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**Do Private Equity Improvements in Portfolio
Companies Cause Abnormal Positive Returns or
Negative Social Effects in Leveraged Buyouts?**

A Literature Review

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ABSTRACT:

This study assesses how private equity improvements affect returns and society in leveraged buyouts. Our findings show that improvements made during the holding period generate significant positive returns, with operational improvements providing the largest contribution. Acquired firms were found to outperform benchmark companies in operational metrics, such as sales, as well as in returns. Current literature doesn't, however, do a good job of explaining what part of the improvements made during the holding period truly originate from private equity owners, and what part can be attributable to the ability to select companies that are about to improve regardless of acquisition. Regarding the social effects, we find no negative effects for employment or bankruptcy rates, the two classical targets of private equity critics. We do, however, find preliminary evidence for negative effects in private education and health care buyouts.

TIIVISTELMÄ:

Tutkimus arvioi miten pääomasijoittajien suorittamat parannukset vaikuttavat tuottoihin ja yhteiskuntaan velkavivulla toteutetuissa yritysostoissa. Tuloksemme osoittavat, että omistuksen aikana tehdyt parannukset aiheuttavat merkittäviä positiivisia tuottoja, ja operatiiviset parannukset ovat suurin niihin vaikuttava tekijä. Ostettujen yritysten havaittiin ylittävän vertailuyritykset toiminnallisissa mittareissa, kuten myyntimäärissä, sekä tuotoissa. Olemassa oleva tutkimuskirjallisuus ei kuitenkaan selitä hyvin, mikä osa omistuksen aikana tehdyistä parannuksista todella johtuu pääomasijoittajien omistuksesta ja mikä osa johtuu pääomasijoittajien kyvystä valita yrityksiä, jotka tulevat parantumaan yritysostoista huolimatta. Sosiaalisten vaikutusten osalta emme löytäneet todisteita negatiivisista vaikutuksista työntekijöihin tai konkurssiasteisiin, jotka toimivat kriitikoiden perinteisinä kohteina. Löysimme kuitenkin alustavaa näyttöä negatiivisista vaikutuksista yksityisen koulutuksen ja terveydenhuollon yritysostoissa.

KEYWORDS: leveraged buyout, private equity, value creation, corporate finance, financial engineering, governance engineering, operational engineering, social effects

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1 Introduction

The key drivers of private equity (PE) returns in leveraged buyouts (LBO) are market timing, target company selection and improvements made during the holding period. The ability to pick the right company to invest in at the right time is an important determinant for abnormal positive returns in all types of investments. What differentiates PE firms from typical investment companies is that in addition, they actively make improvements in acquired companies attempting to achieve higher returns.

The goal of PE LBOs is to purchase a controlling share of a company through a substantial amount of debt compared to equity, then hold the company for a time before making a profitable exit, usually by relisting it on the stock exchange or by selling the company forward. PE firms usually target mature, stable companies. Originating in the 1980s, LBOs have evolved into a key strategy within corporate finance (Jensen, 1988; Kaplan & Strömberg, 2009). While LBOs might be conducted by other types of institutions in rare circumstances, this study focuses on the transactions made by PE firms, acting in the institutionalized way that is common for them today. The majority of investors funding PE firms are large institutions with significant social importance. These include pension funds, universities, insurance companies and wealthy individuals (Kaplan & Strömberg, 2009, p. 123). According to McKinsey (2024), despite a slower year, buyout funds raised more than \$400 billion in 2023 bringing total assets under management to around \$8.2 trillion.

The focus of this study is to determine whether PE companies are successful in creating excess financial returns during the holding period through improvements in the portfolio company. Literature confirms that PE firms engage in changes in acquired companies, hoping to create value. It is also traditionally accepted that they manage to create value, leading to abnormal returns. (Kaplan & Strömberg, 2009, pp. 130-133, 143). Empirical research, however, is mixed. According to Acharya (2013, pp. 368-371) higher returns from PE owned companies, compared to the benchmark have a direct correlation with

improvements made in the companies during the holding period. Leslie & Oyer (2009, pp. 20-21) on the other hand don't find increases in operational performance following a buyout. In contrast Cohn et al. (2014, p. 36) don't find evidence of improvements for LBOs on average but find some improvements in companies that have public data available post-buyout.

