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Leveraged Buyouts in Private Equity: A Capital Structure Analysis in the TMT Sector

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Introduction

"Capital structure is not merely a financial configuration, it is a strategic instrument that shapes risk, return, and control throughout the life of a leveraged buyout." A strong quote from Modigliani & Miller, Jensen, which inspired the whole topic of this thesis and pushed it to delve into the intrinsic world of LBOs and their capital structure. The logic behind this classic overture bears surprising similarities with the forces at play in a leveraged buyout. In both cases, intense negotiation pressure, design control, and power asymmetry are critical in fashioning the outcome. In the financial markets, leveraged buyouts (LBOs) are now one of the most sophisticated and disruptive forms of corporate acquisition, debt, equity, and operating enhancement mixed together to fashion multiple multiples of value above what typical M&A can typically accomplish.

The dissertation touches upon the application of capital structure to leveraged buyouts, the determinants of deal finance, and the way they yield investment returns. The research is particularly timely given recent developments in the private equity industry of aggressive competition, increasing interest rates, and expanding multiples of valuations compelling investors to challenge traditional means of creating value. As precise as is the theoretical understanding under which the mechanics of LBO are explained, evidence of the optimal level of leverage and its marginal effect on returns is refined and sometimes contradictory.

The purpose of this thesis is twofold. Firstly, to offer an extended review of the way capital structure decision affects the dynamics of LBO transactions, synthesizing theoretical foundations with industry practice. Secondly, to examine empirically a universe of actual buyout deals in the Technology, Media and Telecommunications (TMT) sector with the objective of exploring the relationship between financial leverage—in terms of Net Debt/EBITDA multiples—and equity returns, proxied by the MOIC (Multiple on Invested Capital). Particular focus is given to the search for evidence of a "sweet spot" in leverage multiples, and whether entry multiples and operating characteristics act as mediators of the impact of funding structure on ultimate performance.

Methodologically, the research is hybrid with the first half qualitative in character and based on an exhaustive review of academic studies, practitioner reports, and classic case studies. The second half is quantitative in character with the use of a cleansed data set of LBO deals from LSEG Workspace and Mergermarket, and statistical regression analysis and graphical interpretation. Special attention is given to the construction of proxies, cleansing of the data, and cross-validation with the documented deal outcomes.

The sequence is as follows:
Chapter 1 - presents the theoretical framework of private equity and LBOs as well as the principles of leverage and the related risks.

Chapter 2 - examines the strategic implications of capital structure and determines the determinants of deal finance in different situations.

Chapter 3 - is an in-depth analysis of a landmark LBO of the TMT sector that transformed market perceptions and demonstrates the mechanisms outlined.

Chapter 4 - contains the empirical analysis, discusses limitations in methodology, and translates findings in the light of the research inquiry.

CHAPTER I – LEVERAGED BUYOUTS IN PRIVATE EQUITY

1.1 What is Private Equity?

[1]Private equity (PE) is an active, multi-type of financial intermediation in which equity stakes in non-public firms are acquired, generally with intent to remediate, professionalize governance, improve performance, and contemplate higher returns through eventual exit events. Though early-stage venture capital is part of the larger universe of private equity, this chapter is concerned with later-stage buyouts, and particularly with leveraged buyouts (LBOs), as these are now by far the dominant form of Private Equity deals and have emerged preeminent in academic controversy as well as regulation. In a standard buyout, a PE organization acquires control over an object business by leveraging their own equity with massive amounts of debt, which is generally secured by cash flows as well as assets in the acquired business (Wood and Wright, 2009). The PE sponsor takes active control by intervening in governance directly, in most cases through board seats, and by imposing responsibility over managers through performance contracts, incentive design, and active monitoring. Actors in a Private Equity transaction include: (1) the Limited Partners (LPs), pension funds, insurance companies, and endowments that provide capital but have minimal governing authority; (2) the General Partners (GPs), i.e., the PE organizations themselves, which raise capital, structure deals, and exercise governing authority over portfolio firms; (3) managers in portfolio companies, who are retained or replaced and are generally incentivized through equity-based incentives; and (4) providers of debt, from banks to institutional investors, who mediate the leveraged part of the buyout and negotiate loan covenants in order to satisfy risk. The emergence of PE as an asset class is one source of rich theoretical interpretations attempting to understand both mechanism and implications. Rational-incentive theory and agency theory (Jensen, [2]1986; Jensen & Meckling, 1976) dominate, in which the core objective is to align misalignments between managers and owners by applying discipline through debt and equity incentives to maximize value. According to this perspective, PE

[1] *Pignataro, P. (2013). Leveraged Buyouts: A Practical Guide to Investment Banking and Private Equity. Hoboken, New Jersey: John Wiley & Sons.*

[2] *Loos, N. (2006). Value Creation in Leveraged Buyouts: Analysis of Factors Driving Private Equity Investment Performance. Deutscher Universitäts-Verlag.*

deals are property-maximizing institutional arrangements minimizing free cash flow inefficiencies, imposing market discipline on governance, and maximizing property rights (La Porta et al., 1998). The rationalist framework, however, increasingly is supplemented, and challenged, by socio-economic, as well as by institutional frameworks such as theory of the Varieties of Capitalism (VOC) (Hall & Soskice, 2001), which hold that PE investment outcomes are extremely context-dependent and embedded in national institution frameworks. This strand of thought is premised upon complementarity as well as institutional variety, with arrangements of governance as well as property rights to be interpreted in their wider political-economic context (Goergen et al., 2006). The third widely endorsed framework is theory of financialization (Froud et al., 2007), which problematizes critically how PE, and other forms of financial intermediation, distributed economic value in the direction of capital holders at the cost of labor, public responsibility, as well as long-run innovation. According to this perspective, PE is used as an apparatus for value extraction (Froud & Williams, 2007), with an accent upon financing re-engineering as well as short-run capital rewards in preference to productive improvement sustained over the long term. Empirically, private equity's role is multifaceted as well as complex. On one hand, buy-outs are broadly associated with improved operational performance, more stringent capital discipline, as well as improved profitability, especially in those environments in which managerial slack or agency costs hitherto had prevailed (Kaplan, 1989; Wright et al., 2007). In another area, PE ownership is blamed for employment reductions, pay compression, and general loss of worker protections, especially in organized market economies where PE governance is inimical to prevalent social compacts (Amess and Wright, 2007; Wood et al., 2004). Differentiation is to be made, however, between more benign employment consequences in management buyouts (MBOs) through continuity in insider knowhow, in comparison with more disruptive outsider dominance in management buy-ins and LBOs with more radical restructuring with them associated [3]with (Robbie and Wright, 1995). The problem is compounded by performance heterogeneity cross-bounds: where American and British studies will highlight PE's efficiency gains as much as investor returns, continental European studies are more equivocal with bounds imposed by institutional stickiness as

[3] *Kaplan, S. N. (1989). "The Effects of Management Buyouts on Operating Performance and Value." Journal of Financial Economics, 24(2), 217-254.*

much as regulation of worker rights. Not less important, investor returns are also heterogeneous and experience-dependent in funds, timing, leverage, as much as exit strategy. Superior performing funds with greater experience matched with more favourable macro circumstances will yield greater risk-adjusted returns (Kaplan and Schoar, 2005), even if gross returns are watered down by high charges with asymmetric access to good funds. Macro-wise, PE is said to be an instrument of systemic experimentation—not constructively nor extractive in itself, but one where effect will depend upon how power is wielded along social, institution, as much as temporal axes (Wood et al., 2008). Overall, in order to grasp how private equity works, there is to be an integrated frame of reference crossing finance, economics, institution theory, as much as political economy. It is governed not only by capital deployment, but also by shifting forms of ownership, control, and negotiation among stakeholders with deeply asymmetrical effects upon players, industries, and national models. Private Equity (PE) players play a multifaceted and central part in Leveraged Buyouts (LBOs), not only shaping the financial deal structure but also the governance, strategic agenda, and ultimate outcome. The key distinction between an LBO and typical M&A resides precisely in the nature and conduct of the acquirer: strategic acquirers pursue industrial synergies or expansion, while PE sponsors are experienced financial intermediaries with top-drawer deal structuring abilities coupled with intense post-transaction operations. Far from financial deal, the LBO entails a meticulously engineered organization and governance structure in which the PE players work towards maximizing value extraction from the target firm over a predetermined investment time horizon. At the core of the dynamic is the art of the PE sponsor in building layers of sophisticated financing arrangements, blending iterative layers of debt, senior, subordinated, mezzanine, and typically PIK (Payment-In-Kind) instruments, with a comparatively modest equity contribution, typically between 20% and 40% of the firm [4]value (Larreur, 2021). The capital structure capitalizes on the return on equity (ROE) but thus exposes the firm to financial discipline through the sheer necessity of debt servicing. Beyond capital injection, however, PE players exert an unprecedented influence through their governance. PE players intervene aggressively in portfolio businesses, install members

[4] *Demiroglu, C., & James, C. (2010). "The Role of Private Equity Group Reputation in LBO Financing." Journal of Financial Economics*

on the board of directors, enforce strategic refocusing, and link managerial incentives with financial success, often through equity-based incentive programs (Jensen, 1989). This interventionism contrasts with typical M&A deals where acquirers avoid disrupting incumbent managerial habits and corporate culture.

Additionally, of relevance in explaining the success of PE intervention is the credibility of the Private Equity Group (PEG) and its immediate impact on the financial conditions of the debt deal and later post-deal operational success. Credit-worthy PEGs, as indicated by Demiroglu & James (2010), are systematically associated with tighter loan spreads, higher maturities, higher leverage ratios, and less restrictive covenant conditions. This occurs because lenders perceive credible PE sponsors as lower-ex-ante-risk partners not only due to their higher quality of investment screening but also due to their ability to contribute further equity in distress cases, thus reducing the probability of default ex-ante. This complements evidence reported by Kaplan & Schoar (2005) that the time persistence of performance of larger and matured PE funds provides them with reputational capital that gives them more bargaining strength over lenders and sellers. Furthermore, PEG credibility encompasses credit market timing skill: credible PE sponsors will increase their LBO volume when credit market over-enthusiasm occurs and the spreads tighten and leverage becomes less expensive (Axelson et al., 2007). This strategic adaptability gives PE firms the scope for exploiting market inefficiencies through structuring higher-leverage deals when debt becomes cheaper and getting out of credit crunches, as opposed to strategic acquirers whose incentives are typically operational irrespective of the time.

Having a solid PEG reduces firm agency costs: As argued by Diamond (1989), lenders' monitoring gives way to the mechanisms of governance exercised by credible sponsors. For practical purposes, that reduces the usage of conventional covenant-backed bank loans and increases the usage of institutional loans, freeing up the borrower with higher flexibility (Demiroglu & James, 2010). Also, there are findings that buyouts by credible PEGs have significantly lower probable cases of financial distress following the deal, as their optimum styles of governance, operational skills, and monitoring mechanisms act like an effective preventative of underperformance and market volatilities. Firm-level, PE houses instil fresh governance logic into their portfolio businesses, with leaner but active boards, frequent submission of report, and close monitoring of operational metrics like cash conversion cycle, EBITDA margin, and working capital efficiency (Watson, 2007).

That "PE model of governance" contrasts with public company dispersion of ownership, replacing shareholder passivity with active monitoring and prompt decision-making.
[5]

1.2 Private Equity Funds Structure

Private equity funds are highly organized and sophisticated alternative investment vehicles and are an integral part of the very fabric of business financing with their dual role of financial intermediaries and agents of governance. Their presence has been scaled up in international markets by their size, with more than a trillion dollars managed globally and nearly two-thirds made of up of buyout funds (Metrick & Yasuda, 2010). Internal economics of the funds have to be well understood to understand their role in the overall fiscal system. Private equity funds are organized in the general framework of limited partnerships in which general partners (GPs) manage the fund and limited partners (LPs) invest the majority of the funds. This structure gives a clean line of responsibilities where the GPs are active investors and not mere financial sponsors, but operating agents that directly get involved in the governance and strategic issues of the portfolio companies. A typical life of a private equity fund is nearly a decade, divided by a stage of fundraising, followed by a stage of investments, monitoring and value creation stage, and stage of exit. Fundraising is the initial stage where the GPs pitch their funds to institutional investors, endowments, pension plans, and wealthy individuals. LPs' commitments at this stage are not invested immediately but are drawn down over some time horizon by when the investment opportunities are actualized. This vehicle, or mechanism, known as committed capital, distinguishes the private equity funds with typical schemes of investment like mutual funds where the money is committed outright. After the fundraising stage is over, investments stage generally encompasses the initial five years of life of the fund. All this while, the GPs are striking deals, conducting due diligence, arranging terms and conditions, and investing in targeted companies. One should also note that the nature of investment and level of GP involvement are very different in venture capital (VC) and buyout (BO) funds. Whereas VC funds invest in early companies and offer guidance in product development and market entry, BO funds invest in companies that are more mature and use both leverage and operating

[5] *Metrick, A., & Yasuda, A. (2010). "The Economics of Private Equity Funds." Review of Financial Studies, 23(6), 2303–2341.*

improvements to invest. The economics of the fund are determined to a large degree by the arrangements of the fees and profit-participation arrangements under the limited partnership agreement. The two principal sources of revenue to the GP are the management fees and the carried interest. The management fees are arranged to cover operating expenses of the fund and are typically a percentage of the committed capital over the term of the investment, typically 2%, subject to reduction thereafter by fee discount or by substituting the fee base to invested rather than to committed capital (Metrick & Yasuda, 2010). This fee mechanism has a compelling dynamic in that much of the remuneration to the GP is not directly related to the performance of the venture, a fact that is considerably to the point since approximately two-thirds of expected revenue accrues in the form of such fixed components. Carried interest, by contrast, is the variable, performance-dependent element of remuneration, typically arranged in the format of 20% of the profit of the venture over and above some specified hurdle rate, typically 8%. This hurdle is instituted to insulate LPs and only when a minimum acceptable rate is paid to investors will the GPs be remunerated. Most notably, carry and catch-up arrangements make the alignment of interests between LPs and GPs even more customized. Buyout funds introduce additional profit streams in the way of transaction and monitoring fees, above and beyond carry and management fees, paid by portfolio companies in order to complete deals and monitor them over time. Transaction fees are analogous to advising fees paid by investment banks in the range of 1% to 2% of deal size, and monitoring fees are 1% to 5% of EBITDA and subject to size and complexity of firms. Such fees are usually subject to participation arrangements where some part is paid back to LPs, reducing a portion or all of LPs' initial cost of equity. BO firms' effectiveness at scaling business models more than VC firms is a pervasive finding in the literature that aligns with evidence that BO firms are able to raise the size of funds quite a lot with experience without corresponding increases in headcount. Such scaling generates much more revenue per partner and revenue per professional in later BO funds, whereas VC funds, constrained by the people intensity of early stage investments, lack the same pattern. BO firm economics of scalability are aided by the carry arrangement and leverage intensity of deals, where the increased deal size increases the absolute dollar level of carry-based pay even if percentage terms are not altered. Interestingly, the simulation-based option-pricing analysis by Metrick and Yasuda to price carried interest indicates that much of

the anticipated heterogeneity of GP revenue arises with the terms of contracts and character of funds rather than actualized outcomes. Such a finding reveals the strategic role of funds' design to manage economic outcomes for GPs. Additionally, evidence by them indicates the role of prior accomplishment and experience to shape the terms of next-generation funds with successful ones getting better terms by demanding larger carry percentages, more funds, or less fee-sharing responsibility. Despite economic incentives, research on persistence in performance, such as by Kaplan and Schoar (2005), indicates that top performers repeatedly beat peers but that forecast ability of returns between generations of funds is subject to significant heterogeneity, further undermining attribution to GP skill. Incentive alignment by designing the private equity funds is a complex interplay between market conditions, reputational capital of the manager, and design of contracts. In conclusion, the architecture of the private equity funds is a highly sophisticated system that reconciles risk-sharing, incentivization, and governance. The structural arrangements of the operations of funds, ranging from life cycle stages to arrangements of fees and revenue, are not procedural niceties but are fundamental levers that shape conduct, determine outcomes, and ultimately efficiency of this asset class of capital. This sophisticated architecture, by the empirical and theoretic research by Metrick and Yasuda, brings much insight to the activities of the private equity both as a financial and organizational institution.

[6]1.2.1 Fundraising phase

A critical juncture in the lifecycle of private equity funds is represented by the fundraising phase, which reflects the operational dynamics of capital allocation and stresses the behavioural incentives behind the government of interaction among general partners (GPs) and limited partners (LPs). As outlined by Barber and Yasuda (2017), the scheme behind the securement of commitments of new funds is crucially shaped by the performance of existing portfolios, regulated by elements such as the reputation of the General Partners, the realization of funds, and the verifiability of financial reporting

[6] *Humphery-Jenner, M. (2012). "Private Equity Fund Characteristics and Investment Performance." Journal of Financial Intermediation, 21(3), 243-270.*

interim results. Private Equity funds structure is usually built as a closed-end limited partnership, where the contractual life span is typically ten years, along which the capital is committed upfront, and gradually drawn down as investments result secured.

Fees and carried interests are used as incentives for the General Partners, who manage the fund, aligned with the scale and the performance of the fund. Coinciding with the deployment stage of most capital from the prior fund, fundraising occurs typically between the third and sixth year of fund's life. Barber and Yasuda (2017) tell, that the interim fund performance, specifically the fund's percentile rank relative to its previous year age group, applies a substantial influence on the probability of a successful fund raised as well as the portion of these subsequent vehicles. Low reputation GPs present this kind of effect, defined as those with less prior funds, shorter cumulative capital raised, and missing out on top percentile performance, heavily relying on current interim performance, and signaling competency. An agency consideration is being introduce by the heavy reliance on interim performance and the usage of the latter as a proxy for GP skill, as the valuation of ongoing, illiquid investments within fund's portfolio are subject to managerial discretion. Interim performance in the realm of PE is usually assessed through two main components: realized exits and the net asset value (NAV) of unrealized investments. While exits are more reliable metrics to assess an investment, the NAV is usually a subjective assessment. Exits verify cash flows and performance validation, while NAV valuation leaves space for strategic valuation adjustments, particularly over the critical window in the fundraising phase.

The low reputation GPs with less realizations are more likely to exhibit important performance peaks coinciding with the fundraising period, a phenomenon that decrease after the closure of the fundraising rounds, followed by observable NAV reductions.

This scheme suggests two distinct strategies, with a complementary potential, put together by General partners: the exit-and-fundraise approach, by which successful exits of portfolio companies are programmed for maximizing the performance belonging to the fund, and the management of the NAV, by which valuations inherent to the non-exited holdings are temporarily inflated to improve the metrics of presented performance based on potential investors. The risk model used by Barber and Yasuda (2017) reveals that GP in charge of managing funds in the higher performance rank quartile which still have 5,7 more probability to gather a follow-on buyout rather than their lower-level quartile, while

the equivalent factor for venture capital fund is equal to 4,5 times, highlighting the higher impact on recent performance on funds results gathering. Another important finding highlighted by Barber and Yasuda (2017) tells that returns play a crucial role in strengthening the credibility in middle rank results, where high-returns funds benefiting from a greater level of success in funds gathering independently from their relationship with GPs, while lower return funds must account for a pronounced dependency on their relationship with GPs status and their perceived reliability recorder from reported NAVs. An environment characterized by informational asymmetry and illiquid activities, the capacity of LPs to distinguish between authentic ability and opportunistic behavior becomes a central preoccupation. SEC explicitly recognized this vulnerability, citing cases in which GP are busy exaggerating the performances through strategic adjustments on the NAV during fundraising periods, to depreciate this valuation after having obtained capital commitments. The authors confirm these normative preoccupations documenting a systematic increase in the frequency and by the entity of the adjustments on NAV after the fundraising, particularly among General Partners with low reputation with low rates of returns. This evidence supports the hypothesis in which, the absence of robust cash outflows, some fund managers are committed in the manipulation of NAV to increase the perceived attraction of their performance during the critical phase of the fundraise. The survival analysis by Kaplan-Meier presented in the study by Barber and Yasuda graphically shows the distribution of events during the fundraising over the typical life cycle of the fund, reveals that the chances of gathering funds in a follow-on situation reaches its peak between the forth and the sixth year for buyouts funds, while a little earlier for venture capital's, aligning with the standard timing of investments and value creation witnessed in the industry. Moreover, the methodology in the study of events applied to examine the performance ranking, around the events of fundraising, gives a solid statistic of the phenomenon of peak, with ranks deviation of excess observed mainly in the trimesters following the conclusion of the fundraise. The authors extended their analysis introducing the concept of pseudo value multiple (PVM), a measure of performance which simulates the return of what a LP would get acquiring a fund at the reported NAV during the fundraise and maintaining the investment until liquidation. The underperformance observed by PVM per funds during fundraising, in particular between cohort and low reputation, strengthen the worrying behind the reported valuation that they

might not mirror the reality. These results contribute overall to a comprehension of the shades of the dynamics of the fundraising in private equity, offering empirical tries and theorical bits which help on clarifying how the fund structure, the alignment on incentives and informational asymmetry interacts in the process of capital structuring within this asset class. Considering the fundraising not a mere exercise of capital aggregation, but more a strategic momentum in which the funds managers signal their competency, manage their perceptions and leverage on middle returns, progressing on the economic literature of private equity and underlining the importance of the monitoring and normative supervision to protect investors' integrity in the market. In this way, Barber and Yasuda (2017) provide an important overview for future research on behavioral mechanism and structural components influencing the actions of fund managers during the second phase of fundraising, with many implications extending on fund governance, performance persistency, and to wider talks on agency risks in private equity.

1.2.3 The Investment Stage

The investment stage represents one of the crucial moments in a Private Equity fund's life cycle, phase in which most of the strategic choices are being taken in regards of capital allocation and a base is laid down in order to create value. As illustrated by Humphrey-Jenner (2012) in their work published on Review of Finance, the analysis of the dynamics amongst funds dimensions, investments dimensions, and returns, it offers a great perspective, important to understand not only the mechanism of the functioning of Private Equity, but also potential risks of value destruction linked to suboptimal allocation choices. Considering a sample of 1,222.0 funds active in the United States, the author highlights how big private equity funds, despite having a competitive advantage coming from a better network, diversification capacity, and the access to more favorable financing conditions, they tend to realize lower returns respect to funds of smaller dimension, especially when investing in small size companies. This result is rooted in a series of factors going from the so-called agency conflict, which manifests itself more frequently in environment where we have an excess of liquidity, until the minimum capacity of big funds to provide nurturing activity, namely the sufficient operative and managerial support to stimulate growth in small companies. The theory is based on formal model which distinguishes two classes of funds, big and small, and two types of investments, respectively big and small. The key assumption is that the smaller funds have a more agile

costs structure and are equipped with higher expertise in the management of operational and strategic dynamics in this class of asset. On the other hand, bigger funds, despite benefiting of economies of scale in higher dimension investments, are found to be in disadvantage when trying to succeed in the smaller companies segment, with a negative impact both in absolute terms and value creation ability. Empirically, the work provided by Humphery-Jenner shows that funds belonging to the forth upper quartile they obtain an average internal rate of return (IRR) of 5,17% when investing into companies of the higher quartile for dimension, while this return drastically decreases to -2,98% when the same funds invest into lower quartile companies for dimension. This result is clearly represented in the following graph, which synthetizes the impact of the choice of investment on the expected return of bigger dimensions' private equity funds:

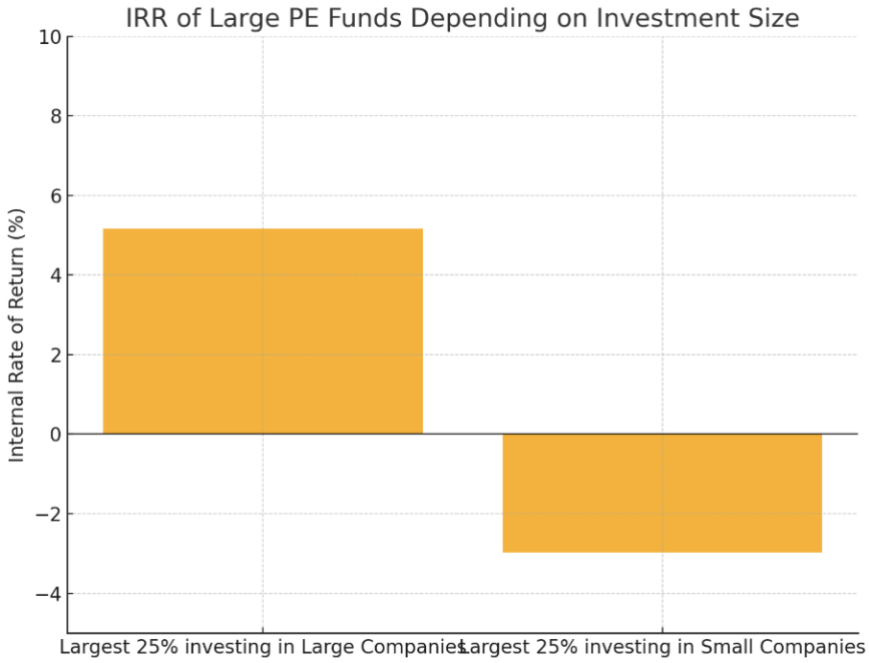


Figure 1 Humphery-Jenner, M. (2012). "Private Equity Fund Size, Investment Size, and Value Creation." Review of Finance, 16(3), 799–835.

