Another drawback is the risk that companies may miss internally some technological resources, management capabilities, or other key resources for the dimensional development.

The alternative to an internal growth strategy is to embark on a path of inorganic growth, thus overcoming the potential disadvantages of a development that is solely confined to the company's own internal structure and resources. As a matter of fact, inorganic growth allows companies to expand in size and scope by leveraging on external resources and capabilities within a wide range in both quantitative and qualitative criteria. On one hand, this approach considerably shortens the time needed to realize the dimensional growth, thus affecting company performance in a short space of time; on the other hand, it requires a high level of supporting activities for its implementation, in order to ensure that the different economic entities are integrated and do not clash. Eternal growth operations include Collaborative Agreements, Strategic Alliances and Mergers & Acquisitions.

Mergers & Acquisitions (M&As) are a set of extraordinary financial transactions whose objective is to create corporate value by changing the corporate and operational structure of the company involved. More precisely, Merger means the formation of a new economic entity as a result of the amalgamation of two or more pre-existing companies. It requires, of course, an agreement between the shareholders of the firms, who then exchange their shares for those in the new merged company. The purchase of one company by another is referred to as an acquisition (Grant, 2019). This kind of operation entails the acquiring firm (acquirer) making an offer for the other company's common stock (target company or acquiree). Moreover, there is often a tendency to distinguish acquisitions from so-called takeover. The former refers mainly to the case in which the transaction is "friendly", that is, also supported by the management board of the target company, and therefore both companies define a strategy aimed at mutual benefits. Once all obligations and financial valuations are commonly accepted, the acquisition is finalized. The latter is hostile in the sense that the target company obstructs the deal. The word "friendliness" is interpreted by many as a synonym or replacement for "negotiating power" (Stallworthy and Kharbanda, 1988). The most basic M&A deal is the purchase of all assets utilized by a firm, thus taking control of it. Once a target company sells all its assets, it normally liquidates or otherwise distributes the proceeds from the deal to its owners. But sometimes target assets are complex, wide, or difficult to specify, or even their transfer is subject to regulatory obligations, and consequently assets purchase may be intricate, demanding, and time-consuming. Considering this, the acquiring company can buy all the stock (and hence control) of the corporation that owns a business, rather than just the assets.

Given the alternatives, therefore it is useful to identify the one that best suits a company wishing to pursue growth and its own strategy (Capron and Mitchell, 2010). In order to do this, executives must start from an internal diagnosis with the aim of identifying their own resources and capabilities within the organization, and then checking whether these assets fit the strategy to be undertaken.

Figure 1.3 – Finding the Right Path Framework



Source: Capron, L., Mitchell W. (2010). *Finding the Right Path*. Harvard Business Review.

M&As are therefore a way of achieving strategic and dimensional goals, which is faster than internal growth approach. This is definitely one of the reasons behind the increase in the use of this type of operation over time. Obviously, in addition to pace, acquisitions are also justified and motivated by other reasons, such as market conditions (which may have low growth rates and drive the company to look for new opportunities outside), the company's strategic plans, or even market opportunities that are not necessarily the result of a predetermined strategy. The definitive aim of acquisition operations is, however, to create value through the synergistic effect generatable by the union of the entities that take part in the deal. Nevertheless, M&A remains a widely discussed topic, due to its complexity and main challenges in implementation (as will be analyzed later). In the last century, there have been numerous cases of mergers or acquisitions of different kinds and with different final results on companies' performance and shareholders' returns. For what concern shareholders' return empirical studies on M&As impact have found that:

- The result on average is a small increased in the combined market value of the two companies involved of around 2%. However, this trend has been improving over the years, with mergers and acquisitions in 2000-2009 showing a decrease in combined value of 2%, and those occurred between 2010 and 2014 bringing returns of 12% (Economist, 2014).

- Target firms mainly benefit from these gains. This is justified by the acquisition premium paid in the deal by the acquiring company, which was around 27% between 2000 and 2014 (Economist, 2014).

For what concerns the effect of mergers on corporate profitability, studies have shown that there was little consistency. The main reason is that it is complex to separate the effects of the merger from all the other variables that affect corporate performance over time. Therefore, the recognition of the change between pre-merger and post-merger business performance is not immediate.

