

Financial synergies in M&A operation:
Walt Disney's acquisition of 21st Century Fox

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Introduction

The objective of the following paper will be to demonstrate and highlight the importance of financial synergies in merger and acquisition transactions. Often, Financial synergy are not properly considered. The potential value creation related to financial synergies sometimes is overlooked and sometimes it is overestimated. Sometimes it could be also completely ignored. This issue is addressed by Professor Damodaran. The latter is one of the few experts who discusses and deals with financial synergies. Furthermore, he is regarded as one of the best experts in terms of valuation.

Aswath Damodaran is a Professor of Finance at the Stern School of Business at New York University, where he teaches corporate finance and equity valuation. Damodaran recognizes the potential for financial synergy in mergers and acquisitions but maintains a cautious perspective. He suggests that the concept of financial synergy should be approached critically and with a realistic mindset. He emphasizes the importance of conducting thorough due diligence and careful analysis to accurately assess the expected financial benefits of a merger or acquisition. In his writings, he explains how not considering them leads to an underestimation of what is the value created by the M&A deal. In that, as he specifies but is not limited to, financial synergies can have a variety of positive effects on the acquired entity such as improved tax benefits, easier sourcing and some more, but the most important are for sure the reduced cost of capital and the correlated higher cash flows.

To evaluate financial synergies, it was decided to choose an operation that serves as a cornerstone in its sector, even though its completion date was a few years ago. It was decided, in fact, to analyze the acquisition of 21st Century Fox by Walt Disney in March 2019. In this analysis, it was hypothesized that it was the beginning of 2019, and an attempt was made to estimate the financial synergies that could have been created by the operation. Furthermore, it was chosen to conduct this analysis without considering the effect of COVID-19 because it would have led to too significant variations in the values under examination, and especially because it slowed down the growth expectations that were supposed to occur in the first few years after the acquisition. It is worth noting, however, that COVID-19 only postponed the positive effects.

Initially, this paper will provide a comprehensive overview of the context in which we find ourselves. In fact, at the beginning, we will explain merger and acquisition operations in a more general sense. These will then be defined, and the actors involved in these operations will also be defined and explained. Secondly, the major M&A operations will be illustrated. Briefly, the various forms of these extraordinary operations and the various methods for classifying them will also be explained.

In addition to this general overview of M&A operations, we have collected and explained the most common and frequent motivations that drive companies to undertake them. In conclusion, some basic concepts that are of fundamental importance in evaluating and dealing with these operations have also been briefly explained.

Since the aim of this paper is to assess the importance of financial synergies in M&A operations, after introducing them, an overview of synergies has also been provided. After defining the concept of synergy, each type of the major synergies has been briefly analyzed. It is necessary to highlight how synergies can vary in type and even be subjective from transaction to transaction. At this point, we moved on to the focus of our analysis. Financial synergies as a whole have been extensively illustrated, and then, specifically, the possible main benefits that these synergies can generate have been analyzed, always emphasizing the centrality of the effect on the cost of capital.

Some theoretical concepts were then necessary before moving on to the analysis. In fact, the main valuation methods adopted in practice were introduced very quickly. This was done to provide the necessary foundation for the analysis. Specifically, in addition to the classic valuation methods, specific methods aimed at valuing the financial synergy due to the change in the risk profile of companies carrying out these operations were explained. In other words, the cost of capital. The valuation methods proposed were taken from Marco Vupliani's "Special Cases of Business Valuation" manual.

At this point, the case was finally analyzed. First of all, an industry and player analysis was conducted, explaining the state of the American media and entertainment sector and market at the beginning of 2019. Industry trends and the best strategies to capitalize on them were highlighted. Of course, immediately after, an introduction to the situations of the two companies pre-operation was provided. In fact, Walt Disney and 21st Century Fox were analyzed in general to understand their financial situation before the operation, their positioning in the market, and, above all, to understand their future strategies in response to market changes. In terms of valuation and assumption, it was important to analyze what investors' future expectations were for these companies.

To evaluate and quantify the financial synergies in this operation, a kind of differential analysis was chosen. In fact, an attempt was made to estimate the financial synergies of the operation by first analyzing the value of the two stand-alone companies. Secondly, an evaluation of the potential value of the new Walt Disney post-acquisition was made. In this way, the estimated added value of financial synergies was estimated as the difference between the two previously conducted valuations.

In conclusion, through this analysis, we hope to highlight and better understand the importance of financial synergies and, above all, see if they can justify the price paid by Walt Disney to acquire 21st Century Fox.

PART 1: M&A Transactions

1.1 Definition of M&A Transactions and Overview

The term "mergers and acquisitions" (M&A) describes the combination of businesses or their key financial assets through business-to-business financial transactions. A company has several options when it comes to acquiring another company: it can purchase and integrate the company completely, merge with it to create a new entity, acquire specific valuable assets, make a tender offer for its stocks, or pursue a hostile takeover. All of them are mergers and acquisitions. It entails a variety of activities and steps aimed at integrating the participating companies' businesses, assets, operations, and resources to achieve certain strategic goals.

Every M&A transaction is different. Many transactions can be completed with only one buyer, seller, and lawyer. On the other hand, the completion of a large, multi-jurisdictional public merger may involve dozens of parties, from multi-disciplinary teams that include internal employees of the parties to financial advisors, lawyers from different countries and states, environmental, regulatory, human resources consultants, and so on. Usually, the main actors in M&A transactions are the following:

- **Buyer:** each M&A deal involves a buyer, the entity responsible for acquiring another company or its assets. The buyer, whether an individual or a company, plays a crucial role in the transaction by signing the purchase agreement, providing the agreed-upon purchase price, and ultimately gaining ownership or control of the target company. Throughout the process, the buyer collaborates with the seller or target to establish the fundamental financial and strategic terms of the deal. This includes leading negotiations on critical aspects of the agreement, overseeing both operational and financial due diligence, and selecting and managing a team of transaction advisors. These advisors typically consist of lawyers, investment bankers, accountants, proxy solicitors, and other professionals who assist in various aspects of the M&A process. Although the purchaser is typically the primary parent company involved in the transaction, this is not always the case. It is quite common for a different approach to be taken. Rather than the purchaser itself, a company looking to complete an acquisition may utilize an existing subsidiary or establish an entirely new entity. There are various motivations for doing so, including operational efficiency, tax advantages, regulatory compliance, and risk management considerations.
- **Seller:** the seller refers to the individual(s) or entity selling the equity securities, assets, and liabilities that the purchaser intends to acquire. However, not every deal involves a seller as an active participant. In certain cases, such as when the target company is publicly traded, the public shareholders effectively sell their shares, but the role typically played by a seller in a private transaction is assumed by the target company's Board of Directors and management. They act on behalf of the company itself in overseeing the transaction and making decisions related to the sale. In private M&A transactions, where a single

individual or a small group of individuals typically holds control over the target company, these controlling individuals, referred to as "control persons," typically take on the role of the seller. As sellers, they assume responsibilities that correspond to the purchaser's role, including signing the purchase agreement, receiving the purchase price, and transferring the securities or assets involved in the deal. They engage in negotiations with the buyer to establish the key financial and strategic terms of the transaction. Additionally, the sellers provide necessary information to the purchaser and its advisors during the due diligence process and select and oversee their team of transaction advisors. Importantly, in private M&A transactions, the seller is also accountable for post-closing indemnification obligations owed to the buyer. This entails obligations to reimburse the buyer for specific losses incurred as a result of any breaches of the purchase agreement. Like the buyer, the seller entity may not necessarily be an active company with significant assets at the highest level of its organizational structure. Frequently, the seller entity is a holding company or operating subsidiary that is owned or controlled by one or more other companies. In such situations, the parent companies of the seller entity may be required to provide assurances, such as guarantees, for the seller's obligations following the completion of the transaction, including indemnification responsibilities.

- **Target:** the term "target" is commonly used to refer to a company that will be acquired in an M&A transaction, rather than the specific assets, ownership, or control. This term applies to both private and public deals. However, in transactions involving the sale of assets and liabilities, different terms such as "Acquired Assets" and "Assumed Liabilities" are used. In a private M&A deal, the target company itself typically does not actively participate in the negotiation and execution of the transaction, apart from facilitating the buyer's due diligence by providing access to necessary information. The target company is the subject of the deal, but it is usually not a direct party to the transaction. This differs from the public M&A context, where the target company's Board and management act as representatives of the interests of public stockholders. In public deals, the target company is typically considered the seller and is actively involved in the principal transaction agreements.
- **Target board of Directors:** The members of the Board of Directors of a corporation owe fiduciary duties to the company's stockholders. This means directors must act for the benefit of the stockholders while subordinating their interests. In public M&A transactions or private deals in which there is a diffuse stockholder base, or which involve a conflict of interest impacting a controlling stockholder, these fiduciary duties may require the target Board of Directors (or a committee comprised of disinterested directors) to participate actively or manage, the M&A transaction process on behalf of the target company. They may do so using their own independent legal and financial advisers and may rely upon target company management in discharging their duties.
- **Advisors:** termed as financial advisors, these professionals offer financial and strategic guidance to buyers, target firms, and sellers involved in mergers and acquisitions. They comprise diverse entities

specializing in providing expert assistance throughout the transaction process. Whether facilitating mergers or acquisitions, they offer professional support to manage these complex dealings.

In any case, it must be emphasized that each M&A transaction is stand-alone and that therefore there might be slightly different roles and actors in each transaction. An even more simplified breakdown of actors, but equally valid in terms of valuation, could also be just buyer, seller and advisor.

At this point, before continuing and in order to provide adequate context, it is necessary to give a brief overview of past M&A market trends and future outlook. As highlighted by Bain in its M&A 2022 report, The year 2022 presented contrasting scenarios with two distinct periods. Following a successful year of mergers and acquisitions in 2021, the first five months of 2022 showed sustained robust dealmaking activity. However, a significant shift occurred on June 16, 2022, marked by an interest rate hike by the US Federal Reserve Bank and heightened macroeconomic uncertainty. This change caused a slowdown in the deal market, leading to a pause in megadeals exceeding \$10 billion ¹and a reduction in smaller deals. (Figure 1)

2022 M&A deal market value (in billions of US dollars)

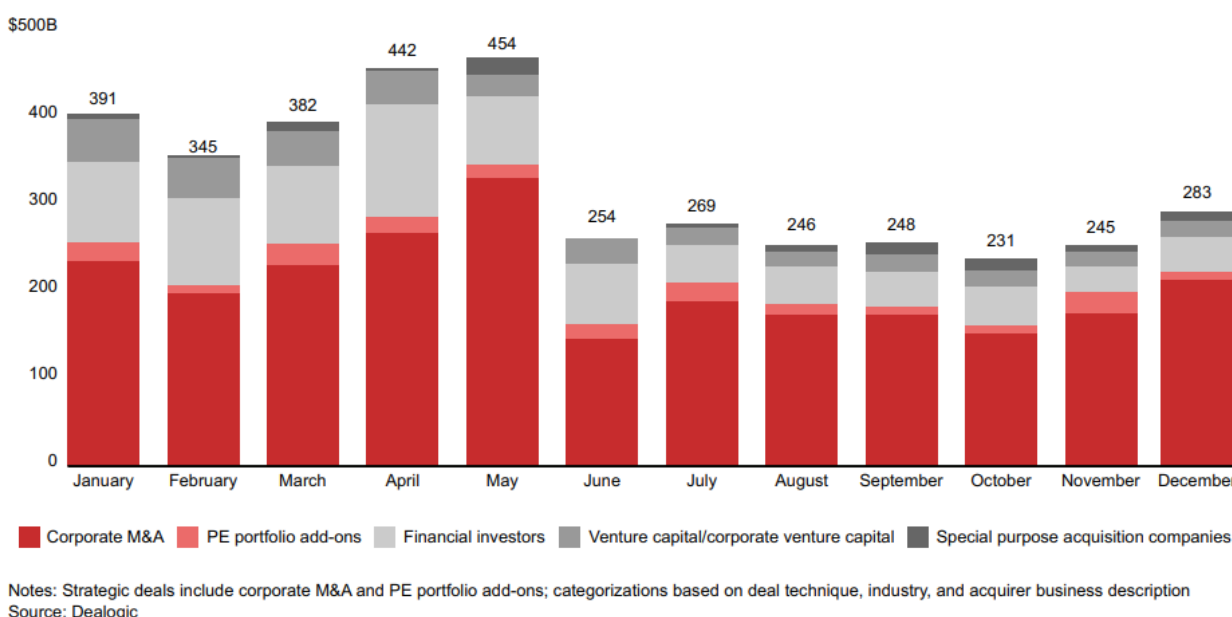
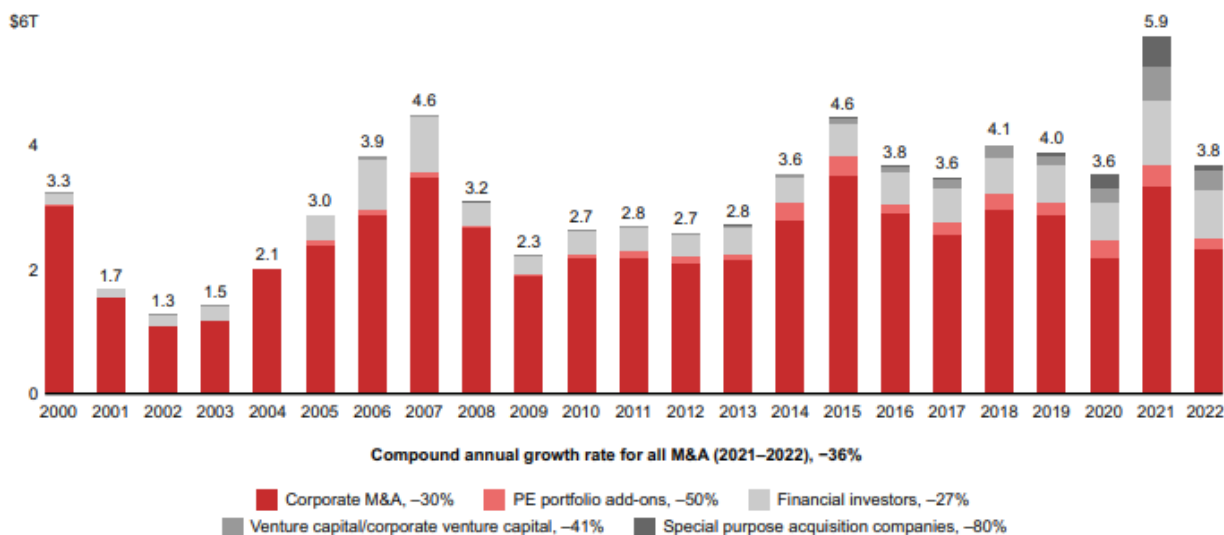


Figure 1: The year 2022 was a tale of two halves

Deal valuations also moderated during this midyear correction, resulting in a 36% decrease in the annual M&A deal value, amounting to \$3.8 trillion (Figure 2). Nevertheless, deal volumes only declined by 12%, indicating the resilience and commitment of dealmakers. However, as usual, trends vary across each country and each region, and they do not follow a certain rule.

¹Graphics and data are all from: Global M&A Report 2023. (2023). Bain.

M&A deal market value (in trillions of US dollars)



Note: Categorizations based on deal technique, industry, and acquirer business description
Source: Dealogic

Figure 2: Global M&A deal value fell by 36% in 2022²

During this market reset, unexpected changes in dealmaking were observed alongside the continuation of long-term trends. The decrease in megadeals and deal multiples can be attributed to the impact of structural uncertainty on M&A operations. However, despite these challenges, M&A remained pivotal to corporate growth and profitability strategies, evident from the relatively consistent deal volume and a balanced mix of deals varying in scale and scope.

The deterioration of economic and financial conditions has led to a slowdown in M&A operations towards the end of 2022 and the beginning of 2023. The increase in interest rates has made debt financing more expensive, impacting the activities of private equity and venture capital firms. Additionally, the decline in valuations, particularly in the technology sector, has created a gap between buyer offers and seller demands. However, geopolitical tensions can also serve as a driver for M&A. Indeed, according to industry experts from Bain and Boston Consulting Group, seasoned executives will continue to invest in M&A operations despite turbulence, while many competitors may halt their activities. When the US Federal Reserve signals the end of interest rate hikes will be the subject of considerable interest. PwC's experts think this will serve as a spur for more stability and confidence, which will increase M&A, particularly among private equity³. M&A has proven to be a successful opportunity even during past downturns. Deal professionals are well-prepared to seize the current opportunities, keeping a close eye on five key themes for 2023: cash-rich companies making strategic moves, the prevalence of small to midsize deals, a balance between scale and scope, additional valuation pressure, and portfolio reshaping through separations and divestitures. Additionally, other critical current trends, such as

² Global M&A Report 2023. (2023). Bain.

³ PricewaterhouseCoopers. *Global M&A Industry Trends: 2023 Outlook*.

Digitalization and focus on ESG (Environmental, Social, Governance), ⁴are experiencing significant growth and remain crucial for businesses. However, due to significant uncertainty across all aspects and levels, it is vital to thoroughly assess target companies to ensure effective alignment of strategies and industrial plans.

1.2 Types and Classification of M&A Transactions

M&A transactions can take many different forms. This section briefly summarises and explains the main and most common forms:

- *Merger*: A merger takes place when two or more companies agree to fuse their operations, forming a new entity. The boards of directors of the two companies sanction the integration and solicit approval from shareholders. During a merger, the involved companies typically combine their assets, liabilities, and workforce, culminating in the establishment of a consolidated organization. This process may be executed through diverse structures, such as a merger of equals, wherein the merging companies exhibit comparable size and influence, or an acquisition-led merger, where one company assumes control over another and integrates it into its operations. The motivation for a merger comes mainly from the need to strengthen and increase one's market presence while achieving economies of scale.
- *Acquisition*: An acquisition occurs when one company procures another company by purchasing a majority or all of its shares or assets, which maintains its original name and preserves its organizational structure intact. In an acquisition, the acquiring company gains authority over the acquired company, which subsequently becomes a subsidiary or is integrated into the acquiring company's operations. Acquisitions can be amicable, with the consent and cooperation of the target company, or hostile, wherein the acquiring company pursues the acquisition against the wishes of the target company's management or board.
- *Consolidation*: Consolidation entails the absorption of two or more companies into a new entity, leading to the integration of their operations, resources, and ownership. The participating companies cease to exist as separate entities and establish a fresh, unified organization. Approval from the stockholders of both companies is required for the consolidation to proceed, and upon such approval, they will be entitled to receive common equity shares in the newly formed firm. Consolidation is frequently motivated by the aspiration to attain economies of scale, eliminate competition, or enhance market presence.

Merger and consolidation are often confused, or the differences are unclear. A merger is a combination of two or more entities or companies into one, while consolidation is a process where two or more entities join forces

⁴ BCG Global: *M&A, Italia in Controtendenza: Nel 2022 Sfiutati 100 Miliardi Di Controvalore.*

to form a completely new and stronger entity. In a merger, companies come together, and the acquiring company continues to exist, while the absorbed company ceases to exist. In contrast, consolidation creates a new venture, and all the involved companies stop existing.

- *Leveraged Buy-Out*: The Leveraged Buy-Out (LBO) represents a method of corporate acquisition that leverages financial indebtedness provided by one or more banks. In this operation, a company, known as the target, is acquired through assuming a significant debt. Normally, part of this debt is junk, which means it is under the investment grade. The acquisition of the target company generally takes place through the establishment of a new entity specifically created to carry out the operation. This acquisition is funded both through bank loans and contributions from investors, both institutional and non-institutional, as well as the involvement of managers in the operation. Subsequently, the debt will be repaid using future earnings and/or through the sale of a portion of the acquired company's assets. When the buyout is carried out by the management of the company itself, the operation is also called *Management Buy-Out (MBO)*.⁵
- *Joint-Venture*: A joint venture is a business agreement in which two or more independent companies come together to form a new entity or partnership to pursue a specific project, business opportunity, or objective. It is a form of strategic alliance where each participant contributes resources, expertise, and capital while sharing the risks and rewards of the project. A joint venture is an agreement between two or more companies that combine their resources to accomplish a specific business task. Once the specific task is completed, the joint venture is dissolved. Indeed, joint venture operations differ from traditional M&A operations as they do not involve the complete integration of the participating companies into a single entity. A graphic example of merger, acquisition and joint-venture processes might be useful:

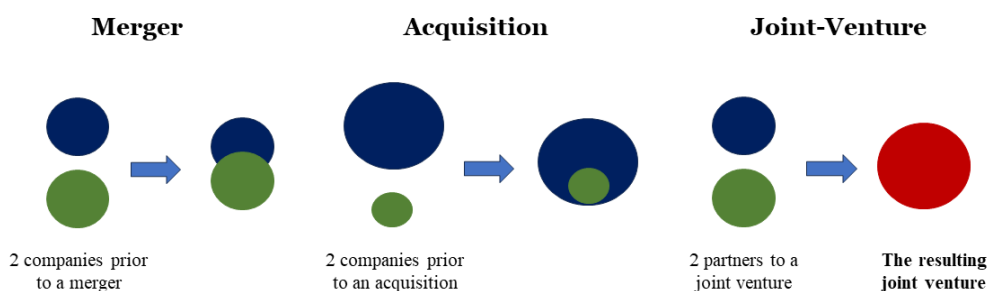


Figure 3: Different processes of operation

Furthermore, it is possible to classify and distinguish M&A operations in different ways. In this paragraph, it will be described just one of the most common and the most used way. It is based on the relationship between the acquiring enterprise and the target enterprise, so the two companies involved in the deal:

- *Horizontal M&A or horizontal integration*: A horizontal M&A is a kind of business consolidation that includes companies that are involved in the same industry and offer comparable goods and/or services.

⁵ Brealey, R. A., Myers, S. C., Allen, F., & Edmans, A. (2022). ISE Principles of Corporate Finance.

Such mergers may result in a rise in market share and a decline in rivalry, among other benefits. They also facilitate the use of synergies by pooling complementary resources and skills. The closeness in organizational cultures, resources, and processes between the merging organizations frequently makes the integration process easier. Antitrust authorities frequently pay attention to these transactions because they can increase the concentration of businesses providing comparable goods and services in a given market. The newly established firm might have more market power as a result of this concentration. Therefore, it is crucial to maintain vigilance to make sure that there isn't a misuse of market power that harms customers after the merger. It is important to keep in mind, though, that increased efficiency within the newly combined company can allow it to provide reduced costs, which might counteract any potential drawbacks.

- Vertical M&A or vertical integration: A vertical M&A consists in two or more companies operating at distinct stages of the same production process, indicating their involvement at different levels of the supply chain. The primary objectives pursued by these enterprises encompass securing supplies, particularly when they hold strategic significance, as well as cost reduction and the creation of supply-related challenges for their competitors. It is important to acknowledge that the outcome of such operations does not necessarily guarantee a reduction in the number of suppliers, which makes quantifying the potential harm to consumer welfare more complex. Moreover, this type of transaction could present a drawback to the firm choosing to adopt it, as it would relinquish access to external sources of supply that might offer more innovative products or processes. Vertical mergers, which involve companies at different levels of the supply chain, are not without controversy. Concerns about antitrust violations often arise when vertical mergers are planned or implemented due to the potential for reduced market competition. These mergers could be utilized to hinder competitors from accessing crucial raw materials or completing specific stages within the supply chain.
- Congeneric M&A: A congeneric M&A is a category of merger wherein two companies operate in the same or related industries or markets but do not offer identical products. The acquiring company and the target company may possess overlapping technology or production systems, facilitating the integration process between the two entities. The objective of this type of transaction is to establish a new company that will offer a broader range of products, pursue a growth strategy through diversification, and attain a higher market share, along with acquiring new customers. The synergies that the new company will derive are associated with technology sharing, the utilization of the same distribution channels, and cost savings resulting from synergies with other business activities.
- Conglomerate M&A: Companies that operate in unrelated industries and provide a variety of goods and services join to form conglomerates. When two businesses from different industries join, both original entities are still able to function freely in their marketplaces. They could investigate the potential in new markets or sectors by pooling their resources. This kind of merger enables a corporation to enter new markets and sectors without interfering with their profitable operations in

their current industries. While integrating two distinct corporate cultures may provide difficulties, the merger can boost both companies' profitability and stock values by utilizing industry synergies.⁶

- Market extension merger: A merger between businesses that sell the same good or provide the same service but compete in separate markets is known as a market extension merger. Through these mergers, the new legal organization has access to both markets, boosting both parties' profits by giving them access to a larger global consumer base. These mergers may take place between businesses from various nations or sectors.
- Product extension merger: When two companies that deal in related products and compete in the same market merge, this is known as a product extension merger. The merging businesses can group their items and gain access to a wider range of customers thanks to the product extension merger. As a result, they may profit more.
- Reverse merger or takeover: When a privately held corporation buys a majority stake in a publicly traded company, it is called a reverse merger. Because of this, a business can trade publicly without needing to launch an IPO on the stock market. Indeed, they are also commonly known as reverse takeovers or reverse initial public offerings (IPOs). It could bring different advantages as a simplified and less risky process to go public, and less dependence on market conditions. On the other hand, it can be simpler, but it involves some disadvantages as strong due diligence is required, risky stock will be dumped and no demand for shares post-merger.⁷

Before concluding this paragraph, it is crucial to highlight another M&A transaction: *Takeover*. When a corporation successfully makes a bid to take over or purchase another, it is called a takeover. One way to do takeovers is to buy the majority of the target company's stock. In a takeover, the corporation making the offer is referred to as the acquirer, and the business it wants to control is known as the target. Typically, in a takeover, the acquirer is a big company that is seeking to buy a smaller company, the target. Regarding the relationship between the two companies involved in the deal, it is possible to individuate three types of takeovers:

- Reverse takeover: As already described, see over to reverse merger or takeover.
- Friendly takeover: It will be structured the same as an acquisition. Indeed, there is a mutual wish to conclude the operation between the two companies. Both companies and the relatives' boards of directors, consider the transaction a positive situation and it goes smoothly. In this case, as already explained, all the shares will be combined under one company.
- Unwelcome or hostile takeover: When a company is acquired by another company against the former's will is a hostile takeover. In this operation, the acquirer goes straight to the company's shareholders or fights to oust the management to secure shareholder approval for the acquisition. Typically, a tender

⁶ Chen, J. (2023). Conglomerate: Definition, meaning, creation, and examples. Investopedia.

⁷ Dumont, M. (2022). Reverse mergers: Advantages and Disadvantages. Investopedia.

offer or a proxy fight are used to approve a hostile takeover. In contrast, there are some actions to make a pre-emptive defence or a reactive fight back⁸ as:

- Differential voting rights
- Employee stock ownership program
- Crown jewel
- Poison pill
- Golden parachute
- etc.

1.3 Phases of M&A Deals

Among the main elements determining the success of an M&A transaction is the necessary diligence and professionalism on the part of advisors during the process.

As already explained in Section 1.1, in addition to the professional who usually supports the company/entrepreneur in the ordinary course of business, the buyer/seller should be assisted by a financial advisor experienced in M&A activities (which, as previously mentioned, can be a proper group composed of individuals with diverse skills). Throughout the process, in addition to economic, financial and legal considerations, the most important aspect that must be made clear is that all M&A transactions require trade-offs. If these compromises are understood, accepted, and assimilated, they will lead to satisfaction for both parties. There will always be one of the two parties with greater bargaining power, but an advisor will be able to manage the asymmetry, ensure that instances of conflict do not occur (or are minimized), and find alternative solutions when negotiations seem to be at an impasse.

M&A operations are complex processes involving strategic planning, due diligence, negotiation, legal and financial assessments, regulatory approvals, and post-merger integration. It is important to note that every potential benefit is not guaranteed in every M&A operation. Indeed, realizing synergistic benefits requires careful planning, effective execution, and successful post-merger integration. Challenges such as cultural differences, incompatible systems, resistance to change, or overestimation of synergies can impede the achievement of expected benefits. Thorough due diligence, a well-defined integration strategy, and ongoing monitoring are essential to capturing and maximizing synergies in M&A operations.

Each M&A transaction, whether 'buy side' or 'sell side', can be standardised in a series of more or less structured processes depending on the size of the deal. In this analysis, only deals involving "private

⁸ Ganti, A. (2023). Hostile Takeover explained: What it is, how it works, examples. Investopedia.

negotiations", so-called "One-to-One", are considered, thus excluding those deals structured through "competitive or restricted auctions".

The M&A process is long, it could also take many months. Below we list the steps of a "standard" M&A process and then briefly discuss each of them:

Targeting:

The business chooses its broad objectives for the M&A process. A solid reason must be present for engaging in M&A because it supports the entire procedure. After that, the initial phase commences with the identification of the target company, achieved by the application of discerning selection criteria. These criteria commonly encompass factors related to the industry, geographical presence, scale, profitability, business model, market position, growth prospects, distribution and sales channels, and the presence of proprietary brands or patents. The application of these selection criteria typically yields lists categorized as either "Long List," which may comprise several dozen potential targets, or "Short List," typically encompassing five to ten preferred candidates.