This phenomenon is also known as "size effect", implying that the dimension of the fund doesn't represent an absolute advantage but more contingent from the coherence of the scale of the fund itself and the one of the targets. The value creation manifests itself in a different way given the type of investment: in big companies the bargaining power of the funds, united with the capacity to structure operation of leveraged buyouts in extremely

favourable conditions, permits to exploit operational and financial leverages to obtain positive returns; on the other hand, in small companies the absence of a sufficient operational support and less attention on the managerial side from the bigger funds end up to compromise the possibility to implement effective growth strategies. Nurturing becomes essential to create value in small medium firms, an activity which requires not only capital but also time, specific competencies, an active presence in corporate governance, characteristics which result to be diluted into big funds given the minor availability of investors dedicated to single investment. The described dynamic engages also on agency conflicts, in which the excess of financial availability in big funds brings a suboptimal allocation of the investments for the simple need to allocate capital, rather than allocate the latter on basis more rigorous selecting quality over opportunity. This aspect finds responses in the previous literature analysing the phenomena of cash holdings and the opportunistic motivations behind investments choices (Jensen, 1986; Harford, 1999). Moreover, the dimension of the investment and the performance of the latter are not limited to specific subgroups but are confirmed to be transversal in buyouts and venture capital, even if with different frequency. The effect would seem stronger in the case of the buyout funds, given the greater inclination of such funds to scale to larger deals, while in the case of venture funds the difficulty of nurturing falls more naturally in line with the business model typical of the early-stage branch. To complete the framework, the author shows that particular dimensions such as geographic and sectoral diversification, possession of proclaimed specialization, preference for majority stakes, representation policy in boards of directors, have the capability to modulate the effect of the fund size on the performances but without being capable of entirely neutralizing the pitfalls of investing in too-small firms by too-large funds. The value creation potential then shows to be strictly related not only to the sourcing and structuring of the deals, but to the more essential fit of the fund size and type with the type of target selected, with direct implications on the definition of the investment strategies and the subsequent fundraising by the GPs. The work of Humphery-Jenner (2012) thus represents an outstanding scientific contribution to the private equity literature so far as it explains why the value creation cannot be understood as the straightforward result of the injection of resources or financial expertise, but as the result of self-conscious and systematic deployment of resources, with success dependent on the ability of the fund to compete in

the branch of the market in which it has a genuine competitive advantage.

1.2.3 Exit Strategies

Private equity fund life cycle is characterized by a chain of dependent stages, from the process of fundraising, through the investment period, to the exit strategies that determine the ultimate fate of the fund in the realization of value. As previously outlined in the literature cited in the above portions of the research, the link between the fund size, investment strategy, and value creation lies in the dominant imperative that underlies fund outcomes, such that restraint by the manager and optimal deployment of capital emerge as drivers of fund success. More particularly, the period of investment serves as the crossroads where managers invest capital, target firms, and pursue operational and financial enhancements in the objective of firm value creation. Realization of the enhancements and value capture, however, depend on the mode of exit elected, not merely the timing and mechanism of investors' recovery of capital but also as the ultimate step in confirmation of the investment hypothesis and fund governance approach. Exits amount to more than the simplistic operational imperative but a strategical option at the very nexus of fund management in the instance of the leveraged buyout, wherein the intersection of holding period, market timing, capital market conditions, and firm-specific factors comes to bear on the general partner's decision-making process. As explained in the exhaustive examination laid out by Jenkinson and Sousa (2015) in their seminal research of buyout divestment strategies, the exit of investment is prompted by a sophisticated intermix of factors far broader than mere liquidity needs, including market capital receptiveness, portfolio firm preparedness, and competitive positioning of the asset.

Buyouts, being a class of private equity deals, most typically involve the takeover of established business firms with a combination of equity and significant leverage, on the belief that command of debt, operational restructurings, and corporate realignment will translate into maximizing the value of the firm. Structuring deals of such nature, with high debt/equity multiples and oftentimes multi-level stacking of capital, naturally dictates time pressure to invest and requires precise planning of the mode of exit to maximize the return while minimizing the exposure to risks. Empirical results of

Jenkinson and Sousa (2015) corroborate that the most common modes of exit of the buyout investments involve sale to a strategic player, secondaries, and sale to the public via issue of stocks and equity-linked instruments (IPO), each of some characteristics, merits, and demerits. Sales to a strategic player, usually sale of the portfolio firm to an industrial buyer, represent a high proportion of the exits due to the synergy value to the acquirer who often pays a premium for control, market share, or innovative capabilities. This mode of exit allows for the possibility of the private equity sponsors to capture the created value from the improvements in operations and corporate repositioning while benefiting from the acquirer's desire to combine the target in day-forward operations.

Secondary buyouts, in which the portfolio firm sells to another private equity fund, have become a widely used means of exit in markets of maturing private equity industries where overhang of capital and competition between the funds of buying out creates active sourcing in the secondary market. Although such deals offer prompt exits and also liquidity for the LPs, they also come with apprehension over the actual realization of the value, as it’s a sale between financial sponsors and not to a synergy-drenched strategic acquirer. The research of Jenkinson and Sousa (2015) concludes that the secondary buyouts come with shorter holding periods in the second round of control and could be suggestive of the dependence on financial engineering and not on operational improvement and thus create perceptions of value creation in the private equity market.

Initial public offerings also constitute a significant channel of exit, holding the promise of high returns in the form of partial or total realization of the public equity market investment. The IPO channel, however, is susceptible to high volatility depending on market conditions, investors' sentiment, and macroeconomic environment, and timing becomes a decisive factor in success. The authors present evidence that IPO exits become more likely in times of favorable market windows and when the portfolio company possesses high revenue growth, profitability, and scalability factors, factors that enhance market sensitiveness and valuation multiples. Channel choice of the exit is not only dependent on the quality of the underlying asset but also a strategic choice based on exogenous market conditions and endogenous fund characteristics such as the fund's position in the life cycle, the need to return capital to the LPs, and the fund manager's reputation and fundraising goals.

Also highlighted by the research is the role of holding periods in the decision to exit, with the implication being that while longer holding periods offer the prospect of more operational improvement and repositioning at the strategic level, they expose the investment to macroeconomic and regulatory risks that will erode value. Conversely, short holding periods could be evidence of financial engineering or market timing ability and have less scope for value creation at the fundamental level. The empirical estimations of Jenkinson and Sousa (2015) equate to a five-year average holding period, with some deviation according to the mode of exit and market conditions and accentuate the need for adaptable plans to exit according to company-specific patterns and market cycles.

Notably, the article also discusses the role of global financial crises and market disruptions in shaping patterns of exit, highlighting the ways in which bad market conditions delay exits, shrink valuation multiples, and drive private equity sponsors to seek alternative means of exit like dividend recapitalizations or partial stake sales to co-investors. Such pressures validate the intuition that one should integrate strategies of exit into the investment approach from the outset and that contingency planning and planning for different scenarios should be key tools in the management of the exit risk. The ability of fund managers to adapt strategies of exit to prevailing market conditions and to the success of portfolio companies are a key competency of private equity fund management with a direct bearing on fund returns, satisfaction of investors, and the ability to raise funds in the future. In short, the conclusion of Jenkinson and Sousa (2015) [7]presents considerable evidence that exit strategies are not transitory endpoints, but instead instrumental tools integrally involved with the operation, structure, and success of private equity funds. Choosing the route, when, and via what means to exit represents a subtle trade-off between market timing, operational success, and fund-specific requirements, and planning for the final exchange represents a critical component of value capture and return optimization in the context of the leveraged buyout. This observation not only adds depth to the understanding of fund management technique but also holds significant implications for limited partners, regulators, and academic researchers concerned with evaluating the performances and efficiencies of private equity as a discrete asset class.

[7] *Jenkinson, T., & Sousa, M. (2011). "What Determines the Exit Decision for Leveraged Buyouts?" Journal of Banking & Finance, 35(9), 2181–2199.*

As forementioned, exit strategies are a characteristic feature of the private equity cycle and both represent realization of value built up over the hold period and an important determinant of fund performance, capital recycling, and investor returns. Initiating divestment is used to facilitate private equity sponsors to recycle capital to limited partners, earn carried interest for themselves, and affirm the success of operating and financial restructuring actions taken throughout ownership. Of the many channels available to exit, including initial public offers (IPOs), trade sales to acquisitors on a strategic basis, and liquidations, secondary buyouts (SBOs), those that are transacted where an operating company backed by a buyout sells between one private equity fund and another, are a ubiquitous and specific channel, particularly in mature private equity markets. To investigate the rationale, dynamics, and implications of secondary buyouts requires a nuanced investigation of both fund structures and forces within the marketplace and a theoretical positioning within the overall stream of literature on realization of value within leveraged buyouts. Fürth and Rauch (2014), who carried out one of the more nuanced studies on exit strategies of buyout funds on a sample of 222 US IPOs between 1999 and 2008, theorize that exit behavior is predominantly shaped by both deal-level and fund-level variables and that the choice of exit strategy is shaped both by conditions within the marketplace and by financial success of the investment from a fund perspective. Notably, their evidence reveals that contra to the conventional view of immediate post-IPO exit, buyout funds retain significant ownership interests and control within the board for an average of 2.8 years from the public offering time point and thus pursue an approach to divestment that is incremental and deliberate. The hold pattern reflects the complexity of the exit choice, involving balancing sale timing of equities against liquidity of the markets and performance trends of the portfolio companies.

Secondary buyouts are, in this sense, a specific type of exit option that have been the subject of major professional and academic scrutiny given their taint status within value creation versus value transfer debates. Whereas trade sales and IPOs are more readily correlated with external endorsement of company worthiness by synergistic strategic or market valuation, SBOs are typically subject to suspicions of their capacity to act as genuine value-generating modes of exit, their being seen to recycle leverage between successive funds at best and not reflecting genuine operating upgrading or repositioning. Empirical evidence, however, such as that cited by Fürth and Rauch (2014), ensures that

the availability to pursue a secondary buyout is never arbitrary. Instead, it is significantly driven by fund-level imperatives such as the pending expiration of the life of the fund, the need to crystallize capital to payout LPs within the target time horizon of the investment, and relative debt market attractiveness offering advantageous financing conditions to incoming new sponsors. Here, capital markets' states, such as cycles of widening and narrowing credit, act to condition the incidence of SBO deals, bull markets leading to faster divesting and bear markets reflecting longer hold periods.

Fürth and Rauch's contribution to the research on exit strategy is particularly valuable for the accuracy provided to exit aggressiveness and the timing and determinants of these. Their evidence indicates that whereas time to IPO prior to investment duration is very much determined by portfolio company characteristics such as profitability and restructuring activity intensity, the process of divestment following IPO is very much determined by fund-level factors such as fund size, previous profitability, and capital raising success. To such an extent, the possibility of pursuing a secondary buyout can be considered not only an opportunistic exit but a choice that is aligned to managing the capital structure and liquidity maximisation requirements of the fund. The authors also demonstrate that stock market reactions to exit activity, quantified by CARs, are actually negative to sale announcements of company shares by buyout funds, but are weaker where the underlying deal is defined by financial success measures, such as complete recovery of investment by way of pre-IPO dividends. This evidence confirms that investor sentiment regarding exit strategies, such as SBOs, is not only defined by the type of exit channel utilised but also by financial achievements that have been made within the time horizon of the fund’s investment duration.

Whether secondary buyouts are value-creating or inter-sponsor value transfer remains the central topic of private equity performance literature. Chief among those who are hopeful are those who perceive SBOs to stand for sustained operating improvement, improved governance, and repositioning opportunities on new sponsors that are differentiated due to expertise or specialization by sector. Others reply that SBOs are typically a sign of financial engineering behavior so long as and whenever the new sponsor re-leverages the target firm upon acquisition and raises questions about sustainability of returns and value creation on a longer time horizon. Nevertheless, evidence that SBO frequencies are on

the rise reported by Fürth and Rauch (2014), [8]and supplemented by more aggregate industry measures, captures their instrumental role within the private equity universe, particularly with continuing cyclical exit opportunities for IPOs and variable appetite for trade buyers along sectoral and macroeconomic determinants. There is an active secondary market that fosters liquidity within the private equity asset category, which gives GPs room to maneuver to rebalance portfolios and meet commitments at the fund level.

In short, secondary buyouts are a natural and strategically significant component of leveraged buyout exit strategies that articulate a multifaceted interaction among fund lifecycle constraints, prevailing market dynamics, and characteristics of investment performance. Fürth and Rauch (2014) alert us to structural and behavioral determinants of private equity exit choices, eroding simplistic oppositions among value creation and value transfer and situating SBOs as advanced instruments to the overall design of exit fund machinery. This is in line with an improved view of private equity as a responsive investment paradigm where exit choices are shaped by the interaction between internal fund pressures and external opportunities within the marketplace, thus again emphasizing the need for empirical sensitivity and theoretical nuance to the analysis of the worth of substitute exit choices.

1.3 Leveraged Buyouts: Functioning and Value Creation

Leveraged Buyouts (LBOs) represent the most symbolical and strategic practices in the realm of Private Equity (PE). They play a pivotal role in amplifying financial returns through debt usage, but they also have wider implications on corporate governance, strategic transformation, and capital markets. The following chapter examines the theoretical foundations, the structural components, and historical traits of LBOs, while stressing their methodological and practical applications. Taking crucial information from important contributions such as Kaplan and Strömberg (2009), Pignataro (2013), Larreur (2021), and Loos (2006), [9]it offers an integrated analysis of LBOs from different

[8] *Fürth, S., & Rauch, C. (2014). "Fare Thee Well? An Analysis of Buyout Funds' Exit Strategies." Financial Management, 43(3), 611-656.*

[9] *Larreur, C.-H. (2021). Structured Finance: Leveraged Buyouts, Project Finance, Asset Finance and Securitization. Chichester, United Kingdom: John Wiley & Sons.*

Loos, N. (2006). Value Creation in Leveraged Buyouts: Analysis of Factors Driving Private Equity Investment Performance. Deutscher Universitäts-Verlag.

Milken, M. (1999). "The Rise of Junk Bonds." Journal of Applied Corporate Finance, 12(1), 7-18.

perspectives, such as financial constructs and a developing institutional phenomenon. A Leverage Buyout is the acquisition of a company using a significant amount of debt to meet the cost of the acquisition, making acquisition of businesses possible with less equity, or so called, out-of-pocket capital. Leveraged buyouts are widely use in the investment banking and private equity industries to acquire established businesses with a sound prospect in terms of cash flow potential. Using significant amount of debts is the essence of LBOs as they allow the financing of a large portion of the purchase price with debt, then relying on the prospected future cash flow availability to service debt over time, with the ultimate purpose to achieve higher returns for investors.
Debt usage in an LBO aims at minimizing the amount of equity required from private equity sponsors, thus giving high potential return on investment. The logic behind LBOs is the same as taking a mortgage to fund a house or any kind of long-term investments that aim at acquiring the object primarily with money belonging to another entity, making it possible to buy the target with less out-of-pocket money. (Kaplan & Strömberg, 2009).
The three predicated pillars of value creation for LBOs are: (i) debt paydown through stable and recurring cash flows; (ii) operation improvements and strategic realignment; and (iii) multiple expansion upon exit (Pignataro, 2013).
As a result of financial engineering, active ownership, and managerial discipline, Leverage Buyouts stand out from other forms of corporate acquisitions. Private Equity firms executing Leveraged Buyouts primarily raise capital throughout closed-end funds.
This method has been a dominant strategy in the Private Equity industry for decades, continuously adapting to macroeconomic trends, financial innovations, and shifts in market conditions. Leveraged Buyouts shaped modern corporate finance allowing businesses to have access to capital, restructure operations, and in optimizing shareholder value.
Private Equity and LBOs are the main characters for value creations in nowadays economies, but to be what they represent today they've undergone numerous challenges and innovations implied within each economic cycle.
LBOs origins trace back to the second half of the 20th century, becoming a significant

Pignataro, P. (2013). Leveraged Buyouts: A Practical Guide to Investment Banking and Private Equity. Hoboken, New Jersey: John Wiley & Sons.

financial strategy later in the 1980s. The primary mechanism involved funding companies' acquisition with a substantial sum of borrowed funds, with the expectations of the new acquire company to produce future cash flows in order to repay the debt took by the Private Equity firms, in most cases. This financial strategy allows investors to achieve higher returns investing a smaller amount of out-of-pocket cash. When analysing these forms of investment we must consider the possibility of default, and evaluate the safer option. Certainly, using the companies' assets as collateral in a Banks' loan contract could be a smarter option, rather than eventually repay the unexpected lower cash flow returns and loose most of the shareholders' equity. The first LBO landmark transaction was made by Wesray Corporation in 1982, which acquired Gibson Greetings, demonstrating how financial engineering could yield robust returns, paving the way for a boom in buyouts transactions.

Leveraged Buyouts (LBOs) are the best-known deal structures of the Private Equity universe that represent an advanced synergy between financial engineering, corporate governance acumen, and value creation strategy. Originating within the larger framework of Private Equity fund management where raising capital, investment, and exit strategy drive the capital cycle, LBOs are the fundamental operating vehicle within which the value-creating imperative of buyout funds is directed. Dismantling the operations of these deals thus requires an experiential analysis of their structural foundations, target choice drivers, capital structuring, and value-growth drivers so that analytical constructs connect to empirical facts and case studies for their relevance and extent within mainstream corporate finance. An LBO can thus be defined as acquisition of an entity financed predominantly by debt, levering up target company assets and cash flows to collateral for the borrowings while the sponsor invests a lesser amount of equity capital to align incentives and maintain leverage exposure. This type of financing, synonymous to the corporate restructuring phenomenon of the 1980s, helps for sponsors to lever up their equity returns by judicious use of leverage subject to the proviso that the underlying venture provides stable and acceptable cash flows to cover debt obligations. The justification for an LBO is rooted within its triple leverage impact—financial, fiscal, and managerial—as explicated by Larreur (2021), where use of debt leverages up equity returns (financial leverage), interest expense payments offset taxable income (tax leverage), and cash flow constraint generated by debt servicing applies pressure to

manager actions (managerial leverage)Structured Finance Leve…. Some good instances are the acquisition of Burger King by 3G Capital or Harley-Davidson restructuring, which show how LBOs might be used to reshape and build companies and ultimately reap significant capital gains at exit.

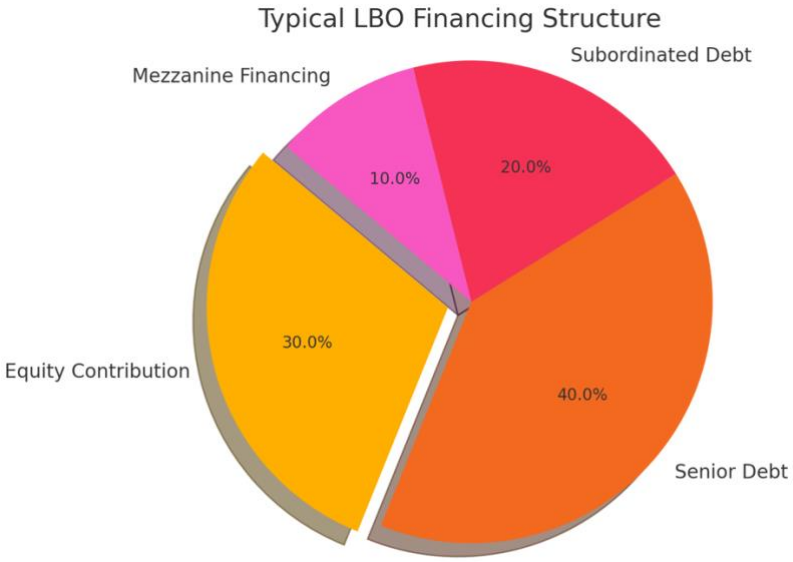
Target company selection for LBO deals is a function of a mix between financial sustainability and sector fit, where the best available target company carries characteristics that minimize risk of the downside while ensuring potential for the upside. As more of a pioneering strategy by KKR, an ideal target company for an LBO is one that is characterized by high, predictable cash flows, low cyclicality, secure industry position, and low risk of technology displacement. On the financial side, ability to sustain high and consistent levels of EBITDA is crucial since this confirms the ability to pay acquisition debt and meet debt covenant obligations. Sector-wise, LBO companies target sectors that have mature markets, low capital intensity, and benign competitive dynamics, since these characteristics maximize cash flow predictability and minimize risk of investment. Chains of specialist retail stores, healthcare services, and business services are typically target sectors due to contractual type revenues and low working capital requirements. Moreover, low risk of high capex and R&D requirements maximizes free cash flow predictability, which makes debt paydown and dividend recapitalizations feasible in the hold period. The management quality criterion also seems to be an essential choice criterion, whereupon buyout sponsors typically retain or incentivize incumbent management groups by providing participatory equity plans to align interests and secure operating commitment, evident from management buyouts (MBOs) and management buy-ins.

An LBO capital structure is characterized by high leverage to equity, leverage multiples typically between 4-6 times target earnings before interest, taxes, depreciation and amortisation (EBITDA), varying according to market conditions and appetite for leverage. The capital stack typically includes senior secured debt, subordinated or mezzanine debt, and sponsor contributed minority equity. Senior debt, provided by the bank or debt funds, is paid first and is prior on security from the company's assets, and subordinated debt requires higher yields to offset its subordination within the capital stack. Equity, although representing a proportionately small portion of overall funding, serves the crucial function of bearing losses and aligning the sponsor's incentives with

those of the lenders. This structure, by intent, is designed to maximize the sponsor's internal rate of return (IRR) using leverage while offering sufficient flexibility to overcome the operating challenges of the target company. There is a chart of the typical LBO capital structure that illustrates that PE sponsors can construct stacked capital structures that combine various debt instruments with strategic uses of equity.

- Equity Contribution → ~30%
- Senior Debt → ~40%
- Subordinated Debt → ~20%
- Mezzanine/PIK Financing → ~10%.

Table 1 Typical LBO Capital Structure - Pignataro, P. (2013). Leveraged Buyouts: A Practical Guide to Investment Banking and Private Equity. Wiley Finance.



Value creation from leveraged buyouts functions via three channels - operational improvement, deleveraging, and multiple arbitrage - and these make a separate contribution to increasing the target company's enterprise value. Operational improvement includes activities to rationalize the company cost base, simplify the operations, renegotiate contracts, leverage revenues by expanding geographically or introducing new products, and restructuring management systems and corporate governance practices levered value creation. Research by Anslinger and Copeland (1996), and also that of Butler (2001), illustrate that operating improvement accounts for approximately two-thirds of overall value creation from leveraged buyouts, and also

supports its predominance for delivering better returns. Gradual paydown of acquisition debt and use of free cash flow adds to the value of the equity directly by minimising financing risk and improving the quality of the balance sheet within the time horizon the company is being held. The cash flow from operations not only retires debt but also constructs equity cushion and thus makes the sponsor equity interest grow proportionally to overall enterprise value within the debt amortization horizon. The mechanism functions best where cash-generating operations are steady and predictable, where predictability of cash flow from operations supports aggressive paydown debt strategy. Multiple arbitrage refers to the ability of LBO sponsors to buy firms at low valuation multiples and sell for high multiples, based on improved company fundamentals, favorable capital market cycles, or company repositioning to a more preferred strategic or financial asset. This arbitrage window tends to be captured by exiting on good capital market cycles, sectoral consolidation trends, or acquirer-type strategic interest. Empirical evidence confirms that successful LBOs exit higher multiples than entry, particularly where operating improvement and cash flow-leverage worked to substantially enhance company financial profile and position. Overall, these value channels represent the multilateral complexity of LBO deals, where financial structuring, operating acumen, and capital markets' alignment work together to produce disproportionate returns, offsetting the risk and complexity of such leveraged deals. As private equity evolves further, LBO structure design remains at the forefront of deal-making, reflecting the nexus between finance theory and entrepreneurial acumen to create superior investment value.