The rationales for undertaking M&As are various and over time even the literature and research have generated a small mountain on the subject. According to *Efficiency Theory*, M&As are feasible if synergies can be achieved, resulting from the combination and coordination of resources and capabilities of both companies. As evidence, synergies occur when the sum of the two separate businesses' values is lower than the market value of the two merged firms. *Agency Theory* also tried to provide some reasons for Mergers and Acquisition, seeing them as a possible answer to the so-called agency problem. Michael Jensen and William Meckling defined a quantitative economic rationale for maximizing shareholder value through share-based compensation to executives who would perform well in terms of profit in the long term. As a result, the market will read the acquisition bid started by the company with long term performance objectives (and managerial incentives) as positive news because of the link between manager's wealth and the firm's value, similarly to shareholders. According to the *Free Cash Flow Hypothesis,* managers are often reluctant to distribute excess to shareholders, firstly because it reduces the amount of resources under management control, secondly, distributing dividends does not increase executives' wealth as they represent just bonus schemes. On the other hand, managers are concerned about the dimensional development of the firm, since this is connected to their own remuneration, which means that they might consider financing potential takeovers with free cash flow. The *Market Power Hypothesis* aims to provide further justification for vertical and horizontal takeovers. Market power refers to the ability of a company to sell its products or services at a higher price than the competitive market level, as well as controlling supply (Motta, 2003). The *Diversification Hypothesis* also attempts to provide an explanation to acquisitions, particularly conglomerate ones. The underlying assumption is the *Coinsurance Hypothesis* which states that the value of a conglomerate is greater than the sum of the individual business, in this case due to risk reduction and increased debt capacity (Lewellen, 1972), which in turn may reduce the corporation's probability of default. According to the *Bankruptcy Avoidance Hypothesis*, another reason behind the decision to undertake M&A transactions is to avoid the bankruptcy of financially distressed companies. As a matter of fact, a carefully timed takeover may be an alternative to failure (Shrieves and Stevens, 1979). From the point of view of the acquiring company the main advantage in acquiring a distressed target is the payment of a lower price, from the point of view of the target company the advantage lies in avoiding unemployment and in the fact that the shareholders receive remuneration.

Also from a financial point of view, the motivations that push a company to undertake M&A operations are of a variety of kinds, but all aimed at improving the current financial situation and performance of the party/parties involved. One of the reasons is taking advantage of opportunities in the market by capitalizing stock market inefficiencies: the valuation of stocks in the market derives from expectations of future performance, estimates of growth and risk factors, so it follows that investors (in this case firms) may use private information, or further analysis, to identify that the real value of equities is not congruent with the current market value (obviously under the assumption of inefficient markets). This opens up to opportunities in mergers and acquisition, where a potential acquiring company can bid for a company that is undervalued in the market or use its overvalued equity to purchase another firm (Grant, 2019). Another financial reason behind M&As is certainly the quest for tax savings. If a company makes some profits, it must pay taxes on them, but if it incurs a loss the government does not rebate taxes. The acquiring company could use the past losses of the target company to reduce its tax bill. In addition, the larger size of the new company may lead to further tax benefits, since if the transaction leads the company to improve its debt ratio, it can benefit from a larger amount of debt whose interest expense can be deducted to a greater extent from its taxable income. However, it should be noted that the legislation of almost all tax systems places limits on the use of M&A transactions whose sole purpose is to benefit from the past losses of a target company, favoring instead transactions of industrial value. Companies also undertake M&A transactions to achieve financial efficiency through a process of financial re-engineering. An acquiring company can lower its cost of capital by modifying the capital structure of the target firm and so create value. The most common procedure for accomplishing this is the leveraged buy-out (LBO), which consists of the acquisition of a company using debt to a greater extent.

The primary objective of M&A transactions is to acquire resources and capabilities that are not transferable or difficult to replicate. In the strategic sphere, this is translated into an improvement of the competitive position in the current market or towards new scopes, businesses, and geographies by obtaining a competitive advantage. Therefore, a distinction can be made between horizontal, geographical extension, vertical, and diversifying M&As, depending on the target identified (Grant, 2019).

- *Horizontal M&As*. A horizontal acquisition occurs when a company acquires another company that is in the same industry and works in the same production stage. Due to its nature, this type of transaction leads to an increase in the concentration rate of the market as well as to a consequent reduction in the competitiveness rate of the market. The immediate effect of a horizontal acquisition, thus, is to increase the market share of the acquiring company since, as can easily be guessed, it will absorb the share of the acquired company. This type of M&A is among the most common because it is believed that when two companies operate in the same sector, it is relatively easier to achieve integration between the two structures, thus avoiding the so-called clash of cultures (as we will analyze later). As a result of such a transaction, the market is more concentrated and entry barriers for potential new entrants are drastically raised. This leads to rapid growth in the market for the acquiring firm, which entails an increase in market power together with an increase in its profitability.