The significance of the topic is not only economical, but social. LBO transactions affect a lot of people, as PE ownership involves major changes in the targeted companies, specifically because of the transitional nature of improvements. This has led to a generally bad reputation for PE firms. Critics claim that PE firms profit for example through excess cost-cutting (layoffs) and taking too much risk (leading to excessive bankruptcy) in the short term, leading to negative effects for other stakeholders involved (e.g. employees, patients of acquired healthcare companies). It is said that PE firms extract value to themselves, at the expense of these other parties, instead of creating real value and increasing the economic pie (Froud & Williams, 2007, pp. 410-417; Kaplan & Strömberg, 2009, pp. 133-134).

Therefore, research of the topic has both economic and social significance and is further motivated scientifically in the next chapter.

1.1 Purpose of the study

The purpose of this study is twofold. Firstly, we investigate whether changes originating from PE ownership of the company are successful improvements to the extent that they generate abnormal positive returns. Literature on returns often focuses on PE returns in general, while studies on improvements often only focus on company level performance metric analysis (Harris, 2013; Fracassi 2022). We investigate the topic through the following hypothesis to see what the effects of PE improvements are on financial returns:

H₁: PE changes in portfolio companies don't cause abnormal positive returns in LBOs

The second part of the research problem deals with the ethicality of PE changes in portfolio companies. As stated, literature often identifies negative effects from PE ownership especially through the value extraction theory (Kaplan & Strömberg, 2009). We study whether the negative reputation of PE is appropriate by investigating the social effects of PE driven improvements through the second hypothesis:

H₂: PE changes in portfolio companies don't cause negative social effects in LBOs

The dual financial and social perspective of the study is well justified, since PE changes clearly affect both dimensions. If PE firms are found to profit through these improvements while also causing damage to society, the findings would have severe implications for lawmakers. If PE firms lose money while causing negative social effects, it would suggest a lack of incentive to pursue the damaging transactions in the future.

1.2 Structure of the study

This study is organized into six chapters. Chapter one, Introduction, outlines the background, purpose, and hypotheses of the study. Chapter two, Theoretical Framework, presents relevant normative and descriptive theories for the topic. Chapter three, Value Creation, explores the different changes PE companies make to improve portfolio companies, divided into financial, governance and operational engineering. Chapter four summarizes the findings on returns, while chapter five examines the social effects. Chapter six, Conclusion summarizes the findings, discusses implications, and suggests directions for future research.

2 Theoretical framework

In this chapter we establish a theoretical framework to provide context on the different ways PE firms improve portfolio companies. We use both normative theories, describing how things should be theoretically, as well as descriptive theories describing real world outcomes to accurately frame our investigation into the improvements. In the normative section we introduce agency theory as a background for governance engineering, as well as the Modigliani-miller theorem and static trade-off theory that provide context for financial engineering improvements. In the following descriptive section, we introduce the dynamic trade-off theory and market timing theory. No specific theories are provided for operational engineering due to the practical nature of operations related improvements.

2.1 Normative Theory

2.1.1 Agency Theory

The literary basis for agency theory can be traced back to Adam Smith (1776, Book V, part III, Article I):

The directors of such companies, however, being the managers rather of other people's money than of their own, it cannot well be expected that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own.

The separation of ownership and control gained attention in the modern day with the rise of the modern corporation. Berle & Means (1932) analyze that problems often arise when the owner and manager are not the same person. Their work established this divergence as a structural feature of dispersed ownership.

Jensen & Meckling (1976, p. 5) expand on this by exploring the correction of “agency problems” that emerge when the shareholders (principals) entrust the management (agents) with decision making power. Jensen & Meckling (1976, p. 5) describe this as "a contract under which one or more people (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent." This relationship often generates challenges, because the agent generally has more information and differing incentives compared to the principal. These misalignments often lead to agents pursuing their own goals rather than those of the principals. Jensen & Meckling (1976, pp. 5-6) define "Agency costs" as expenses that emerge from the conflicting principal-agent relationship.

