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Private Equity Portfolio Companies Valuation: The Alter Domus Case

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INTRODUCTION

The world of private equity investments offers a complex and dynamic environment, characterized by the continuous search for attractive opportunities and high returns. In this context, the valuation of potential investment targets, belonging to a wide spectrum of industries, plays a crucial role in the decision-making process for investors. As such, analyzing the financial and operational health of these companies becomes essential, enabling a deep understanding of both the risks and rewards associated with each investment. This thesis, by focusing on the valuation of Alter Domus, a privately held financial services firm providing corporate and fund services for private equity funds, aims to shed light on the peculiarities of valuing a company that operates within the private equity environment while being a target of such investments. Furthermore, it provides insights on how the application of various valuation methodologies and techniques can contribute to more informed decision-making, ultimately enhancing the potential for better risk management and improved returns for investors.

To achieve this goal, the study is structured into three main chapters. The first chapter introduces the world of private equity, examining the various steps of the investment process, starting from the fundraising phase in which the financial resources are collected and the investment strategies through which capital is injected in the portfolio companies. After that the focus shifts to the growth of the investment and examines the exit mechanisms which represent a the most important part of the whole process since they establish the way the returns are made. In general it delves into the specifics of each phase, underscoring the critical components and approaches that define private equity as a distinct market characterized by unique regulatory guidelines. The second chapter embarks on a deeper exploration into the heart of private equity markets, analyzing market trends and target companies over the past two decades. In addition to presenting general market statistics, this chapter closely investigates the growth in terms of deal numbers, efficiency, and rate of return, comparing private equity-backed and public equity companies. The interaction between different asset classes and investment strategies is also examined in the context of these market trends. Subsequently, the chapter moves on to discuss the methodology for evaluating target companies in a private equity context. The specific valuation techniques, such as Comparable Company Analysis (CCA) and Discounted Cash Flow (DCF) valuation, are thoroughly analyzed and described with formulas and examples to facilitate practical understanding.

Considering this background, the third chapter applies the concepts discussed earlier to Alter Domus, presenting a comprehensive case study that encompasses a detailed analysis of the firm's financial statements, performance indicators, and valuation using both CCA and DCF methodologies. Through this in-depth exploration, this case study showcases the unique challenges and opportunities related to the valuation of privately-held financial services companies. Ultimately, this thesis offers an opportunity to bridge the gap between theory and practice, shedding light on crucial aspects of the private equity investment process and the intricacies of valuing target companies in this particular sector. By combining a theoretical understanding of private equity processes with a practical application of valuation techniques to Alter Domus, this thesis seeks not only to provide valuable insights into the challenges and opportunities of valuing privately-held firms but also to demonstrate how such insights can be translated into real-world investment decisions.

CHAPTER 1: Introduction to Private Equity

1.0 Abstract

This chapter serves as a comprehensive introduction to the domain of private equity (PE), laying the groundwork for a deeper exploration of private target companies within the PE industry. The primary objectives include providing a thorough understanding of the PE process and its structural features, from its early stages to its completion. Key in accomplishing these goals is the examination of the interconnected phases that comprise the PE process: fundraising & financing, investment, growth, and exit. In order to provide a broader perspective, the chapter delves into the various stages of financing, including early-stage and expansion financing, which support businesses in initial growth stages and specific project implementation, respectively. Additionally, meticulous attention is given to the different investment strategies prevalent in the PE landscape, such as venture capital, (leveraged) buyouts, and turnaround and distressed investments.

Taking the analysis one step further, the chapter emphasizes the critical importance of the growth phase, where companies create value through expansion before a successful exit strategy is applied. These exit strategies come in multiple forms, and readers will gain valuable insights into numerous options, such as trade sale, buyback, secondary buyout, write-off, leveraged dividend recapitalization, and initial public offering (I.P.O.). Each approach is delineated based on its functionality, benefits, and drawbacks.

Lastly, the chapter touches upon the J-Curve phenomenon—a unique aspect of private equity performance evaluation. This concept helps explain the relationship between investment timing and returns while highlighting the importance of long-term investment commitment within the PE sector. By thoroughly dissecting the entire PE process, the chapter provides a firm foundation for subsequent discussions focused on target companies, their operations and mainly their valuation within the private equity industry.

1.1 What is Private Equity?

Private Equity is a form of investment that involves mainly investing in privately held companies. It is the provision of capital and management expertise given to companies to create value and, consequently with the so-called "exit strategy", generate big capital gains after the deal. Most investors access this asset class through Private Equity funds, pooled investment vehicles where a Private Equity manager, or General Partner (GP), identifies, evaluates, acquires, and manages investments on behalf of a group of investors, or Limited Partners (LPs). The GP is usually who make the fund's business decisions, it is responsible for any losses in the business. Their exposure is covered by management fees and performance fees, defined as carried interest. LPs are the largest group in an investment fund and they are considered as passive investors, they are not responsible for the losses of the fund, since they have limited liability. Generally, Private Equity encompasses several significant categories, such as Venture Capital, Leverage Buyouts, Mezzanine Capital and Distressed Investments. Venture Capital refers to equity-made investments, typically in less mature companies, for the launch of a seed or start-up company, early-stage development, or expansion of a business. This investment type has a higher risk component compared to Private Equity and its definition is slightly different between Europe and U.S. In the first case the focus regards the period of the investment, i.e., the phase in which the Private Equity firm/fund enters in the company, in the latter the focus is related to the amount that the investors decide to use in the target company. By contrast, a Buyout involves investments in mature companies that require financing to pursue growth opportunities. It is pursued by a group of investors acquiring a target company from its current owners with the help of the equity finance from Private Equity provider and debt finance from financial institutions. Mezzanine Capital refers to subordinated debt or preferred equity securities that often represent the most junior portion of a company's capital structure that is senior to the company's common equity. Distressed Investments refer to investments in equity or debt securities of financially distressed companies which can be acquired at convenient prices. In this kind of environment Private Equity funds have an important role, they are the drivers for most of the deals that are made in Europe investing in equity stakes and to a lesser extent in debt securities. The deals regarding public held companies are a minority part among all the European Private Equity trades[1].

[1] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 1, Oxford University Press.

1.2 Private Equity Process

The Private Equity Process is a comprehensive journey involving various stages, each crucial to the overall success of the fund. This process typically unfolds through fund formation, fundraising, deal sourcing, due diligence, deal structuring, fund deployment, active management, exit planning, and fund liquidation. All these steps can be summarized in 4 principal phases[2]:

1. Fundraising and Financing phase
2. Investment phase
3. Growth phase
4. Exit phase

The Private Equity process commences with the formation of a sponsor group or a Private Equity company responsible for managing the fund which is called General Partner (GP). This is followed by the structuring of the fund, where its parameters such as investment strategy to pursue and legal structure are defined. Once the setup and the structure chart of all underlying funds is ready the fundraising phase kicks in. In this phase the fund secures capital from institutional investors, high-net-worth individuals, and other entities, formalizing these commitments through legal documents such as the Limited Partnership Agreement (LPA)[3].

Moving into investment phase, private equity funds actively seek potential investment opportunities through diverse channels like industry contacts, proprietary networks, and engagement with investment banks. This stage is crucial for identifying prospects that align with the fund's investment strategy. Following this, a meticulous due diligence process ensues, wherein the target company undergoes thorough analysis of its financials, operations, market positioning, and other pertinent factors to assess risks and opportunities. With a target identified and due diligence completed, the private equity fund proceeds to deal structuring. This involves determining the valuation of the target company and negotiating the terms of the investment including the financing structure. Consequently, there is the effective deployment of capital as the Private Equity fund acquires the agreed-upon equity stake in the target company. Simultaneously, the growth phase unfolds, during which the Private Equity fund collaborates closely with the portfolio company, implementing operational improvements, strategic

[2] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap 1, Academic Press.
[3] Cyril Demaria (2015), *Private Equity Funds Investment – New Insights on Alignment of Interests, Governance, Returns and Forecasting*, Chap. 2, Palgrave Macmillan.

initiatives, and cost-saving measures. Ongoing monitoring of the portfolio company's performance and reporting to investors is crucial during this period. As the investment matures, the focus shifts to exit planning. Private equity firms develop and implement exit strategies, which may involve selling the portfolio company, initiating an initial public offering (IPO), or orchestrating a merger. Monetization follows, with the sale of the equity stake realizing returns for the Private Equity fund and its investors. The proceeds are then distributed to investors based on their respective ownership stakes. Ultimately, the private equity process concludes with fund liquidation. The fund reaches the end of its lifespan, and any remaining assets are liquidated. The final distributions are made to investors, marking the conclusion of the fund's lifecycle[4].

1.3 Private Equity Process: Fundraising e Financing phase

The process of Private Equity starts with the fundraising step which represents the promotion of a new investment vehicle within the business community, the purpose is to find money and create commitment. “Commitment” is a key feature in Private Equity funds and refers to the contractual obligation of Limited Partners to provide capital to the fund over a specified period. When an investor commits to a Private Equity fund, he is committing to contribute a specified amount of capital, through a certain number of capital calls, when the fund manager identifies investment opportunities. The main reason for an individual to decide to commit to a Private Equity fund is based on obtaining higher returns than those offered by the financial market. Private Equity investors normally consider a premium of about 5% compared with the market gain. This extra performance covers the extra risk connected with the lower liquidity of the fund and the higher risk connected with private companies. In case the financial resources, raised from investors through capital calls, do not cover the full amount of the upcoming investment, the fund could stipulate a credit facility agreement with a banking institution or a private debt fund/company which can provide the necessary funds for investment purposes and daily operations. Another solution is represented by hiring a lead investor, which usually is an institutional investor that leads the investment strategy acting as a special limited partner. This figure subscribes a relevant amount of capital and provides the financial resources needed by the fund to cover the investment costs[5].

[4] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 7 Academic Press.
[5] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 7 Academic Press.

Once the financing way has been defined, the focus shifts on the period in which the funds have to be raised. The most used modality is defined as *ex-post* financing and consists in raising capital on deal-by-deal basis, identifying a potential investment opportunity and subsequently collect the necessary funds to undertake the deal. The opposite modality defined as *ex-ante* financing is expected to raise large amounts of capital that could completely finance an undefined number of future investment projects without any other fundraising phase. This modality of financing could lead the General Partner to undertake bad deals with the only aim of using the accrued cash according to adverse selection. An optimal structure for the fund is represented by a mix of both ways of financing, it gives the possibility to the General Partner to avoid bad deals due to high level of capital, to assess whether a good investment opportunity is presented considering the necessary time for the valuation process and to have enough balance for the daily operations[6]. Once the financial resources are collected, the financing phase is concluded and begins the investment phase through which the funds are allocated to the investment project.

1.3.1 The Early-stage Financing

The financing and the investment phases are two consequent steps since the timing that involves both is usually almost simultaneous. The way funds are raised and the way the investment is made are always related and when aiming to a potential investment opportunity, it has to be considered the moment in which funds are submitted into the target company and also in which step of lifecycle the target company is. These two features highly influence the way of financing.

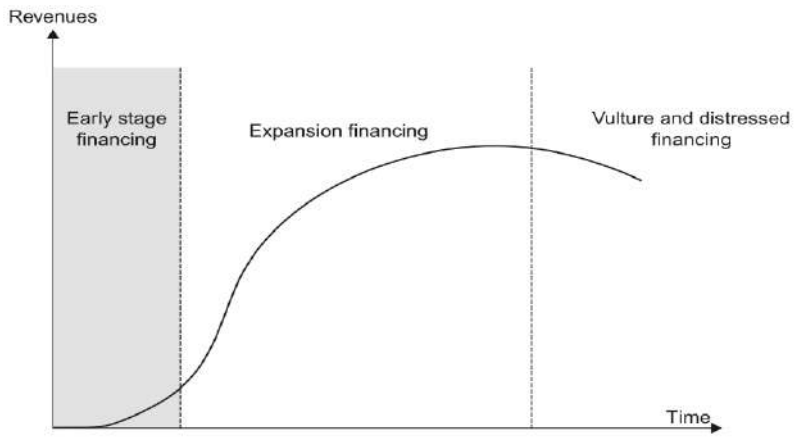

Figure 1, Life cycle of a potential target company, first part. (Caselli).

[6] Ulf Axelson, Per Stromberg, Michael S. Weichbach (2009), "Why are Buyouts Levered? The Financial Structure of Private Equity Funds", *The Journal of Finance*, Vol. 64, pp. 1549-1582.

According to figure 1, when funds are raised in the beginning of the life cycle of a potential target company, we define that as "early-stage financing" and it considers both "seed financing" and "start up financing". The difference between these two is important because it changes the approach through which private equity firms raise and invest the funds.

1. Seed financing, also known as seed funding, seed capital, or seed money, is an early-stage investment provided to entrepreneurs having no existing firm. This type of financing helps individuals with a business idea to obtain necessary financial support to fund a company and, through a team of researchers, develop it. In order to provide an adequate research infrastructure, a private equity investor may create a business incubator, which is a program that gives access to mentorship, investors and other support to help them get established. Business incubators are designed to help early innovators achieve a minimum viable product (MVP) and create an achievable plan to take that product to market. If a start-up has already developed an MVP or launched its product, it would likely not qualify as a candidate for an incubator. A business accelerator is more suitable for those at an advanced stage of development. In addition to mentorship and investment opportunities, a business incubator gives young companies access to logistical and technical resources as well as shared office space. Because every company develops at its own pace, an incubator program can last anywhere from several months to a few years. In every case, the goal is to give start-ups the tools and knowledge they need to stand on their own two feet. The main risks that a private equity investor may face during this financing way are related to the high risk of sudden death of newborn businesses and the high cost that may come from the research infrastructure program built to develop the business idea[7].
2. Start-up financing on the other hand, provides funds to an already existing company that needs private equity resources to start the business. In this case the risk is associated to the launch of a company based on well-founded business idea and not on the gamble of discovering a new business idea. Funds are used to begin the production of the product/service offered even without any commercial validity[8]. When a MVP is already developed it could be useful for the company to exploit a business accelerator. Accelerator programs often have a predetermined duration during which individual businesses work with a group of mentors for anywhere between a few weeks to a few months to develop their businesses and prevent issues along the way. This feature decrease proportionally the

[7] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 14 Academic Press.
[8] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 14 Academic Press.

costs compared to incubators and may incline investors to prefer a bit more mature companies to invest in. The best startup accelerators assist the teams in creating a business plan, financial projection, sales and marketing strategy, organizational culture, team building, technological roadmap and much more. Additionally, accelerators assist the founding team in developing a hiring strategy and identifying essential skill set shortages. The main difference between incubators and accelerators is the stage of start-ups with which they work. While incubators tend to focus on the very earliest stages, even working with entrepreneurs at the idea stage, accelerators tend to choose companies that are slightly more mature. In this context, private equity investor's focus is to understand the total amount of net financial requirement and the time necessary to reach the breakeven point, which represent the two main risk components of its investment. When raising the funds, the private equity firm may already prepare its exit strategy stipulating agreements with other private equity firms to sell their participation or including a buy back clause which allows the entrepreneur to repurchase the stake after a predefined period of time[9].

The professional investors which provide this type of financing are usually Business Angels and Venture Capital firms.

- A Business Angel is a high-net-worth individual who provides financial support to small or medium firms, typically in exchange for ownership equity or convertible debt. Angel investors differ from venture capitalists by the fact that they usually invest their own money, while venture capitalists invest funds from a pool of other investors. This type of financial operator is common in the United States but faces problems in Europe.
- Venture Capital is a form of Private Equity and a form of financing that investors provide to startups companies. Venture capital tends to focus on emerging companies, while Private Equity tends to fund established companies seeking an equity infusion. Venture Capital is an essential source for raising money, especially in case of start-ups lack access to capital markets, bank loans, or other debt instruments[10].

[9] João Leitão, Dina Pereira, Ângela Gonçalves (2022), "Business Incubators, Accelerators, and Performance of Technology-Based Ventures: A Systematic Literature Review", *Journal of Open Innovation: Technology, Market, and Complexity*, Vol. 8, pp 1-18.
[10] "Venture Capital" and "Business Angel", Investopedia, https://www.investopedia.com/.

1.3.2 The Expansion Financing

Expansion financing focuses mainly on the development, consolidation and maturity of the target company, and involves investments in more mature companies compared to early-stage financing.

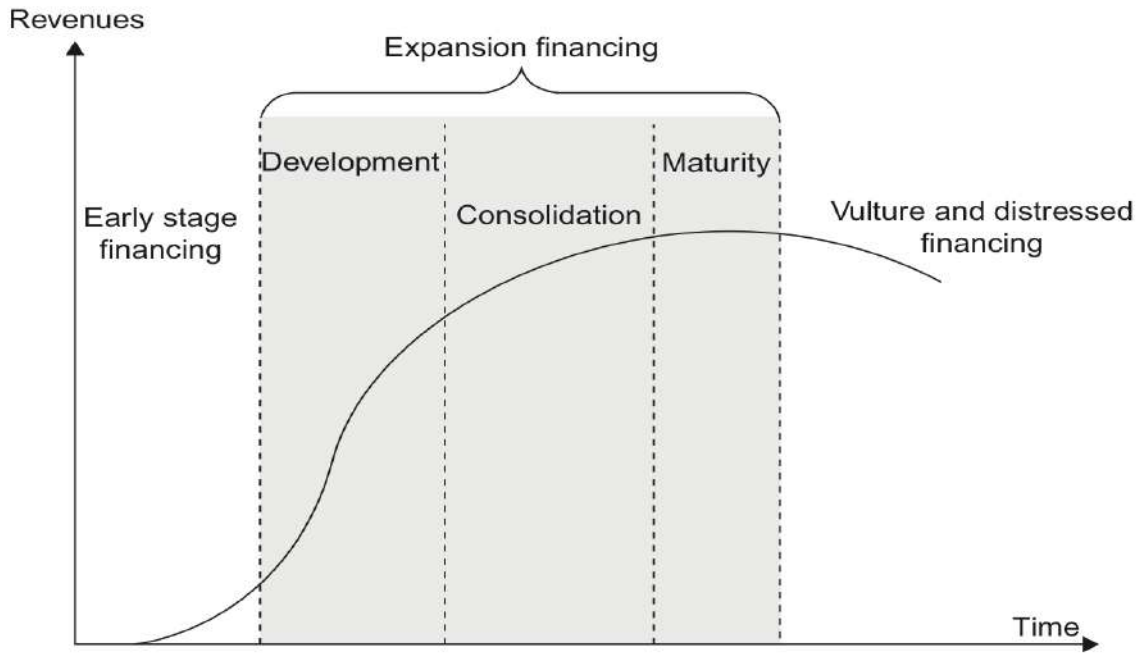

Figure 2, Life cycle of a potential target company, second part. (Caselli).

During this part of a business's lifecycle, investments are focused on meeting the costs of manufacturing and marketing commitments, building or improving the necessary facilities, and supporting working capital needs. Expansion capital finances two types of growth: internal and external. For internal growth, investments facilitate entry through rights issues, subscribing to minority or majority stakes of the target company, increasing production capacity by building new plants and acquiring new equipment, and expanding internationally or domestically to cover profitable groups of customers. Additionally, investments support the implementation of more aggressive commercial strategies and marketing activities, which usually occur in highly competitive industries. External growth, on the other hand, is driven by growth opportunities in fragmented sectors where unifying different firms can create value. External growth encompasses merger and acquisition (M&A) operations that serve various objectives, i.e., acquisitions of target firms operating in the same sector with similar offerings, or acquisition opportunities for under-exploited products or technologies when entering a new sector that requires new skills. In this context, it is focused on fortifying company's competitive advantage

in order to consolidate the company's market position or enhancing company's offerings by acquiring strategic assets from other companies[11].

In Europe, growth and expansion investments represent the most significant private equity activity, usually carried out by major closed-end funds and financial intermediaries with expertise in domestic and international financial markets. In fact in 2023 the total amount invested in Europe for growth amounted to €21.1 billion maintaining the average for the past 5 years always higher compared to seed and start-up investments, these data are showed in the graph below[12].

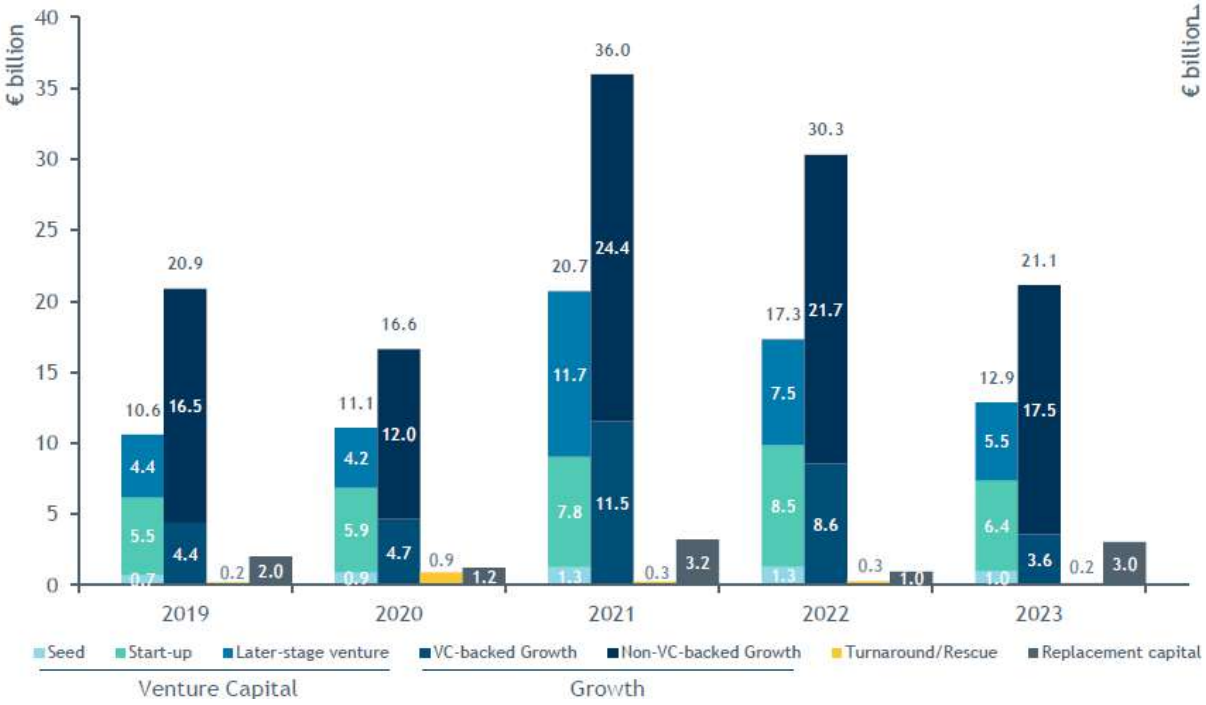

Figure 3, Investments by stage. (Invest Europe, 2023 report).

This type of financing carries lower risk compared to initial or start-up stages since it involves an already proven, operational company with a solid customer base. Therefore, valuation challenges are minimized, as potential investors can examine historical data and financial information, which are usually not available for seed or start-up financing ventures. Expansion financing is a process which involves several areas in which investments are necessary for the target company, for this reason it can be divided in three different sub-phases.

[11] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 14 Academic Press.
[12] European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.

According to Figure 2, first and second clusters of the expansion financing phase embody both development and consolidation segments. This means a common objective of supporting the company's rapid growth. Following market validation of the offered product or service, the private equity/venture capitalist steps in to boost production, sales, and marketing capabilities. While the business may still be small or medium-sized, the potential for growth has increased. It's vital to note that the invested financial resources are limited because the company has already secured a sizable market share, with sales generating the necessary resources for production. Once the growth is consolidated the company has moved beyond initial growth and seeks to solidify and expand its market position. The venture capitalist contributes substantial funds to maintain the company's competitive standing and to aid management in devising new growth strategies. These strategies may involve launching new products, expanding or diversifying manufacturing and distribution activities, or acquiring a rival. As a result, it becomes essential to accumulate new capital dedicated to research and development, marketing, and production. Third cluster involves the maturity stage of company's life cycle. At this point, the business has substantially expanded its market reach and product or service offerings. Funding gears towards preparing for an initial public offering (IPO) or a planned trade sale, leveraging venture capitalist support to facilitate future steps. Venture capital financing can also serve as a bridge for addressing financial challenges and the company's eventual listing. In this phase, the risk level is minimal, with occasional large-scale financial operations taking place. Expansion deals can include both equity capital and debt financing in case of a leveraged buyout (LBO). While expansion deals only offer minority stakes in the target company, LBOs necessitate majority ownership. These deals ultimately alter the target company's ownership structure, resulting in varying levels of participation and control within the organization[13].

Expansion financing deals are ideal for small to medium-sized firms aiming for rapid expansion. These firms possess adaptable production systems that can quickly respond to fluctuations in demand. As a result, companies seek growth financing to enhance another aspect of their success, scale. Boosting scale enables small to medium-sized businesses to leverage opportunities that might be missed due to the absence or limited availability of effective internationalization tools. In this strategic process, the soft support offered by private equity investors is crucial. Their capacity to supply financial resources and a range of advisory

[13] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 15 Academic Press.

services aids small to medium-sized enterprises in enhancing their competitive abilities. The comprehensive assistance provided to these firms is also evident in the average holding period, which spans around four years or more, compared to the holding period for buyout operations. The support for a business's growth in scale can be categorized in two ways: quantitative and qualitative. Company performance can be quantitatively assessed through parameters including revenue, margin improvement, and employee numbers for venture-backed businesses versus those that have never required professional investors. Studies indicate that private equity operations have a significant impact on increasing employment levels and turnovers. Growth financing can also foster qualitative development by promoting collaboration and joint ventures with international partners, potentially resulting in expansion into export markets[14].

1.4 Private Equity Process: Investment phase

The investment process begins with deal sourcing, where private equity funds actively seek potential investment opportunities. This phase demands a keen eye for identifying companies with promising growth prospects or those that align with the fund's investment strategy. Deal sourcing often involves leveraging industry networks, market research, and proactive outreach to identify and evaluate potential targets. Due Diligence is a key factor during this phase, it is a comprehensive investigation that delves into various facets of the target company. It involves financial scrutiny, operational assessments, market position analysis, and legal evaluations are integral components of due diligence. This is crucial for the private equity fund to gain a deep understanding of the target, identify potential risks, and assess the overall viability of the investment. Consequently, the Private equity firm employs various methods, such as discounted cash flows (DCF) analysis, multiples analysis, comparable company analysis (CCA), and precedent transactions, to determine the fair value of the target company. Accurate valuation is essential for negotiating the terms of the deal, determining the investment amount, and establishing the equity stake that the private equity firm will acquire. Once due diligence and valuation are completed, the private equity firm moves into deal structuring. This involves defining the terms of the investment, including the capital structure, governance arrangements, and exit strategies. Deal structuring is a collaborative process between the private equity firm and the target company, aiming to create a mutually beneficial framework that aligns the interests of all parties involved. The stage for the subsequent phases of value creation and exit

[14] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 15 Academic Press.

is set and the financial resources raised in the financing process together with the management expertise are allocated to the target company[15].

In order to proceed with the capital injection in the identified targets there are several investment strategies through which private equity firms enter the companies, the main ones are:

1. Venture Capital
2. (Leveraged) Buyouts
3. Distressed Investments

1.4.1 Strategy of investment: Venture Capital

Venture Capital is an investment strategy that comes slightly before the Private Equity financing in the company lifecycle, it can be defined as a sub-part of private equity since both of them share common features. They enter mainly private target companies acquiring ownership stakes in the companies, which can be done either directly through equity-based purchases or indirectly through convertible debt or preferred shares. They may also share a similar fund structure, sometimes sharing also same LPs such as pension funds, endowments, high-net-worth individuals, and financial institutions. These two financing ways differ in the types of companies they invest in, their investment approach, and their involvement in the companies they finance. Venture capital focuses on investing mainly in startups or early-stage companies with high growth potential, whereas private equity firms typically invest in more mature, established companies, and may acquire underperforming or undervalued firms for restructuring purposes. Regarding the approach, venture capital concentrates more on high-risk, high-reward investments, providing capital and guidance to help startups scale quickly. In contrast, private equity focusing on acquiring already established companies, aims to implement the current situation in order to pursue a growth in the short-medium term. Additionally, venture capital investments generally take place in a series of funding rounds (pre-seed, seed, Series A-B-C) as the company grows, but the management involvement in the target company and the ownership stake is usually kept below majority of the total equity of the firm. Lastly, for the exit strategies capital firms generally aim for high value exits such as

[15] Aswath Damodaran (2012), *Investment Valuation – Tools and Techniques for Determining the Value of Any Asset,* Chap. 13, Wiley Finance.

initial public offerings (IPOs) or strategic acquisitions of the startup, while private equity firms may pursue various exit strategies, including IPOs, strategic sales, or secondary buyouts[16].

In essence, venture capital and private equity are two sides of the same coin but serving distinct purposes in the business financing landscape, with venture capital focusing on financing high-growth startups, and private equity targeting investments in established businesses to unlock hidden value or improve performance.