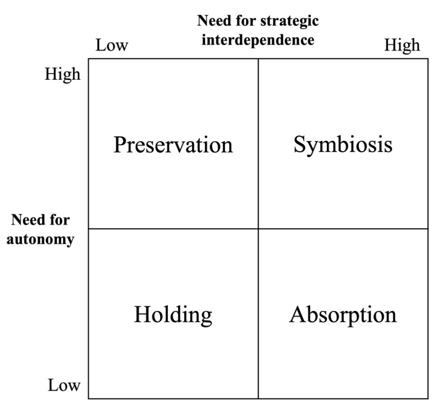
- *Geographical extension M&As*. Cross-border M&As are transactions combining the assets of two companies from different countries and they have become very popular in the last few decades. They have the main objective of entering a new foreign market, expanding the company's global presence, and trying to overcome the problem of the so-called *liabilities of foreignness.*
- *Vertical M&As*. These transactions involve the acquisition (or merger) by a company of one or more firms operating in the same industry but at different stages along the supply chain. In this sense, the acquiring company seeks to expand either upstream (by acquiring its suppliers) or downstream (by acquiring its customers) with the main aim of gaining more control over the entire production cycle. Indeed, it could improve its business by having direct control over the required inputs, as well as controlling the distribution channels of its goods and services independently. As a result, vertical M&As often lead to cost reduction and an increase in operational efficiency and productivity.
- *Diversifying M&As*. Diversification is included among the strategic rationales for mergers and acquisitions. It therefore aims to create value for shareholders, seeking corporate growth and risk reduction by entering new markets with new products launch. Depending on the orientation adopted, a distinction can be made between related and unrelated diversification; the former involves entering markets with similar marketing and distribution characteristics, production technology or scientific research activities, while the latter consists in diversifying into product markets with key success factors that are unrelated to core business's key success variables of the acquirer (Salter & Weinhold, 1978).

The company also pays a so-called premium when acquiring the target firm; how then can the management of the company guarantee its shareholders an investment opportunity with a positive NPV? The answer lies mainly in the ability of a company, unlike an individual investor, to create additional economic value by exploiting the aforementioned synergies. Synergies are based on the concept according to which the combination of two companies generates a positive effect or outcome that is greater than the sum of the two individual businesses. This reflects the idea that resources and capabilities can be complementary and their interaction and coordination results in greater value in terms of growth and efficiency. Synergies can be broken down into revenue synergies and cost synergies; on both sides, achieving such synergies is challenging, as concrete integration needs to be put in place early on, identifying the right directions and targets in terms of revenue growth or cost reduction.

However, it must also be borne in mind that there is always an underlying component of risk, to a greater or lesser extent, which can easily lead to the failure of the deal itself at the expense of the company carrying out the investment, or in any case produce disadvantages rather than advantages, and hence not lead to the effective creation of value as expected. Among the drawbacks it is worth mentioning the cost of the acquisition, which is likely to be very high, especially in cases of hostile takeovers where the target company's management adopts defensive tactics, and a careful analysis is thus required in the pre-merger stage. Secondly, a reduction in flexibility is also a risk associated with M&A transactions involving a company. Indeed, the new combined corporation is considerably larger and therefore more difficult to manage from an administrative, organizational, and financial point of view. Finally, a risk that affects all types of M&A transactions, even if to a different extent, is definitely connected to the difficulties in integrating and harmonizing the firms involved. Differences in the companies' organizations and corporate cultures, if not addressed and managed properly, might offset the synergies sought by the deal, resulting in a disadvantage compared to internal growth strategies. For this reason, it is essential that any eventual friction, strengths, and weaknesses are identified from the outset, seeking to avoid any post-merger issues. The integration is one of the most crucial phases for a deal in order to turn into a successful one. Post-merger integration can only be successful if it respects the cultural identity of the acquired company through a process of exchanging experience and knowledge in a spirit of mutual cooperation. Although two companies may belong to the same industry, in the same country, a cultural clash can still occur, highlighting the differences in history, personalities and ways of running the business when they come together. This happens through common and predictable steps, ranging from the perception of differences (in decision-making, leadership, organizational model) to their polarization, to the eventual creation of stereotypes and the "put down" of one culture over the other (Lee Marks et al., 2013). Obstacles to capturing synergy, client disruption, structural integration, employee retention, loss of identity and/or independence, customer retention, emotional trauma, loss of status, and learning challenges represent the issues that the post-merger integration process aims to overcome.