Preliminary contact with target companies:

At this stage, the Target must have an anonymous profile, even a synthetic one called a 'Teaser', which allows it to provide the necessary information for those who are examining the various proposals in a short time. At the same time, a confidentiality agreement is signed, called a 'Non-Disclosure Agreement' (NDA), under which the parties undertake not to transfer to third parties, confidential data and information received or known in the course of the transaction. Typically, in such an agreement:

- the parties involved are identified,
- what is meant by confidential material or information is defined,
- non-solicitation clauses, exclusions from the confidentiality rules, terms of validity and regulations in case of violation of the prohibitions are included.

Preparatory activities:

In this phase, the Target needs to have an Information Memorandum (InfoMemo) containing a comprehensive Business Plan and access to a valuation, at least in the form of a value range, for its company. During this stage of the process, further preliminary information is requested/provided by the Target, as requested by the other party.

Non-Binding Offers (NBO)

It is an almost indicative offer, non-binding in nature, which outlines the principal terms of agreement between the seller and the buyer, without imposing any obligation on either party to proceed or finalize the deal. The main components of a non-binding offer encompass:

- the identification of the parties involved,
- the object of the negotiation,
- valuation criteria for determining the consideration of the sale,
- the suggested purchase price,
- payment conditions,
- crucial aspects relating to the transaction (including warranties, governance agreements, protective clauses for majority or minority interests, etc.),
- right to exclusivity,
- confidentiality.

Letter of intent (LOI)

The Letter of Intent usually confirms the content of the non-binding offer; it is therefore a kind of 'preliminary contract' involving the parties' commitment to conclude the transaction, after having carried out the necessary due diligence (binding letter of intent).

Valuation Analysis

After acquiring initial insights into the target company and the owner's valuation expectations, you proceed with a comprehensive valuation of the company, encompassing both operational and financial aspects. This evaluation considers the company's standalone value as well as its potential value as part of a merger or acquisition. In this step, various valuation methodologies are used to obtain the company's most reliable range of value.

Negotiations

The acquirer should have enough knowledge to create an acceptable offer after creating many valuation models of the target company; The two businesses can discuss terms in greater depth once the initial offer is made. The negotiation phase will also return post-due diligence when it is time to finalise the last details. The negotiation phase ends with the signature.

Due diligence

After the offer has been accepted, a lengthy procedure called due diligence gets underway. Its goal is to thoroughly review and analyse every area of the target company's operations to confirm or rectify the acquirer's estimation of the target company's value. The scope of analysis may differ from case to case, although in more complex and larger operations, there are at least six different types of analysis:

- financial analysis,
- market-product analysis,
- operational analysis,

- accounting and tax analysis,
- legal and labour analysis,
- environmental analysis.

Signing

After finalising the last details and resolving any issues that arose in the due diligence through another negotiation phase, the definitive acquisition or sale agreements were finally signed. In these are present:

- the details of the contracting parties,
- the structure of the transaction is outlined,
- the price is regulated from the point of view of conditions, timing, any other ancillary clauses, and payment methods,
- representations and warranties for the parties,
- non-competition agreements,
- the rules referring to the seller so that it does not make any material changes in the company or business to be divested before the closing,
- the suspensive, resolutive conditions,
- any ancillary contracts referring to real estate or employment relationships.

Often, on the side, matters of no small importance are regulated, such as (the governance structure concerning the composition of the corporate bodies, the right of veto of each of the shareholders or the matters reserved for the board of directors or the shareholders' meeting, etc.).

Financing

Although the acquirer will have investigated financing options for the transaction earlier, financing arrangements are usually finalized after the purchase and sale agreement has been signed. In this respect, in major transactions involving the majority or all of the target's shares or units, the acquirer may also decide to use leverage to maximise the value of its investment or the need to find additional resources to carry out the transaction. Thus, the transaction may be concluded through the contribution of equity provided directly by the acquirer and debt obtained from specific funds or banks.

Closing

The closing represents the final stage of an M&A transaction and occurs in the presence of a notary public. In the context of a share sale, it involves the transfer of shares from the seller to the buyer, and the former receives the agreed-upon price. Conversely, in a capital increase scenario, new shares or quotas are issued to the investor.

Post-merger integration

Post-merger integration encompasses the stage where the two companies integrate their operations. During this phase, the acquiring company is responsible for strategically planning and effectively managing the integration of the two entities, considering their respective processes, corporate cultures, and workforce. Post-merger integration can be further categorized into several sub-phases, including integration planning, integration implementation, and the assessment of outcomes.

1.4 Goals and drivers of M&A Transactions

Regardless of whether it is a Merger or an Acquisition or any other type, M&A operations are transactions that allow the company to redesign its structure, reconsider organizational arrangements, and intervene in human resources. In any case, companies agree to put their assets at stake: in the case of mergers, it involves merging them with those of another production-managerial entity, and in the case of acquisitions, it involves gaining possession of the assets of other target companies. M&A operations present themselves as transactions with varying degrees of difficulty and risk, which do not always result in achieving the set objectives. While in most cases, M&A operations conclude positively for both parties involved, it is not uncommon for the changes introduced to worsen the starting conditions of the companies involved. As explained in the previous paragraph, instrumental to the success of the operation is the shared long-term strategic vision by the companies involved. Equally important is the ability to agree on pre and post-operation activities, prevent external factors that could influence the final result, evaluate the costs associated with the process, and maintain control over all balances related to human and managerial resources involved in the operations.

After having specified and reiterated this aspect, it is now time to analyse the objectives/motivations that companies aim to achieve through conducting this type of operation. It is crucial to stress that each M&A operation is distinct, and the reasons for carrying it out can change depending on the particular setting, company strategy, the goals of the parties involved, and market conditions. Making informed decisions about M&A operations requires in-depth research and a precise assessment of the advantages and dangers involved. Listed below are the most common objectives that companies seek to achieve:

- Market Expansion: Businesses may decide to engage in an M&A transaction to increase their geographic reach or tap into new client demographics. Reaching out to new clients, gaining access to growth possibilities, and gaining market share can all be achieved by acquiring or merging with an already well-established organisation in those markets.
- Business diversification: One major reason for M&A deals is business diversification. The acquiring company can lessen its reliance on a particular industry or market and lower the risk associated with economic changes or market cycles by purchasing or merging with a business operating in several sectors or marketplaces.

- Resource Utilisation Optimisation and Synergies: Through an M&A transaction, businesses can take advantage of the synergies that exist between the parties involved. To cut expenses and increase the merged entity's overall efficiency, pooling infrastructures, competencies, technologies, or operational processes is one example.
- Access to New Technologies or Strategic Resources: Purchasing a business that has innovative technological capabilities or strategic resources might give the acquiring company a competitive edge in the market. For the long-term growth and profitability of the business, access to innovative technology, patents, trademarks, or exclusive product distribution rights may be essential.
- Strengthening of Competitive Position: Businesses that want to improve their competitiveness in the market may choose to engage in M&A activities. Consolidating market position, increasing market share, and achieving better economies of scale can all be accomplished through acquiring direct competitors or complementary businesses.
- Reduced Competition: The goal of reducing industry competition may be the driving force for an M&A transaction. Reduced rivals and enhanced market strength for the merged corporation can result from acquiring a direct rival or a business that offers comparable goods or services.
- Enhancement of Operational Capabilities: By adopting best practices, processes, or know-how from the acquired company, the M&A operation can result in better operational capabilities for the company. This may lead to increased productivity, better quality goods and services, and shorter production cycles.
- Creation of Shareholder Value: Creating value for shareholders is one of the main goals of M&A activities. If the merger goes well and synergies are realised, shareholders could gain from the enhanced value of the combined business through higher stock prices or bigger dividend payments.
- Access to additional Distribution Channels: Acquiring a business with a proven distribution network might give the acquiring business access to additional sales and distribution channels for its goods and services. By doing this, the business can increase its presence and tap into new markets.
- Realisation of Financial Synergies: Combining two businesses may produce financial synergies, such as cost savings or improved financing options, which can strengthen the merged entity's overall financial situation. This may result in better financial flexibility, less debt, and enhanced investment capacity.

Those just listed were the possible motives/objectives that companies theoretically pursue with M&A. But, as explained at length above, the market is constantly changing. Consequently, the drivers that push these transactions also vary over time according to the events that occur. In accordance with Statista, the main drivers of last years have been made explicit. Statista is a German statistics expert website that, which conducts market research and opinion in the field of economics. After collecting data from institutions and companies, it makes

them available. The survey was submitted to over 2000 companies, considering CEOs in 51 countries and across 13 sectors in the period between November and December 2021⁹. These are the results:

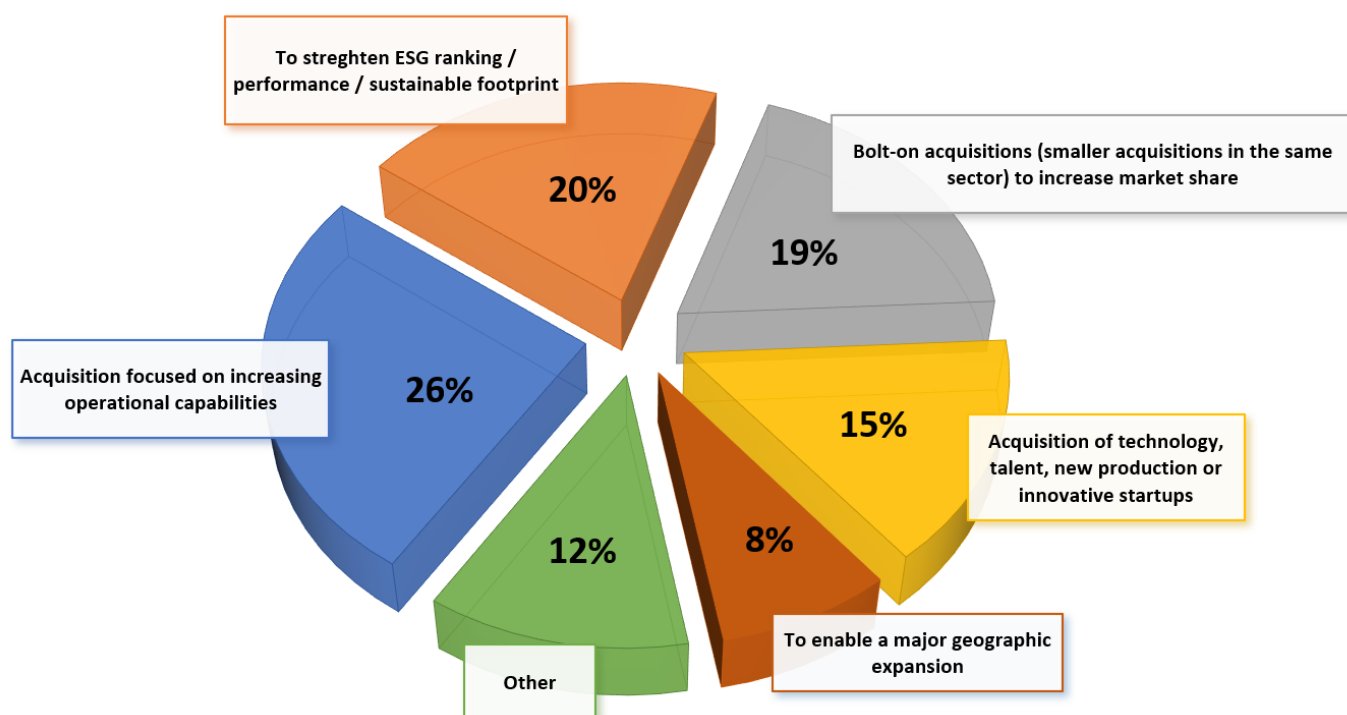


Figure 4: Main strategic drivers for M&A in 2022¹⁰

As depicted in the chart, the primary driving force continues to be the pursuit of operational synergies. Moreover, emerging factors and incentives are gaining significance, exemplified by the increasing centrality of sustainability and innovation.

As already explained, M&A activity is predicted to remain relatively subdued in early 2023, consistent with the conditions observed in the latter half of 2022. However, as we look further into the latter half of 2023 and beyond, deal-making is expected to pick up pace. The main drivers will probably be the same as the past years, with the constant rise of the focus on sustainability and green innovation. Likewise, according to Morgan Stanley experts' predictions¹¹, several factors are likely to contribute to Deal-Making's acceleration:

1. *Well-capitalized companies making acquisitions in their core businesses*: the financial health of businesses appears to be more stable than in previous recessionary periods, despite the consensus among economists and strategists that there may be a slight recession in 2023. This toughness might encourage more business acquisitions even when the economy is struggling. Investment bankers at Morgan Stanley forecast that major firms will look to make more acquisitions within their core markets. Such activity may also involve unsolicited or "hostile" takeover approaches because of the

⁹ Statista. (2022, July 4). *Main strategic drivers for M&A deals worldwide in 2022*.

¹⁰ Statista. (2022, July 4). *Main strategic drivers for M&A deals worldwide in 2022*.

¹¹ Morgan Stanley. (n.d.). *2023 M&A Outlook: 4 Trends to Watch* | Morgan Stanley.

shifting market valuations. Furthermore, lower valuations increase the likelihood of corporate separations, particularly for valuable assets confined within larger corporations. Companies facing valuation challenges due to mispriced assets within their portfolio will likely pursue business spin-offs or divestitures as a strategic move to unlock overall value for their shareholders.

2. *Financial sponsors, which are holding record amounts of capital, deploying it in acquisitions:* private equity firms have specialised in industries over the past ten years, which has made investing throughout market cycles more secure. With a record amount of uninvested capital due to their increasing consistency in investing, this trend could encourage more merger and acquisition activity despite unstable debt financing markets. Private equity groups own a large number of companies, and many of them may look to sell companies' shares soon. More companies are expected to be brought to market by private equity firms as the financing markets stabilise.
3. *Uneven performance among companies stoking shareholder activism:* experts at Morgan Stanley claim that companies' various responses to the previous year's inflationary climate led to significant differences in performance across stocks in the same sectors. Activists have already started campaigns to influence changes that they think will increase value for the underperforming companies, and this pattern is anticipated to continue in 2023. In 2022, activism has already become more prominent, with an emphasis on M&A deals. Given the fluctuating operating results of businesses and the current lower valuation levels, activists have the chance to invest in publicly traded companies and start campaigns with less risk of a decline in value.
4. *Cross-border M&A making a comeback:* the pandemic, trade tensions between the United States and China, and shifting economic conditions all hindered cross-border negotiations in the past years. But, as already highlighted through Statista's survey, over the next two years, cross-border activity is anticipated to increase as these headwinds reduce. Global supply chains are being strengthened by businesses, which will encourage foreign investment. Although there has been a recent decline in activity, analysts predict that this slump will pass quickly and that M&A activity will pick up in the years to come because of the expansion of private equity, better corporate client sophistication, and robust corporate balance sheets and earnings.

1.5 Basis for the valuation of an M&A transaction

In this section, my aim is to focus less on the detailed explication of the various valuation methods and rather concentrate on the fundamentals necessary for the proper valuation of M&A transactions. In academic and practical circles, the methods used to value mergers and acquisitions are traditionally grouped into two categories: absolute (indirect) and relative (direct) methods. Absolute methods are based on the intrinsic

valuation of the companies involved. Using such approaches, the values of the target companies are estimated through in-depth data analysis followed by the application of specific valuation models, often formulated through equations and mathematical calculations. The main absolute methods include the equity method, the income method, the mixed equity-income method and the financial method, but the first three are largely obsolete due to inherent limitations.

In contrast, the relative methods are distinguished by the fact that they do not rely exclusively on the economic, financial and asset characteristics of the companies being valued, but arrive at estimates through the application of specific multipliers, using comparable companies or transactions as a reference for the valuation of the company under analysis. However, it is important to note that further valuation methodologies, such as those based on target price and market values, have been gradually introduced in addition to these conventional approaches.

The analysis in the following chapters will examine the various valuation methods adopted in more detail. However, it is crucial to emphasise that business valuation cannot be considered complete or accurate to a maximum by using a single valuation method or only methods of the same type (e.g. only absolute methods or only relative methods). The literature emphasises the importance of an integrated analysis that bases company valuation on absolute values derived from the application of absolute methods¹², as well as relative values based on multipliers and a proper information base and fundamental analysis. This approach seeks to mitigate both the positive and negative aspects of different valuation methodologies.

For example, the exclusive use of the method based on comparable companies and transactions could lead to inaccurate value ranges due to the lack of tools and methods for calculating multipliers and the resulting rough estimate. On the other hand, the exclusive use of absolute models would not allow capturing all value determinants (i.e. value levers). Furthermore, another tool for improving the accuracy of valuations is the definition of potential ranges of values for the valuation in question, which can be further explored through sensitivity analyses.

Following this introduction to the valuation methods, the focus shifts specifically to M&A operations. In each M&A transaction, there are two main participants with perfectly symmetric yet opposing objectives: the buyer aims to minimize the price, while the seller aims to maximize it. In a situation involving a friendly acquisition, the price stands as the ultimate culmination of the negotiation proceedings; even distinct contractual matters might find expression in the price tag. Conversely, in an instance of a hostile takeover, the price finds its determination within the market. Irrespective of these scenarios, the acquiring entity must gauge the fitting valuation for the prospective enterprise grounded in the principle of Value Creation. To put it differently, the price can be considered fair if the total value of the acquiring entity experiences growth after the acquisition. Considering company, A, as buyer, and company B, as seller, and the assumption that the transaction does not

¹² “*La valutazione delle aziende*”, Guatri Luigi, Bini Mario, Milano, Egea (2007), pp.33-34

affect the stand-alone value of company A, there will only be value creation for the buyer if company B is purchased for less than its value:

$$P < V_b \quad ^{13} \quad [1]$$

where P is the price paid by A.

However, this assumption is not true; the transaction has a direct impact on the value of the buyer. Therefore, the value creation condition in this case changes:

$$P < V_b + (V_{a'} - V_a) \quad ^{13} \quad [2]$$

Where $V_{a'}$ is the value of A post operation. From [2] it's easy to determine the maximum price for value creation:

$$P_{max} = V_b + (V_{a'} - V_a) \quad ^{13} \quad [3]$$

The analysis of the change in buyer value can also be seen very roughly in this way:

$$\Delta V_{a'} = V_{a'} - V_a = \text{Value of Synergies} \quad ^{13} \quad [4]$$

As previously examined, the main rationale behind mergers and acquisitions is the strategic approach aimed at exploiting 'growth opportunities', which include, among others, synergies. However, an intrinsic feature of takeovers is the concept of the 'acquisition premium' or 'control premium'. The takeover premium represents the additional amount that an acquirer is willing to pay as part of the acquisition price to obtain the right to take control of the target company and influence its future business direction. This takeover premium does not constitute a gratuitous concession to the shareholders of the target company, but rather a prediction of the future value of the acquisition. This allows the shareholders of the acquirer to benefit from potentially higher future profits. This concept is only bound to takeovers and has no application in the context of mergers.

The acquisition premium can be defined as:

$$\text{Acquisition premium} = P - V_b \quad [5]$$

Only the extra value that the acquirer will obtain from the acquisition can justify the payment of an acquisition premium. From the synergies, that is. The buyer assumes that the cost of paying a premium upfront to acquire the target company will be largely offset by the synergies realised inside the combined organisation. In exchange for future cash flows, the acquirer surrenders a portion of the operation's value in the form of this acquisition premium.

If considered an investment, the acquirer will only be profitable from the acquisition premium if:

¹³ Vulpiani, M. (2014). *Special cases of business valuation*.p.190

Additionally, the purchase premium may pose some challenges to the deal's success. From a negotiation standpoint, a bigger number of bidders for a target means a higher premium to be paid, which implies a higher amount of synergies still to be realised. Therefore, the justification of the acquisition premium may occasionally depend on other factors as well, such as the deal's terms (such as the auction or market environment) or the appeal of the target (a scarce but sought asset). From a financial and strategic perspective, the acquisition premium might put some pressure on the management of the combined entity because the synergistic benefits of the acquisition involve implementation costs (negative cash flows) and very uncertain cash flows (uncertain amount or uncertain timeframe).

PART 2: Financial Synergies and Valuation

2.1 *Synergies: overview and key concepts*

The term synergy is derived from the Greek, *συνεργός*, meaning 'working together'. More generally, synergy can be defined as “*the reaction of two or more agents working together to produce a result not achievable individually*”¹⁴. From a more mathematical point of view, it is the concept that the sum of two parts is not equal to their sum, but something more (or less). In other words, it is a phenomenon where 1+1 might not make 2 but something more. The term synergy, or rather the concept of synergy, is a concept used in many disciplines.

Within the corporate finance discipline, of course, the term synergy has a slightly different meaning. An excellent definition is provided by Professor Aswath Damodaran in his book: “*Synergy is the additional value that is generated by combining two firms, creating opportunities that would not have been available to these firms operating independently*”¹⁵. So, it could be considered also as a positive incremental net gain that a single company could reach through a combination, or, in a better way, an M&A transaction. For this reason, it is one of the most used and common rationales in this type of operation. Synergy, then, is the positive difference between the business combination’s value and the sum of the individual enterprises' values. They are like an opportunity, which if well exploited and planned, can create a lot of value. According to Damodaran, they are like a magic ingredient that can convince companies to spend millions and millions in paying premiums during acquisitions.

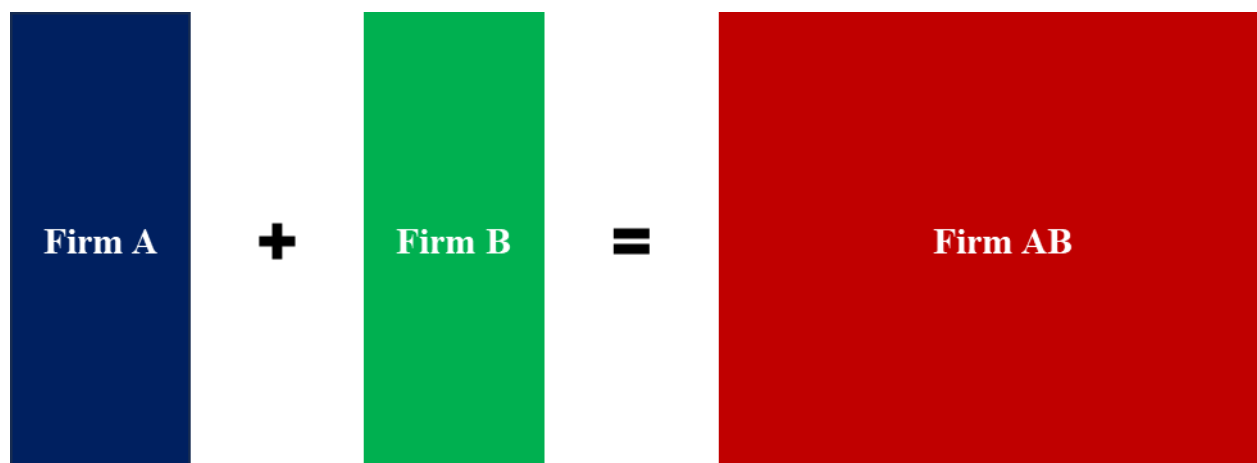


Figure 5: Graphical description of $V(A+B) > V(A) + V(B)$ due to synergies

To define synergy from a mathematical point of view, it is possible to think about them differently. It is possible to estimate their present value starting from the value of the combined entity, or in a simpler way,

¹⁴ Wikipedia contributors. (2023). Synergy

¹⁵ Damodaran, A. (2016). Damodaran on valuation: Security Analysis for Investment and Corporate Finance. John Wiley & Sons.

just following the definition previously cited. Indeed, their “Net Present Value” (NPV) could be estimated with the following equation:

$$NPV \text{ of Synergies} = V_{ab} - (V_a - V_b) \quad [7]$$

Where:

- V_{ab} is the value of the combined firms A and B
- V_a is the value of the standalone firm A
- V_b is the value of the standalone firm B

Starting from [7] it is possible to estimate another key concept. As already explained, there are other circumstances to be taken into account during a merger and acquisition process. For example, when you have to buy another company and take its control, you have to pay something more. This something more is the premium for the acquisition. Moreover, we have already illustrated how these processes are very time-consuming and complicated and therefore need to be well planned and researched. Similarly, synergies must also be carefully planned in order to be exploited. All this planning and scheduling entails other costs that the company must bear. Taking all these variables into account, it is thus possible to estimate what is the net value created by the synergies in the transaction, i.e. the “Net Acquisition Value” (NAV). The latter could be estimated with the following equation:

$$Net \text{ Acquisition Value of Synergies} = [V_{ab} - (V_a - V_b)] - [P + E] \quad [8]$$

Where:

- P is the premium paid for the acquisition
- E is the amount of expenses engaged in the acquisition process

2.2 Different Types of Synergies

After introducing the concept of synergy and specifically outlining the meaning of synergy within the realm of corporate finance, we proceed to describe the various types of synergy. Firstly, it should be underscored that synergies can assume diverse forms and origins. The primary macro distinction made when discussing synergies is the categorization into operational and financial synergies. However, these two typologies do not encompass the entire spectrum. Synergies of a strategic nature and beyond can also arise. Not solely focusing on the nature of the sources of these synergies, we also encounter different synergies in terms of cost savings and revenue enhancement. Often, the latter two can be directly incorporated within operational synergies.

2.2.1 Operating Synergies

Operating synergies are those synergies that enable businesses to boost growth, their operating income from current assets, or both. In M&A operations they refer to the efficiencies, improvements, and advantages that arise from the combination of two or more companies' operations, processes, and resources. These synergies are realized through the optimization of various operational aspects and can lead to enhanced overall performance of the merged entity. Indeed, margin, return, and growth can all be impacted by operating synergies, and thus the value of the firms involved in the merger or acquisition. It is difficult to list every single possible operating synergy, but here's a comprehensive overview of the principal operational synergies in M&A operations:

- **Economies of Scale:** operational synergies often result in economies of scale, which lead to cost reductions as production volume increases. Shared resources, facilities, and technologies can be optimized for higher output without proportionally increasing costs, leading to lower average production costs. In this way, the combined entity becomes more cost-efficient and profitable rather than the two single entities alone. Normally, economies of scale are common in horizontal mergers (firms in the same business).
- **Process Streamlining and Efficiency:** combining operations allows for the identification and elimination of duplicate or redundant processes. This leads to streamlined workflows, reduced complexity, and increased overall efficiency. By integrating similar processes, the merged entity can capitalize on best practices and standardized procedures, resulting in reduced cycle times and improved output quality.
- **Combination of different functional strengths and shared resources:** merging companies can utilize shared resources, such as manufacturing facilities, distribution centres, and warehouses, more efficiently. Underutilized facilities can be repurposed or consolidated, leading to cost savings while maintaining or even improving productivity. Likewise combining different functional strengths could be a key resource for the company as would be the case for example when a firm with strong marketing skills merges or acquires a company with an established product line.
- **Supply chain efficiencies:** combining supply chains can enhance procurement power, improve negotiation terms with suppliers, and reduce overall supply chain costs. Rationalizing suppliers and optimizing logistics can lead to quicker lead times, reduced inventory holding costs, and improved demand forecasting accuracy.
- **Research and Development (R&D) collaboration:** merged entities can leverage combined expertise and resources for more effective R&D efforts. Collaboration can result in the faster development of new products, improved innovation, and shared intellectual property, ultimately leading to a competitive advantage.

- Greater pricing power: combining distribution networks allows the merged entity to expand its geographic reach and access new markets. This can lead to increased market share, improved customer service, and higher sales. So, consequently, a higher market share and reduced competition combined with enhanced distribution and market reach could provide higher margins and operating income.
- Human resources optimization: Operational synergies can result in optimizing the allocation of human resources. Redundant roles can be eliminated, and the best talents from both companies can be retained and aligned with the merged entity's strategic objectives.
- Improved Utilization of Assets: the merged entity can make better use of underutilized assets from both companies, including machinery, equipment, and facilities. This utilization improvement can result in cost savings and enhanced productivity.
- Higher growth in new markets: this could be the result of the merger of two businesses existing in different markets or new markets. This might happen, for instance, when a US consumer products company buys a company in a developing market with a strong distribution network and a well-known brand, exploiting these advantages to boost sales of its products.

Operational synergies can significantly impact the success of an M&A operation, but they require careful planning, execution, and post-merger integration. Challenges such as cultural differences, resistance to change, and technical integration complexities must be addressed to fully realize the operational benefits of the merger. Effective communication, leadership, and ongoing monitoring are essential to capture and maximize operational synergies in M&A operations.

2.2.2 Financial Synergies

This sub-section will only provide a general overview since they will be dealt with in detail in the next section anyway. Financial synergy in mergers and acquisitions (M&A) refers to the value and benefits that can be achieved through the combination of two or more companies. It entails the potential for improved financial performance and increased shareholder value in the merged entity, surpassing what each company could attain based on each capital structure. These synergies primarily revolve around optimizing financial structures, reducing costs, and enhancing capital efficiency. The most common payoffs you could achieve with financial synergies are higher cash flows and lower cost of capital (discount rate).