1.3.1 Operational Improvements

Operational improvement is now a vital pillar of private equity value creation beyond the traditional application of financial engineering and leverage arbitrage characterizing the leveraged buyout paradigm. As Matthews, Bye, and Howland (2009) outline within their exhaustive study published by the Journal of Applied Corporate Finance, the global financial crisis and ensuing credit contraction redesigned the private equity investment environment, lowering leverage application and raising that of operating excellence to the leading source of investment returns. This transformation imbued a tipping point where private equity deal success increasingly depended upon the capacity for executing better operating performance within the portfolio company, thereby casting operating improvement no longer a discretionary strategy but an indispensable component of value creation. Even during the height of the 2004–2007 credit bubble, empirical studies

indicated company outperformance and not financial leverage generated the majority of the value within the buyouts, and a McKinsey study quoted by Matthews et al. (2009) [10]attributed operating improvement to approximately 63% of value creation, compared to 32% from market appreciation and leverage, and only 5% from multi-arbitrage.

It is such empirical evidence that refutes any naïve assumption of private equity returns being a function of capital structure optimization and, on the contrary, places operating value creation centre stage of prudent fund management. The anatomy of operating improvement for private equity is thus a systematic process where fund managers and, increasingly, their specialist Operating Partners diagnose inefficiencies, specify implementable initiatives, and prioritize initiatives consistent with the target company's direction and growth opportunities. The Operating Partner methodology is instrumental in so doing, acting as an interface between both private equity sponsor and portfolio company management. Operating Partners, typically seasoned ex-executives with a good foundation of corporate management, consulting, and private equity-owned company management, not only apply technical expertise to the task but also act as strategic facilitators accountable for the management of operating turnarounds while maintaining constructive relations with incumbent management. Their contribution ranges from aiding due diligence and constructing 100-day post-acquisition plans to managing large scale operating initiatives and monitoring the implementation of strategic initiatives.

One of the main challenges of value creation operations is to identify and prioritize areas for improvement among a plethora of potential initiatives that a newly acquired company may represent. Matthews et al. (2009) highlight that beyond the identification of opportunities itself, the private equity companies' most essential responsibility is to screen and prioritize opportunities quickly, giving high priority to opportunities within whatever is the "sweet spot" where the potential for value creation overlaps the company’s potential for change implementation. This strategy of prioritizing is reflective of both the potential magnitude of value and implementation ease, comparing high-return but complex initiatives to faster, easier initiatives that can allow timely gains, bolster morale, and secure collaborative symbiosis between private equity sponsor and target company management. The 100-day plan that private equity companies use that is typical reflects

[10] *Mathews, R. D., Byeongchan, P., & Shin, Y. (2007). "Exits in Venture Capital: The Role of IPOs, Acquisitions and Buybacks." Review of Financial Studies, 20(2), 391–426.*

this strategy and is intended to outline tangible operating goals, engender the framework of accountability, and establish a framework of short- and mid-range betterment consistent with debt servicing requirements and goals.

In practice, value improvement programs cover an equally broad spectrum of functional areas from purchasing, price strategy, and cost-structure optimization to working capital management, supply chain optimization, and product portfolio rebalancing to technology upgrades. The case study document by Matthews et al. (2009) of the acquisition of a chain of United States supermarkets shows application of such precepts, where the private equity sponsor aimed for the target company's product and price strategy to be areas for value improvement. By achieving a series of quick-win programs such as optimization of product mix and pricing strategy and high-difficulty, longer-run programs such as a full overhaul of the company's information technology systems, the company was both able to deliver short-run operating benefits and longer-run repositioning benefits, ultimately achieving a 12% outperformance on an EBITDA basis against budget and to make significant market share gains against challenging economic conditions.

The success of these operating turnarounds relies heavily on the implementation of, within the portfolio company, a culture of performance where the institution of metric-based management, accountability, and the generation of cash come to symbolize fundamental Corporate Governance pillars. Operating Partners' activities extend beyond the management of specific projects to also include the organization-level reorientation of culture, sense of urgency, speeding up the pace of decisions, and incentivizing managers to value creation objectives. Operational improvement no longer remains reduced to technical process optimization alone but now incorporates more comprehensive change management across the organization that makes soft facets of stewardship, communications, and stakeholder alignment no less significant than the tangible measures of cost reduction and top-line growth. Furthermore, Matthews et al. (2009) are of the opinion that top private equity firms are differentiated from their peers by the sustainability and predictability of their operating improvement initiatives and that top performers develop rigid analytic models and internal processes for assessing and rigorously executing operating initiatives across their portfolios. These models not only allow for the choice of high-leverage initiatives but also for monitoring their impact to enable ongoing learning and the sharing of best practices that can be transferred across

industries and across large groups of portfolio companies. The placement of Operating Partners within the governing system of the private equity company—through elder statesman consultants, internal specialists, or integrated partners—then reflects various models of operating engagement, differing from one another on the commitments of resources, scalability, and impact on direction of the portfolio company.

In short, then, private equity value creation through operations places at center stage the purely essential shift in the investment approach of the asset class, where financial engineering alone no longer ensures high performance on a sustainable time horizon. Instead, the capacity to deliver significant operating improvement, grounded within an insight-based collaboration between management and acquisition strategy, has become the characteristic of successful buyout programs. Matthews et al. (2009) identify not only the empirical contribution of operations performance to private equity value creation but also the methodology framework of disciplined deployment of operating expertise, positioning operating improvement as a competitive necessity and a source of differentiation within private equity.

1.3.2 Multiple Arbitrage

Multiple arbitrage, or multiple expansion, is one of the three fundamental approaches to value creation for leveraged buyouts and an important yet oft-overlooked component of the private equity value creation framework. The underlying principle of multiple arbitrage is that the investor is purchasing an entity on one multiple of valuation, historically based on revenue, EBIT, or EBITDA, and selling the entity on a higher multiple, thereby capturing additional returns independent of fundamental earnings growth or debt pay-down. The mechanism relies on the differential between entry and exit multiples that can be generated by a host of factors such as a shift in overall market conditions, company repositioning strategy, improved operating performance, favorable industry conditions, or improved perceptions within the window of exit. Multiple expansion is thoroughly documented throughout private equity literature and is addressed explicitly within Pignataro's now-classic book, where it is cited among the major drivers to enable successful execution of a buyout and specifies that multiple expansion while oft-assumed to be zero or flat within models can significantly enhance equity returns if realized successfully at exit.

Conceptually, multiple arbitrage is enabled by virtue of the nature of private equity valuation methodologies, as the use of comparable company analysis and precedent deals analysis, which measure a target company valuation against peer groups or comparable prior deals. As defined by Pignataro, [11]valuation multiples like EV/EBIT or EV/EBIT are relative measures of a company inherent to their nature representing a normalized measure that is comparable across companies of varying size and capital structure. Multiple expansion expectation is based on the private equity sponsor's ability to restructure the target company so that it may become an attractive target to future acquirors, maybe by restructuring operations, repositioning strategically, or optimizing capital structure, so that at exit it may be valued at a premium.

More than one expansion driver may all be defined at a high-level to comprise company-specific factors, sector dynamics, and overall market conditions. Actions taken within the hold period to enhance earnings quality, to enhance corporate governance, to simplify operations, or to position the company more competitively within peer groups are company-specific factors. For example, a company viewed to be inefficient and to pose high execution risk at initial acquisition may be purchased at a low multiple but, after private equity sponsor-led actions to simplify and build the company, may exit as a streamlined, growth-driven, risk-reduced asset that delivers a greater multiple. Sector dynamics are also plausible drivers, since industry grouping, emerging market trends, or technical innovation may reverse investor sentiment and prompt an upward repricing of companies within preferred industries. And finally, the overall conditions within the overall markets, including interest levels, availability of credit, and equity levels within the markets, also have a determinant influence on multiples, where bull markets are typically accompanied by larger multiples due to investor optimism and the increased liquidity.

Empirical data are ambiguous regarding the magnitude and uniformity of multiple arbitrage as a source of private equity value creation. Matthews et al. (2009) conclude that, while operating improvement is the source of greatest private equity value creation, multiple arbitrage makes a major contribution, contributing approximately 5% to value creation on deals executed by high-performing private equity firmsJ Applied Corp.

[11] *Pignataro, P. (2013). Leveraged Buyouts: A Practical Guide to Investment Banking and Private Equity. Hoboken, New Jersey: John Wiley & Sons.*

The upshot of the conclusion is that, while multiple expansion alone may not be relied upon to deliver target returns, it may be used to complement operating improvement and leverage management to deliver overall fund performance. Larreur (2021)[12] also confirms the contribution of strategic repositioning and the right timing to enable multiple arbitrage, and that successful execution depends on the ability of the sponsor to time exit on advantageous market conditions and position the company well relative to peer assets at sales.

For all that it offers, multiple arbitrage is liable to inherent constraints and risks that need to be carefully considered. Among the main criticisms of leveraging multiple expansion for value creation is its dependence on exogenous phenomena beyond the control of the fund manager, i.e., sentiment within the markets and prevailing macroeconomic circumstances. Contraction within markets or sectoral breakdown can shrink exit multiples regardless of company performance, spreading the hoped-for returns to arbitrage. Additionally, competitive forces within private equity have conspired to create more discerning purchasers, both among strategic acquirors and secondary buyout funds, that are no longer so ready to pay high multiples without fundamental reasons for so doing on the grounds of earnings quality or growth prospects. Multiple arbitrage thus needs to be pursued with circumspection within forecast models, usually assuming flat multiples between entry and exit unless there is an ascertainable strategy basis for expecting expansion.

In practice, achieving several arbitrages involves both strategic vision and executional capability. Managers who succeed remain close to prospective target buyers and regularly track markets and sector valuation trends to determine the best time to exit. Incorporation of such practices into the overall investment strategy provides the ability to plan an exit and to take advantage of prevailing positive conditions when realized. Construction of the company story, comprising sustainable growth trajectories, de-risked models, and high-quality management talent, is also a key facilitator of exit-at-premium. In summary, multiple arbitrages is an essential, if complementary, element of value creation for leveraged buys that offers room to add to equity returns if used together with fundamental operating improvement and astute financial engineering. It requires both endogenous

[12] *Larreur, C.-H. (2021). Structured Finance: Leveraged Buyouts, Project Finance, Asset Finance and Securitization. Chichester, United Kingdom: John Wiley & Sons.*

change within the company and exogenous movement within the marketplace to succeed, calling for an integrated approach that balances aspiration and risk management. As the private equity marketplace evolves and industry professionals become more mature, the use of multiple arbitrage remains important but must be integrated within an overall value creation framework that focuses on sustainable earnings growth, operating excellence, and effective capital deployment.

1.3.3 Deleveraging

Deleveraging represents one of the most fundamental and quantifiable mechanisms of value creation in leveraged buyout (LBO) transactions, constituting alongside operational improvements and multiple arbitrage the triad of core strategies that private equity (PE) sponsors deploy to achieve superior returns for their limited partners (LPs). Unlike operational improvements, which focus on enhancing the company's earnings generation capacity, or multiple arbitrage, which leverages market sentiment and timing, deleveraging is directly associated with the strategic repayment of acquisition debt through the free cash flows generated by the portfolio company, thereby reducing the financial risk of the investment and amplifying the equity value over time. The underlying theoretical rationale for deleveraging rests on the capital structure irrelevance proposition initially postulated by Modigliani and Miller (1958), which suggests that under perfect capital markets, the value of a firm is independent of its financing mix; however, when considering the real-world imperfections such as corporate taxes, bankruptcy costs, and agency problems, debt financing introduces both costs and benefits. Specifically, the tax deductibility of interest payments creates a shield that enhances after-tax cash flows, while the pressure to service debt imposes managerial discipline and reduces free cash flow agency costs as proposed by Jensen (1986) in his seminal free cash flow hypothesis. In the context of LBOs, where the initial capital structure is intentionally skewed toward high leverage ratios, often between four- and six-times EBITDA as reported by Larreur (2021) - deleveraging becomes not only a tactical objective but a strategic imperative that transforms financial risk into equity value accumulation as the debt burden is progressively reduced over the holding period.

The process of deleveraging typically follows a well-defined trajectory beginning at the point of acquisition where debt financing covers the majority of the purchase price, leaving a smaller equity contribution from the PE sponsor. This heavy reliance on debt

creates a situation where even modest improvements in enterprise value or reductions in debt levels can lead to significant percentage increases in the sponsor's equity stake. As the portfolio company generates cash flow, these funds are prioritized for debt amortization according to the agreed-upon terms with lenders, which may include both mandatory principal repayments and optional prepayments depending on covenant structures and cash sweep mechanisms. This financial discipline ensures that surplus cash flows are directed toward balance sheet strengthening rather than discretionary reinvestment or inefficient capital allocation. Over time, as the leverage ratio declines and the debt-to-equity ratio improves, the equity cushion expands, not only reducing financial distress costs but also positioning the company more attractively for potential exit strategies whether through strategic sale, IPO, or secondary buyout.

The empirical relevance of deleveraging as a driver of private equity performance has been substantiated in various studies, including the work of Nicolaus Loos (2006) who emphasizes the importance of active debt management and cash flow focus in LBO transactions. Loos highlights that post-buyout financial management frequently shifts attention from traditional earnings metrics to cash flow generation, reflecting the operational reality that debt service capability, rather than accounting profitability, becomes the primary determinant of success in highly levered environments. Moreover, deleveraging plays an essential role in mitigating agency costs of debt, as debt covenants enforce managerial accountability and limit the scope for opportunistic behavior, while the progressive reduction in leverage alleviates financial distress risks that could otherwise erode stakeholder value. This dual function of discipline and risk reduction positions deleveraging as a uniquely effective mechanism for aligning interests between equity holders and lenders, particularly in the context of sponsor-backed companies where ownership structures and incentive schemes are carefully designed to promote value maximization.

It is crucial to recognize that deleveraging is not a passive process but requires deliberate strategic planning and active engagement by the private equity sponsor. As discussed by Matthews et al. (2009), many buyout funds implement structured 100-day plans immediately following the acquisition to prioritize initiatives that support rapid cash flow improvements and debt reduction. These plans often include cost rationalization programs, working capital optimization, renegotiation of supplier contracts, and

divestiture of non-core assets, all designed to enhance liquidity and facilitate debt repayment. In parallel, sponsors leverage their capital market expertise to optimize refinancing terms, extend maturities, and reduce interest expense through proactive debt restructuring, further accelerating the deleveraging process and improving the weighted average cost of capital (WACC) of the portfolio company.

The effectiveness of deleveraging as a source of value creation is inherently influenced by macroeconomic conditions, particularly interest rate environments and credit market liquidity. Periods of low interest rates and high credit availability may encourage higher initial leverage levels, while adverse market cycles can complicate debt servicing and increase refinancing risk. Accordingly, successful PE managers incorporate stress testing and scenario analysis into their financial models to assess the resilience of their deleveraging plans under varying economic conditions. Moreover, the interaction between deleveraging and other value creation levers, such as operational improvements and multiple arbitrage, amplifies its impact. For instance, operational enhancements that increase EBITDA simultaneously facilitate faster deleveraging by increasing free cash flow, while successful deleveraging improves exit multiples by reducing perceived financial risk, thereby contributing indirectly to multiple expansion.

Despite its clear benefits, deleveraging is not without criticisms. Some scholars argue that excessive reliance on leverage may expose companies to heightened bankruptcy risk during downturns, potentially leading to value destruction rather than creation. This critique is particularly salient in the context of over-leveraged deals observed during buyout booms, where aggressive capital structures left companies vulnerable to cash flow shocks. However, empirical evidence suggests that when executed with discipline and supported by robust operational performance, deleveraging remains a potent mechanism for enhancing equity value and reducing investor risk exposure.

In conclusion, deleveraging stands as a cornerstone of value creation in leveraged buyouts, functioning as both a financial and strategic tool that transforms the balance sheet over the life of the investment. Its role transcends mere debt repayment, embodying a process of disciplined financial management that reinforces operational rigor, aligns stakeholder interests, and ultimately enables private equity sponsors to deliver superior risk-adjusted returns. Supported by extensive empirical research and integrated within a comprehensive value creation framework alongside operational improvements and

multiple arbitrage, deleveraging remains an indispensable component of the private equity playbook, reaffirming its status as a key driver of success in the competitive landscape of buyout investing.

1.3.4 Historical Background and exit strategies

Starting from the 1980s boom and the junk bond era, Michael Milken's disruptive financial innovations at Drexel Burnham Lambert fuelled massive buyouts following high-yield bonds.

This period is marked as a pivotal period for Leveraged Buyouts, witnessing private equity firms like Kohlberg Kravis Roberts & Co (KKR) and other private equity firms execute the most significant buyouts in that period in terms of scalability and strength.

One of the most renown acquisition in LBO history was the 1989 acquisition of the RJR Nabisco by the Kohlberg PE firm (KKR), amounting to $25 billion. The scalability of this deal was so large to be chronicled inside the book "Barbarians at the Gate", which gives insights about potential risks associated with LBOs transactions. The financial distress associated with the excessive leverage is often left out of the equation, considering only the bright side of the deal and highlighting the high returns.

The 1980's considered as the first wave, and even though presented itself with a spike in enthusiasm, the junk bond market collapse and a series of distinguished bankruptcies led to scepticism. Nevertheless, the 1980's paved the way for the modern buyouts architecturally speaking, adding the use of debt trenching, active governance, and performance-linked incentives.

As a result of this boom period, the 1990s witnessed a consolidating period, where operational improvements and middle-market deals had most of the attention. Primary sources of funding shifted towards institutional capital, substituting the speculative fever for high-yield markets, more caution on strategy (Larreur, 2021).

The 1990s shift in LBOs structure marked a significant change in the usage of capital, as institutional investors played crucial roles in private equity financing. This kind of growth didn't suddenly took place, but it followed the previous decade financial innovations and adapted to the new global economic scenery mostly defined by liberalization, deregulation, and technological advancement. Nicolaus Loos's "Value Creation in Leveraged Buyouts: analysis of Factor Driving Private Equity Investment Performance" and Charles-Henri Larreur's 2021 book on structured finance.

In his study transformed into book, Nicolaus Loos provides a detailed and data-driven scrutiny of private equity deal dynamics, with a focus on more than 3,000 LBOs transactions took place between 1973 and 2003. In this empirical analysis, 1990s signalled a crucial period as they represent a moment of strategic maturation for the LBO industry. A subsequent crash after the peak in the 1980s paved the way for more sustainable models in 1990s, Loos said, including sourcing capital from institutional investors, pension funds, insurance companies, endowments, and sovereign wealth funds. The main reason behind the attraction of these transactions for investors are the superior risk-adjusted returns in a low-yield bond environment, where the allocation of significant portion of portfolios shifted to buyout funds.

Loos states that this capital inflow played a pivotal role in the structural change of transactions paving the road for Value Creation, also enabling the resurgence of LBO activity in the 1990s. The evidence provided by Loos on institutional capital shows that longer investment horizons were brought by institutional capital, relative due diligence got stronger, and greater expectations for post-acquisition operational improvements took place. Performance outcomes were the key indicators of the success of the role of institutional capital. The main reason behind successful and better performance in LBOs backed by institutional capital are the strategical alignment, the governance oversight, and professionalized portfolio monitoring. Private Equity firms where encouraged to focus more operational value creation, leaving the focus on financial engineering, paying more attention to cost optimization, expansion margin and revenue growth.

As previously stated, the shift from. Financial engineering to operational excellence is made clear in Loos' work, where he distinguishes financial value driver like leverage tax shields, interest deductibility, from operational value drivers like EBITDA, improvement, asset efficiency, growth strategies.

This transformative tool (institutional capital) aligned with another structural change, which is the usage of secondary buyouts, and more complex exit strategies usually requiring long term capital commitments typical of institutional investors. Institutional funds matured turned out to be a great tool to measure fund managers (GPs), differentiate strategy, and directly co-invest into deals, augmenting their influence in deal structure and its monitoring. Loos also presented detailed regression analyses showing the positive correlation between GP experience and team characteristics, demonstrating how

institutional backers improved not only credibility to broader market but a safer capital structure. Another great contribution to the structural evolution of LBOs was marked by Charles-Henri Larreur with its book "Structured Finance: Leveraged Buyouts, Project Finance, Asset Finance and Securitization", in 2021. Larreur offers a wider historical and strategic view to interpret the rise of institutional capital in the LBO framework. He states that the events occurred in 1990s were part of a longer spectrum of intermediation in corporate finance. He cites figures like Michael Milken crowning him as the one who set the stage for institutional investors to bypass traditional banks and obtain loans directly to corporations or indirectly through structure vehicles. Institutional capital, Larreur states, was once viewed as a passive tool, while now is seen a strategic enabler in a proactive state. The shift was not only in the amount of money, but in the long-duration, patience, and flexibility. These kinds of attributes gave the chance to private equity sponsors to undertake more ambitious operation turnarounds and follow industry consolidation strategies. Eventually, the 1990s stood out as a formative decade for LBOs history, not only for the record breaking deals, but capital institutionalization. This era was so transformative to change and laid the basis for modern private equity.

Historically speaking, we witnessed a second boom in the 2000s until the bubble in 2008. This wave was driven by low interest rates, abundant credit, and private equity's globalization. Renown deals such as the 2007 buyout of (TXU) for $44 billion and Hilton Hotels for $26 billion introduced the arrival of mega-buyouts.

The total enterprise value of approximately more than 5,000 transactions was $1.6 Trillion, according to Kaplan & Strömberg.

The 2007-2008 bubble shook the market heavily, leading many companies to bankruptcy and a steep decline of LBOs transaction, yet the sector managed to adapt efficiently and quickly. Technology, healthcare, and ESG-flavoured buyouts gained traction. Secondary buyouts and international diversification also characterized this period (Loos, 2006; Larreur, 2021). [13]As of Today, the newly elected president of the United States Donald Trump just gave way to his tariffs policy. This could lead to a chain of events that are either creating new ways to create value with different resources or could turn into a cold

[13] *Larreur, C.-H. (2021). Structured Finance: Leveraged Buyouts, Project Finance, Asset Finance and Securitization. Chichester, United Kingdom: John Wiley & Sons.*

Loos, N. (2006). Value Creation in Leveraged Buyouts: Analysis of Factors Driving Private Equity Investment Performance. Deutscher Universitäts-Verlag.

war also for Private Equity and Buyouts since the market in turmoil would make rates and firms uneasy to buy.

Chapter 2 The Technology, Media, & Communications Sector

2.1 The TMT's Landscape

The acronym TMT stands for Technology, Media & Telecommunications, a wide and dynamic group of industries representing one or more segments, more and more innovative, strategic, and in rapid growth on the global economic scale. These markets are not only contributing to the digital transformation inside firms and society itself, but represent also one the main targets for investments in Private Equity, being the engine for value creation and job creation. Even though many experts believe these technologies to be job replacing, the "homo sapiens" always found a way to walk alongside technology rather than to be left behind. Thanks to business models scalability and to growth potential provided by the TMT industry, the convergence of technology itself amongst knowledge and infrastructure seems to be a good marriage. Even though are often treated together with analytics and financial means, the TMT sector is structured in three verticals distinct but interconnected layers: Tech, which regards primarily software, hardware, IT services, semiconductors and cloud computing; Media, which comprehends production and distribution of digital contents, and traditional advertising, editorial platforms and streaming ones; lastly the Telecommunications, where operators work on fix and mobile tracks, infrastructures broadband and satellite services.

The Technology segment is definitely the most vibrant and dynamic, both in terms of innovation and capital flows attracted. By Forrester (2024), the adoption of IT Solutions and high performances forms as of today a strategic element for a prolonged competitive advantage, as firms are trying to integrate automation, artificial intelligence, and resilient architectural cloud to improve adaptability and reduce costs. From a Private Equity point of view, subsectors of software and IT services are particularly attractive for the presence of recurring revenue models, asset-light structures and elevated EBITDA margins.

Between 1980 and 2002, the software department and IT services have received more than 170 billion dollars in PE investing on a global scale, amongst which 146 billion in venture capital and 20 billion by Buyouts funds.

The Media segment, even though historically more cyclic and sensitive to the ongoing of the advertising market, has been going through a profound transformation thanks to digitalization of contents and emerging streaming platforms. This change has opened new opportunities for Private Equity funds, which can now invest in scalable models based on platforms, often supported by strong portfolio of intellectual property and high data monetization capacity. Not surprisingly, the media sector and entertainment has attracted almost 15 billion dollars in buyout capitals in the same historical period, placing itself amongst favourite LBOs targets and thanks to solid cash flows and brand value.