According to Haspeslagh and Jemison, the transfer of resources and capabilities is at the core of the value creation process and is thus the main objective of post-merger integration in operational, managerial, and organizational terms. They identified four alternatives in embarking on a process of full implementation, which break down according to the need for strategic interdependence and the need for autonomy and which are synthesized in the following matrix (**Figure 1.5**).

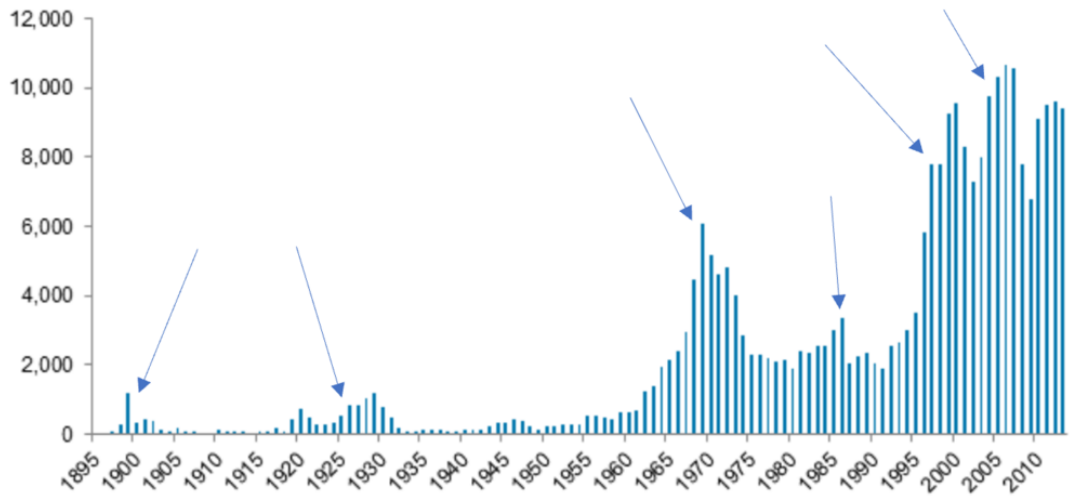
Figure 1.5 – Integration Matrix



Source: Haspeslagh, P. C., Jemison, D. B. (1991). *Managing acquisitions: creating value through corporate renewal*. Free Press, New York.

Throughout history, it has been observed that M&A deals were typically driven by cyclical activity – as well as the economic system as a whole – identified in precise time periods when the volume and value of extraordinary transactions increased significantly clustering in specific sectors and industries, to the extent that so-called *M&A waves* could be defined. According to Harford, those trends are strictly connected to and driven by economic, regulatory and technological shocks, which provide opportunities for development, and thus explaining why periods of high concentration of mergers are followed by periods of low activity, defining a fluctuating pattern.

Figure 1.8 – Volume of M&A transactions in the US market



Source: Asset Management Study Association, *Merger waves*. 2019.

Among the pre-closing steps, Due Diligence and valuation of the target company play a crucial role in M&A transactions. Due Diligence is an investigation, audit, or review performed to confirm facts or details of a matter under consideration and it simply means that the buyer has been rigorous and thorough (*duly diligent*) in its investigation of a possible acquisition (Frankel & Forman, 2017). It is a tool precisely aimed at assessing the advisability of the deal and identifying the risks involved, in order to negotiate the terms and conditions of the contract. The object of the investigation activity may be of various kinds and differ according to the type of deal; it follows that the acquiring company may prioritize special areas of concern according to its own research and data collection needs as well as the risks related to each single case of transaction. Despite this, the main areas of assessment and, hence due diligence topics, are generally the following: financial, legal and commercial Due Diligence. The valuation process, thus, is unquestionably one of the most critical and relevant phases in any M&A transaction, in which the intrinsic value of the target company as well as the synergies, and therefore the additional value resulting from the combination of the two entities, are determined. There are several valuation methods which are generally used in order to identify the intrinsic value of a company.