2.2.3 Strategic Synergies

Before beginning to outline strategic synergies, it is important to emphasize how this category is largely theoretical. In common practice, these synergies are often not even taken into consideration. Precisely for this reason, these types of synergies are frequently discussed, which might fall into different categories. However, given the nature and intent of the synergy, it can be deemed strategic. Strategic synergies are focused on

achieving broader strategic objectives and can lead to enhanced competitive positioning, increased market value, and improved long-term sustainability. Below it is listed several possible strategic synergies:

- **Complementary Resources and Capabilities:** strategic synergies often involve combining the unique strengths and resources of the merging companies. This can include technological expertise, intellectual property, proprietary processes, distribution networks, and complementary product portfolios. The business combination can leverage these combined resources to enhance innovation, develop new products or services, and offer more comprehensive solutions to customers.
- **Market Access and Expansion:** M&A operations can provide strategic synergies by enabling access to new markets, regions, or customer segments that one of the merging companies may not have been able to enter effectively on its own. The merged entity can use its expanded market presence to reach a wider customer base and gain a competitive advantage by capitalizing on the expertise of both companies.
- **Diversification and risk management:** strategic synergies can involve diversifying the business portfolio, reducing the company's reliance on a single market or product. This helps mitigate risks associated with economic downturns or industry-specific challenges. A diversified product or service offering can enhance the merged entity's resilience to changing market conditions and provide a buffer against revenue fluctuations.
- **Operational Efficiencies:** merging companies can achieve operational synergies by sharing best practices, streamlining processes, and optimizing workflows. The combined expertise and knowledge can lead to improved operational efficiency, reduced cycle times, and enhanced quality control, resulting in cost savings and increased profitability.
- **Cross-Selling and Upselling:** the merged entity could be able to cross-sell or upsell products or services to the combined customer base. This can result in increased sales and revenue growth. The merging companies may offer complementary products that fulfil broader customer needs, enhancing the value proposition and customer loyalty.
- **Brand and Marketing Leverage:** combining brands and marketing efforts can create strategic synergies that result in increased brand visibility, recognition, and customer trust. The merged entity can leverage the reputation of both brands to enhance marketing campaigns, create stronger market presence, and capture new customer segments.
- **Shared Research and Development:** M&A transactions can facilitate collaborative research and development efforts, leading to faster innovation and the creation of new technologies or products. Combining R&D resources can accelerate time-to-market for new products, reduce duplication of efforts, and improve the efficiency of innovation processes.
- **Talent and Expertise Pooling:** M&A operations with strategic synergies provide an opportunity to combine the talents, skills, and expertise of employees from both companies. This pooling of resources

can lead to a stronger and more diversified workforce capable of driving innovation, achieving business goals, and adapting to changing market conditions.

As always, it is important to note that realizing strategic synergies requires careful planning, effective execution, and successful post-merger integration.

2.2.4 Cost Synergies

Cost synergies are incremental gains that result from the combined entity's operating costs being lower than they were when it existed as separate entities. Cost synergies are frequently linked to the elimination of unnecessary procedures (in manufacturing, hiring, and administration, for example). Even while employee reductions are frequently a part of mergers and acquisitions, it would be extremely restrictive to treat cost synergies the same way as layoffs. Cost synergies can be viewed also as cost savings. Often these types of synergies could be categorised into operating synergies. Indeed, cost synergies arise from the elimination of duplicate functions, streamlining of operations, and reduction of overhead expenses. By combining operations, the merged entity can achieve economies of scale, economies of scope (combination of supporting activities) reduce procurement costs, optimize the supply chain, eliminate redundant positions, and rationalize administrative and support functions. These cost savings contribute to improved profitability and efficiency. But not only. Some cost synergies have already been described in the previous sub-section. This sub-section lists other types of cost synergies that a company could rely on to save other costs:

- Technology Sharing: the merged entity can optimize technology utilization by adopting the best practices and systems from both companies. Thus, it could lead to enhanced innovation and cost savings. This can result in reduced technology-related costs and enhanced operational efficiency.
- Reduced marketing and advertising expenses: merging companies can pool their marketing efforts, resulting in potential cost savings. Eliminating duplicate marketing campaigns and aligning branding strategies can lead to efficient use of resources.
- Shared resources and infrastructure: Combining administrative and support functions, such as finance, HR, and IT, can lead to shared resources and reduced overhead expenses. Shared IT infrastructure, software licenses, and equipment can result in significant cost reductions.
- Lower salaries and wages: within M&A operations there is an elimination of many duplicate roles. This phenomenon is a cost-saving because the business combination would have to pay lower salaries and wages.
- Intellectual Property: In instances where the acquiring entity previously incurred charges to the target company for patent access, a merger has the potential to transfer the ownership of the said patent to the acquiring entity, consequently resulting in the elimination of the associated expenditure.

2.2.5 Revenue Synergies

Revenue synergies are added gains that are attributable to the combined entity's operating earnings growth over its earlier iterations as independent entities. They can be thought of as all the previously unavailable growth prospects that the combination of the two businesses has made possible. Indeed, revenue synergies can result from the combined sales and marketing efforts, expanded customer base, or enhanced market presence. The merged entity may benefit from cross-selling opportunities, access to new geographic markets, increased distribution channels, or complementary product portfolios. Revenue synergies can lead to increased sales, market share growth, and improved pricing power, ultimately driving top-line growth and revenue diversification. As cost synergies, they could be categorised into operating synergies. But in this subsection, there will be listed some other particular revenue synergies:

- Cross-Selling and Upselling opportunities: one of the primary sources of revenue synergy is the ability to cross-sell products or services to the customer bases of the merging companies. The merged entity can offer a wider range of complementary products to existing customers, increasing the average transaction value and fostering customer loyalty.
- Access to new markets and customers: business combination can gain access to new geographic markets or customer segments that one company might not have been able to penetrate effectively on its own. The merged entity can expand its customer base, resulting in increased revenue generation.
- Enhanced Customer Experience: the merged entity can provide an improved customer experience by leveraging the best practices and capabilities of both companies. Enhanced customer satisfaction can lead to repeat business, referrals, and overall revenue growth.
- Patents: access to patents or other intellectual property may enable the merged company to develop more competitive products that generate higher income, similar to the cost-saving benefit of a patent.
- Complementary products: before the merger or acquisition, the two separate companies may have produced complementary items. These products can now be combined to increase customer purchases.

2.3 Financial Synergies: overview and potential benefits

Financial synergies are the benefits that arise from the combination of two or more companies' financial resources, resulting in improved financial performance and increased shareholder value. Financial synergies can be described as synergies whose payoff can take the form of either higher cash flows or a lower cost of capital (discount rate) or both. They discuss how a merger or acquisition may benefit the combined entity's cash flows (lower taxes or fewer capital expenditures) or cost of capital (lower cost of capital).

Looking at the sources of these synergies, it can be deduced that these synergies result from growth in size, diversification, credit standing, and market access to finance. Furthermore, they primarily revolve around

optimizing financial structures, reducing costs, and enhancing capital efficiency. Thus, they can have different sources. Likewise, they can take different forms. Here is a list of some of the main positive effects that financial synergies could bring about:

- Access to capital and investment opportunities: financial synergy provides the merged entity with improved access to capital and investment opportunities. The increased size, improved financial metrics, and enhanced growth prospects resulting from the merger can attract investor interest and improve access to equity and debt markets. Access to capital allows the merged entity to invest in strategic initiatives, research and development, technological advancements, and geographic expansions.
- Improved debt structure and financing terms: merging companies can optimize their debt structures, taking advantage of lower borrowing costs, improved credit ratings, and enhanced access to financing. The merged entity may also enjoy more favourable financing terms due to increased scale and financial stability. The business combination can consolidate its debts, leading to simplified debt management and potentially lower interest expenses. Debt refinancing at more favourable terms can result in reduced debt servicing costs. The merged entity may benefit from improved credit ratings, enabling more favourable borrowing terms and lower financing costs.
- Enhanced cash flows management: financial synergy in M&A operations can lead to enhanced cash flows for the merged entity. By combining customer bases, market access, and product portfolios, the merged entity can generate increased cash inflows. Cross-selling opportunities expanded distribution channels, and complementary products can contribute to higher sales and cash flow generation. The optimization of working capital improved operational efficiencies, and cost savings can result in improved cash flow management and increased liquidity for the merged entity.
- Increased financial stability: merging companies can achieve increased financial stability due to a larger asset base and diversified revenue streams. A more stable financial position can enhance creditworthiness and reduce financial risk.
- Diversification of revenue streams: financial synergy can lead to diversification of revenue streams, reducing the company's dependence on specific products or markets. This diversification can help mitigate the impact of economic downturns in any one sector.
- Enhanced return on investment (ROI) and shareholder value: financial synergies can lead to higher profitability, efficient capital allocation, and improved ROI, all contributing to increased shareholder value. Financial synergy has the potential to create significant value for shareholders in M&A operations. Increased profitability, revenue growth, and enhanced financial performance can lead to improved stock performance and increased market valuation. Shareholders may benefit from higher dividends, capital appreciation, and potential opportunities for share buybacks. Realizing financial synergies contributes to long-term sustainable growth and value creation for shareholders.

A report issued by J.P. Morgan in 2009, “A *shifting landscape for synergies*”¹⁶, indicates that financial synergies have gained increased significance in value creation relative to the period following the significant financial crisis of 2008. During periods characterized by credit crises, the validity of financial synergies becomes augmented, signalling constrained entry to capital markets and heightened expenses associated with obtaining financing.

Also, Professor Aswath Damodaran, in his writing “*Damodaran on valuation*”, acknowledges the potential for financial synergy in mergers and acquisitions, but he adopts a cautious stance, advocating for a critical and realistic approach to the concept. He underscores the significance of thorough due diligence and meticulous analysis to precisely evaluate the anticipated financial gains of such transactions. Throughout his works, Damodaran consistently highlights the necessity for transparent communication while presenting potential financial synergies to stakeholders. He contends that excessively optimistic or exaggerated assertions about these synergies can foster impractical outlooks and, in the end, disillusionment if the envisaged advantages fail to materialize. He points out the extreme difficulty in considering and estimating this difficult category of synergies, and above all highlights the importance of the study of their reliability.

When a merger enables the combined firm or one of the two firms to move to a better rating category without harming the rating of the other firm (or, alternatively, when it enables one of the two firms to avoid a rating reduction), financial synergies are especially crucial. In addition to leverage, other factors that rating agencies take into account when determining ratings include size and scale, diversity, market share, obstacles to entry, and profitability. These parameters and a firm's size typically have a strong correlation. In general, only mergers, acquisitions, spin-offs, or divestitures can allow a company to quickly change these rating features. A better rating following a merger could result in a lower cost of capital, more effective use of tax shields, financial flexibility, downside protection, and better access to the capital and bank markets. And all of them combined lead to higher cash flows.

But not only, indeed other benefits that a company could reach are excess cash (or cash slack) and diversification.

In the following paragraphs, there is an analysis of each of these major benefits.

2.3.1 Cost of capital

The overall cost of capital is the WACC (weighted average cost of capital). The WACC is a weighted average created by calculating the "cost" of each component of a company's capital structure in relation to the amount

¹⁶ J.P. Morgan, “*A shifting landscape for synergies*”,2009.

of equity, debt, and preferred stock it possesses. Whereas cost of the debt you consider the after-tax cost of debt in order to consider the tax shield on debt. At this point, the WACC formula is as follows:

$$WACC = r_e * \frac{E}{V} + r_d * \frac{D}{V} * (1 - t) + r_k * \frac{K}{V} \quad [9]$$

Where:

- r_e is the cost of equity
- r_d is the cost of debt
- r_k is the cost of preferred stock
- E is the amount of equity in the capital structure of the company
- D is the amount of debt in the capital structure of the company
- K is the amount of preferred stock in the capital structure of the company
- V is the total value of the company, and it is equal to $E + D + K$
- t is the tax rate of the company

WACC considers all the components of the capital structure of the company – debt, equity and preferred stock- so it could be considered as the cost of funds provided by all the investors (both debtholders and shareholders) to support the activity of the firm.

Financial synergies could be manifested as a decreased cost of capital for the company, denoting a reduced aggregate expense of funding. A more structured firm could conceivably enjoy a diminished cost of capital due to its expanded size, resulting in a diminished risk of bankruptcy and subsequently more economical financing. Furthermore, this company might encounter diminished fluctuations in generating prospective cash flows, thereby lessening the required rate of return from all capital investors, driven by decreased operational risk. Moreover, the larger firm might possess an enhanced capacity to determine its ideal capital configuration or optimal leverage. It should also be specified how all improvements and a better credit rating also correspond to a decrease in the cost of equity and cost of debt and consequently, this leads to a reduction in the cost of capital being their components.

The cost of capital synergies can influence positively the bigger company principally in better credit rating providing cheaper financing access, cash flows less volatile reducing the operational risk and higher capability to find the optimal debt/equity ratio.

Although the JP Morgan study¹⁷ is slightly dated, it remains highly credible and significant in explaining the development of this financial synergy. For this very reason, despite being from 2009, its results and implications are reported as they are still believed to be true.

¹⁷ J.P. Morgan, “*A shifting landscape for synergies*”, 2009.

JP Morgan experts evaluate a company's cost of capital under alternative capital structures, each associated with different credit ratings, to determine the point at which the cost of capital is minimised. The cost of capital curve is a name for this analysis. This graphical depiction shows how debt and equity costs rise as a corporation uses more leverage (which consequently lowers its credit rating), while simultaneously taking into account the positive tax consequences of using debt. For an extended period, the minimum point on the cost of capital curve has generally been found between the lower and higher limits of the BBB and BB credit ratings. As shown in the diagram, this phenomenon was most obvious in June 2007.

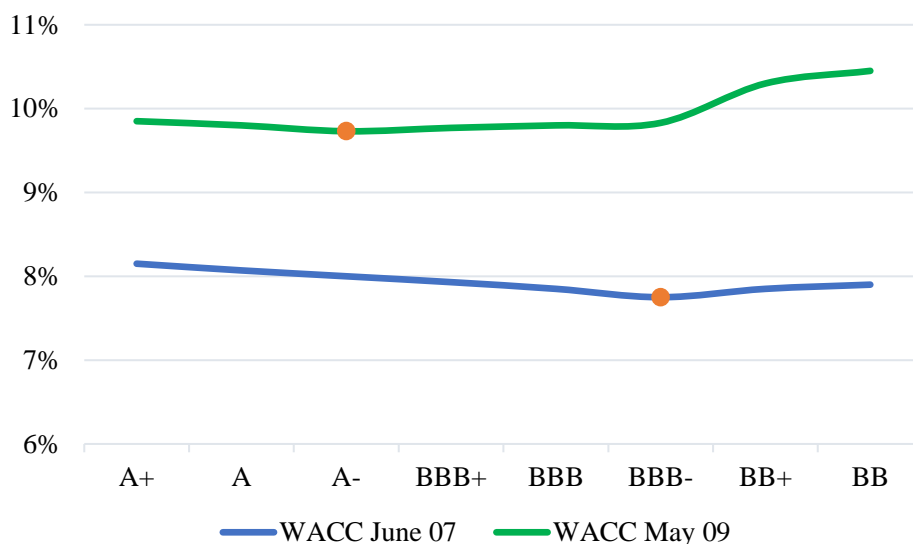


Figure 6: Relation between the cost of capital and credit rating before and after the financial crisis in 2008¹⁸

It is obvious that an A credit rating after the financial crisis, and still nowadays, represents the current minimal point of the cost of capital. Furthermore, the study and the graph also show how in general the pre- and post-financial crisis cost of capital has risen. In addition, it can also be seen that since the great financial crisis, the structure of the cost of capital is very sensitive to changes and fluctuations even in the order of credit ratings.

Because of the increased steepness of the cost of capital curve around the BB credit rating level, companies stand to gain significant cost-of-capital advantages by making the switch from a non-investment grade rating (BBB to BB) to an investment-grade status (A+ to BBB). In particular, when two merging companies are successful in improving their credit ratings, the cost of capital benefit that is indicated by the curve (which can be as significant as 1%) manifests as a financial synergy. Furthermore, it is critical to recognise that the ideal capital structure does not necessarily correspond to the credit rating at which the cost of capital is at its lowest point. However, businesses that are merging can take advantage of financial synergies by using a less

¹⁸ J.P. Morgan, "A shifting landscape for synergies", 2009

Note: Source: Bloomberg, JP Morgan

Note: Assumes beta of 1, 10-year US Treasury (risk-free) rates, average 10-year bond yields across ratings from Bloomberg, market risk premiums of 5% (June 2007) and 9% (May 2009), and illustrative ratings benchmarks for a typical industrial firm

Note: AA and BB spreads are based on 10-year industrial levels from Bloomberg

leveraged capital configuration, which increases loan capacity, lowers cash flow volatility, and improves the ability to choose the right leverage ratio.

2.3.2 Tax benefits

Tax benefits consist in tax reductions. Tax efficiency can arise in different forms:

Tax shield: The first way that tax efficiency can manifest itself is as a "tax shield," or a tax deduction for debt payments. The merging firm may see tax savings on the increased amount of debt issued due to its increased debt capacity. But how does it work tax shield? A tax shield refers to the reduction in taxable income that results from allowable deductions. These deductions or expenses effectively "shield" a portion of an entity's income from being subject to taxation. The concept of a tax shield is often used to describe the financial benefits that arise from deducting interest expenses related to debt financing from a company's taxable income. In the context of debt financing, and in this case with an amount of debt, the interest payments made by a company on its borrowed funds are typically tax-deductible. This means that the company's taxable income is reduced by the amount of interest expense, resulting in lower taxes. The tax shield created by deductible interest expenses can have a significant impact on a company's after-tax cash flows, making debt financing more attractive from a tax perspective. Tax shield could be explained by the following formula:

$$\text{Tax shield of debt} = \text{corporate tax rate} * \text{interest payments} = t * (r_d * D) \quad [10]$$

Where:

- T is the tax rate of the company
- r_d is the cost of debt of the company
- D is the amount of debt of the company

Intuitively estimate the present value of the tax shield is very easy:

$$\text{PV of tax shield of debt} = \frac{\text{corporate tax rate} * \text{interest payments}}{\text{expected return on debt}} = \frac{t * (r_d * D)}{r_d} = t * D \quad [11]$$

Indeed, the appropriate discount rate to discount the tax shield of debt is the expected return on debt that is equal to the cost of debt. In this way, there's consistency between what we are discounted, and which rate we use.

Tax loss carry forward: The second way the tax efficiency can manifest itself is through "tax loss carry forward or tax loss carryover". The merged firm may use the net operational losses of the two companies to offset or hide the taxable profit of one company. Indeed, the tax loss carry forward refers to a tax strategy that allows a business or individual to offset future taxable income with the losses incurred in previous years. In essence, if a company or individual experiences a net operating loss (NOL) in a given tax year, meaning that their

allowable deductions exceed their taxable income, they could carry forward those losses to offset their taxable income in future years, in this case also if the loss regarded the target company as already combined.

Asset step up: asset step up is one way that this tax efficiency can be achieved. "Asset write-up" refers to the process of increasing the recorded value of an asset on a company's financial statements. This adjustment is made when the company believes that the asset's fair market value has increased significantly, typically due to factors such as improved market conditions, technological advancements, or other external factors. Asset write-ups are often used when the recorded value of an asset on the company's books is significantly lower than its current fair market value. This could occur if the asset was initially acquired at a lower cost, or if its value has appreciated over time. Revaluing the target business's assets may result in tax benefits for the merging company due to greater depreciation and amortisation. Consequently, a higher amount of depreciation could benefit the company through the tax shield. Indeed, depreciation is one of the elements that could be deducted, so it can lower the taxable income. It works the same as the debt, but with depreciation:

$$\text{Depreciation Tax shield} = \text{corporate tax rate} * \text{depreciation} = t * \text{depreciation} \quad [12]$$

To estimate the present value of the depreciation tax shield obviously, we would use not the cost of debt but the overall cost of cost of capital of the company.

2.3.3 Financial flexibility and higher debt capacity

Financial flexibility is a generic term for all financial benefits that enable a merging business to increase its certainty of market access while at the same time reducing its susceptibility to cash flow problems and the possibility of insolvency. Larger businesses might discover that they can obtain financing from a wider range of markets, reducing the risk of financial crisis and issues with liquidity. The context of commercial papers, which are only available to companies with investment-grade ratings, provides a useful example. Due to their improved financial profiles, combined firms stand to benefit from more affordable financing choices through the issuance of commercial papers. Extrapolating similar examples to different financial instruments is possible. Additionally, combined businesses may use the financial flexibility synergy to unlock untapped cash reserves that can then be used to fund upcoming investment projects that are expected to be profitable. This use of underutilised resources increases financial flexibility and opens up new channels for funding plans for strategic expansion.

Furthermore, when two firms combined and increased their financial stability, they increased consequently their earnings and cash flows. So, the business combination may turn out to be more stable and predictable. As a result, they can borrow more money than they otherwise could have done as separate organisations, which benefits the combined company financially. The combined company will often see a cheaper cost of capital as a result of this tax benefit.

2.3.4 Excess cash and diversification

These two effects are more marginal but remain relevant.

Combining a company with high-return initiatives and limited capital with a company with extra cash, or cash slack, might result in a payback in the form of increased value for the merged company. The tasks that can be undertaken with the extra funds that would not have been undertaken otherwise increase in value. When major companies buy smaller companies or when publicly traded companies acquire privately held businesses, this synergy is most likely to manifest itself.

The most contentious source of financial synergy is diversification. In the majority of publicly traded companies, investors can diversify more easily and at a much lower cost than the company itself. Diversification may have advantages for privately held or small businesses.

PART 3: Methods of valuation

3.1 Overview

In the realm of scholarly discourse and practical application, the valuation methodologies employed within merger and acquisition endeavours have conventionally been classified into two distinct categories: intrinsic methodologies and relative methodologies.

Intrinsic methods, or absolute methods, are those that predicate the valuation on the inherent attributes of the corporate entities. These methods entail a meticulous compilation and analysis of information, followed by the application of specific valuation models rooted in formulaic expressions and computations, subsequently leading to an estimation of the worth of the targeted corporation. Prominent among the absolute methods are the Discounted Cash Flow (DCF) technique and the Dividend Discount Model (DDM). Conversely, relative methodologies diverge substantially from their absolute counterparts, as they do not exclusively anchor the valuation of the corporation to its economic, financial, and asset-oriented traits. Instead, they derive an assessment through the utilization of designated multipliers and corporations or transactions that bear resemblance to the entity under evaluation.

It is incumbent to underscore, however, that apart from the aforementioned conventional approaches, additional valuation methodologies have progressively found application, notably encompassing methods founded on the target price paradigm and the appraisal of stock market valuations. Additionally, there exist other alternative types of valuation, which are less common, such as the Liquidation model, M&A premium Analysis, Leveraged buy-out analysis, sum of the parts, etc. Given that the in-depth exploration of valuation methods is not the central focus of this thesis, only the primary and most widely employed methods in practice will be elucidated and presented.

Before proceeding, however, it is imperative to reiterate the significance of an integrated evaluative judgment. Each valuation method, if employed in isolation, does not hold substantial relevance. To arrive at a coherent valuation, it is pivotal to employ multiple methodologies and enhance them through potential sensitivity analyses, thereby attaining reliable valuation ranges.

3.2 Intrinsic valuation

Intrinsic methods, in their endeavour to attain the valuation of a company, seek to provide an estimate as accurately as possible of the cash flows that the subject company under valuation can generate.

Following this evaluative approach, a company holds value solely when the positive cash flows surpass the negative ones.

In the next subsection, we will explain the logic behind this valuation approach and discuss its main methods: the Discounted Cash Flow Method (both on the equity side and asset side).

3.2.1. Discounted Cash Flow Method

The Discounted Cash Flow Method is based on the assumption that the value of a given asset is equal to the value of the cash flows it can generate, suitably discounted at a rate (referred to as the discount rate) that reflects the time value of money and the risk associated with achieving the generation of the said liquidity. In this approach, a company is seen as an aggregation of assets capable of producing cash flows. Moreover, by considering the company's ability to make further investments and the type of financial resources employed to generate liquidity (debt or equity), it becomes possible to effectively ascertain the company's value as the sum of the discounted cash flows it can generate. The challenge arises in estimating these cash flows, as the projected time horizon for the company's operations is infinite. Yet, it's impossible to accurately estimate future cash flows ad infinitum. To address this, in practice, a finite time horizon is established, typically of the medium term (usually not exceeding 3-5 years), during which cash flows are calculated and discounted on an annual basis. For estimating cash flows beyond this period, a "terminal value" is determined. Concerning the terminal value, it's reasonable to assume that cash flows could grow at a constant rate (g) indefinitely, ultimately leading to the following formula for determining the company's value¹⁹:

$$\text{Present Value of the company} = \sum_{t=1}^{t=N} \frac{CF_t}{(1+r)^t} + \frac{CF_{t+1}}{(r-g) \times (1+r)^N} \quad [13]$$

Where:

- CF_t is the cash flow at time t
- r is the appropriate discount rate
- g is the constant growth rate of the terminal value
- CF_{t+1} is the value of the normalised FCF you would use in the estimation of the terminal value after few necessary adjustments

The second part of the formula is the present value of the *terminal value* (except the discount factor $(1 + r)^N$). Let now briefly elaborate on the key elements of the formula just explained.

The discount rate, which signifies the return an entity anticipates from a specific investment, as previously mentioned, takes into account both the time value of money and the risk assumed by the investor regarding

¹⁹ Regarding all subsequent formulas for determining the "Value of the company", please refer to "The Dark Side of Valuation: Valuing Young, Distressed and Complex Businesses", A. Damodaran, Pearson Education (2010), pp. 1-2.

the evaluation and the actual likelihood of realizing future cash flows. This rate generally encompasses the cost of equity capital and the cost of debt capital. Naturally, there must be consistency between what is being discounted and the discount rate. It is precisely in this context that we will shortly explore how different discount rates can arise based on the nature of cash flows. There are two methods for estimating the discount rate: the more common Weighted Average Cost of Capital (WACC) and the Adjusted Present Value (APV) approaches.

The anticipated growth, particularly crucial in relation to accurately estimating the growth rate used for calculating the terminal value, is determined by considering both past trends and potential future scenarios and contexts. Both past and prospective information pertains to both internal aspects of the company (e.g., financial results, balance sheet situation, etc.) and external factors that, however, impact the company, particularly during valuation (industry trends, macroeconomic factors, etc.). Often in practice, a growth rate (g) is considered not to exceed the country's inflation rate, as a higher rate might not be reliable.

Another crucial element, of course, is the estimation of the terminal value. The terminal value primarily starts with the determination of the normalized Cash Flow (CF) at time $t+1$, which will be used as a perpetual constant. In this regard, three adjustments are made to arrive at the estimate of the company's normalized perpetual operating cash flow. The first adjustment involves the normalization of EBIT, wherein non-ordinary activities are excluded. The second adjustment pertains to the change in net working capital (NWC), which is assumed to be zero. This is done to avoid unreal scenarios—having either negative or positive NWC would lead to impossible outcomes. The third adjustment relates to capital expenditures (capex). In this case, the amount of depreciation is set equal to the amount of capex. This is done to prevent unrealistic scenarios: if depreciation were greater than capex, we would have higher amortization than investment; conversely, if capex exceeded depreciation, it would result in cash destruction that is unsustainable in perpetuity.

The application of the general DCF model can be performed in terms of equity side or asset side. The first type of valuation, the equity side, aims to determine the value that a company holds exclusively about its shareholders. This value can be attained either by directly estimating the factors shareholders attribute value to or by calculating the value of the entire enterprise (Enterprise Value, EV) and then deducting the Net Financial Position (NFP) from it. On the other hand, asset-side valuation seeks to determine the overall enterprise value (EV), irrespective of whether the funding comes from equity or debt capital.

When examining *equity side* valuation models, an approach worth considering is based on the free cash flow to equity (FCFE), where the potential dividends of a company are discounted. FCFE is calculated while considering debt repayment and the company's reinvestment requirements. The formula as follows²⁰:

²⁰ “Valuation Approaches and Metrics: A Survey of the Theory and Evidence”, A. Damodaran, Now Publisher (2005), Vol. 1, pp.20-25

$$FCFE = Net\ income + Non\ monetary\ costs - Capex - \Delta\ Net\ working\ capital + Net\ borrowings$$

[14]

Where Net borrowings at time t it is equal to $D_t - D_{t-1}$.