1.4.2 Strategy of investment: (Leveraged) Buyouts

Leveraged Buyouts (LBOs) or general Buyouts are structured financial operations which facilitate the transfer of ownership from the original shareholders to a new entrepreneur, typically with the economic and technical help of a financial intermediary (often a private equity fund). In a leveraged buyout (LBO), a significant portion of the funding is provided by debt instruments subscribed by a group of banks and financial intermediaries and in a lesser extent by equity. Leveraged acquisitions can be viewed as a distinct type of M&A activity that results in the acquired company having a higher debt-to-equity ratio than before the transaction. From an historical point of view, LBO concept emerged and evolved in the United States at the start of the 1970s. In the mid-1980s, LBOs were employed by banks to execute acquisitions through debt financing. This approach led banks to evaluate a company's economic value and profitability while examining the potential growth of business plans jointly developed between the company's management and the private equity fund participating in the transaction. Various types of buyouts can be identified based on these financial maneuvers and the entities involved in them[17].

Coming to private equity perspective, LBOs are among the largest investments across all types of private equity investments. LBOs feature a specific structure where the debt is raised by external banks and financial institutions whereas the fraction of equity usually comes from an investment fund, referred as “buyout fund”. This fund is managed by a private equity firm which acts as the General Partner (GP). The purpose of the private equity firm is to collect funds from institutional investors, becoming Limited Partners (LPs) of the fund. Once the commitment has been created, the GP invests the fund’s capital along with the external debt in order to conduct the LBO. The GP are then compensated through a fixed-revenue component

[16] Krzysztof Dziekoński, Sławomir Ignatiuk (2015), “Venture Capital and Private Equity Investment preferences in selected countries”, *e-Finanse*, Vol. 11, pp 128-137.
[17] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 16 Academic Press.

defined “Management fee” which is linked to the fund’s total commitment (on average around 2%), and by a variable component that is called “Carried interest” which is related to fund’s profits. The carried interest is strictly linked with the “Hurdle rate” which is the predefined minimum rate of return that the fund must achieve before the general partners (GPs) can start collecting their share of profits, it is used as a performance benchmark, ensuring that the GPs are only rewarded when the fund generates returns above the prescribed threshold for the limited partners (LPs). As analyzed by Baker, in the below table (Figure 4) are shown the key indicators such as Management fees, Carried Interest and Hurdle rate, to underline the compensation structure in Leveraged Buyouts Operations[18].

Compensation	% of Funds with Component	Mean (%)	Median (%)
Management fee	100.0	1.9	2.0
Carried interest	100.0	20.3	20.0
Hurdle rate	83.5	7.3	8.0

Source: Preqin (2014).

Figure 4, Compensation Structure in Leveraged Buyouts, period 1990-2013, (Baker).

The main reason why private equity firms exploit leverage buyouts as investment strategy is linked with the so-called “leverage effect” which aims to increase equity returns. Debt influences equity returns in two primary ways. Firstly, interest expenses on debt are tax-deductible, which shields some of the company's cash flows from being paid as taxes. This tax shield contributes to the company's value by increasing the overall free cash flows. However, interest obligations may increase the risk profile of a company, making profits more rewarding for equity investors but also losses more severe. The second effect is often referred to as the "mortgage" effect. The core concept is that buyout funds utilize a small portion of the fund's equity and a substantial portion of external debt to acquire all outstanding equity and debt securities of the target company. This process results in the target company undergoing recapitalization at the time of the LBO. One crucial aspect is that the debt used to finance the acquisition becomes part of the target company's capital structure. Consequently, the company is responsible for repaying the debt from its free cash flows as swiftly as possible. As the debt is paid down, the equity stake of the buyout fund grows in value over time, analogous to a

[18] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 5, Oxford University Press.

mortgage. This mortgage effect adds value to the company, primarily benefiting its equity holders.

Regarding the mechanics of LBOs, the first thing to do once the target company has been identified and the funds have been raised is to create a new entity (ad hoc investment vehicle) which will have the sole purpose to acquire equity and the debt of the target. Following the acquisition, the new entity is merged with the target organization through one of two methods: a forward merger, in which the investment vehicle integrates the target, or a reverse merger, in which the target company assimilates the one just created. Financial and tax requirements often influence the chosen approach. The buyout fund, as an equity holder in the new created entity, indirectly holds a controlling stake in the target company[19].

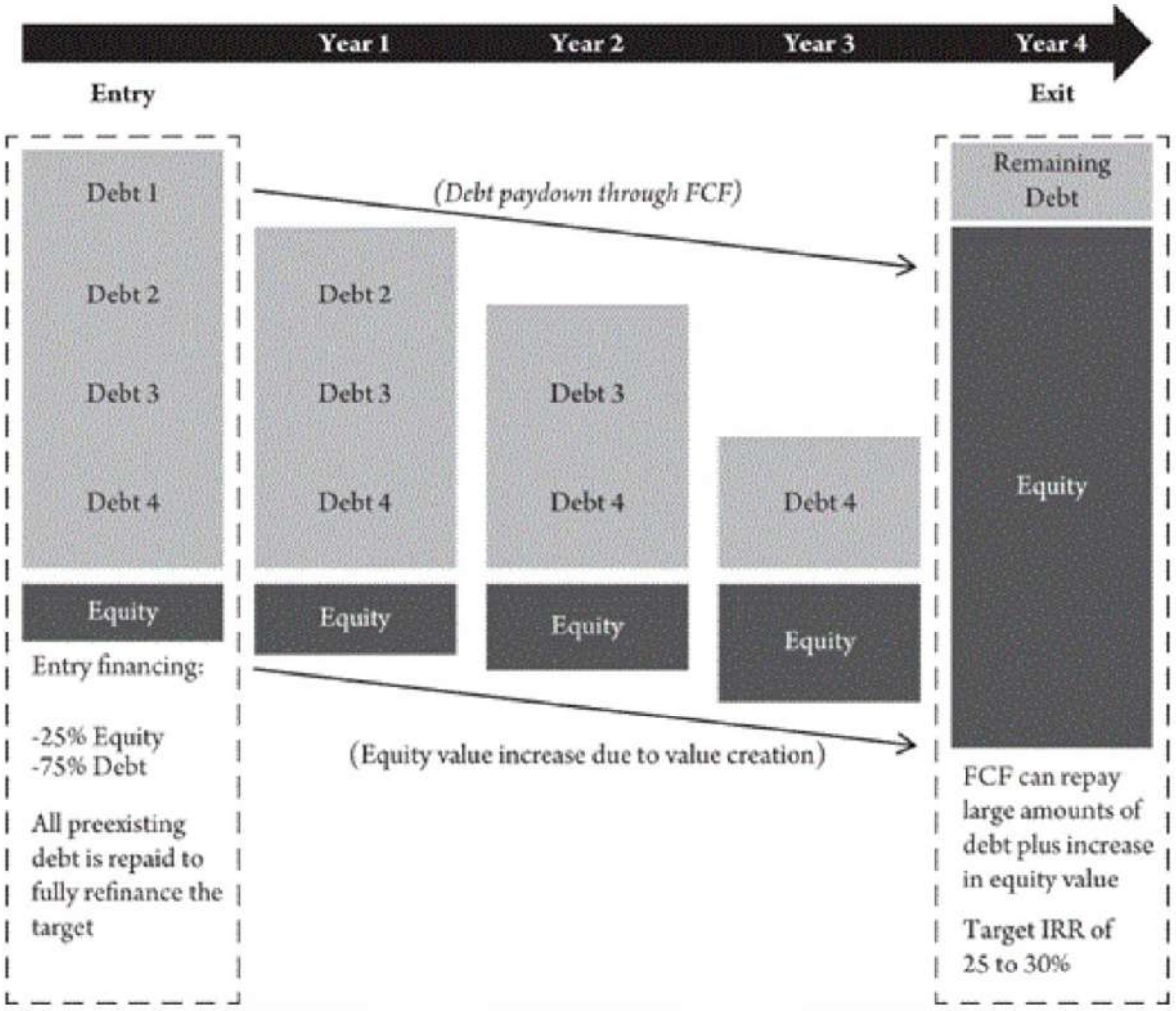

Figure 5, Mechanism of debt repayment in an LBO operation over time, (Baker).

[19] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 5, Oxford University Press.

Entering in the target, it starts the restructuring phase of the company, substituting the old capital structure with the new acquisition financing structure (Figure 5). The portfolio company with its assets and its ability to generate cash flows become the collateral for repaying the principal and the interest of the debt. The cash flows in fact, act as the main resource to repay gradually the high level of debt that the company will face at the beginning of the acquisition. The repayment conditions of the debt instruments should allow timely repayments, considering that usually the short time horizon for an LBO operation is typically 4 to 6 years. During this period, not only cash flows can be used as resource to repay the debt, indeed the assets that are identified as "non-strategic" during the process of the operational reorganization of the target company could be sold in order to have necessary funds to cover the timely debt repayments, this operation is called "Asset Stripping". Once the debt is mostly repaid and the capital structure of the target company is returned to a regular debt-to-equity ratio the private equity firm may think to exit the target realizing a profit[20].

Moreover, there are other types of buyouts that a company could face and may be linked to LBOs:

- Management Buyouts (MBO): they are operations of takeover of the company promoted by the current management who wants to acquire the complete control of the firm.
- Management Buy-in (MBI): In this type of operation external manager plan the deal and become shareholder with a considerable quota to obtain control of the company[21].

In conclusion, buyouts have various structures and types based on the financial maneuvers and entities involved. LBOs are the principal investment strategy used by private equity firms which use this powerful tool used to revitalize and make profits from companies' takeovers. LBOs represent complex financial operations that involve several actors and financial resources to be collected, but one of the most important in order to realize higher profits in the private equity environment.

[20] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 5, Oxford University Press.
[21] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 16 Academic Press.

1.4.3 Strategy of investment: Turnaround and Distressed Investments

Turnaround and distressed investments are strategies employed by investors and financial professionals to invest in underperforming companies with the intent to turn their operations and financials around, ultimately creating value and generating positive returns. Each term carries a different focus and risk profile.

1. Turnaround investment: it is a strategy that involves investing in struggling companies with strong fundamentals but temporary operational or financial challenges. Companies that are in need of a turnaround often suffer of a consistent decline in their financial results, which in turn results in a loss of investor confidence and ultimately a collapse in their share prices due to highly frequent closed position. This leads companies to trading at heavy discounts that eventually may become ignored by the majority but noticed by some value investors. Private Equity investors usually look for businesses with resilient products or services, untapped market potential, or inefficiencies in their operations. The objective is to revitalize and rejuvenate the company's overall performance preventing a further deterioration, this can be achieved through non-vital assets sale and reducing expenses. In some special cases, filling up for bankruptcy might be necessary to relieve part of the debt load (many US coal companies followed this path[22]). Financial restructuring could mean reducing debt, renegotiating interest rates, refinancing loans, or optimizing the company's balance sheet. Moreover, various other actions might be required, such as operational improvements, which include streamlining processes, optimizing resource allocation, or investing in new technologies to increase efficiency and productivity. Another aspect to take into consideration is the strategic repositioning which may involve refocusing on core competencies, expanding into new markets, or modifying the company's product or service offerings. A change in management is often required, however, it is not always easily achieved since the financial intermediary must negotiate with the former chairman. Usually, two groups of executives take over the management problem with the first one who is specialized in crisis stabilization and the second one focused on the complete turnaround process working on organizational transformation and company's growth. Generally, the first group of executives remains with the company for 6 to 12 months, while the second group tends to stay in a leadership position for 12 to 24 months. Turnaround

[22] Alan Jeffries and Adrianne Jeffries, "Why Coal Companies Love Bankruptcy", *Bloomberg*, 2022.

investments typically carry a moderate risk profile, as they target viable companies with fundamental strength but short-term issues[23].

2. Distressed (debt) investment: it is a high-risk strategy that involves investing in companies facing significant operational or financial distress, such as insolvency, bankruptcy, or rapidly declining market share. These companies have an elevated likelihood of failing if their issues are not resolved in a timely and effective manner. Distressed investments can come in various forms, but the distressed debt is the principal one, it involves purchasing debt securities of the distressed company at a discount price. This investment strategy has been developing since 1978 when the "Bankruptcy Act" was introduced to rehabilitate the corporate reorganization in the United States. Indeed, it eliminated the prior requirement that the debtor had to demonstrate its insolvency before being eligible for bankruptcy protection. This change allowed firms to voluntarily file for bankruptcy much earlier their financial distress allowing them to start the rehabilitation without being in a point of no return. In this environment distressed investors started to exploit the possibility of investing in bad performing companies. The control of the target company is taken through the purchase of the company's existing debt, this strategy may sound as a hostile takeover but considering the debt securities instead of the equity ones. The main advantage of this strategy is that contrary to an equity purchase, the debt securities purchase does not need to be disclosed to the market. Distressed investors hope to make profits from either the eventual restructuring of the company or the liquidation of the company's assets. In a distressed investment scenario, potential investors need to evaluate the likelihood of the company's successful recovery or the value of its underlying assets, as the risks involved are much higher than those in turnaround investments. The main exit strategies to a private equity investor when undertaking this type of investment strategy are to immediately re-sell the target company or gamble on restructuring considering the potential of its intangible assets. In the second case the asset redefinition is the key for the restructuring program. The measures taken into consideration are similar to turnaround investing but they are more drastic, in fact they may involve huge changes such as the sale of complete divisions, subsidiaries and branches. Additionally, investing in such distressed situations often

[23] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 16 Academic Press.

requires specialized skills and experience to navigate complex legal and financial issues which turnaround investing may not consider deeply[24].

1.5 Private Equity Process: Growth phase

Once the deal is closed the private equity firm actively engage with his portfolio companies in order to drive operational improvements and mostly pursue the main goal of the whole private equity process, the creation of value. During this crucial stage, it is important to define how funds evaluate the success of their investment activity. Performance assessment is carried out using a set of guidelines established by industry associations and specific governmental regulations, which tend to vary across countries. These directives are recognized by financial sector regulatory organizations within each nation. This often involves setting key performance indicators (KPIs) and implementing regular performance reviews. EVCA suggests calculating the investment's performance with the internal rate of return (IRR) or rate of internal return (TIR), which consists in the net present value on the outgoings (in particular, the purchases of quotas) and receipts (dividends, exits) for one or more operations. Performance is calculated to provide an indicator of the manager's ability to select target and create overall improvement in the same. Considering that the starting data is not the same for all the investments we identify a key important measure to monitor the investment during its lifetime (NAV) and three different types of IRR[25]:

1. Net Asset Value (NAV): it represents the fair market value of an investor's stake in the private equity fund at a particular point in time, considering the value of the fund's investments and any associated liabilities. It is calculated based on the total market value of the fund's investments, minus liabilities, divided by the total outstanding shares. It differs from the other performance measures because it reflects the value of an investor's stake, rather than the return generated by the investments.
2. Gross return on the realized investments: it is computed as the net present value of the entries and exits made, pending write-offs and bankruptcies are not included in the calculations. This is the most frequently used measure because it offers a balanced vision of the operation analyzed.

[24] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 7, Oxford University Press.
[25] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 10, Academic Press.

3. Gross return on all investments: it includes the value of the operations still to be realized, like a quota yet to be invested or a write-down yet to be made excluding the liquidity reserve.
4. Net return to the investor: it represents the most interesting measure for the investor, it shows the final result and net of costs and commissions applied by the fund managers. The liquidity reserve is also taken into account during the calculation of the return.

The liquidity management is a key aspect in this phase of the private equity process, it represents a source of value for the investor, in fact, private equity funds allow their subscribers to provide the funds in different stages avoiding big portions of liquidity held. The liquidity strategy is different between the open-end and the closed-end funds. Closed-end funds often allocate their liquidity in non-risk tools that can be easily converted in legal tender which can be used to proceed with the investments, once the same are realized, liquidity management problems decrease becoming with low relevance because the quota subscribed by the investors cannot be turned into cash. On the other hand, liquidity management represents an important aspect to deal with for open-end funds. They have to consider the unpredictability of investors' requests and always keep a reservoir of cash to follow the potential movements among the subscribers. Furthermore, private equity funds pay special attention to implementing strong corporate governance practices and improving internal control systems during this phase. Indeed, usually the private equity fund put his own representatives in the Board of Directors in proportional number to the amount of capital subscribed, this grant veto power to his representative in the most important matters. Moreover, it is good to implement the number of outstanding committees (executive, remuneration, audit and nomination) that have at least one member appointed by the private equity investor in order to affect, directly or indirectly, the outgoing issues of the company. After having structured the corporate governance structure, regular monitoring and performance assessment become other crucial aspects that help private equity firms tracking progress and ensure their portfolio companies are moving in the right direction. At this point managing and monitoring have the objective to regulate and protect the created value setting up rules to live together to avoid conflicts and mitigate divergences among all the stakeholders involved in the firm. This is ensured through the use of contractual terms created to fit the deal. They are defined as covenants (positive or negative) and ratchets. Positive covenants concern all the actions that must be undertaken to ensure the correct development of the target-company such as the production of audited reports, the organization of regular board-meetings, and to pay fiscal obligations when they become due. Negative

covenants refer to all those actions that should not be undertaken by both the management and the investors. Ratchets are contractual clauses that provide the option to modify duties or rights when certain circumstances arise, among these 3 categories there are[26]:

- Lock-up: it involves investors, existing shareholders and management and prevents them from selling their shares to third parties, but through the pre-emption clause, it grants the right to the exiting partner to buy share from an existing party.
- Stock options: these provide the holder of the target-company's stock the right to buy or sell it at predetermined price and specific date. These serve as incentive, often allocated to both management and entrepreneurs, motivating them to enhance the company's value. In privately held companies (target of private equity investments) stock options can be used after specific adjustments. One of these is to link the options to the final value of the company at exit, using IRR as the parameter.
- Callable and Putable securities: these securities confer the right to the existing shareholders to buy stocks from the private equity investors (callable), and the private equity investor to sell stocks to existing shareholders (putable).
- Tag alone right: in case of sale from the majority shareholders this clause allows the private equity investor to participate in deal pro-rata, selling his minority stake to the same buyer with the same conditions.
- Antidilution clause: this clause exploits the same principle of the "tag along right". In case the private equity investors are willing to sell their stake, it allows other shareholders to sell their stake under the same conditions to the same buyer. This procedure enhances the possibility for the buyer to acquire the entire company at once.
- Right of first refusal: in case where other shareholders wish to sell their stakes, this clause enables the private equity investor to preempt unwanted new shareholders and with the possibility to acquire the stake of the selling shareholder at the same conditions offered by the potential buyer.
- Asset sales and purchase covenants: limitations imposed on selling assets above certain value (or above a certain percentage of the firm's book value) and on purchasing certain type of assets without the permission of the private equity investor.

[26] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 10, Academic Press.

- Merger or sale covenants: restrictions in place to prevent a merger or sale of the company without the explicit approval of the private equity investor.
- New security restriction: it limits the issuance of senior securities without the approval of the existing investors, this measure aims to protect the interests of current stakeholders[27].

In summary, all these measures are essential for private equity firms to ensure their investments mature to deliver the targeted returns, providing a solid foundation for the final Exit Phase.

1.6 Private Equity Process: Exit phase

The Exit Phase represents the final stage of the process, where private equity firms realize the value of their investments and generate returns for their investors. This phase is crucial to the overall success of private equity investments, as it is when fund managers monetize the growth and improvements achieved during the Growth Phase. The focus is to exit with the highest internal rate of return (IRR) possible compensating the investors for the low liquidity of their investment. Usually, the aim for a Private Equity fund is to maintain his participation in the target company for 5 to 7 years and then return of his investments through one of the typical exit strategies on today's market:

1. Trade sale
2. Buy Back
3. Secondary Buyout
4. Leveraged Dividend Recapitalization
5. Write Off
6. IPOs

1.6.1 Trade Sale

A trade sale exit is a widely utilized strategy in the private equity space, where the investor (private equity fund) sells his stake in a portfolio company to a strategic buyer such as a corporation or an industrial shareholder. The rationale behind a trade sale is its alignment with the strategic business goals of the buyer, and the transaction can be executed through public tenders or private negotiations. This exit strategy is particularly prevalent in European markets and consider the buyer entering the company with a minority stake to form an alliance or initiating an offer to acquire the company from majority shareholders. Alternatively, the buyer

[27] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 10, Academic Press.

may become a majority shareholder in order to solidify his participation or facilitate a merger. Trade sales offer several advantages, including the prospect of achieving a higher premium price, which is often possible because a strategic buyer recognizes the potential synergies and competitive advantages of the acquisition. Moreover, trade sales are generally more efficient and cost-effective than an IPO, as the process involves less regulatory scrutiny and lower transaction costs. Easier negotiations are another upside to trade sales, as they usually involve discussions with a limited number of potential participants, streamlining the process and promoting efficiency. These benefits make trade sales particularly suitable for investing in small to medium-sized businesses where a less complex transaction can be a decisive advantage. However, an insufficient number of appropriate buyers in some markets, may limit the opportunity for a successful exit. Furthermore, the resistance from the company's management, and investors' unwillingness to provide the necessary collateral, could adversely impact the deal's completion. For a successful trade sale, several conditions should be met: private equity investors need a robust network of relationships to find potential buyers, existing shareholders must be amenable to exiting alongside the private equity investor, and negotiations should take place among parties of similar reputation and power[28].

In conclusion trade sales are a preferred exit strategy for private equity investors, offering the opportunity to realize a higher gain with lower transaction costs and making it the efficient way to exit from an investment.

1.6.2 Buy Back

A buy back exit strategy in private equity, also commonly referred to as a buyback, is a transaction in which a private equity firm sells its ownership stake in a portfolio company back to the existing company’s shareholders or their representatives. This may occur when the company has amassed enough resources, has refinanced its debts, or simply wants to buy back the shares owned by the private equity firm for various reasons. One of these reasons could be related to the initial purpose of the Private equity investor’s entrance in the target company. If the shareholders have initiated a venture capital round to collect funds to finance their business idea or the company’s growth and the operations ends up successfully, they may decide to a operate a buyback[29].

[28] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 11, Academic Press.
[29] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 11, Academic Press.

Some advantages of a buy back exit strategy include giving the portfolio company control and flexibility, as the management team can retain or increase its decision-making authority. This transaction represents a simpler and more straightforward exit strategy with fewer regulatory requirements and reduced transaction fees compared to other exit strategies like IPOs or M&A. However, buyback brings also disadvantages such as establishing an appropriate valuation of the stake owned by the Private equity firm, considering that both parties may have different views on the company's worth. The buyback might be financially challenging for the portfolio company, as it requires cash or debt financing to execute, and it might result in more conservative returns compared to other exit strategies like IPOs, M&A, or secondary sales. Additionally, the portfolio company may find it tough to raise funds in future rounds, as the buyback may send a negative signal to potential investors. When considering a buy back exit strategy, it is important to analyze the portfolio company's financial health, its ability to generate cash, and its future outlook to determine if a buyback is a feasible exit strategy. Agreeing on a valuation and pricing that is acceptable to both parties is essential in determining the success of a buyback. Planning the transaction timeline and determining financing options like bank loans, alternative financing, or issuing bonds are crucial in ensuring a seamless execution. Moreover, it is vital to comply with legal regulations, contractual obligations, and due diligence. In conclusion this exit strategy happens in some particular cases and does not represent the majority of exits in Private Equity[30].

1.6.3 Secondary Buyout

A secondary buyout or sponsor-to-sponsor buyout is a type of exit strategy in which a financial sponsor sells a portfolio company to another financial sponsor. This type of deal was more widespread in the past but remains an exit strategy frequently used in the US. It is based on strong relationships between private equity investors and often involves investors who specialize in different stages of a target firm's life cycle, such as seed, start-up, expansion, and replacement financing. In some cases, a financial sponsor may sell the company to another financial sponsor if it has reached its minimum investment time period, generated a high rate of return on its initial investment, or is close to exhausting its ability to call uninvested capital, known as dry powder. The rationale behind this strategy is that a larger financial sponsor can add value to the portfolio company as it progresses to the next development stage. Moreover,

[30] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 11, Academic Press.

secondary buyouts can offer increased flexibility in the structure of the sale, allowing the vendor to maintain partial ownership and enable the company to continue conducting its business with the intent of long-term growth. This method may also be used to solve conflicts between the current PE investor and the company management or when the existing Private Equity investor is unable or unwilling to continue financing the business. For a profitable sale to other private equity investors, certain conditions must be met to ensure the transaction's success and value for both the seller and the buyer. The selling party should have established relationships with other private equity investors to easily identify potential buyers who may be interested in purchasing the portfolio company. This enables the seller to have a larger pool of prospective acquirers, thereby increasing the likelihood of a successful sale. It is important for the market to have investment funds that focus on different stages of a company's life cycle, such as seed, start-up, expansion, or replacement financing. As a result, the selling private equity firm can find a buyer who specializes in the target company's current or next stage of growth, ensuring that the buyer is well-suited to support the company's development. In addition, the existing shareholders of the company must be willing to accept the new private equity investors' presence in the business and recognize their value in supporting the company's growth. They should be comfortable with the notion of having equity investors involved in decision-making processes and supporting the company's development even after the initial investment. Lastly, there should be a well-defined and feasible plan to develop the company from a small to medium-sized business. This plan should outline the company's growth strategy, potential markets to explore or develop, product or service enhancements, and any other initiatives aimed at fueling growth. A well-articulated growth plan shows that the company has a promising future, making it more attractive to potential private equity buyers. In summary, the secondary buyout process offers the advantage of an immediate and complete exit as well as a shorter transaction timeframe compared to trade sales or IPOs. It allows the ongoing development or growth of the firm and can be motivated by fund duration or relationship status between investors, the entrepreneur, and the company's management team. In case the PE investor is unable to realize the desired return or if there is a bad relationship between shareholders, they may accelerate the exit by accepting a lower price falling back on a secondary buyout strategy[31].

[31] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 13, Oxford University Press.

1.6.4 Write-off

A write-off is an exit strategy that occurs when a private equity firm decides to remove an investment from its books due to the portfolio company's poor performance or inability to generate returns. This typically happens when the invested company is not successful in achieving its intended objectives, is under financial distress, or is going through bankruptcy proceedings. In essence, the private equity firm disposes of its ownership stake in the portfolio company at a loss and ceases to provide further financial support. In this type of exit strategy, the private equity firm acknowledges that the investment has no significant residual value and is not expected to create any future returns for the investors. The write-off can be partial, where only a part of the invested capital is deemed unrecoverable, or total, where the entire investment is considered lost. While a write-off is generally considered the least desirable exit strategy for private equity firms, it is sometimes unavoidable, particularly in high-risk investments or unfavorable market conditions. Main factors that could lead to a write-off are:

1. Underperformance: The target company fails to meet its business objectives, generate revenues, or reach profitability, making it incapable of providing returns on the investment. This represents the most frequent cause of write-off in private equity firms.
2. Financial distress: The target company experiences severe financial challenges, such as high debt levels, insolvency, or inability to access growth capital.
3. Management issues: The target company's management team fails to execute the business plan effectively, leading to operational, strategic, or governance problems.
4. Market downturn: A downturn in the industry or overall economic conditions may adversely affect the invested company's performance and prospects, making it difficult for the private equity firm to recoup its investment.
5. Bankruptcy or liquidation: The target company undergoes bankruptcy or liquidation proceedings, where its assets are sold off to repay creditors, leaving little to no value for equity investors.

A write-off exit strategy represents a significant loss for the private equity firm and its investors. Due to the inherent risks in private equity investments, thorough and accurate due diligence, continuous monitoring, and proactive management are essential to minimize the likelihood of a write-off[32].

[32] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 11, Ac. Press.

1.6.5 Leveraged Dividend Recapitalization

Distributing dividends to shareholders is a conventional approach for a company to return profits to investors. If a company's capital is divided into different classes of shares, the company can distribute dividends only to a specific class of shareholders. Consequently, such a specific class of share can be issued from the beginning of the private equity investment, offering a partial exit through the dividend payment. Leveraged recapitalization is a partial exit strategy in which a private equity portfolio company issues new debt in order to pay a special dividend to private investors or shareholders. This typically involves borrowing funds from a bank or issuing corporate bonds. The amount raised is then used to repurchase the company's own shares from the investor. This practice is an alternative way to selling the company's equity[33].

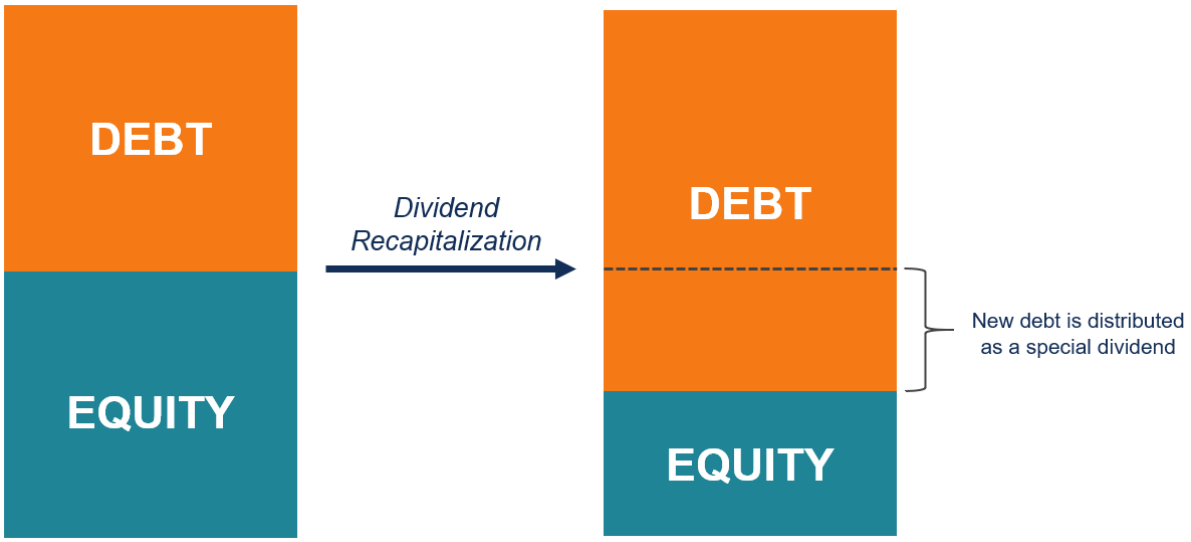

Figure 6, Dividend Recapitalization (Corporate Finance Institute).