When carrying out the valuation it is essential to bear in mind the distinction between assessing the equity of the target company (equity side) and assessing the entire business, thus also taking into account the debt (asset side). The Dividend Discount Model belongs to the first group of valuation methods considering only dividends as cash flows to equity. The principle behind this model states that the price paid by an investor for a stock is equivalent to the expected future cash flows which turn out to be the dividends during the holding period and the final resale price at the end of the investment horizon. This is based on the present value rule, which sees the value of any asset as the result of the future cash flows associated with it, discounted at a discount rate in line with the risk undertaken (Berk & DeMarzo, 2019).

$$P_0 = \sum_{n=1}^{\infty} \frac{Div_n}{(1 + r_E)^n}$$

(2. 26)

One of the most widely used valuation methods is probably that of Discounted Cash Flows during IPOs, restructurings and investment decisions as well as – and this is where we are most interested – assessments for M&A situations. The DCF model makes it possible to value a company in its entirety, thus considering the equity and the debt. It is consequently one of the asset-side and not the equity-side valuation techniques (such as the DDM described above). It is founded on the assumption that the present value (PV) of a company is given by the sum of future free cash flows discounted at the cost of capital plus the Terminal Value, which represents the FCFs that will be generated after the explicit forecasting horizon. The final outcome, thus, of the model is the Enterprise Value (EV) which determine the overall value of a company to all equity and debt holders.

$$EV = \sum_{t=1}^{n} \frac{FCF_t}{(1 + WACC)^t} + \frac{TV}{(1 + WACC)^t}$$

(2. 27)

The absolute valuation methods are countered by a relative valuation approach, which bases its implementation on a comparison of the target with comparable assets or companies and which examines the main balance sheet items indicative of income and performance. By looking for comparable firms, we are assuming that they will generate similar future free cash flows and hence have in common a similar risk profile, similar payout rates and growth rates. This kind of approach is based on thinking that there are enough firms similar enough to the one which is the object of valuation (target) and that the "individual" characteristics of these companies are not as relevant as the common ones. The market multiples technique is based on the concept that market prices are the best representation of a company's worth, and it aims to find the relationship between the price and the company's economic metrics. As a result, the target's value resulting from multiples will be overestimated (underestimated) when the market is overestimating (underestimating) the comparable firms. Multiples can be broken down into two groups: equity multiples (equity side) and value multiples (asset side). The former expresses a relationship with regard to the market value of equity that is scaled to one of the metrics used such as earnings, revenues, cash flows and book value. The latter, on the other hand, uses the enterprise value as the numerator, which is indicative of the total value of a company, and thus make it possible to analyze firms with different levels of leverage.

The presentation of these strategic and financial aspects of M&As allow us to arrive at the analysis of the case study. After years of partnership along the value chain, EssilorLuxottica officially announced its acquisition of GrandVision on July 1st, 2021. The acquisition of one of the leading players in the retail segment within the industry is certainly driven by strong strategic and operational drivers that push for an acceleration in the group's growth over the post Covid-19 pandemic period, by expanding its optical retail presence, and counting on more than 7,400 additional shops worldwide – mainly in Europe – more than 39,000 employees and a turnover of approximately €4 billion in 2019 with an average annual organic growth rate of 4% over the last four years. As a matter of fact, this extraordinary transaction would allow the multinational corporation to further establish itself in the worldwide optical market by realizing significant economies of scale and scope in the coming years. This acquisition can be classified as both vertical and horizontal at the same time, as EssilorLuxottica is already present with its optical retail outlets and is therefore acquiring a competitor and hence increasing its market share, but at the same time benefits from the transfer of more specialized resources and capabilities downstream along the supply chain. Undertaking M&A transactions can often be facilitated by previous experience in the M&A market: this may be the case of EssilorLuxottica, whose current configuration is the result of the merger of two large companies in January 2017. They are the French company Essilor, positioned as an international excellence in the design, manufacture and distribution of ophthalmic lenses, and the Italian company Luxottica, international leader in the design, manufacture and distribution of fashion, luxury and sports eyewear.

Before diving into detail about my valuation of GrandVision, it is important to start by explaining the approach I used while trying to find the intrinsic value of the company. First of all, I valued this company as of 2019, when the company received a bid from EssilorLuxottica for a buyout. Additionally, I valued the company as a standalone enterprise. In my first valuation, I did not take into consideration any potential synergies that are likely to be realized after the acquisition. The first step in my valuation was to take the financial statements of the company and project them into the future in order to complete my discounted cash flow analysis.