Once the free cash flow to equity has been calculated, the reference formula for determining the value that a company holds about its shareholders becomes as follows:

$$Equity\ value = \sum_{t=1}^T \frac{FCFE_t}{(1+r_e)^t} + \frac{Terminal\ value\ T}{(1+r_e)^T}$$

[15]

Where r_e is the minimum expected return that shareholders expect to receive by investing in the company. In this way, there is consistency between the FCFE and the cost of equity used as discount rate. This discounted rate is estimated through the *Capital Asset Pricing Model* (CAPM). Through the CAPM the cost of equity is estimated as follows:

$$r_e = r_f + \beta_e \times (r_m - r_f)$$

[16]

Where:

- r_f is the risk-free rate,
- $r_m - r_f$ is the market risk premium, i.e. the risk premium required by the investor to invest in risky securities and not in risk-free securities
- β_e is the beta equity (or beta levered) and it considers the beta asset of the industry and the specific leverage of the company under evaluation

Typically, the risk-free rate is computed using the yield of long-term government securities (e.g., ten-year Treasury bonds), as they are sufficiently stable and correspond, in terms of maturity, to the useful life of the company. The market risk premium, on the other hand, is calculated as the difference between the average long-term stock returns and the average returns of securities considered risk-free. The β represents the systematic risks. β is the measure of the volatility of a security (or a portfolio) compared against the market. If $\beta > 1$ means that the security or the portfolio overperformed the market, if $\beta < 1$ the security or portfolio underperformed the market.

Transitioning now to the *asset-side* valuation, which determines the enterprise value (EV) of a company, it is imperative to expound with particular attention on the *free cash flow to firm* (FCFF). This is the cash flow available not only to shareholders (in this case referred to as the FCFE, already discussed in preceding lines), but also accessible to the entire enterprise and, thus, to all stakeholders who have contributed resources to the evaluated company. In contrast to the operations undertaken to derive the free cash flow to equity, the calculation in question commences with NOPAT (net operating profit after taxes) and takes into account the tax benefit arising from debt utilization. NOPAT is calculated as an operating income after tax so $EBIT \times (1 -$

tax rate). Much like what has been observed in the equity-side model, non-monetary costs, capital expenditures, and non-cash variations in working capital are factored in. Therefore, the reference formula for calculating FCFF is as follows²¹:

$$FCFF = NOPAT + Non\ monetary\ costs - Capex - \Delta\ Net\ working\ capital \quad [17]$$

Essentially, starting from the operating income net of taxes, it is possible to deduce the actual cash flow. In fact, by subtracting from this income the capital expenditure, cash outflows that, however, were not taken into account in the EBIT calculation, adding non-monetary costs such as depreciation (which are considered in the EBIT calculation but only represent an economic value rather than an actual cash outflow), and subtracting the non-monetary variation of working capital (an increase of which leads to a decrease in cash flow, while a decrease leads to an increase in cash flow), it becomes possible to estimate the actual liquidity available to the company.

Unlike the equity side, on the asset side, the discounting factor also considers the tax benefits arising from debt utilization and the higher risk associated with it. In this case, the discount rate considered is the Weighted Average Cost of Capital (WACC). The WACC represents the return that stakeholders would be able to achieve from another company like the one under evaluation, with the same level of risk. In valuation, the WACC is often estimated using a simplified formula, compared to the previously explained one, considering only debt and equity:

$$WACC = r_e * \frac{E}{V} + r_d * \frac{D}{V} * (1 - t) \quad [18]$$

Where:

- r_e is the cost of equity
- r_d is the cost of debt
- E is the amount of equity in the capital structure of the company
- D is the amount of debt in the capital structure of the company
- V is the total value of the company, and it is equal to $E + D$
- t is the tax rate of the company

So, now having the FCFF and the appropriate discount rate to guarantee the necessary consistency the enterprise value of the company could be estimated as follows:

$$Enterprise\ value = \sum_{t=1}^T \frac{FCFF_t}{(1+WACC)^t} + \frac{Terminal\ value\ T}{(1+WACC)^T} \quad [19]$$

²¹ "Valuation Approaches and Metrics: A Survey of the Theory and Evidence", A. Damodaran, Now Publisher (2005), Vol. 1, pp.25-32

3.3 Relative valuation

The methods based on multiples, which will be described more specifically in the upcoming paragraphs, constitute relative valuation methodologies. The distinction between absolute and relative valuation methodologies was already mentioned at the beginning of the chapter, and this section will delve into the latter.

Relative valuation aims to assess an asset based on prices of similar assets present in the market, rather than on the actual or prospective characteristics that the asset under consideration possesses when examined in isolation. The value of a stock or, more generally, a company, thus, relies on the market price/value of stocks or companies with similar characteristics to the one being appraised. The aforementioned example is based on the approach of comparable companies. However, if the comparison is not with companies or stocks per se but rather with transactions involving similar companies or similar stocks, then in this case, the approach would be based on comparable transactions. Diving into the process of effectively implementing relative valuation, there are generally three fundamental steps to consider:

- Identifying comparable assets: The initial step involves confirming the existence of assets that can genuinely be regarded as similar to those undergoing evaluation. In the case of businesses, this entails identifying companies comparable in terms of their business and characteristics. However, this first step is far from simple or straightforward, as merely considering companies within the same industry is insufficient. Instead, these companies must be genuinely comparable and akin.
- Normalizing market prices using a common variable: In the second step, market prices of the companies involved in the valuation process are adjusted to a common variable. This generates standardized prices that can be compared across the board.
- Adjusting for asset differences: The third and final step is indispensable. If two companies are closely alike and consequently exhibit equally comparable standardized prices, but one of them has demonstrated significantly higher growth rates than the other, adjustments must be made to account for these discrepancies (specifically, the company with higher growth rates should be traded at higher multiples).

It's quite challenging to identify genuinely comparable companies. However, despite this difficulty, the simplicity of implementing relative valuation and the fact that historical data about the company being valued isn't necessary to deduce its value have led to significant use. Furthermore, the objectivity in determining a company's value tends to be higher compared to the DCF Method, which relies on numerous uncertain assumptions.

The two main methodologies are those of comparable companies and comparable transactions.

3.3.1 Comparable public company

The process that allows implementing, in practice, the evaluative approach based on comparable companies starts first and foremost with the selection of these comparable. The assumption that must always be kept in mind is that perfect comparables do not exist. It is impossible to identify companies that are identical to the one being evaluated. As a result, comparables must be chosen with a certain approximation, accurately establishing the rules of homogeneity based on the most significant factors that characterize a company. Specifically, these factors can be: belonging to the same sector (although not all companies in the same sector can be considered comparable), size aspects (companies need to be similar in terms of size), financial risk (similar levels of indebtedness and financial balance), actual homogeneity of the metrics used for multiples (with particular reference to net profit and EBIT), governance (group structure, underlying rules of corporate control, and powers related to shares), transparency (in terms of adopted behaviours and communication with the outside), stage of the company's life (substantial difference between the startup phase and the maturity phase), and business model (in addition to belonging to the same sector, comparable companies must have homogeneous key characteristics of their core activities). Finally, the geographical aspect also plays a role (the markets in which the comparable company operates).

Once the sample of companies considered comparable has been determined, the second step of the implementation phase of the valuation approach can be undertaken, which involves establishing the multipliers to be used. In practice, there are two types of multipliers: equity side multipliers and asset side multipliers. The only difference between the two aforementioned categories lies in the numerator used in the multiple ratio. In fact, in equity-side multipliers, the market price (P) of the shares (current value of equity) is used as the numerator, while in asset-side multiples, the gross assets (Enterprise Value or EV), generated by the sum of the current value of equity and net financial debt, are used as the numerator. As the denominator, performance values (appropriately adjusted) are generally used, as well as accounting values. Therefore, the value of the company is essentially calculated in this way:

$$\text{Value of the firm} = \text{Multiple} * \text{firm's financial measure} \quad [20]$$

In the following table are listed the most used multiples, both equity and asset side:

<i>Numerator</i>	<i>Denominator</i>
Enterprise Value	EBIT
	NOPAT
	EBITDA
	UFCF
	SALES
	INVESTED CAPITAL

Table 1: Asset side

<i>Numerator</i>	<i>Denominator</i>
Market Capitalization or Share Price	EARNING
	CASH EARNING
	FCFE
	SALES
	BOOK VALUE
	NET ASSET VALUE
	DIVIDENDS

Table 2: Equity side

These are just a list of potential multiples. Over time, new innovative multiples are also used to measure more cutting-edge business types. Furthermore, the choice of the most suitable multiples varies based on the company being evaluated, so there are no absolute multiples that are more significant than others.

Once the multiplier or multiple that is deemed the best in relation to the target company and the relevant sector has been chosen, it is important to move on to the third phase, which involves the collection of reliable information and data. The use of trustworthy databases is of primary importance to complete the relative valuation, and often the companies supporting the valuation process, such as consulting firms or investment banks, independently produce the necessary data and information. This ensures a high level of confidence in the reliability of the calculated or collected data.

The final step in the comparable company valuation involves the reworking of the final data in terms of adjustments and corrections to be made. Often, it becomes necessary to "adjust" the values related to the multiples to make companies comparable that would not be otherwise, or simply to make the used multipliers more reliable. Without going into the specifics of these adjustment processes, it can be said that they can take various forms depending on what is included or excluded in the calculation. Another important aspect to consider is calculating the average of the multiples for the comparable companies. Once this value is calculated, it is possible to observe whether the multipliers of the comparable companies significantly deviate from this average or if they appear to be similar.

3.3.2 Comparable transactions

A second approach, still based on the logic of relative valuation, is that of comparable transactions. Comparable transactions refer to extraordinary operations, such as M&A deals, in which the value of companies considered similar to the one being evaluated is negotiated. By considering data and information from other transactions, it's possible to determine the value of the target company. Despite its similarity to the approach based on comparable companies, the focus generally isn't on specific ratios but rather on the transaction prices²². What has just been described excludes any purely subjective considerations, is easily understandable for all parties involved in the valuation and doesn't require adjustments or specific assumptions.

However, difficulties arise in finding transactions involving companies comparable to the one being evaluated and in collecting data and information that are as reliable as possible, which complicates the use of this valuation approach. Moreover, even if a transaction involving companies truly similar to the target is found, the price established to complete the transaction takes into account aspects inherent to the transaction itself, such as the subject of the transaction (e.g., whether it involves the entire capital or only a part), the payment

²² "La valutazione delle aziende", Guatri Luigi, Bini Mauro, Milano, Egea (2007), pp. 387-389

methodology (e.g., whether it involves the acquirer's stock or cash), the underlying payment conditions (e.g., definitive payment or payment upon the occurrence of certain conditions), and the synergies that can be realized with the completion of the acquisition or merger transaction. Other factors also affect the price, such as the market's financial circumstances and whether the negotiation occurs within a regulated market (e.g., a stock exchange) or externally to it. It is worth noting that the methodology of comparable transactions is very similar to that of comparable companies in the selection of criteria for comparability. However, unlike the latter, it adds the temporal constraint. Time is a highly significant variable in transactions, as the market undergoes rapid changes over time.

In light of what has just been highlighted, it becomes necessary to derive certain multiples starting precisely from the prices of transactions considered closely comparable. This estimation would allow for the valuation of a company by considering the prices paid in other transactions for similar companies, while also accounting for the most significant differences between the businesses. The steps to achieve a proper valuation using the comparable transactions approach would therefore be as follows:

- Research and collection of data and information regarding transactions of companies in the same industry that can be deemed comparable, paying particular attention to the price and considering a time span of approximately 5 years.
- Implementation of a thorough analysis aimed at determining whether there is, or isn't, an actual similarity or homogeneity among the involved businesses.
- Construction of multiples to normalize the value of various transactions to the target company.
- Application of the constructed multipliers to estimate what the actual value of the subject company under evaluation should be.

In essence, therefore, all the multiples described in the comparable companies' approach can be used, with particular attention to those on the asset side, which are the most implemented in practice. The main issue that might arise in constructing these multiples concerns identifying the correct denominator, which, as already emphasized in the previous paragraph, is an estimator of a specific company's performance.

3.4 Valuation of synergies

A merger and acquisition (M&A) operation can be considered as a unique form of investment, characterized by a significant upfront monetary outlay, integration costs that can be extremely relevant, and the management of synergies that can be seen as managing a new company. As previously mentioned, synergistic sources can be of various types, and each M&A operation, depending on the characteristics of the companies involved, can bring forth specific and different synergistic sources. To attempt the most accurate estimation possible of

the synergies that can be achieved following an M&A operation, the following three variables must be taken into consideration:

- Magnitude of synergistic benefit. To quantify the size of synergistic benefits, it is necessary to rigorously estimate and accurately assess all improvements that are presumed to be attainable. Essentially, a more precise forecast of cash flows, revenues, and costs must be made, while attempting to limit cognitive biases that could lead to unwarranted optimism and the resulting inclination to conclude the agreement driven by purely emotional aspects²³.
- Probability of realization. An accurate assessment of synergies also entails quantifying the probability of realizing the estimated synergies ex-ante. Indeed, not all synergistic benefits are easily attainable, and the greater the difficulties, the lower the probability of realization. For example, it is evident that the probability of realizing synergistic benefits in terms of personnel cost reduction, particularly with regard to the target company's managers, is 100%, whereas the probability of significantly increasing revenues presents a considerably lower likelihood of realization due to the reasons explained earlier.
- Timing of synergy realization. Ultimately, understanding the timeframe within which the company achieves synergy equilibrium is another aspect to pay particular attention to. In this case, as well, there is a possibility that the estimation might accelerate the timing of achieving synergies solely to make the investment more attractive. This irrational approach should be entirely avoided, while a careful evaluation of timelines and continuous questioning of the assumptions underlying the estimation should be encouraged.

Generally, synergistic benefits are estimated through the implementation of models already described in the preceding paragraphs. In this regard, it is necessary to revisit both relative valuation models and absolute valuation models. Concerning relative valuation, significance is attached to both the approach based on comparable companies and that based on comparable transactions, while for valuation conducted in absolute terms, the approach based on Net Present Value (NPV valuation) is considered. This approach allows the calculation of the net present value through the implementation of discounted cash flow analysis.

It is necessary to make some preliminary statements. The first concerns the fact that both models, both relative valuation models and absolute valuation models, can be implemented either synthetically or analytically. The second premise concerns relative valuation approaches. Despite the relevance of the approach based on comparable companies, when valuing synergies, it is preferable to use the one based on comparable transactions, as synergistic benefits are the result of the combination of two companies.

Starting with the description of the approach based on comparable transactions, it can be highlighted that the logic on which its application in valuing synergies in an M&A operation is based is very similar to the logic

²³ “Managerial Optimism and Corporate Finance”, J. B. Heaton, Wiley for Financial Management Association International (2002), pp.35-45.

underlying the general valuation model in question concerning overall company valuation. The only difference lies in the fact that, in this case, synergies are considered in constructing the multiples. Therefore, once data and information regarding transactions of companies (mainly in the same industry) that can genuinely be considered comparable have been researched and collected, according to this approach, multiples are constructed. These multiples have the estimated synergies related to the comparable transaction as the numerator and an economic measure closely related to the synergies in question as the denominator. For example, in the case of cost synergies, the reference multiple could be the "synergies/operating expenses" ratio, while in the case of revenue synergies, the reference ratio could be "synergies/revenues." Once the averages of the calculated multiples for all considered comparable transactions are obtained, and these averages are multiplied by the target company's reference values, an appropriate valuation of the value of the synergies can be derived.

Typically, synergies are indeed calculated using the Discounted Cash Flow (DCF) method, as explained in the preceding chapter. Similarly, the methods used in the subsequent analysis will primarily be the classical DCF method and relative valuation.

However, to be precise, a model proposed by Capasso and Meglio is briefly presented²⁴. This approach primarily utilizes DCF for valuing synergies and, to some extent, the theory of Real Options. The proposed model aims to financially value the individual value of each synergy and, through their summation, obtain the overall value of synergistic benefits resulting from an M&A operation. The valuation perspective of the model is asset-side, and the Weighted Average Cost of Capital (WACC) taken into consideration also considers the effects of debt (tax benefit, increased costs due to financial strain, and control costs). Capasso and Meglio propose, essentially, a valuation model in which the value of the combination between two hypothetical companies A and B (W_{AB}) is nothing more than the result of the summation between the values of the two entities on a stand-alone basis ($W_A + W_B$) and the values of various synergies ($S_F + S_O + S_R$), all net of the debts of A and B ($D_A + D_B + \Delta D_{AB}$). Therefore, the reference formula is as follows:

$$W_{AB} = (W_A + W_B) + (S_F + S_O + S_R) - (D_A + D_B + \Delta D_{AB}) \quad [21]$$

In this method, the Discounted Cash Flow (DCF) is used to estimate cash flow synergies (S_F) and those arising from different risk profiles (S_O), while the estimation of synergies resulting from the flexibility (S_R) achieved through the operation employs the theory of real options. The model will not be further presented as it will not be used.

Before delving into specific methods for assessing financial synergies, a final consideration pertains to what happens in practice. According to a study by Fiorentino and Garzella²⁵, most experts (77.78%) in M&A

²⁴ "Fusioni e acquisizioni. Teorie, metodi, esperienze", A. Capasso, O. Meglio, Milano, FrancoAngeli (2009), pp.99-103

²⁵ "The Synergy Valuation Models: Towards the Real Value of Mergers and acquisitions", R. Fiorentino, S. Garzella, International Research Journal of Finance and Economics (2014), Issue 124, p.77-78

transactions use the Net Present Value (NPV) model as the primary approach for valuing synergies (presumably using the DCF method). In any case, the vast majority of experts in extraordinary transactions (70.97%) consider the NPV method as the most suitable for accurately evaluating synergies in an M&A operation.

3.4.1 Valuation of financial synergies

As already illustrated in the financial synergies explanation paragraph, the main benefits of these synergies are a reduction in the cost of capital and a consequent increase in cash flows. The reduction in the cost of capital is due to both the company's increased debt capacity and, above all, the greater stability of the company that arises after the operation. This increased stability, which can be attributed to both an improvement in its capital structure and possibly lower volatility in its results, as we have seen, can lead to an enhancement of the company's rating. A better rating for the company translates to a more favourable perception in the market and consequently a reduced perception of risk associated with the company's operations. This change in the company's risk profile can indeed ensure easier access to capital.

In evaluating financial synergies, we assess the effect and potential value-creation sources stemming from this change in risk brought about by the M&A operation. The subsequent formulas and valuation methods all align with what Marco Vulpiani explained in his book "Special Cases of Business Valuation".²⁶

To measure the impact of the risk change resulting from the transaction, it's possible to utilize the extended version (although this analysis will employ the base model without risk premium for small size or specific risk) of the Capital Asset Pricing Model (CAPM). This model is commonly used in estimating the cost of equity and is explicit in the following formula:

$$r_e = r_f + \beta \times RP_m + RP_s + RP_u \quad [22]$$

Where:

- r_f is the risk-free rate
- β is the beta, it reflects and represents the overall risk of the companies involved in the transactions
- RP_m is the equity market risk premium of the market
- RP_s is the risk premium for small size
- RP_u is the the risk premium of the specific company

The starting point of this approach consists in dividing beta into its major components: strategic risk, financial risk and operating risk.

²⁶ "Special cases of Business valuation", Marco Vulpiani, McGraw-Hill, 2014, pp.202-209

The initial element pertains to the risk associated with the company's distinct service and/or product, and more broadly, to its unique competitive positioning.

The degree of financial leverage (DFL) or the firm's leverage (the Debt to Equity ratio) can both be used to illustrate the financial risk, which is related to the specific financial structure of the organisation. DFL is represented as the ratio of EBIT to PBT and is defined as the change in Profit Before Tax (PBT) as a percentage in relation to a change in EBIT as a percentage.

$$DFL = \frac{EBIT}{PBT} \quad [23]$$

Financial expenses that are impacted by the financial structure (for example, increased leverage in the financial structure results in a larger DFL) are linked to the difference between EBIT and EBT. DFL is thus an appropriate indicator of the risk connected to the financial arrangement of the firm under consideration.

Operational risk can be represented by the Degree of Operating Leverage (hence referred to as "DOL") and is related to the cost structure of the business (in particular, higher fixed costs result in higher operational risk). The Gross Margin ("GIM") to EBITs ratio determines DOL, which is defined as the percentage change in EBIT connected to a percentage change in Sales revenues:

$$DOL = \frac{Gross\ Margin}{EBIT} \quad [24]$$

Fixed costs make up the difference between the Gross Margin and the EBIT. Because of this, the DOL is a useful indicator of the risk associated with the specific cost structure of the organisation that is being assessed.

The last two risk factors (DFL and DOL) have a big advantage over the first factor (strategic risk). They can be calculated to varied degrees of depth by looking at the business' economics. This permits the adjustment of beta in the risk simulation inside the computation of the cost of capital, as detailed below in the following approaches.

The "weighted average risk" approach

The combined efforts of the acquiring and acquired firms lead to synergies. As a result, according to a theoretical framework put forward, the post-acquisition beta of the acquiring company might be roughly represented by the weighted average of the betas of both the acquiring and target companies, using their respective company values as the foundation for weighting:

$$\beta_{A+B} = \beta_A \times W_A + \beta_B \times W_B \quad [25]$$

Where β_A, β_B are the betas pre-acquisition of the single companies and W_A, W_B are the weights of each single equity value to the total value of the new company (so the sum of equity values of A and B)

Although this method's simplicity makes it effective, it relies on an approximation when determining how synergies will affect the company's total risk profile after the purchase.

The “financial risk” approach

The Hamada contribution can be used as a basis for one possible approach of roughly estimating the potential reduction in financial risk for the acquiring company. The following equation, which connects systematic risk with financial leverage, was introduced in this contribution (Rubinstein, 1973):

$$\beta_L = \beta_{UN} \times [1 + (1 - t) \times \frac{D}{E}] \quad [26]$$

Where β_{UN} is the unlevered beta, t is the tax rate and $\frac{D}{E}$ is the financial leverage.

In practical situations, the "Hamada" formula is frequently used to calculate a company's beta. Typically, it begins with data for comparable companies and, using a bottom-up method modifies the average beta of these comparables to consider the particular risk of the company under study.

The beta equity (or beta levered) considers the beta asset of the industry (not considering the financial leverage of the companies that we used in the computation of the average beta of the industry) and the specific leverage of the company under evaluation, so we are going to consider the cash creation link to the specific financial leverage.

The unusual simplicity of the Hamada formula and the ease of access to information on the financial structure of comparable entities are what gives it its power.

The “financial and operating risk” approach

It is feasible to utilise a relationship that emphasises the contribution of operating risk to the systematic risk to evaluate the financial and operating risk impact of the operation. In an essay written in 1984, Mandelker G.N. and Rhee S.G. highlighted this relationship and started by defining beta:

$$\beta_j = \frac{\sigma_{jm}}{\sigma_m^2} = \frac{cov(r_j, r_m)}{var(r_m)} \quad [27]$$

Where σ_{jm} is the covariance of j return with the average market return and σ_m^2 is the average market return's variance.

From the previous formula, they expressed stock returns in terms of company results using the beta definition to arrive at the following equation:

$$\beta = DOL \times DFL \times \beta_{UN} \quad [28]$$

Where β_{UN} is the beta unlevered, so net of financial and operating risks.

Practitioners hardly ever use this relationship to modify the beta acquired from comparable data for the specific operating risk of the firm under valuation. One possible reason is the difficulty of estimating accurate DOL. Because, from the external, variable and fixed costs appear aggregated in the income statement it is difficult to estimate them separately. The basic presumption is that businesses operating in the same sector have similar cost structures. But in practice, this presumption frequently represents a rough estimate that differs from the actuality. A large change in the cost structure is very likely to happen, especially in an M&A deal, especially among industrial companies. This is because one of the main goals of such a transaction is frequently the pursuit of synergies.

In such circumstances, the following strategy can be used to evaluate how the M&A transaction will affect the financial and operational risks of the acquiring company. By applying the reverse formula of the previous equation, the beta of the acquiring business is initially "de-leveraged" from its operational and financial leverage:

$$\beta_{UN} = \frac{\beta}{DOL \times DFL} \quad [29]$$

The post-acquisition Degree of Operating Leverage (DOL) and Degree of Financial Leverage (DFL) of the acquiring company are then determined. Finally, beta is calculated using the Mandelker-Rhee equation (the re-leveraging process) and the post-acquisition DOL and DFL.

However, given the significant shift in cost structure normally connected with the integration stage of the merger process, there is cause for concern over the use of DOL in the re-leveraging phase. Employing the goal cost structure, which represents a normalised situation, is advised to maximise accuracy and reduce approximations. However, ignoring the higher risk of the early years could result in an underestimation of beta during those years if DOL has a big decline during the integration phase because of the significant change in cost structure. A discount rate that varies from year to year during the time, depending on the particular DOL, may be more sensible to include in such a scenario during the valuation exercise.

PART 4: Industry and players analysis

Before starting the analysis of the industry and the two companies involved, it is necessary to make some clarifications. The subsequent analysis concerns the acquisition agreement of 21st Century Fox by Walt Disney, which was announced between late 2017 and early 2018 and officially concluded on March 20, 2019. The following analysis is conducted assuming it is in the year 2019, disregarding all the developments that have occurred in the market and, especially, the global context (i.e., COVID-19). This is done to ensure greater consistency and reliability in the type of analysis that will be carried out. For this reason, an analysis of the industry and the two companies will be conducted with the local and global landscape that existed in 2019.

4.1 *Media and Entertainment industry*

The United States of America has the largest Media and Entertainment (ME) industry in the world. According to the U.S. Department of Commerce it represents one third of the global M&E industry. Its market size is valued at \$735 billion and includes television programs and advertisements, streaming content, music and audio recordings, broadcast, motion pictures, radio, book publishing, video games, and ancillary services and goods. Moreover, the U.S. industry is expected to reach more than \$825 billion by 2023, according to the 2019-2023 Media & Entertainment Outlook by PriceWaterhouseCoopers (2019)²⁷.

However, as the main character in the global M&E business, we have to bear in mind that the U.S. has a mature M&E market compared to the other regions since it was one of the earliest countries that engaged in film-making and media businesses. As a result, it had won a steady customer base which developed variety-seeking buying behaviour since there are lots of choices for media networks and content. Consequently, the customer's demand and the huge amount of media peers have made the U.S. market rather productive but also highly competitive. Companies in the industry, therefore, have to maintain an active role and to constantly adjust their strategies to adapt to the changing market, especially for the older companies like Disney who started its business in making animation back in the 1920s when the process of producing and distribution are all different now.

Furthermore, streaming was already experiencing significant growth. According to Grand View Research in one of its reports, the global video streaming market size amounted to \$36.64 billion in 2018 and was expected to grow at a rate of 19.6% from 2019 to 2025. Upcoming innovations such as Artificial Intelligence (AI) and blockchain technology were already poised to enhance the quality of video content, accelerate video production, and drive market growth.

²⁷ PWC, "2019-2023 Media & Entertainment Outlook by PriceWaterhouseCoopers", 2019

Moreover, the streaming industry had already been on a significant growth trajectory. According to a report by Grand View Research, the global video streaming market had reached \$36.64 billion in size in 2018 and was projected to expand by 19.6% annually from 2019 to 2025. Anticipated innovations like Artificial Intelligence (AI) and blockchain technology were already positioned to improve video content quality, expedite production processes, and propel market growth.

The year 2019 marked a pivotal moment for the expansion of streaming services. Leading platforms such as Netflix, Amazon Prime Video, Hulu, and Disney+ were engaged in fierce competition to attract audiences, contributing to the sector's steady growth. Disney+, in particular, made a noteworthy debut at the close of 2019, swiftly amassing a substantial subscriber base thanks to its extensive content library. In this competitive landscape, streaming providers were making substantial investments in the creation of original content to set themselves apart. This sparked what could be described as a "content battle," with substantial budgets allocated to the development of original TV series, movies, and documentaries.

Furthermore, the response to content withdrawals by media companies, the original content creators, was swift. For instance, in 2019, Disney initiated the removal of its films from Netflix to focus on and enhance its newly launched platform. Consequently, media streaming giants like Amazon Prime and Netflix intensified their investments in original content production. Deloitte's reports²⁸ revealed that Netflix's Chief Content Officer asserted that a significant 85% of their \$8 billion content investment in 2018 was directed towards producing original content. Simultaneously, Amazon declared an investment of approximately \$5 billion in video content during 2018.

In its 2019 report, PwC demonstrated how these trends, among others, were beginning to reshape the industry. In the chart (figure 7) attached below, PwC illustrates the projected estimates between 2018 and 2023 for the Compound Annual Growth Rates (CAGR) of the key segments comprising the M&E sector. It's important to emphasize that, for the first time, the "Traditional TV and home video", although in absolute value terms it remains one of the pillars, segment displayed negative growth. Similarly, one can observe how this transformation was already underway. The industry was exploring new technologies to create more engaging entertainment experiences. This included virtual reality (VR) and augmented reality (AR), which were beginning to be used in games, sporting events, and even in film production. In fact, the highest growth rates were recorded in the "VR"²⁹ and "OTT"³⁰ segments, highlighting the process of digitization and the shift toward streaming.