The Telecommunications sector constitutes an important infrastructure of digital economy, granting connectivity and data transmission on a global level. With progressive 5G rollout, the increasing relevance of edge computing and the exponential increase of data consumer, telco firms are getting back to being the main interest for investors, in particular throughout infrastructural buyouts and assets specific operations as connections via fiber. Although, historically are being perceived as capital intensive and subjected to regulation, recent trends show a change in the paradigm, with emerging operations of carve-out on networks and suppliers of networks with high entry barriers.

From a geographic point of view, the TMT sector maintain a consolidated leadership in North America, but Europe has acquired increasing relevance. In Italy, for example, digital economy including software, media, and telecommunications, has been valued over 77 billion euros in 2022, with growth predictions up to 100 billion before 2026 (Confindustria Digitale, 2023). On European scale, the Commission has promoted strategic initiatives such as Digital Europe and Recovery and Resilience Facility (RRF), devoting significative funds to digital transition and increasing attractivity of investing in TMT firms.

Concluding, the TMT sectors represents a particularly fertile soil for Leveraged Buyouts operations and Investments in Private Equity, sustained by structural trends such as digitalization, recurring revenue models, global scalability and technology convergence. Its segmentation in Tech, Media, and Telco consent strategic implementation differentiated by a part of PE fund, which can be pursued by roll-up operations, carve out, and construction in vertical integrations platform. Moreover, considering the accelerated rhythm of innovation and the strategic nature of these industries, the TMT firms frequently needs sophisticated plans for value creation, making them ideals for active ownership typical of private equity.

2.1.1 Value Creation Through Capital Structure in the TMT Sector

Capital structure composition of leveraged buyouts is a central driver of investment return, particularly within the Technology, Media, and Telecommunications (TMT) industry, which is characterized by high growth, compressed innovation periods, and lean asset business models. Nicolaus Loos (2006), with his ground-breaking empirical analysis of value creation within leveraged buyouts, concludes that capital structure is a central direct driver of value creation, together with operational reorganization and strategic repositioning. The empirical observations made by Loos illustrate that debt choice and type of instruments within LBO deals is hardly an exercise in pure financial engineering, but a strategic choice with significant influence on actual internal rate of return (IRR) and overall investment success, particularly within industries with intangible-driven cash flow streams such as TMT.

Loos's value driver integration has a three-levelled structure that differentiates between market and finance drivers, partner general characteristics, and post-acquisition strategy. In the first tier—market and finance drivers—the capital structure is important, namely via leverage ratios (i.e., Debt/EBITDA), debt structure (senior debt, mezzanine, PIK notes, unitranche), and interest cover. The regression tests conducted by Loos over a sample of over 3,000 LBO deals, with a subsample size that is large for TMT, support a statistically significant, positive relationship between moderate leverage and IRR. The paper, however, supports an inverted U-shaped relationship between leverage and performance, with value creation being maximized when an optimal range of

Debt/EBITDA of 4.5x–6.5x is attained within TMT deals, beyond which a constructive increase is counteracted by increasing probability of financial distress.

The idiosyncrasy of TMT companies strongly moderates the effectiveness of leverage as a source of value. Compared with, say, industrial or capital-intensive sectors, TMT targets tend to possess no physical collateral, and structuring for debt is harder and cash-flow-driven. As a result, Loos documents that successful TMT buyouts adopt a more sophisticated mix of debt, combining traditional term lending with subordinated debt or covenant-light deals that retain capital structure flexibility through scale-up periods. Such deals are not free, though: the paper finds that TMT deals with overdependence on mezzanine financing perform badly on IRR, primarily because of increased cost of capital and lack of amortization, which squeezes equity value at exit.
Also, Loos points to a balance between scalability of revenues and capital structure. In TMT LBOs with contractually repeated revenues (such as subscription content or SaaS models), which are transparent, optimally, debt can be used safely so that equity returns are maximized. In such cases, equity sponsors are able to experience cash flow predictability that allows for greater leverage at entry and facilitates pre-recap or dividend recaps—approaches for maximizing IRR without an exit. In cases, however, when TMT firms have ad-supported or project-based business models, which are cyclical and entail usage and customer concentration, application of big leverage has been shown to induce return volatility and greater covenant default risk. This is consistent with Loos' finding that capital structure must be dynamically tailored for every target's revenue architecture and horizon for expansion.

The second dimension is time-varying capital availability. Loos finds that leverage for TMT buyouts is highly macro-financial liquidity-driven—i.e., his “market supply effect.” During periods of abundant credit, TMT transactions will be over-leveraged against firm fundamentals and therefore perform less well against transactions put together during less favourable credit regimes. Such a market-timing bias establishes that capital structure for TMT is not only endogenous to firm characteristics alone, yet exogenously driven by sponsor conduct and by sentiment within the credit markets. In conclusion, Nicolaus Loos's research verifies that a main driver of value creation for TMT buyouts is capital

structure, yet a driver which must be adjusted for industry-specific dynamics. High leverage is only able to compound returns through leverage if complemented by predictable, replicable, and contractually supported cash streams. Conversely, stretching capital structuring into risky or untested TMT business models invites value destruction. Leveraging successfully, then, within TMT LBOs is only made possible by scrutinizing with great diligence revenue stability, predictability, and covenant flexibility. The evidence is that equity sponsors who adjust financing approaches to these specific risk-adjusted tradeoffs are more likely to realize value sustainably and surpass industry benchmarks.

2.1.2 Value Creation function in Private Equity

Value creation through leveraged buyouts is at the very center of the private equity business. Contrary to alternative patterns of investing that rely on passive market appreciation or diversification of a portfolio, LBOs are based on a deliberate transformation of the target company through a very high level of control, financial rigor, and strategic focus. The ultimate aim is to achieve a return on capital that comfortably exceeds public benchmarks, and one that derives not from luck or timing but from a methodical application of financial engineering, operational improvement, and strategic redeployment. The ultimate end is a process that redefines the capital architecture, the performance profile, and indeed often even the character of the acquired firm within the competitive environment.

Literature and practice alike identify three value levers central to the LBO value creation process: multiple arbitrage, leverage and deleveraging, and operational improvement. While each plays relatively greater priority in varying deals, geographies, and industries, collectively they form a coherent whole enabling sponsors to create internal value and market re-rating over the holding period. Multiple arbitrage refers to how a sponsor purchases a firm at a relatively low valuation multiple (typically EV/EBITDA in most cases) and exits at a higher one, thereby extracting value absent material operational improvement. The mechanism is most prevalent in fragmented sectors where private equity investors are the consolidators, alternatively turnarounds where greater governance and transparency are worth a higher resultant exit multiple. Multiple expansion is,

however, a further fading prospect in today's market climate, and recent evidence (Kaplan & Strömberg, 2009; Jenkinson & Sousa, 2015) emphasizes entry discipline. Acquisition of businesses at benign multiples remains a key driver of ultimate return, considering also the cyclical nature of purchase prices. To be in a position to enter on favourable terms, often in the midst of macro uncertainty or industry disruption, lays the basis for value realization downstream.

The second value creation pillar, and arguably the most distinctive feature of LBOs, is leverage. By financing part of the purchase consideration primarily through debt—typically between 60 and 80 percent of the consideration overall—the private equity sponsor minimizes the contribution of equity capital and leverages returns through the leverage multiplier. The percentage of debt benefits from the tax-deductibility of interest payments, providing a tax shield and optimizing cash flow efficiency. Moreover, because the firm retires debt over time from cash flows from operations, a process known as deleveraging, the value of the equity rises if enterprise value is kept fixed. The impact, captured in standard finance theory texts (Modigliani & Miller, 1963) and tested through the context of LBOs empirically by Loos (2006), underpins the private equity value process. That is not to downplay, however, that excessive leverage comes with material risk. A highly leveraged capital structure subjects the firm to macro shocks, reduces strategic flexibility, and increases covenant default or bankruptcy vulnerability to the downturn cycle. Axelson et al. (2013) demonstrate that best leverage is not a fixed number, but varies by interest rate environment, credit conditions, and industry specifics. But there is rough clustering around a net debt to EBITDA of 4.0x to 6.5x to form the sustainable range across most buyouts—a sufficient amount to maximize capital stack that does not create undue fragility.

With financial engineering becoming commoditized and growth potential reduced to multiple, private equity has been relying ever more on operational improvement as the value driver. Unlike the 1980s and 1990s, where superior returns could come from financial leverage alone, LBOs now depend to a very large degree on active portfolio management-driven EBITDA growth. Operational improvement entails a wide range of initiatives, from procurement optimization and cost reduction to revenue growth,

digitalization, and global expansion. Over the past few years, the sponsor has systematized this aspect, internalizing in-house operating teams, transformational officers, and value creation playbooks tailored to each stage of maturity of each target and market. Academic studies (Acharya et al., 2013) affirm that value creation comes from over half of recent LBOs through EBITDA growth, especially from transactions with longer hold periods. The private equity model permits centralized decision-making, incentive-based performance alignment, and quick pivoting of strategy—all challenging to emulate by traditional corporates with dispersed corporate structures.

The second value-producing alternative to financial models is strategic repositioning. It is a shift in the target firm's market positioning through business model, customer mix, or geography shifts. A case in point is the "buy-and-build" strategy where a sponsor purchases a scalable platform and subsequently builds out smaller bolt-ons to create a market champion. Cost and revenue synergies are created through the strategy, and often, it attracts superior exit multiples driven by the improved competitive positioning. Strategic repositioning also involves disposing of non-core assets, expanding into better-margin geographies, or transforming into technology-enabled services. More qualitative in nature, these levers are typically the most durable sources of value over the long term. Together, value creation in LBOs is multi-faceted. It is not a case of buying low and selling high, or simply margin expansion or debt loading. It is a case of choreographing a sequence of financial, operational, and strategic programs over a time span of usually between three to seven years to re-shape the company and generate desirable returns to limited partners. The sponsor's role is that of architect and implementer, cost-base re-engineering, strategy re-definition, and reshaping of the capital structure of the portfolio company. To the point, recent market conditions like elevated entry valuations, regulatory scrutiny of debt utilization, and the rise in interest rates have muted value creation and rendered execution even more paramount. The margin of error has been reduced, and differentiation amongst top-performing funds has largely moved to their ability to operationalize the value creation thesis cost-effectively.

In the thesis presented here, the following empirical evidence tries to gauge the influence of leverage-related factors to drive private equity returns and, in particular, to test correlation between financial structure and MOIC. While multiples arbitrage and working

improvement remain theoretically essential, our concern lies in testing if actual debt application-detected using Net Debt/EBITDA and like metrics-is actually associated with value increase in returns, and if there is a sign of a leverage "sweet spot" after which value-maximizing debt is no longer added. The issue here, taking a stand in the theoretical and empirical research, contributes to the solution of the age-old question typifying LBO nature: how much debt is too much, and where does value actually exists.

2.2 TMT Sector Peculiarity for LBOs Operations

The Technology, Media, and Telecommunications (TMT) space holds an unusual and uniquely central position in the realm of leveraged buyouts (LBO) not only because of its structural uniqueness from traditional LBO-preferred domains such as manufacturing, consumer staples, or business services, but also owing to its inherent nature of intensive intangible assets, IP-driven value models, scalability, digital customer engagement, and volatility, which challenge and disrupt LBO orthodoxy. Relative to cash-generative businesses with balance sheets rich in assets, TMT businesses operate within innovation-based ecosystems wherein sources of value are intangible in nature and difficult to anchor with collateral. This structure of difference imposes a different set of conditions and disciplines on private equity (PE) sponsors as well as lenders, which involve heightened due diligence, tailored capital structures, and an added layer of nuance in defining routes of value creation in uncertain environments.

Classically, the ideal LBO candidate is supported by stable and recurring cash flows, low capex requirements, mature as well as fragmented markets, as well as room for optimization of operations (Larreur, 2021). TMT businesses, nevertheless, don't satisfy some of these classic requirements: can be in an expansion or disruptive stage, invest hugely in platform development as well as in R&D, as well as have limited EBITDA visibility for various reasons such as customer acquisition cycles, as well as for product releases. Moreover, as Loos (2006) writes, tech-based buyouts have historically shown both the highest median net returns of over 15% as well as highest outcomes dispersion reflecting dual reality of exceptional upside as well as of material downside volatility. Those features can make traditional LBO leverage sizing more difficult, as lenders typically require strong collateral as well as earnings visibility in order to underwrite said leverage. PE sponsors in TMT thus need accordingly resort to other vehicles such as

covenant-light loans, unitranche debt, or equity-rich structures, with reduced leverage ratio when compared with other steadier sectors.

One of the characteristics of TMT firms in LBOs is their predominance of intangible assets like intellectual property (IP), trademark value, secret algorithms, patents, and databases. Though their strategic importance, their unreliability under stress is their weakness. With their enforcement not being legally enforceable sans control, their appeal is low for typical mainstream senior debt providers. According to Demiroglu and James (2010), financing such transactions on an indebted basis is too dependent on sponsor reputation as well as imputed idiosyncratic risk mitigation capacity through opera-tional control as well as track record. Successful incumbent sponsors hence leverage lender-friendly terms in the shape of covenants as well as spreads, sacrificing their celebrity in surmounting structuring financing issues. Additionally, the cash inflow profile of TMT firms is typically characterized through customer subscription models (SaaS), license revenues, advertising cycles, or user growth monetization—all calling for increased analysis granularity than traditional EBITDA constructs. According to Pignataro (2013), LBO modeling in the TMT arena must accommodate cash-based, not just accrual-based, performance measures as well as accommodate in-depth scenario analysis, primarily in terms of churn, pricing power, as well as customer lifetime value (CLTV).

Its customer base is also revolutionary in TMT LBO. While in the situation of B2C or fixed client contract-based B2B businesses customer bases are fixed, in the rapidly evolving digital domains of TMT businesses, network effects, user adoption, and virality create dominance in the market. This introduces an aspect of scalability not typical for more traditional enterprises: digital infrastructure permits TMT enterprises to scale revenues for nearly no marginal cost, theoretically exponentially increasing return on equity once fixed platform costs have been recovered. PE sponsors are therefore lured to such non-linear scalability, but must also contend with execution risk, first-mover disadvantage loss, as well as regulation-related volatility, notably in areas like adtech, fintech, as well as online media. Concurring with the arguments of Axelson et al. (2009), who establish that PE firms maximize capital structures on the grounds of deal-specificity as well as market-specificity, TMT LBOs are not always leveraged with lesser leverage

but greater anticipated equity returns created through post-acquisition growth schemes rather than cost-cutting or sale of assets. Under such scenarios, the buy-and-build approach—in typically executed in fragmented niches—is replaced with platform development as well as monetization of user base.

Governance-wise, TMT transactions also vary in terms of managerial expertise and board dynamics. PE sponsors in such an industry typically bring in seasoned digital operators and industry experts in order to oversee innovation cycles as well as tech-related risks. Jensen's (1989) agency theory is re-stated here: instead of applying discipline through debt in an attempt to constrain managerial slack, PE sponsors in TMT need to design incentives in order to drive innovation in products, rapid decision-making as well as an entrepreneurial spirit while maintaining return discipline. Also, whereas traditional PE governance structures enforce financial reporting discipline as well as budgeting control, in TMT LBOs, performance dashboards will likely have such measures as month-over-month (regular) revenues (MRR), user engagement, ARPU (average revenue per user), or net promoter score (NPS), rather than strictly financial key performance indicators (KPIs).

Empirical LBO activity within the TMT space also attests to the industry's deviation from its traditional peers. Compared with data accounted for in Loos (2006), the IT and telecom sectors enjoyed healthier growth in deal volume in the mid-2000s in the midst of volatility, with such activity continuing with the rise of digital-native businesses as well as cloud-based platform businesses. The trend gained pace after 2010 with the increasing institutionalization of growth equity play, in which PE houses leverage the value generation imperative of traditional buyouts with the growth orientation of venture capital. Late-stage SaaS as well as tech-enabled service businesses are ideal for hybrid LBOs, with sustainable cash streams supplemented with optionality of exponential growth. That being said, such an approach is not limitation-free: TMT businesses are subject to the risk of technological obsolescence, swiftly evolving customer preferences, as well as supervening regulation overhauls such as Europe's GDPR or the United States' antitrust regime, deterring exits or whistling out strategic sales.

A diagrammatic portrayal of LBO features in the sectors can bridge the gap between the divergence of TMT from core LBO targets:

Figure 2.2.1 — Sector Comparison: Traditional vs. TMT LBO Targets

Feature	Traditional LBO	TMT Sector LBO
Asset Tangibility	High	Low (IP, data, software)
Cash Flow Stability	Predictable	Variable / recurring (SaaS models)
Capital Intensity	Medium to high	Low to medium
Scalability	Linear	Nonlinear / platform-based
Debt Capacity	High	Lower due to asset-light model
Key Risk	Cyclical demand	Tech disruption, user churn
Value Creation Levers	Cost reduction, margin improvement	Revenue growth, digital monetization
Performance Metrics	EBITDA, Net Working Capital	MRR, CLTV, ARPU, churn, engagement

Figure 2 Sector Comparison: Traditional vs. TMT LBO Targets

Briefly stated, the TMT industry requires rewriting the LBO playbook. While departing from the financial profile and risk curve of traditional LBO targets, it offers unparalleled opportunity for growth, digital leverage, and value capture with efficient use of capital. Success in a TMT-branded LBO will depend on the PE sponsor's ability to integrate rigorous financial discipline with an adaptive, innovation-driven investment thesis. It will require knowledge of digital business models, managerial talent access, and the ability to construct tailored financing structures that can capture intangible-driven enterprise value. TMT LBOs thus represent not merely sectoral variation, but structural change in the private equity engagement with the new economy.

2.2.1 Jensen's Agency Theory Interaction with The Sector Peculiarities

The Technology, Media, and Telecommunications (TMT) industry enjoys a unique position among leveraged buyouts (LBOs) because of a combination of intangible asset density, scalability, and risk profile driven by innovation. These attributes impose certain constraints and options on private equity (PE) sponsors for structuring buyouts,

particularly with regard to using leverage and discipline by managers. In a perspective based on Jensen's Agency Theory of (1986, 1989), the TMT industry possesses certain dynamics with regard to using financial leverage for agency conflicts resolution and value creation, which is industry-specific.

Jensen's seminal agency perspective hones in on shareholder-manager tension, particularly for firms with high free cash flows. In his 1986 article, "Agency Costs of Free Cash Flow," Jensen contends that when firms possess cash reserves, managers will overinvest in ventures that maximize managerial utility—i.e., pet or empire-building activities—rather than shareholder value. Jensen's solution is substituting "slack" with debt: a contractual obligation to service principal and interest payments constrains managerial discretion and imposes efficiency. His 1989 explanation of LBOs as an "organizational innovation" is a further development of this thesis, with high leverage and concentrated ownership being structural tools that align investors with managerial incentives.

Applying such teachings over into TMT companies, however, does pose a degree of adaptation. As opposed to established industrial companies with stable, predictable cash streams, TMT companies exist within an environment of hectic technological innovation, shortened product life cycles, and intense R&D spending. These conditions reduce cash flow predictability, making application of Jensen’s debt-as-discipline tool inappropriate. The capital-light nature of the industry and potential for hyperbolic top-line expansion, however, generate a distinct agency concern all their own: managers become slack or inefficient allocators of capital during periods of high growth or after a successful financing event. Leverage again plays a correcting function—but with an adjustment for TMT conditions.

Specifically, high-recurrent revenue TMT companies (like SaaS firms with terms of a year) are particularly well-suited to Jensen's model. The cash flow predictability makes debt servicing easy, and sponsors are able to utilize leverage as a control tool. In those instances, debt imposes discipline over spending, disciplines discretionary spending, and enhances the need for profitable expansion. For example, a 30% year-over-year expanding software company would generate enough EBITDA to accommodate 4–6x

leverage; the use of covenants helps prevent dilutionary acquisitions or over-expansion.

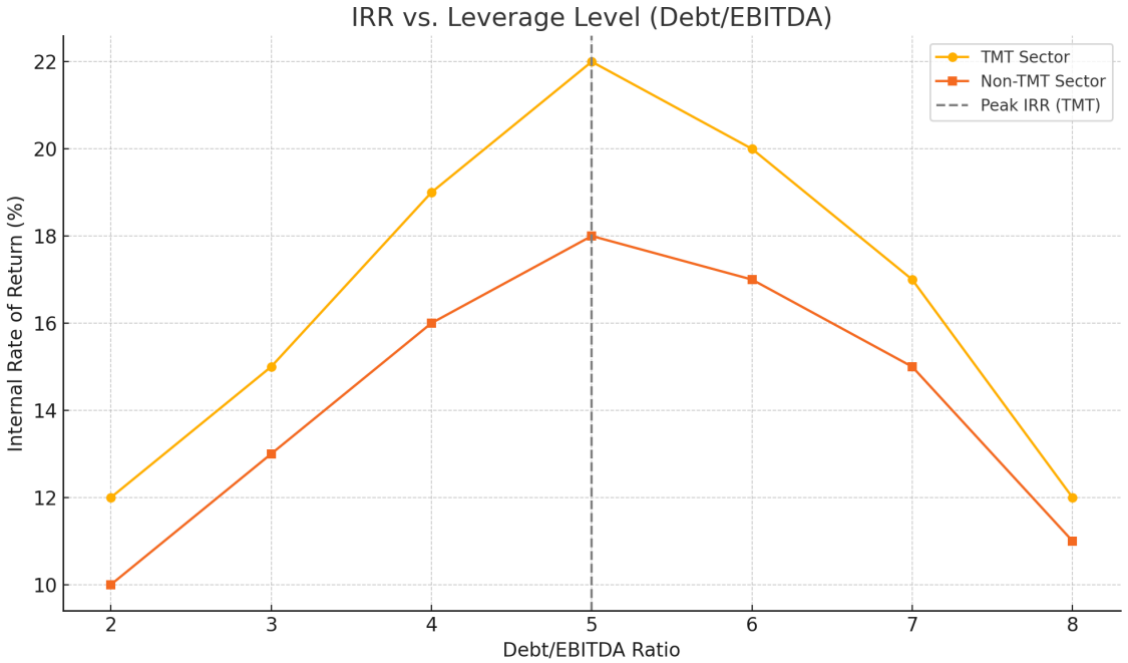


Figure 3 - Debt/EBITDA vs IRR by Nicolas Loos (2006) and Jensen (1989)

Conversely, though, for ad-supported or project-based TMT companies—such as digital agencies or media titles with a finite life—uncertainty of revenue makes fixed debt arrangements risky. Over-leverage, even there, will not only not discipline the management, actually induce too-quick restructuring or cash deficiencies. The agency model must thus be qualified by prudent consideration for revenue quality and cash flow effectiveness.

The second dimension comes from TMT target ownership structure. Many are pre-LBO backed by venture capital or owned by founders and, therefore, exhibit complicated incentive structures. Jensen's model assumes traditional public company backdrop, with diffuse ownership that generates latent agency costs. In founder-owned TMT firms, however, a far greater risk is entrenchment: owners are able to block strategic change or exit, against sponsor desire. In such a situation, LBOs provide not only leverage but a vehicle for realigning equity and bringing on new governance arrangements. By converting founder equity into rolled-up stakes with sponsor capital—and supplementing with debt to keep spending from running amok—the LBO vehicle is able to replicate Jensen's model even within a venture-like environment.

Jensen’s theory would further imply that debt disciplines by bringing control rights into creditors’ hands during distress. In TMT LBOs, however, with assets being typically intangible and human capital-based, it is more complicated. Absence of hard collateral makes the lender’s enforcement position weaker so threats of control transfer are less convincing. Debt’s disciplining effect will, therefore, need to rely more on reputation and covenant monitoring and less on liquidation value.

In addition, Jensen emphasizes the use of equity holdings by managers as a strategy for minimizing agency costs. This is particularly relevant for TMT deals, as incentives must be re-set into a buyout environment. Traditional LBOs within the industry include awards of sweet equity, performance-linked earn-outs, and vesting plans with upside tied to favorable exit terms. These arrangements—when paired with sensible leverage—duplicated the twin constraints of fiscal austerity and personal alignment that are inherent within Jensen's model. In conclusion, idiosyncrasies of the TMT industry challenge and complement the applicability of Jensen’s Agency Theory. Even when a debt-as-discipline mechanism must be moderated for volatility and collateral issues, universal principles of incentive alignment, cash flow commitment, and control right realignment remain. LBO creations within the TMT industry therefore need therefore to be attuned equally to the behavioral economics of innovation-driven businesses. Where this sensitivity is effective, Jensen’s theory still remains a convincing explanation of why leveraged structures are able to unlock value even for today's economy's most intangible-oriented sectors.