Table 3.1 – Revenue projection

In Millions 12 Months Ending	FY 2016 12/31/2016	FY 2017 12/31/2017	FY 2018 12/31/2018	FY 2019 12/31/2019	FY 2020 12/31/2020	FY 2021P 12/31/2021	FY 2022P 12/31/2022	FY 2023P 12/31/2023	FY 2024P 12/31/2024
Revenue	3.316,08	3.449,86	3.720,98	4.039,31	3.480,99	3.829,09	4.173,71	4.507,60	4.823,14
% Growth		4,0%	7,9%	8,6%	(13,8%)	10,0%	9,0%	8,0%	7,0%

Source: Personal elaboration from Refinitiv Workspace Data

Let's start by looking at the revenue projections over the years. From the colour scheme, it is possible to see that I was able to use the historical value from 2016 to 2020 (the green means these values are coming from the income statement that was published by the company). My first decision in this valuation was to decide what growth rate to use for future years. This is not an exact science but much more of an art, and the values I chose are based on the historical value of the company's history. At first impact, the values might seem high given the growth seen from 2017 to 2019, but we need to keep in mind that the company saw a strong decrease in revenue during 2020. As a sanity check, I calculated the average annual growth from 2019 to 2024 and this comes out to 3.6%. I feel comfortable with this assumption, and I believe it is very much obtainable.

Table 3.2 – Costs projection

Cost of Goods Sold	900,63	923,56	1.003,55	1.109,55	988,43	1.033,85	1.106,03	1.171,98	1.229,90
% Revenue	*27%*	*27%*	*27%*	*27%*	*28%*	27,0%	26,5%	26,0%	25,5%
Gross Profit	2.415,45	2.526,30	2.717,43	2.929,76	2.492,56	2.795,23	3.067,67	3.335,63	3.593,24
% Growth		4,6%	7,6%	7,8%	(14,9%)	12,1%	9,7%	8,7%	7,7%
SG&A	2.061,16	2.201,45	2.379,40	2.605,12	2.326,20	2.450,62	2.660,74	2.862,33	3.050,63
% Revenue	*62%*	*64%*	*64%*	*64%*	*67%*	64,0%	63,8%	63,5%	63,3%
Other Operating Expense	(23,05)	(59,24)	(36,31)	(121,81)	(64,00)	(38,29)	(41,74)	(45,08)	(48,23)
% Revenue	*-1%*	*-2%*	*-1%*	*-3%*	*-2%*	(1,0%)	(1,0%)	(1,0%)	(1,0%)
Operating Profit	377,34	384,09	374,34	446,45	230,36	382,91	448,67	518,37	590,83
% Revenue	*11%*	*11%*	*10%*	*11%*	*7%*	*10%*	*11%*	*12%*	*12%*

Source: Personal elaboration from Refinitiv Workspace Data

After estimating the revenue growth, I had to estimate the profitability margin in order to go down in the income statement. Starting from the Cost of Goods Sold, I decided to decrease the percentage of revenue from 2020 for two main reasons. The first reason is related to Covid: during the pandemic, companies had to be more careful about safety and this resulted in additional costs that were often capitalized in the Cost of Goods Sold. Therefore, I assumed that in 2021 the percentage of margin would go back to historical values. Additionally, in the long run, as the company grows older and with more experience, it is able to increase its margins. When looking at projecting the Selling General and Administrative expenses, I used a similar idea of increasing efficiency and brand recognition as the company evolves over time.

After completing the income statement protecting all the way down to earnings per share, I had to make other assumptions in order to project part of the cash flow statement and balance sheet that I would need to use later when making the unlevered free cash flow calculation, the basis of our intrinsic valuation.

Table 3.3 – Net Working Capital projection

Net Working Capital Schedule	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021P	FY 2022P	FY 2023P	FY 2024P
Inventories	292,98	349,74	330,50	356,26	310,40	306,33	333,90	360,61	385,85
% Revenue	8,8%	10,1%	8,9%	8,8%	8,9%	8,0%	8,0%	8,0%	8,0%
Account Receivables	291,49	250,65	223,63	245,94	227,76	265,72	289,63	312,80	334,70
% Revenue	8,8%	7,3%	6,0%	6,1%	6,5%	6,9%	6,9%	6,9%	6,9%
Account Payables	588,42	198,65	181,23	207,98	191,31	542,75	595,65	647,67	697,69
% COGS	65,3%	21,5%	18,1%	18,7%	19,4%	19,4%	19,4%	19,4%	19,4%
Net Working Capital Schedule	(3,95)	401,74	372,90	394,22	346,85	29,30	27,88	25,74	22,86
Increase Net Working Capital		405,69	(28,84)	21,32	(47,37)	(317,55)	(1,42)	(2,15)	(2,88)