The main advantage associated with leveraged dividend recapitalization is that the private equity fund remains in partial control of the target and still receives payment and possible tax benefits compared to other types of exits. This strategy is used when a clear exit event like an IPO or acquisition is not immediately evident. A key aspect to consider going through this exit route is that high debt levels may result in over-leveraging, which can eventually lead to financial distress with associated agency costs and mutations on the overall financial risk profile of the target company. Consequently, without enough strong cash flows to bear the increased leverage the company may see affected its own value. A limited flexibility in daily

[33] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 13, Oxford University Press.

operations, due to eventual cost-cutting measures and tighter budget constraints, may also reduce research and development (R&D) expenditures or can lead to missing new investment opportunities, implying the reduction of company's value. In order to pursue this exit path, the management has to undertake thorough due diligence to ensure that the company is suitable for dividend recapitalization and possesses sufficient capacity to take on more debt on its balance sheet. Insolvency tests, such as the balance sheet test or cash flow test, are commonly included in the due diligence process[34].

Example:

Company A is owned by a private equity firm. Company A is a leveraged company, with $50m in debt and $50m in equity. The private equity firm is wanting to recover its initial investment in Company A without losing its stake in the company. Thus, the private equity firm decides to undertake a dividend recapitalization of Company A. The dividend recapitalization plan includes the issuance of corporate bonds in the amount of $25m. After the issuance of the new bonds, the proceeds are used to distribute special dividends to investors who participated in the initial financing of the company.

1.6.6. Initial Public Offering (I.P.O.)

An Initial Public Offering is a comprehensive and financial transition wherein a privately held company evolves into a publicly traded entity by offering its shares for the first time to the stock market. An IPO allows a company to unlock new growth and raise capital from public investors as well as provide private investors with the opportunity to exit their investment and realize profit. There are many reasons why a company might want to go public:

1. Raising capital for growth and expansion: selling shares to the public provides companies with additional capital, which can then be used to fund key business initiatives.
2. Exiting the company for investors: venture capital and private equity firms typically invest in private companies with a plan to cash out through a liquidity event, such as an IPO. After adding value, investors will then look to sell their stakes and reallocate capital to other opportunities.
3. Attracting and retaining top talent: many employees view startups as risky and would prefer to work for a public company, which can provide more job stability. As an added

[34] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 13, Oxford University Press.

bonus, public companies may also offer employee stock ownership on top of their base salary.

4. Providing liquidity for shareholders: private market investments are largely illiquid. Once a company goes public, however, its shares can be traded on a stock exchange providing investors with easier access to cash they need[35].

The IPO Process:

For Private Equity companies, the decision to go public represents growth, recognized by the market, and allows advantages such as an increase in fundraising at international and national level, this solves the problem of the problem of limited capital raised from other sources such as banks and other lenders (debt). Moreover, it gives the possibility to public small investors to access venture capital activity. This represents the opportunity to enhance visibility and increase the interaction with supplier and costumer. The perception of a company going public projects an image of stability to the market which can attract more investor and pursuing the growth from all corporate perspectives. However, this process implies high costs compared to other exit strategies. Legal, accounting and investment banking fees are heavy and represent only a small part of the entire procedure. As a public company there is higher degree of disclosure and transparency, this means higher level of exposure to market rumors which may affect the top management strategies and consequently the initial share price not based on the real value of the company. The below are the main steps which a company must undertake to go public via an IPO process[36]:

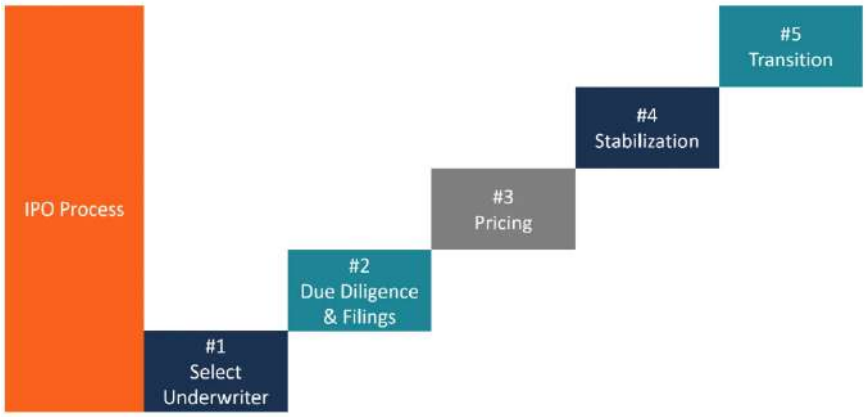

Figure 7, The IPO Process (Corporate Finance Institute).

[35] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 13, Oxford University Press.
[36] Jay R. Ritter, Ivo Welch (2002), "A Review of IPO Activity, Pricing, and Allocations", *The Journal of Finance*, Vol. 57, pp. 1795-1828.

Step 1: Select an investment bank

The initial stage of the IPO process involves the issuing company selecting an investment bank that will advise on the IPO and supply underwriting services. The investment bank is chosen based on specific criteria such as the reputation, industry expertise and distribution, i.e., the capability to provide the issued securities to more institutional investors or to more individual investors[37].

Step 2: Due diligence and regulatory filings

In this step all the regulatory documents and the due diligence are drafted between the issuing company and the investment bank. All these documents are useful to help the issuing company to sell its initial set of shares since the investment bank will act as a broker between the issuing company and the public market investors. In order to do so, the following arrangement agreements are available to the issuing company[38]:

1. Firm Commitment: Under such an agreement, the underwriter purchases the whole offer and resells the shares to the investing public. The firm commitment underwriting arrangement guarantees the issuing company that a particular sum of money will be raised.
2. Best Efforts Agreement: Under such an agreement, the underwriter does not guarantee the amount that they will raise for the issuing company. It only sells the securities on behalf of the company.
3. All or None Agreement: Unless all of the offered shares can be sold, the offering is canceled.
4. Syndicate of Underwriters: Public offerings can be managed by one underwriter (sole managed) or by multiple managers. When there are multiple managers, one investment bank is selected as the lead or book-running manager. Under such an agreement, the lead investment bank forms a syndicate of underwriters by forming strategic alliances with other banks, each of which then sells a part of the IPO. Such an agreement arises when the lead investment bank wants to diversify the risk of an IPO among multiple banks.

[37] "The IPO Process", Corporate Finance Institute, https://corporatefinanceinstitute.com/.
[38] "The IPO Process", Corporate Finance Institute, https://corporatefinanceinstitute.com/.

Once the issuing company decides which underwriting agreement to select the underwriter (investment bank) must draft the following mandatory documents:

Engagement letter: it typically includes a reimbursement clause which states that the issuing company must cover all out-of-the-pocket expenses incurred by the underwriter, even if the IPO is withdrawn during the due diligence stage, the registration stage, or the marketing stage, and the "gross spread/underwriting discount" which is obtained by subtracting the price at which the underwriter purchases the issue from the price at which they sell the issue. (Gross spread = Sale price of the issue sold by the underwriter – Purchase price of the issue bought by the underwriter). Typically, the gross spread is fixed at 7% of the proceeds. The gross spread is used to pay a fee to the underwriter. If there is a syndicate of underwriters, the lead underwriter is paid 20% of the gross spread. 60% of the remaining spread, called "selling concession", is split between the syndicate underwriters in proportion to the number of issues sold by the underwriter. The remaining 20% of the gross spread is used for covering underwriting expenses (for instance, roadshow expenses, underwriting counsel, etc.)[39].

Letter of intent: it includes the underwriter's commitment to enter an underwriting agreement with the issuing company, a commitment by the issuing company to provide the underwriter with all relevant information and, fully co-operate in all due diligence efforts, an agreement by the issuing company to provide the underwriter with a 15% overallotment option (greenshoe clause). The letter of intent does not mention the final offering price[40].

Underwriting Agreement: the letter of intent remains in effect until the pricing of the securities, after which the Underwriting Agreement is executed. Thereafter, the underwriter is contractually bound to purchase the issue from the company at a specific price.

Registration statement: it contains all the information regarding the IPO, the financial statements of the company, the background of the management, insider holdings, any legal problems faced by the company, and the ticker symbol to be used by the issuing company once listed on the stock exchange. The SEC requires that the issuing company and its underwriters file a registration statement after the details of the issue have been agreed upon. The registration statement has two parts which are "the Prospectus" and "the Private Filings", the first is the final version of the red herring and represents the document provided to every investor who buys the issued security, the latter is a comprehensive document that contains all the

[39] "The IPO Process", Corporate Finance Institute, https://corporatefinanceinstitute.com/.
[40] "The IPO Process", Corporate Finance Institute, https://corporatefinanceinstitute.com/.

information provided to the SEC (ESMA in case of European issuing) but necessarily made available to the public. The “Registration Statement” ensures that investors have adequate and reliable information about securities. Once this document is completed the SEC/ESMA carries out due diligence to ensure that all the required details have been disclosed correctly[41].

Red Herring Document: it is a “Preliminary Prospectus” filed by a company with the Securities and Exchange Commission (SEC, in case of security issue in U.S market), usually in connection with the company's initial public offering, it contains most of the information pertaining to the company's operations and prospects but does not include key details of the security issue, such as its price and the number of shares offered. It represents the first draft of the prospectus filed with the SEC as well with a variety of subsequent drafts created prior to obtaining approval for public release. To be considered eligible for release, the SEC must thoroughly review a red herring prospectus to ensure the information contained therein does not include any intentional or incidental falsehoods or statements that are in violation of any laws or regulations. The SEC may also note any failure to disclose required information. The term "red herring" is derived from the bold disclaimer in red on the cover page of the preliminary prospectus. The disclaimer states that a registration statement relating to the securities being offered has been filed with the SEC but has not yet become effective. That is, the information contained in the prospectus is incomplete and may be changed. Thus, the securities may not be sold, and offers to buy may not be accepted before the registration statement becomes effective. The red herring does not state a price or issue size. Once the registration statement becomes effective, the company disseminates a final prospectus that contains the final IPO price and issue size. Expressions of interest then convert to orders for the issue at the buyer's option. The minimum period between a registration statement filing and its effective date is 15 days. The SEC does not approve the securities but simply ensures that all relevant information is disclosed in the registration statement. Generally speaking, the information in the red herring prospectus is subject to change and the SEC ensures all proper information is disclosed[42].

[41] “The IPO Process”, Corporate Finance Institute, https://corporatefinanceinstitute.com/.
[42] “What Is a Red Herring? Definition, Meaning, Benefits, and Example”, Investopedia, https://www.investopedia.com/.

Step 3: Road show and Pricing

Companies need to ensure that the IPO becomes a big event to spread the excitement among potential investors through the "road show". Upon getting approval for an IPO, the investment bankers and underwriters hired by the business get into action. They travel to important finance destinations around the world to showcase the IPO offer to institutional and big money investors. Road shows are used to convince them about the potential of the company. They highlight the future growth trajectory of the business as well as the expected market share. The teams responsible for the road shows also meet with business analysts and fund managers. Such professionals may offer insights that enhance the company's IPO process. Company executives provide every detail about the IPO through multimedia presentations, Q&A sessions, and other user-friendly means. Increasingly, companies are posting online versions of road shows which any individual can access. To help out investors, companies may also arrange small group meetings a few days or weeks before floating the IPO. In summary road shows are the tool used by investment bank to get in touch with investors and make them aware about the potential number of shares issued during the offering and the target price they aim to post in the market[43].

Once the IPO is approved by the SEC, the effective date is decided. On the day before the effective date, the issuing company and the underwriter decide the offer price and the precise number of shares to be sold. Deciding the offer price is important because it is the price at which the issuing company raises capital for itself. The factors that may affect the offering price are the company's goal, the condition of the market and the success or failure of the roadshows. When deciding the pricing strategy, the investment bank together with the issuing company may select among two main options:

- Fixed price issue
- Book building issue

In a fixed price issue, the price at which shares will be sold and allotted is made known to the investors in advance. Whereas, in a book building issue, the issuer offers a 20% range within which investors can bid for the shares. The final price is decided only after the bidding is closed. This 20% range is called an IPO price band. Both retail and institutional buyers are called to submit their bids within this price range. The book, that is the collection of bids that have come in for the IPO, is open to all investors. In other words, the demand for the shares offered at

[43] Elizabeth Blankespoon, Bradley E. Hendricks, Gregory S. Miller (2023), "The Pitch: Managers' Disclosure Choice during Initial Public Offering Roadshows" *The Accounting Review*, Vol. 98, pp. 1-29.

various prices is available for all current and potential investors. No bid price can be less than the IPO floor price, which is the lower bound of the band. Neither can it be higher than the IPO cap price, the upper bound of the band. The book is normally open for 3 days, and the bidders can revise their bids as long as the book is open. Issuers prefer book building issues over fixed price issues as the process gives them the opportunity to discover the price and demand. This way, the issuer is able to ensure that the issue generates as much value as the market is willing to provide. The price at which the issue is finally sold is called the cut-off price. This is the highest price at which all the shares offered can be sold[44].

When facing IPO pricing, a common listing pricing outcome could be represented by the so-called "underpricing" which considers a stock price traded below its real value. An IPO could be accidentally underpriced due to an underestimated demand by in the market forecasted by its underwriters or being selected as strategy for marketing the IPO. Underpricing perception of the IPO issue can attract more investors due to the perceived opportunity for immediate returns after the IPO. This can lead to positive media coverage, creating additional visibility for the company and potentially attracting more investors. Furthermore, it can also mitigate potential litigation if the share price increases after the IPO, reducing the risk of legal action from dissatisfied investors. On the other hand, among the drawbacks, an underpriced IPO may result in in leaving money on the table, as the company did not capture the full market value of its shares during the offering. Existing shareholders might see a dilution in their ownership stake due to the larger number of shares issued at a lower price. Additionally, underpricing can encourage short-term investors to seek quick gains by selling the shares soon after the IPO, potentially creating price volatility. If the underpricing leads to an overinflated stock price, the valuation might not be sustainable in the longer term and could be subject to market corrections. Finally, better-informed institutional investors may have a higher likelihood of benefiting from underpricing, leading to adverse selection for retail investors who might not get a fair allocation of shares[45].

Generally speaking, the IPO is considered underpriced by the difference between its first day closing price and its set IPO price. The main reason why IPOs are often underpriced is to ensure that the issue is fully subscribed/oversubscribed by the public investors, even if it results in the issuing company not receiving the full value of its shares. Through this, it increases the demand

[44] "Book Building", Investopedia, https://www.investopedia.com/.
[45] Bhagwan Chowdhry, Vikam Nanda (1996), "Stabilization, Syindication, and Pricing of IPOs", *Journal of Financial and Quantitative Analysis*, Vol. 31, pp 23-42.

for the issue and compensates investors for the risk that they take by investing in the IPO. An offer that is oversubscribed two to three times is considered to be a good IPO.

Step 4: After Market and Price Stabilization

After the issue has been brought to the market, the underwriter has to provide analyst recommendations, after-market stabilization, and create a market for the stock issued. The underwriter carries out after-market stabilization in the event of order imbalances by purchasing shares at the offering price or below it. Stabilization activities can only be carried out for a short period of time – however, during this period of time, the underwriter has the freedom to trade and influence the price of the issue as prohibitions against price manipulation are suspended[46].

An important feature to consider during stabilization period is the "greenshoe" clause which is an over-allotment option. It is a provision in an underwriting agreement that grants the underwriter a right to sell more shares to the investors than what was initially planned by the issuer if specific market conditions are met. It allows underwriters to sell an additional 15% of company shares at the offering price. Investment banks and underwriters that take part in the greenshoe process can exercise this option if public demand exceeds expectations and the stock trades above the offering price. This clause provides price stability, liquidity, and buying power to cover short position if prices fall without the risk of having to buy shares if the price rises. In case a company decides to sell 1 million shares publicly, the underwriters can exercise their greenshoe option and sell 1.15 million shares. When the shares are priced and can be publicly traded, the underwriters can buy back 15% of the shares. If the market price exceeds the offering price, underwriters can't buy back those shares without incurring a loss. This is where the greenshoe option is useful, allowing underwriters to buy back shares at the offering price, thus protecting their interests. On the other hand, if a public offering trades below the offering price, it's referred to as a "break issue." This can generate a public impression the stock being offered might be unreliable, possibly inducing new buyers to sell shares or to refrain from buying additional shares. To stabilize prices in this scenario, underwriters exercise their option and buy back shares at the offering price, returning those shares to the issuer[47].

[46] Khelifa Mazouza, Sam Agyei-Ampomahb, Brahim Saadounic, Shuxing Yin (2012), "Stabilization and the aftermarket prices of initial public offerings", *Review of Quantitative Finance and Accounting*, pp. 1-33.
[47] Dhruv A Thaker (2022), "Green shoe option, the post-issue stabilizing mechanism", *The Institute of Company Secretaries of India*, pp 1-12.

Example:

The bookrunner are initially in a short position, they will accept more orders than the shares issued by the company. Orders taken for 69m shares at $5.00, issue for only 60m shares.

- Scenario 1: if the price rises to $6.00 the bank needs more shares to cover the 9m share of its short position. In this case the 15% greenshoe clause is exercised and additional 9m from the company are obtained at issue price ($5.00) and sold at market price.
- Scenario 2: if the price fails to $4.00 the bank will not exercise the greenshoe clause. Instead, it will go into the market and buy 9m shares which will help push up the price. The bank will make a profit between the issue price and the current market price. Ideally the share price will rise due to the bank activity so the profit will be less than ($5.00-$4.00) * 9m.

Step 5: Transition to Market Competition

The final stage of the IPO process, the transition to market competition, starts 25 days after the initial public offering, once the "quiet period" mandated by the SEC ends. During this period, investors transition from relying on the mandated disclosures and prospectus to relying on the market forces for information regarding their shares. After the 25-day period lapses, underwriters can provide estimates regarding the earning and valuation of the issuing company. By doing so, they help investors as they transition to relying on public information about the company. Thus, the underwriter assumes the roles of advisor and evaluator once the issue has been made. Six months after the IPO, any inside investors are free to sell their shares. Once the Initial Public Offering is considered completed in all its steps, the main metrics used for judging the performance of the issue are the following:

- Market Capitalization: The IPO is considered to be successful if the company's market capitalization is equal to or greater than the market capitalization of industry competitors within 30 days of the initial public offering. Otherwise, the performance of the IPO is in question.
- Market Capitalization = Stock Price x Total Number of Company's Outstanding Shares
- Market Pricing: The IPO is considered to be successful if the difference between the offering price and the market capitalization of the issuing company 30 days after the IPO is less than 20%. Otherwise, the performance of the IPO is in question[48].

[48] "The IPO Process", Corporate Finance Institute, https://corporatefinanceinstitute.com/.

1.7 The J-Curve in Private Equity

Once the divestment from the portfolio companies is concluded, and in case of profitable investment strategies, the focus shifts on the cash flows that the Private Equity fund went through during the whole fund's life. In this context, the J Curve may be an easy concept to understand the unique pattern of cash flows and returns which investors experienced during the time as Limited Partners of the fund. This curve, resembling the letter "J," is characterized by an initial dip that represents negative cash flows in the early stages, followed by a gradual rise showcasing an increase in positive cash flows and returns over time.

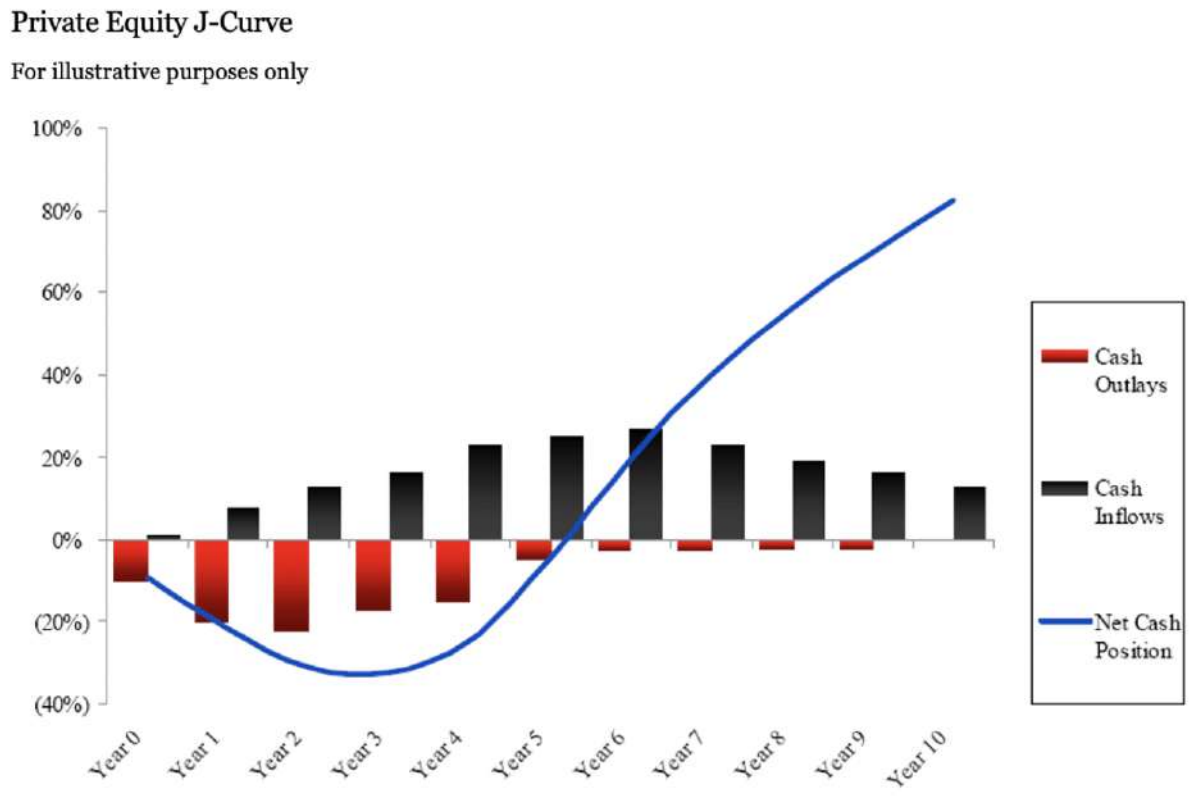

Figure 8, "J Curve in Private Equity", (Corporate Finance Institute).

In the early years, private equity funds often generate minimal or no cash flow for investors as they contribute capital to the fund. This negative cash flow can be attributed to initial investments in portfolio companies, investment costs, management fees, immature investment portfolios, and the write-off of underperforming assets in the early stages. Banks that provide loans to private equity funds may stipulate a cash flow sweep, which mandates the fund to repay its debt using some or all of the generated excess cash flow. During this phase, initial funds generated are typically employed to reduce the company's leverage. As the investment period progresses, the performance of portfolio companies should start to improve, and profits

should increase. When these companies are eventually sold or generate substantial returns through other liquidity events, such as leveraged IPOs, mergers and acquisitions, or buyouts, the cash flow turns positive, leading to a net gain for the investors. Initially, excess cash is used to pay off debts, and then any remaining cash is distributed to equity investors. This later stage of the investment process embodies the upward curve of the "J," indicating the successful realization of value from those investments. The steepness of the J curve reflects the generated returns and the speed at which they are returned to investors. A steep curve signifies a fund that quickly generated high returns, while a curve with a gradual rise indicates a poorly managed private equity fund that took too long to realize returns and only yielded low profits. The J curve is a commonly used tool for illustrating the expected returns of private equity funds and helps investors gauge the performance of their investments over time. As such, it is crucial for investors to exercise patience and maintain a long-term perspective when investing in private equity, bearing in mind that attractive returns typically materialize in the latter part of the investment period[49].

[49] "The J Curve", Corporate Finance Institute, https://corporatefinanceinstitute.com/.

CHAPTER 2: Target companies and their valuation in Private Equity

2.0 Abstract

As introduced in the previous chapter, the valuation of a target company is an important step during the entire private equity process. This second chapter aims to introduce some data regarding private equity as a whole, and in particular referring to target companies. It intends to explain how intrinsic values are estimated when conducting preliminary research for a potential investment in private equity. It considers various aspects such as providing an analysis of the trends in private equity across the European market, offering insights into the scale and nature of investments, as well as the factors driving their growth. Furthermore, the chapter delves into the advantages of investing in private equity-backed firms, including the potential for higher returns, access to a diversified investment portfolio, and the value addition that private equity firms can provide to portfolio companies. It also provides a detailed overview of what constitutes a target company in the context of private equity.

After the presentation of all the data and the necessary preliminary information, the focus of the chapter shifts to the various valuation methods commonly employed for target companies in private equity, such as the discounted cash flow (DCF) and comparable company analysis (CCA) approaches. The main objective is to explain their respective merits and limitations while offering guidance on their application in different investment scenarios.

In summary, the chapter aims to give a complete overview of the private equity landscape in Europe and the considerations involved in valuing and investing in private equity-backed firms. Moreover, it sheds light on the importance of accurate valuation methods when evaluating potential target companies to ensure well-informed investment decisions. By providing a comprehensive view of the various aspects associated with private equity in Europe, this chapter serves as a preface of the analysis conducted evaluating the PE backed company located in Luxembourg, Alter Domus.

2.1 Overview of Private Equity in Europe

In the past 15 years, in Europe, Private Equity has been the form of investment that maintained the higher and more stable growth in terms of financing, investments and divestments. In fact, the European private equity market may be considered as one of the most interesting opportunities for investors who wants to undertake different investment paths due to the diversity of industries, company sizes, and its mature market. Additionally, Europe has a strong regulatory framework, attractive valuations compared to the US, and provides exposure to both high-growth emerging economies and innovative technology sectors, making it an appealing choice for investors seeking diversified investments. In 2009, private equity firms raised €21.8 billion while in 2023 the total amount of funds was €132.9 billion. This increase led the total amount invested to be higher as well, indeed in 2009 the amount invested by private equity firms was €26 billion while in 2023 the total investments amounted to €100 billion underlining a huge increase in just 15 years. Going deeply and analyzing the year per year performance the situation is the following[50]:

Figure 9, Total Private Equity fundraising divided by classes for the period 2009-2023. (Invest Europe, 2023 report).

In Figure 9, we can see how the increase has been gradual until the peak value in 2022 which concluded two exceptional years for fundraising in the immediate recovery from the COVID pandemic. Yet far from enduring a crash, the European industry had a soft landing, returning to pre-pandemic levels or higher across buyouts, growth and venture capital. Incremental

[50] European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.

fundraising did fall to €133 billion from 2022's stratospheric high of €195 billion, but nonetheless 2023 is ranked as the third best year ever for industry-wide capital raising and the second best for buyouts with €95 billion raised. On some metrics, it was even a record year, the €137 billion achieved by funds at final closing is the highest level ever registered. Total fundraising in Europe during 2023 reached €132.9bn, representing a 3% decline from the previous five-year average[51].

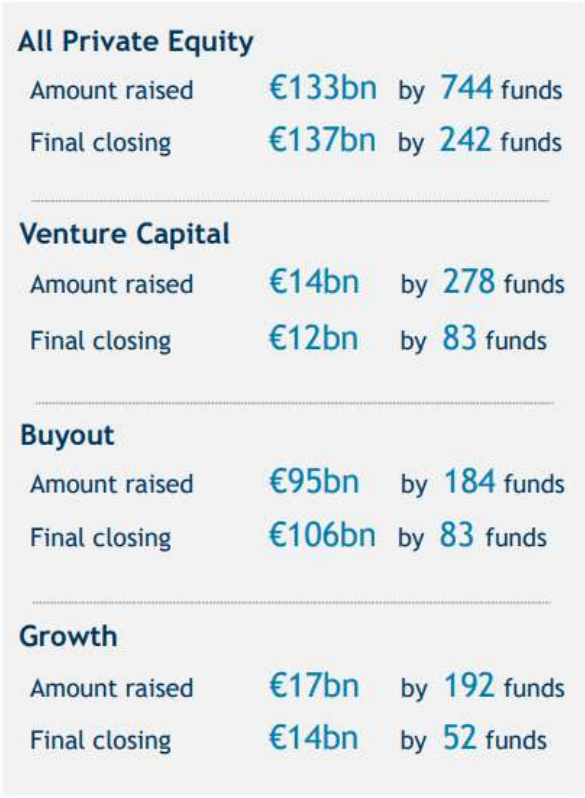

Figure 10, Fundraising divided by classes and closing. (Invest Europe, 2023 report).