²⁸ Deloitte, "2019 Media & Entertainment Industry Outlook Deloitte Deloitte Report", 2019

²⁹ Wikipedia's definition of VR: The term "virtual reality," sometimes abbreviated as VR, refers to various methods of simulating real-life situations using computers and specially developed interfaces.

³⁰ Wikipedia's definition of OTT: An over-the-top media service is a media service offered directly to viewers via the Internet. It bypasses cable, broadcast, and satellite television platforms.

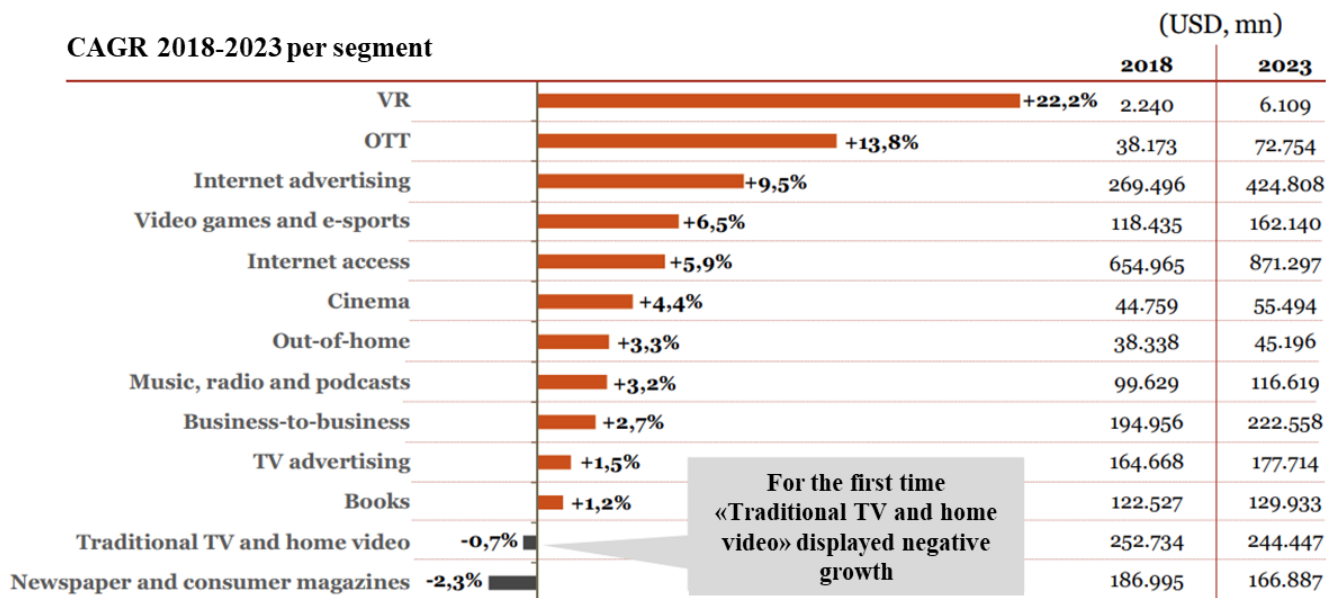


Figure 7: CAGR 2018-2023 per segment in M&E industry³¹

From the chart, it can also be observed how digital advertising was gaining importance. In fact, digital advertising was growing at the expense of traditional advertising. Companies were shifting a significant portion of their advertising budgets to online platforms and social media due to the potential for more precise targeting.

However, these were not the only factors characterizing the M&E (Media and Entertainment) industry in 2019. Indeed, the sector was facing some regulatory challenges. For example, the issue of net neutrality and data privacy protection were hot topics of discussion. Additionally, attention was focusing on the regulation of digital platforms and antitrust issues. Furthermore, despite the growth and innovation, the industry had to confront significant challenges.

First and foremost, in connection with the regulatory theme, was and still is the crackdown on illegal streaming sites. With the continuous growth and development of the internet, various illegal sites have been created over time that were/are capable of providing libraries of contents offered by various streaming services completely for free, known as *content piracy*.

As previously mentioned, another ongoing challenge in the market, especially in 2019, was the need for renewal and avoiding market saturation. Indeed, the American M&E market was, and still is, highly concentrated in the hands of a few major players. In October 2016, The Wall Street Journal published a chart (figure 8) depicting six giants of the media industry, the leading companies based on market capitalization. At the pinnacle was Comcast, with a market capitalization of \$155.2 billion in 2016. Disney, however, held a similar position to Comcast, occupying the second place in this ranking with a market capitalization of \$147.9

³¹ PWC, “2019-2023 Media & Entertainment Outlook by PricewaterhouseCoopers”, 2019

billion. Subsequently, a significant disparity was evident between Disney and the other companies mentioned later (Time-Warner, 21st Century Fox, CBS) in terms of market capitalization. Despite this discrepancy, it was noteworthy how both Time-Warner and 21st Century Fox remained formidable entities within the M&E sector.

Media Behemoths

AT&T may follow the lead of Comcast, which owns NBCUniversal, and add content to its distribution services.

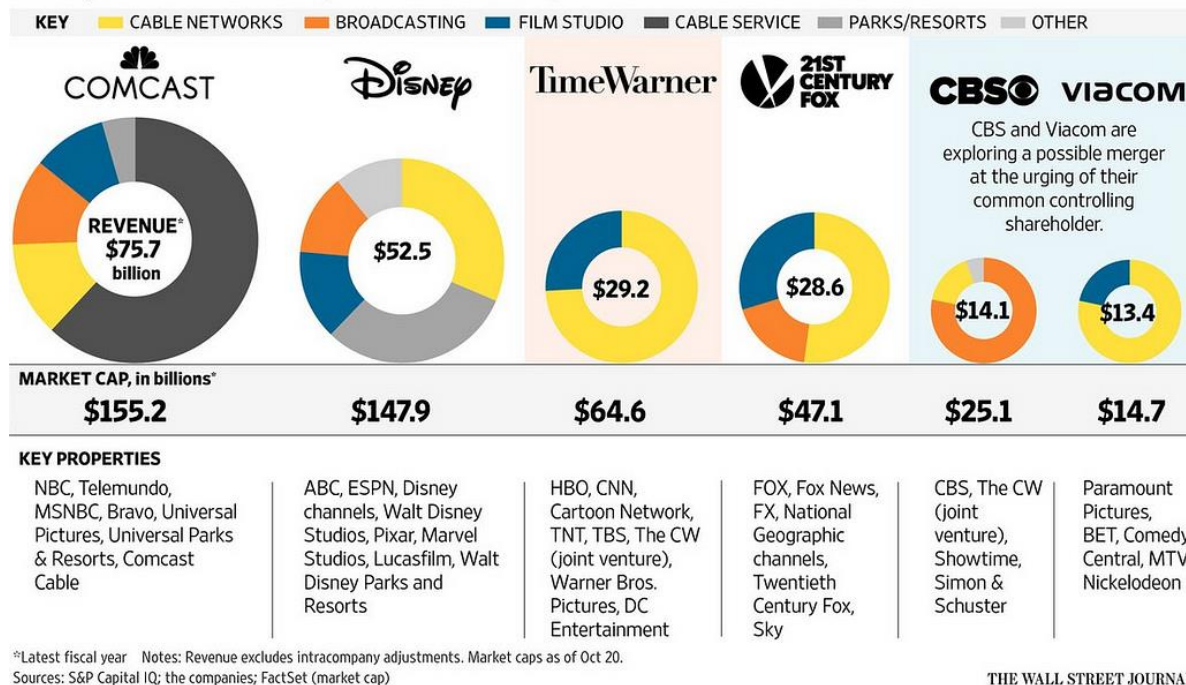


Figure 8: Media Behemoths³²

In Figure 8, we can observe that the major players in the media industry all provide diverse content and "products" that have become ingrained in consumers' routines. Consequently, in an intensely competitive and saturated sector, executing M&A transactions was a strategic move capable of adding value to the involved companies. This value pertains to both market share and positioning, as well as broadening their product portfolios and, in turn, better addressing customer needs.

As stated in its report, Deloitte underscores that the primary factors motivating media firms to pursue aggressive mergers and acquisitions and strategic repositioning are shifts in consumer behavior concerning mobile data usage and the consumption of streaming content.

Following this brief industry overview, it can be deduced that the media sector is undergoing substantial changes. Netflix is widely recognized as a significant competitor to traditional media companies, being a dominant force in the media streaming sector. Netflix doesn't merely procure content from major film studios; it also produces its own content and delivers it directly to consumers. This dynamic serves as a primary driver motivating traditional media firms to compete through consolidation endeavors. For example, Disney recently

³² The Wall Street Journal, "AT&T Is in Advanced Talks to Acquire Time Warner", 2016

finalized its acquisition of 21st Century Fox , concurrently obtaining a larger 60% ownership stake in Hulu, a media streaming service. Furthermore, a telecommunications giant, AT&T, acquired Time Warner in 2018, thereby expanding its presence within the media and entertainment domain.

4.2 The Walt Disney Company

The Walt Disney Company is a global entertainment conglomerate with a rich history. Founded in 1923 by brothers Walt Disney and Roy Disney, it initially operated under different names before adopting its current name in 1986.

Originally established as an animation studio, Disney gained prominence with the launch of the iconic Mickey Mouse character in 1928. While Disney's animated films were groundbreaking, they often required significant investment, and the profit margins were slim. This financial challenge led Disney to explore other industries. In 1955, Walt Disney realized his dream of opening the first Disneyland theme park in California, covering over 160 acres. Despite the post-war environment and limited technology, Disney's determination and hands-on approach in overseeing the park's construction led to its success. In the subsequent decades, Disney expanded its theme park and media content businesses, even as the company's founders passed away. It opened international theme parks, starting with Tokyo Disneyland in 1983. Today, there are a total of 12 Disney parks around the world, with six being "castle parks."

The company went public in the 1950s and has been a component of the Dow Jones stock index since 1991. It has evolved into the world's largest entertainment company, headquartered in Hollywood, California, USA, and operates across diverse business areas.

As mentioned in the previous paragraph, the M&E sector has historically been a sector that guarantees good growth opportunities through M&A transactions. Throughout its history, Walt Disney has responded to this industry need by completing several transactions. Below, very briefly, we summarise the M&A transactions to expand its business and customer network carried out over the years.

In 1983, Disney launched its own Disney Channel, aiming to provide family and children's entertainment as cable television was increasingly becoming popular in the 1980s. This channel quickly reached an audience of 200 million subscribers, expanding its offerings from movies to television programming.

Throughout the 1990s and 2000s, Disney refined its strategy by combining musical elements with visual content targeted at teenagers and children. This approach led to the creation of highly successful series like Hannah Montana and High School Musical, featuring prominent figures such as Miley Cyrus, Hillary Duff, and Britney Spears.

In addition to producing original content and related products, Disney expanded its media empire through mergers and acquisitions of other film companies and production studios. This was a key pillar of Disney's growth in the media industry. Some significant acquisitions included Miramax in 1993, Capital Cities/ABC Inc. in 1995, Pixar Animation Studios in 2006, Marvel Entertainment in 2009, and Lucasfilm in 2012.

Disney also ventured into the streaming world, becoming a stakeholder in Hulu in 2009 and gaining full control with the acquisition of 21st Century Fox in 2019. This allowed Disney to offer ABC and Disney Channel content on the Hulu platform. Furthermore, Disney, at the end of 2019, launched the Disney+ streaming service following the acquisition of 21st Century Fox, offering a vast catalog of classic Disney content and acquired media, directly competing with Netflix and Amazon Prime.

In summary, Disney has steadily expanded its media empire through strategic acquisitions and entry into new markets, consolidating its position as a leader in the entertainment industry and becoming the corporate giant that it is. After all these operations, Disney's business segments include Disney Media and Entertainment Distribution (DMED) and Disney Parks, Experiences and Products (DPEP). DMED encompasses the studio entertainment and media networks businesses, focusing on global film and episodic television content production and distribution. It includes Linear Networks, Direct-to-Consumer, and Content Sales/Licensing, with plans to launch streaming services. DPEP primarily involves admissions sales at theme parks, as well as revenue from food, beverage, merchandise, cruise vacations, vacation club properties, licensing of intellectual properties, and the sale of branded merchandise. The Content Sales/Licensing business revolves around selling film and television content in various markets, including television and subscription video-on-demand (TV/SVOD) and home entertainment.

At the beginning of 2019, close to the formalisation of the acquisition transaction of 21st Century Fox, the future outlook for Walt Disney was still solid and rosy with prospects for growth. Indeed, although the market was changing, as it has always done in its history, Walt Disney was ready to renew itself and turn possible threats in the industry into opportunities. In this regard, as already anticipated, it had already announced the launch of the streaming platform at the end of 2019 to follow the market transition.

Despite this, however, Walt Disney was more than healthy. Turnover was following the growth trend of recent years but outperforming what had been the improvements of 2017. In fact, between 2017 and 2016 there had been a 1% increase in turnover. Whereas in the two-year period 2017-2018, there had been an increase in turnover of about 8%, from about \$55.14 million in 2017 to \$59.43 million in 2018.

In addition to good turnover, however, the company also maintained excellent profit margins. In fact, profit in the three-year period 2016-2018 rose from \$9.8 million to \$13.1 million. Registering a 40% growth between 2018 and 2017 after it had dropped slightly.

According to his annual report of 2018³³, most of the company’s revenues, about 75%, came from the 'Media Networks' and 'Parks and Resorts' segments, which generated \$24.5 million and \$20.3 million, respectively. The other segments 'Studio Entertainment' and 'Consumer Products & Interactive Media' generated approximately \$10 million and \$4.6 million, respectively (figure 8).

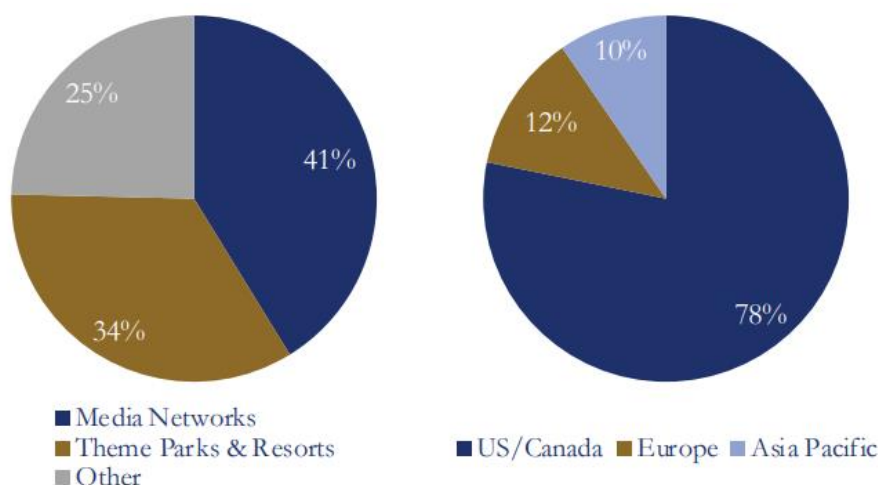


Figure 8: Walt Disney’s sales split of 2018

From Figure 8, in addition to the revenue breakdown by segments, we can also see the geographical distribution of these revenues. It's easy to notice that the company earns the majority of its revenue from the American and Canadian markets. Nevertheless, the European market remains fairly profitable for the company since, even though it is not its primary target, it still generates approximately \$7.12 million. According to what has been reported by Walt Disney's ownership, in the coming years, the company's strategic focus is on both increasing and consolidating its presence in the American and Canadian markets, but most importantly, expanding its revenue globally by leveraging the development of its streaming platform and aiming to offer a broader content library.

Regarding streaming, as previously mentioned, Disney is actively shifting its traditional content and offerings towards the world of streaming services. In fact, not only did they plan to launch the Disney+ platform by the end of 2019, but they had already taken steps in this direction in the years prior. In 2009, Disney had already acquired a 30% stake in the Hulu streaming platform. This stake was later increased to 60%, making Disney the majority shareholder in March 2019 after the acquisition of 21st Century Fox. This move aimed to align with Walt Disney's interest in expanding its content offerings for streaming services and more. This acquisition not only allowed Disney to further penetrate the American and Canadian markets but also to diversify its offerings even more, as the business segments (as will be seen in the next paragraph) are not exactly the same.

Taking all that into consideration, it's easy to conclude that in 2019, Walt Disney was an extremely healthy company, ready to capitalize on the wave of change in its industry. This positivity is indeed reflected in the

³³ The Walt Disney Company, “2018 Annual Report”, 2018

estimates of analysts (Thomson Reuters Eikon) at that time. In Figure 9, you can find the forecasts and estimates of analysts for the subsequent three years, from 2019 to 2021.

	2017A	2018A	2019F	2020F	2021F
Sales	55.1	59.4	60.6	63.3	65.6
% growth	(0.9)	7.8	2.0	4.5	3.6
EBITDA	16.7	17.9	17.5	17.9	18.7
% margin	30.2	30.0	29.0	28.3	28.5
Net Inc.	9.0	12.6	10.6	10.8	11.3
% margin	16.3	18.3	17.5	17.0	17.2
EPS	5.69	7.23	7.09	7.27	7.63

Figure 9: Walt Disney's key financials³⁴

In addition to all this, it's worth adding the extremely positive perception of investors regarding the company, specifically concerning the acquisition of 21st Century Fox. In fact, when looking at the stock price performance chart of Disney from 2008 to 2019 (figure 10), you can observe an overwhelmingly positive trend. Despite some lows, the stock price consistently increased (a testament to confidence in the company), and most notably, it reached an all-time high on April 23, 2019, at \$136.97 per share. Exactly one month after the announcement and completion of the acquisition, one can deduce that investors reacted very positively.

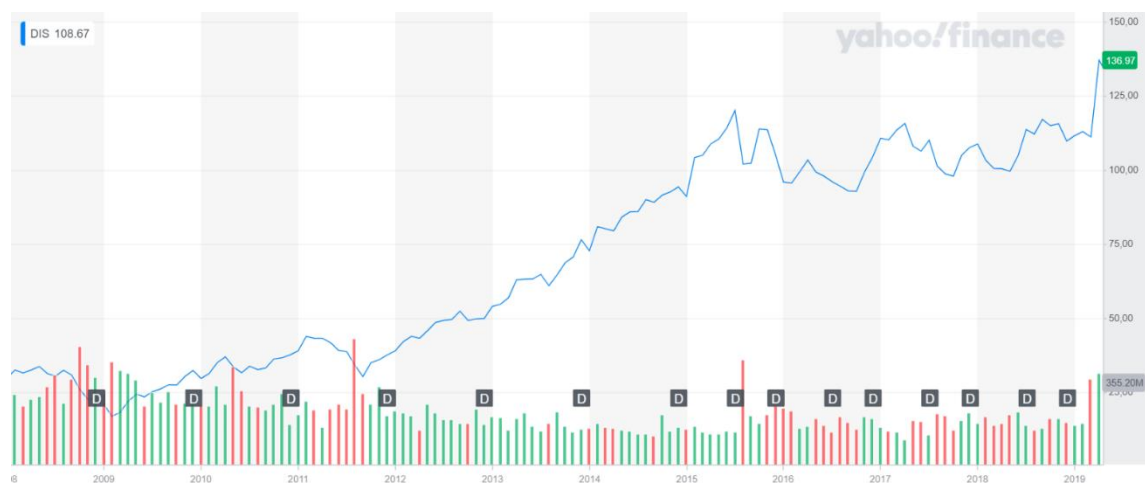


Figure 10: Disney's Stock Price (2008-2019)³⁵

4.3 21st Century Fox

21st Century Fox (21CF), a multinational mass media and entertainment conglomerate headquartered in Midtown Manhattan, New York City, emerged as one of two entities on June 28, 2013, following the spin-off

³⁴ WHU finance society, "Dealogic Twenty-First Century Fox / Walt Disney", 2019.

³⁵ Yahoo finance, "Walt Disney Stock Price's graph"

of the publishing assets from the old News Corporation, which became News Corp. In this transformation, 21st Century Fox became the legal successor to News Corporation, with a primary focus on the film and television industries. At its inception in 2013, Rupert Murdoch served as chairman and chief executive officer (CEO), while Chase Carey assumed the roles of president and chief operating officer.

Up until its acquisition by The Walt Disney Company in 2019, 21st Century Fox was the fourth-largest media conglomerate in the United States in terms of revenue. The other entity, News Corp, managed Murdoch's print interests and other media assets in Australia, jointly owned by Murdoch and his family through a family trust with a 39% interest each. Within 21st Century Fox, Rupert Murdoch held the position of co-executive chairman, while his sons, Lachlan Murdoch and James Murdoch, were co-executive chairman and CEO, respectively. In 2018, the company ranked 109th in the Fortune 500 list of the largest U.S. corporations by total revenue, reporting a total revenue of \$30.4 billion according to its financial report.

The assets of 21st Century Fox included the Fox Entertainment Group, which owned the 20th Century Fox film studio (part of the company's namesake), the Fox television network, and a majority stake in National Geographic Partners, the commercial media branch of the National Geographic Society, among other holdings. The company also had a significant international presence, including the prominent Indian television channel operator Star India.

The company operated in various segments, including Cable Network Programming, Filmed Entertainment, Television, and others, along with Corporate and Eliminations. The Cable Network Programming division was responsible for producing and licensing various types of programming, including news, business news, sports, general entertainment, factual entertainment, and movies for distribution. The Filmed Entertainment segment was engaged in the production and acquisition of live-action and animated motion pictures for distribution and licensing across all entertainment media formats.

In 2019, 21st Century Fox was officially acquired by The Walt Disney Company. As part of the agreement between the two companies, 21st Century Fox spun off a new entity initially known as "New Fox," which included the Fox Broadcasting Company, Fox News, Fox Business Network, and the national operations of Fox Sports, excluding regional sports networks. Disney acquired the remaining assets of 21st Century Fox, which encompassed significant entertainment properties such as the 20th Century Fox film studio and its subsidiaries, a stake in Hulu, U.S. pay television subsidiaries like FX Networks, Fox Sports Networks, and National Geographic Partners, as well as international operations of Fox Networks Group, including Star India. This acquisition primarily aimed to strengthen Disney's over-the-top content initiatives, including ESPN+ and Disney+. Additionally, Disney secured a lease on the 20th Century Fox backlot in Century City, Los Angeles, for seven years as part of the deal.

Having introduced a little of what has been the company's journey over the years, and given an overview of its activities, it is now necessary to make a presentation of the company's pre-acquisition situation.

In 2018, we mentioned how the company's revenues were very high, but this was not a new development. In fact, the company's revenues had been consistently growing from 2016 to 2018. Specifically (based on the company's official financial statements), there was a 4% growth between 2016 and 2017 and a 7% growth between 2017 and 2018. This brought the value of revenues from \$27.3 million in 2016 to \$30.4 million in 2018. Additionally, we can also observe the breakdown of these revenues (Figure 11). We know that in general, 21st Century Fox's business segments include cable network programming, television, filmed entertainment, and other. Overall, except for the television segment, all segments experienced an increase compared to 2017. The television segment was in line with the negative trends within the industry as it was undergoing transformation. The cable network programming segment represented the main source of revenue, followed closely by filmed entertainment, which generated approximately \$8.75 million (not even half of the main segment).

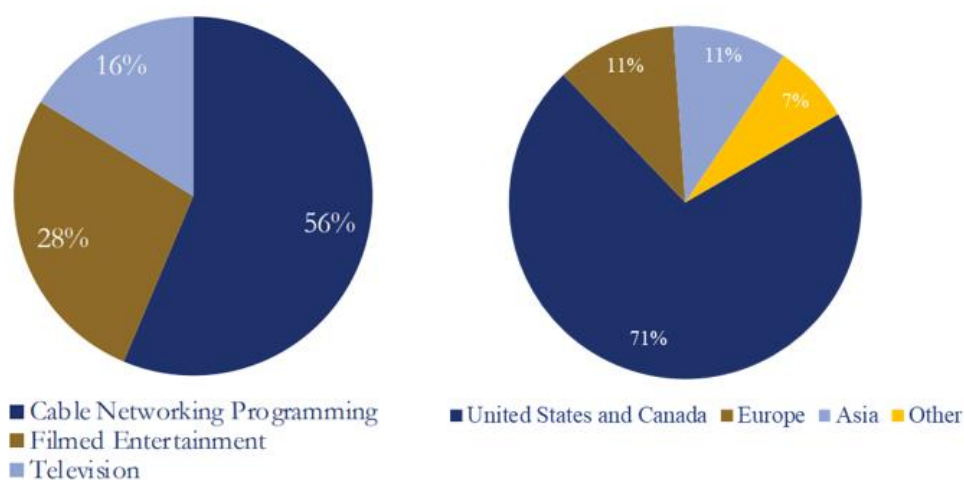


Figure 11: 21st Century Fox's sales split of 2018

Just like with Walt Disney, Figure 11 also shows us the geographical distribution of revenues. It's easy to see how 21st Century Fox, has more or less the same geographical distribution. The only difference with the Walt Disney distribution lies mainly in the higher percentage of sales in other countries outside of the US/Canada, Europe, and Asia. As for the company's ability to generate profit, it can be said that the company was in a very favourable situation. In fact, in just the last two years, from 2017 to 2018, profit increased by 48%, reaching a value of approximately \$4.76 million. Even in the previous two years, profit had shown growth, albeit to a lesser extent, at 4%.

Taking all these factors into consideration, thanks to the estimates of analysts at the time (Thomson Reuters Eikon), we can see that the company's expectations were auspicious. In Figure 12, you can find the forecasts and estimates of analysts for the subsequent three years, from 2019 to 2021.

	2017A	2018A	2019F	2020F	2021F
Sales	28.5	30.4	31.5	33.3	35.2
<i>% growth</i>	4.3	6.7	3.7	5.7	5.6
EBITDA	7.0	6.8	7.3	7.8	8.5
<i>% margin</i>	24.7	22.4	23.2	23.5	24.2
Net Inc.	3.0	4.5	3.7	4.1	4.8
<i>% margin</i>	10.5	10.5	11.7	12.4	13.6
EPS	1.61	1.71	2.00	2.25	2.59

Figure 12: 21st Century Fox's key financials³⁶

Similarly, to Walt Disney, investors of 21st Century Fox reacted more than positively to the news of the acquisition. In fact, if you look at the stock price chart of the company, you can see that until 2017, there were ups and downs. However, after 2017, the year when Walt Disney's intention to acquire the company was announced, you can see that the stock price consistently increased. It reached its peak (\$51.36) on March 18, 2019 (just 2 days before the company was acquired by Walt Disney). All of this serves as evidence that investors had a very positive perception of the acquisition and that it had increased the attractiveness of the stock for investors.

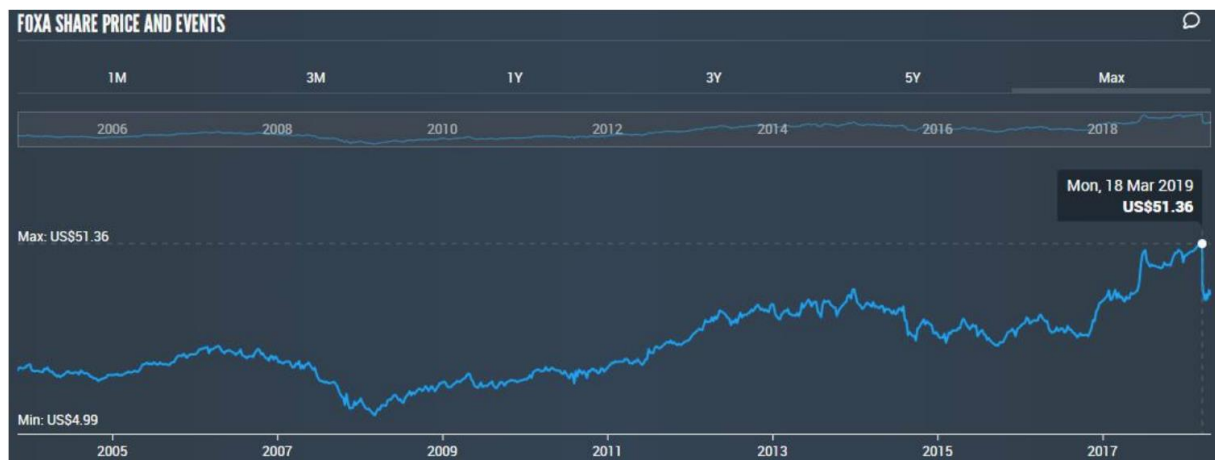


Figure 13: 21st Century Fox's stock price³⁷

³⁶ WHU finance society, "Dealogic Twenty-First Century Fox / Walt Disney", 2019.

³⁷ Price trend applies to Murdoch's News Corp company even before the separation that gave rise to 21st Century Fox.