2.3 Trends and Growth Drivers

The Technology, Media, and Telecommunications (TMT) sector is being redefined by structural megatrends restructuring global investment theses, redesigning operating models, and magnifying the strategic leverage of Private Equity (PE) and Leveraged Buyouts (LBOs) as vehicles to access and drive growth. These megatrends of digitalization, cloud computing, artificial intelligence (AI), data proliferation, data protection (cybersecurity and privacy), and the revolution in connectivity through 5G are not merely exogenous market trends but system-wide shifts that condition sectoral dynamics, investor conduct, and deal-making mechanics in quantitative and qualitative terms. PE funds and limited partners are increasingly aligning capital allocation procedures to these forces, aware of the upside of exponential scalability and long-duration technological relevance. For PwC (2025), 2024 witnessed deal volume decline (-27% at the global level) driven in large part by macro uncertainty and capital market recalibrations, but the 2025 outlook is unashamedly bullish driven by pent-up dry powder, improved sponsor confidence, and the corporate digital transformation imperative.

Of these megatrends, the most significant growth driver and investment horizon is artificial intelligence. In the PwC's AI Predictions (2024), 73% of US executives surveyed said that AI was the number one most critical driver of the strategic priorities of their companies for the next three years. This extends beyond AI-native companies but across verticals reliant on algorithmic infrastructure to drive decision-making, personalize the end user's experience, accelerate automation, and protect digital perimeters. On that basis, the PE industry is pitching at AI-focused software providers, cyber platforms, and data infrastructure companies as part of next-generation thinking about LBOs. The data economy as an entirety is now an emerging new asset class, and datacenters are at the leading edge of transaction flows to an ever increasing extent. The Silver Lake and DigitalBridge acquisition of Vantage Data Centers for the price of $9.2 billion is symptomatic of the trend, reflecting enhanced investor appetite for enabling infrastructure to drive AI, cloud, and data workloads (PwC, 2025). These are not scale plays but expressions of conviction that compute resources, bandwidth, and storage capacity are the productivity bottlenecks of the future and ownership therefore strategically critical.

Cloud business has shifted in the meantime from technology feature to strategic asset class. Private Equity is pursuing IaaS and PaaS providers as companies offload on-premise legacy technology for flexible, safe, and durable digital infrastructure. PwC (2025) expects businesses to leverage M&A to develop cloud-native architecture skills as a response to client demand and talent scarcity within the IT professional market. These drivers are particularly acute in B2B SaaS models where repeat revenues, high customer retention, and product modularity make targets attractive in the context of LBO structures. Yet as noted by Pignataro (2013), LBO modeling within these transactions must take account of usage-priced models, deferral of revenue recognition, and platform churn patterns, which complicates traditional debt structuring but also enhances value when successfully achieved.

In telecoms, the 5G revolution is precipitating a second wave of strategic integration and monetization of the assets. With telecom operators facing declining legacy revenues and infra-intensive CAPEX, PE players are stepping into the game with hybrid capital structures to acquire or spin out the network assets—tower and fiber platforms primarily—to turn fixed cost structures into high-yielding infrastructure portfolios. Swisscom's acquisition of Vodafone Italia and recapitalization of TIM's assets with partner KKR are examples, where value creation lies not in margin maximization but in portfolio restructuring and access monetization (PwC, 2025). Importantly, these transactions are not financial arbitrages but strategic rebalancing of how data is transferred, priced, and stored—offering PE sponsors both stable return and built-in tech optionality. In such fashion, the classic trade-off between stability and growth of LBOs is being rewritten: technology allows stable monetization of replicable services and thereby compresses the legacy risk-return binary that normally kept traditional business and TMT segments at arm's length.

Another overriding theme is data privacy and regime arbitrage, specifically global enforcement of GDPR, CCPA, and sectoral regime compliances. Investors now include ESG (environmental, social, and governance) and resiliency to regulatory requirements in investment considerations. Captured in the 2023 Bain Global Private Equity Report, top-quartile funds are funds that merge financial performance and good regime-compliance structures, specifically in data-reliant industries where data is the operating

or revenue asset. In turn, PE sponsors are aggressively buying cybersecurity companies, compliance-as-a-service providers and regtech platforms as standalone assets and as margin-enhancing bolt-ons. The McKinsey Technology Outlook for 2024 further describes how AI ethics, digital sovereignty, and cyber-resilience are no longer “risk” but growth verticals in and of themselves, offering not only downside protection but margin enhancement through trust-based differentiation.

In the future, the convergence of these megatrends presages a new paradigm of LBOs in the TMT space that is no longer only leveraged on the financial axis but technologically and operationally “leveraged” by the might of platforms, data flywheels, and digital scale. This is going to require an enhanced toolkit on the side of the PE professionals—not just financial engineering, but sector expertise, specialist technology due diligence, and deal integration capability in harmony with the pace of innovation. According to PwC (2025), the most engaged sponsors in 2025 will invest capital but also be transformational partners, deploying operating executives, product architects, and strategic consultants to unlock the multi-level value built into digital business models. The technology services sector is poised at the crossroads of system change, with Forrester's 2025 trend report positing four structural trends—core consolidation, ecosystem convergence, AI disruption, and capital-labor rebalancing—as the drivers that will influence service models, operating practices, and investment rationale. These are not compartmentalized macro trends but underlying points of inflection which intersect in very deep ways with the Private Equity (PE) and the Leveraged Buyouts (LBO) strategic playbook. The intersection of technology commoditization, AI-enabled delivery, and value-based pricing is creating new acquire-and-build opportunities, new sources of value creation, and radically different governance structures post-deal. For private equity groups long used to financial engineering and operating discipline to deliver returns, the phenomenon on the ground today requires rebalancing to digital capability, platform integration, and software-based recurring revenue streams. The future technology service providers' code-heavy, intelligence-enabled, and asset-light architecture is, in short, a redefined surface on which the legacy LBO model needs to evolve.

The initial stage core scale and consolidation is fuelling secular transition from legacy retirement and platform upgrade to discretionary IT expenditure. On the buy side, the

trend is favourable to targets that possess cloud-grade architecture, homogenized stacks, and integrations. These features translate to cash flows predictability and less capex intensity and are therefore well-suited to the debt-servicing needs of LBO structures (Larreur, 2021). It is, however, with the uniqueness of the trend that there is no longer creation of value through cost rationalization but the rationalization of disaggregated technology estates, followed by margin expansion through operating leverage. The wave can be ridden by the PE sponsors through the acquisition of service companies that specialize in the SAP S/4HANA migrations, cyber modernization, or AI data foundation consultancy, subject areas where the long-term demand is evident from enterprises. By financing carve-outs from legacy conglomerates or roll-ups of local IT consultancies, the sponsors are able to generate valuation arbitrage and execute standard LBO financing with mid-to-low leverage multiples, which are still manageable in the face of ongoing earnings visibility plays.

The second force ecosystem orchestration and partner-centred models is the opposite of how value is delivered and monetized. With hyperscale alliances and solutioning on platforms becoming ever-more important to companies including Accenture and IBM, PE sponsors no longer are able to think about looking at standalone company metrics and instead must move to understanding embeddedness within partner networks. The target company's ability to monetize API integrations, prebuilt accelerators by domain, and platform certifications is valued at higher valuations than the traditional scale metrics of headcount or utilization rates. In such an instance, the operational theory of PE value creation moves beyond cost management to the repositioning of the firm through alliance strategy. Ecosystem embeddedness likewise provides greater exit optionality—targets offering differentiated Microsoft Azure or ServiceNow capability can command strategic buyers who are looking to obtain plug-and-play capability and market share. Sponsors are able to leverage playbooks off vertical specialization, channel alignment, and bundling of solutions, as outlined in the literature on strategic repositioning (Loos, 2006).

The third effect—the impact of AI on delivery economics and value chains—is most radical in terms of models of pricing, productivity metrics, and leverage of talent. AI-driven platforms like Accenture GenWizard or Cognizant NeuroAI automate software creation, compress the time-to-value, and deflate the cost of time-and-materials. To the new investor, the transition is deflationary risk but also arbitrage of productivity. The

economic model transitions from bill-and-horror hours to outcomes-based pricing, which applies different target valuation logic: the long-term viability of the gross margin, intellectual property assets as knowledge-based capital, and the ability to codify and market expertise are new KPIs. Importantly, it also remaps creation of value ex-post: instead of using traditional SG&A rationalization, the PE firm must impose AI tooling takeup, refactor the delivery platforms, and revalue go-to-market to AI-augmented services. This is strongly aligned with recent studies on monetization of intangible capital and digital transformation in PE (Pignataro, 2013; Demiroglu & James, 2010). In addition, the ability to scale using AI-driven service delivery provides asymmetric scalability, which provides the ability to service more clients using less growth in headcount thereby having an impact on operating leverage and return on equity.

The final push rebalancing to capital through services-as-software—is triggering an asset-intensive strategic turn, with implications for buy-side thesis creation and capital construction. With companies like Accenture leveraging debt to fund owned platforms, the line between services and software vanishes. In the lexicon of PE, it upset the historical cash-flowing service business in favor of traditional LBOs. To remain relevant, the PE players must be familiar with the hybrid constructs: growth-equity element, buyout element; product bet element, services element with repeating pay; and structured backed by IP capitalization rather than EBITDA multiples. The trend to service providers creating domain-specific agentic platforms holds the key to bolt-on and roll-ups with high IP defensibility and high switching costs on the customer front. Moreover, the transition to managed business services—take AI-based cybersecurity, compliance-as-a-service, or smart contact centers—is creating space for verticalized PE platforms to grow wallet share in markets. The Forrester report says the emergence of AI-based managed services is already gaining traction on the radar screen of the PE players, with the Big Four companies forecasting doubling of revenue contribution from such products to 2030.

Theoretically, the inflection point is the convergence of traditional agency theory (Jensen & Meckling, 1976), resource-based theories of the firm (Barney, 1991), and new digital economy and financialization models. The presumption underlying PE is that good governance, incentive, and capital allocation can restore productivity to underperforming assets, must now operate within an environment of exponential technology, human-AI

co-creation, and competitor-based organization. The LBO is no longer merely a financing tool but an orchestra management art, plugging modular AI solutions into the asset and creating long-term, IP-driven cash streams. Finally, the four forces reshaping technology services in 2025 do not recreate private equity, they relaunch it. For the poised sponsor, they offer an expanded canvas on which to apply the virtues of leverage, alignment, and transformation in the post-industry economy.

	2022	2023	2024
Deals Volume	**289**	**337**	**241**
Technology	236	269	183
Media and Entertainment	47	51	46
Telecommunications	6	17	12
In % del totale			
Technology	82%	80%	76%
Media and Entertainment	16%	15%	19%
Telecommunications	2%	5%	5%

	2022	2023	2024
Deals Volume	**289**	**337**	**241**
PE	105	130	122
Corporate	184	207	119
In % del totale			
PE	36%	39%	51%
Corporate	64%	61%	49%

Figure 4 *PwC. (2023). Accounting and Financial Reporting Insights for the TMT Sector.*

2.3.1 Failures in the Media Sector: LBOs stories

Always stressing the technology sector, also the media and the telecommunications markets represent a great opportunity for investors seeking disruptive innovations that could lead to years of high returns on investments. The media sector has been representing for a long time a market of great interest, and at the same time, characterized by high

complexity for Leveraged Buyouts operations, given the combinations of intangible assets, an elevated operating leverage and revenues models dragged by the brands. However, we are dealing with a context in which changes in consumer behaviour, less intermediation due to the rise of relevance of social networks and saturation in the modalities of monetization can erode rapidly the expected cash flows, mining the sustainability of the operation generating disruption for the equity value. This section analyses some of the most known LBOs failure in the media sector, stressing recurrent mistakes and putting an analytic framework centred on the comprehension of sectorial pipeline, an essential tool to correctly evaluate the sustainability of long term sources.

One of the most frequent errors in operational failures in the media sector was overvaluing the cash flows stability, in contest of strong discontinuity on the technological and cultural front. Two emblematic cases are the one of the Tribune Company and the Clear Channel Communications.

The acquisition for 8,2 billion dollars of Tribune Company, guided by Sam Zell, is of the most famous failures in the media sector. The deals was based on a highly indebted capital structure, justified by stability previsions in advertising revenues on news and broadcasting platforms. However, the sector went under a strong acceleration cause by the digital passing, causing a great fragmentation on the audience and a fall on the monetization of printed paper. After just a year, the firm declared bankruptcy. The biggest mistake is also what this thesis aim to analyse; the capital structure not being aligned with the revenue deteriorating pipeline. The biggest lesson here is that, LBOs in the media sector, must be integrated by macroeconomically trajectories and contents monetization, and not only relying on historical cash flows. Bought for $24 billion by Bain Capital and Thomas H. Lee Partners, the at the time leader in the traditional radio, found itself in a tremendous situation of excessive debt in a muted context. Digital platforms like Spotify and Pandora were redefining the audio fruition. Stil generating operating margins, the firm cold keep up the debt service in the negative cycles and was forced to restructure as IHeartMedia, presenting Chapter 11 instance in 2018. The LBO model was built on the nowadays business model of evolving streaming platforms, ignoring the migration of the consumer to more tech-built solutions. End of the story, the pipeline sometimes represents

a better judge than the historical EBITDA, where revenues and audience will be.

2.4 Industry Risks

The Technology, Media, and Telecommunications (TMT) industry not only holds enormous growth prospects but is also fraught with sector-specific risks that can seriously destroy value creation in the event of an Leveraged Buyout (LBO). These risks—most commonly inherent in the pace of fast-paced innovation, the volatility of end-users, and the dynamic nature of the governing regime—are best addressed by an in-house model of risk management as compared to one derived through standard financial models. Foremost among them are the risks of technological obsolescence, new entrant or new paradigm threats, and compliance with ever-changing data protection and antitrust laws. They are particularly salient in the event of an LBO since the associated leverage both maximizes returns and maximizes losses as well, and underestimating sector-specific threats can prove calamitous.

Mainly and most significantly, technological obsolescence is the greatest risk to TMT-based leveraged buyouts. The pace at which technological innovation continues to evolve in software, hardware, and digital platforms shortens product life cycles and intellectual capital depreciation. The IEEE estimates an average technology platform's lifetime at less than five years, compared to well more than ten years during the early 2000s. Consumer technology companies failing to adapt to mobile-first models—e.g., like BlackBerry—lost market shares in quarters, not years. In the case of buyouts, it is translated into shortened windows to monetize, which further burdens the GP to provide operational solutions and repositioning on an expedited schedule. The capital misallocation is no trifling risk, then, particularly in transactions where valuations are based on anticipated technological leadership that become soon enough obsolescent.

Hand in hand with the same is the ever-present threat of disruptive innovation. Whereas incremental innovation does not disturb prevailing market boundaries and business models, and in fact renders current players incrementally more efficient, disruptive innovation upsets these and occasionally renders current players obsolete regardless of past success. A case in point is the revolutionization of the media consumption model by Netflix, which disrupted traditional video rental chains like Blockbuster and later

compelled legacy broadcasters into reactive streams. Even within the telecoms sub-industry, there has been disruption with the advent of Voice over Internet Protocol (Voice over IP) and over-the-top (OTT) services like WhatsApp, which consumed SMS and traditional voice revenues. For an LBO analyst, such disruptions would mean that trailing cash flows—a staple of debt service capacity modeling—become less predictive measures of forward performance. Risk-adjusted discount rates must thus factor in both historical beta numbers and a qualitative evaluation of platform susceptibility to disruption.

Of similar concern is the threat of regulatory trends, specifically data privacy and antitrust governance. Compliance has moved from the back office to the mainstream risk agenda, specifically within data-intensive companies within the TMT arena. The catalyst was the implementation of the General Data Protection Regulation (GDPR) into the European Union during 2018 that laid out strict requirements on data handling and fines of up to €20 million or 4% of global turnover. Meta Platforms alone was fined well over €1.3 billion for cross-border data transfer violations during 2022. The risks are directly monetary as well as risks on reputation and operating. Overall, the ex-post nature of the regulating risk of non-compliance can significantly misestimate synergies and contemplated creation of value post the acquisition. For instance, the United States administration ratcheted supervision of China-owned app TikTok in 2023, with bipartisan bills to require disposal or outright bans on national-security grounds. For private equity target acquisitions of politically exposed digital markets, the same is an active source of tail risk. Importantly, the risks are non-diversifiable at the portfolio level where the investment strategy is targeted within digital assets with correlated exposures.

From an appraisal perspective, uncertainty arising from the regulator injects volatility into future earnings and may necessitate contingent liabilities on the balance sheet. Legal risk premiums must be included as an ingredient in the cost of equity, and scenario analysis must account for black swan regulatory action. In addition, increasing institutional investor acceptance of ESG factors has further increased the materiality of the regulatory requirements. Therefore, LBOs in the TMT space now always demand record depth and scale of legal due diligence, and such specialist risk mitigation tools as representation and warranty insurance and regulatory indemnities.

Here, it is also fitting to include the paradox of scalability and capital intensity. The desired characteristics of the TMT companies are low marginal cost and high growth but are prone to having high R&D investment needs upfront or unpredictable monetization horizons, particularly for new-age media technology or for the business models centred on platforms. The 2020-2022 SPAC-led buyout cycle for the media and the fintech industry showcased the phenomenon of many overvalued targets with new-age technology but the lack of stable revenue streams underachieving desired post-deal performance expectations leading to deep markdowns. For the LBO sponsors, what is emphasized here is the balance between growth optionality and cash flow predictability, particularly when the leverage limitations are extreme. In summary, the TMT sector is good ground for LBOs but is fraught with risks of a different kind to traditional industrials. The intersection of short innovation cycles, disruptor threats, and aggressive regulator amplifies the potential for deviation from base case hypotheses. To mitigate these risks, the private equity sponsor has to build sector-risk matrices that include technological trend tracking, regulator scenario planning, and disruption sensitivity analysis. Failure to do so puts at risk not only the investment hypothesis but also the ability to service debt obligations, the backbone of the leveraged buyout model.

2.4.1 Sector's Peculiarities Interaction with Leveraged Buyouts

In LBO context, the Technology, Media, and Telecommunications (TMT) industry is both an opportunity and hindrance for private equity investors. Unlike safer sectors that possess stable cash flows and stable asset bases, TMT companies carry high growth potentials but limited leverage potential on an underlying structure framework. This chapter elaborates in great detail on the structure of cash flows and composition of assets of LBO targets within the TMT industry and hence on their impact on capital structure and valuation multiples, leading to an investor-driven strategy to spot high-return offerings within the sector.

One of the most significant characteristics of the TMT industry is that it is spearheaded by intangible-led business models. Value in TMT companies is generated by means of software, online platforms, intellectual property, or subscription businesses. The cash flow pattern of these companies is thus non-linear based on customer acquisition cost, churn, and recurring revenues. In industrial companies where cash flow predictability is

based on product life cycles and asset usage, the cash flows of TMT companies can be scalable and unpredictable at the same time.

In private equity terms, this kind of volatility imposes a forbidding financing burden: lenders discount forecasts where cash flow predictability is low, essentially limiting debt leverage that can be stacked onto the capital base. This is why debt-EBITDA multiples tend to be lower for high-growth or development-stage technology businesses than for established industrial counterparts. TMT businesses that established subscription-based revenues (that is, businesses such as SaaS companies that benefit from high net retention of revenues) often find it is possible to achieve conventional cash flow predictability, which makes them suitable for LBO funding.

Physical properties owned by companies in the TMT sector cannot be put to use as collateral. In traditional LBOs, tangible property, properties, goods, and equipment serve as collateral to support higher debt tranches. The TMT sector, on the other hand, offers very little collateral, and even that in terms of code, brand, patents, and human capital. This has two implications:

1.Minimized secured leverage: Lenders reduce loan-to-value ratios, opting to require more sponsor's equity contribution.

2.More emphasis on structure of covenants: With asset bases comprising more intangible elements, financial covenants and performance tracking become increasingly important than asset-backed assurances

But the light-asset structure can be used to advantage at exit. Scale-up at little or no reinvestment typically results in high conversion of free cash flow, which in turn can facilitate rapid deleveraging at acquisition time. Valuation Multiples in LBOs of T

Valuation-wise, entry multiples for TMT companies are higher, particularly if there is an attractive growth story. Multiples of more than 12x–15x EV/EBITDA aren't uncommon, and that is especially true for SaaS businesses or tech-enabled service businesses. Such high multiples result from growth expectations as well as competitive auction dynamics. Silver lining, however, is that multiple expansion at exit, especially following organizational streamlining or platform integration, can be an actual source of value creation.

Buyers need to be particularly careful about growth quality, which answers the question whether if it's coming from one-time transactions or recurring contracts. Margin scalability answer the need of a company to demonstrate operating leverage at higher volumes.

The likelihood of requiring future technological upgrades or R&D investments impact on whether the firm is a right choice to be invested in.

Discounted cash flow analysis is especially useful in this case, as it can separate intrinsic value from near-term market hype or euphoria-tainted comparable.

Based on the above, standard TMT LBOs will comprise:

Lower Debt/EBITDA ratios (typically 3.0x–4.5x versus 5.0x–6.5x for mature industrials)

Increased use of mezzanine or equity financing.

Recurring recourse to earn-outs or vendor financing, especially in founder-led transactions.

Focused effort on creating back-end value through growth and exit strategies

Lower up-front leverage is generally balanced by higher returns that are created as it grows or expands into adjacent verticals.

The Golden Nugget when recognizing High-Return TMT LBO Deals is that while high entry prices and structuring financing issues might frighten off investors, an intelligent selection of an appropriate TMT target has the potential to deliver disproportionate returns. These "golden nugget" targets share one or more of the following characteristics:

Primary Screening Criteria:

- Stable repeatable revenues (ARR >= 80% of total revenues).
- More than 100% high net retention and customer churn rate.
- Low capital expenditures and asset-light strategy.
- IP-based moat or strong pricing power.
- Potential for operational improvement (optimizing and automating SG&A).
- Committed management team to roll-over equity.

These firms are able to create value as much by organic growth and efficiency improvement as by enabling multi-arbitrage as a result of sell-offs or strategic buy-and-build initiatives. Conclusion In summary, LBO structuring in TMT requires sophisticated thinking about LBOs. Leverage is kept in check by asset base limitation and uncertain cash flows, yet these are more than offset by scalability, opportunity at the margins, and

optionality at exit for skilled and disciplined investors. Success in creating superior returns on LBOs in TMT depends on reconciling keen capital discipline to deep sector expertise, transforming structural hurdles into strategic advantages

Chapter 3 – Private Equity and LBOs in the TMT

3.1 Private Equity Attraction's towards TMT

Private Equity (PE) funds have increasingly focused their attention on the Technology, Media, and Telecommunications (TMT) industry as one of the most strategically appealing verticals that they want to invest with ever-increasing frequency. Far from a random phenomenon, it is a consequence of a combination of structural, financial, and technology-driven factors that render TMT companies intrinsically well-positioned for value creation within the PE value chain. The attractiveness of the industry stems from its scalable business models, intangible intensity of assets, revenue predictability on a repeatable revenue stream, and consolidation potential, each of which fits the paradigm of what PE investors of our times find appealing. By viewing these qualities from the perspective of financial theory and factual observation, one is able to see past the reasons TMT has seen a disproportionate allocation of PE capital with ever-increasing frequency. In the first instance, TMT companies normally have low marginal costs and high operating leverage, particularly software and platform-based models. Digital products, being simple to duplicate with minimal additional cost of capital, produce aggressive EBITDA growth when bases grow. This is fully consistent with traditional value creation levers for PE: revenue growth, expansion of margins, and capital efficiency. PwC (2023) contends that the recurring revenue character of Software-as-a-Service and pay-as-you-go media models provides PE funds with consistent and annuity-like cash flow that allows them to utilize higher levels of leverage at the same time that they minimize default risk. This is valuable because one of the pillars of leveraged buyouts is the leverage of equity returns using debt. Stable, recurring cash flows provide backing for more extreme capital structures that maximize the internal rate of return (IRR) for financial sponsors.