Venture fundraising reached €14.2bn during 2023, representing a 21% decrease from the previous five-year average. Funds focusing on all venture capital raised 61% of the total venture for the year. A total of 278 venture funds raised capital in 2023; 70 of them were first-time funds. The top three sources of funds were government agencies (37%), corporate investors (13%), and private individuals (10%). The France & Benelux region continued to be the principal source of capital, with 37% of funds committed coming from the region. In 2023, buyout fundraising reached €95.4bn, representing 72% of the total amount raised during the year. This amount is 5% above the average for the previous five years. A total of 184 buyout funds raised capital in 2023, which is slightly above the average from the previous five years.

[51] European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.

Pension funds continued to provide the most capital, accounting for 27% of the total, followed by sovereign wealth funds (16%), and fund of funds (12%). Pension funds provided the most capital, as in previous years. Regionally, the primary source of capital was North America, accounting for 27% of the total, followed by Asia & Australia (26%), and France & Benelux (16%). Growth fundraising reached €17.2bn during the year, representing 13% of the total amount raised and in line with the average from the previous five years. A total of 192 growth funds raised capital in 2023. Pension funds and private individuals provided the top two sources of capital for the year, accounting for 19% and 18% respectively, followed by government agencies (15%), and fund of funds (13%)[52].

Regarding the investments, the total equity amount invested in European companies in 2023 was €99.8bn, a 25% decrease from the previous year and 11% below the previous five-year average. 8,391 companies received investment, 5% below the average for the previous five years, 85% of which were SMEs. 65% of equity invested was domestic (within the country), 29% was intra-European, and the remainder was from non-European sources. Investments (by number of companies) were concentrated in four sectors: ICT (33%), biotech & healthcare (16%), consumer goods & services (16%), and business products & services (15%)[53].

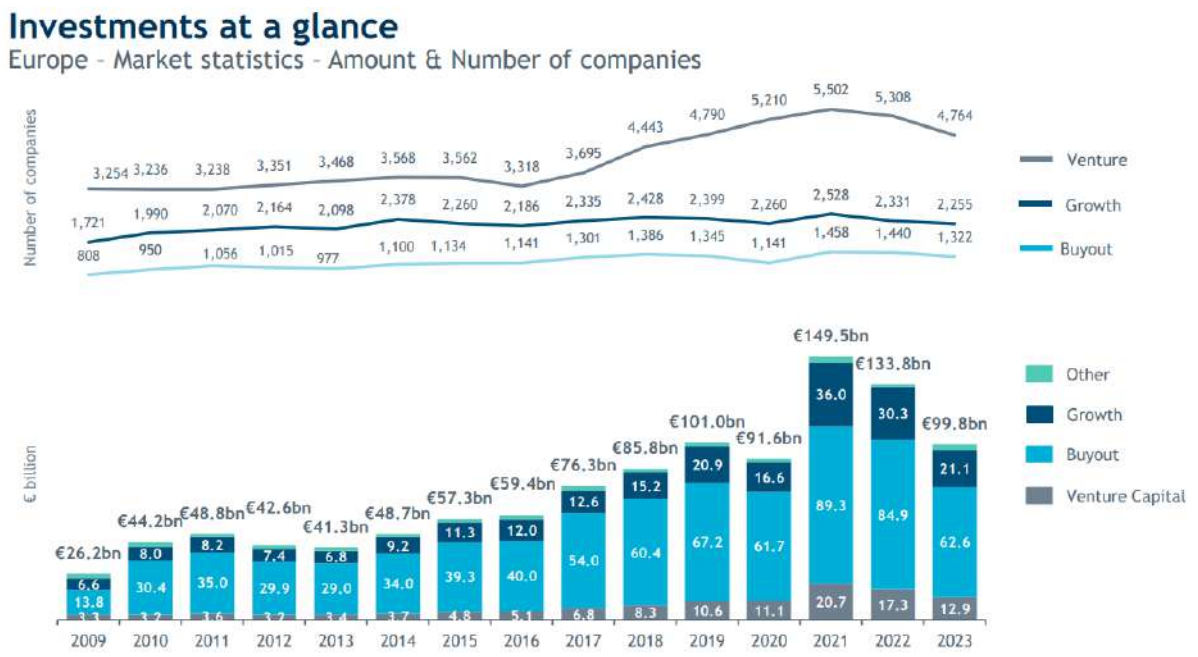

Figure 11, Total amount invested divided by classes and number of companies involved in the investments for the period 2009-2023. (Invest Europe, 2023 report).

[52] European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.
[53] European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.

In Figure 11 we can see that the deployment of capital contracted from 2021 and 2022 highs, but reached €100 billion for the fourth year in the last five, in line with 2019 levels. Less than a decade ago, the European industry had yet to breach the €50 billion mark. That kind of context is important to understand where European private equity and venture capital is coming from and the path it is on. Regarding the companies which received the capital invested, of the 8,391 companies receiving investment in 2023, 85% were SMEs, and almost half were in the Information Communications Technology (ICT) and Biotech & Healthcare sectors. ICT received over €24bn of investments and combined with consumer goods & services accounted for more than 44% of investments by amount. Energy & Environment was a top-five sector for overall investment and a leading sector for venture capital. This means companies at the heart of Europe's green and digital transitions, as well as those making medical discoveries that will transform health and lives. Moreover, that investment comes with expertise to help drive innovation, growth and job creation. In total, investments (by number of companies) were concentrated in four sectors: ICT (33%), biotech & healthcare (16%), consumer goods & services (16%), and business products & services (15%). Geographically, 65% of equity invested was domestic (within the country), 29% was intra-European, and the remainder was from non-European sources[54].

Figure 12, Investments divided by classes and closing. (Invest Europe, 2023 report).

[54] European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.

Looking at Figure 12, venture capital investment reached €12.9bn in 2023. This is roughly 5% less than the average from the past five years. 4,764 companies received a venture investment in 2023 - 99% of these being SMEs - representing around 56% of the total number of companies backed during the year. This year in terms of amount the Start-up stage within Venture received the most amount of investment: €6.4bn, or 49% of the total for venture. By sector, ICT received around 43% of venture capital investment, followed by biotech & healthcare (24%), and energy and environment (9%). Buyout investments reached €62.6bn in 2023, 14% below the average for the past five years, with the category representing roughly 63% of total investment for 2023. This year the mid-market buyout segment saw the highest amount of investments within buyout (38% of total buyout amount). In terms of number of companies, the percentage was 31%. The mega investment segment (> €300m), accounted for just over 36% of total amount into the space. By sector, business products & services and consumer goods & services received the most investment, exhibiting a total of €27.4bn roughly split equally. This was followed by ICT at €12.5bn and biotech and healthcare at €8.8. Growth investments saw a 30% decrease from 2022, reaching €21.1bn for the year. This is 11% below the average for the previous five years. Venture Capital-backed growth investments received a total of €3.6bn which is 17% of the sum of Venture-backed and Non-Venture backed growth. The number of companies receiving growth investment reached 2,255. ICT received the highest level of investment (26%), followed by consumer goods & services (20%) and business products and services (18%). Investments by European Private Equity & Venture capital funds reached 0.44% of European GDP in 2023, roughly in line with figures seen in 2017[55].

[55] European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.

2.2 Why investing in Private Equity capital backed companies?

Since the beginning of the new century investing in PE backed companies gained increasing attention among both firms looking to access capital and investors looking to diversify beyond public markets. In fact, over the past couple of decades, PE capital-backed companies have experienced a significant growth, while the number of publicly traded firms has declined (refer to Figure 13 below). This trend is partially due to the rising regulatory requirements for public companies and the accumulation of investor capital seeking alternative return sources. However, this asset class still represent a complex investment instrument because of elevated entry requirements, such as potential illiquidity and higher investment thresholds[56].

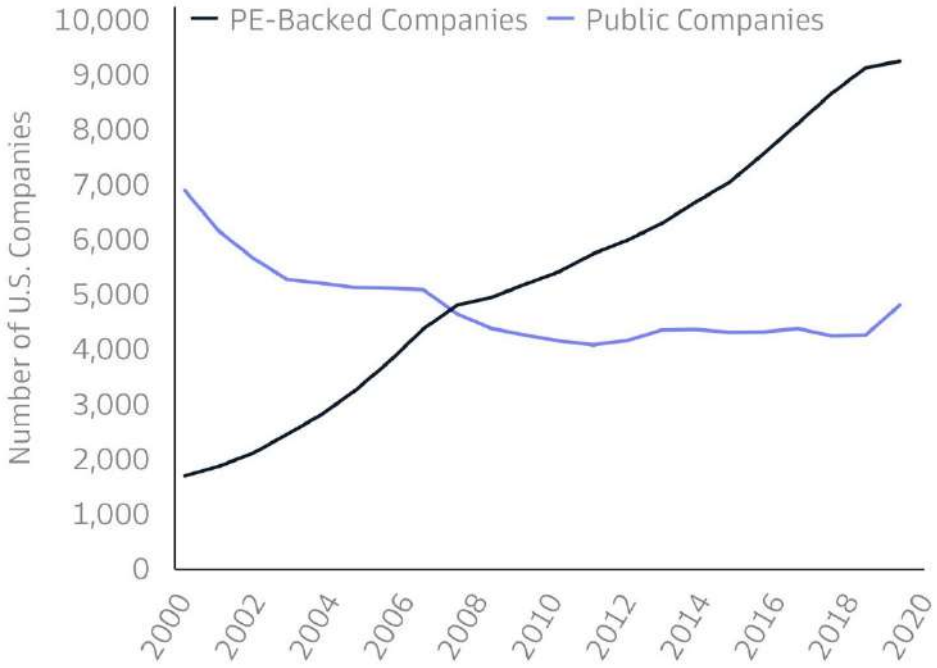

Figure 13, Public companies over time, World Bank, McKinsey. Source: Pitchbook 6/30/2021.

Investing in these PE backed companies can add value to the investor portfolio in two main ways. First, giving access to investment opportunities not available on public markets. As companies stay private for longer, much of the value that was previously generated in public markets is now being built under private ownership. Secondly, considering that private fund managers have more concentrated ownership, it is easier for them to influence the companies they own. Experienced managers have extensive expertise in everything from growing and scaling businesses, to improving strategy and operations, to integrating technology for growth

[56] Introduction to Private Equity (2022), Goldman Sachs Asset Management, Alternative Investments.

and efficiency. Such expertise is more important than ever in today's environment of accelerated growth. Aided by these sources of value creation, Private Equity can offer differentiated, attractive returns, complementing traditional investment portfolios. Indeed, as showed in Figure 14, PE investments have achieved returns that significantly exceeded those of public equity markets, with rates equal to 18% - 13%, 13% - 8%, 14% - 8%, respectively for time horizons of 10, 15 and 20 years[57].

Figure 14, Private Equity outperformance over different time horizons. Source: Cambridge Associates (2021).

For all these reasons, target companies started to attract more potential investors according to a growing pool of financial firms wanting to increase returns and to diversify their portfolio though an asset class become more attractive in the late 20 years[58].

[57] Introduction to Private Equity (2022), Goldman Sachs Asset Management, Alternative Investments.
[58] Introduction to Private Equity (2022), Goldman Sachs Asset Management, Alternative Investments.

2.3 Definition of Target Company in Private Equity

In private equity, the term target company or portfolio company refers to an organization that a private equity firm or fund deems suitable for investment or acquisition. The firm typically believes that by acquiring a stake in the target company, whether partially or fully, they can produce substantial returns. These target companies can differ in terms of industry, size, and developmental stage, but they often share a common set of attributes that appeal to private equity firms[59].

One key attribute that private equity firms consider is the company's cash flow. Companies demonstrating consistent and positive cash flow generation are especially attractive, as private equity firms can leverage the steady revenue to finance the debt incurred during a leveraged buyout. Growth potential is another crucial factor: firms capable of expanding into new markets or products, either vertically or horizontally, represent a compelling investment opportunity. Competitive advantage is also an important feature. Organizations with strong market positions, proprietary technologies, or valuable intellectual property are more likely to catch the eye of private equity investors. Moreover, scalability, or the ability to rapidly grow, is an essential aspect that private equity firms seek in target companies. Businesses can be transformed into profitable ventures through the efficient elimination of operational inefficiencies or the implementation of significant improvements. Another factor private equity firms examine is cost optimization potential. They often focus on finding companies that can benefit from cost reductions or operational improvements, allowing the firm to yield a substantial return on investment. Additionally, exit opportunities are taken into account by private equity firms, who weigh the feasibility of withdrawing their investments in the target companies through strategies such as public listings, secondary buyouts, or strategic sales[60].

In summary, selecting a target company for private equity investment is both an art and a science that requires careful evaluation of qualitative and quantitative data. The ultimate decision is driven by various factors, including the private equity firm's unique investment strategies, expertise, industry preferences, and value creation potential.

[59] "Portfolio Company", Corporate Finance Institute, https://corporatefinanceinstitute.com/.
[60] Cyril Demaria (2015), *Private Equity Funds Investment – New Insights on Alignment of Interests, Governance, Returns and Forecasting*, Chap. 2, Palgrave Macmillan.

2.4 Valuation Methods for target companies

Valuation of target companies in private equity plays a pivotal role in determining the attractiveness of potential investments. Academic literature and professionals working in investment banking sector disclosed and explained several methodologies used to assess whether a company can be defined as a potential target. These methods offer unique perspectives on a company's financial health, competitive position, and prospects for growth, ultimately allowing investors to make more informed decisions when evaluating potential investments. By carefully applying the most suitable valuation approach, private equity professionals can ensure a more accurate assessment of the company's intrinsic value while mitigating the risk of poor investment choices. The most common valuation technique is considered to be the Discounted Cash Flow (DCF) valuation and it relates to the estimation of future cash flows of the company. While valuing cash flows is a widely practiced method, alternative methodologies are also employed by financial analysts to assess the value of private equity targets. Some approaches encompass the use of earnings before interest and taxes (EBIT) in addition to depreciation and amortization (D&A), or EBITDA. These alternative methods prove useful in situations where accurate yearly cash flow projections are harder to generate due to a lack of historical data, new technologies or product markets, or uncertain benefits arising from roll-up or consolidation strategies. Conventional valuation guidelines are built upon previous deals and are generally accepted as industry standards. For instance, some PE firms may establish limits on the maximum amount they're willing to pay, like up to six times EBITDA. Using such multiples can make devising exit strategies more straightforward, as the intention might be to exit at a multiple of eight times EBITDA[61]. Generally the most used practices can be summarized as following:

1. Discounted Cash Flow Analysis
2. Comparable Company Analysis

These two methodologies are analyzed in dept in the following paragraphs which aim to give a complete overview of the way they are structured.

[61] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 13, Academic Press.

2.4.1 The DCF valuation

As mentioned previously, when dealing with private equity investments, like with any other type of investment, accurately estimating the asset's value is crucial. It is important to convince the seller to accept a reasonable price that does not overinflate the asset's worth and to devise a strategy for eventual divestment. In order to do so, the DCF method present a transparent framework for generating reliable value estimates. Three primary factors necessary for properly assessing an asset's value are: (1) an appreciation of the asset's cash flow trajectory, (2) a comprehension of the risk associated with these cash flows, and (3) an understanding of the buyer's cost of capital. Integrating these factors allows the analyst to determine an asset's estimated value. However, the term "estimate" is important because the actual future values of an asset cannot be definitively known. The pre-purchase estimated value may be inaccurate due to reasons such as imprecise cash flow forecasts, underestimation of the asset's risk profile, macroeconomic influences, and misjudgment of the company's cost of capital[62].

In order to understand in dept what DCF valuation does and in which manner it provides good estimates for intrinsic values of potential target companies, it is important to have a brief introduction of basic cash flow metrics. In fact, the main companies' sources of cash are operations, investments, and financing activities. This division of inflows and outflows can be seen in the statement of cash flows, an accounting tool that is always linked with the other financial statements of the company (i.e. Income statement and Balance sheet). When analysts use this document they pay attention on two different categories of cash flows, equity cash flows and enterprise cash flows. The difference is that the former is focused only to cash flows available to the equity holders while the latter considers cash flows available for both equity and debt holders. This distinction is crucial when dealing with private companies, since they are not publicly traded, it is important to assess properly the intrinsic enterprise value and the implied share price because sufficient market information is not available. The challenge in the valuation process arises with net income, which is determined after deducting interest payments to debts from the total revenues of the year. This adjustment is made because interest payments do not form part of equity cash flow. However, interest payments must be included in enterprise cash flow, so after accounting for tax benefits (since interest payments are tax-deductible), they need to be reintegrated into cash flows when determining enterprise cash flows. Another factor leading some analysts to avoid relying on the statement of cash flows for cash flow data is

[62] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 8, Oxford University Press.

capital expenditures. These must be subtracted when calculating "free cash flow" and are not considered in the operations segment of the statement. Rather, capital expenditures fall within the investment classification of the statement of cash flows[63].

When proceeding with the analysis the most simple but the least informative equity cash-flow measure to keep in mind is called the “simple cash flow” (SCF). It is probably the most used cash-flow measure because of its simplicity.

$$Simple\ Cash\ Flow = Net\ Income + D\&A$$

The corresponding measure for the whole firm, i.e. considering both debt and equity is called “NOPAT” and stands for net operating profit after-tax. It is one of the most used cash-flow metrics when evaluating a firm considering the total firm cash flows.

$$NOPAT = Net\ Income + (1 - Tax\ Rate)(Net\ Interest\ Expense) + \Delta Deferred\ Taxes$$

Once NOPAT is obtained the aim shifts to the calculation of the so-called Free Cash Flows (FCF) which may be related to the whole firm (FCFF) or just to the equity stake (FCFE).

$$FCFF = NOPAT + D\&A - CAPEX - \Delta NWC$$

$$FCFE = Net\ Income - (CAPEX + D\&A) - \Delta\, WC + (New\ Debt - Debt\ Repayments)$$

Private Equity firms usually prefer to use a whole firm cash flow metric such as FCFF because their objective is to take over the entire target company comprehensive of both equity and debt. For this reason analysts working in private equity prefer to use mainly complex cash flow metrics such as Free Cash Flows to the Firm (FCFF) because they are able to have a better understanding of the future projections of the company’s cash flows. On the other hand, simple measures such as Simple Cash Flow (SCF) are used when the target is a start-up financed mainly by equity and with limited working capital, or is a newly formed company with insufficient financial information to conduct a deep analysis with the use of complex cash flow estimators[64].

The rationale behind using cash flows to estimate the enterprise value relates to the possibility to show through the creation of detailed spreadsheets, which project the company’s financial statements, the forecasts for future cash flows. Using financial modeling with a series of

[63] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 8, Oxford University Press.
[64] Aswath Damodaran (2012), *Investment Valuation – Tools and Techniques for Determining the Value of Any Asset,* Chap. 14, Wiley Finance.

assumptions related to growth rate, cost structure and working capital could lead the estimation to different scenarios projections. In fact, the greater the amount that a PE firm invests in a target company, the greater the possibility to overestimate the future cash flows in order to cover the losses. For this reason, scenario analysis when computing a DCF valuation has to be accounted for. Usually, 3 scenarios are showed in the spreadsheet, one base case scenario which aims to maintain the regular growth of the company, and two extreme scenarios, best case and worst case. These two scenarios illustrate the simulation in case the company follows a massive growth or a significant decline[65].

Before conducting a DCF valuation many private equity buyers may already be in talks with the target company and have signed nondisclosure agreements, they usually gain access to the target's internal forecasts. While buyers do not rely solely on the target's projections, they use them as a foundation for their analysis. The primary advantage of starting with the target's spreadsheets is that they contain detailed information the firm might overlook, such as revenue and cost specifics by product, anticipated cost dates and new revenue streams, and unusual expenses like contractual payments or legal judgments. Private equity buyers are likely to question the target company's forecast assumptions for various reasons and create their own set of forecasts. The vital assumptions underlying this independent forecast involve market share and the corresponding growth rate in revenues, cost increases due to expiring long-term contracts or expected market forces, fluctuating interest rates, and tax payments based on differences in tax shields, utilization decisions, and depreciation charges[66].

The discounted cash flow (DCF) method, characterized by the present value calculation, is among the most well-known financial formulas for evaluating target companies. Financial analysts can use the formula for various purposes, such as valuing a straightforward project, a target company, or any identified revenue stream. Although private equity firms are most likely to employ free cash flow (FCF) as their cash flow measure, they can substitute it with an alternative cash flow measure in the formula according to their valuation objective. The DCF formula discounts future cash flows back to the present using a proper discount rate:

[65] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 8, Oxford University Press.
[66] Aswath Damodaran (2012), *Investment Valuation – Tools and Techniques for Determining the Value of Any Asset,* Chap. 14, Wiley Finance.

$$\boldsymbol{Present\ value} = \sum_{t=1}^{n} \frac{FCF_t}{(1+r)^t}$$

FCF = Free cash flow estimated for a given year, t = time period, n = the terminal or last year of detailed forecasts, r = discount rate.

This formula is useful to define all the cash flows as single number which is the present value of the entire stream of cash flows. Usually there are no set rules regarding the time horizon of the forecasts prepared by the private equity firm but generally, detailed projections have 5 year minimum requirement and this time range may be extended as far out as reasonably possible, it may also reach 10 years in order to have a complete overview of the expected cash flows. Obviously, the target company and its cash flows may well exist beyond the numbers of years described in the detailed forecast spreadsheet but for the intrinsic value computation is necessary to have a defined time horizon to make the calculations[67].

When an investment generates cash flows in the years after the detailed cash flow forecast period concludes, these cash flows are incorporated into the present value formula by establishing a terminal or closing value for the investment.

$$\boldsymbol{Present\ value} = \sum_{t=1}^{n} \frac{FCF_t}{(1+r)^t} + \frac{TV}{(1+r)^n}$$

Where:

$$\boldsymbol{TV} = \frac{(Cash\ Flow_n)(1+g)}{(r-g)}$$

TV = terminal year value, g = assumed growth rate in cash flows for year beyond n.

The simplicity of the above equation does not underline some important issues that may arise. One concern is the selection of the final detailed forecast year (i.e., year n). The last detailed year should be typical of previous years and representative of what is anticipated going forward. For instance, it would be unrepresentative to treat an investment that generates an abnormally large return in year n but only very low in every other year. If the final detailed year is unrepresentative of expected future values, it would be advisable to replace it in the equation with a more typical forward-going value. Another issue is that the terminal value (TV)

[67] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 8, Oxford University Press.

should be determined from a steady state perspective. A long-term steady state implies that future capital expenditures and working capital needs will be exactly matched by future depreciation levels. If this is not the case, any excess capital expenditures (depreciation) should be subtracted (added) on a present value basis from (to) the TV. In short, presenting the firm in the TV years should depict a self-sustaining and exhaustive condition. This is particularly crucial for companies that expect significant investment cycles in the future. The third issue is the assumed future growth rate, g. One possible value for "g" is the growth rate in FCF in the final detailed forecast year. The benefit of this choice is that it reflects detailed revenue and cost estimates while accounting for macroeconomic factors, industry competition, technological aspects, and market share forecasts. As mentioned before, this growth rate should not be an anomaly and should reflect a feasible future growth rate. A different approach sets "g" equal to a reasonable proportion (e.g., 80 percent) of the firm's recent actual growth rate (e.g., five-year average) or a fraction of the industry's growth rate. A final problem with the formula for calculating TV arises when "g" surpasses the estimated discount rate. In this circumstance, the formula will produce a negative value. Clearly, the present value is not negative for all future years while the investment is held. The forecast period must extend far enough to reach a point where cash flow becomes positive. Furthermore, the forecast period must attain a stage when the company reaches both a steady state and a point of maturity in its life cycle, such that the long-term growth rate becomes less than the discount rate[68].

Before starting DCF model structuring, it is important to estimate a key indicator, defined as cost of capital and computed through the use of a specific formula.

Generally, companies obtain financing from both equity investors and lenders to support their investments. Each group of investors contributes funds with the expectation of making a return on their investment. The expected return for equity investors encompasses a premium for the investment's equity risk, referred to as the cost of equity. Likewise, the expected return desired by lenders incorporates a premium for the risk of default, known as the cost of debt. When considering all types of financing a firm undertakes, the overall cost of financing will be a weighted average of the costs of equity and debt, which represents the cost of capital[69].

[68] H. Kent Baker, Greg Filbeck Kiymaz (2015), *Private Equity: Opportunities and Risks*, Chap. 8, Oxford University Press.
[69] Aswath Damodaran (2012), *Investment Valuation – Tools and Techniques for Determining the Value of Any Asset,* Chap. 4, Wiley Finance.

The standard CAPM as developed by Sharpe (1964), Lintner (1965), and Mossin (1966) and multifactor models including the Fama and French (1993, 1997) model are used to determine asset prices and cost of capital figures. In order to estimate the cost of equity the Capital Asset Pricing Model (CAPM) suggests the following formula:

$$Ke = r_f + \beta(r_m - r_f)$$

Ke = cost of equity, r_f = risk-free rate, r_m = market return, β = beta.

Where the risk-free rate represents the hypothetical interest rate an investor can expect to earn on an investment considered to be completely free of risk, such as short-term government securities. This rate serves as a baseline for comparing the return of other investments with varying degrees of risk. The market return is the return that investors expect from the market according to historical data. Beta is the degree of correlation between the investment and the market, it is computed as a linear regression of the investment returns against the returns of the market index. In case the investment/company does not have a beta coefficient, the common procedure is to consider the beta of the comparables operating on the same sector, then adjusting it to exclude the influence of the capital structure (unlevering), and finally, incorporating the firm's specific debt and equity structure (relevering) to produce a customized beta that reflects the target company's risk profile. The methodology used to unlever the beta is the following[70]:

$$\beta_u = \frac{\beta}{[1 + (1 - Tax\ Rate)(\frac{D}{E})}$$

β_u = beta unlevered, β = beta of the comparable firm, D = book value of Debt of the comparable firm, E = book value of Equity of the comparable firm. The formula used to re-lever the beta is instead the below:

$$\beta_l = \beta_u[1 + (1 - Tax\ Rate)(\frac{D}{E})$$

β_l = beta levered, D = book value of Debt of the comparable firm, E = book value of Equity of the comparable firm. A common procedure to estimate the unlevered beta when evaluating a target company without knowing its beat is consider the average of the betas of a series of companies that for the core business, revenues size and employees are comparables of the firm

[70] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe,* Chap. 13, Academic Press.

that needs to be evaluated. This is assumed to be directly the unlevered beta and in order to obtain a metric which reflects with more accuracy the risk profile of the company, it is recommended to proceed with the levered beta computation. This is feasible knowing the book values of both equity and debt of the company.

Once the cost of equity is calculated and levered beta is estimated, the next step is to compute cost of debt. One of the methods used is to follow the below formula:

$$Kd = (r_f + CS)(1 - Tax\ Rate)$$

Kd = after-tax cost of debt, r_f = risk-free rate, CS = credit spread

Where the after-tax cost of debt is obtained by the sum of the risk-free rate and the credit spread, the latter will be higher if the company has more debt or a low credit rating. The sum of the risk-free and the credit spread may be also considered as Pre-Tax Weighted Cost of Debt[71].

After having computed the cost of debt, it is finally possible estimate the average cost of capital for the target company. This measure is calculated through the use of the Weighted Average Cost of Capital (WACC) formula below:

$$WACC = Ke\ \frac{E}{D+E} + Kd\ (1 - Tax\ Rate)\frac{D}{D+E}$$

Where D + E represents the sum of the equity and debt parts of the firm's capital. WACC can be estimated when both cost of equity and cost of debt are available and represents the return that debtholders and shareholders demand in return for providing the company with their financial resources. Company's WACC is expected to be higher if its stocks show substantial volatility or if its debt is perceived as risky, as investors will require higher returns to offset the increased level of risk they are assuming[72]. Stock analysists, investors and company's management uses WACC for distinct purposes. It is often used by analysts as a benchmark to estimate the appropriate discount rate for project evaluation and investment appraisal. A project with an expected rate of return higher than its cost of capital can be considered value-adding and may be pursued, while projects with returns lower than the cost of capital could destroy shareholder value and should typically be avoided. For investors, WACC is a crucial instrument for evaluating a company's potential profitability. Generally, a lower WACC signifies a healthy

[71] "Cost of Debt: What It Means and Formulas", Investopedia, https://www.investopedia.com/.
[72] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 13, Academic Press.

business that can attract funding from investors at a reduced cost. A higher WACC typically aligns with riskier businesses that need to provide investors with higher returns to counterbalance the level of volatility undermining the company's ability to compete. As an internal performance metric, WACC helps companies identify opportunities to balance their capital structure in a way that maximizes value and attractiveness to potential investors. By closely monitoring and managing their WACC, firms can make informed decisions on whether to raise more debt or equity, and whether to invest in new projects or acquisitions that align with their broader financial goals and strategies[73].

2.4.2 Comparable Company Analysis (CCA or Comps)

The comparable company analysis involves comparing the reference target company to similar firms in terms of size, product offerings, and geographic location. This analysis uses multiples as a metric for comparison. If the multiples of comparable companies are consistently higher than those of the firm we are valuing, it could indicate that our company is undervalued. On the other hand, if the peers' multiples are consistently lower, it could suggest that our company is overvalued. One significant advantage of the comparable company analysis over other methods is that it offers the most up-to-date market perspective, as the analysis is based on the latest stock prices and financials of the company. However, the comparable company analysis has certain drawbacks. Identifying appropriate comparison companies may be difficult, especially if the company has a unique business model, operates in a specialized industry, or is not the size of a publicly traded firm. In such cases, finding a suitable peer group can be challenging. Additionally, market conditions may lead to overvaluation or undervaluation. The analysis can be flawed if we are in a market environment where the whole industry is either overvalued or undervalued[74].