PART 5: The Case of Walt Disney - 21st Century Fox

5.1 *The deal*

The agreement between the Walt Disney Company and Twenty-First Century Fox was completed on 20 March 2019. The Walt Disney Company and 21st Century Fox's agreement states that:

- The deal, valued at \$71.3 billion overall and included \$35.7 billion in cash and roughly \$35 billion in Disney common shares granted to former owners of 21st Century Fox common stock as a result of the merger, was approved by the shareholders of both businesses.
- Disney common shares were swapped for 21st Century Fox common shares at a ratio of 0.4517.
- From 21st Century Fox, Disney acquired \$19.8 billion in cash and \$19.2 billion in debt.
- Prior to the effects of purchase accounting, the acquisition was anticipated to boost Disney's earnings per share (EPS) for the second fiscal year after the transaction's completion. It was also anticipated that the two businesses' combined operations would result in cost synergies of at least \$2 billion by 2021.

The idea to acquire Twenty-First Century Fox, according to Disney CEO Bob Iger, came about after Disney acquired streaming business BAMTech with the aim of expanding its own Disney+ streaming service, which is planned to begin in November 2019. Disney was drawn to Twenty-First Century Fox primarily because of its film and television libraries, which could make a large contribution to the growth of Disney's streaming content library. This attraction was not limited to the studio's production capabilities.

The acquisition was made in order to help Walt Disney grow its direct-to-consumer products and quicken the adoption of innovative technologies. Disney would be able to deliver higher-quality content and entertainment options to meet the growing consumer demand, expand its international footprint, and improve its direct-to-consumer offerings, which include the Disney+ streaming service, a 60% ownership stake in Hulu, and ESPN+ for sports enthusiasts.

The deal included Twenty-First Century Fox's interests in Hulu, Tata Sky, Endemol Shine Group, and other networks, as well as Twenty-First Century Fox's film production companies, such as Twentieth Century Fox, Fox Searchlight Pictures, Fox 2000 Pictures, Fox Family, and Fox Animation; Fox's television creative units, such as Twentieth Century Fox Television, FX Productions, and Fox21; National Geographic Partners; Fox Networks Group International; and Star India.

Disney was aware that its audience was almost identical to Netflix's. This resulted from a Disney and Netflix content sharing arrangement. However, the business had plans to use its brand to attract customers who had grown up watching Disney programming, which at the time was fiercely competitive in terms of production and selection when compared to its rivals in the market. Disney may therefore emerge as a significant Netflix rival after years of getting to know its fans and comprehending their wants.

5.2 *Walt Disney and 21st Century Fox's analysis pre-acquisition*

Before commencing the analysis, it's worth noting that all data is presented in millions of dollars. Through the Refinitiv platform, the companies' financial statements for the period between 2013 and 2018 were downloaded. Subsequently, the financial statements were reclassified (appendix 1) in order to obtain the necessary financial measures to estimate the cash flows generated by the company during this period. Specifically, the following were calculated for each year:

- Net Working Capital = Account Receivables + Inventory - Account Payables
- Delta NWC, calculated as the simple difference between NWC at year t and that at year t-1.
- Capex = Net Property, Plant, and Equipment at time t - Net Property, Plant, and Equipment at time (t-1) + depreciation at time t
- Net Financial Position is calculated considering Minority Interest as well, and thus as Debt + Minority Interest - Cash and Equivalents (Where Net Financial Position will be used to estimate the Net Borrowings. The latter will be an adjustment to calculate the Free Cash Flow to Equity of the firm).

	2013	2014	2015	2016	2017	2018
EBT (Earnings Before Taxes)	9,620.00	12,246.00	13,868.00	14,868.00	13,788.00	14,729.00
Taxes	2,984.00	4,242.00	5,016.00	5,078.00	4,422.00	3,363.00
Tax rate	31%	35%	36%	34%	32%	23%
Average tax rate	32%					
Account receivables	6,967	7,822	8,019	9,065	8,633	9,334
Inventory	1,487	1,574	1,571	1,390	1,373	1,392
Account payables	6,527	7,140	7,301	8,607	8,309	8,692
Net Working Capital	1,927	2,256	2,289	1,848	1,697	0
Change in NWC		329	33	-441	-151	-1,697
Property, Plant and Equipment	22,380	23,332	25,179	27,349	28,406	29,540
Depreciation		2,288	2,354	2,527	2,782	3,011
Capital Expenditures		3,240	4,201	4,697	3,839	4,145
Long-term Debt	13,050	12,676	12,773	16,483	19,119	17,084
Short-term Debt	1,512	2,164	4,563	3,687	6,172	3,790
Cash & Equivalents	4,092	3,843	4,821	4,610	4,017	4,209
Minority Interest total	2,721	3,220	4,130	4,058	4,837	5,182
Net Financial Position	13,191	14,217	16,645	19,618	26,111	21,847
Net borrowings		1,026	2,428	2,973	6,493	-4,264

Table 1: Walt Disney's Values

	2013	2014	2015	2016	2017	2018
EBT (Earnings Before Taxes)	5,375.00	5,488.00	5,906.00	5,992.00	6,555.00	6,379.00
Taxes	1,690.00	1,272.00	1,243.00	1,130.00	1,419.00	-364.00
Tax rate	31%	23%	21%	19%	22%	-6%
Average tax rate	18%					
Account receivables	5,459	6,468	5,912	6,258	6,477	7,120
Inventory	2,784	3,092	2,749	3,291	3,101	3,669
Account payables	0	0	0	2,746	2,838	2,882
Net Working Capital	8,243	9,560	8,661	6,803	6,740	0
Change in NWC		1,317	-899	-1,858	-63	-6,740
Property, Plant and Equipment	2,829	2,931	1,722	1,692	1,781	1,956
Depreciation	797	1,142	736	530	553	584
Capital Expenditures		1,244	-473	500	642	759
Long-term Debt	16,321	18,259	18,795	19,298	19,456	18,469
Short-term Debt	137	799	244	427	457	1,054
Cash & Equivalents	6,659	5,415	8,428	4,424	6,163	7,622
Minority Interest	3,646	4,024	1,587	1,772	1,910	1,998
Net Financial Position	13,445	17,667	12,198	17,073	15,660	13,899
Net borrowings		4,222	-5,469	4,875	-1,413	-1,761

Table 2: 21st Century Fox Values

To specify, in the last year (2018), the NWC was set to zero as a customary practice to recover the investment in NWC when the timeline is defined.

At this point, following the theoretical instructions already explained and illustrated in the previous chapters, and making the necessary adjustments, both the cash flow asset side and the cash flow equity side have been calculated.

	2013	2014	2015	2016	2017	2018
Revenues	45,041	48,813	52,465	55,632	55,137	59,434
- Operating expenses (COGS and SG&A)	33,366	34,950	36,887	38,747	38,482	41,586
= EBITDA	11,675	13,863	15,578	16,885	16,655	17,848
- Depreciation	2,192	2,288	2,354	2,527	2,782	3,011
= EBIT	9,483	11,575	13,224	14,358	13,873	14,837
- Taxes	3,017	3,683	4,207	4,568	4,414	4,720
= NOPAT	6,466	7,892	9,017	9,790	9,459	10,117
+ Depreciation	2,192	2,288	2,354	2,527	2,782	3,011
- Change in NWC	—	329	33	(441)	(151)	(1,697)
- CapEx (Capital Expenditures)	—	3,240	4,201	4,697	3,839	4,145
= FCFO	8,658	6,611	7,137	8,061	8,553	10,680

Table 3: Walt Disney's Free Cash Flow from operations

	2013	2014	2015	2016	2017	2018
Revenues	45,041	48,813	52,465	55,632	55,137	59,434
- Operating expenses (COGS and SG&A)	33,366	34,950	36,887	38,747	38,482	41,586
= EBITDA	11,675	13,863	15,578	16,885	16,655	17,848
- Depreciation	2,192	2,288	2,354	2,527	2,782	3,011
= EBIT	9,483	11,575	13,224	14,358	13,873	14,837
+ Financial and non recurring voices	137	671	644	510	(85)	(108)
= EBT	9,620	12,246	13,868	14,868	13,788	14,729
- Taxes	3,061	3,896	4,412	4,730	4,387	4,686
= NOPAT	6,559	8,350	9,456	10,138	9,401	10,043
+ Depreciation	2,192	2,288	2,354	2,527	2,782	3,011
- Change in NWC	—	329	33	(441)	(151)	(1,697)
- CapEx (Capital Expenditures)	—	3,240	4,201	4,697	3,839	4,145
+ Net borrowings	—	1,026	2,428	2,973	6,493	(4,264)
= FCFE	8,751	8,095	10,004	11,382	14,988	6,342

Table 4: Walt Disney's Free Cash Flow to Equity

	2013	2014	2015	2016	2017	2018
Revenues	27,675	31,867	28,987	27,326	28,500	30,400
- Operating expenses (COGS and SG&A)	21,503	25,237	22,345	20,804	21,392	23,437
= EBITDA	6,172	6,630	6,642	6,522	7,108	6,963
- Depreciation	797	1,142	736	530	553	584
= EBIT	5,375	5,488	5,906	5,992	6,555	6,379
- Taxes	990	1,010	1,087	1,103	1,207	1,174
= NOPAT	4,385	4,478	4,819	4,889	5,348	5,205
+ Depreciation	797	1,142	736	530	553	584
- Change in NWC	—	1,317	(899)	(1,858)	(63)	(6,740)
- CapEx (Capital Expenditures)	—	1,244	(473)	500	642	759
= FCFO	5,182	3,059	6,927	6,777	5,322	11,770

Table 5: 21st Century Fox's Free Cash Flow from operations

	2013	2014	2015	2016	2017	2018
Revenues	27,675	31,867	28,987	27,326	28,500	30,400
- Operating expenses (COGS and SG&A)	21,503	25,237	22,345	20,804	21,392	23,437
= EBITDA	6,172	6,630	6,642	6,522	7,108	6,963
- Depreciation	797	1,142	736	530	553	584
= EBIT	5,375	5,488	5,906	5,992	6,555	6,379
+ Financial and non recurring voices	3,361	(299)	3,941	(1,838)	(1,866)	(1,969)
= EBT	8,736	5,189	9,847	4,154	4,689	4,410
- Taxes	1,608	955	1,813	765	863	812
= NOPAT	7,128	4,234	8,034	3,389	3,826	3,598
+ Depreciation	797	1,142	736	530	553	584
- Change in NWC	—	1,317	(899)	(1,858)	(63)	(6,740)
- CapEx (Capital Expenditures)	—	1,244	(473)	500	642	759
+ Net borrowings	—	4,222	(5,469)	4,875	(1,413)	(1,761)
= FCFE	7,925	7,037	4,673	10,152	2,387	8,402

Table 6: 21st Century Fox's Free Cash Flow from operations

5.2.1 Beta Estimation and WACC Estimation

Through Refinitiv, the stock returns of the companies and the reference index SP500, used as a benchmark of market performance, were also downloaded. Monthly returns between December 31, 2013, and December 31, 2018, were analyzed (appendix 2). A 5-year analysis period and monthly data were chosen, considering any non-trading and non-synchronization risks between the stock and the index. Furthermore, this time frame

represented the best trade-off, also avoiding using data that was too "old" and might not reflect market values and trends. At this point, a linear regression was used to estimate the companies' betas, with companies' stock returns as the dependent variable and the market returns as the independent variable.

Secondly, the betas were adjusted, as is customary in valuation, using the Blume method where, $Adjusted\ Beta = \frac{2}{3} \times Raw\ Beta + \frac{1}{3} \times Market\ Beta$, and these are the outputs:

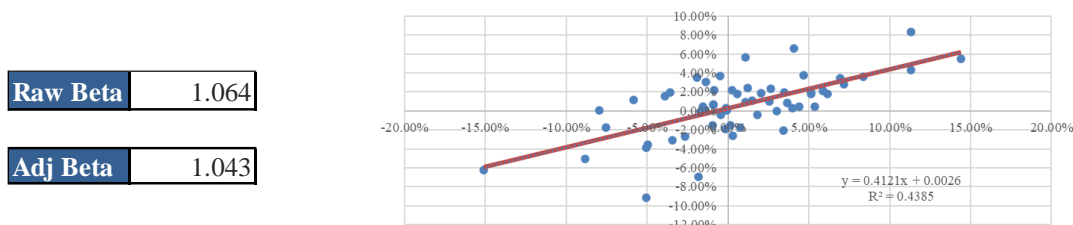


Figure 14: Walt Disney's Beta regression

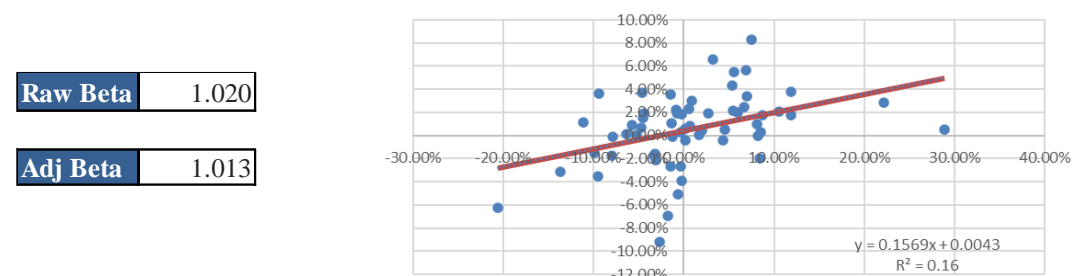


Figure 15: 21st Century Fox's Beta regression

After that, the Weighted Average Cost of Capital is estimated. First, the cost of equity (r_e) is given by the sum of the risk-free rate and the product between the beta, and the equity risk premium. As risk free rate it was chosen the yield 10-year US Treasury Note, 2.76% (4th January 2019)³⁸. To calculate the equity risk premium (ERP), the following steps (appendix 3):

- The percentage geographic revenue distributions were taken directly from the annual report for the year 2018.
- A "Base premium for Mature Equity Market" of 5.96% was considered³⁹.
- The company's country premium was calculated as the weighted sum based on the revenue weightings of individual country premiums⁴⁰(see Appendix 3).
- The total Equity Risk Premium was then calculated as "Base Premium for Mature Equity Market + Country Premium"

As a result, the costs of equity are as follows:

³⁸ yield US Treasury Notes 10 years, Source: Yahoo Finance and CNBC

³⁹ Source: Archived Data- Damodaran ERPs by country 2018

⁴⁰ It is necessary to specify that to calculate the European equity country risk premium, the average was taken between that of Eastern Europe, which is 4.5%, and that of Western Europe, which is 1.51%.

Cost of Equity calculation		Cost of Equity calculation	
Risk-free rate	2.76%	Risk-free rate	2.76%
Beta	1.04	Beta	1.01
Equity risk premium	6.82%	Equity risk premium	7.03%
Cost of Equity	9.88%	Cost of Equity	9.89%

Figure 16: Walt Disney and 21st Century Fox's cost of equity

After calculating the cost of equity, the cost of debt was also determined. The US Interest Rate Swap 10-year rate from the first week of January 2019 was used as the risk-free rate, which stood at 2.68%⁴¹. As for the spread, two separate scenarios need to be discussed. In both cases, the ratings of the two companies had been confirmed but were under observation. Nevertheless, both companies, in their respective financial statements, explained that their financial positions were robust, and even though a temporary credit rating downgrade could be anticipated in the short term, their financial situations remained extremely strong. It is particularly important to pay closer attention to Walt Disney's situation, as they are undergoing an acquisition. In this regard, Walt Disney's annual report 2018 states the following: *“We believe that the Company’s financial condition is strong and that its cash balances, other liquid assets, operating cashflows, access to debt and equity capital markets and borrowing capacity, taken together, provide adequate resources to fund the cash consideration in the pending acquisition of 21CF, ongoing operating requirements and future capital expenditures related to the expansion of existing businesses and development of new projects. However, the Company’s operating cash flow and access to the capital markets can be impacted by macroeconomic factors outside of its control. [...] As of September 29, 2018, Moody’s Investors Service’s long- and short-term debt ratings for the Company were A2 and P-1. [...] On October 8, 2018, Moody’s Investor Service affirmed The company’s long- and short-term debt ratings of A2 and P-1, respectively, following its review of the impact of the acquisition. [...] Should a downgrade occur, we do not anticipate that it would impact our ability to fund ongoing operating requirements and future capital expenditures. The Company’s bank facilities contain only one financial covenant, relating to interest coverage, which the Company met on September 29, 2018, by a significant margin.”*⁴²

In fact, in 2018, Walt Disney's Interest Coverage Ratio (ICR) was 25.85 (see Appendix 3), indicating an extremely solid financial position. For this reason, as you will see in the subsequent analysis, the company's credit rating will be confirmed because the expectations were very positive (and reality has confirmed this).

In 2018, Walt Disney had an A2 credit rating, despite having a very high ICR that would justify an even higher rating. Meanwhile, 21st Century Fox, as reported in its 2018 annual report, had a credit rating of Baa2 from

⁴¹ US Interest Rate Swap 10 years, Source: Investing.com

⁴² Source: Walt Disney Annual Report 2018

Moody's Investor Service. Even though the latter also displayed a very positive ICR, which could have warranted an even higher credit rating (see Appendix 3). Using Damodaran's credit spread estimation table⁴³, the two companies had spreads of 0.99% and 1.27%, respectively (see Appendix 3).

Below, by summing the risk-free rate and the spread, you get the two companies' respective pre-tax costs of debt equal to 3.67% (Walt Disney) and 3.95% (21st Century Fox).

The two companies, despite having potentially different "sizes," operate in the same industry. Due to the lack of current market data, and due to a better consistency with the further part of the analysis, the same target Debt/Equity (D/E) ratio⁴⁴ and aggregate tax rate⁴⁵ in the long term have been estimated. These estimates are nothing more than industry estimates for the years to come, based on Professor Damodaran's data for the year 2018. In figure 17, the Weighted Average Cost of Capital (WACC) for both companies are estimated:

WACC calculation		WACC calculation	
Cost of Equity	9.88%	Cost of Equity	9.89%
Cost of Debt	3.67%	Cost of Debt	3.95%
Target D/E ratio	19.86%	Target D/E ratio	19.86%
D/(E+D)	16.57%	D/(E+D)	16.57%
E(E+D)	83.43%	E(E+D)	83.43%
Tax rate	29.01%	Tax rate	29.01%
WACC	8.67%	WACC	8.71%

Figure 17: Walt Disney and 21st Century Fox's WACC

5.2.2 Forecasted Cash-Flow and DCF Valuation

Subsequently, the defined growth period was considered to be the three years from 2018 to 2021, and from 2022 onwards, the so-called steady stage was taken into account. During this latter period, appropriate adjustments were made to estimate the terminal values of both companies. It's also important to note that this three-year defined growth period was chosen because it was known and estimated that by 2021, the acquisition would generate cost synergies of approximately \$2 billion. This assumption, being one of the few estimated pieces of information available at the time, is crucial for drawing conclusions about the generation of financial synergy value. Furthermore, the choice of the 2019-2021 period was justified by the presence of analyst estimates for that timeframe. Estimations for an extended period would have been subject to too much variability and randomness due to the nature of the event to be considered reliable.

Several assumptions were made in this section. Using the "forecasted estimates" from 2018 available on Refinitiv, some useful assumptions were obtained. Specifically, there were estimates for the future revenues and EBITDA of both companies in the 2018-2021 period. Consequently, through inverse algebraic formulas, it was possible to estimate the revenue and cost growth rates, as well as the EBITDA margin (% on revenues)

⁴³ Source Damodaran's site: *Archived Data - Damodaran Ratings 2018*

⁴⁴ Source Damodaran's site: *Damodaran Betas Excel 2018*

⁴⁵ Source Damodaran's site: *Aggregate tax rate Entertainment Industry*

up to 2021. For the rest of the variables, estimates were made directly based on historical data from 2013 to 2018. However, this implies a strong assumption that the past somehow reflects the future trends. Below are the assumptions for Walt Disney:

	2019	2020	2021
Revenues growth rate	2.00%	4.50%	3.60%
Operating expenses growth rate	3.64%	5.34%	3.30%
EBITDA margin %	29%	28%	29%
Average EBIT margin %	24.32%		
Average Depreciation/Capex	65.11%		
Average NWC Sales	3.85%		
Aggregate tax rate	29%		

Table 7: Walt Disney's assumptions

The first three, as previously specified, are estimates from Refinitiv. As for the estimation of the EBIT margin (% on revenues), the average of this metric over the previous 5 years was calculated. It was observed that this metric had a relatively constant trend over time, making the average a meaningful representation. Following the same logic, the average Depreciation/Capex ratio over the 5 years was estimated. With this ratio in hand, once the EBITDA and EBIT were calculated, the depreciation was derived, and subsequently, the Capex for each year was calculated using the ratio. The same reasoning was applied to estimate the average NWC/SALES ratio. Again, the trend over the years had been relatively consistent, so the average of the 5-year ratio was taken. The final assumption is a continuation of Damodaran's industry tax rate estimation previously used to provide consistency with the tax rate used in the WACC estimation and what will be used again in the financial synergy estimation.

This approach not only relies on the assumption that past trends should reflect future ones but is also prudent. It represents a kind of trade-off between the theoretical concept that in the immediate years following M&A operations, trends may not be as high as they will be in the subsequent years once the two businesses have integrated. In this regard, it will be seen that a conservative and cautious approach was also adopted in estimating the growth rate (g-rate) for the terminal value.

These, on the other hand, are the assumptions for 21st Century Fox:

	2019	2020	2021
Revenues growth rate	3.62%	5.71%	5.71%
Operating expenses growth rate	3.26%	5.37%	4.71%
EBITDA margin %	23%	23%	24%
Average EBIT margin %	20.49%		
Average Capex growth rate last 3 years	23.31%		
Average NWC Sales	27.37%		
Aggregate tax rate	29%		

Table 8: 21st Century Fox's assumptions

The assumptions for the second company largely mirror those made in the previous case. The only significant difference lies in the assumption of a growth rate (g-rate) for Capex. In fact, concerning 21st Century Fox, the Depreciation/Capex ratio over time did not show consistent values and, in fact, exhibited varying values that were not meaningful. This trend was more consistent and in the same direction in the last two years. For this reason, it was chosen to approximate the growth rate based on the average rate of the last two years, 2017-2018, assuming that this trend would still be reflected in the years to come.

Thanks to all these assumptions, the future cash flows for the period 2018-2021 were then estimated. However, before being able to estimate the Enterprise Value of the two companies, it was also necessary to estimate the two companies' growth rates (g-rates) in order to apply the Gordon formula in calculating the Terminal Value.

The two long term g-rates were calculated as the sum of the expected individual inflation rates of the countries in which the companies generate revenues, weighted by these revenues and their geographical distribution. The values of the expected inflation rates for the upcoming years for individual countries were downloaded directly from the official website of the International Monetary Fund (IMF)⁴⁶

<i>Expected Inflation rate next five years</i>		<i>Source: International Monetary Fund</i>		
Countries	Expected inlation rates (2022-2018)	Revenue Weight	Weighted Inflation	
United States and Canada	4.31%	75.78%	3.27%	
Europe	4.26%	11.82%	0.50%	
Asia pacific	5.09%	9.31%	0.47%	
Other	5.01%	3.09%	0.16%	
		Weighted Inflation rate	4.40%	
		Walt Disney LT g-rate	3.40%	

<i>Expected Inflation rate next five years</i>		<i>Source: International Monetary Fund</i>		
Countries	Expected inlation rates (2022-2018)	Revenue Weight	Weighted Inflation	
United States and Canada	4.31%	71.18%	3.07%	
Europe	4.26%	11.05%	0.47%	
Asia pacific	5.09%	10.53%	0.54%	
Other	5.01%	7.24%	0.36%	
		Weighted Inflation rate	4.44%	
		21st Century Fox LT g-rate	3.44%	

Table 9: Long Term g-rates

It's important to specify that the expected rate between 2022 and 2028 is simply the average of the expectations for those years. Additionally, for the US/Canada rate, it's the average between the two.

However, it's vital to emphasize the underlying assumption used to estimate these g-rates. In valuation, it's common practice to consider inflation as a benchmark for estimating the g-rate. Typically, the practice involves selecting a g-rate that doesn't exceed the expected inflation because it wouldn't be credible. To maintain a prudent approach, a g-rate one percentage point lower than the company's weighted expected inflation was estimated. This was done to avoid overestimating the company's value and to balance some relatively rigid assumptions already made.

⁴⁶ <https://www.imf.org/external/datamapper/datasets>

To further emphasize this approach, the same method was applied to both companies, even though logically, Walt Disney's g-rate could have been slightly higher than that of 21st Century Fox. This consideration takes into account the values of the companies and the overly optimistic expectations surrounding Walt Disney and its investors.

Finally, after estimating the g-rates, it was possible to calculate the terminal values of the two companies (see Appendix 4)⁴⁷. Once both the forecasted cash flows of the companies and their respective terminal values were determined, the enterprise values of the two companies were calculated using the Net Present Value (NPV) formula previously outlined in the valuation methods, with the WACC values derived just above for each company.

	Forecasted			Steady stage
	2019	2020	2021	2022
Revenues	60,623	63,351	65,631	10,089
Operating expenses (COGS and SG&A)	43,100	45,400	46,900	
EBITDA	17,523	17,951	18,731	
<i>EBITDA margin %</i>	29%	28%	29%	
Depreciation	2,781	2,545	2,771	
EBIT	14,742	15,405	15,960	
Taxes 29.91%	4,277	4,469	4,630	
NOPAT	10,465	10,936	11,330	
Depreciation	2,781	2,545	2,771	
<i>NWC</i>	2,332	2,437	2,525	
Change in NWC	298	105	88	
CapEx (Capital Expenditures)	4,271	3,909	4,256	
FCFO	8,677	9,467	9,757	
Terminal Value			191,497	
FCFO+Terminal value	8,677	9,467	201,254	
Enterprise Value	\$ 172,826			

Table 10: Walt Disney's Enterprise Value

⁴⁷ Of course, for the calculation of the Terminal Values, the theoretical adjustments previously outlined in the valuation methods chapter were applied.

	Forecasted			Steady stage
	2019	2020	2021	2022
Revenues	31,500	33,300	35,200	4,618
Operating expenses (COGS and SG&A)	24,200	25,500	26,700	
EBITDA	7,300	7,800	8,500	
<i>EBITDA margin %</i>	23%	23%	24%	
Depreciation	846	977	1,288	
EBIT	6,454	6,823	7,212	
Taxes <i>29.91%</i>	1,872	1,979	2,092	
NOPAT	4,581	4,843	5,120	
Depreciation	846	977	1,288	
<i>NWC</i>	<i>8,621</i>	<i>9,114</i>	<i>9,634</i>	
Change in NWC	714	493	520	
CapEx (Capital Expenditures)	936	1,154	1,423	
FCFO	3,777	4,174	4,464	
Terminal Value			87,588	
FCFO+Terminal value	3,777	4,174	92,053	

Enterprise Value	\$ 78,652
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Table 11: 21st Century Fox's Enterprise Value

To add greater significance to the conducted analysis and the assumptions made, a sensitivity analysis of the enterprise value was also performed, considering variations in the g-rate for both companies (Appendix 4).

		EV
G rate	3.40%	172,826
	4%	192,919
	3.50%	175,810
	3%	161,717
	2.50%	149,909
	2%	139,871

		EV
G rate	3.44%	78,652
	4%	87,156
	3.50%	79,469
	3%	73,127
	2.50%	67,806
	2%	63,277

Figure 18: Walt Disney and 21st Century Fox's sensitivity analysis

A sensitivity analysis of the enterprise value was conducted to add greater significance to the analysis carried out and the assumptions made. These sensitivity analyses were performed to enhance the reliability of the estimated results. In fact, through Refinitiv, it is possible to observe that the estimated enterprise values of the companies in 2018 were \$195.824 million and \$105.617 million⁴⁸, respectively. The sensitivity analysis demonstrates how small variations in the g-rate can bring the estimated enterprise values closer to those estimated by the renowned platform. This was done to ensure greater robustness to the assumptions made and the valuation method used. It's important to note that a conservative approach was used due to some relatively aggressive assumptions. Even with just a slightly more favorable g-rate, the valuations almost aligned.

⁴⁸ Source Refinitiv: *Walt Disney-Valuation*
Source Refinitiv: *21st Century Fox-Valuation*

5.3 Value of Financial Synergies

At this point, I proceeded to calculate the financial synergies. As previously mentioned in the section on the valuation of financial synergies, the three methods explained by Marco Vulpiani in his manual were used to estimate them. Specifically, the effects of financial synergies due to changes in the company's risk profile in terms of beta and the related WACC were estimated.

It should be noted that the first two methods, the "weighted average risk approach" and the "financial risk approach," were used, while the third method, the "financial and operating risk" approach, was not. The calculation of financial synergies using the "financial and operating risk" approach could not be carried out because the necessary information regarding the cost structure of the companies was not available. This limitation had already been explained in the presentation of the method, as it is challenging for an external party to access information about the breakdown of costs into fixed and variable costs. In this regard, it was impossible to accurately estimate the Degree of Operating Leverage of the company and the related pure business beta of the industry, adjusted for the degree of debt and operating leverage.