In addition, the TMT sector is brimming with hard-to-replicate, highly defendable intangible assets, intellectual property, proprietary software algorithms, customer lists—

often creating lasting competitive moats that sustain them. These intangibles, unlike tangible assets, do not decay linearly and, rather, appreciate with network effects and scale. PE funds have become adept at pricing and monetizing those intangibles through strategic rebalancing and add-on transactions. As the EY report "TMT in PE" (2022) puts it, deals in the sector are usually focused on the purchase of talent and IP rather than hard assets, which is consistent with PE's needs for asset-light and capex-efficient companies. Moreover, regulatory and accounting reforms, like new accounting for cloud computing arrangements under ASC 350-40 and the spotlight on revenue recognition under ASC 606, have made disclosure higher in the measurement of the financial condition of TMT companies, which has further increased investor trust (PwC, 2023).

Another source of PE attraction to TMT is the accelerating cycle that has a natural bias toward fragmentation of the market. This fragmentation creates rich soil for roll-ups, with PE sponsors aggregating several small players into scaled, competitive platforms. On super-fragmented sub-verticals like managed IT services or digital marketing houses, PE players are able to take aggressive buy-and-build approaches that produce valuation arbitrage, buying at 6–8x EBITDA and selling at 10–12x after a material scale has been reached. As Bain & Company's 2023 Private Equity Report discusses, nearly 45% of TMT-related deals involve some form of platform add-on strategy, a higher proportion than any other sector. This scalability, combined with the industry's asset-light intensity, allows for both top-line growth on an accelerated basis as well as for operating leverage, key drivers for PE's value generation toolkit.

Macroeconomically, the TMT industry has also proven relatively resilient to cycle setbacks. Throughout the COVID-19 pandemic, cloud services, streaming services, remote collaboration tools, and e-infrastructure had record-high growth demand, which protected the majority of TMT companies from the overall slowdown of the general economy. This defense growth profile is appealing to PE players, particularly within a rising rate and macro uncertainty context. Combined with that is the secular drivers of digitalization, cloud adoption, 5G rollout, and AI adoption, offering a long-term growth runway for value creation, even when shorter-term macro cycles peak and trough. The viable potential to leverage both growth and resiliency is what makes the TMT distinct from other traditional, cyclical industries.

From a seller perspective, TMT investments benefit from a highly liquid and active IPO and M&A environment. Strategic acquirors are prepared to pay for innovation and market entry, and public markets are rewarding tech-enabled companies with valuation multiples, especially those with strong growth and profitability profiles. The recent trend of sponsor-to-sponsor transactions and continuation funds provides monetization of TMT assets for PE fund vintages, facilitating capital recycling and fund performance.

All that being said, TMT investing is not risk-free. Sector valuations are higher, pricing in growth opportunities that won't always materialize. Execution risk on integration post-deals, talent retention, and cybersecurity remain issues. But compelling exit optionality, structural scalability, and innovation tailwind largely trump those risks for savvy investors with the benefit of sector knowledge and operating skills on their side. Briefly put, the attractiveness of the TMT industry to Private Equity is based on a blend of qualities that align well with the financial and strategic agendas of the buyout funds. High-margin, recurring-revenue models based on intangible asset moats and exponential scalability present rich soil for a leverage-facilitated value creation. With digitization touching every vertical and the periphery of TMT expanding, the industry is likely to remain a pillar of PE investing strategies. Rather, the union of financial engineering and technology innovation is continuing to push the frontiers of private equity.

3.1.1 Strength in Numbers

Private equity technology orientation is not episodic or opportunistic but rather an expression of long-term structural alignment of technology-enabled business models with the internal workings of value creation in leveraged buyouts (LBOs). Five years have witnessed an evolution of interest from basic cost rationalization through increasingly elaborate strategies incorporating working capital restraint, expansion by platform, and cyclical optimization of cash flow. Synthesis of these strategies has turned technology portfolio companies into laboratories for financial engineering in its strategic guise through which generative cash flow and scalability are structured through structural configuration and operational deployment. Drawing on evidence from both McKinsey and from EY (2024-2025), the chapter distils core levers applied by PE sponsors in

technology into what are increasingly significant strategies within an environment of increasing rate sensitivity, elevated valuation, and sector-specific volatility.

One of PE firms' most potent levers in technology asset management is proactive generative cash flow management—not just defining it as debt service-paying free cash flow (FCF) but as a company's ability to generate liquid discretionary funds via operating discipline. Portfolio companies utilizing working capital optimisation levers such as days sales outstanding reduction, extension of account payables, and quote-to-cash cycle compression have experienced 5-7% in revenue-averaged enhanced cash flow based on 2024 data from EY-Parthenon. Consider an instance of a PE-backed software provider business that improved billing rhythm through subscription-renewal cycle restructuring, freeing up untapped money for investment in strategically bolt-ons. Importantly, these changes were achieved in doing minimal top-line growth dilution in helping justify that cash optimisation sits alongside growth rather than in competition in a technology-infused framework. With increasing cost of capital and dry powders available that must be allocated wisely, making liquidity a key measure of value creation becomes imperative.

Platform strategy is the second pillar in PE playbook for technology firms. Through 2025, McKinsey forecasts that "bolt-on" deals—that is, those smaller capability-building deals rolled into larger platform businesses—are poised to remain ubiquitous in TMT M&A, and in part as firms shift from hardware-centric AI infrastructure investments to monetizable software overlays. The platform approach allows PE sponsors to buy an extendable core (e.g., a mid-market SaaS company in a defensible vertical) and build out from it incrementally through highly accretive add-ons. The play is subject to valuation arbitrage—to buy smaller companies on 6–8x EBITDA and sell out on 10–12x post-combination—or operating synergies in the form of back-office platforms rolled-up, bundling through priced products, and aggregated bases. Consolidation has been most successful in verticals like IT services, cybersecurity, and enterprise software where fragmentation, repeat revenues, and commoditization make consolidations by scale viable, according to McKinsey. PE serves as an agent for industrial rationalization in otherwise splintered technology ecosystems by arbitraging complexity for scale and inefficiency for growth.

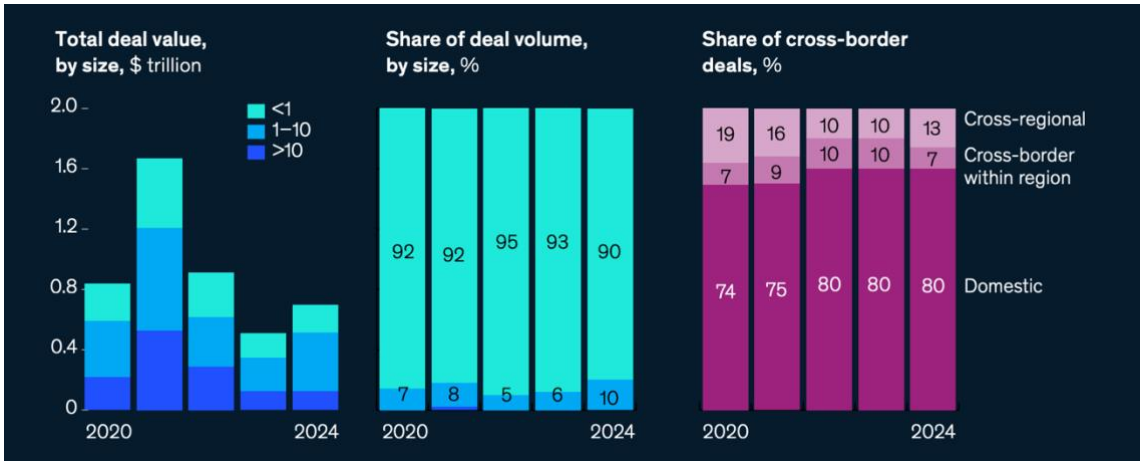


Figure 5 *McKinsey & Company. (2025). Technology, Media, and Telecommunications M&A: Trends and Outlook.*

A second strategic advantage employed by PE firms is leveraging functional optimization on cash cycles—that is, through operating levers including procurement and deal desk transformation. The EY-Parthenon report talks about how most technology companies and those that are SaaS and platform businesses tend to under-prioritize procurement and payable processes given the asset-light nature of businesses. PE sponsors have achieved 1.5% of revenues in cash improvement in certain portfolio companies through the leveraging of supplier segmentation, renegotiated payables, and technology-enabled AP automation. Deal desk strategies complement this activity by bridging revenue management directly to cash predictability: companies that have incorporated variable user-pricing deals, dynamic renewals, and billing visibility are more capable of predicting and smoothing out cash flows, particularly when serving leveraged capital structures.

Rebalancing growth against capital discipline is intentional rather than opportunistic and tracks a shift in the private equity universe of investing. McKinsey (2025) discovers that while TMT volume fell modestly in 2024 against geopolitics headwinds, the share of PE activity in deals greater than $1 billion continued to remain stable—especially in software, in which long-duration growth and data-revenue models remain in favor of paying high entry points. The McKinsey statistics also establish that 75% of large technology deals are today carve-outs that show PE firms' growing appetite for divested operating units having mature bases of revenues but untouched operating leverage. The dynamic has the effect of highlighting that PE today is no longer riding growth waves but

actively building cash conversion and scalability in carve-out opportunities in which previous corporate parents underinvested or misallocated capital.

Collectively, these trends validate mature evolution of private equity approach to technology. No longer driven by multiple or market dynamics for arbitrage, PE sponsors are today hybrid operator-strategists who use cash flow, platform design, and operating machinery to reimagine technology businesses as capital-efficient integration-ready assets. Where generation of cash is no longer an incidental outcome of terminal value or quest for market demand but an engineered quality of portfolio design. Scaling platforms is no longer a growth thesis but a repeatable process of acquisition and integration calibrated through operating KPIs. And functional optimization is no longer in the domain of CFOs but an investment discipline ingrained from due diligence through exit.

In short, if private equity continues at its current speed in the TMT sector, its ability to create value through strategic generation of cash flow and roll-up out of platforms is proving to be the source of long-term outperformance. The levers are no longer purely financial—they are structural, operational, and behavioral. With interest rates returning to normal, legacy technology assets falling into the market, and digital infrastructure becoming increasingly necessary, top quartile PE performance in the future will come from those sponsors who combine capital expertise and operating capability. As the McKinsey report succinctly states: “software deals and innovative partnerships will carry the day”—a prediction already being proved out by disciplined, cash-focused platform plays that are increasingly defining tech-focused private equity.

3.2 Post Acquisition Strategy

During post-acquisition stage of an LBO, its core challenge for PE sponsor is no longer financial structuring, that has been dictated by deal close, but actively crafting performance improvement for returns in excess of invested capital. The three-to-seven year time frame is the center of value creation. Post-acquisition strategies undertaken are thus a key contributor to both success in deals and fund performance. These strategies are generally a mix of operational, strategic, and financial levers within a playbook repeatable in form but tailored in content to target company and industry-specific factors. With TMT and digital assets particularly where business model is asset-light and growth-driven, post-acquisition strategies have been calibrated to include platform building out,

optimization of generation of cash flow, tactical repositioning and digitization enablement—all undertaken with intensity and velocity usual in straight corporate settings.

The most immediate and first building block of post-acquisition value creation is operating improvement, namely in cash flow and working capital. As described in some detail by report from EY-Parthenon (2024), technology companies, particularly those in subscription-revenue businesses, have significant opportunity for quote-to-cash (QTC) performance improvement through tightening receivables and contract renewal streamlining and Deal desk function reengineering Cash strategies EY.

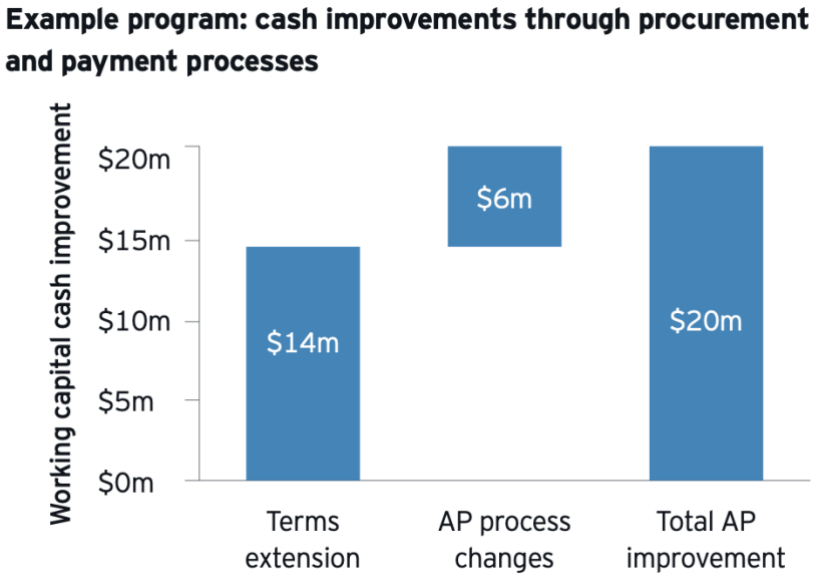


Figure 6 *- EY Cash Strategies*

In one instance, a PE-owned software business released 5% of revenue in cash benefits in billing rhythm improvement and contract structure rebalancing. Similarly, accounts payable (AP) streamlining and procurement restructuring have been able to deliver payback in near term: one security software company streamlined APs by improving AP terms and unlocking 1.5% of revenue in incremental liquidity. More than operating changes, these enhancements are functional scaffolding for deleveraging and reconversion, particularly in higher interest rate and tighter credit conditions.

Second, perhaps best in sync with PE maturity, is applying platform strategies though bolt-on deals. The pattern of acquisition, "buy-and-build," as in the literature, is usual when the first portfolio firm serves as a nucleus from which to build out the market.

Academic studies have shown buyouts for add-ons have been successful in the past, achieving IRRs of 88% compared with 85% for the leverage. The rationale is compelling: in making horizontal adds in a market, PE seizes both revenue and cost synergies in its target segment, grows presence in the market and achieves efficiencies of size that lead to higher exit multiples. As McKinsey describes it (2025), bolt-up activity will come as a recurring theme in TMT in software firms' quest for specialized capabilities and geographical footprint through smaller-size assets with ease of integration. The strategic advantage is two-fold: valuation arbitrage, “buying smaller firms for lower multiples of EBITDA", and operating leverage in rationalizing centralized platforms, single-brand experiences, and streamlined back-office infrastructure.

Parallelly, PE sponsors undertake refocusing strategies of the target company for restoring simplicity and clarity in its strategies. These involve intensive intervention in models of prices, segmentations of customers, product portfolios, and channel strategies. Loos (2006) notes that LBO firms are likely to shift portfolio companies' strategies through divesting peripheral businesses and building core capabilities in order to enhance competitiveness in positioning. These interventions are based on a penetrating resource redeployment logic grounded in Resource-Based View theory of the firm predisposed towards redeploying tight internal resources in high-return areas Value Creation in Lever…. PE firms also tend to seek underperforming assets weighed down by managerially induced inefficiencies and substitute incumbent managers who are responsible towards performance-based reward systems. The underlying theory for this "management engineering" is in empirical evidence: firms that replaced top managers and made aggressive changes in strategies achieved superior IRRs particularly if accompanied by transparent performance indicators and sharing of equity.

Most importantly, post-acquisition is where capital reoptimization and financial engineering occur. Though sensationalized in mainstream media coverage, financial levers such as dividend recapitalizations, covenant resets, and cash sweeps remain part of capital management. Recent trends are instead pointing towards increased emphasis on intrinsic value generation through performance improvement from harvesting financial rents. As an example, McKinsey (2025) cites that PE sponsors are pursuing mature carve-

out businesses from corporates these days in which they lead operating models that retain start-up flexibility but are underpinned by institutional discipline. These carve-outs disproportionately benefit from post-acquisition changes in governance in the form of flattened reporting hierarchies, KPI dashboards, and real-time analysis for purposes of decision-making. A second under-studied but growingly crucial one is entrepreneurial rejuvenation. PE investors are not primarily routing for consolidations or minimizers of cost alone but are enablers of innovation. As Wright and Coyne (1995) and Zahra and Fescina (1991) point out to us, firms under an LBO are likely to experience a product innovation makeover, R&D intensity, and technological. The effect of an oft-heard "entrepreneurial unlocking"—is induced by alignment of ownership and managerial incentives, flexibility in making decisions, and injection of pressure for performance. In TMT industries where innovation cycles are short and threat of disruption is severe, this shift from cost-cutting retrenchment towards pro-activity around value is particularly pronounced.

In short, post-acquisition private equity programs no longer include sheer cost-cutting exercises or superficial integration agendas. These are instead multifaceted agendas dedicated to operating discipline, platform expansion, design for strategy, and stimulation of entrepreneurism. Through incorporating rigid financial discipline with direction based on strategy and functional know-how, PE firms have made post-acquisition a managed process for creating value. The empirical and academic evidence point toward a singular point of agreement: it is no longer acquisition but stewardship thereafter that generates magnitude of value in LBO transactions.

3.2.1 Strategic Levers in the Post Acquisition Phase

Within that broader post-acquisition strategy framework, private equity sponsors are likely to deploy a concentrated set of interventions for driving value realization in multiple dimensions. Four of these have been particularly prevalent in technology, media, and telecommunications (TMT) companies: build-up strategies through add-ons, expansion in new geographies, digitization of core processes, and redesign of talent for strategy. These levers are distinct but are often pursued in conjunction with one another as part of an operating plan in industries where scalability, cross-border footprint and speed of innovation are central to competitiveness.

The build-up approach, or "buy-and-build," is a traditional private equity approach for sub-industries that are highly fragmented including cybersecurity, marketing technology, and vertical SaaS. The approach is through acquisition of a platform firm and multiple bolt-ons thereafter in an attempt to roll-up the market, realize economies of scale, and enable multiple arbitrage valuation uplift. A good example is Hg Capital build-out of Access Group, a mid-market UK enterprise software platform having acquired more than 20 add-ons in niche software verticals in finance, education, and HR. The vertical roll-up not just enabled revenue diversification but allowed for centralized product development and cross-sell opportunities for top-line and margin expansion.

Geographic expansion is also a key lever, particularly for scaling global-reach business models with limited regional penetration. Private equity sponsors often leverage global networks and inorganic growth execution capabilities in making cross-border expansion a reality. EQT's investment in open-source software provider SUSE is an example. At its acquisition of SUSE by EQT, it initiated expansion in North America and Asia on the back of in-place distribution relationships and investments in local sales infrastructure. The subsequent revenue expansion was complemented by branding repositioning, ultimately resulting in an IPO. These expansions are not opportunistic but are often preceded by extensive market mapping, cost/benefit analyses, and localization planning efforts, mitigating thereby the execution risk historically attached in international expansion.

At the same time, technology no longer comes through as an add-on but as an organic source of value in post-buyout. PE sponsors increasingly evaluate portfolio companies' level of digitization and invest in end-to-end transformation of enterprise infrastructure, customer interactions, and data systems. As reported by EY-Parthenon (2024), digitization programs consisting of ERP integration, moving to the cloud, and automating payables/ receivables processes have returned an increase in cash flow by over 5% of revenues in some instances. One live example is when a PE-owned health care software provider overhauled its quote-to-cash architecture and billing rhythm and had available liquidity in place to make an adjacent-market acquisition. These actions not only drive operating efficiency but also increase visibility of data and calm working capital volatility—two levers of greatest importance in managing leveraged capital structures.

Last but not least, talent management is an underemphasized but growing driver of post-acquisition success. High-performing PE sponsors take an interest in human capital from an earlier stage in the investment process, even conducting executive assessments and complementing top teams with sector-specific expertise. In technology precisely, this is applicable where speed of execution and knowledge asymmetry can unambiguously widen performance dispersion. In Thoma Bravo's investment in Dynatrace, for instance, the sponsor rebuilt the CEO, reshaped top leadership, and provided equity-based incentives in relation to strategic KPIs such as ARR (Annual Recurring Revenue) and Net Revenue Retention. The outcome was performance and cultural turnaround enabling company transformation and IPO outcome. These interventions illustrate the agency theory logic of PE governance: aligning managerial behavior for investor objectives through optimally calibrated incentives and accountability mechanisms (Jensen & Meckling, 1976). Collectively, build-up strategies, geographic expansion, digital transformation, and talent refresh are not mutually distinct plays but rather intertwined elements of a best-in-class post-acquisition playbook. Their successful deployment requires sector expertise, rigorous execution, and institutional capabilities that top PE sponsors have increasingly embedded within operating models. Implemented successfully, these levers have the ability to shorten time to value capture, enhance exit optionality, and de-risk underlying growth thesis in the center of technology-focused LBOs.

3.3 A Landmark LBO in the TMT Sector

One of the most legendary and impactful deals in private equity history in the technology, media, and telecommunications (TMT) space is the 2013 leveraged buyout of Dell Technologies. Beyond its scale—at approximately $24.9 billion—it was a dramatic departure from the private equity market's treatment of behemoth, capital-hungry technology companies. Led by the firm's founder Michael Dell and Silver Lake Partners, it demonstrated how LBO mechanics could be constructed to overcome public market skepticism, technological upheaval, and strategic repositioning over the long term. It not just revamped Dell's business model, it reset investors' expectations regarding the application of private equity in the rapidly evolving TMT environment.

Dell was subsequently beset by intense competition and secular weakening of the global market for personal computers, which had been the company's primary source of revenues. Hyper-growth in enterprise application software, cloud, and mobile computing was breaking down the conventional PC value chain to render the hardware suppliers unprofitable. Furthermore, Dell's public market equity standing had also sharply worsened, with stagnant stocks and investors doubting the future growth of the company. Against the backdrop, Michael Dell made the offer to take the firm private, citing that rebuilding Dell into a full-range IT solutions firm would prove to be too capital-hungry, too risky, and too disruptive to pursue in the type of short-term mindset of public shareholders. Silver Lake Partners, a large tech-investing private capital firm with a history spanning decades, decided to finance the leveraged buyout, considering the deal to be a bet in the longer term on enterprise IT transformation.

The financing of the deal was a textbook case of LBO structuring on a large scale but customized to the unique nature of a tech firm. The deal was financed by a combination of around $15 billion of debt, $4.4 billion of Michael Dell's equity, $1.4 billion from Silver Lake, and another $2 billion of loans from Microsoft, which saw strategic value in holding on to a top OEM partner. Interestingly, the debt structure comprised a number of tranches of senior secured term loans, high yield bonds, and revolving credit facilities—a highly structured balance of interest cover and maturity profiles. The application of debt to a tech firm—otherwise distinguished by its intangible assets, high R&D spending, and poor collateral characteristics—was a stark departure from conventional LBO candidates from asset-rich sectors like manufacturing or consumer products. Dell's annuity-type enterprise revenues, solid cash generation from services, and cost control skills in-house, however, provided sufficient comfort to lenders.

Strategically, the LBO allowed Dell to fully overhaul its business model. Unshackled from the spotlight of quarterly earnings and the disturbances of activist investors, the company launched a succession of game-altering initiatives: a commitment to enterprise hardware and services, a hard-charging expansion into data center infrastructure, and a staged deprioritization of consumer commodities. The most dramatic coup de grâce came in 2016, when Dell Technologies finalized the $67 billion acquisition of EMC Corporation, then the biggest tech deal ever. The vertical extension into data center

storage, cloud and virtualization tech (via EMC's holding in VMware) sealed Dell's remaking of a diversified enterprise IT titan. So brazen a move would have been almost impossible if Dell had been a public company subject to the vagaries of short-term market whimsy. On that count, then, the LBO was not just a font of financial leverage but also of governance leverage—to allow the sponsor and the management team the room to execute a multi-year transformation strategy with unfettered hand.

Value creation dynamics of the deal were multifold. Financially speaking, application of leverage substantially amplified returns achieved as enterprise value of Dell increased. To the extent that exact internal rate of return (IRR) figures are not publicly available, industry estimates are that Michael Dell and Silver Lake achieved a compound annual return of high teens to low twenties when Dell went back to public markets in 2018 through a reverse merger of VMware tracking stock. The nature of returns was driven by a combination of growth of EBITDA, debt paydown, and partial multiple expansion as business mix changed. Operationally speaking, the firm achieved material improvements in adjusted EBITDA from cost restructurings, EMC integration synergies, and revenue from cloud infrastructure and cybersecurity solutions of higher margin. On a meaningful note, Dell's cash flow profile also improved significantly, enabling the firm to service debt obligations and yet invest in innovation—contrary to the logic that technological reinvention and high leverage cannot go hand in hand.

The Dell LBO also influenced the rest of the private equity universe and the TMT space. It first demonstrated the thesis that large-cap tech companies could indeed serve as LBO candidates if they generated stable cash flow and credible stories of change. Secondly, the deal was a reflection of increased private equity sophistication in navigating regulatory, financial, and strategic complexity, including the involvement of third-party stakeholders such as Microsoft and the application of minority public equity through tracking stocks. Lastly, the deal created a focus on founder involvement through buyouts, with Michael Dell's interest alignment being the driving force allowing the deal to reach completion and post-acquisition results. His dual functions of management leadership and principal equity holding ensured strategic stability and cultural fortitude in a extremely disruptive decade of tech disruption.