Comparables may be also ratios based on the performances of firms resembling the company being assessed. By using comparables, it becomes feasible to calculate or estimate a company's value. Comparables are particularly popular in the private equity sector since these ratios effectively balance risk, plans, financial statements, and valuations of similar companies. Furthermore, comparables employ universally recognized metrics and methods to evaluate the efficacy of other valuation techniques. Consequently, they are primarily used to refine

[73] "Weighted Average Cost of Capital (WACC): Definition and Formula", Investopedia, https://www.investopedia.com/.
[74] Paul Pignataro, (2013), *Financial Modeling & Valuation – A Practical Guide to Investment Banking and Private Equity*, Chap. 7, Wiley Finance.

valuations, generate inputs for valuation, and conduct market-wide comparisons. It is essential to comprehend that comparables' significance diminishes when evaluating companies in the seeding and start-up phases. During these stages, firms are generally unprofitable and undergoing rapid growth. As a result, relying on comparables becomes less relevant in these circumstances due to the unique financial conditions and challenges faced by early-stage startups. The most common multiples comparables are:

- EV/EBITDA: this is the ratio between the enterprise value and the EBITDA metric, it highlights the firm’s capacity to generate value via its gross margin. EBITDA serves as a reliable indicator of the company's potential to produce cash from its operations and avoid inaccuracies that may arise from accounting practices affecting net income. In essence, EBITDA helps to focus on the company's core financial performance without the distortions caused by various accounting policies. This ratio provides several advantages such as comparability across companies with different capital structures, depreciation methods, and tax regimes as it excludes those factors from the calculation. It is also applicable to firms with negative or low earnings, where P/E ratios can be misleading or not meaningful.
- EV/Revenues: this is one of the multiples most used together with EV/EBITDA for private companies, it consider the total enterprise value over the revenues of the year presented in the income statement. Essentially, this multiple gives a sense of how much investors are willing to pay for each dollar/euro of a company’s revenue. It is particularly helpful for comparing companies in the same industry, as it normalizes the comparison by accounting for differences in size, capital structure, and profitability. It is used for evaluating companies with low or no earnings but significant revenue, such as early-stage startups or high-growth companies where profits are reinvested for growth.
- EV/EBIT: This ratio demonstrates the firm's ability to generate value from its operating profit. It eliminates distortions related to debt structure and tax strategies, and can represent both the current and the projected value of the company at the time of evaluation. The EBIT value in this ratio serves as a forward-looking figure that can be discounted to depict the corresponding years taken into account while estimating future margins. EBIT is useful in valuing a company as it incorporates only standard depreciation, such as physical asset depreciation, leasing expenses, and intangible asset depreciation—covering trademarks, patents, and computer software. Notably, intangible depreciation does not encompass

goodwill depreciation or transaction expenses incurred during buyout and acquisition activities.

- P/E: this ratio is employed by publicly traded companies to examine the connection between the current stock price and the potential to generate earnings. Earnings (net income after tax) represent the company's capital structure, and they are computed after accounting for interest expenses and taxes. However, this could bring the analysts to misled conclusions. In fact, utilizing the EBIT measure to go deeper into this relationship would provide a more accurate understanding.
- P/BV: this multiple considers the price over the book value of the company and it is mainly used by public companies to understand the link between the current price of the stock in the market and the nominal value of equity[75].

Another common practice that when dealing with multiples is the analysis of precedent transactions. This methodology assesses the value of a company looking at the multiples of past similar transactions. The valuation of a potential target company may be similar to the prices paid for comparable businesses. By identifying other companies like the target that have been acquired, analysts can analyze the acquisition multiples to estimate the approximate worth of the business, ensuring a fair basis for comparison and assessment[76].

When evaluating private equity investments, using multiples can provide certain advantages over cash flows for the valuation process. Among the reasons why multiples might be preferred are the following:

Simplicity is one of the key advantages, as multiples are relatively easy to calculate and understand. They involve ratios comparing specific financial metrics of similar companies. In contrast, cash flow valuation methods like discounted cash flow (DCF) are more complex, requiring a comprehensive analysis of future cash flows and various assumptions about growth, discount rates, and terminal values. Data availability is another benefit, as multiples are based on readily accessible financial statements, market data, and comparable transactions, making it easier to obtain the required information. Cash flow valuation, on the other hand, may require access to proprietary or confidential financial data that might not be easily obtainable, particularly for private companies. Benchmarking is also facilitated by using multiples, which

[75] Stefano Caselli, Giulia Negri (2010), *Private Equity and Venture Capital in Europe*, Chap. 13, Academic Press.
[76] Paul Pignataro, (2013), *Financial Modeling & Valuation – A Practical Guide to Investment Banking and Private Equity*, Chap. 7, Wiley Finance.

allows for a direct comparison between the target company and its peers in terms of valuation, performance, and market sentiments. This helps ensure that the valuation is reasonable and in line with industry norms. Cash flow valuation is company-specific and may not offer the same level of transparency for comparative purposes. Lastly, multiples are generally less sensitive to changes in assumptions like growth rates and discount rates compared to cash flow valuation methods. As a result, the valuation is less likely to be affected by minor adjustments in these assumptions, potentially leading to more stable and reliable valuations.

However, it is crucial to note that using multiples may not capture the unique aspects of a company's cash flows, growth potential, or risks. Utilizing a combination of valuation methods, including cash flow-based approaches, can lead to a comprehensive and well-rounded valuation of a private equity investment. By incorporating elements from both multiples-based and cash flow-based techniques, investors can better account for a target company's specific financial attributes, growth prospects, and risk factors, resulting in more informed investment decisions. It is essential for investors to consider the pros and cons of each valuation method and, when appropriate, use multiple approaches to gain a comprehensive understanding of the investment opportunity. By doing so, investors can develop a more accurate assessment of the target company's value, ensuring they are making well-informed decisions that maximize their potential returns while minimizing risk in their investments[77].

In conclusion, the European Private Equity market has demonstrated its attractiveness and resilience over the past 15 years, offering several investment opportunities to a growing pool of investors. This explains why the theme of portfolio companies and their valuation attracted the attention of the most important private equity firms and investors. For this reason, valuation methods for target companies, including the Discounted Cash Flow Analysis and Comparable Company Analysis, are crucial tools in the decision-making process for potential investments. These techniques provide essential insights into a company's financial health, competitive position, and capacity for growth, guiding investors towards informed decisions and, ultimately, stronger portfolio performance. In particular in the next chapter is introduced a case study of a private equity portfolio company which has been recently sold to a big private equity firm and it is covered its valuation and using the previously mentioned techniques.

[77] "Comparable Company Analysis (CCA): How Is It Used in Investing?", Investopedia, https://www.investopedia.com/.

CHAPTER 3: Valuation of Alter Domus

3.0 Abstract:

This chapter focuses on the valuation of Alter Domus, a leading provider of financial services. The first part of the chapter is focused on introducing the International Private Equity Valuation (IPEV) guidelines, providing a framework for valuation from a regulatory point of view. Then it switches presenting Alter Domus, starting illustrating the core business, overview on its employees, market ranks and historical information regarding its growth over the years. Following this brief introduction the valuation of the company begins considering as first thing the analysis of financial statements such as the Income Statement, Balance Sheet and Statement of Cash Flows. By doing so, important financial ratios are computed in order to have a general overview regarding the key features of the firm.

In the central part of the chapter the Comparable Companies Analysis (CCA) approach is illustrated in dept, underlining all the steps through which the outcomes have been computed. Same treatment with the Discounted Cash Flow (DCF) analysis where all the necessary items used during this procedure are explained and illustrated. This valuation method takes into consideration factors such as growth rate estimation, working capital assessment, and the weighted average cost of capital with the estimation of all its components. Sensitivity analysis is performed to assess the impact of the assumptions of the DCF model on the implied share price and intrinsic enterprise value, allowing for a more comprehensive understanding of potential risks and opportunities. By using Comparable Companies Analysis and the Discounted Cash Flow valuations, the chapter aims to determine Alter Domus' intrinsic value considering as benchmark the sell price through which Alter Domus has been partially sold in March 2024.

In conclusion, the chapter presents the results of the DCF valuation, offering insights into the company's growth prospects and potential investment opportunities for investors who are considering Alter Domus as part of their investment portfolio. This comprehensive analysis aims to give a general overview on the procedure through which private equity portfolio companies are evaluated, especially in a case where the firm is a financial private company.

3.1 Introduction to IPEV Guidelines

According to the International Private Equity and Venture Capital Valuation (IPEV) Guidelines, the concept of fair value assumes a key role in the valuation process of a target company. “Fair Value is the price that would be received to sell an asset in an Orderly Transaction between Market Participants at the Measurement Date”. In the case study, the company analyzed is a private firm and following IPEV guidelines, the measurement of fair value requires the valuer to assume the investment is realized or sold at the measurement date whether or not the instrument or the investee company is prepared for sale or whether its shareholders intend to sell in the near future. The process of assessing the fair value of each investment involves analyzing its worth at every measurement date. Valuers must employ suitable techniques based on the investment's specific nature, facts, and circumstances while utilizing current market data, inputs, and market participant assumptions. When fair value based net asset value (NAV) is reported to investors (LPs), the fair value should be evaluated at every measurement date, which occurs at every quarter end. Accounting standards mandate the calibration of inputs to the valuation model(s) using the price of a recent investment, as long as it is considered fair value. This calibration ensures consistency and accuracy not only for the initial determination of fair value but also for subsequent calculations. Adopting a market participant perspective is essential in estimating fair value at each measurement date, as this approach allows for a more comprehensive understanding of the investment’s worth. After thoroughly examining unique facts and circumstances and applying IPEV guidelines, fair value at a subsequent measurement date may remain the same as the previous measurement date. In such cases, the fair value could be equal to the price of a recent investment; however, it is crucial to note that the recent investment price is not automatically deemed fair value. This distinction emphasizes the importance of adhering to the provided guidelines and taking individual facts and circumstances into account when determining fair value at each measurement date. By adhering to these principles, valuers can establish an accurate and consistent fair value for investments over time, ensuring that reported net asset values reflect the genuine worth of the investments. In this manner, investors (LPs) can make more informed decisions based on accurate, up-to-date, and transparent information. Therefore, it is crucial to carefully follow these guidelines for valuation, calibration, and perspective, fostering greater confidence in the investment valuation process among all stakeholders[78].

[78] International Private Equity and Venture Capital Valuation (IPEV) Guidelines, December 2022.

3.2 Presentation of Alter Domus

Alter Domus is a global professional services firm that specializes in providing integrated fund administration, corporate services, and technology solutions to alternative investment managers and asset owners. Established in 2003 with its headquarters in Luxembourg, the company serves clients in sectors such as private equity, real estate, infrastructure, and private debt. As a leading provider of end-to-end services in the alternative investment industry, Alter Domus boasts an extensive worldwide presence. With a network of offices spanning North America, Europe, Asia, and Oceania, the company delivers local expertise while leveraging the advantages of international scale and reach. Alter Domus is known for its emphasis on compliance, regulatory adherence, and industry best practices. The company helps clients manage their investment funds efficiently and effectively, offering a wide range of services, including fund administration, fund accounting, tax reporting, investor services, technology solutions, and corporate and regulatory services. Alter Domus' experienced team and innovative technology platform support the diverse needs of its clients, streamlining crucial fund administration processes, and providing access to real-time data, reporting, and insights. By offering a customizable array of services and solutions, Alter Domus is committed to helping clients optimize their operations, enhance transparency, and meet their regulatory obligations with confidence[79].

More in dept, the departments in which Alter Domus offers a fully integrated scale of third-party middle office and back-office services are:

1. Private Equity, which includes not only direct investment strategy funds but also funds of funds, venture capital and secondaries. This department serves 26/30 of the globally largest Private Equity houses.
2. Real Assets: real estate funds with equity and debt strategies, infrastructure funds with equity and debt strategies. This department serves 24/30 of the globally largest Real Estate Firms.
3. Private Debt: Private credit funds, structured debt and broadly syndicated debt. This department serves 28/30 of the globally largest Private Debt Managers.

In terms of employment the company maintained a stable growth also with hiring, in fact according to the 2023 annual report and as showed in Figure 15, employees almost doubled in

[79] Alter Domus Annual Report 2023.

since 2020, as of 31st December 2023 the number of employees worldwide almost reached 5,000, amount which has been passed during 2024 arriving to 5,500 as of the end of the first semester, it represents a massive achievement for the enterprise.

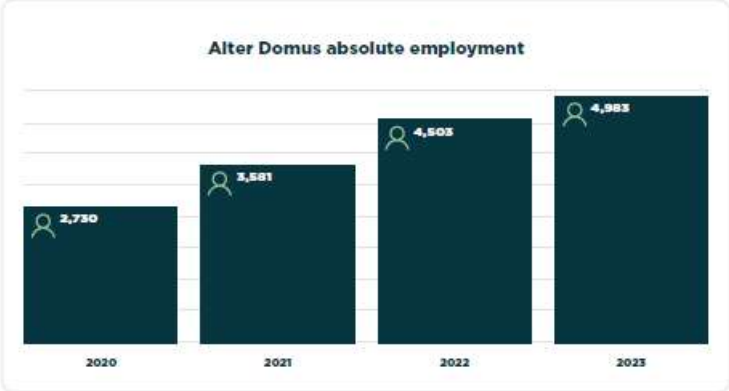

Figure 15, Alter Domus absolute employment as of 31st December 2023, Alter Domus Annual Report (2023).

Moreover, the firm follows an equally-distributed hiring strategy with the objective of trying to keep the gender allocation of the company on a fifty-fifty basis. Indeed as showed in the table below (Figure 16), the amount of total female employees is close to the total of male employees (51/49%). By the way the numbers still underline that the upper management is represented by the majority of male professionals compared to a lower amount of equal rank female professionals.

Alter Domus gender distribution by level December 2023

Headcount by level	Male	Female	Unspecified	Total
Executives & Director	170	57	1	228
Senior Manager	292	194		486
Manager	426	351	1	778
Senior Officer	725	769		1,494
Officer (Includes students and trainees)	944	1,050	3	1,964
Total	**2,557**	**2,421**	**5**	**4,983**

Figure 16, Alter Domus absolute employment as of 31st December 2023, Alter Domus Annual Report (2023).

At Alter Domus, the team's diversity is a significant strength, enriching the work environment with employees from a remarkable array of backgrounds. Boasting an average age of 34 years old, the workforce is composed of individuals hailing from 24 different countries, and

collectively representing an impressive 115 nationalities. Additionally, the employees are allocated among 39 offices worldwide and the previously mentioned departments have more than 32,000 structures under administration totaling $2.7 trillion of Assets Under Administration (AuA)[80].

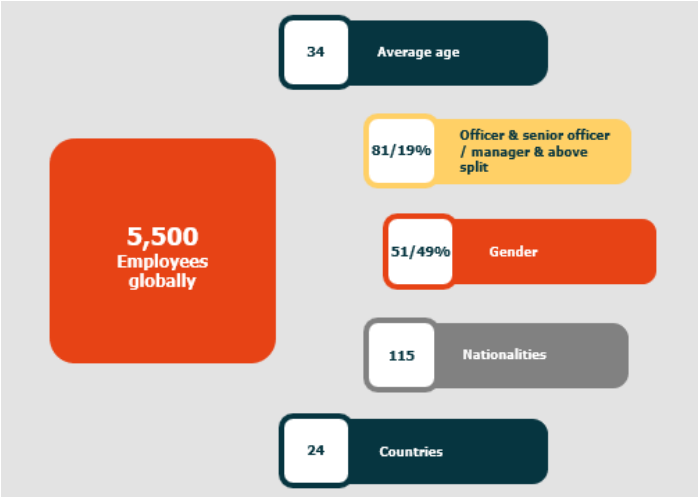

Figure 17, Alter Domus Company Presentation (2024).

From an historical point of view, the company begins is journey as a spin-off of the audit division of PricewaterhouseCoopers (PwC) Luxembourg in 2001. In 2003, the name changed to Alter Domus and was formally established as a company. The following years would see expansion both nationally and internationally.

In 2007, Alter Domus opened offices in New York, US and Amsterdam, NL. From 2008 to 2010, the company continued its global expansion by launching offices in Nicosia, Cyprus; St. Helier, Jersey; Hong Kong; Guernsey; Ebène, Mauritius; Singapore; Brussels, Belgium; and Birkirkara, Malta. During this period, Alter Domus established its Fund Administration department and reached a milestone of employing 450 staff members. Between 2011 and 2012, the company acquired Fideos in Luxembourg and opened new offices in Dublin, Ireland; London, UK; and Beijing, China. Subsequently, during 2013 and 2014, Alter Domus made further acquisitions of ODS in Ireland and Vigel & Associés in France. They also expanded their presence with office openings in Paris, France and Dusseldorf, Germany, as well as the launch of Depositary Services in Luxembourg. The years 2015 and 2016 saw the company establish offices in Shanghai, China, and Sydney, Australia, while the number of staff increased to 1,000, and the Assets under Administration reached $100 billion. In 2017 and 2018, Alter Domus made acquisitions of Cortland Capital Market Services and Carta Fund Services in the

[80] Alter Domus Company Presentation (2024).

US, Luxembourg Fund Partners in Luxembourg and Lift Out Real Estate team in Hong Kong. They continued to broaden their global presences with new offices in Cork, Ireland; Barcelona and Madrid, Spain; and Chengdu, China. In 2019, Alter Domus continued its expansion by opening new offices in Tokyo, Japan; Melbourne, Australia; and Guangzhou, China. The number of staff members grew to 2,400, and the Assets under Administration reached $750 billion. During 2020, the company expanded its presence in the Cayman Islands and made further acquisitions, including IPS Fund Services in the US and Credit-Vision in the United Kingdom. These efforts led to an increase in the staff count to 2,700 and a rise in the AuA to $930 billion. In 2021, Alter Domus acquired Strata Fund Solutions and Investors Economic Assurance (IEA) in the US, and opened a new office in Vilnius, Lithuania. By this time, the company employed 3,300 staff members and managed assets worth $1.3 trillion under administration. The year 2022 saw the organization opening new offices in Milan, Italy, and Atlanta, GA. With these expansions, the staff size reached 4,100, and the AuA increased to $1.8 trillion. In 2023, Alter Domus continued its global growth by opening an office in India and acquiring Solvas in India and the US. Consequently, the number of employees rose to 4,500, and the AuA reached $2.2 trillion. Lastly, in 2024, the company enlarged Singapore's office and established new offices in the Philippines, increasing its staff size to 5,500 and managing a total of $2.7 trillion in Asset under Administration[81].

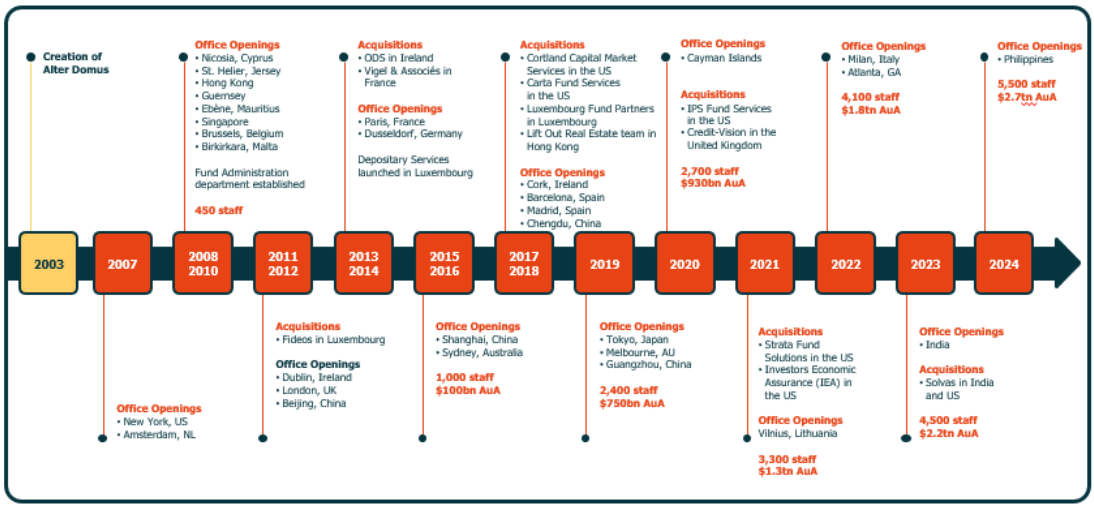

Figure 18, Alter Domus' History, Alter Domus Company Presentation (2024).

Regarding the market in which Alter Domus operates, 2023 has represented, for the private markets industry, the most challenging year since the global financial crisis as climbing global interest rates saw investors and managers recalibrate risk and valuation expectations. Private

[81] Alter Domus Company Presentation (2024).

markets managers have gone through a demanding 12 months. However, following a year characterized by sharp decreases in fundraising and transaction volume, the prospects for enhanced returns performance and increased activity levels are showing improvement. The past year decline contributed to putting the alternative assets space into a temporary state of suspended animation as stakeholders stepped back to reset strategies and shield existing portfolios from risk[82]. According to Bain & Co, the value of un-exited companies sitting in buyout funds alone has climbed to a record $3.2 trillion[83]. Eliminating the existing backlog is essential to facilitating the reactivation of the liquidity engine in the private markets. In fact, the private markets sector demonstrates remarkable resilience, and following a phase of uncertainty, there is a growing cautious optimism regarding the possibilities in the upcoming year. As interest rates reach their peak and visibility on portfolio companies improves, the task of pricing risk and achieving valuation consensus becomes more manageable. Historical trends suggest that the most lucrative investments typically occur directly after a downturn, which indicates that 2024 will offer attractive investment prospects for fund managers and Limited Partners (LPs). After a dormant year, stakeholders in the private markets are eager to return to deal-making activities and generate returns for their investors, anticipating a fruitful future for the industry[84].

Nevertheless, according to Preqin 2023 rankings Alter Domus closed the past year as global leader for services rendered to Private Equity and Real Estate closed-end funds and on fourth position for Private Debt funds. From a geographical point of view, the company ranks itself in top position in Europe and APAC area and fifth in North America, consolidating an overall strong position as one of the market leaders in these sectors[85].

[82] Alter Domus Annual Report 2023.
[83] "Global Private Equity Report 2024", Bain & Company, https://www.bain.com/.
[84] Alter Domus Annual Report 2023.
[85] Alter Domus Company Presentation (2024).

3.3 Valuation

The valuation model used to present the case study has been created with the purpose to illustrate how potential target companies for private equity investments are valued. In this case the model illustrates the two main methodologies such as the DCF analysis and the comparables valuation and the steps followed in order to arrive to have a concrete fair enterprise value.

3.3.1 Review of financial statements

By examining the balance sheets, income statements, and cash flow statements, we aim to gain a deeper understanding of Alter Domus financial health and its development over time. Starting from the income statement, the company achieved total revenues of EUR 715 million in 2023, reflecting a significant 18.3% growth compared to the previous year. The company's impressive ability to maintain consistent growth has resulted in doubling its sales in less than five years. This is also detectable having a look at all the other indicators presented in the below table (Figure 19), such as EBITDA and EBIT that underline the steady growth in firm's profitability. Nevertheless the only metric which seems to be not aligned with the rest of the income statement is represented by the decrease in value, compared to 2022, of the net income which is attributable, as previously mentioned, to the downturn of the market happened in 2023.

For the Fiscal Period Ending	12 months 2019	12 months 2020	12 months 2021	12 months 2022	12 months 2023
Currency	€m	€m	€m	€m	€m
Total Revenue	**321.8**	**365.7**	**464.4**	**604.5**	**715.0**
Growth Over Prior Year	-	13.6%	27.0%	30.2%	18.3%
Gross Profit	**188.2**	**215.1**	**268.4**	**333.4**	**388.0**
Margin %	58.5%	58.8%	57.8%	55.2%	54.3%
EBITDA	**74.5**	**86.0**	**119.2**	**123.8**	**171.4**
Margin %	23.2%	23.5%	25.7%	20.5%	24.0%
Growth Over Prior Year	-	15.4%	38.7%	3.9%	38.4%
EBIT	**43.2**	**51.3**	**71.1**	**67.8**	**102.2**
Margin %	13.4%	14.0%	15.3%	11.2%	14.3%
Net Income	**13.6**	**19.2**	**16.2**	**46.0**	**26.0**
Margin %	4.2%	5.3%	3.5%	7.6%	3.6%

Figure 19, Snapshot of the Income Statement, Alter Domus Valuation Model.

Additionally the stable growth of the company is detectable looking at the depreciation and capital expenditures over the years. Indeed, as presented in figure 20, having an increase in revenues accompanied by a proportional increase in capital expenditures (CAPEX) and depreciation means that as a company's income grows, its investments in long-term assets (CAPEX) and the recognition of the wear and tear of those assets (depreciation) are also increasing at a corresponding rate. This suggests that the company is not only expanding and maintaining its infrastructure, equipment, or other assets necessary for sustaining growth, but also taking into account the regular decrease in their value due to usage and aging (depreciation). In other words, the company's growth in revenue is matched by investments in its long-term assets and the process of accounting for their gradual loss of value over time.

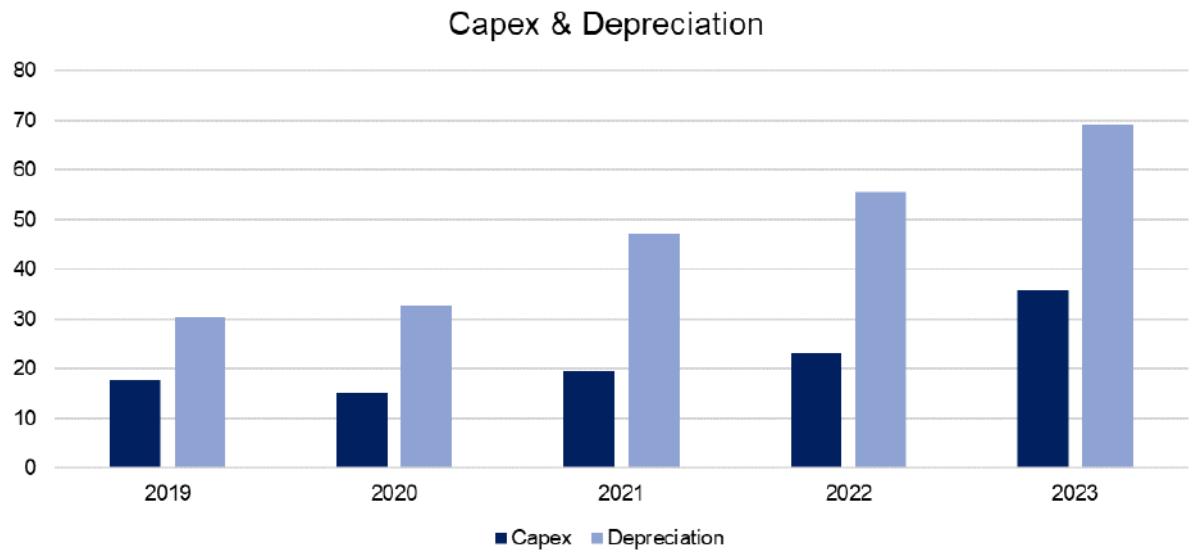

Figure 20, Capex and Depreciation over the years, Alter Domus Valuation Model.

Geographically speaking revenues of Alter Domus are distributed in 4 different areas, which are Europe-Middle East-Africa (EMEA), Asia-Pacific (APAC), North America and Data & Analytics. EMEA and North America lead the sales with EUR 376.2 million and EUR 291.4 million respectively. The new opened branch in the Philippines and in Singapore is expected to encourage a raise for APAC area which contributed with EUR 31.9 million in 2023.

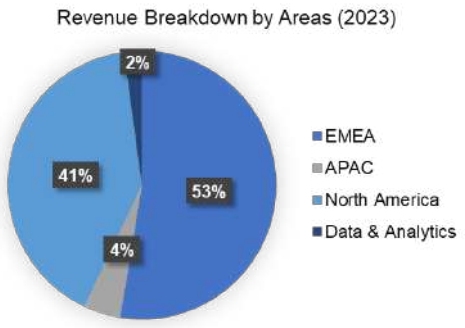

Figure 21, Revenue Breakdown by Areas (2023).

Passing on the balance sheet, in the assets side showed in figure 22, the first thing to notice is the fact that the non-current assets are more than doubled compared to the current assets, respectively EUR 915.8 million and EUR 365.8 million in 2023. This is a key feature of financial services firms since they do not effectively sell any concrete product but the core business is represented by services rendered to clients.

BALANCE SHEET	2019 €m	2020 €m	2021 €m	2022 €m	2023 €m
ASSETS					
Non-current assets					
Property, plant and equipment	10.8	10.4	11.6	21.7	19.2
Right of use assets	72.3	66.5	69.9	70.7	67.8
Intangible assets	275.0	259.2	663.6	678.9	729.0
Deferred tax assets	22.3	25.6	23.7	40.9	45.0
Capitalised contract costs	13.7	15.2	19.2	25.8	30.7
Derivative assets	7.2	4.0	2.9	12.5	-
Other financial assets	-	-	11.0	15.6	24.1
Total non-current assets	**401.3**	**380.9**	**801.9**	**866.1**	**915.8**
Current assets					
Trade receivables	94.0	97.5	101.2	107.7	79.9
Accrued revenue	60.3	76.0	91.0	92.1	119.4
Deferred charges	5.8	5.7	7.7	13.3	9.1
Current tax receivables	11.8	15.6	15.0	13.9	22.5
Derivative assets	-	-	-	18.5	13.2
Other financial assets	1.2	0.6	2.7	2.9	4.9
Cash and cash equivalents (excluding bank overdrafts)	37.6	54.5	82.2	108.3	116.8
Total current assets	**210.7**	**249.9**	**299.8**	**356.7**	**365.8**
Total assets	**612.0**	**630.8**	**1,101.7**	**1,222.8**	**1,281.6**

Figure 22, Total Assets presented in the Balance Sheet, Alter Domus Valuation Model.