Initially, the future cash flows generated by the Walt Disney company post-acquisition were estimated by simply summing (appendix 5) the estimated cash flows of the two companies 2019-2021. Subsequently, the terminal value of the post-acquisition company was calculated using the previously estimated g-rate and WACC for Walt Disney. In this way, still using the pre-acquisition WACC of Walt Disney, the post-acquisition Enterprise Value was estimated using the NPV formula. Consequently, the Equity Value is calculated subtracting the Net Financial Position from Enterprise Value.

	2019	2020	2021	2022
Revenues	92,123	96,651	100,831	
Operating expenses (COGS and SG&A)	67,300	70,900	73,600	
EBITDA	24,823	25,751	27,231	
Depreciation	3,627	3,523	4,059	
EBIT	21,196	22,228	23,172	
Taxes	6,149	6,449	6,723	
NOPAT	15,046	15,779	16,449	14,707
Depreciation	3,627	3,523	4,059	—
Change in NWC	1,013	598	608	—
CapEx (Capital Expenditures)	5,206	5,063	5,679	—
FCFO	12,454	13,641	14,221	14,707
Terminal Value			279,855	
FCFO+Terminal value	12,454	13,641	294,077	
Enterprise Value combined entity	252,167			
Equity Value combined entity	216,421			

Figure 19: Walt Disney's Enterprise Value with WACC pre-acquisition

Subsequently, the exact same methodology was used, still with the pre-operation WACC and g-rate of Walt Disney but considering the cost synergies estimated by 2021.

A highly simplified assumption was made here because the purpose of the analysis is precisely to highlight the positive effect of financial synergies, not to estimate operational ones. In fact, cost synergies were simply considered as a value of \$667 million each year, which is equivalent to the simple division of the \$2 billion cost synergies estimated by 2021 into three parts. In other words, these synergies were evenly spread over the 2019-2021 period.

	2019	2020	2021	2022
Revenues	92,123	96,651	100,831	
Operating expenses (COGS and SG&A)	66,633	70,233	72,933	
EBITDA	25,489	26,417	27,898	
Depreciation	3,627	3,523	4,059	
EBIT	21,863	22,895	23,839	
Taxes	6,343	6,642	6,916	
NOPAT	15,520	16,252	16,922	15,197
Depreciation	3,627	3,523	4,059	—
Change in NWC	1,013	598	608	—
CapEx (Capital Expenditures)	5,206	5,063	5,679	—
FCFO	12,927	14,114	14,695	15,197
Terminal Value			289,168	
FCFO+Terminal value	12,927	14,114	303,863	

Enterprise Value combined entity	260,629
Equity Value combined entity	223,683

Figure 20: Walt Disney's Enterprise Value with cost synergies and WACC pre-acquisition

As can be seen from the two previous figures, considering the cost synergies expected by 2021, the values change. It was assumed that the company's capital structure remains the same, and therefore, the net financial position with synergies was calculated as the product of the $\frac{D}{V}$ without synergies (appendix 5) and the Enterprise Value considering the synergies. At this point, the Equity Value of the company was calculated as the simple subtraction between the Enterprise Value and the Net Financial Position. Considering the cost synergies expected by 2021, the value of the enterprise value and the equity of the company increases by over 8 billion and 7 billion, respectively (see Appendix 5).

It is important to emphasize that the analysis, including the inclusion of cost synergies, aims to simply demonstrate how, by considering additional synergies, the potential positive effect generated by financial synergies increases.

5.3.1 The weighted average risk approach

The following method, as previously explained, involves changing the company's beta by simply considering it as the weighted sum of the equity values of the two betas of the companies involved in the operation. Below are listed the values of the two Enterprise Values (without and with cost synergies) as the newly estimated post-acquisition WACC varies using this method:

The weighted average risk approach					
Company	Beta	Equity value	Weight	Weighted Beta	
Walt Disney	1.043	150,979	70%	0.73	
21st Century Fox	1.013	64,753	30%	0.30	
				Walt Disney Post Beta	1.034
				Wacc post-acquisition	8.62%
Enterprise Value	\$	254,602		Enterprise Value	\$
Equity Value	\$	218,856		Equity Value	\$
				263,145	
				223,683	

Figure 21: Walt Disney's Enterprise Value and Equity Value with weighted average risk approach

It should be noted that, of course, the terminal values in both scenarios were appropriately recalculated considering the new WACC and the previous growth rate, as otherwise, it would be an underestimate of the method and would not be consistent.

Finally, to estimate the value of financial synergies, a simple differential analysis was conducted between the post-acquisition company value with the newly estimated WACC and the post-operation company value with the pre-acquisition WACC. Financial synergies were calculated in both cases, both without and with cost synergies.

<i>Without Synergies</i>		<i>With cost synergies</i>	
Enterprise Value - Wacc post-acquisition	254,602	Enterprise Value - Wacc post-acquisition	263,145
Enterprise Value - Wacc pre-acquisition	252,167	Enterprise Value - Wacc pre-acquisition	260,629
Value of Financial Sinergy	\$ 2,435	Value of Financial Sinergy	\$ 2,516
Equity Value - Wacc post-acquisition	218,856	Equity Value - Wacc post-acquisition	226,199
Equity Value - Wacc pre-acquisition	216,421	Equity Value - Wacc pre-acquisition	223,683
Value of Financial Sinergy	\$ 2,435	Value of Financial Sinergy	\$ 2,516

Figure 22: Value of Financial Synergies without and with cost synergies

As you can see above, the change in Enterprise Value and Equity Value equals each other because the net financial position remains constant.

It's also easy to notice that in both cases, the change in the company's risk profile will bring significant benefits due to financial synergies, whether or not cost synergies are considered. However, it can be observed that considering cost synergies increases the benefit brought by financial synergies. It's important to emphasize that this analysis considered only cost synergies and no other type of synergies. Therefore, in reality, these

financial synergies could be even higher because the company's cash flows, in addition to being discounted at a lower WACC, would also be of a greater magnitude.

Furthermore, in this case, a sensitivity analysis has been calculated and estimated for both scenarios. The sensitivity analysis was conducted by considering variations in the company's beta. These variations in beta, although minimal, as they were considered to be variations of only 0.5%, can lead to even more significant benefits. In fact, these variations would result in consequent decreases in the WACC and, consequently, an increase in the value of financial synergies due to the increase in the Enterprise value of the post-acquisition company. It can be noted that in a hypothetical case, a decrease in beta of even just 0.02 can generate a quite substantial increase in financial synergies. Indeed, in both scenarios, it would lead to an increase of over approximately \$8.5 billion, where, as can be seen, this increase is even greater in the scenario with synergies (figure 23).

		Wacc	Financial Sinergy			Wacc	Financial Sinergy
Post Acquisition's Beta	1.034	8.62%	\$ 2,435	Post Acquisition's Beta	1.034	8.62%	\$ 2,516
	1.030	8.60%	\$ 3,500		1.030	8.60%	\$ 3,617
	1.025	8.57%	\$ 4,916		1.025	8.57%	\$ 5,080
	1.020	8.54%	\$ 6,348		1.020	8.54%	\$ 6,560
	1.015	8.51%	\$ 7,796		1.015	8.51%	\$ 8,056
	1.010	8.48%	\$ 9,261		1.010	8.48%	\$ 9,569
	1.005	8.46%	\$ 10,741		1.005	8.46%	\$ 11,099

Figure 23: Sensitivity analysis of Financial Synergies without and with cost synergies

In any case, all the work carried out in this case is included in the appendix 5.

5.3.2 The financial risk-approach

This approach differs from the previous one because it does not rely on a simple weighting of the beta of the two companies.

In this approach, the first step is to calculate the capital structure of the two companies involved in the transaction. In this case, the estimated values obtained from the valuation of the two pre-transaction companies were used. In fact, from the enterprise value calculated using the DCF method, the equity value was then calculated by subtracting, as per definition, the net financial position. Since there were no updated market data available, the net financial position was quantified as previously calculated to make the necessary adjustment of net borrowings in the calculation of free cash flows to equity. Therefore, the net financial position was subtracted from the enterprise value to obtain the equity value of the company.

The next step, as per theoretical methodology, was to calculate the individual Unlevered Betas of the two companies, using the Hamada formula. The reverse formula of [26] was then applied to exclude the effect of financial leverage and consider only the systematic risk of the companies.

$$\beta_{UN} = \beta_L / [1 + (1 - t) \times \frac{D}{E}] \quad [27]$$

After calculating the Unlevered Beta of the two companies, the Unlevered Beta of the industry was calculated as a simple average between the two. At this point, it was necessary to estimate the Levered Beta of the new company again, considering the new capital structure of the post-acquisition company. This was estimated again by considering the target D/E structure estimated by Damodaran for the media and entertainment sector. In this way, the financial leverage risk of the company is once again taken into account, in addition to the systematic risk. At this point, using the same assumptions as the method just described, the post-acquisition WACC was recalculated.

The financial risk approach			
Company	Beta	D/E	Unlevered Beta
Walt Disney	1.043	14.470%	0.945
21st Century Fox	1.013	21.465%	0.879
Unlevered Beta			0.912
Levered Beta Post			1.0410
Wacc - post acquisition			8.66%
Enterprise Value	252,598	Enterprise Value	261,074
Equity Value	216,852	Equity Value	224,128

Figure 24: Walt Disney's Enterprise Value with financial risk approach

Again, finally, to estimate the value of financial synergies, a simple differential analysis was conducted between the post-acquisition company value with the newly estimated WACC and the post-operation company value with the pre-acquisition WACC. Financial synergies were calculated in both cases, both without and with cost synergies.

<u>Without Synergies</u>		<u>With cost synergies</u>	
Enterprise Value - Wacc post-acquisition	252,598	Enterprise Value - Wacc post-acquisition	261,074
Enterprise Value - Wacc pre-acquisition	252,167	Enterprise Value - Wacc pre-acquisition	260,629
Value of Financial Sinergy	\$ 431	Value of Financial Sinergy	\$ 445
Equity Value - Wacc post-acquisition	216,852	Equity Value - Wacc post-acquisition	224,128
Equity Value - Wacc pre-acquisition	216,421	Equity Value - Wacc pre-acquisition	223,683
Value of Financial Sinergy	\$ 431	Value of Financial Sinergy	\$ 445

Figure 25: Value of Financial Synergies without and with cost synergies

Again, as you can see above, the change in Enterprise Value and Equity Value equals each other because the net financial position remains constant.

The considerations made for the previous method can be reiterated for this methodology. It's worth highlighting once again that in this method, naturally, the effect of considering cost synergies results in a greater positive impact of financial synergies rather the case without considers them.

In addition, it should be emphasized that this method certainly estimates financial synergies in a more prudent and accurate manner, as it directly takes into account the risk due to the financial leverage of the company added to the systematic risk of the industry, rather than a simple weighting of the beta of the two companies, which may not be considered 100% reliable.

Furthermore, in this case, a sensitivity analysis was also conducted to observe how financial synergies vary with changes in beta using this method. The variation in beta considered is always very low as a prudent measure, in order to illustrate once again how even small variations can lead to significant value creation.

		Wacc	Financial Sinergy
Post Acquisition's Beta	1.041	8.66%	\$ 431
	1.036	8.63%	\$ 1,821
	1.031	8.60%	\$ 3,219
	1.026	8.58%	\$ 4,632
	1.021	8.55%	\$ 6,061
	1.016	8.52%	\$ 7,505
	1.011	8.49%	\$ 8,966

		Wacc	Financial Sinergy
Post Acquisition's Beta	1.041	8.66%	\$ 445
	1.036	8.63%	\$ 1,882
	1.031	8.60%	\$ 3,326
	1.026	8.58%	\$ 4,786
	1.021	8.55%	\$ 6,262
	1.016	8.52%	\$ 7,755
	1.011	8.49%	\$ 9,265

Figure 26: Sensitivity analysis of Financial Synergies without and with cost synergies

In this case as well, the sensitivity analyses have shown how the creation of financial synergies is highly sensitive to variations in the company's beta.

Unlike the previous method, in this case, the absolute value of financial synergies is, of course, lower because the WACC is higher. However, it should be emphasized that all the data are reported in millions. So even in the base case, as evaluated by me, financial synergy in both scenarios is a significantly larger value, well over 400 million dollars. Certainly, this is a more than significant value that represents a tremendous opportunity for value creation for the company.

In any case, all the work carried out in this case is included in the appendix 5.

5.5 Limitations

In this type of analysis, values and data were derived from the official financial statements of the two companies, along with assumptions based on the trends in these data. This introduces a primary limitation regarding the assumption that past data should reflect the future performance of the company. Additionally, financial statements from the companies were used, and not all market data were employed (whenever possible, market data were utilized).

Another significant limitation is the time frame of the analysis. The ME market and the global scenario change rapidly and continuously. Therefore, despite efforts to address this limitation, the estimated analysis values may not fully reflect current market values.

The selected time frame does not take into account the impact of the COVID-19 pandemic. However, this was a deliberate choice, as considering the effects of COVID-19 would have introduced greater complexity into the assumptions and increased the uncertainty of the values, significantly reducing the reliability of the analysis. In reality, as seen, COVID-19 has significantly slowed the growth rates of various sectors and companies.

It's essential to highlight what has already been explained in the chapter on financial synergies, namely that greater synergy effectiveness due to an improvement in the cost of capital is most prominent in cases where the companies have less favorable credit ratings. Walt Disney, for example, is a highly solid company that requires extensive changes to improve its credit rating. However, the choice of this operation was driven by the substantial synergy potential associated with it, not only financial but also other types listed in the synergy chapter. Therefore, it can be predicted that in the future, with the realization of all synergies and the stabilization of values in the years following the acquisition, the company may achieve greater financial stability. This increased financial stability, along with potentially improved operational profitability, can lead to the optimal capital structure needed to further reduce the company's cost of capital.

In conclusion, it's important to acknowledge the key limitations of the DCF method. It is sensitive to future forecasts, subject to subjectivity in selecting the discount rate and making long-term projections. Additionally, DCF valuations can vary significantly among analysts, overlook non-financial factors, and require detailed financial data. Often, it does not account for extraordinary events and assumes that risk remains constant over time.

In this thesis, we exclusively employed the Discounted Cash Flow Model as our valuation method. However, for future research, it is advisable to consider the utilization of additional valuation methods, including Price Multiple methods, to assess the value of both companies. This would provide a wider range of valuation, ensuring greater reliability to the analysis.

Conclusions

In summary, to conclude our analysis, we can draw several conclusions. First and foremost, it is intuitively evident that, like other synergies, financial synergies are not guaranteed to materialize in the future; in fact, they may not occur at all. As explained throughout the analysis, and particularly in the description of its limitations, macroeconomic and extraordinary events outside the company can dramatically impact the actual realization of companies' financial plans. In this case, the global market, and consequently the media and entertainment sector, experienced a slowdown in growth with the advent of COVID-19. As a result, the expectations for Walt Disney may have faced delays in full realization. This underscores the importance of thorough planning and preparation for the future implications of any business endeavor.

It is crucial not to underestimate the effect of synergies and to consider them when evaluating both the positive and negative effects of a merger and acquisition operation. Equally important is conducting a proper and comprehensive due diligence in estimating these synergies. This involves a thorough analysis of every possible scenario, providing various cases, methods, and valuation ranges to arrive at a well-rounded approximation. One must avoid overly optimistic approaches, as predicting the precise timing of their realization is challenging, given the myriad factors that can influence a company's operations. A conservative approach should always be maintained.

When evaluating this operation, it is easy to assert that the acquisition of 21st Century Fox by Walt Disney has generated and will continue to generate future benefits. Firstly, it has allowed the company behind Mickey Mouse to increase its influence and market positioning significantly. This, in turn, has exponentially expanded and enhanced the offering to its customers. The operation not only expanded its content library but also bolstered its resources for introducing its own streaming service. This streaming service will become vital for the company's future growth, especially considering market dynamics. In this way, Walt Disney has positioned itself as a direct competitor to Netflix in the streaming service sector, demonstrating adaptability and reaffirming its status as a media industry giant for years to come.

In addition to these benefits, it has been demonstrated that this operation will be financially advantageous for the company. In the coming years, Walt Disney, through the various explained synergies, can significantly increase its revenues while reducing its costs. Approximately \$2 billion in cost synergies were already estimated by 2021. Moreover, by increasing and improving the company's cash flow generation capacity, it has been shown that financial synergies will also enhance the benefits and value creation. Through various approaches, it has been illustrated how, over time, the effect of financial synergies significantly increases the value of cash flows. The "weighted average risk" approach estimates significantly higher financial synergy values, up to six times greater than the other approach. This is because the weighted average method is straightforward to use but, at the same time, quite approximate, as it relies on the assumption that the new beta

of the company is the result of the weighted sum of the equity values of the two companies. On the other hand, the "financial risk approach" is a more advanced method that doesn't rely on this simple approximation. In fact, it estimates the post-acquisition beta by first calculating the industry beta and then adding the specific financial leverage of the company. This way, it considers both the systematic risk of the industry in which the company operates and the specific risk associated with the company's financial leverage. In this method, the beta is estimated with a higher value, and consequently, the WACC used is also higher. It's worth noting, however, that it remains lower than Walt Disney's pre-operation WACC.

Furthermore, it has been demonstrated that these financial synergies, even in terms of efficiency, are very positive. Small variations in the company's risk and, consequently, its cost of capital can lead to value creation in the billions of dollars for a company as large and structured as Walt Disney.

Empirically, the analysis has also highlighted the positive effect of these synergies (but generally of all synergies) by showing how the company's value can increase beyond the mere sum of the values of the two companies, with the combined effect of all synergies (cost and financial, in this case) totalling over approximately \$10 billion. In this case, it has been shown that, through the operation and using various methods, even in the most conservative and prudent scenario, the value creation from financial synergies is still over \$400 million. In the evaluation scenario and with the more optimistic relative method, it has been shown that the value creation can exceed \$2 billion.

All of this leads us to conclude that there are strong grounds to expect further growth and a strengthening of Walt Disney's leadership position in the market. Additionally, this analysis has demonstrated that Walt Disney's acquisition of 21st Century Fox is economically justified, considering financial synergies. By taking into account the standalone valuation of 21st Century Fox, the strategic significance of the move within the sector, the creation of cost synergies, the generation of potential revenue synergies, and the quantification of value creation from financial synergies, it can be concluded that the acquisition price of \$71.3 billion is more than reasonable underscoring the importance of appropriately estimating and considering financial synergies.

Appendix

Appendix I "Financial Statements"

Walt Disney

	2013	2014	2015	2016	2017	2018
Revenues	45,041	48,813	52,465	55,632	55,137	59,434
- COGS	25,001	26,385	28,364	29,993	30,306	32,726
= Gross margin	20,040	22,428	24,101	25,639	24,831	26,708
- Selling, general and administrative	8,365	8,565	8,523	8,754	8,176	8,860
= EBITDA	11,675	13,863	15,578	16,885	16,655	17,848
- Depreciation and amortization	2,192	2,288	2,354	2,527	2,782	3,011
= EBIT	9,483	11,575	13,224	14,358	13,873	14,837
+ Equity earnings (losses) of affiliates	688	854	814	926	320	(102)
+ Non-Recurring Income/(Expense)	(535)	(140)	(53)	(156)	(20)	8
- Interest Expense - Net of (Interest Income)	235	(23)	117	260	385	574
+ Non-Interest Financial Income/(Expense) - Total	219	(143)	—	—	—	—
+ Other, net	—	77	—	—	—	560
= EBT	9,620	12,246	13,868	14,868	13,788	14,729
- Taxes	2,984	4,242	5,016	5,078	4,422	3,363
= Income from continuing operations	6,636	8,004	8,852	9,790	9,366	11,366
+ Income (loss) from discontinued operations, net of tax	—	—	—	—	—	1,700
= Net income	6,636	8,004	8,852	9,790	9,366	13,066
- Net income attributable to noncontrolling interests	500	503	470	399	386	468
= Net income attributable to stockholders	6,136	7,501	8,382	9,391	8,980	12,598

	2013	2014	2015	2016	2017	2018
Assets						
Cash and cash equivalents	4,092	3,843	4,821	4,610	4,017	4,209
Loans & Receivables	6,967	7,822	8,019	9,065	8,633	9,334
Inventories, net	1,487	1,574	1,571	1,390	1,373	1,392
Other	2,168	2,738	2,347	1,901	1,866	1,890
Current assets	14,714	15,977	16,758	16,966	15,889	16,825
Investments - Long-Term	442	259	247	198	115	131
Investments in Associates, Joint Ventures and Unconsolidated Subsidiaries	2,407	2,476	2,483	4,082	3,087	2,768
Derivative Financial Instruments - Hedging - Long-Term	276	277	372	328	202	40
Investments	3,125	3,012	3,102	4,608	3,404	2,939
Receivables, net	1,547	1,485	1,589	1,651	1,688	1,928
Inventories, net	(605)	(801)	—	—	—	—
Property, plant and equipment, net	22,380	23,332	25,179	27,349	28,406	29,540
Intangible Assets - excluding Goodwill - Net - Total	12,153	12,759	13,355	13,288	14,476	14,700
Goodwill/Cost in Excess of Assets Purchased - Net	27,324	27,881	27,826	27,810	31,426	31,269
Other non-current assets	603	541	373	361	500	1,397
Non-current assets	66,527	68,209	71,424	75,067	79,900	81,773
Total assets	81,241	84,186	88,182	92,033	95,789	98,598
Liabilities						
Trade Accounts & Trade Notes Payable - Short-Term	4,899	5,371	5,504	6,860	6,490	6,503
Accrued Expenses - Short-Term	1,628	1,769	1,797	1,747	1,819	2,189
Trade Accounts Payable & Accruals - Short-Term	6,527	7,140	7,301	8,607	8,309	8,692
Deferred revenue	3,389	3,533	3,927	4,025	4,568	4,591
Short-Term Debt & Current Portion of Long-Term Debt	1,512	2,164	4,563	3,687	6,172	3,790
Derivative Liabilities - Hedging - Short-Term	244	188	174	359	344	115
Other Current Liabilities	32	267	369	164	202	672
Current liabilities	11,704	13,292	16,334	16,842	19,595	17,860
Debt - Long-Term - Total	13,050	12,676	12,773	16,483	19,119	17,084
Derivative Liabilities - Hedging - Long-Term	24	8	20	168	205	44
Deferred Tax & Investment Tax Credits - Long-Term	4,050	4,098	4,051	3,679	4,480	3,109
Other Non-Current Liabilities - Total	4,263	5,934	6,349	7,538	6,238	6,546
Redeemable noncontrolling interests	—	—	—	—	1,148	1,123
Non-current liabilities	21,387	22,716	23,193	27,868	31,190	27,906
Total liabilities	33,091	36,008	39,527	44,710	50,785	45,766
Common Stock - Treasury/Repurchased	34,582	41,109	47,204	54,703	64,011	67,588
Common Equity - Contributed	33,440	34,301	35,122	35,859	36,248	36,779
Retained Earnings - Total	47,758	53,734	59,028	66,088	72,606	82,679
Comprehensive Income - Accumulated - Total	(1,187)	(1,968)	(2,421)	(3,979)	(3,528)	(3,097)
Equity - Non-Contributed - Reserves & Retained Earnings	46,571	51,766	56,607	62,109	69,078	79,582
Common equity Attributable to Parent Shareholders	45,429	44,958	44,525	43,265	41,315	48,773
Preferred Shareholders Equity	—	—	—	—	—	—
Shareholders' equity	45,429	44,958	44,525	43,265	41,315	48,773
Noncontrolling interests	2,721	3,220	4,130	4,058	3,689	4,059
Total Shareholders' equity	48,150	48,178	48,655	47,323	45,004	52,832
Total liabilities and equity	81,241	84,186	88,182	92,033	95,789	98,598

	2013	2014	2015	2016	2017	2018
Revenues	27,675	31,867	28,987	27,326	28,500	30,400
- COGS	17,496	21,108	18,561	17,129	17,775	19,769
= Gross profit	10,179	10,759	10,426	10,197	10,725	10,631
- Selling, general and administrative	4,007	4,129	3,784	3,675	3,617	3,668
= EBITDA	6,172	6,630	6,642	6,522	7,108	6,963
- Depreciation and amortization	797	1,142	736	530	553	584
= EBIT	5,375	5,488	5,906	5,992	6,555	6,379
+ Equity earnings (losses) of affiliates	655	622	904	(34)	(41)	(138)
+ Non-Recurring Income/(Expense)	—	—	—	(323)	(315)	(72)
- Interest expense, net	1,063	1,121	1,198	1,184	1,219	1,248
+ Interest income	57	26	39	38	36	39
+ Other, net	3,712	174	4,196	(335)	(327)	(550)
= EBT	8,736	5,189	9,847	4,154	4,689	4,410
- Taxes	1,690	1,272	1,243	1,130	1,419	(364)
= Income from continuing operations	7,046	3,917	8,604	3,024	3,270	4,774
+ Income (loss) from discontinued operations, net of tax	277	729	(67)	(8)	(44)	(12)
= Net income	7,323	4,646	8,537	3,016	3,226	4,762
- Net income attributable to noncontrolling interests	226	132	231	261	274	298
= Net income attributable to stockholders	7,097	4,514	8,306	2,755	2,952	4,464

	2013	2014	2015	2016	2017	2018
Assets						
Cash and cash equivalents	6,659	5,415	8,428	4,424	6,163	7,622
Receivables, net	5,459	6,468	5,912	6,258	6,477	7,120
Inventories, net	2,784	3,092	2,749	3,291	3,101	3,669
Other	665	401	287	976	545	922
Current assets	15,567	15,376	17,376	14,949	16,286	19,333
Equity method investments	3,189	2,556	4,088	3,417	3,437	3,494
Available-for-sale securities	268	124	18	—	—	257
Other investments	247	179	423	446	465	361
Investments	3,704	2,859	4,529	3,863	3,902	4,112
Receivables, net	437	454	394	389	543	724
Inventories, net	5,371	6,442	6,411	7,041	7,452	7,518
Property, plant and equipment, net	2,829	2,931	1,722	1,692	1,781	1,956
Intangible Assets -excluding Goodwill Net - Total	5,064	8,072	6,320	6,777	6,574	6,101
Goodwill/Cost in Excess of Assets Purchased - Net	17,255	18,052	12,513	12,733	12,792	12,768
Other non-current assets	717	607	786	921	1,394	1,319
Non-current assets	35,377	39,417	32,675	33,416	34,438	34,498
Total assets	50,944	54,793	50,051	48,365	50,724	53,831
Liabilities						
Current borrowings	137	799	244	427	457	1,054
Accrued Expenses - Short-Term	—	—	—	2,476	2,432	2,439
Trade Accounts & Trade Notes Payable - Short-Term	—	—	—	270	406	443
Trade Accounts Payable & Accruals - Short-Term	—	—	—	2,746	2,838	2,882
Other current liabilities	4,434	4,183	3,937	435	613	366
Participations, residuals and royalties payable	1,663	1,546	1,632	1,672	1,657	1,748
Program rights payable	1,524	1,638	1,001	1,283	1,093	1,368
Deferred revenue	677	690	448	505	580	826
Current liabilities	8,435	8,856	7,262	7,068	7,238	8,244
Non-current borrowings	16,321	18,259	18,795	19,298	19,456	18,469
Other liabilities	3,264	3,507	3,105	3,678	3,616	3,664
Deferred income taxes	2,280	2,729	2,082	2,888	2,782	1,892
Redeemable noncontrolling interests	519	541	621	552	694	764
Non-current liabilities	22,384	25,036	24,603	26,416	26,548	24,789
Total liabilities	30,819	33,892	31,865	33,484	33,786	33,033
Class A common stock, \$0.01 par value per share	15	14	12	11	11	11
Class B common stock, \$0.01 par value per share	8	8	8	8	8	8
Additional paid-in capital	15,840	15,041	13,427	12,211	12,406	12,612
Retained earnings	1,454	2,389	5,343	3,575	5,315	8,934
Accumulated other comprehensive loss	(319)	(34)	(1,570)	(2,144)	(2,018)	(2,001)
Shareholders' equity	16,998	17,418	17,220	13,661	15,722	19,564
Noncontrolling interests	3,127	3,483	966	1,220	1,216	1,234
Total Shareholders' equity	20,125	20,901	18,186	14,881	16,938	20,798
Total liabilities and equity	50,944	54,793	50,051	48,365	50,724	53,831

Appendix 2 "Beta"

Walt Disney

Raw Beta 1.064
Adj Beta 1.043

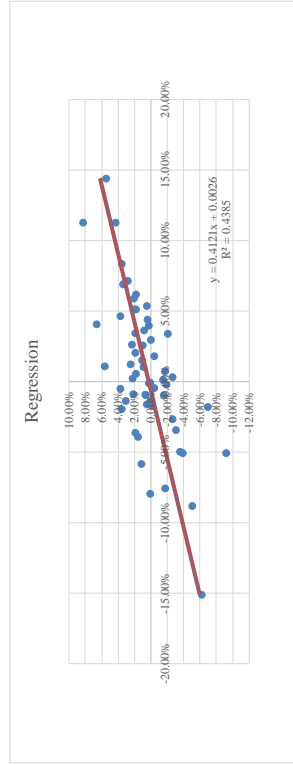
OUTPUT RIEPILOGO

Statistica della regressione	
R multiplo	0.662180908
R al quadrato	0.438483555
R al quadrato corretto	0.428802237
Errore standard	0.038197651
Osservazioni	60