Source: Personal elaboration from Refinitiv Workspace Data

Table 3.4 – Capital Expenditures projection

Capital Expenditure Schedule	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021P	FY 2022P	FY 2023P	FY 2024P
PPE and Intangibles	1.901,52	2.142,92	2.132,33	2.093,84	1.894,00	1.991,13	2.128,59	2.253,80	2.363,34
% Revenue	57,3%	62,1%	57,3%	51,8%	54,4%	52,0%	51,0%	50,0%	49,0%
Depreciation & Amortization	163,39	209,66	225,81	632,11	687,66	182,95	195,58	207,08	217,15
% PPE and Intangibles	8,6%	9,8%	10,6%	30,2%	36,3%	9,2%	9,2%	9,2%	9,2%
Capital Expenditure	404,79	199,07	187,32	432,27	784,79	320,41	320,79	316,62	400,43
% Revenue	12,2%	5,8%	5,0%	10,7%	22,5%	8,4%	7,7%	7,0%	8,3%

Source: Personal elaboration from Refinitiv Workspace Data

After projecting the income statement, the next step I had to tackle was the weighted average cost of capital I would need to discount the free cash flows and the future values back to present value. After having completed the weighted average cost of capital and all the assumptions regarding the financials, I could then start the actual valuation part. Since I am doing an unlevered free cash valuation, the first step is to calculate the value of the unlevered free cash flow for each year of the projection period. It is important to note that I used an unlevered free cash flow valuation therefore I did not take into account the effect of debt in the valuation (the two effects are: interest on the debt principal and all the debt repayments). Starting from Earnings Before Interest and Taxes, we only need to take out taxes (and not interest as we are not considering the effect of leverage) and we get to Net Operating Profit after Taxes. Then, we need to take into consideration Capital Expenditures, Non-cash expenses reflected in the Income Statement, and changes in Net Working Capital. After calculating the value of the unlevered free cash flow during the projections period, I used the weighted average cost of capital to discount those cash flows back to the present value. After calculating the present value of the free cash flows, I had to estimate the terminal value of the company.

The calculation of the terminal value can be done in different ways: in this case, I used two methodologies: the perpetuity growth method and the exit multiple method.

Starting from the perpetuity growth method, the idea is to assume that the company will grow at a fixed rate in perpetuity. When I was estimating the rate I should input, I was mainly looking at two parameters: the inflation rate and the gross domestic product growth rate. I believe that a growth rate of 3%

should be a fair estimate to understand the terminal value. Using this method, my implied valuation resulted in a share price of €24.27, a price that represents a 15% premium over the price before the acquisition was announced. Finally, looking at the exit multiple, I decided to apply the Enterprise Value to Earnings Before Interest and Taxes on the last year of our projections. In order to find a multiple to apply to the Earnings Before Interest and Taxes of the fifth projection year, I took the median of the corresponding multiple of the comparable companies I have picked. My decision process in picking the companies was based very much on the business model and the products that the company produces and sells. The first comparable company was National Vision, which is the second largest and one of the fastest growing optical retail companies in the United States. Then I included Fielmann, a German eye-wear company. Furthermore, I added Safilo Group, an Italian company that designs, produces and distributes prescription frames, sunglasses, sports eyewear. Finally, I added Carl Zeiss Meditec that manufactures tools for eye examinations. Using this method, my implied valuation resulted in a share price of €26.44, a price that represents a 26% premium over €21.04, the price before the acquisition was announced.

The deal in discussion, for a total transaction value of over €7 billion, represents a perfect case study of the art of valuation and deal making. In order to analyze the price paid by the buyer let's look at the empirical data. On July 31st, 2019, EssilorLuxottica announced its intention to acquire full ownership of GrandVision for a purchase price of €28.00 per share. The price increased by 1.5% to €28.42 after 12 months from the announcement date on July 31st, 2020. The purchase price of €28.42 per share agreed represents a premium of 35.07% to GrandVision's closing price on 16 July, 2019 of €21.04.

In my opinion, as I was able to determine from our valuation, the intrinsic value of the target company ranges from around 24 to 26 euros per share, less than the value paid by the buyer suggesting that EssilorLuxottica might have overpaid for this transaction. This conclusion is rather simplistic and many other considerations need to be taken into account to make a more informed comment.

In the first place, the valuation I determined considers GrandVision as a standalone enterprise. This means that it values the company without taking into account any benefit that the company can achieve by being part of EssilorLuxottica. These benefits are known as synergies and can be divided into revenues and cost synergies. I believe that in this case, it is important to break these down to get a more accurate picture of the synergies that can be derived from this deal.