This aspect is underlined by the so-called intangible assets which amounted to EUR 729 million in 2023. This category is the sum of items such as Goodwill (EUR 471 million in 2023), Customer relationships & Brands (EUR 201 million in 2023) and Software (EUR 57 million in 2023), and it is explained in the note 14 of the 2023 annual financial report of Alter Domus.

Intangible assets	**Goodwill** €m	**Customer relationships & Brands** €m	**Software** €m	**Total** €m
Net book value – 31 December 2022	432.0	207.9	39.0	678.9
Net book value – 31 December 2023	**471.0**	**201.0**	**57.0**	**729.0**

Figure 23, Intangible Assets Breakdown, Alter Domus Valuation Model.

Meanwhile the 3 items with significant amounts among the current assets are trade receivables, accrued revenue and cash and cash equivalents which represent the most liquid instruments held by the company.

Looking at the labilities, similar to the asset side, is noticeable that the most significant portion of liabilities is composed by the non-current ones. Elements such as borrowings and lease liabilities (defined as long-term debt) represent 72% of the total liabilities of the firm. In fact, high level of long-term debt is common in non-bank financial services firms mainly because a higher level of leverage can increase potential returns compared to different capital structures. Furthermore, to better align asset and liability maturities, long-term debt is used, ensuring more stable and predictable cash flows. It is also preferred to short-term debt because it typically carries lower interest rates reducing overall cost of capital and increasing profitability. Regarding equity, the company presents a small amount as a consequence of its reliance on leverage which leads to a higher debt-to-equity ratio and a smaller proportion of equity in the capital structure. Additionally, the company may prefer a capital structure with a higher proportion of debt to take advantage of tax benefits and to minimize the cost of capital.

LIABILITIES	2019	2020	2021	2022	2023
Non-current liabilities	€m	€m	€m	€m	€m
Borrowings	344.5	351.8	729.1	739.5	758.7
Lease liabilities	67.1	60.3	62.4	65.3	59.5
Deferred tax liabilities	32.0	21.3	42.8	61.4	67.2
Other liabilities	0.3	0.4	3.1	2.5	0.2
Provisions	1.4	1.1	1.8	1.6	2.0
Deferred income	-	-	15.5	17.1	20.7
Employee benefit obligations	-	-	3.9	2.0	-
Total non-current liabilities	**445.3**	**434.9**	**858.6**	**889.4**	**908.3**
Current liabilities					
Borrowings	8.9	23.3	0.9	2.3	2.3
Provisions	0.5	0.4	0.5	2.0	0.2
Trade and other payables	42.6	35.4	35.7	47.1	53.4
Deferred income	58.2	68.0	47.3	34.1	48.7
Income tax liabilities	10.6	16.6	32.7	46.9	40.7
Other tax liabilities	7.9	13.7	8.1	3.3	9.6
Lease liabilities	10.0	11.6	13.1	12.6	17.0
Employee benefit obligations	38.0	31.6	38.7	48.9	59.1
Total current liabilities	**176.7**	**200.6**	**177.0**	**197.2**	**231.0**
Total liabilities	**622.0**	**635.5**	**1,035.6**	**1,086.6**	**1,139.3**
Total Equity	**(10.2)**	**(4.7)**	**66.1**	**136.2**	**142.3**
Total Equity and Liabilities	**611.8**	**630.8**	**1,101.7**	**1,222.8**	**1,281.6**

Figure 24, Total Liabilities and Equity presented in the Balance Sheet, Alter Domus Valuation Model.

Reviewing the cash flow statement, we observe that the net cash inflow from operating activities has consistently increased over the years, from EUR 70 million in 2019 to EUR 177.7 million in 2023. This indicates that the core business is generating positive cash flows and demonstrates the ability to cover potential investments and liabilities. The fluctuations in the net cash outflow for investing activities is mainly due to acquisition of subsidiaries and considerable investments in 2021 and 2023. This suggests the company has been expanding its operations and making strategic acquisitions along with investing in intangible assets, property, plant, and equipment. The net cash inflow for financing activities increased significantly in 2021 (EUR 284.3 million) due to an influx of borrowings (EUR 586.5 million). In other years, the net cash flow from financing activities was mainly negative, resulting from repayments of borrowings, interest paid, and lease payments.

STATEMENT OF CASH FLOWS	2019 €m	2020 €m	2021 €m	2022 €m	2023 €m
Net cash inflow from operating activities	**70.0**	**81.0**	**89.0**	**100.0**	**177.7**
Net cash outflow for investing activities	**(39.9)**	**(35.3)**	**(348.1)**	**(29.0)**	**(118.5)**
Net cash inflow/(outflow) for financing activities	**(17.4)**	**(21.0)**	**284.3**	**(46.0)**	**(50.4)**
Cash and cash equivalents at end of year	**37.5**	**54.5**	**82.2**	**108.3**	**116.8**

Figure 25, Snapshot of the Cash Flow Statement, Alter Domus Valuation Model.

In summary, the company has generated increasing positive cash flows from its operating activities, has been actively investing in acquisitions and other assets, and has managed financing effectively. The consistent increase in cash and cash equivalents suggests a healthy financial position with cash liquidity to support growth and meet upcoming obligations.

3.3.2 Ratio Analysis

Financial statements are helpful to give a basic idea of a company's performance but for a deeper look into the company's financial health and in order to understand more about its operational efficiency, a wide range of ratios and metrics can be used. These help to analyze the company's performance providing deeper insights into its overall condition.

Ratios		
Liquidity Ratios		
Current Ratio	1.6x	(Current Assets / Current Liabilities)
Modified Quick Ratio	0.9x	[(Trade Receivables + Cash and Cash Equivalents) / Total Current Liabilities]
Operating Cash Flow Ratio	0.5x	(Operating cash flow / Current liabilities)
Solvency ratios		
Long-Term Debt to Asset Ratio	0.64x	(Total long-term debt / Total assets)
Leverage Ratio or Equity Multiplier	1.12x	(Total Assets / Total Liabilities)
Profitability ratios		
Operating Margin	14.3%	(EBIT/Revenue)
ROE	18.3%	(Net income / Total Equity)
ROA	2.0%	(Net income / Total assets)

Figure 26, Alter Domus Financial Ratios.

The ratios showed in Figure 26 are divided in order to provide information regarding the liquidity of the firm, its solvency and its profitability.

Liquidity ratios measure a company's ability to meet short-term obligations and maintain regular daily operations. They are useful in assessing firm's financial health and in identifying potential liquidity problems, other than for comparative purposes. The first ratio taken into consideration in my analysis is the "Current Ratio" which measures the company's ability to pay its short-term liabilities using its short-term assets. A ratio of 1.6x indicates that the company has 1.6 times more current assets than current liabilities, which shows adequate liquidity to cover short-term obligations. This ratio has been selected during the analysis because it is one of the simple and common ratios used in company valuations but able to give sufficient information about the company's financial health. The second ratio selected is the "Modified Quick Ratio" which differs from the usual Quick ratio as it excludes inventory from current assets being a more conservative measure of short-term liquidity. In fact, since financial services firms do not exhibit inventories among the items in their balance sheet and have as most liquid assets trade receivables and cash/cash equivalents this ratio consider only the latter. A ratio of 0.9x indicates that the company has 0.9 times its trade receivables and cash to cover short-term liabilities. This suggests that the company may cover only 90% of current liabilities and not completely meet short-term obligations relying solely on cash and trade receivables. The third liquidity ratio is the "Operating Cash Flow Ratio" and measures the company's ability to cover short-term liabilities using cash generated from operating activities. The outcome of 0.5x underlines that the company's operating cash flow can cover 50% of its current liabilities, suggesting that some additional liquidity sources may be required to meet all obligations.

Solvency ratios are used to evaluate a company's ability to meet its long-term financial obligations and maintain long-term operational stability. They help to evaluate the financial risk associated with a company's capital structure, and provide insights into the balance between debt and equity financing. Using these ratios, investors and analysts can make more informed investment decisions based on a company's financial stability, risk profile, and overall management of its capital structure. The ratio that I used for first is the “Long-Term Debt to Asset Ratio” which measures the proportion of a company's assets that are financed by its long-term debt, which typically includes loans and bonds with maturities greater than one year. Total long-term debt of Alter Domus amounts to EUR 818.2 million over EUR 1,281.6 million of total assets. A ratio of 0.64x suggests that 64% of a company's total assets are financed by long-term debt. This statement is in line with the capital structure presented in the financial statements where it is clear that Alter Domus presents a high level of debt compared to equity. The second ratio used is the “Leverage Ratio or Equity Multiplier” which gives a more general overview about the capital structure of the company comparing the company's total assets to its total liabilities. A ratio of 1.1x suggests that the company has slightly more assets than liabilities. This can be seen as another clue regarding the capital structure of a company in which there is high levels of debt.

To conclude, profitability ratios give insight regarding the company's ability to generate earnings in relation to its revenue, equity, or assets. The first ratio presented in the table is the “Operating Margin” which measures the firm's profitability from its core operations, excluding financial and tax-related activities, thus taking into consideration EBIT metric over the total revenues of the year. A margin of 14.3% means that the company generated 14.3 cents for every euro of revenue received in 2023, and it may be interpreted as a positive insight about the profitability of Alter Domus. Second and third ratios are among the most used and are “Return on Equity” (ROE) and “Return on Assets” (ROA) measuring the profitability in terms of shareholders' equity and company’s assets respectively. ROE amounts to 18.3% while ROA is 2.0%, this means that the company is efficiently utilizing shareholder investments but demonstrates a moderate level of asset efficiency.

According to the financial ratios shown, Alter Domus presented a quite satisfactory financial health situation since it appears to have average sufficient liquidity to cover its short-term obligations. From a capital structure point of view it is clear that the company has high levels of debt with an overall a high profitability rate.

3.3.3 Comparable Companies Analysis (CCA or Comps.)

The Comps method, as explained in the previous chapter, is one of the main instruments used by investors and analysts to evaluate a company. In particular this methodology is recommended when dealing with private companies which are considered potential targets for private equity investors since it gives a quick and straightforward valuation approach based on the information of the other market players. This can be especially informative when assessing the company's value relative to its peers rather than in absolute terms. This approach allows to capture market sentiment, due to the fact that considers the whole aggregate of firms belonging to a specific sector. If investors regard a particular industry or peer group favorably, this could lead to higher valuations for all companies in that group, including the potential portfolio company under consideration. Generally comparable valuation is preferred when relative valuations are more important than the absolute value of a company.

On the other hand, there are some drawbacks in using comparables analysis method. One challenge is finding a suitable set of peer companies that are truly comparable to the target company. This might be difficult, particularly for highly specialized businesses with few direct competitors. Additionally, market data for private companies is often scarce or limited, rendering the comparables analysis less reliable. In fact, during the case study, using this approach was quite challenging due to the lack of data and peers to compare Alter Domus with. Another disadvantage is that comparables analysis relies on the assumption that the relevant financial ratios and multiples of peer companies are valid benchmarks for the target company. This may not always be the case due to differences in accounting practices, growth rates, and other factors that can skew the comparison. Furthermore, the analysis tends to focus on short-term market perceptions, which might not accurately capture the long-term potential of a company.

In the market where Alter Domus operates, the number of competitors has increased over the years. However, this sector still possesses significant untapped potential for growth, and its true value has not yet been fully realized. Alter Domus offers a wide range of services, covering a comprehensive spectrum within its industry. However, its competitors tend to provide only a select few of these services, rather than the entire suite. Some companies focus on certain offerings, while others specialize in different areas; very few competitors deliver the full range of services comparable to those provided by Alter Domus. Consequently, it becomes quite difficult to select a suitable sample of peers to conduct an analysis with high levels of accuracy.

The process of selecting comparable companies began by defining the industry from which I could derive a universe of comparable companies. To achieve this, I employed two distinct methods. Initially, I relied on an automatic sample of financial services comparables for Alter Domus, sourced from S&P Capital IQ. This initial approach resulted in a big sample of companies (91), some of which exhibited substantial differences from the target company, both in terms of their business models and industries. In the second part of the research, still utilizing S&P Capital IQ, I conducted a company screening of all publicly traded and privately held companies categorized as providers of the below services:

- Accounting
- Consulting
- Auditing
- Tax
- Fund administration

This process resulted in a small sample of companies sharing several common features with Alter Domus, so I decided to select the ones with most recent and reliable data. To better define my selection, I tried to focus on those companies that have multiples similar to Alter Domus' most recent ones. In fact as basis of the valuation I considered the enterprise value used as "sell price" which was given in March 2024 when Permira, one of the most important and strategic shareholders of Alter Domus, decided to sell part of its stake to Cinven, a leading international private equity firm focused on building world-class global and European companies. The transaction gave to Alter Domus an Enterprise Value of EUR 4.9 billion (USD 5.3 billion)[86]. Following this approach I selected 10 companies with similar values of Alter Domus in terms of EV/EBITDA and EV/Revenues, main multiple drivers of CCA valuations.

The Enterprise Value over EBITDA (EV/EBITDA) multiple is probably the most important metric used to compare companies within the same industry since it does not consider their different capital structures, depreciation methods, and tax regimes by excluding these factors from the calculations. The second multiple EV/Revenues is another common metric used with companies of the same sector and it is considered a very straightforward indicator for comparison purposes due to its effectiveness in dividing the total enterprise value by the total revenues of the year. Nevertheless, I decided to exclude from my analysis a ratio which is also commonly used when performing a CCA valuation, i.e. the P/E ratio. When it comes to valuing

[86] "Permira Agrees Partial Monetisation of Alter Domus", Permira, https://www.permira.com/.

private companies, using the P/E ratio is less suitable due to several challenges. Firstly, the P/E ratio relies on the market price of a company's shares. Since private companies do not have publicly-traded shares, and then no market price is available, the ratio is inapplicable for private company valuation. Secondly, private companies generally have less stringent financial reporting requirements compared to public companies. The variations in accounting standards, reporting frequency, and audit requirements could lead to differences in the quality of financial information, affecting the comparability and reliability of earnings figures used in the ratio calculation. For these reasons I decided to not consider P/E ratio as a measurement indicator in CCA valuation.

Please refer to Appendix A, for key information regarding the comparable companies selected.

Going deeply in the figures, I determined the lowest, median, average and highest values for the mentioned multiples. For EV/EBITDA multiple the range spanned from the lowest value at 7.3x to the highest at 33.1x. This results is quite in line with the value of 28.6x of Alter Domus. Regarding EV/Revenues multiple instead, the range spanned from the lowest value at 2.1x to the highest at 6.3x. In this case Alter Domus presented an indicator that outperformed all the comparable companies with a value of 6.9x, showing a substantial better financial performance compared to the others. These computations may suggest a clear outcome which identifies Alter Domus as an overvalued company compared to its peers. In this case a higher EV/Revenues ratio reflects the better financial performance that Alter Domus had in 2023.

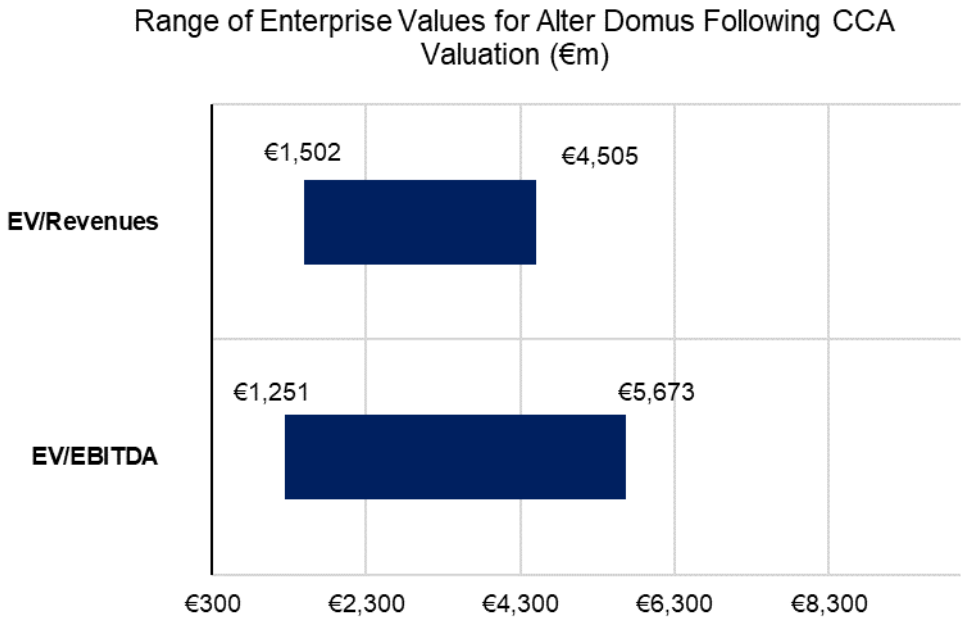

Figure 27, Range of EV from Market Multiples, Alter Domus Valuation Model.

Looking at Figure 27, a broad range of enterprise values is obtained, with EV/Revenues multiple ranging from EUR 1.5 billion to EUR 4.5 billion and EV/EBITDA from EUR 1.25 billion to EUR 5.6 billion. Alter Domus valuation of EUR 4.9 billion is in line with the outcome given by the EV/EBITDA ratio since it identifies the company as one of the main overvalued companies compared to its peers and it overcomes the maximum enterprise value of EUR 4.5 billion given by the EV/Revenues multiple which defines Alter Domus as the most efficient regarding the market performance on 2023. Additionally, Alter Domus dominant position is also underlined by the below figure which compares the average multiples of the peer companies with the current ratios of Alter Domus.

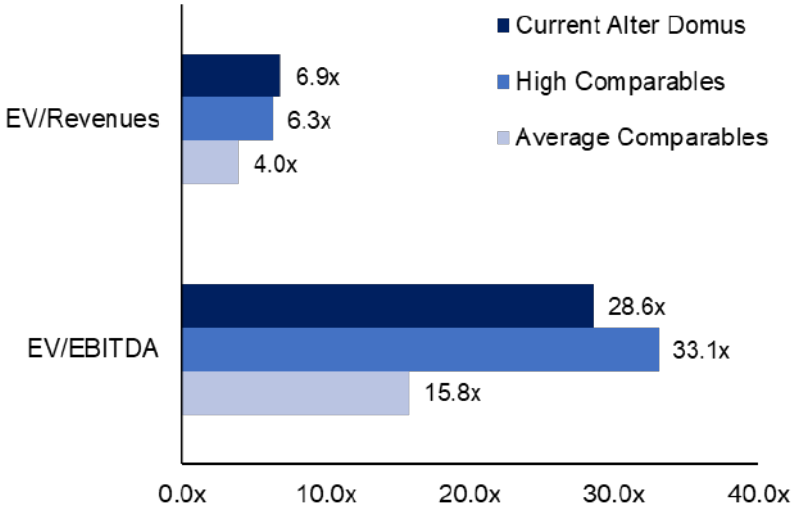

Figure 28, Average Market Multiples, High Market Multiples vs. Current Multiple, Alter Domus Valuation Model.

Concluding the Comparable Companies Analysis, after having analyzed the results of my valuation, I can state clearly that, as mentioned also by market research conducted by Preqin[87], Alter Domus is one of the market leaders in its sector. This is due to the great financial performance achieved during the past few years and its capability of becoming a key player as a provider of a several categories of services to all types of investment funds. This result can also be deducted by looking at figure 28, where Alter Domus multiples highly outperform average indicators for peer companies and remain in line with peaks of market competitors.

[87] Alter Domus Company Presentation (2024).

3.3.4 Discounted Cash Flow Valuation (DCF)

After completing the comps valuation I decided to apply the Discount Cash Flow Valuation method in order to verify the accuracy of my previous estimates. This methodology focuses on the projected cash flows of the company for a determined time horizon, which I defined as 5 years. When using this valuation technique high level of attention has to be dedicated to the inputs, especially growth rates and discount rates as they will have a strong impact on the final result. Additionally, during this type of valuation it is essential to develop a model that remains flexible to modifications. The more dynamic the model, the simpler it is for an analyst to implement adjustments and maintain a comprehensive perspective. Therefore, in order to provide a more comprehensive valuation, I developed three scenarios (Positive, Base, and Worst) with varying assumptions regarding revenue growth, profit margins, and capital expenditures as a percentage of revenue to obtain different results.

3.3.5 Growth Rate Estimation

As previously highlighted, examining a company's historical performance is vital for estimating its potential future growth rates. Although past performance may not be a perfect predictor for future outcomes, reviewing company presentations and management forecasts can offer meaningful insights into the plausibility of projecting past trends into the future. By assessing these factors, we can achieve a more comprehensive understanding of a company's prospects and potential for sustained growth. In essence, while prior performance does not guarantee future results, it still remains an important reference point for evaluating the reasonableness of future projections and the overall direction of a company's growth trajectory.

Alter Domus can be considered as a relatively young company due to its recent consolidation happened in 2019. Consequently, the available historical data spans only from 2019 to 2023. To thoroughly analyze this company, I concentrated on the financial information provided in the annual reports for this specific time frame, which offers valuable insights into the company's performance since its consolidation. Regarding the growth rate estimation I aimed to be as conservative as possible to maintain a realistic growth rate, considering the uncertainty prevailing in the world economy. After the consolidation, the company's average annual growth rate until 2023 was approximately around 22.3% with a revenue Compound Annual Growth Rate (CAGR) amounting to 17.3%, as highlighted in figure 29. This period is highly significant for the company, as it represents the starting point for the worldwide expansion of the core business.

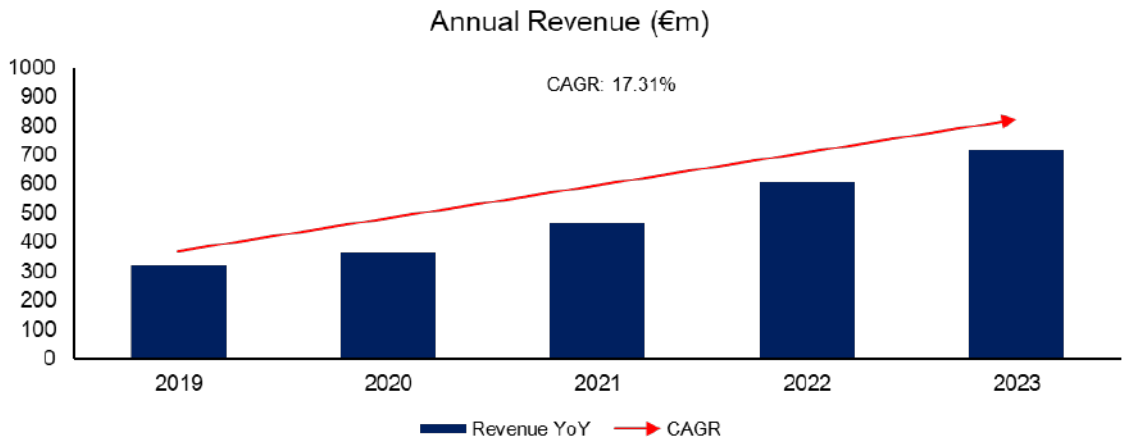

Figure 29, Company's Revenues YoY, Alter Domus Valuation Model.

After reviewing the annual reports and company presentations, management anticipates a revenue Compound Annual Growth Rate (CAGR) ranging between 15% and 20% in the upcoming years, due mainly to the new opening branch in Singapore happened in 2024. We have to keep in mind that Alter Domus is still in the early stages of its life cycle, thus high growth rates are expected in order to fulfill the return of private equity investors. The consistent growth in revenues has been fueled by the continuous expansion during the years, through operations such as new branch openings and new company acquisitions. Last financial year was challenging for the company due to the economic conditions of the market in which it is considered one of the main players, but historically Alter Domus demonstrated to be able to have stable growth and this is also the expectation of the management after the partial transfer of ownership happened in March 2024.

In order to verify management predictions, I decided to obtain the growth rate using the publicly available information disclosed in the financial statements. I started by computing the Normalized Return on Equity (ROE) which is equal to the average book value of equity divided by the average net income, then I calculated the Normalized Retention Rate, given by the average retained earnings divided by the average net income, concluding multiplying the two results obtaining a sustainable growth rate of 23%. I decided to use the combination of these two specific rates because the normalized ROE is a financial metric that provides a more accurate measure of a company's profitability by adjusting the standard ROE to account for one-time or nonrecurring events. This ratio, adjusts the net income by excluding extraordinary items, thus offering a better understanding of a company's ongoing profitability and performance. The normalized retention rate, similar to normalized ROE, adjusts the standard retention rate to account for any extraordinary events or nonrecurring items. It measures the

proportion of a company's earnings that are retained and reinvested back into the business instead of being paid out as dividends. Multiplying normalized ROE by the normalized retention rate provides a good estimate of the company's sustainable growth rate. The sustainable growth rate is a measure of how much a company can grow without needing to borrow additional capital or issue new shares. By using normalized figures for both ROE and the retention rate, the sustainable growth rate can account for the true ongoing profitability and reinvestment strategy of the firm, ensuring that any temporary fluctuations caused by one-time events are excluded. This results in a more accurate and reliable assessment of a company's potential to grow in a sustainable manner. Since this approach was not completely exhaustive to me I decided to implement the process of calculation trying to understand the level of increase in earnings a company can achieve by reinvesting its profits back into its operations. This is an important concept because, as the sustainable growth rate, it highlights the potential for a company to grow without relying on external funding sources such as debt or issuing new shares. In order to do so I computed the reinvestment rate and multiplied by the Return on Invested Capital (ROIC) in order to obtain the reinvestment growth rate, the result of these operations amounts to 7.01%. By multiplying these two metrics together, I was able to estimate the growth in the company's operating income resulting from its internal reinvestment strategy, without relying on external financing. This calculation indicates how effectively the company is using its reinvested earnings to generate future returns and gives insights about its potential to grow organically. Once I obtained these two growth rates I simply calculated the average of both (23% and 7.01%) creating a blended growth rate that amounted to 15%. This rate mixed the growth derived from internal reinvestment and the growth derived from the company's profitability without needing external financing. This figure helped me on building the DCF model since it can provide a more comprehensive and conservative estimate of a company's potential growth compared to using just one of the rates.

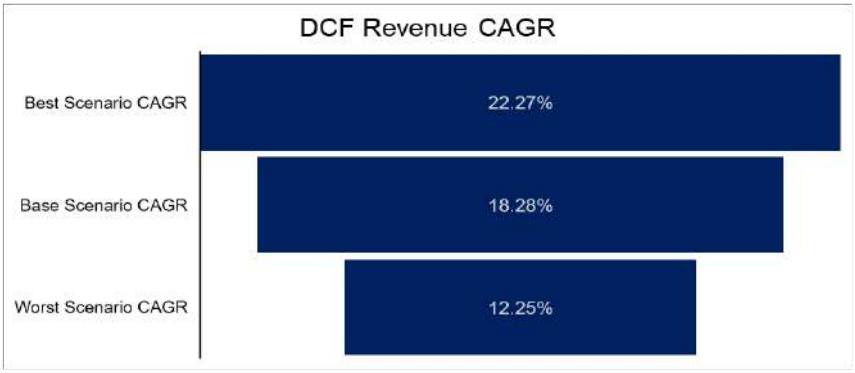

Figure 30, DCF Scenarios Revenue CAGR for 2024, Alter Domus Valuation Model.

Concluding my computations I noticed that the result that I obtained is slightly less than company's predictions for the future growth but still in line since they are expecting a rate between 15% and 20%. Using this figure and adjusting it with the previous year growth rates I was able to obtain acceptable estimates for the DCF model projections. In fact using this proactive approach in the valuation, Revenue CAGRs range from 12.25% in the worst-case scenario to 22.27% in the best-case scenario regarding the items related to 2024 (Figure 30). The forecasts of growth rates for the five-years' time horizon predict a minimal stable growth in the base scenario, a significant growth for the best scenario and a declined growth in the worst case scenario.

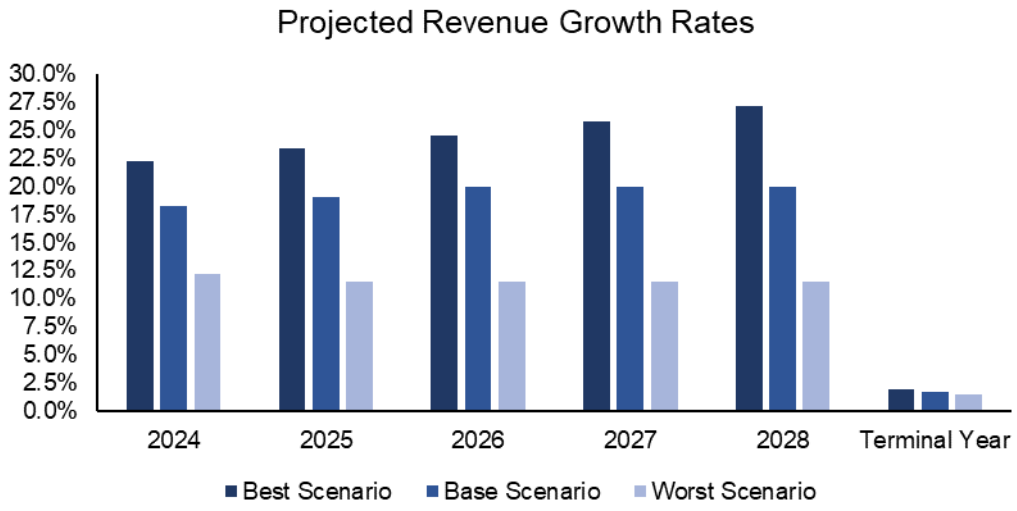

Figure 31, Projected Growth Rates for the period 2024-2029, Alter Domus Valuation Model.