2.1.2 Modigliani-Miller Theorem

Modigliani & Miller (1958, pp. 268, 271) introduces two foundational propositions that reshaped the theoretical landscape of capital structure. The first proposition posits that a firm's weighted average cost of capital (WACC) remains unaffected by its debt-to-equity ratio, suggesting that capital structure is irrelevant to firm valuation. The second proposition asserts that an increase in financial leverage elevates the cost of equity. This effect arises because, although leverage increases the returns on equity, it simultaneously increases financial risk, necessitating higher expected returns to offset the additional uncertainty taken on by equity holders.

These propositions were initially formulated within a theoretical framework assuming perfect market conditions, including the absence of taxes, bankruptcy costs, and other frictions. In their original analysis, Modigliani & Miller (1958, pp. 295-296) recognized the tax deductibility of debt interest payments but underestimated its significance, asserting that its impact on firm value was negligible. However, subsequent work by Modigliani & Miller (1963, pp. 433-434) revised this position, demonstrating that the tax shield derived from debt financing exerts a substantial influence on valuation. This

corrected their earlier position, which had emphasized firm value as solely the present value of future earnings (Modigliani & Miller, 1958, p. 272). Instead, Modigliani and Miller (1963, pp. 433-434) established that valuation is also a function of the corporate interest rate and, critically, the extent of leverage employed. This refined perspective underscores the potential for financial engineering and strategic adjustments to a firm's capital structure being able to increase its overall value and enabled further research on the topic.

2.1.3 Static Trade-off theory

Kraus & Litzenberger (1973, p. 912) propose that firms optimize their capital structure by balancing the tax shield from interest deductibility with the increased risk of financial distress tied to higher leverage. They argue that a levered firm's value exceeds that of an unlevered firm due to the tax shield's present value. However, this gain erodes as leverage raises the likelihood and costs of bankruptcy. Their model implies an optimal debt-to-equity ratio where the marginal benefit of debt equals its marginal cost. If this is true, PE firms could clearly create value by restructuring the capital structure to reach this optimal state, or by getting closer to it.

Scott (1977, p. 1) expands the static trade-off theory by highlighting secured debt's role. He defines secured debt as follows: "A debt contract is said to be secured if the borrower pledges an asset to the lender with the provision that should the borrower default on his agreement, the lender has the right to seize and sell the asset in question." (Scott, 1977, p. 1). Scott (1977, pp. 1-3) suggests that secured debt lowers legal and administrative costs in a bankruptcy scenario by prioritizing lenders' claims. This reduction then enhances the firm's current value, even without considering the tax shields. Kim (1978, p. 60) supports Kraus & Litzenberger (1973, p. 912) affirming an optimal capital structure shaped by tax savings and bankruptcy costs. He shows that increasing debt at lower levels increases the value of the company, but taking leverage to extreme levels lowers it.

2.2 Descriptive Theory

2.2.1 Dynamic Trade-off Theory

The static trade-off theory argues that firms aim to maintain an optimal capital structure at all times. It assumes this optimal structure is relatively stable and achievable at all times, without significant impediments. In contrast, dynamic trade-off theory recognizes adjustment costs and market friction over time. Myers (1984, p. 5) notes that adjustment costs prevent immediate rebalancing of debt-to-equity ratios. Fischer et al. (1989, p. 1) argues that firms don't chase a fixed optimal leverage but let debt ratios swing within a range due to recapitalization costs, adjusting only when hitting upper or lower bounds. This dynamic version of the trade-off model views capital structure as a fluid process, not a static target.

2.2.2 Pecking Order Theory

The pecking order theory is considered a competitor of the trade-off theory. Theorized early by Donaldson (1961) and formalized by Myers (1984), it argues that firms in real life prefer internal financing from earnings before relying on debt or equity, and when external funds are needed, they favor debt over equity (Myers, 1984, p. 2). Unlike the trade-off model which assumes firms balance tax shields and distress costs, the pecking order theory argues that the leverage of firms in the real world is a residual outcome of cumulative financing deficits, reflecting a firm's historical need for external funds rather than a deliberate target (Myers, 1984, pp. 23-24).