Revenue synergies are not simple to achieve in large percentages of total revenues, but they can make a deal attractive as they can contribute to an increase in earnings per share. This happens because, assuming a positive net income margin, more revenues lead to higher earnings per share since the deal was completed in cash. In the case of the sector, these two companies are, a way to realize synergies is to sell the goods together to make them more attractive to the customer. For example, the company could now offer some packages that make it attractive to purchase their products. These initiatives could create revenue synergies as they could attract customers that used to purchase products from other companies, but are now attracted by the deal that combines products from the two companies together. Additionally, another way to generate revenue synergies is through pricing power. The single company that will exist after the merger, EssilorLuxottica, could be able to raise their prices as they now provide more products to their customers. By putting together volume synergies, the first example, and pricing power, it is possible to see how the two companies could increase their total revenue more than a simple addition of the individual balances. Cost synergies are one of the most important considerations that need to be evaluated when looking at a merger as they are easier to estimate compared to revenue synergies. In fact, revenue synergies are great in theory, but they are very hard to estimate and this is why they are less of a factor compared to cost synergies. On the other hand, cost synergies can be estimated with more accuracy. The first cost we see going down the income statement is the cost of goods sold. This cost can be reduced, as a percentage of revenue, but the decrease will be moderate as the cost of most products won't change. If the gross margin is able to be increased, and therefore realize the first example of cost synergies, this can be attributed to negotiating power. As the new company is larger than both the individual companies, they might be able to negotiate better deals with suppliers that would result in a higher gross profit. Among all, the synergies that can make a deal very attractive are Selling, general, and administrative expenses that can really benefit from two companies becoming a single enterprise. These expenses are able to benefit from two companies merging together as they are much more a fixed expense compared to more variable expenses like the cost of goods sold. By adding together revenue and cost synergies, we can understand how EssilorLuxottica will be able to benefit from acquiring the target.

Finally, the last part of my analysis consists in trying to understand what growth rate would imply that EssilorLuxottica paid a fair price to acquire GrandVision. I am trying to understand this by changing some of the assumptions I have used to value the target company until I get to an intrinsic value of my valuation that is close enough to the actual price paid to buy the company. In my opinion, the three biggest assumptions that could be changed to reflect what EssilorLuxottica was trying to understand while valuing the company are the growth rate of revenues, gross profit, and the amount of Selling, general, and administrative expenses. Let's start with the revenue growth assumption. I estimated a growth rate of 10% for the first year of my projections then decreasing by 1% each year. Leaving all the other assumptions unchanged and back solving to get an implied share price equal to what the company was bought for, I could see how the price paid by EssilorLuxottica could be justified by a growth rate of 13% for the first year of my projections then decreasing by 1% each year until the last year of my projections. Moving on to the assumption about gross margin. I estimated a growth profit margin of 26% for the first year of my projections then increasing by 0.5% each year. Leaving all the other assumptions unchanged and back solving to get an implied share price equal to what the company was bought for, I could see how the price paid by EssilorLuxottica could be justified by an increase of gross profit margin of 0.5% across all my years of my projections.

Additionally, I think it is important to mention that EssilorLuxottica has probably based its acquisition on factors that cannot be included in a financial model. Even if their model would imply that GrandVision was undervalued that would rarely be a good enough reason to buy another enterprise. As mentioned above, the actual process to integrate two companies together is not as easy as adding the two financial statements together and we have seen over the years several examples of deals that looked successful on paper but created little long term shareholder value. To sum up, only time will tell us how successful this acquisition was, but I am confident that a lot of time was spent to make sure to pay the right price for the acquisition.

The aim of this work was to answer the question posed by many scholars and researchers regarding the effective creation of value through M&As, by looking for empirical evidence in the analysis and evaluation of a case study. According to the Economist survey, acquiring companies paid an acquisition premium which was around 27% between 2000 and 2014. Conversely, the case study analyzed recorded an acquisition premium paid by the acquiring company above this benchmark and equal to 35.07%. This may suggest that EssilorLuxottica has overpaid GranVision even beyond the M&A market average. However, the valuation of the target company that I carried out revealed that the intrinsic value of the target company was higher than its price per share before the acquisition was announced. To conclude, this may suggest that the price paid by EssilorLuxottica can be defined as fair and in line with a value creation over the medium and long term, especially considering the great potential for synergies described in the paper.

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