Among scholars, the Dell leveraged buyout is a case study of the possibility of leveraging buyouts being used not as technological arbitrage devices but as tools of corporate

restructuring. It challenges the limiting paradigm of LBOs as cost-cutting and financial engineering devices by presenting how high-conviction strategy, good governance, and patient capital may coalesce to create long-term shareholder value. The transaction also raises basic questions about the boundaries of leverage in intangible-driven sectors and the evolving role of private equity in shaping the face of innovation. Overall, the Dell LBO was not only one of the largest and most fought-over deals of its time, but also a milestone in the evolution of private equity and a catalyst for the strategic reshaping of the global technology sector.

3.3.1 Taxation Benefits from Leverage in the TMT Sector

Taxation is a driving force of the economic outcome and structure of leveraged buyout (LBO) deals. According to standard finance theory, corporate taxation imposes a bias towards the application of debt finance as interest can be offset against taxes. The tax shield which this offers lowers the effective cost of capital and enhances returns to equity such that leverage is not only a way of increasing control as well as discipline, but also a way of unlocking fiscal efficiency. Applying this concept to the TMT (Technology, Media, and Telecommunications) industry, however, is accompanied by a group of complexities which challenge conventional assumptions of tax optimization for LBO.

In the traditional LBO scenario, we can represent the tax shield value in the Modigliani-Miller model with taxes so that the leveraged firm's value is an explicit function of the present value of the tax benefits from leverage. Empirical studies (e.g., Kaplan & Stein, 1993) have uniformly shown that a large proportion of the 1980s and 1990s private equity profits can be attributed to such financial arbitrage. The fiscal mechanics are modified by the capital structure of TMT companies, though, because of the preponderance of intangibles, the variability of taxable income, and the incidence of net operating loss (NOL) carryforwards.

TMT companies, especially those with businesses in the software, streaming media, and network equipment industries, typically exhibit upfront R&D expenses, high intangibles amortization, and massive equity-based compensation expenses. All these reduce current taxable profits and sometimes even make companies loss-generating over extended periods with positive EBITDA. Thus, the theoretical tax shield value of the leverage might not be entirely captured, especially during the first couple of years from the date of

acquisition. Also, tax regimes with aggressive thin capitalization rules or interest deduction caps (e.g., as proposed by the OECD BEPS action plan or domestic implementations like the U.S. IRC Section 163(j)) reduce the deductibility of interest expenses even further, especially for highly levered transactions.

But when well crafted, LBOs in the TMT space can still realize substantial tax benefits. Sponsors typically structure acquisition vehicles in low-tax jurisdictions, utilize hybrid instruments (e.g., shareholder loans with quasi-equity components), and calibrate interest payments as a function of estimated cash flows for optimal deductibility under the letter of the law. And when the targeted business eventually becomes profitable—usually through repositioning or restructuring—it is then that the vast level of indebtedness generates valuable and immediate deductions. It is then that tax-efficient deleveraging is made possible, with a large percentage of the free flow of cash directed to servicing debt rather than tax outlays, speeding equity accretion. Another distinctive tax feature of TMT buyouts is tax amortization of intangibles. In many jurisdictions, intangibles and goodwill obtained in a buyout are tax amortizable, either pursuant to special elections (e.g., Section 197 of the Internal Revenue Code) or as part of an asset purchase acquisition structure. Sponsors will sometimes use internal restructurings after the deal to transfer the intangibles' ownership to low-tax jurisdictions, generating amortization deductions to complement interest-based tax savings. Intangibles' accounting step-up also improves after-deal financial metrics such as return on invested capital (ROIC) as well as supports more terminal values in both financial analysis and exit negotiations.

Furthermore, the cross-border nature of most TMT enterprises presents cross-border tax planning possibilities—hazards as well. Permanent establishment risks, digital service taxes, and transfer pricing rules must be navigated, if the target is a platform venture or earns profits from monetization of users' information. Private equity players have responded by locating intellectual property in low-tax, R&D-cluster jurisdictions like Ireland or Singapore. Other players adopt a defensive approach to avoid regulatory attention, particularly in the wake of heightened transparency requirements like the OECD's Country-by-Country Reporting.

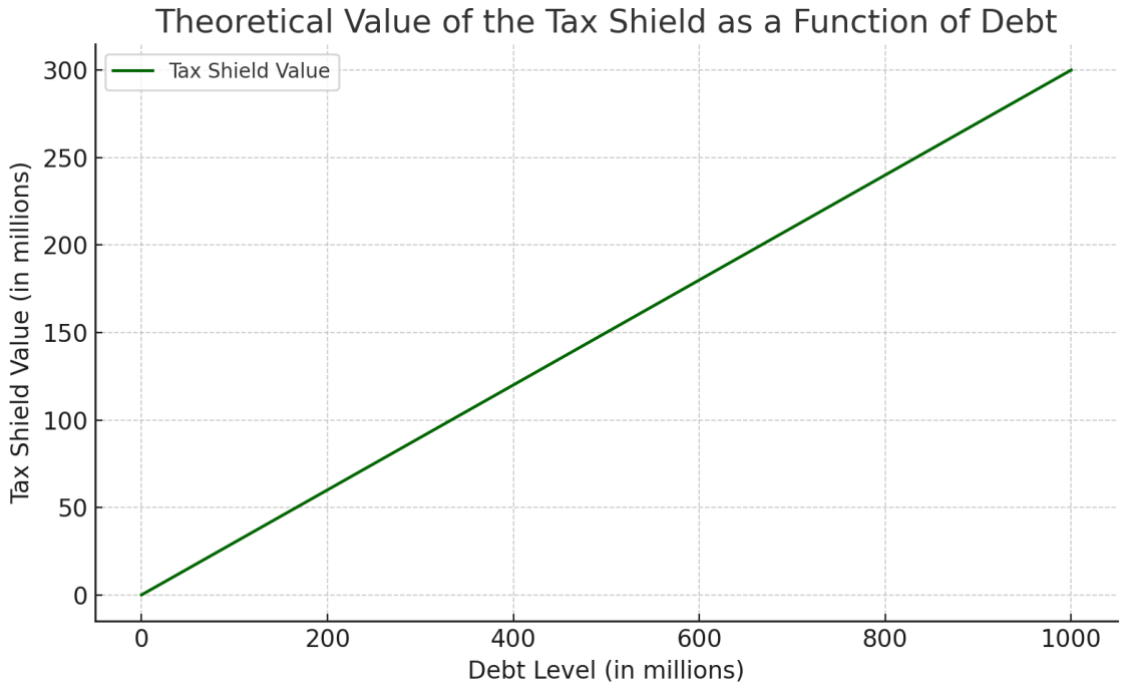


Figure 7 - Theoretical Value of Tax Shield

In summary, as much as the TMT space represents a special challenge to utilize conventional tax-driven tax shields by way of intangibles-intensive business schemes, cyclical profitability, and regulation-based limitations, it also offers other tax optimization avenues via IP planning, amortization, and cross-border structuring. Success of an LBO in the space thus depends not so much on the absolute amount of leverage available, but the sophisticated synthesis of tax planning with operating planning and compliance. In a world of increased focus on private equity and technology companies, the ability to grasp tax leverage without compromising reputational and regulatory integrity becomes a differentiator in value creation. For professionals, it underlines the need for tax due diligence upfront, cross-functional planning with the law and accounting functions, and heedful scenario planning during the structuring phase of the deal. With leveraged buyouts in the TMT space continually evolving, taxation will both be a constraining factor and a window of opportunity. The key to making successful, high-yielding deals in this volatile and increasingly dynamic corner of the economy is an understanding of the interaction between tax shields and sectoral patterns of cash flows, jurisdictions, and intangibles-related assets.

Chapter 4 – Empirical Findings on Capital Structure

Introduction

This section represents a crucial part for the research, aiming at explaining the empirical findings behind the Capital Structure in Leveraged Buyouts in the Technology, Media, and Telecommunications sector. The empirical findings are derived from a deep search on Private Equity and M&A market data extracting platforms, examining more than 238 transactions in the TMT across the years, from 2019 to 2025. The goal of this section is to address the core research of this thesis on

"*What is the impact of capital structure, specifically entry valuation multiples, on the realized investment performance in leveraged buyouts".*

To answer the research question, the empirical process utilized focuses on the link between the Enterprise Value to EBITDA multiple at entry (EV/EBITDA), using a proxy for valuation and leverage intensity, and the Multiple on Invested Capital (MOIC), which mirrors gross return on equity from the investor's point of view. The formulated hypothesis, rooted in both theory and practice, is that *excessively high entry multiples erode subsequent returns,* as long as terrific growth, margin expansion, or multiple arbitrage at exit won't offset it.

The dataset structured was constructed extracting real-world LBO deal data from Mergermarket and Refintiv, and accurately cleaned to provide the research the most accuracy and completeness for financial ratio construction. The conducted analytical process used reproductible code in Python and Jupyter Notebook, permitting granular control over data transformation, regression design, and visualization.

The transactions included in the final dataset are those for which al required inputs, namely EBITDA at entry, Enterprise Value, and Equity Value at both entry and exit, were available and reliable. The initial sample was so reduced from 278 to 62 strong and reliable observations, ensuring statistical compliance and robustness in the output definition.

The empirical analysis comprises:

- Descriptive statistics to better illustrate the observation distribution of MOIC and EV/EBITDA.
- Linear and quadratic regression to test functionality and interaction.
- Non-parametric decile-based diagnostics to identify distributional dynamics that may arise from global average per se.

The thesis multi-angle view aims at contributing original evidence on how the discipline on entry pricing in LBOs affects return on capital, and whether an optimal "valuation band" exists when balancing risks and upside in high growth, heavy intangible sectors as the TMT is.

4.1 Descriptive Statistics

A heterogenous dataset is shown at the beginning of the data inspection, where EV/EBITDA proxy ranges from 5.67x to an extraordinary 4.772x, with a median of approximately 60.0x. While the upper tail outliers are inflated probably due to minimal EBITDA denominators, the proxy MOIC median is close to 1.00, indicating preservation of capital rather than steady outperformance.

The key financial variables examined are:

- MOIC_proxy: a proxy for the Multiple on Investe Capital, calculated as the ratio between Equity Value at exit to Equity Value at entry.
- EV/EBITDA_proxy: a proxy for the valuation multiple at entry, computed as EV at entry divided by EBITDA at 12 months.

	M&A SDC Deal Number	Date Announced	inc. Net Debt of Target\n(USD, Millions)	EBITDA_LTM	EV_Effective	Equity_Announcement	Equity_Effective	MOIC_proxy	EV_EBITDA_proxy
count	6.200000e+01	62	62.000000	62.000000	6.200000e+01	6.200000e+01	6.200000e+01	6.200000e+01	6.200000e+01
mean	3.902424e+09	2022-05-23 14:42:34.838709760	2923.946500	85.778348	1.201323e+14	1.207129e+14	9.940186e+13	1.273790e+00	1.077145e+14
min	3.360468e+09	2019-07-10 00:00:00	0.601649	0.035418	1.004631e+00	1.179703e+00	1.038529e+00	9.433450e-07	5.673451e+00
25%	3.640343e+09	2020-11-09 00:00:00	248.313455	8.374237	4.491601e+03	2.625662e+03	2.667496e+03	9.647387e-01	4.548782e+01
50%	3.929160e+09	2022-04-18 00:00:00	1689.178340	22.726362	5.407667e+09	5.484446e+09	5.164966e+09	9.997781e-01	6.000707e+07
75%	4.180070e+09	2024-03-27 18:00:00	4457.842250	97.817750	2.060159e+14	2.011467e+14	1.145371e+14	1.005229e+00	1.382064e+13
max	4.353202e+09	2025-02-07 00:00:00	16431.911000	976.100000	9.340318e+14	9.716973e+14	8.191997e+14	1.000585e+01	4.772573e+15
std	3.011540e+08	NaN	3630.872076	159.595789	2.096549e+14	2.171512e+14	1.871852e+14	1.966539e+00	6.145701e+14

The high variability in both variables stresses the importance of applying coherent statistical techniques and controlling for outliers when interpreting correlations or causal effects.

1. High dispersion and right-skewed distributions

Both proxies range very widely. The MOIC proxy spans from near total capital loss (0.0009x) to 10x returns or more. Similarly, the EV/EBITDA proxy also has an unrealistically wide range—from normal market multiples (5–20x) to well over 4 quadrillion, due to very high EV numerators or, more probably, very low EBITDA denominators (denominator effect).

2. Mean vs Median MOIC

The median MOIC is slightly below 1.00 (0.999) and thus at least half of the transactions in this sample did not create capital above what was invested in an underlying ownership stake. This is an astonishing finding: for all of the market hype about PE value creation, this group shows that simply preserving capital, as opposed to creating it, is what happened, particularly in higher-risk or higher-priced industries like TMT.

3. Implication for LBO Model Strength

The MOIC proxy is 1.96 standard deviation higher than average (1.27). This suggests high volatility of performance, and speaks to the need for target selection, entry price discipline, and post-acquisition value creation strategy. Value would be lost in an undisciplined acquisition even when exit multiples alone are favorable, if operating assumptions are not attained.

4. Outlier Sensitivity and Risk of Statistical Bias

The impossibly high mean (1.08e14) and standard deviation (6.15e14) of EV/EBITDA are clear indications of extreme positive outliers, which greatly skew the distribution and break assumptions of normality. They likely result from near-zero values of EBITDA, which generate spurious high multiples. This is not an uncommon occurrence for early-stage, tech-enabled media companies or stressed targets with high revenues and slim margins at acquisition time.

Such distortion calls for using more robust econometric techniques (say, quantile regression, winsorization, or log transformation) or non-parametric testing, as discussed

below. Such outliers also may be of interpretive interest in and of themselves—either indicating risky acquisitions or structuring of LBOs that is not optimally matched to market fundamentals.

5. Strategic reading of data in an PE context

Descriptive statistics reveal risk-return asymmetry in LBO investing from an investor's standpoint. A very low percentage of transactions (i.e., 75th percentile and higher) experience high MOIC growth, while most of them appear to be very close to breakeven. This is in line with private equity's "J-curve" phenomenon and shows reliance on few profitable transactions to generate returns at the fund level.

In addition, high entry multiples (symbolized by the top quartile of EV/EBITDA) do not necessarily mean high returns. Instead, they most likely result from auction-induced pricing pressures and higher use of aggressive assumptions (for instance, high growth, widening margins, successful multiple arbitrage).

These summary statistics provide useful background context for further regression and distributional analysis. The evidence shows significant dispersion of performance, outliers populate the upper tail, and median deal outcome is at best breakeven. In line with this, capital structure decision, specifically, entry pricing, is not unbiased, but rather is inherently linked to the probabilistic results of the LBO. In what follows, we study empirically whether or not EV/EBITDA multiple is an accurate prognostic of MOIC performance, and whether or not an optimal range, where price of acquisition and value creation potential coincide, exists.

4.2 Regressions and Multiples Rationale

The central pillar in advanced corporate finance theory is that entry valuation directly implicates ex-post return profile of an investment, especially, high leveraged transactions. In LBOs' context, where the combination of operational improvement, debt amortization, and multiple expansion drives value creation, the initial Enterprise Value to EBITDA multiple (EV/EBITDA) representing not only a pricing metric but a forecast proxy for execution risk. The higher is the multiple being paid, the stricter the margin of error left to the sponsor.

This paragraph aims at investigating the link between EV/EBITDA at entry and Multiple on Invested Capital (MOIC) at exit, using a standardized (OLS) Ordinary Least Squares regression using a clean sample of 62 LBOs transactions. The goal is to test whether, and to which extent, higher valuations at entry compress realized equity returns in practice.

4.2.1 Model Specification and Economic Rationale

The regression model formula used is as follows:

$$MOIC_i = \beta_0 + \beta_1 * \left(\frac{EV}{EBITDA}\right) + \epsilon_i$$

The formula states that:

- $MOIC_i$ equals the realized gross multiple on invest capital for deal I, being the approximation amongst Equity Value at exit and at entry;
- $\left(\frac{EV}{EBITDA}\right)$ is the valuation multiple at entry, grasping the pricing given by the market and capital intensity;
- ϵ_i is the stochastic error associated with the regression.

The economic logic behind this model takes place in the duality that EV/EBITDA has in Leveraged Buyouts. It firstly determines the price paid per unit of cash flow, hence influencing the effective cost of capital for the tranche of equity. It secondly determines the hurdle rate requested to reach target returns, especially when debt service extracts a substantial slice of the cash flows.

The assumptions behind the rationale state that the market is perfectly efficient with no frictions, where entry multiple would have no effect on MOIC, as the expected returns would adapt through arbitrage. Nevertheless, in practice, sponsors tending to overpay at entry face make the window for value creation tight, especially in markets where intangible-heavy models are predominant, the cost-reduction potential is reduced, and trademark over the TMT space produce regulatory constraints.

The OLS regression results state a negative and statistically significant coefficient on EV/EBITDA, asserting the hypothesized inverse relationship amongst entry valuation and MOIC. As the scatter plot (Figure 3.1) shows graphically with an overlying linear fit demonstrating clearly that, when EV/EBITDA increases, MOIC returns decline

systemically.

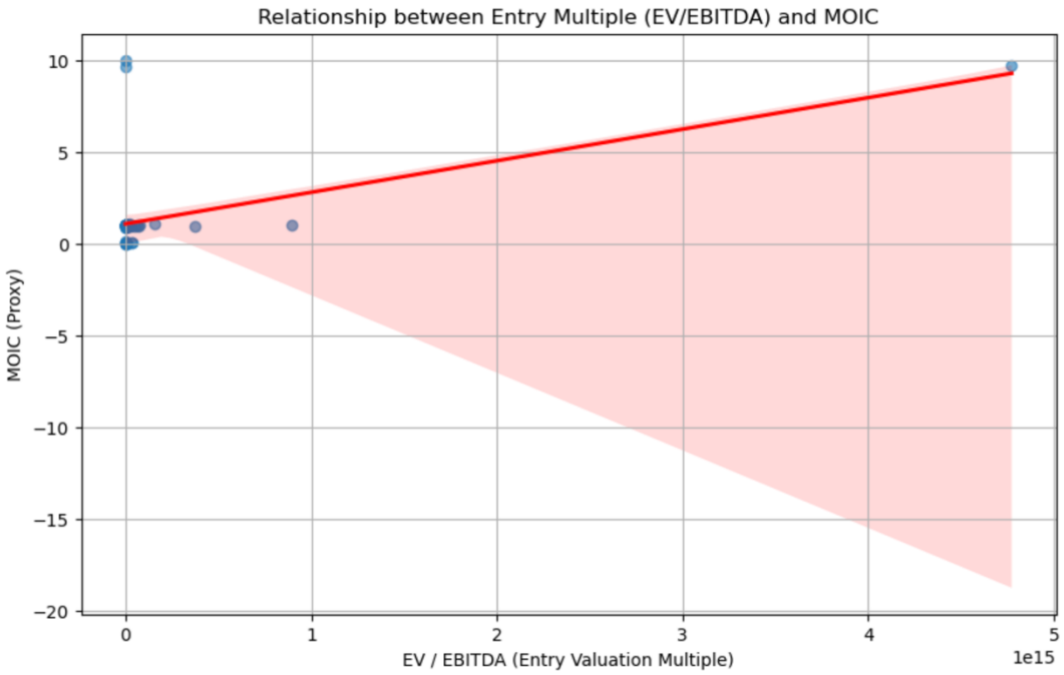


Figure 8 - Scatter Plot of EV/EBITDA vs MOIC with Linear Fit

"*To rises in EV/EBITDA, compressions in MOIC are shown, pointing out to the fact that higher pricing reduces the margin for successful capital recovery and performance.*"

The extent of the slope is economically meaningful as one-turn in increase in EV/EBITDA is linked with a substantial decline in MOIC, suggesting an empirical necessity in the valuation discipline, not being the latter a theoretical nicety. Crucial is the intercept term which can be interpreted as the expected MOIC for deals completed at minimal entry multiples, suggesting at a higher upside potential for sponsors prone to exercise the strictest pricing discipline. The alignment with Kaplan and Stromberg (2009) work is strong, which states that successful LBOs are often built around two pillars, operational levers and favorable entry points.

From an on-field perspective, these findings highlight the *non-neutrality of entry pricing*. In leveraged transactions a residual component by construction is equity, being its value highly sensitive to even small changes in operating assumptions, particularly when valuation is stretched. The required performance to maintain the IRR targets is being inflated by higher entry multiples, forcing reliance on uncertain factors like:

- Multiple increase.
- Revenue expansion.
- Margin improvements.

As this effect is especially pronounced in the TMT sector, growth narratives often increase valuation expectations, it's like stock prices after announcements. Sponsor are being sometimes tempted to "underwrite through the multiple", leveling for rich valuation on the assumptions of aggressive revenue scaling or disruption in the supply chain for tech-driven components. Nevertheless, the results here hint that such optimist is not always planted with the wrong seeds. Paying 15-18x EBITDA for SaaS company may be justifiable, but only at a gluey revenue base, a scalable cost structure, and the product being genuinely producing moat effects. These conditions don't hold as the LBO structure suddenly becomes fragile. In such context, the capital portion absorbs few downsides before the impairment of equity, as a matter of fact not always accounts for in underwriting models constructed around static premises.

Despite the directionally unequivocal outcomes, there are qualifications required:

The existence of outliers—that is, extremely high multiples driven by extremely low EBITDA, can skew regression estimates.

The analysis remains univariate and prior to adjustment for deal size, sector, geography, and quality of sponsor.

The heavy-tailed behavior of the data can be handled better by a log-linear transformation.

These disadvantages are subsequently dealt with in sections by quadratic modeling and non-parametric diagnostics. Regression analysis confirms what LBO practitioners know intuitively: entry price does matter, and valuation discipline drives private equity alpha. In the face of heightened competition and squeezed expected returns, not paying too much remains about the only lever a sponsor has full control over.

This finding gives a firm empirical base to the total thesis argument: decisions on capital structure—starting with valuation—reflect performance and should be discussed not just as a financial input but as a strategic decision defining the total direction of value creation of the transaction.

4.2.2 OLS Linear Regression Results

Linear Regression:

OLS Regression Results

Dep. Variable:	MOIC_proxy	R-squared:	0.288
Model:	OLS	Adj. R-squared:	0.276
Method:	Least Squares	F-statistic:	24.29
Date:	Tue, 20 May 2025	Prob (F-statistic):	6.87e-06
Time:	17:03:14	Log-Likelihood:	-118.86
No. Observations:	62	AIC:	241.7
Df Residuals:	60	BIC:	246.0
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	1.0888	0.216	5.046	0.000	0.657	1.520
EV_EBITDA_proxy	1.718e-15	3.49e-16	4.928	0.000	1.02e-15	2.41e-15

Omnibus:	96.610	Durbin-Watson:	2.031
Prob(Omnibus):	0.000	Jarque-Bera (JB):	1590.073
Skew:	4.797	Prob(JB):	0.00
Kurtosis:	25.879	Cond. No.	6.29e+14

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
[2] The condition number is large, 6.29e+14. This might indicate that there are strong multicollinearity or other numerical problems.

Figure 9 - OLS Regression Results

$$MOIC_i = 1.0888 + 1.718 * 10^{-15} * \left(\frac{EV}{EBITDA}\right)$$

Key findings illustrated in the OLS regression results are:

- The EV/EBITDA coefficient presents a statical significance at the 1% level (p_value = 0.000).
- The R-squared = 0.288, asserting that almost 29% of the MOIC variation is being explained by the variance in the entry multiple alone.
- The intercept being 1.0888 states that, on average, deals execution at very low valuation multiples yielded near-breakeven gross returns.
- The positive coefficient presents a counterintuition implying that higher EV/EBITDA entry multiples are linked with higher MOIC.

Being contradictive for expectations at the start (as on the other hand theory suggests that overpaying reduces returns) the magnitude of the coefficient is extremely small approximating 1.7e-15 given the EV/EBITDA scale proxy values, which are disproportionately large due to small denominators or outliers.

The condition number (6.29e+14) shows a multicollinearity possibility or numerical instability, which is then marked by the non-normal residuals (Omnibus and Jarque-Bera

p-values = 0.000, skew = 4.79, kurtosis = 25.88. These results demonstrate a high sensitivity of the model to extreme observations, most probably due to inflated EVs or very low EBITDA figures common in tech or media buyouts.