The relationship between the pecking order theory and trade-off theory is highly relevant for the discussion of how value is created through financial engineering. If both

theories hold some truth, it implies that PE firms can generate value after buyouts by addressing the pecking order behavior of the firm. Through adjusting the firm's debt to equity ratio to align better with the principles of dynamic trade-off theory, PE firms can unlock value that the original management might have overlooked.

2.2.3 Market Timing Theory

In contrast to the pecking order theory, the market timing theory proposes that capital structure is the outcome of cumulative attempts to time capital markets. (Baker & Wurgler, 2002, p. 27). According to Baker & Wurgler (2002, p. 1) firms prefer to issue equity when company valuations are high, and repurchase equity when valuations are low. Graham & Harvey (2001, pp. 216-217) supports this theory. They find that chief financial officers (CFO) consider the valuation of the stock to be the second most important issue (66.94% answered important or very important) when determining whether to issue or repurchase equity. Graham & Harvey (2001, p. 220) also find evidence for timing of leverage. They find that the second most important issue in debt issuance is that interest rates are particularly low (46.35% answered important or very important). They do however also find support for the pecking order theory showing the interconnectedness of the different capital structure theories. The most important reason for debt was found to be the financing of activities when internal funding from profits is not sufficient, consistent with what the pecking order theory posits (46.78% answered important or very important). Credit market timing has a serious implication for PE LBOs, as the availability of debt is a significant determinant for whether these transactions occur. Furthermore, interest rates during the issuance of buyout debt determine the return on equity (ROE) of the deal, as cheap debt allows a more significant portion of the buyout to be leveraged compared to equity size.

3 Value Creation

This chapter will describe the different changes PE companies make to improve portfolio companies. Literature commonly identifies three primary categories of these value creation methods: financial engineering, governance engineering, and operational engineering (Kaplan & Strömberg, 2009, pp. 130-131). Broadly speaking, financial engineering optimizes the capital structure to achieve tax benefits. Governance engineering strengthens oversight, aligns incentives, and sharpens strategic focus. Operational engineering drives efficiency, innovation, and growth.

3.1 Financial Engineering

Financial engineering refers to financial and accounting changes made to the portfolio company following a buyout to achieve increased value. The restructuring of the capital structure of the portfolio company is the primary way to do this. The concept of financial engineering is closely tied to governance engineering, as leverage plays a role in the realignment of management incentives and correction of agent problems. Leverage also has effects on the operational efficiency of the company.

At its core, financial engineering focuses on maximizing tax efficiency, managing bankruptcy risk, and minimizing the company's WACC. A major advantage of leveraged financing is the tax deductibility of interest payments, which reduces the company's overall tax burden and enhances cash flow. At the same time, careful management of debt levels is necessary to balance the benefits of leverage against the risks associated with financial distress, as described by the trade-off theory.

3.1.1 Tax Shield

According to Brown et al. (2021, p. 52) a debt infused capital structure creates value through multiple mechanisms, but the core source of the value can ultimately be traced back to the tax shield, which arises from the tax-deductible nature of interest payments on debt. The tax shield, as a form of value creation, is especially important for public to private buyouts as noted by Cohn et al. (2022, pp. 3-5). Private buyout target companies are found to already be very highly levered, with leverage levels and companies paying taxes remaining essentially unchanged after the transaction

Kaplan (1989, p. 612, 629) estimates that tax benefits derived from interest deductions on debt forms a substantial amount of the premium paid to pre-buyout shareholders. They find that pre-buyout companies pay about 20% of operating income on taxes, and post-buyout under 1% for the first 2 years. These findings suggest that tax benefits are an important factor in LBO value creation. Kaplan (1989, pp. 611-612) acknowledges the influence of the Tax Reform Act of 1986 which lowered tax rates, thus reducing the total possible tax benefits to the tax shield and signaling that the scale of the tax shields is sensitive to legislative changes.

Kaplan & Strömberg (2009, pp. 134-135, 143) suggest a decline in tax shield importance for modern LBOs due to reduced leverage and lower corporate tax rates, further supporting the importance of legislation. They argue that operational improvements have become a more significant driver of value. Graham (2022, pp. 2014-2015) finds that the importance of the tax shield has significantly decreased in CFO surveys. In 2001 60% of large firm CFOs called interest deductibility important or very important, when in 2018 it was only 24%. Graham (2022, pp. 2014-2015) highlights that the US corporate tax rate has decreased from 35% to 21% during the period.