After setting up the estimates for the revenues, I proceeded with the same approach for the computation of gross margin, EBITDA margin, EBIT margin and Capex. Regarding Capital Expenditures, Alter Domus has a relevant commitment to capital expenditures, historically averaging nearly 4.6% of revenues in recent years (2019-2023). These investments have primarily been directed towards opening of new branches and company acquisitions in order to stabilize the market position. In fact revenues growth has been followed by Capital Expenditure and according to management presentations they are expecting a significant increase in Capex for 2024 and 2025 due to the new branch opened in Singapore and Philippines With this data I decided to maintain the previously mentioned computed growth rate as a starting point to reach the figures for the model also for Capex. These estimates constitute the assumptions on which the whole DCF model is based.

Please refer to Appendix B for the whole table with all the DCF scenario assumptions.

3.3.6 Working Capital

Working capital is the measure of a company's short-term liquidity and is calculated as the difference between a firm's current assets and current liabilities. Current assets include items like cash, accounts receivable, and inventory, while current liabilities encompass accounts payable, short-term debt obligations, and other similar expenses. Working capital represents the amount of funds available for a company to run its day-to-day operations, cover short-term expenses, and invest in short-term growth opportunities. In a discounted cash flow model, assessing working capital is crucial since it is used to compute the free cash flows (FCFF and FCFE). The DCF model relies on forecasting these free cash flows over a time horizon and then discounting those cash flows back to their present value to estimate the intrinsic value of the company.

Working capital is an important metric since it provides insights into the company's operational efficiency and liquidity position. A company with sufficient working capital can meet its short-term obligations and maintain smooth daily operations without disruptions, leading to more consistent cash flows. In contrast, a company with insufficient working capital may face challenges servicing its liabilities or investing in growth, both of which could negatively impact the future cash flows in the DCF model. Changes in working capital need to be considered when estimating cash flows in a DCF model. An increase in working capital can lead to a decrease in free cash flow, whereas a decrease in working capital can lead to an increase in free cash flow. By accurately factoring in the changes in working capital for each period, the DCF model provides a more realistic projection of the company's cash flows and valuation.

In this case study we have to keep in mind that Alter Domus is a financial services firm and among the current assets may not figure some items that are typical of non-financial firms such as inventory for example and their primary focus lies in the management of financial assets, debt, and investments, so it is important to understand how to compute this metric and which approach to use it since it is easy to utilize the same approach for both financial and non-financial firms, this may be lead to not accurate estimates.

In the analysis I started computing both Net Operating Working Capital (NOWC) and Net Working Capital (NWC) since they are the most common metrics used to evaluate the working capital in a company. The NOWC is a more refined measurement that focuses on operating activities by excluding non-operating current assets and liabilities from the net working capital calculation, it is generally used more for non-financial firms. It is calculated as NWC but it

excludes non-operating current assets such as short-term investments and non-operating current liabilities such as short-term debt and the current portion of long-term debt. NOWC typically includes operating current assets such as accounts receivable and inventory and operating current liabilities such as accounts payable and accrued expenses.

Given that Alter Domus is a financial firm, the items excluded in the NOWC calculation represent important figures within company's working capital computation. Additionally, NOWC focuses solely on operating components such as accounts receivable, inventory, and accounts payable, which are less relevant for financial firms as they don't have a primary role in financial firms operations. For these reasons, I deemed more appropriate using NWC approach, as it considers the entire range of current assets and current liabilities. In fact current assets and liabilities of financial firms are closely associated with their core operations, and distinguishing between operating and non-operating items is often less evident. Furthermore, the use of NOWC might not capture the firm's broader financial liquidity and would present an incomplete picture of their working capital. On the other hand, NWC is a more widely accepted and straightforward metric, allowing for better comparability among different companies and industries. With NWC in fact, I can directly work with the readily available financial information, increasing the reliability and accuracy of the calculations.

Regarding the results obtained computing the NWC I noticed that Alter Domus maintained a stable growth passing from EUR 34 million in 2019 to EUR 159.5 million in 2022 with a slightly decrease to EUR 134.8 million attributable to the small downturn in the market in which the company belongs and to the investments done during the year. In order to compute the free cash flows useful for the DCF model I calculated also the net change in working capital which is usually defined as "delta net working capital" (ΔNWC). Analyzing the obtained figures, and considering the results of NWC during the period, I reported the positive net change until 2022 with the negative net change in working capital of EUR -24.7 million in 2023 which is attributable to both downturn in the market and consistent investment made in Singapore and Philippines, also mentioned when dealing with capital expenditures.

Please refer to Appendix C for Net Operating Working Capital, Net Working Capital and Delta Working Capital computations and forecasts for the analyzed time period.

3.3.7 Weighted Average Cost of Capital

As introduced in the second chapter, Weighted Average Cost of Capital is a key feature when computing the free cash flows in the DCF model. According on what previously explained regarding the formula, I started my computations trying to obtain the cost of equity (Ke). In order to do so, I began with the selection of the risk-free rate, which was chosen to be the 10-year Luxembourg Government Bond since the company is Luxembourg based. Analyzing the time series of the returns for the period 2014-2024 I noticed abnormal negative returns in 2020 and 2021 due to Covid-19 pandemic, which is a very rare event and represent extreme values, so I decided to exclude these rates and compute the average of the remaining ones obtaining a risk-free rate of 1.10%. Then I moved to the Equity Risk Premium (ERP) estimation, it was derived from the ERPs disclosed by Professor Aswath Damodaran at NY Stern University, with the main focus on Luxembourg equity risk premium since the majority of the revenues of Alter Domus are generated in this country. The value obtained is 4.12%. Once the ERP and the risk-free rate have been computed I switched to the cost of equity estimation. At this point the challenge was to select the most appropriate approach to have a consistent estimate. In order to do so, I used as source the manual for the preparation of CFA level 2 which explained the methodologies used to estimate cost of equity in private companies. The manual suggested three main methods, the Capital Asset Pricing Model (CAPM), the Expanded CAPM and the Build-Up approach. Formulas are shown in Figure 32.

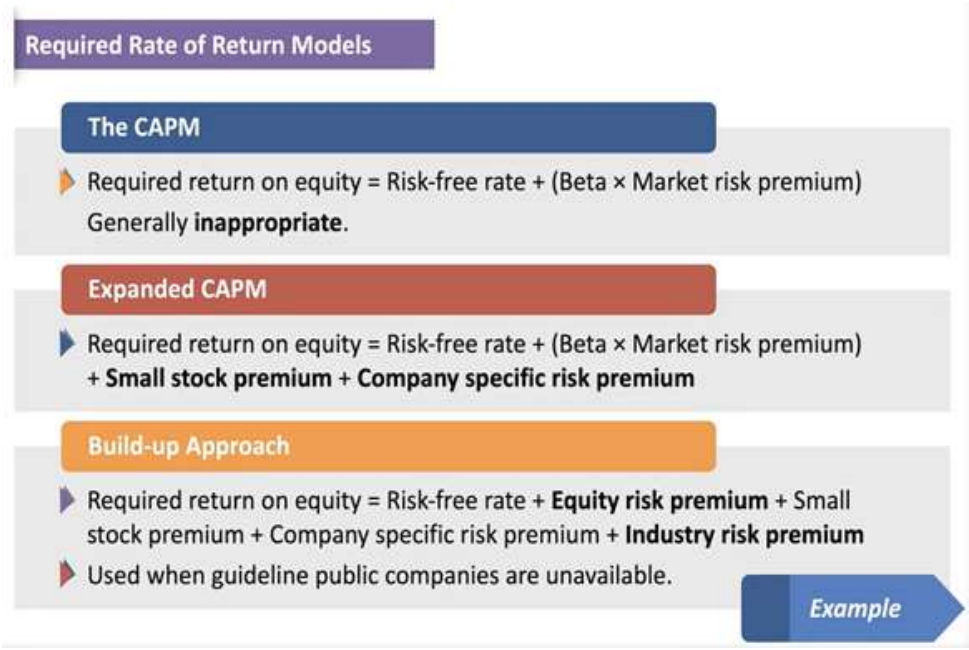

Figure 32, Cost of Equity Approach, CFA Level 2 manual.

The first option has been introduced and explained in the second chapter, the second one instead considers the CAPM with the addition of two components which are the small stock premium and company specific risk premium. In the Expanded CAPM, extra risk factors are included to better reflect the asset's risk and return characteristics. By accounting for these additional risk factors, which are not captured by the traditional CAPM, the Expanded CAPM can provide a more accurate estimation of an asset's expected return. The third approach is considered when dealing with small, private, or closely-held companies that have unique characteristics, it is also helpful when companies have limited historical data which makes traditional methods like the Capital Asset Pricing Model (CAPM) less reliable. In fact, in our case study, for Alter Domus only financial information from 2019 to 2023 is available which may lead to some distortion in the short-term outcomes. This approach removes the beta from the expanded CAPM formula and adds industry risk premium.

In order to have a better overview of the cost of equity estimates I decided to use all three approaches and then analyze the results defining the most suitable one. Starting with the standard CAPM I proceeded with the definition of the unlevered beta, given by the average beta of the competitors selected during the comps valuation, it amounts to 0.58. Secondly I relevered the beta accounting for Alter Domus' capital structure which shows a debt-to-equity ratio of 6.1x and the Luxembourg tax rate (24.94%), obtaining a very high levered beta (3.25). The result of the CAPM approach is a cost of equity of 14.5%. Regarding the expanded CAPM I decided to add a Company specific risk premium of 1.5% due to the fact that the company has high debt levels but still maintains a top position in the market in which it operates. The objective was to try to be as conservative as possible in order to not to modify a lot the final estimate of cost of equity. The second factor used is the small stock premium which can be associated to the size of the firm and for this item I decided to assess a 2% of discount rate considering that the company has been valued EUR 4.9 billion in March 2024. It is not considered small anymore due to its multinational status, however it still demonstrates untapped growth potential. The result of this approach gave me a cost of equity of 16%. Finally, in the build-up method I used the two previously mentioned factors plus the industry specific risk premium obtained by the equity risk premium multiplied by the relevered beta obtaining a result which amounts to 13.4%. The cost of equity for this approach is 22.1%. All the computations are shown in figure 33.

Cost of Equity Calculation:	
Risk-Free Rate (Rf)	1.10%
Equity Risk Premium (Rm - Rf)	4.12%
Unlevered Beta	0.58
Debt to Equity	6.1x
Relevered Equity Beta (Be)	3.25
Company Specific Risk Premium (CSRP)	1.5%
Small stock premium	2.00%
Industry - Adjusted Risk Premium	13.4%
Cost of Equity (Re) CAPM	**14.5%**
Cost of Equity (Re) Expanded CAPM	**16.0%**
Cost of Equity (Re) Build-Up Approach	**22.1%**

Figure 33, Cost of Equity Computations, the three approaches, Alter Domus Valuation Model.

Among these three options, the Build-Up approach better reflects the higher risk associated with Alter Domus' capital structure due to the high debt-to-equity ratio. By accounting for the company-specific risk premium, industry risk premium, and small stock premium, the Build-Up approach captures more nuanced risks related to Alter Domus' financial situation. The result of 22.1% represents a reasonable payoff for equity investors who are financing a company with high levels of debt. In fact, this cost of equity estimation better reflects the high level of debt and other specific risks associated with Alter Domus, providing a more accurate view of the return required by investors to compensate for the higher risk associated with the company's capital structure. On the other hand, CAPM and Expanded CAPM have lower cost of equity estimates at 14.5% and 16%, respectively. These values may not adequately account for the level of risk associated with the high debt-to-equity ratio and specific company or industry-related factors. Thus, these methods may underestimate the true cost of equity, which could lead to incorrect investment decisions and a misallocation of resources.

After having a defined cost of equity estimate the focus switches on the cost of debt estimation. As explained in the second chapter, in order to assess the cost of debt the elements needed are the risk-free rate, the credit spread and the tax rate. Considering that the risk-free rate has been computed for the cost of equity estimation and the tax rate used for the beta levered I had to define just the credit spread. This figure has been estimated by using a synthetic rating model for financial firms provided by the Professor Aswath Damodaran. This model considers factors such as the interest coverage ratio and assigns a rating, to which a corresponding cost of debt is associated. Additionally, the model can factor in operational leases, providing valuable insights into the company's financial position. Alter Domus has a high debt levels but it is important to consider that the maturity of the long-term debt which consists in the larger part of the liabilities has maturity on the 7th anniversary (16 February 2028). Additionally is also

important to note that there is a mandatory repayment of 1% of the original outstanding each year for the USD facility, but since the majority of the debt remains payable beyond one year, the overall classification remains long-term debt[88]. So the overall credit position is not as bad as expected looking at debt-to-equity ratio, in fact the credit rating given to Alter Domus is A3/A- with an After-Tax Cost of Debt equal to 1.98%, as shown in figure 34.

Cost of Debt Calculation:	
Pre-Tax Weighted Cost of Debt	2.64%
Country Risk Premium	0.00%
Adjusted Pre-tax Cost of Debt	2.64%
Estimated Tax Rate	24.94%
After-Tax Cost of Debt (Rd)	1.98%

Figure 34, Cost of Debt Computations Alter Domus Valuation Model.

Once the cost of equity and cost of debt are computed the WACC is easily calculable knowing already the percentages of equity and debt in the firm. In this case, Alter Domus has a debt-to-capital ratio of 86%, meaning debt makes up a substantial portion of its capital structure. The cost of debt is lower than the cost of equity at 1.98%, making debt financing relatively cheaper for Alter Domus. With a weighted cost of debt at 1.70%, this indicates that debt plays a significant role in reducing the overall cost of capital. On the other hand, equity accounts for 14% of the capital structure, with a higher cost of equity at 22.12%. This higher cost reflects the increased risk inherent in equity financing. The calculated weighted cost of equity is 3.10%. Combining these weighted cost components, the WACC computes to 4.8%. For Alter Domus this implies that the company is expected to provide an annual return of at least 4.8% to keep their investors and lenders satisfied. To determine if this is a good WACC for Alter Domus, it's essential to compare it against the company's expected rate of return on investments and the WACCs of similar companies within the industry.

Weighted Average Cost Of Capital Calculation:	
Debt % of Capital	86.00%
Cost of Debt	1.98%
Weighted Cost of Debt	**1.70%**
Book Value of Equity (m)	142.3
Equity % of Capital	14.00%
Cost of Equity	22.12%
Weighted Cost of Equity	3.10%
Weighted Average Cost of Capital	**4.80%**

Figure 35, WACC Computations, Alter Domus Valuation Model.

[88] Alter Domus Annual Report 2023.

3.3.8 Sensitivity Analysis

The Discounted Cash Flow methodology is highly sensitive to its inputs, and even a small change in variables like the terminal value growth rate or the weighted average cost of capital can significantly impact the final valuation. To account for this sensitivity, I conducted a sensitivity analysis to understand how changes on the implied Enterprise Value and on the share price obtained by the DCF.

Enterprise Value Sensitivity

Terminal Growth Rate \ WACC	3.9%	4.3%	4.80%	5.3%	5.8%
1.4%	7,396.2	6,262.7	5,343.5	4,653.2	4,068.6
1.6%	7,867.9	6,595.5	5,582.1	4,831.8	4,203.4
1.75%	8,473.5	7,013.0	5,876.1	5,048.9	4,365.5
1.9%	9,187.0	7,491.5	6,205.9	5,288.6	4,542.1

Figure 36, Enterprise Value Sensitivity, Base Scenario, Alter Domus Valuation Model.

In the base scenario, the DCF valuation yielded an enterprise value of EUR 5.8 billion. Assuming the same terminal value growth rate of 1.75%, a 10.0% increase in the WACC would result in a decrease in the enterprise value of approximately 16.38% to EUR 5.0 billion. While a decrease of 10% of WACC would lead the enterprise value to rise to EUR 7.0 billion (19.35% increase). Regarding the share price sensitivity if we maintain a terminal value growth rate of 1.75%, a 10.0% increase in the WACC would result in a decrease of the share price of approximately 18.25% to EUR 13.53 per share. While a decrease of 10% of WACC would lead the share price to rise to EUR 19.68 per share (21.21% increase).

Implied Share Price Sensitivity

Terminal Growth Rate \ WACC	3.9%	4.3%	4.80%	5.3%	5.8%
1.4%	20.84 €	17.41 €	14.62 €	12.53 €	10.76 €
1.6%	22.27 €	18.42 €	15.35 €	13.07 €	11.17 €
1.75%	24.11 €	19.68 €	16.24 €	13.73 €	11.66 €
1.9%	26.27 €	21.13 €	17.24 €	14.46 €	12.20 €

Figure 37, Share Price Sensitivity, Base Scenario, Alter Domus Valuation Model.

3.3.9 Results of the DCF Valuation

Concluding the presentation of the DCF model, it is important to underline that it is highly sensitive to assumptions that may not hold in the future due to potential internal or external factors concerning the company. Considering that my DCF valuation model is based on a three-scenario approach, I decided to assign the probabilities to each scenario to determine the implied enterprise value on a weighted average of the results across all scenarios. I have attributed a 55.0% probability to the base scenario, which I believe to be a cautious well-established estimation. Furthermore, I have given a 30.0% weight to the best scenario, a reasonable allocation considering the company's historical achievements and the expertise of its management team. Even in the face of difficult economic conditions that typically impact financial services businesses, I remain confident in the management's capacity to successfully navigate through any potential recessions. On the other hand, the assumptions underlying the worst-case scenario are significantly more pessimistic. As a result, I have allocated a 15.0% probability to account for this downside risk. Utilizing this method enables a thorough examination of the company's intrinsic enterprise value by incorporating a range of potential outcomes and their corresponding probabilities.

Scenario	Probability	Enterprise Value	Potential Upside
Base	55.0%	5,876.1 €	19.9%
Best	30.0%	9,734.5 €	98.7%
Worst	15.0%	1,152.9 €	-76.5%
Weighted Intrinsic Enterprise Value		**6,325.1 €**	**29.1%**

Figure 38, DCF Weighted Enterprise Values, Alter Domus Valuation Model.

Figure 38 shows the different enterprise values assessed by each scenario with the lowest value equal to EUR 1.15 billion in the worst case scenario and the highest value of EUR 9.74 billion in the best case scenario. Applying the above mentioned percentages of probability we obtain a forecast for the weighted intrinsic enterprise value for the final year of the analysis equal to EUR 6.3 billion, with a potential upside of 29.1% achievable on a five-year time horizon basis. In order to make sure that this estimate keeps its accuracy, it is important to continuously monitor changes in market conditions, the company's performance, and external factors to adjust the model appropriately when deemed necessary.

CONCLUSION

The thesis started by giving a complete overview of the private equity process analyzing step by step all the key aspects of this environment. The objective was to give a comprehensive understanding of the stages in order to prepare the field for the company analyzed in the case study, since it pertains to this domain. Private Equity may be considered as a market which stands on its own since it is regulated by different guidelines compared to public markets. The focus on the process considered the first stage in which private equity firms raise funds in order to proceed with a project of investment, then it aimed to explain the strategy through which private equity investors inject funds in the company they select as target. Then it passed through the growth of the investment and in the end I wanted to underline the real reason why this type of investment is raising in importance year by year, i.e. realizing high levels of return using an efficient exit strategy. The exit phase assumes a pivotal role for private equity investors since it defines the way through which the investment will be sold and liquidated. From a theoretical point of view this section has been meticulously developed, reflecting its importance in the private equity context due to the several ways through which returns can be obtained. After having structured the background of the whole process in the first chapter, the focus shifted to the current situation of private equity in Europe bringing some data and introducing the real size of one of fast growing markets in Europe. It has been used, in fact, the 2023 annual report from the European Venture Capital Association to exhibit with graphs and quantitative information the perspective that investors have when approaching all types of private equity investments. This part tends to underline how the asset classes and strategies have developed an improvement in terms of numbers of deals, efficiency and rate of return. To justify that, additional data have been provided with the comparison between private equity backed companies and public equity companies, highlighting the rise of attractiveness and performance in the past twenty years. Once the general overview was given, I decided to shift the focus on the target companies that populate the private equity market introducing the concept of portfolio company and the methodologies through which these firms are evaluated by analysts, professionals and investors. These methods have been presented from a theoretical point of view aiming to describe the way through which they are applied to real cases with the use of general formulas and examples. The methodologies analyzed are the Comparable Company Analysis (CCA) and the Discounted Cash Flow (DCF) valuation, which consider respectively the peers of the target company and its forecasted cash flows. These two approaches are widely spread in the process of evaluating potential target companies for private

equity investments, so I decided to give a wide overview with greater propension to the theory having in mind to describe concretely both during the case study. In the third chapter I started introducing briefly the International Private Equity and Venture Capital Valuation (IPEV) guidelines which are the main path to follow when evaluating a potential target in private equity and venture capital environments. Then the case study began with the presentation of Alter Domus and its core business, using data taken from the internal presentation of the finance department which is usually used when onboarding new clients. These data are useful to have a general overview on which type of services the firm provides, its history and its size. Once the necessary introduction has been completed the real analysis kicked in. I started by looking at the financial statements of the company through which the first line of information is defined. In fact, from Income Statement, Balance Sheet and Cash Flow Statement we can have a first idea of the company's financial performance, comparing the items presented year by year. The elements are also useful for calculating financial ratios, basis for the analysis. The core part of the thesis is represented by the two methodologies which are described in depth. The first one computed is the CCA, through which the company is compared with other market players and the enterprise value is obtained through the comparison with peer companies' multiples. In the case study the result of this approach is in line with other analyses performed by analysts and professional investors. The second method taken into consideration is the DCF valuation in which several assumptions and computations have been completed in order to assure the most accurate estimate possible. In fact, with this methodology, different approaches to reach the same objective have been considered. In this way the estimates have been the outcome of a meticulous research used to find the most suitable approximation. I developed three scenarios in order to have future projections suitable for each event, for this reason the model has been built considering all the possible variations that may occur in a five-year time horizon, i.e. the period used for my forecast. The scenarios include one base case where the growth is expected to be in line with the historical trend, this case represents the most likely to happen. Then, there are respectively the best case and the worst case scenarios where the probability of the best one is doubled compared to the worst case's one. The results of the DCF valuation underline a further potential growth in the enterprise value of Alter Domus driven by the past efficient financial results.

Generally, the reason why I decided to choose this company as the case study for my thesis is not attributable only to the fact that this is my employer but there have been events that have driven my choice. The first aspect that I considered has been the transfer in ownership that

Permira operated in March 2024 to Cinven, another private equity firm, which contributed to hype the company internally and from the market point of view. This was an operation that affected the management and the employees, and being one them, I deemed interesting to analyze what there is behind the sale of a huge multinational company like this. Secondly, working with private equity funds has been an additional point that raised my interest on understanding how the returns are made in this field. In the end, the third aspect that I considered has been the future perspective that a valuation approach can give to my professional career since the knowledge given by building a valuation model can open doors to front office jobs which are the more remunerative and with highly demand career paths. Passing on the challenges faced, this thesis presented the valuation of a private financial firm, a case study which combines the fact that the company is offering financial services and the fact that is privately held. This point made the analysis harder than expected since the type of services provided make the firm different from any industrial or manufacturing company. In fact, this type of companies through the sale of a concrete product have a different balance sheet and the items presented on it may be object of deep analysis and are easily traceable. For financial firms this is not the case because, as seen with Alter Domus, most of the assets are represented by the intangible ones which sometimes are difficult to evaluate also from the company itself. This first point brought me to find a different approach for the computation of working capital compared to the ones described in academic books for example, exploiting the full range of assets (current and non-current). Secondly the fact that Alter Domus is a private company complicated way more the situation since the amount of data available was very low and to find comparables to proceed with both features (financial and private) was hard. In order to sort out this problem I used the manual for the CFA level 2 certification in which this matter is exhaustively addressed. Having a look at this manual was very helpful because it gave me all the tools in order to arrive to an accurate conclusion. Moreover, bringing up this case study was also an opportunity to put myself in the condition of going off from the usual daily working approach trying to explore new points of view regarding a field which has a lot to offer.

Concluding, a thesis focusing on the valuation of Alter Domus presents unique advantages, one reason is the real-world relevance that a study like this provides, as it enables a direct connection to practical aspects of business valuation in the financial services industry. Additionally, it shifts the focus on some information that may be not widely accessible considering that only the professionals in the sector are well-informed. Lastly, it creates the basis for a further exploration of valuation techniques and alternative practices.