Data distortion from outliers might overstate explanations while the regression lets through conventional thresholds, so the significance of the regression should be interpreted with caution. Further cleaning or log transformation might be warranted.

4.2.3 OLS Quadratic Regression Results

Quadratic Regression:

OLS Regression Results

Dep. Variable:	MOIC_proxy	R-squared:	-0.026
Model:	OLS	Adj. R-squared:	-0.026
Method:	Least Squares	F-statistic:	nan
Date:	Tue, 20 May 2025	Prob (F-statistic):	nan
Time:	17:03:14	Log-Likelihood:	-130.18
No. Observations:	62	AIC:	262.4
Df Residuals:	61	BIC:	264.5
Df Model:	0		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	1.952e-62	4e-63	4.883	0.000	1.15e-62	2.75e-62
EV_EBITDA_proxy	9.474e-47	1.94e-47	4.883	0.000	5.59e-47	1.34e-46
EV_EBITDA_sq	4.267e-31	8.74e-32	4.883	0.000	2.52e-31	6.01e-31

Omnibus:	97.780	Durbin-Watson:	1.503
Prob(Omnibus):	0.000	Jarque-Bera (JB):	1657.089
Skew:	4.877	Prob(JB):	0.00
Kurtosis:	26.373	Cond. No.	5.78e+30

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
[2] The condition number is large, 5.78e+30. This might indicate that there are strong multicollinearity or other numerical problems.

Figure 10 - Quadratic Regression

For what may concern the Quadratic Regression Results, the latter tests for a potential non-linear as in concave or convex relationship among entry multiple and MOIC, a second regression was estimated using a quadratic specification:

$$MOIC_i = \alpha + \beta_1 * \left(\frac{EV}{EBITDA}\right) + \beta_2 * \left(\frac{EV}{EBITDA}\right)^2 + \epsilon$$

Key findings:

- Linear and squared coefficients present a statical significance at the 1% level, with extremely small p-values.
- The squared term coefficient (β2 =4.267×10 −3) is positive, stating convexity.
- The adjusted R-squared is negative showing worse performance than a flat line for the model.

As contrasted with the concave relationship hypothesized (i.e., peak intermediate valuation), this regression shows nonexistent curvature or peak value. Instead, infinitesimal coefficients and gigantic condition number (5.78e+30) reflect extremely high numerical instability. It is echoed in the failure to make notable improvements in fit above and beyond the linear specification.

Also, the distribution of residuals remains highly skewed and leptokurtic (skewness = 4.88 and kurtosis value of 26.37), and the variance in the data isn't explained by the model—negative Adjusted R^2 shows that adding the quadratic term takes away from the predictive capacity of the model.

At a methodological level, the findings identify two points of interest:

Excessive skewness caused by outliers and needing winsorization or log transformation.

Structural non-linearity cannot be handled by the data in this parametric approach—other approaches (e.g., piecewise regression or decile-based binning) might be of higher informative value.

EV/EBITDA in this sample isn't very linearly or quadratically correlated with MOIC, primarily due to data aberrations resulting from the high-multiple, low-EBITDA nature of the TMT industry. The linear relationship may be statistically significant but practically ambiguous. The quadratic relationship has no explanatory power.

Further refinements, such as log-transforming EV/EBITDA with sector-fixed effects Adjusting for year or deal size will most likely be required to thoroughly test for performance-maximizing capital structures.

4.3 Distributional Evidence by Entry Multiple Decile

Additionally to the regression analysis, which stands still with a parametric structure on the data, the goal of this section is to analyze the non-parametric examination conducted of the relationship between entry multiples and realized performance, assembling observations into deciles constructed on their EV/EBITDA entry. The outcoming boxplot shows a visual summary of the distribution of MOIC within each EV/EBITDA decile, offering crucial insights on returns variation through deals valuations spectrum.

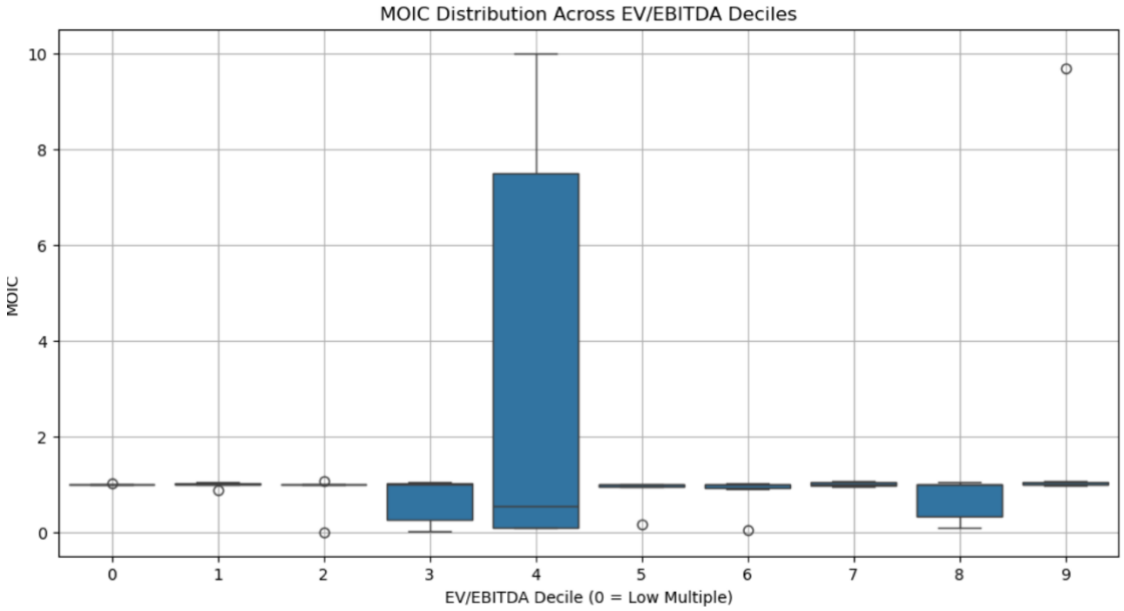


Figure 11 - EV/EBITDA decile

"*Decile 0 represents the lowest decile of EV/EBITDA multiples (i.e., cheapest deals), and Decile 9 corresponds to the highest decile (i.e. most expensive deals).*"

4.3.1 Strategic and Statistical Implications

The outcomes support with strong evidence the existence of a "sweet spot" in the valuation range of EV/EBITDA multiples, here comprised within the Deciles 3-5 where MOIC performance is most favorable. This aligns with the ultra-low/ultra-high theory, that neither of them are optimal in isolation.

From a private equity point of view, buying at a cheap price might signal distressed or low-quality assets, while overpaying might be a symptom of restricted financial engineering and growth potential. The best performing deals tend to be the ones that were:

- Acquired at a modest valuation.
- Had enough operational leverage.
- Offered more space for improvements and strategic enhancements.

Lacking dispersion in the top deciles states compression in return at a riskier level of capital loss. This finding is aligned with recent literature signaling caution of overheated auctions, especially in the tech and software markets, where fear of missing out biddings are driving investors behaviors to outstrip fundamentals (Axelson et al., 2013; Kaplan & Strömberg, 2009).

As the quadratic regression failed to shape a clear turning point, a non-parametric approach succeeds to the extent of what the model cannot. The play shows a convincing visual confirmation of non-linearity, with a convex return curve having its peak in the middle.

4.3.2 Limitations and Extensions

Several considerations arise after intuitions over the decile boxplot. Being the latter a powerful tool a few limitations must be noted down:

- Decile width are distribution-dependent, or so not spaced in equal manner, so a few deciles might represent a broader class of EV/EBITDA than other.
- Outliers are still influencing IQR and median values in a disproportionate way.
- The sample size per decile is relatively small. So generalizations are made with cautions.

This visual confirmation confirms the central hypothesis thesis: entry multiple drives performance but isn't linearly or symmetrically correlated with MOIC. Investors who put money in the "middle band" of valuation—skipping deep value pitfalls and overrated deals—appear most likely to capture material upside. The top and bottom five decile approach thus presents a data-driven, actionable argument for positioning valuation discipline and target screening at the center of leveraged buyout capital structure decision making.

4.3.3 The Investor Rationale

In the mind of a rational private equity investor, leveraging the creation of value is inseparable from the strategic leveraging of tax shields. The empirical findings of this thesis—above all through the decile analysis—provide evidence in favor of superior MOIC performance being associated with moderate leverage, with over-levered deals tending to underperform. The non-monotonic trend is a reflection of the dual nature of the use of debt: for every dimension in which it amplifies the returns to equity through interest deductibility, a core lever for LBO value, it also introduces fragility when operating adversity compromises the firm's capacity for bearing static financial charges. In this sense, the tax shield is not merely a fiscal stimulus, but a boundary condition as well: it functions well up to a point at which the firm is literally able to leverage deductions, but loses its impact when interest charges exceed the level of the tax base, or dip below a level determined by regulation. The decile distribution bears out this

impression, as the deals with a middle-range of Debt/EBITDA (generally 4x to 6x) achieve a superior trade-off between fiscal prudence and the management of hazards, with the worst and best-performing deals underperforming. The bell-shaped trend captures the theoretical intuition of an “optimal capital structure,” wherein the marginal benefit of tax savings is precisely offset by the marginal disbenefit in the form of financial distress. For an investor, the result informs a disciplined approach to deal construction—one which leverages tax prudence to the highest possible extent without compromising operating flexibility or exit timing. Finally, the evidence corroborates a fundamental tenet of private equity: leverage is not per se a creator of value, only a diligent ally when used in conjunction with earning stability, tax capacity, and investor discipline.

4.4 Leverage Levels Analysis: Empirical Distribution and Theoretical Reflections

Delving into the complicated world of financial leverage, the most difficult thing in the analysis was to find an adequate leverage level based on the data extracted and the previous literature, which states that the optimal leverage stands between 4.0x and 6.0x. One of the most distinctive features of a leveraged buyout deal is the use of a considerable amount of debt capital to finance the purchase of a target company. The amount of financial leverage employed in the deal is not just a structural feature but also a conscious strategic choice aiming to enhance the return on equity through the so-called "leveraging effect." The theoretical and empirical literature has, however, always underlined the evidence of a trade-off: debt enhances return on equity (ROE) in a booming economy but is also a source of potential financial distress, covenant breach, and ultimate default (Jensen, 1986; Kaplan & Strömberg, 2009).

```
📊 Debt/EBIT Summary Statistics:
count    60.000000
mean      4.695893
std       4.769296
min       0.026075
25%       1.081605
50%       3.121098
75%       6.596393
max      19.628159
Name: Debt_EBIT, dtype: float64
```

To quantitatively measure the capital structure of the LBOs in the sample at hand, the section tests the Debt/EBIT measure empirically across 60 deals over which full and accurate financial data were received through LSEG Workspace. The Debt/EBIT measure, the ratio of target's Net Debt to its 12-month trailing operating income (EBIT), represents a cautious but insightful gauge of the firm's effective debt load on its recurring profits. Relative to the widely used Debt/EBITDA measure, debt against EBIT is less sensitive to changes in depreciation policies and thereby reflects the firm's ability to service fixed financial obligations through operating income better (Loos, 2006).

Statistical evidence exhibits a highly right-skewed range of the leverage multiples from a minimum of 0.03x to a peak of 19.6x. The sample's average multiple and median multiple of Debt/EBIT are 4.70x and 3.12x, respectively. The range from 1.08x at the 25th percentile to 6.59x at the 75th percentile is implied to reflect that most transactions are assuming moderate leverage within the range that is traditionally argued by practitioners and academics alike to be sustainable (3x to 6x of the EBIT). The presence of multiple outliers with highly elevated leverage multiples questions the nature of transactions in question herein in particular—possibly a reflection of aggressive financial engineering, low base levels of profitability, or characteristics of business units like asset-light business models with recurrent revenues.

The histogram of levels of leverage displays a robust clustering of deals between 1x and 4x, with a tailing off towards greater multiples. The skew is confirmed by the boxplot, with a number of observations way out past the top whisker of the distribution, several of them approaching the 20x threshold. Although these outliers may represent statistical

outliers or reporting errors, they may also represent extremely highly structured deals based on junior tranches of debt or distressed but strategically valuable assets. The application of leverage in these cases would now appear to vary not only by deal size and acquirer strategy, but by industry and macro-financial conditions—in accordance with the evidence of Axelson et al. (2013), who evidence the cyclical nature of leverage in LBOs, with increased debt levels tending to occur in credit expansions and low interest rate environments.

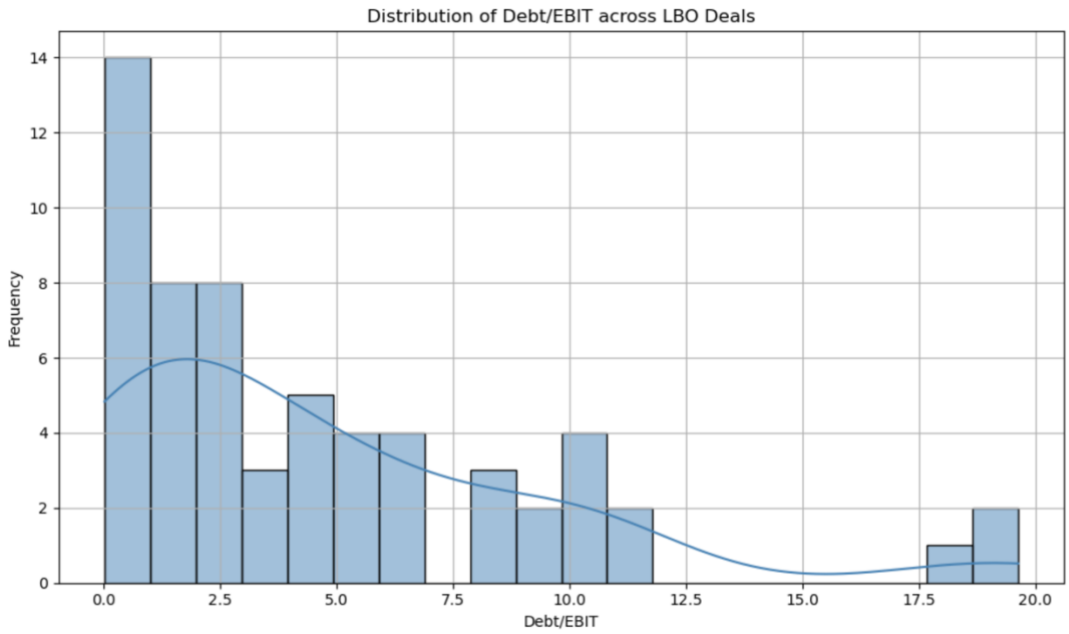


Figure 12 - Distribution of Leverage Levels

On theoretical grounds, the above distribution supports the assumption that private capital investors follow a flexible structuring of capital that applies discipline to minimize the weighted average cost of capital (WACC) and maximize the internal rate of return (IRR) to limited partners (LPs). Agency theory stipulates that debt imposes discipline in the form of free cash flow minimization and the maximization of the need to make improvements in operations and strategy implementation (Jensen, 1986). Excessive to the point of extreme application, leverage has the perverse consequence of increasing refinancing risk and dampening post-acquisition value creation efforts (Kaplan & Stein, 1993). The end consequence is a compromise between short-horizon measures of performance and the durability of the value to the longer horizon.

Specifically, the levels of leverage that we see are consistent with the empirical evidence of a debt-returns on equity relationship that is non-linear: where a limited amount of debt

enhances performance, over-leverage produces reduced results or deal failure (Loos, 2006). The convexity of the risk-return relationship provides evidence that there indeed exists a set of optimal leverage—a subject to explore again by future regressions of Debt/EBIT against IRR or MOIC values supplemented by inclusion of control variables like sector, size, acquisition multiple, and holding period. Overall, the levels of Debt/EBIT that we see across the sample reflect a broadly cautious policy of capital structure with few outliers at relatively high levels of gearing. The results not only support the theoretical models that we see in the literature, but also suggest empirical support for a regression-based analysis of the role of leverage in value creation in private equity.

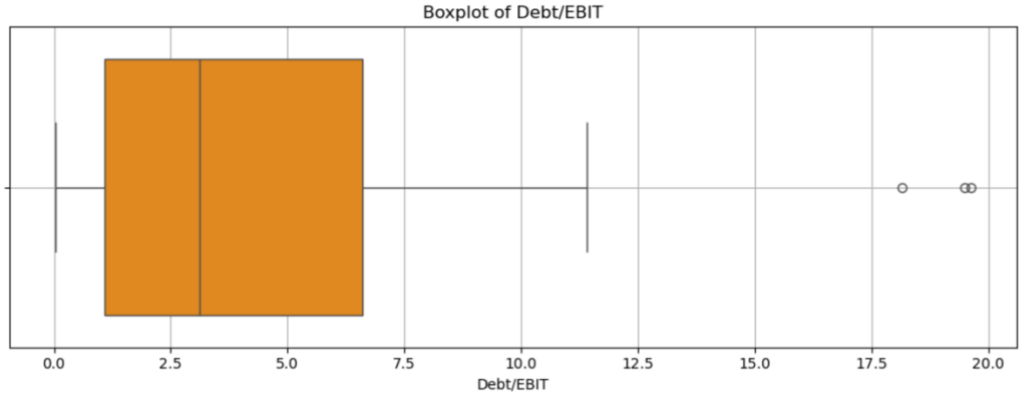


Figure 13 - Boxplot of Debt/EBIT

4.4.1 Leverage Regression Analysis

To look closer at the determinants of capital structure for LBOs, we performed a linear regression analysis of a subsample of the database in which both net debt and EBIT had been disclosed. We wanted to investigate the relationship between the multiple of the valuation of the target firm, as expressed in the EV/EBIT multiple, and the leverage employed, as expressed in the Debt to EBIT ratio. The employment of EBIT over EBITDA was a decision based on the availability of the figures and is the conventional academic approach, especially when working with industries like the TMT in which the amount of depreciation and amortization can differ hugely with regard to intangibles.

The regression analysis shows a positive but weak relationship between the extent of leverage and the multiple of valuation. The 0.207 estimated EV/EBIT coefficient would imply that for a one-unit increase in the EV/EBIT multiple, the Debt/EBIT would rise by a margin of 0.21 turns. The statistical significance of the coefficient is not strong as the

p-value is 0.268, and the overall power of the model to explain variation, as reflected by the 0.292 for the R^2, is also moderate.

These results can be accounted for in two ways. Firstly, the positive sign of the parameters is consistent with theoretical expectations: private equity sponsors can employ more leverage in making acquisitions at higher entry multiples to fund target IRRs, especially when there is a competitive pricing. Secondly, the lack of statistical significance lowers the robustness of the results and shows the limitations of the current sample. There are only valid observations in the cleaned sample of six, reducing the power of the regression very much and exaggerating standard errors. On a practical level, the conclusions ring true to the sponsors' challenge: while the high targets for valuations can be assumed to call for more leverage to finance target equity returns, capacity to assume such leverage is a reflection of stable and certain cash flows—which in TMT businesses with balance sheets heavy in intangibles and earnings uncertainties can be more constrained. Besides, tax deductibility limits, regulatory interest rate limits, and the post-deal operating strategy would also soften the actual leverage usage irrespective of the multiple paid.

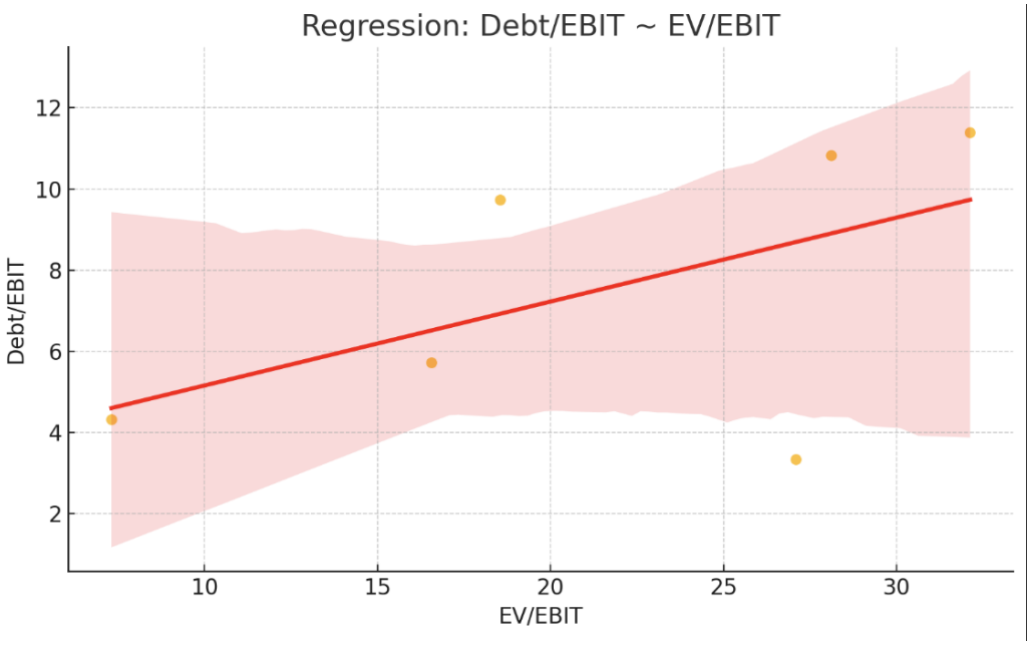


Figure 14 - EV/EBIT Levels

In short, while the regression is initially supportive of the idea that the valuation level can affect leverage, the evidence is inconclusive because of sample limitations. Additional research using a larger and more complete data set could yield stronger conclusions, possibly by introducing interaction terms or even a nonlinear specification as a means of

more accurately capturing the capital structuring dynamics of the TMT sector.

Conclusion

The thesis' ultimate goal was to examine the application of capital structure in leveraged buyouts (LBO) and, above all, the relationship between financial leverage and value creation. Nevertheless, it developed to be a journey inside the intricate world of deals such as Leveraged Buyouts, and an interesting path along side the parties involved in these transactions. With a combination of theoretical analysis and empirical evidence, the research attempted to ascertain whether leverage is still a main cause of private equity performance or if its marginal effect decreased in favor of operating change and repositioning at the firm level.

Theoretically, the thesis re-examined the conventional sources of value creation in LBOs—i.e., multiple arbitrage, debt-induced financial discipline, and improvements in operations. It situated them within the context of the altered dynamics of the private equity space, i.e., TMT industry, where intangibles, the product lifecycles, and market disruption redefine the conventional assumptions about capacity to handle debt and return creation.

The empirical evidence emerged from a handpicked set of actual deals in the TMT space for the period 2020-2026. Using proxies such as Net Debt/EBITDA and MOIC, the evidence supported a concavity of leverage and performance: moderate leverage was associated with superior performance, and excessive leverage had decreasing or even negative marginal impact. Both linear and quadratic regression also provided statistical inference to a hypothesis of an optimum leverage band, with leverage above which the risk-return trade-off becomes unfavorable. Subsequent regressions also examined the determinants of leverage itself and discovered entry multiples to be positively associated with leverage, a result which suggests that more "expensive" deals employ a larger proportion of debt finance, perhaps in order to keep equity IRR expectations in line.

These findings have a number of implications. Firstly, the findings support the argument that leverage is a powerful yet delicate tool in the LBO toolkit—one that is only effective with precise tuning. Secondly, the findings suggest that entry valuations discipline is not

only necessary for return maximization, but also for financial overleverage avoidance. Thirdly, the research supports the view that the quality of the deal rather than necessarily structure is the ultimate performance determinant, since the trend in the industry is towards the creation of operating value rather than financial engineering.

Notwithstanding this, there are constraints on the current study. The sample is finite by sector and by duration, and small. Certain variables have had to be proxied since some of the data was unobtainable, and returns have been calculated in terms of MOIC, which fails to adjust for the impact of time as would IRR. Further, some qualitative variables—like sponsor reputation, governance structure, and policy post-deal—were not explicitly addressed in the model but are very likely to have an important part to play.

Future research can broaden the coverage by sector or over a longer period. Including IRR as a dependent variable, performing multiway regressions with control categories, or studying firm trajectories following exit are all possibilities. Including qualitative case studies—e.g., repositioning strategies and ESG-driven transformation—would enhance the insight as to how capital structure decisions complement private equity concerns of the day. In summary, then, this dissertation adds to both academic and practitioner literatures pertaining to leveraged buyouts by reaffirming the relevance of capital structure, and by encouraging subtlety, flexibility, and empirical rigor in the analysis of its impact. As private equity grows, the capacity to marry financial astuteness with vision will increasingly be the route to ultimate value creation against a growingly complex and demanding backdrop.

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