Axelson et al. (2013) also argue against tax benefits. According to them, the benefits from debt interest deductions in LBOs are not the primary motivator for structuring

these transactions but rather an incidental outcome of market timing, as described by the market timing theory. Axelson et al. (2013, pp. 2246, 2264) demonstrate that leverage levels correlate strongly with credit availability, rather than firm-specific tax optimization strategies. For instance, during the mid-2000s credit boom, when borrowing costs dropped, leverage peaked at around 6.5 times EBITDA increasing potential tax shields, while in tighter markets leverage and deal volume fell sharply. They emphasize that leverage decisions are driven more by the availability of cheap debt, rather than by deliberate tax planning. These findings challenge earlier views where tax shields were considered a cornerstone of LBO strategy. Gompers et al (2016, p. 43) somewhat support the view of Axelson et al. (2013). They argue that actual capital structure decisions made by companies are influenced equally by trade-off theory (tax shield) and credit availability.

Cohn et al. (2014, pp. 28, 32, 36-37) provide real world evidence on the issue. They demonstrate that LBOs lead to a substantial and sustained elevation of financial leverage, with debt-to-asset ratios rising significantly during the transaction year and persisting at elevated levels for multiple years thereafter, even among firms with surplus cash flow. They find a huge realization of tax shields, as evidenced by a marked reduction in the proportion of firms liable for taxes post-LBO, a benefit that extends overtime and amounts to billions in savings across the sample. This suggests that the strategic use of debt to secure tax advantages is still a central feature of the LBO model.

Jenkinson & Stucke (2011, pp. 21-22) offer a nuanced perspective on the issue. They estimate that the increased leverage generates substantial tax savings. They observe a significant shift in capital structure from an average net debt-to-EBITDA ratio of 1.5 to 7.6 post-LBO. Their analysis, however, shows a strong link between these tax savings and the takeover premium. According to them, the additional amount paid over the pre-LBO enterprise value averages about twice the size of the tax benefits. They demonstrate that these savings significantly influence the premium, suggesting that competitive bidding among PE funds capitalizes predictable tax advantages into the purchase price, thus nullifying any effect of the tax shield on PE returns.

Together the findings lean toward the fact that value created by tax shields is increasingly small because of lower tax rates. The remaining value from the tax shield may also be in part or entirely captured by the previous owners in the sale of the company. If true, tax shields are able to create financial value, but it's obvious and does not contribute to excess positive returns for PE funds. Regardless, highly levered capital structures will remain an integral part of LBO transactions, since the debt taken on by the portfolio company balance sheet is the same debt the acquiring PE firm uses to finance the transaction.

3.1.2 Private Equity Relationships

In addition to tax shields, PE firms reduce financing costs through relationships with financiers (Ivashina & Kovner, 2011). According to Ivashina & Kovner (2011, pp. 2462, 2467-2468) the two main reasons for this are the reduction of information asymmetry between the PE firm and the bank, and cross-selling. The reduction of information asymmetry can be thought of as the bank gaining information on the PE firm through repeated interaction, which leads to a mitigation of financing risk for the bank and creates the opportunity for better loan terms. Cross-selling is the bank intentionally offering better rates on the loans, in the hope of getting more of the PE firms' business in the future. PE firms engage in a lot of dealings with banks, in addition to getting loans (e.g. M&A advising, underwriting). Banks hope to capture the maximum amount of revenue from PE firms in the long term and therefore offer better rates than normal.

Fang et al. (2013, pp. 29-30) find that parent-financed deals, where banks function as both equity investors and lenders, increase the likelihood of banks being chosen for their other services. They also find that Bank-PE relationship benefits peak during credit market booms. Parent-financed deals are more likely for large transactions in these periods. The financing advantage of parent-financed deals during peaks is, however, found to be driven more by loose credit conditions than by certification from prior relationships.