ANALISI VARIANZA

	ggl	SQ	MQ	F	Significatività F
Regressione	1	0.066083364	0.066083364	45.29172105	8.31868E-09
Residuo	58	0.084625513	0.001459061		
Totale	59	0.150708877			

	Coefficienti	Errore standard	Stat t	Prob di significati	Inferiore 95%	Superiore 95%	Covarianza 95.0%
Intercepta	0.001357394	0.005009624	0.27095728	0.787385877	-0.008670458	0.011385	-0.00867 0.011385
Variable X 1	1.063894962	0.158084518	6.72991241	8.31868E-09	0.747454417	1.380336	0.747454 1.380336



Time period: 5 years
Return intervals: Monthly
from 31/12/2013 to 31/12/2018

Exchange Date	Walt Disney	% returns	S&P500	% returns
31-dic-2018	109.65	-5.06%	2.506.85	-9.18%
30-nov-2018	115.49	0.57%	2.760.17	1.79%
31-out-2018	114.83	-1.80%	2.711.74	-6.94%
30-set-2018	116.94	4.39%	2.913.98	0.43%
31-ago-2018	112.02	-1.36%	2.901.52	3.03%
31-lug-2018	113.56	8.35%	2.816.29	3.60%
30-giu-2018	104.81	5.37%	2.718.37	0.48%
31-mag-2018	99.47	-0.86%	2.705.27	2.16%
30-apr-2018	100.33	-0.11%	2.648.05	0.27%
31-mar-2018	100.44	-2.64%	2.640.87	-2.69%
28-feb-2018	103.16	-5.07%	2.713.83	-3.89%
31-gen-2018	108.67	1.08%	2.823.81	5.62%
31-dic-2017	107.51	2.57%	2.673.61	0.98%
30-nov-2017	104.82	7.17%	2.647.58	2.81%
31-out-2017	97.81	0.25%	2.575.26	1.23%
30-set-2017	97.57	-3.59%	2.519.36	1.93%
31-ago-2017	101.20	-7.94%	2.471.65	0.05%
31-lug-2017	109.93	3.46%	2.470.30	1.93%
30-giu-2017	106.25	-1.57%	2.423.41	0.48%
31-mag-2017	114.60	5.81%	2.411.80	1.16%
30-apr-2017	114.60	1.07%	2.384.20	0.91%
31-mar-2017	113.39	3.00%	2.362.72	-0.04%
28-feb-2017	110.69	-0.51%	2.363.64	3.72%
31-gen-2017	110.65	6.17%	2.278.87	1.79%
31-dic-2016	104.22	5.15%	2.238.83	1.82%
30-nov-2016	99.12	6.94%	2.198.81	3.42%
31-out-2016	92.69	-0.18%	2.126.15	-1.94%
30-set-2016	92.86	-1.69%	2.168.27	-0.12%
31-ago-2016	94.46	-1.55%	2.170.95	-0.12%
31-lug-2016	95.95	-1.91%	2.173.60	3.56%
30-giu-2016	97.82	-1.41%	2.098.86	0.09%
31-mag-2016	99.22	-3.91%	2.096.96	1.53%
30-apr-2016	103.26	3.98%	2.065.30	0.27%
31-mar-2016	99.31	4.08%	2.059.74	6.60%
29-feb-2016	95.42	-0.42%	1.932.23	-0.41%
31-gen-2016	95.82	-8.81%	1.940.24	-5.07%
31-dic-2015	105.08	-7.56%	2.043.94	-1.75%
30-nov-2015	113.67	-0.06%	2.080.41	0.05%
31-out-2015	113.74	11.29%	2.079.36	8.30%
30-set-2015	102.20	0.31%	1.920.03	-2.64%
31-ago-2015	101.88	-15.10%	1.972.18	-6.26%
31-lug-2015	120.00	5.13%	2.103.84	1.97%
30-giu-2015	114.14	3.42%	2.063.11	-2.10%
31-mag-2015	110.37	1.52%	2.107.39	1.05%
30-apr-2015	108.72	3.65%	2.085.51	0.85%
31-mar-2015	104.89	0.78%	2.067.89	-1.74%
28-feb-2015	104.08	14.42%	2.104.50	5.49%
31-gen-2015	90.96	-3.43%	1.994.99	-3.10%
31-dic-2014	94.19	1.82%	2.038.90	-0.42%
30-nov-2014	92.51	1.24%	2.067.56	2.45%
31-out-2014	91.38	2.64%	2.018.05	2.32%
30-set-2014	89.03	-0.95%	1.972.29	-1.55%
31-ago-2014	89.88	4.66%	2.003.37	3.77%
31-lug-2014	85.88	0.16%	1.930.67	-1.51%
30-giu-2014	85.74	2.06%	1.960.23	1.91%
31-mag-2014	84.01	5.89%	1.923.57	2.10%
30-apr-2014	79.34	-0.91%	1.883.95	0.62%
31-mar-2014	80.07	-0.92%	1.872.34	0.69%
28-feb-2014	80.81	11.29%	1.859.45	4.31%
31-gen-2014	72.61	-4.96%	1.782.59	-3.56%
31-dic-2013	76.40		1.848.36	

Time period: 5 years from 31/12/2013 to 31/12/2018
Return intervals: Monthly

Raw Beta 1.020
Adj Beta 1.013

Exchange Date	21st Century Fox	% returns	SP500	% returns
31-dic-2018	48.12	-2.73%	2.506.85	-9.18%
30-nov-2018	49.47	8.68%	2.760.17	1.79%
31-ott-2018	45.52	-1.75%	2.711.74	-6.94%
30-set-2018	46.33	2.05%	2.913.98	0.43%
31-ago-2018	45.40	0.89%	2.901.52	3.03%
31-lug-2018	45.00	-9.44%	2.816.29	3.60%
30-giu-2018	49.69	28.90%	2.718.37	0.48%
31-mag-2018	38.55	5.44%	2.705.27	2.16%
30-apr-2018	36.56	-0.35%	2.648.05	0.27%
31-mar-2018	36.69	-0.35%	2.640.87	-2.69%
28-feb-2018	36.82	-0.22%	2.713.83	-3.89%
31-gen-2018	36.90	6.86%	2.823.81	5.62%
31-dic-2017	34.53	8.11%	2.673.61	0.98%
30-nov-2017	31.94	22.14%	2.647.58	2.81%
31-ott-2017	26.15	-0.87%	2.575.26	2.22%
30-set-2017	26.38	-4.39%	2.519.36	1.93%
31-ago-2017	27.59	-5.19%	2.471.65	0.05%
31-lug-2017	29.10	2.68%	2.470.30	1.93%
30-giu-2017	28.34	4.50%	2.423.41	0.48%
31-mag-2017	27.12	-11.20%	2.411.80	1.16%
30-apr-2017	30.54	-5.71%	2.384.20	0.91%
31-mar-2017	32.39	8.26%	2.362.72	-0.04%
28-feb-2017	29.92	-4.65%	2.363.64	3.72%
31-gen-2017	31.38	11.91%	2.278.87	1.79%
31-dic-2016	28.04	-0.25%	2.238.83	1.82%
30-nov-2016	28.11	7.00%	2.198.81	3.42%
31-ott-2016	26.27	8.46%	2.126.15	-1.94%
30-set-2016	24.22	-1.30%	2.168.27	-0.12%
31-ago-2016	24.54	-7.88%	2.170.95	-0.12%
30-giu-2016	26.64	-1.52%	2.173.60	3.56%
31-giu-2016	27.05	-6.34%	2.098.86	0.09%
31-mag-2016	28.88	-4.56%	2.096.96	1.53%
30-apr-2016	30.26	8.54%	2.065.30	0.27%
31-mar-2016	27.88	3.18%	2.059.74	6.60%
29-feb-2016	27.02	0.19%	1.932.23	-0.41%
31-gen-2016	26.97	-0.70%	1.940.24	-5.07%
31-dic-2015	27.16	-7.96%	2.043.94	-1.75%
30-nov-2015	29.51	1.72%	2.080.41	0.05%
31-ott-2015	29.01	7.52%	2.079.36	8.30%
30-set-2015	26.98	-1.50%	1.920.03	-2.64%
31-ago-2015	27.39	-20.59%	1.972.18	-6.26%
31-lug-2015	34.49	5.98%	2.103.84	1.97%
30-giu-2015	32.55	-3.14%	2.063.11	-2.10%
31-mag-2015	33.60	-1.41%	2.107.39	1.05%
31-mar-2015	33.84	-3.31%	2.067.89	-1.74%
28-feb-2015	35.00	5.55%	2.104.50	5.49%
31-gen-2015	33.16	-13.66%	1.994.99	-3.10%
31-dic-2014	38.41	4.36%	2.058.90	-0.42%
30-nov-2014	36.80	6.73%	2.067.56	2.43%
31-ott-2014	34.48	0.55%	2.018.05	2.32%
30-set-2014	34.29	-3.19%	1.972.29	-1.55%
31-ago-2014	35.42	11.84%	2.003.37	3.77%
31-lug-2014	31.67	-9.90%	1.930.67	-1.51%
30-giu-2014	35.15	-0.73%	1.960.23	1.91%
31-mag-2014	35.41	10.59%	1.923.57	2.10%
30-apr-2014	32.02	0.16%	1.883.95	0.62%
31-mar-2014	31.97	-4.68%	1.872.34	0.69%
28-feb-2014	33.54	5.41%	1.859.45	4.31%
31-gen-2014	31.82	-9.53%	1.782.59	-3.56%
31-dic-2013	35.17		1.848.36	

Statistica della regressione

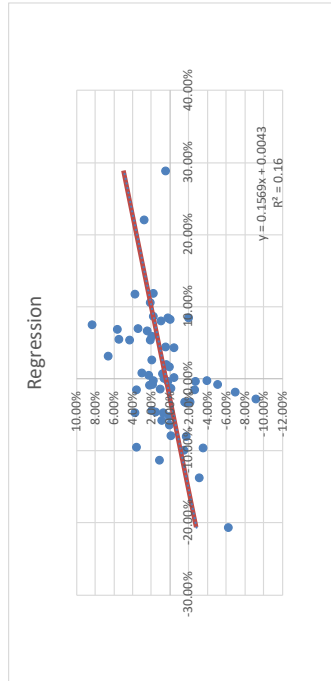
R multiplo	0.400055772
R al quadrato	0.160044621
R al quadrato corretto	0.145562632
Errore standard	0.074132173
Osservazioni	60

ANALISI VARIANZA

	gdl	SQ	MQ	F	significatività F
Regressione	1	0.060733	0.060733222	11.051287	0.00154
Residuo	58	0.318744	0.005495579		
Totale	59	0.379477			

Coefficienti - ore standa

Stat t	e di significatività superiore 95%	inferiore 95%	Deviazione 95.0%					
Intercetta	0.00262547	0.009722	0.27004239	0.7880862	-0.01684	0.022087	-0.01684	0.022087
Variabile X 1	1.019919375	0.306803	3.324347616	0.0015401	0.405787	1.634052	0.405787	1.634052



Appendix 3 "WACC"

Walt Disney

Revenues Segment (\$ in millions)	2018	% of Total
United States and Canada	45,038	75.78%
Europe	7,026	11.82%
Asia Pacific	5,531	9.31%
Other	1,839	3.09%
Total company	59,434	100.00%

Equity Risk Premium	Country Risk Premium	Region	Total ERP	Revenue Weig	Weighted ERP
<i>Current risk premium for a mature market</i>					
United States and Canada	0.00%		5.96%	75.78%	4.52%
Europe	3.01%		8.97%	11.82%	1.06%
Asia Pacific	3.98%		9.94%	9.31%	0.93%
Other	4.44%		10.40%	3.09%	0.32%
			Total ERP		6.82%

Cost of Equity calculation	Value
Risk-free rate	2.76%
Beta	1.04
Equity risk premium	6.82%
Cost of Equity	9.88%

Cost of Debt calculation	Value
Risk-free rate	2.68%
Rating	A2
Spread	0.99%
Pre-tax Cost of Debt	3.67%

WACC calculation	Value
Cost of Equity	9.88%
Cost of Debt	3.67%
D/E ratio	19.86%
E/(E+D)	16.57%
Tax rate	83.43%
WACC	8.67%

(Source: Damodaran Beta excel)

(Source: Damodaran Ratings excel 2018)

For large non-financial service firms	Rating	Spread
>	D2/D	18.60%
>	C2/C	13.95%
>	C2/CC	10.53%
>	C2/CCC	8.66%
>	B3/B+	4.37%
>	B2/B	3.57%
>	B1/B+	2.98%
>	B2/BIB	2.38%
>	B1/BIB+	1.98%
>	Baa2/BBB	1.27%
>	A3/A-	1.13%
>	A2/A	0.99%
>	A1/A+	0.90%
>	A2/AA	0.72%
>	Aaa/AAA	0.56%

Walt Disney Interest Coverage Ratio	2018
EBIT	14,837.00
Net interest expense	574.00
ICR	25.83

Revenues Segment (\$ in millions) **2018 % of Total** Source: 21st Century Fox 2018 Annual report

United States and Canada	21,640	71.18%
Europe	3,360	11.05%
Asia	3,200	10.53%
Other	2,200	7.24%
Total company	30,400	100.00%

Equity Risk Premium **5.96%** (Source: Damodaran ERPs by country)

Region	Country Risk Premium	Total ERP	Revenue Weight	Weighted ERP
United States and Canada	0.00%	5.96%	71.18%	4.24%
Europe	3.01%	8.97%	11.05%	0.99%
Asia	3.98%	9.94%	10.53%	1.05%
Other	4.44%	10.40%	7.24%	0.75%
Total				7.03%

Cost of Equity calculation **9.89%** 2.76% : yield US Treasury Notes 10 years (Source: Yahoo Finance e CNBC)

Risk-free rate	2.76%
Beta	1.01
Equity risk premium	7.03%
Cost of Equity	9.89%

Cost of Debt calculation **3.95%** 2.68% : US Interest Rate Swap 10 years (Source: Investing.com)

Risk-free rate	2.68%
Rating	Baa2
Spread	1.27%
Pre-tax Cost of Debt	3.95%

WACC calculation **8.71%**

Cost of Equity	9.89%
Cost of Debt	3.95%
Target D/E ratio	19.86%
D/(E+D)	16.57%
E/(E+D)	83.43%
Tax rate	29.01%
WACC	8.71%

Moody's Investor Service

(Source: Damodaran Betas excel)

(Source: Damodaran Tax rate excel)

(Source: Damodaran Ratings excel 2018)

For large non-financial service firms		
If interest coverage ratio is	Spread is	
>=10	Rating is	
-100000	D/D	18.60%
0.2	C2/C	13.95%
0.65	C3/2CC	10.63%
0.8	C4a/C3C	8.64%
1.25	B3/B+	4.37%
1.5	B2/B	3.57%
1.75	B1/B+	2.98%
2	B1/B	2.38%
2.25	Ba1/BBB+	1.98%
2.5	Baa2/BBB	1.27%
3	A3/A-	1.13%
4.25	A2/A	0.99%
5.5	A1/A+	0.90%
6.5	Aa2/AA	0.72%
8.50	Aaa/AAA	0.54%

21 st Century Fox Interest Coverage Ratio		2018
EBIT		6,379.00
Net interest expense		1,248.00
ICR		5.11

Appendix 4 "DCF"

Walt Disney

Computation of the long-term growth rate

Source: International Monetary Fund

Expected inflation rate next five years	Revenue Weight	Weighted Inflation
United States and Canada	4.31%	75.78%
Europe	4.26%	11.82%
Asia Pacific	5.09%	9.31%
Other	5.01%	3.09%
Weighted Inflation rate		4.40%
G rate		3.40%

Source: Refinitiv Estimation in 2018

Source: Refinitiv Estimation in 2018

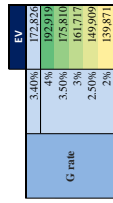
Source: Refinitiv Estimation in 2018

	2010	2020	2021
Revenues growth rate	2.00%	4.50%	3.60%
Operating expenses growth rate	3.64%	5.34%	3.30%
EBITDA margin %	29%	28%	29%
Average EBIT margin %	24.32%		
Average Depreciation/Capex	65.11%		
Average NWC Sales	3.85%		
Aggregate tax rate	29%		

Source: Damodaran Tax rate excel

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenues	45,041	48,813	52,465	55,632	59,434	60,623	63,351	65,651	68,651	72,226
Operating expenses (COGS and SG&A)	33,356	34,950	36,887	38,747	41,586	43,100	45,400	46,900	49,500	52,226
EBITDA	11,675	13,863	15,578	16,885	17,848	17,523	17,951	18,751	19,151	20,000
EBITDA margin %	26%	28%	30%	30%	30%	29%	28%	28%	29%	27%
Depreciation	2,192	2,288	2,354	2,527	2,782	3,011	2,781	2,545	2,771	2,971
EBIT	9,483	11,575	13,224	14,358	15,066	14,517	15,170	16,006	16,380	17,029
Taxes	3,017	3,063	4,207	4,568	4,414	4,720	4,277	4,469	4,650	4,879
NOPAT	6,466	7,892	9,017	9,790	9,459	10,117	10,465	10,936	11,330	12,150
Depreciation	2,192	2,288	2,354	2,527	2,782	3,011	2,781	2,545	2,771	2,971
NWC	1,927	2,256	2,289	1,848	1,697	2,034	2,332	2,437	2,525	2,525
Change in NWC	33	329	(441)	(151)	337	298	105	88	88	88
CapEx (Capital Expenditures)	3,240	4,201	4,697	3,839	4,145	4,271	3,909	4,256	4,256	4,256
FCFO	8,658	6,611	7,137	8,061	8,553	8,646	8,677	9,467	9,757	10,089
Terminal Value										
FCFO-Terminal value							8,677	9,467	201,254	

Enterprise Value	172,826
Net financial position	21,817
Equity Value	150,979



Computation of the long-term growth rate

Source: International Monetary Fund		Expected Inflation rate next five years		Revenue Weight		Weighted Inflation	
Expected Inflation rates (2022-2028)		Expected Inflation rates (2022-2028)		Revenue Weight		Weighted Inflation	
United States and Canada	4.31%	United States and Canada	4.31%	71.18%	3.07%	71.18%	3.07%
Europe	4.26%	Europe	4.26%	11.05%	0.47%	11.05%	0.47%
Asia Pacific	5.09%	Asia Pacific	5.09%	10.53%	0.54%	10.53%	0.54%
Other	5.01%	Other	5.01%	7.24%	0.36%	7.24%	0.36%
				Weighted Inflation rate	4.44%	Weighted Inflation rate	4.44%
				G rate	3.44%	G rate	3.44%

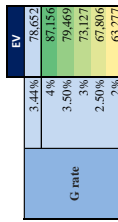
Source: Refinitiv Estimation in 2018
 Source: Refinitiv Estimation in 2018
 Source: Refinitiv Estimation in 2018

	2019	2020	2021	2021
Revenues growth rate	3.62%	5.71%	5.71%	5.71%
Operating expenses growth rate	3.25%	5.37%	4.71%	4.71%
EBITDA margin %	23%	23%	24%	24%
Average EBIT margin %	20.49%			
Average Capex growth rate last 3 years	23.31%			
Average NWC Sales	27.37%			
Aggregate tax rate	29%			

Source: Damodaran Tax rate excel

	Historical		Forecasted					Steady stage		
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenues	27,675	31,867	28,987	27,326	28,500	30,400	31,500	33,300	35,200	35,200
Operating expenses (COGS and SG&A)	21,503	25,237	22,345	20,804	21,392	23,437	24,200	25,500	26,700	26,700
EBITDA	6,172	6,630	6,642	6,522	7,108	6,963	7,300	7,800	8,500	8,500
EBITDA margin %	22%	21%	23%	24%	25%	23%	23%	24%	24%	24%
Depreciation	797	1,142	736	530	553	584	846	977	1,288	1,288
EBIT	5,375	5,488	5,906	5,992	6,555	6,379	6,454	6,823	7,212	7,212
Times	990	1,010	1,087	1,103	1,207	1,174	1,872	1,979	2,092	2,092
NOPAT	4,385	4,478	4,819	4,889	5,348	5,205	4,581	4,843	5,120	5,120
Depreciation	797	1,142	736	530	553	584	846	977	1,288	1,288
WVC	8,243	9,560	8,661	6,802	6,740	7,907	8,621	9,114	9,634	9,634
Change in NWC	1,317	(809)	(1,853)	(63)	1,167	714	493	520	520	520
CapEx (Capital Expenditures)	1,244	(473)	500	621	759	936	1,154	1,423	1,423	1,423
FCFO	5,182	3,059	6,927	6,777	5,322	3,863	3,777	4,174	4,464	4,464
Terminal Value										
FCFO+Terminal value							3,777	4,174	92,053	92,053

Enterprise Value	78,652
Net financial position	13,809
Equity Value	64,753



Appendix 5 "Financial synergies"

Revenues Segment (\$ in millions)	2018	% of Total
United States and Canada	66,678	74.22%
Europe	10,386	11.56%
Asia pacific	8,731	9.72%
Other	4,039	4.50%
Total Walt Disney Post Acquisition	89,834	100.00%

Expected Inflation rate next five years Source: International Monetary Fund

Countries	Expected inlation rates (2022-2018)	Revenue Weight	Weighted Inflation
United States and Canada	4.31%	74.22%	3.20%
Europe	4.26%	11.56%	0.49%
Asia pacific	5.09%	9.72%	0.49%
Other	5.01%	4.50%	0.23%
Weighted Inflation rate			4.41%
G rate			3.41%

	2019		2020		2021		2022	
	Walt Disney	21st century fox	Walt Disney Post	Walt Disney	Walt Disney Post	Walt Disney	Walt Disney Post	Walt Disney Post
Revenues	60,623	31,590	92,123	63,331	96,651	65,631	35,200	100,831
Operating expenses (COGS and SG&A)	43,100	24,200	67,300	45,400	70,900	46,900	26,700	73,600
EBITDA	17,523	7,390	24,823	17,931	25,751	18,731	8,500	27,231
Depreciation	2,781	846	3,627	2,545	3,523	2,771	1,288	4,059
EBIT	14,742	6,544	21,196	15,405	22,228	15,960	7,212	23,172
Taxes	4,377	1,872	6,149	4,469	6,449	4,630	2,092	6,723
NOPAT	10,465	4,672	15,046	10,936	15,779	11,330	5,120	16,449
Depreciation	2,781	846	3,627	2,545	3,523	2,771	1,288	4,059
Change in NWC	298	714	1,013	105	598	88	520	608
CapEx (Capital Expenditures)	4,271	936	5,206	3,909	5,063	4,256	1,423	5,679
F CFO	8,677	3,777	12,454	9,467	13,641	9,757	4,464	14,221
Terminal Value			12,454		13,641			14,707
FCFO - Terminal value								279,855
								294,077

8.67%

with Walt Disney's Wacc pre-acquisition

DV 14.18%

Enterprise Value combined entity	252,467
Net financial position	35,746
Equity Value combined entity	216,721
Sum of Enterprise Values stand alone	251,478
Net financial position	35,746
Equity Value	215,732

The weighted average risk approach				
Company	Beta	Equity value	Weight	Weighted Beta
Walt Disney	1.043	60,979	70%	0.73
21st Century Fox	1.013	64,753	30%	0.30
TV-2021FCFO	296,770	Walt Disney Post Beta		1.034
Enterprise Value	254,602	Wacc post-acquisition		8.62%

with Walt Disney's Wacc post-acquisition

Enterprise Value - Wacc post-acquisition	254,602
Enterprise Value - Wacc pre-acquisition	252,167
Value of Financial Synergy	\$ 2,434.87
Equity Value - Wacc post-acquisition	218,856
Equity Value - Wacc pre-acquisition	216,421
Value of Financial Synergy	\$ 2,434.87

The financial risk approach		
Company	Beta	D/E
Walt Disney	1.043	14.470%
21st Century Fox	1.013	21.465%
TV-2021FCFO	294,555	Unlevered Beta 0.945
Enterprise Value	252,598	Levered Beta Post 0.912
Enterprise Value - Wacc post-acquisition	252,167	Levered Beta Post 1.0410
Enterprise Value - Wacc pre-acquisition	252,167	Wacc - post acquisition 8.66%
Value of Financial Synergy	\$ 430.54	
Equity Value - Wacc post-acquisition	216,852	
Equity Value - Wacc pre-acquisition	216,421	
Value of Financial Synergy	\$ 430.54	

	Beta	Wacc	Financial Synergy
Walt Disney	1.034	8.62%	\$ 2,434.87
21st Century Fox	1.034	8.60%	\$ 3,500
TV-2021FCFO	1.025	8.57%	\$ 4,916
Enterprise Value	1.020	8.54%	\$ 6,348
Equity Value	1.015	8.51%	\$ 7,796
Terminal Value	1.010	8.48%	\$ 9,261
FCFO - Terminal value	1.005	8.46%	\$ 10,711

	Beta	Wacc	Financial Synergy
Walt Disney	1.041	8.66%	\$ 431
21st Century Fox	1.036	8.63%	\$ 1,821
TV-2021FCFO	1.031	8.60%	\$ 3,219
Enterprise Value	1.026	8.58%	\$ 4,652
Equity Value	1.021	8.55%	\$ 6,061
Terminal Value	1.016	8.52%	\$ 7,505
FCFO - Terminal value	1.011	8.49%	\$ 8,960

	2019			2020			2021			2022			
	Walt Disney	21st century fox	Synergies	Walt Disney Post	Walt Disney	21st century fox	Synergies	Walt Disney Post	Walt Disney	21st century fox	Synergies	Walt Disney Post	Walt Disney Post
Revenues	60,623	21,500	—	82,123	63,351	33,300	—	96,651	64,631	35,700	—	100,331	—
Operating expenses (COGS and SG&A)	43,100	24,200	(667)	66,633	45,400	25,500	(667)	70,233	46,900	26,700	(667)	72,933	—
EBITDA	17,523	7,300	667	25,899	17,951	7,800	667	26,417	18,731	8,500	667	27,398	—
Depreciation	2,781	846	—	3,627	2,545	977	—	3,523	2,771	1,288	—	4,059	—
EBIT	14,742	6,454	667	21,863	15,406	6,823	667	22,895	15,960	7,212	667	23,339	—
Taxes	4,277	1,872	193	6,343	4,469	1,979	193	6,642	4,630	2,092	193	6,916	—
NOPAT	10,465	4,581	473	15,520	10,936	4,843	473	16,252	11,330	5,120	473	16,922	15,197
Depreciation	2,781	846	—	3,627	2,545	977	—	3,523	2,771	1,288	—	4,059	—
Change in NWC	298	714	—	1,013	105	493	—	598	88	520	—	608	—
CapEx (Capital Expenditures)	4,271	936	—	5,206	3,909	1,154	—	5,063	4,256	1,423	—	5,679	—
F C F O	8,677	3,777	473	12,927	9,467	4,174	473	14,114	9,757	4,464	473	14,695	15,197
Terminal Value													
FCF0+ Terminal value				12,927				14,114					303,863

Enterprise Value combined entity	260,629	8,462
net financial position	36,946	7,862
Equity Value combined entity	223,683	

The weighted average risk approach

TV=2021FCFO 306,646

Enterprise Value combined entity 263,145

Enterprise Value - Wacc post-acquisition 263,145

Enterprise Value - Wacc pre-acquisition 260,629

Value of Financial Sinergy \$ 2,515.94

Equity Value - Wacc post-acquisition 226,199

Equity Value - Wacc pre-acquisition 223,683

Value of Financial Sinergy \$ 2,515.94

The financial risk approach

TV=2021FCFO 304,355

Enterprise Value combined entity 261,074

Enterprise Value - Wacc post-acquisition 261,074

Enterprise Value - Wacc pre-acquisition 260,629

Value of Financial Sinergy \$ 444.87

Equity Value - Wacc post-acquisition 224,128

Equity Value - Wacc pre-acquisition 223,683

Value of Financial Sinergy \$ 444.87

	Wacc	Financial Sinergy
Post Acquisition's Beta	1.034	2.516
	1.030	3.617
	1.025	5.080
	1.020	6.560
	1.015	8.056
	1.010	9.569
	1.005	11.099
	8.62%	\$ 3,617

	Wacc	Financial Sinergy
Post Acquisition's Beta	1.041	445
	1.036	1,882
	1.031	3,326
	1.026	4,786
	1.021	6,262
	1.016	7,755
	1.011	9,265
	8.66%	\$ 445

with Walt Disney's Wacc post-acquisition

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