APPENDIX

APPENDIX A – Comparables Valuation

Selected Companies	Country	Primary Industry Classificatio	Beta	EV/EBITDA	EV/Revenues
TREX S.A.	Poland	Financial Services	0.90	11.9x	3.8x
Danks Europejskie Centrum Doradztwa Podatkowego S.A.	Poland	Financial Services	0.52	33.1x	2.1x
Tax-Net S.A.	Poland	Financial Services	0.11	7.3x	2.2x
Ecnology Group S.A.	Poland	Financial Services	0.34	13.3x	3.6x
Aallon Group Oyj	Finland	Financial Services	0.48	13.4x	3.0x
Administer Oyj	Finland	Financial Services	1.09	13.4x	6.3x
Talenom Oyj	Finland	Financial Services	1.25	22.8x	2.9x
Sofico SA	Belgium	Financial Services	-	12.1x	5.0x
Kelly Partners Group Holdings Limited	Australia	Financial Services	0.64	12.7x	4.6x
CC International Berhad	Malaysia	Financial Services	-	18.0x	6.0x
High			**1.25**	**33.1x**	**6.3x**
Median			**0.58**	**13.4x**	**3.7x**
Average			**0.67**	**15.8x**	**4.0x**
Low			**0.11**	**7.3x**	**2.1x**
Alter Domus Participations S.à r.l., Société à responsabilité limitée	**Luxembourg**		**-**	**28.6x**	**6.9x**

	EV/EBITDA Multiple	Implied EV
EV/EBITDA High	33.1x	5,673 €
EV/EBITDA Average	15.8x	2,708 €
EV/EBITDA Median	13.4x	2,288 €
EV/EBITDA Low	7.3x	1,251 €
EV/Revenues High	6.3x	4,505 €
EV/Revenues Average	4.0x	2,824 €
EV/Revenues Median	3.7x	2,646 €
EV/Revenues Low	2.1x	1,502 €

Implied EV	Low	Difference	High	Median
EV/EBITDA	1,251.22 €	4,422.12 €	5,673.34 €	2,288.19 €
EV/Revenues	1,501.50 €	3,003.00 €	4,504.50 €	2,645.50 €

	Low	Difference	High	2029E
EV/EBITDA	3.79 €	13.40 €	17.19 €	17.19 €
EV/Revenues	4.55 €	9.10 €	13.65 €	13.65 €

APPENDIX B – DCF Assumptions

TV

Assumptions:	Average	Dec 31, '19	Dec 31, '20	Dec 31, '21	Dec 31, '22	Dec 31, '23	Dec 31, '24	Dec 31, '25	Dec 31, '26	Dec 31, '27	Dec 31, '28	Dec 31, '29	Average
Revenues Growth YoY	22.3%	-	13.6%	27.0%	30.2%	18.3%	22.3%	23.4%	24.6%	25.8%	27.1%	2.00%	20.84%
Best							22.3%	23.4%	24.6%	25.8%	27.1%	2.00%	
Base							18.3%	19.0%	20.0%	20.0%	20.0%	1.75%	
Worst							12.2%	11.5%	11.5%	11.5%	11.5%	1.50%	
Gross Margin	56.9%	58.5%	58.8%	57.8%	55.2%	54.3%	56.9%	59.8%	62.7%	64.0%	65.3%	66.6%	62.5%
Best							56.9%	59.8%	62.7%	64.0%	65.3%	66.6%	
Base							54.3%	54.3%	54.3%	55.4%	56.5%	57.6%	
Worst							43.4%	43.4%	43.4%	43.4%	43.4%	43.4%	
EBITDA Margin	23.4%	23.2%	23.5%	25.7%	20.5%	24.0%	24.5%	25.7%	27.0%	27.6%	28.1%	28.7%	27.0%
Best							24.5%	25.7%	27.0%	27.6%	28.1%	28.7%	
Base							24.0%	24.5%	24.0%	24.5%	24.0%	24.5%	
Worst							21.6%	19.4%	17.5%	15.7%	14.2%	12.7%	
EBIT Margin	13.7%	13.4%	14.0%	15.3%	11.2%	14.3%	14.3%	16.4%	18.9%	21.7%	25.0%	28.7%	20.9%
Best							14.3%	16.4%	18.9%	21.7%	25.0%	28.7%	
Base							13.7%	14.6%	15.6%	16.7%	17.9%	19.1%	
Worst							11.4%	11.8%	12.1%	12.5%	12.9%	13.3%	
Capex (% Revenue)	4.6%	5.5%	4.2%	4.2%	3.9%	5.0%	5.0%	5.5%	5.5%	5.5%	5.5%	5.5%	5.4%
Best							5.0%	5.5%	5.5%	5.5%	5.5%	5.5%	
Base							4.6%	4.6%	4.6%	4.6%	4.6%	4.6%	
Worst							4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	

Working Capital	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2029E	2028E	Average
Operating Current Assets (Cash Excluded)												
Trade receivables	94.0	97.5	101.2	107.7	79.9	82.9	86.0	89.2	92.5	95.9	99.5	
% Change YoY	-	*3.7%*	*3.8%*	*6.4%*	*-25.8%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*
Accrued revenue	60.3	76.0	91.0	92.1	119.4	142.3	169.5	202.0	240.7	286.8	341.7	
% Change YoY	-	*26.0%*	*19.7%*	*1.2%*	*29.6%*	*19.2%*	*19.2%*	*19.2%*	*19.2%*	*19.2%*	*19.2%*	*19.2%*
Deferred charges	5.8	5.7	7.7	13.3	9.1	10.8	12.8	15.2	18.0	21.4	25.4	
% Change YoY	-	*-1.7%*	*35.1%*	*72.7%*	*-31.6%*	*18.6%*	*18.6%*	*18.6%*	*18.6%*	*18.6%*	*18.6%*	*18.6%*
Current tax receivables	11.8	15.6	15.0	13.9	22.5	27.2	32.8	39.6	47.8	57.7	69.7	
% Change YoY	-	*32.2%*	*-3.8%*	*-7.3%*	*61.9%*	*20.7%*	*20.7%*	*20.7%*	*20.7%*	*20.7%*	*20.7%*	*20.7%*
Total:	**171.9**	**194.8**	**214.9**	**227.0**	**230.9**	**263.1**	**301.1**	**345.9**	**399.0**	**461.8**	**536.3**	
Operating Current Liabilities (Debt Excluded)												
Trade and Other Payables	42.6	35.4	35.7	47.1	53.4	57.3	61.5	66.0	70.8	76.0	81.6	
% Change YoY	-	*-16.9%*	*0.8%*	*31.9%*	*13.4%*	*7.3%*	*7.3%*	*7.3%*	*7.3%*	*7.3%*	*7.3%*	*7.3%*
Deferred income	58.2	68.0	47.3	34.1	48.7	48.9	49.0	49.2	49.3	49.5	49.7	
% Change YoY	-	*16.8%*	*-30.4%*	*-27.9%*	*42.8%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*
Income tax liabilities	10.6	16.6	32.7	46.9	40.7	50.1	61.5	75.7	93.1	114.5	140.8	
% Change YoY	-	*56.6%*	*97.0%*	*43.4%*	*-13.2%*	*23.0%*	*23.0%*	*23.0%*	*23.0%*	*23.0%*	*23.0%*	*23.0%*
Other tax liabilities	7.9	13.7	8.1	3.3	9.6	11.2	13.0	15.1	17.5	20.4	23.7	
% Change YoY	-	*73.4%*	*-40.9%*	*-59.3%*	*190.9%*	*16.3%*	*16.3%*	*16.3%*	*16.3%*	*16.3%*	*16.3%*	*16.3%*
Employee benefit obligations	38.0	31.6	38.7	48.9	59.1	66.9	75.7	85.8	97.1	109.9	124.4	
% Change YoY	-	*-16.8%*	*22.5%*	*26.4%*	*20.9%*	*13.2%*	*13.2%*	*13.2%*	*13.2%*	*13.2%*	*13.2%*	*13.2%*
Total:	**157.3**	**165.3**	**162.5**	**180.3**	**211.5**	**234.3**	**260.8**	**291.7**	**327.9**	**370.3**	**420.1**	
Net Operating WC	**14.6**	**29.5**	**52.4**	**46.7**	**19.4**	**28.8**	**40.3**	**54.2**	**71.1**	**91.5**	**116.1**	
Current Assets	210.7	249.9	299.8	356.7	365.8	420.8	484.0	556.7	640.4	736.6	847.3	
% Change YoY	-	*18.6%*	*20.0%*	*19.0%*	*2.6%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*
Current Liabilites	176.7	200.6	177.0	197.2	231.0	248.5	267.3	287.6	309.4	332.8	358.1	
% Change YoY	-	*13.5%*	*-11.8%*	*11.4%*	*17.1%*	*7.6%*	*7.6%*	*7.6%*	*7.6%*	*7.6%*	*7.6%*	*7.6%*
Net Working Capital	**34.0**	**49.3**	**122.8**	**159.5**	**134.8**	**172.3**	**216.6**	**269.1**	**331.0**	**403.7**	**489.2**	
Net Change in Working Capital	**0.0**	**15.3**	**73.5**	**36.7**	**-24.7**	**37.5**	**44.4**	**52.5**	**61.9**	**72.8**	**85.5**	

APPENDIX D – DCF Base Scenario

Alter Domus

EURO (mm)		Dec 31, '19	Dec 31, '20	Dec 31, '21	Dec 31, '22	Dec 31, '23	1 Dec 31, '24	2 Dec 31, '25	3 Dec 31, '26	4 Dec 31, '27	5 Dec 31, '28	6 Terminal
Net Revenue		322	366	464	605	715	846	1,006	1,208	1,449	1,739	1,769
% Revenue Growth Rate		*na*	*13.6%*	*27.0%*	*30.2%*	*18.3%*	*18.3%*	*19.0%*	*20.0%*	*20.0%*	*20.0%*	*1.8%*
Direct costs		(134)	(151)	(196)	(271)	(327)	(387)	(460)	(552)	(647)	(757)	(750)
Gross Profit		**188.2**	**215.0**	**268.4**	**333.4**	**388.0**	**458.9**	**546.1**	**655.3**	**802.1**	**981.8**	**1,019.0**
Gross Profit Margin %		*58.5%*	*58.8%*	*57.8%*	*55.2%*	*54.3%*	*54.3%*	*54.3%*	*54.3%*	*55.4%*	*56.5%*	*57.6%*
Overheads		(114)	(130)	(150)	(211)	(221)	(286)	(340)	(408)	(490)	(588)	(598)
% Overheads	***33.8%***	*35.4%*	*35.5%*	*32.3%*	*34.9%*	*30.8%*	*34%*	*34%*	*34%*	*34%*	*34%*	*34%*
Other operating income		0.3	0.7	0.8	1.6	3.9	2.1	2.5	3.0	3.7	4.4	4.5
% Operating Income	***0.3%***	*0.1%*	*0.2%*	*0.2%*	*0.3%*	*0.5%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*
Earnings Before Interest, Tax, Depreciation & Amortisation (EBITDA)		**74.51**	**85.85**	**119.20**	**123.80**	**171.4**	**202.7**	**246.3**	**289.5**	**354.6**	**416.9**	**433.0**
EBITDA Margin %		*23.2%*	*23.5%*	*25.7%*	*20.5%*	*24.0%*	*24.0%*	*24.5%*	*24.0%*	*24.5%*	*24.0%*	*24.5%*
Depreciation & Amortisation		(30)	(33)	(47)	(56)	(69)	(80)	(96)	(115)	(138)	(165)	(168)
% D&A	***9.5%***	*9.5%*	*9.0%*	*10.2%*	*9.2%*	*9.7%*	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%
Other Losses		(0.8)	(1.9)	(0.7)	(0.5)	(0.1)	(1.7)	(2.1)	(2.5)	(3.0)	(3.6)	(3.6)
% Other losses	***0.2%***	*0.3%*	*0.5%*	*0.2%*	*0.1%*	*0.0%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
Earnings Before Interest & Taxes (EBIT)		**43.22**	**51.16**	**71.10**	**67.80**	**102.20**	**120.68**	**148.64**	**172.33**	**214.05**	**248.16**	**261.35**
EBIT Margin %		*13.4%*	*14.0%*	*15.3%*	*11.2%*	*14.3%*	*13.7%*	*14.6%*	*15.6%*	*16.7%*	*17.9%*	*19.1%*
Income Tax		(8.7)	(3.5)	(21.5)	(24.6)	(8.2)	(30.1)	(37.1)	(43.0)	(53.4)	(61.9)	(65.2)
Effective Income Tax Rate %		*20.1%*	*6.8%*	*30.2%*	*36.3%*	*8.0%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*
Net Operating Profit After Tax (NOPAT)		**34.5**	**47.7**	**49.6**	**43.2**	**94.0**	**90.6**	**111.6**	**129.4**	**160.7**	**186.3**	**196.2**
NOPAT %		*10.7%*	*13.0%*	*10.7%*	*7.1%*	*13.1%*	*10.7%*	*11.1%*	*10.7%*	*11.1%*	*10.7%*	*11.1%*
Depreciation & Amortisation		30	33	47	56	69	80	96	115	138	165	168
	% Revenue	*5.5%*	*4.2%*	*4.2%*	*3.9%*	*5.0%*	*4.6%*	*4.6%*	*4.6%*	*4.6%*	*4.6%*	*4.6%*
Capital Expenditures	4.6%	(18)	(15)	(20)	(23)	(36)	(39)	(46)	(55)	(66)	(79)	(81)
Working Capital Balance		*34.0*	*49.3*	*122.8*	*159.5*	*134.8*	*161.9*	*192.7*	*231.2*	*277.5*	*332.9*	*338.8*
Balance as % of Revenue	***19.1%***	*10.6%*	*13.5%*	*26.4%*	*26.4%*	*18.9%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*
Net Change in Working Capital		-	15.3	73.5	36.7	(24.7)	37.5	44.4	52.5	61.9	72.8	85.5
Free Cash Flow to Firm		**47.2**	**50.0**	**3.9**	**38.7**	**151.9**	**94.9**	**116.9**	**136.6**	**170.4**	**199.4**	
	11.4%	*14.7%*	*13.7%*	*0.8%*	*6.4%*	*21.2%*	*11.2%*	*11.6%*	*11.3%*	*11.8%*	*11.5%*	
Terminal Value												**6,652**
Discount Period	*WACC*						*1*	*2*	*3*	*4*	*5*	*6*
Present Value Factor	4.8%						0.95	0.91	0.87	0.83	0.79	0.79
Present Value of Free Cash Flow to Firm							**90.6**	**106.4**	**118.6**	**141.3**	**157.7**	**5,261.4**

Present Value of Explicit Period Cash Flows	614.7
Present Value of Terminal Cash Flow	5,261.4
Indicated Enterprise Value from Operations	5,876.1
Minority Interest	0.5
Net Cash (Debt)	(517.2)
Equity Value	**5,359.4**
Number of shares outstanding	330.1
Implied share price	16.24 €

Terminal Growth Rate	1.8%
Residual Value at Terminal Year	6,652
Present Value Factor	0.79
Present Value of Terminal Cash Flow	**5,261**

Implied Enterprise Value from Operations Multiples:

FYE 2029 EV / Ebitda Multiple	13.6 x
FYE 2029 EV / Revenue Multiple	3.3 x

APPENDIX E – DCF and Sensitivity Best Scenario

Alter Domus

EURO (mm)			Dec 31, '19	Dec 31, '20	Dec 31, '21	Dec 31, '22	Dec 31, '23	1 Dec 31, '24	2 Dec 31, '25	3 Dec 31, '26	4 Dec 31, '27	5 Dec 31, '28	6 Terminal
Net Revenue			322	366	464	605	715	874	1,079	1,343	1,690	2,147	2,190
% Revenue Growth Rate			*na*	*13.6%*	*27.0%*	*30.2%*	*18.3%*	*22.3%*	*23.4%*	*24.6%*	*25.8%*	*27.1%*	*2.0%*
Direct costs			(134)	(151)	(196)	(271)	(327)	(377)	(434)	(501)	(608)	(746)	(732)
Gross Profit			**188.2**	**215.0**	**268.4**	**333.4**	**388.0**	**497.5**	**644.5**	**842.9**	**1,081.3**	**1,401.5**	**1,458.1**
Gross Profit Margin %			*58.5%*	*58.8%*	*57.8%*	*55.2%*	*54.3%*	*56.9%*	*59.8%*	*62.7%*	*64.0%*	*65.3%*	*66.6%*
Overheads			(114)	(130)	(150)	(211)	(221)	(296)	(365)	(454)	(571)	(726)	(740)
% Overheads		*33.8%*	*35.4%*	*35.5%*	*32.3%*	*34.9%*	*30.8%*	*34%*	*34%*	*34%*	*34%*	*34%*	*34%*
Other operating income			0.3	0.7	0.8	1.6	3.9	2.2	2.7	3.4	4.3	5.4	5.5
% Operating Income		*0.3%*	*0.1%*	*0.2%*	*0.2%*	*0.3%*	*0.5%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*
Earnings Before Interest, Tax, Depreciation & Amortisation (EBITDA)			**74.51**	**85.85**	**119.20**	**123.80**	**171.4**	**214.4**	**277.7**	**363.2**	**466.0**	**604.0**	**628.4**
EBITDA Margin %			*23.2%*	*23.5%*	*25.7%*	*20.5%*	*24.0%*	*24.5%*	*25.7%*	*27.0%*	*27.6%*	*28.1%*	*28.7%*
Depreciation & Amortisation			(30)	(33)	(47)	(56)	(69)	(83)	(102)	(128)	(160)	(204)	(208)
% D&A		*9.5%*	*9.5%*	*9.0%*	*10.2%*	*9.2%*	*9.7%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*
Other Losses			(0.8)	(1.9)	(0.7)	(0.5)	(0.1)	(1.8)	(2.2)	(2.7)	(3.5)	(4.4)	(4.5)
% Other losses		*0.2%*	*0.3%*	*0.5%*	*0.2%*	*0.1%*	*0.0%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
Earnings Before Interest & Taxes (EBIT)			**43.22**	**51.16**	**71.10**	**67.80**	**102.20**	**129.57**	**173.09**	**232.89**	**302.06**	**395.66**	**415.89**
EBIT Margin %			*13.4%*	*14.0%*	*15.3%*	*11.2%*	*14.3%*	*14.3%*	*16.4%*	*18.9%*	*21.7%*	*25.0%*	*28.7%*
Income Tax			(8.7)	(3.5)	(21.5)	(24.6)	(8.2)	(32.3)	(43.2)	(58.1)	(75.3)	(98.7)	(103.7)
Effective Income Tax Rate %			*20.1%*	*6.8%*	*30.2%*	*36.3%*	*8.0%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*
Net Operating Profit After Tax (NOPAT)			**34.5**	**47.7**	**49.6**	**43.2**	**94.0**	**97.3**	**129.9**	**174.8**	**226.7**	**297.0**	**312.2**
NOPAT %			*10.7%*	*13.0%*	*10.7%*	*7.1%*	*13.1%*	*11.1%*	*12.0%*	*13.0%*	*13.4%*	*13.8%*	*14.3%*
Depreciation & Amortisation			30	33	47	56	69	83	102	128	160	204	208
	% Revenue		*5.5%*	*4.2%*	*4.2%*	*3.9%*	*5.0%*	*5.0%*	*5.5%*	*5.5%*	*5.5%*	*5.5%*	*5.5%*
Capital Expenditures	4.6%		(18)	(15)	(20)	(23)	(36)	(44)	(59)	(74)	(93)	(118)	(120)
Working Capital Balance			*34.0*	*49.3*	*122.8*	*159.5*	*134.8*	*167.4*	*206.5*	*257.2*	*323.5*	*411.1*	*419.3*
Balance as % of Revenue		*19.1%*	*10.6%*	*13.5%*	*26.4%*	*26.4%*	*18.9%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*
Net Change in Working Capital			-	15.3	73.5	36.7	(24.7)	37.5	44.4	52.5	61.9	72.8	85.5
Free Cash Flow to Firm			**47.2**	**50.0**	**3.9**	**38.7**	**151.9**	**98.9**	**128.7**	**176.0**	**232.4**	**310.0**	
		11.4%	*14.7%*	*13.7%*	*0.8%*	*6.4%*	*21.2%*	*11.3%*	*11.9%*	*13.1%*	*13.8%*	*14.4%*	
Terminal Value													**11,292**
Discount Period	*WACC*							*1*	*2*	*3*	*4*	*5*	*6*
Present Value Factor	4.8%							0.95	0.91	0.87	0.83	0.79	0.79
Present Value of Free Cash Flow to Firm								**94.4**	**117.1**	**152.9**	**192.7**	**245.2**	**8,932.1**

Present Value of Explicit Period Cash Flows	802.4
Present Value of Terminal Cash Flow	8,932.1
Indicated Enterprise Value from Operations	9,734.5
Minority Interest	0.5
Net Cash (Debt)	(517.2)
Equity Value	**9,217.8**
Number of shares outstanding	330.1
Implied share price	27.93 €

Terminal Growth Rate	2.0%
Residual Value at Terminal Year	11,292
Present Value Factor	0.79
Present Value of Terminal Cash Flow	**8,932**

Implied Enterprise Value from Operations Multiples:

FYE 2029 EV / Ebitda Multiple	15.5 x
FYE 2029 EV / Revenue Multiple	4.4 x

Enterprise Value Sensitivity

Terminal Growth Rate \ WACC	3.9%	4.3%	4.80%	5.3%	5.8%
1.6%	12,304.2	10,258.2	8,638.1	7,444.1	6,447.9
1.8%	13,315.5	10,950.4	9,122.8	7,800.6	6,713.1
2.00%	14,665.2	11,845.6	9,734.5	8,242.6	7,037.2
2.2%	16,334.7	12,909.6	10,440.3	8,742.0	7,397.1

Implied Share Price Sensitivity

Terminal Growth Rate \ WACC	3.9%	4.3%	4.80%	5.3%	5.8%
1.6%	35.71 €	29.51 €	24.61 €	20.99 €	17.97 €
1.8%	38.78 €	31.61 €	26.08 €	22.07 €	18.77 €
2.00%	42.87 €	34.32 €	27.93 €	23.41 €	19.76 €
2.2%	47.93 €	37.55 €	30.07 €	24.92 €	20.85 €

APPENDIX F – DCF and Sensitivity Worst Scenario

Alter Domus

EURO (mm)			Dec 31, '19	Dec 31, '20	Dec 31, '21	Dec 31, '22	Dec 31, '23	1 Dec 31, '24	2 Dec 31, '25	3 Dec 31, '26	4 Dec 31, '27	5 Dec 31, '28	6 Terminal
Net Revenue			322	366	464	605	715	803	895	998	1,113	1,240	1,259
% Revenue Growth Rate			*na*	*13.6%*	*27.0%*	*30.2%*	*18.3%*	*12.2%*	*11.5%*	*11.5%*	*11.5%*	*11.5%*	*1.5%*
Direct costs			(134)	(151)	(196)	(271)	(327)	(454)	(506)	(565)	(630)	(702)	(712)
Gross Profit			**188.2**	**215.0**	**268.4**	**333.4**	**388.0**	**348.4**	**388.5**	**433.2**	**483.0**	**538.5**	**546.6**
Gross Profit Margin %			*58.5%*	*58.8%*	*57.8%*	*55.2%*	*54.3%*	*43.4%*	*43.4%*	*43.4%*	*43.4%*	*43.4%*	*43.4%*
Overheads			(114)	(130)	(150)	(211)	(221)	(271)	(302)	(337)	(376)	(419)	(426)
% Overheads		***33.8%***	*35.4%*	*35.5%*	*32.3%*	*34.9%*	*30.8%*	*34%*	*34%*	*34%*	*34%*	*34%*	*34%*
Other operating income			0.3	0.7	0.8	1.6	3.9	2.0	2.3	2.5	2.8	3.1	3.2
% Operating Income		***0.3%***	*0.1%*	*0.2%*	*0.2%*	*0.3%*	*0.5%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*	*0.3%*
Earnings Before Interest, Tax, Depreciation & Amortisation (EBITDA)			**74.51**	**85.85**	**119.20**	**123.80**	**171.4**	**173.2**	**173.8**	**174.4**	**175.0**	**175.6**	**160.4**
EBITDA Margin %			*23.2%*	*23.5%*	*25.7%*	*20.5%*	*24.0%*	*21.6%*	*19.4%*	*17.5%*	*15.7%*	*14.2%*	*12.7%*
Depreciation & Amortisation			(30)	(33)	(47)	(56)	(69)	(76)	(85)	(95)	(106)	(118)	(120)
% D&A		***9.5%***	*9.5%*	*9.0%*	*10.2%*	*9.2%*	*9.7%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*	*9.5%*
Other Losses			(0.8)	(1.9)	(0.7)	(0.5)	(0.1)	(1.6)	(1.8)	(2.0)	(2.3)	(2.5)	(2.6)
% Other losses		***0.2%***	*0.3%*	*0.5%*	*0.2%*	*0.1%*	*0.0%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
Earnings Before Interest & Taxes (EBIT)			**43.22**	**51.16**	**71.10**	**67.80**	**102.20**	**95.29**	**86.94**	**77.56**	**67.04**	**55.24**	**38.25**
EBIT Margin %			*13.4%*	*14.0%*	*15.3%*	*11.2%*	*14.3%*	*11.4%*	*11.8%*	*12.1%*	*12.5%*	*12.9%*	*13.3%*
Income Tax			(8.7)	(3.5)	(21.5)	(24.6)	(8.2)	(23.8)	(21.7)	(19.3)	(16.7)	(13.8)	(9.5)
Effective Income Tax Rate %			*20.1%*	*6.8%*	*30.2%*	*36.3%*	*8.0%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*	*24.9%*
Net Operating Profit After Tax (NOPAT)			**34.5**	**47.7**	**49.6**	**43.2**	**94.0**	**71.5**	**65.3**	**58.2**	**50.3**	**41.5**	**28.7**
NOPAT %			*10.7%*	*13.0%*	*10.7%*	*7.1%*	*13.1%*	*8.9%*	*7.3%*	*5.8%*	*4.5%*	*3.3%*	*2.3%*
Depreciation & Amortisation			30	33	47	56	69	76	85	95	106	118	120
	% Revenue		*5.5%*	*4.2%*	*4.2%*	*3.9%*	*5.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
Capital Expenditures	4.6%		(18)	(15)	(20)	(23)	(36)	(32)	(36)	(40)	(45)	(50)	(51)
Working Capital Balance			*34.0*	*49.3*	*122.8*	*159.5*	*134.8*	*153.7*	*171.3*	*191.0*	*213.0*	*237.5*	*241.1*
Balance as % of Revenue		***19.1%***	*10.6%*	*13.5%*	*26.4%*	*26.4%*	*18.9%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*	*19.1%*
Net Change in Working Capital			-	15.3	73.5	36.7	(24.7)	37.5	44.4	52.5	61.9	72.8	85.5
Free Cash Flow to Firm			**47.2**	**50.0**	**3.9**	**38.7**	**151.9**	**78.1**	**69.9**	**60.4**	**49.4**	**36.7**	
		11.4%	*14.7%*	*13.7%*	*0.8%*	*6.4%*	*21.2%*	*9.7%*	*7.8%*	*6.1%*	*4.4%*	*3.0%*	
Terminal Value													**1,128**
Discount Period	*WACC*							*1*	*2*	*3*	*4*	*5*	*6*
Present Value Factor	4.8%							0.95	0.91	0.87	0.83	0.79	0.79
Present Value of Free Cash Flow to Firm								**74.5**	**63.7**	**52.5**	**41.0**	**29.0**	**892.2**

Present Value of Explicit Period Cash Flows	260.6
Present Value of Terminal Cash Flow	892.2
Indicated Enterprise Value from Operations	1,152.9
Minority Interest	0.5
Net Cash (Debt)	(517.2)
Equity Value	**636.2**
Number of shares outstanding	330.1
Implied share price	1.93 €

Terminal Growth Rate	1.5%
Residual Value at Terminal Year	1,128
Present Value Factor	0.79
Present Value of Terminal Cash Flow	**892**

Implied Enterprise Value from Operations Multiples:

FYE 2029 EV / Ebitda Multiple	7.2 x
FYE 2029 EV / Revenue Multiple	0.9 x

Enterprise Value Sensitivity

Terminal Growth Rate \ WACC	3.9%	4.3%	4.80%	5.3%	5.8%
1.2%	1,414.1	1,231.3	1,079.6	963.6	863.7
1.4%	1,476.7	1,276.6	1,112.8	988.8	883.0
1.50%	1,554.6	1,332.1	1,152.9	1,018.9	905.9
1.7%	1,642.9	1,393.7	1,196.7	1,051.6	930.4

Implied Share Price Sensitivity

Terminal Growth Rate \ WACC	3.9%	4.3%	4.80%	5.3%	5.8%
1.2%	2.72 €	2.17 €	1.71 €	1.35 €	1.05 €
1.4%	2.91 €	2.30 €	1.81 €	1.43 €	1.11 €
1.50%	3.14 €	2.47 €	1.93 €	1.52 €	1.18 €
1.7%	3.41 €	2.66 €	2.06 €	1.62 €	1.25 €

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Bibliography

- H. Kent Baker, Greg Filbeck Kiymaz (2015), Private Equity: Opportunities and Risks, Oxford University Press.
- Stefano Caselli, Giulia Negri (2010), Private Equity and Venture Capital in Europe, Academic Press.
- Cyril Demaria (2015), Private Equity Funds Investment – New Insights on Alignment of Interests, Governance, Returns and Forecasting, Palgrave Macmillan.
- Ulf Axelson, Per Stromberg, Michael S. Weichbach (2009), "Why are Buyouts Levered? The Financial Structure of Private Equity Funds", The Journal of Finance, Vol. 64, pp. 1549-1582.
- João Leitão, Dina Pereira, Ângela Gonçalves (2022), "Business Incubators, Accelerators, and Performance of Technology-Based Ventures: A Systematic Literature Review", Journal of Open Innovation: Technology, Market, and Complexity, Vol. 8, pp 1-18.
- European Venture Capital Association (EVCA), Investing in Europe, Private Equity Activity 2023.
- Aswath Damodaran (2012), Investment Valuation – Tools and Techniques for Determining the Value of Any Asset, Wiley Finance.
- Krzysztof Dziekoński, Sławomir Ignatiuk (2015), "Venture Capital and Private Equity Investment preferences in selected countries", e-Finanse, Vol. 11, pp 128-137.
- Alan Jeffries and Adrianne Jeffries, "Why Coal Companies Love Bankruptcy", Bloomberg, 2022.
- Jay R. Ritter, Ivo Welch (2002), "A Review of IPO Activity, Pricing, and Allocations", The Journal of Finance, Vol. 57, pp. 1795-1828.
- Elizabeth Blankespoon, Bradley E. Hendricks, Gregory S. Miller (2023), "The Pitch: Managers' Disclosure Choice during Initial Public Offering Roadshows" The Accounting Review, Vol. 98, pp. 1-29.
- Bhagwan Chowdhry, Vikam Nanda (1996), "Stabilization, Syindication, and Pricing of IPOs", Journal of Financial and Quantitative Analysis, Vol. 31, pp 23-42.
- Khelifa Mazouza, Sam Agyei-Ampomahb, Brahim Saadounic, Shuxing Yin (2012), "Stabilization and the aftermarket prices of initial public offerings", Review of Quantitative Finance and Accounting, pp. 1-33.
- Dhruv A Thaker (2022), "Green shoe option, the post-issue stabilizing mechanism", The Institute of Company Secretaries of India, pp 1-12.

- Introduction to Private Equity (2022), Goldman Sachs Asset Management, Alternative Investments.
- Paul Pignataro, (2013), Financial Modeling & Valuation – A Practical Guide to Investment Banking and Private Equity, Wiley Finance.
- International Private Equity and Venture Capital Valuation (IPEV) Guidelines, December 2022.
- Alter Domus Annual Report 2023.
- Alter Domus Company Presentation (2024).
- S&P Capital IQ, Alter Domus, Quick Comparable Analysis, Operating Statistics,
- S&P Capital IQ, Alter Domus, Quick Comparable Analysis, Trading Multiples.

Webliography

- "Venture Capital" and "Business Angel", Investopedia, https://www.investopedia.com/.
- "The IPO Process", Corporate Finance Institute, https://corporatefinanceinstitute.com/.
- "What Is a Red Herring? Definition, Meaning, Benefits, and Example", Investopedia, https://www.investopedia.com/.
- "Book Building", Investopedia, https://www.investopedia.com/.
- "The J Curve", Corporate Finance Institute, https://corporatefinanceinstitute.com/.
- "Portfolio Company", Corporate Finance Institute, https://corporatefinanceinstitute.com/.
- "Cost of Debt: What It Means and Formulas", Investopedia, https://www.investopedia.com/.
- "Weighted Average Cost of Capital (WACC): Definition and Formula", Investopedia, https://www.investopedia.com/.
- "Comparable Company Analysis (CCA): How Is It Used in Investing?", Investopedia, https://www.investopedia.com/.
- "Global Private Equity Report 2024", Bain & Company, https://www.bain.com/.
- "Permira Agrees Partial Monetisation of Alter Domus", Permira, https://www.permira.com/.
- PWC, Corporate Tax Rates, https://taxsummaries.pwc.com/luxembourg/corporate/taxes-on-corporate-income.
- Aswath Damodaran, Discount Rate Estimation, Country and Equity Risk Premiums, Capital Structure, Synthetic Rating Estimation, https://pages.stern.nyu.edu/~adamodar/.