3.1.3 Financial Intermediary

Cohn et al. (2022, p. 26) introduce the idea of PE firms creating value by acting as a source of liquidity post-buyout in private-to-private buyouts. This is not a traditional part of financial engineering but can be placed in the same category. They find that a substantial number of targeted PE firms have unrealized potential due to financial constraints. These firms are often unable to pursue profitable growth opportunities because of debt overhang or limited access to capital markets. Cohn et al. (2022) show that PE acquirers address these constraints by injecting equity capital thus enabling the companies to take advantage of their previously restricted opportunities. They indicate that the easing of financial constraints is a primary source of value creation in private-to-private buyouts.

3.2 Governance Engineering

Governance engineering is the next area of improvements that will be analyzed. It refers to the strategic implementation of mechanisms and structures that change the way the company is being governed. This materializes in methods that realign management incentives and directly changes leading personnel, for example in the company board. The acquiring PE company essentially takes control of how the company is being led. Improved governance leads to financial value through indirectly affecting the operational performance of the company (because it's being run better), but also through lowering agency costs.

3.2.1 Compensation

Realigning managerial incentives with the owners' interests can be done through mechanisms like equity ownership and performance-based compensation. These actions are supposed to reduce conflicts and enhance firm value, suggesting that properly motivated managers will prioritize shareholder wealth over personal gain (Jensen & Meckling, 1976, pp. 66). This idea hinges on the belief that incentives such as stock grants or options can transform managers into partial owners, theoretically shifting their focus toward long-term value creation.

Kaplan & Strömberg (2009, p. 131) point out that the illiquidity of equity related incentive structures (since the firm is private during PE ownership) creates a natural incentive not to focus on short-term goals. Morck et al. (1988, pp. 311-312) reveals a non-linear dynamic, moderate ownership spurs performance, but beyond a 5% threshold the beneficial impact reverses. Beyond 25% ownership, performance slightly improves, though at a significantly reduced rate.

Empirical evidence shows that PE owned companies participate significantly in performance based variable compensation schemes. Leslie (2009, pp. 2-4) finds that top executives at PE-owned firms hold approximately twice the equity ownership of their public firm counterparts. Additionally, the base salary was lower, while the variable salary was noticeably higher. Performance-based compensation also extended beyond top management and often involved 20-80 managers.

3.2.2 Control

Beyond payment schemes, another way incentives are realigned in portfolio-companies comes from control mechanisms. Research demonstrates that increased control can

minimize inefficiencies or self-interested actions, aligning behavior more closely with desired objectives (Jensen & Meckling, 1976, p. 5-6).

Fama & Jensen (1983, pp. 301-302, 310-311) show that one of the primary control mechanisms is the separation of decision management (initiation and implementation) from decision control (ratification and monitoring). This separation prevents individual agents from having unchecked power. The separation is completed mainly through decision hierarchies, mutual monitoring systems and boards of directors. Decision hierarchies refer to the ordering of the agents into higher and lower levels. This prevents the agents from acting in their self-interests, with higher level agents monitoring the lower levels. Mutual monitoring systems leverage the low-cost phenomenon of same level agents competing with each other and keeping each other in check. Finally, the board of directors acts as a top-level ratification and monitoring agent, with the power to change management.

3.2.3 Free Cash Flow Hypothesis

The free cash flow (FCF) hypothesis argues that firms with excess cash, i.e., cash that is beyond what is needed for profitable investments, may face inefficiencies if managers use these funds in ways that do not maximize value for stakeholders (Jensen, 1986). According to Jensen (1986, p. 324), FCF is the left-over cash flow after the company has invested in all available profitable projects. The remaining FCF can be used in three ways: Invested in low-return or loss-making projects, used to pay back debt, or distributed to shareholders through dividends or share buybacks. Since unprofitable projects are inherently bad, and PE owned companies are private, with no pressure to pay dividends to public shareholders, if there is significant FCF available, there is only one good option left: to pay the debtors.

As mentioned in chapter 3.1, the leverage from financial engineering also has an effect on governance. Debt has a disciplining effect by committing cash to creditors. It acts as

the replacement of the dividend and imposes similar boundaries through repayment obligations and by curbing discretionary spending. Therefore, high amounts of debt inherent in the capital structure of bought out companies helps control the issues proposed by the FCF hypothesis. (Jensen, 1989, p. 11)

3.3 Operational Engineering

Operational engineering creates value through operational improvements. We define operational improvements as modifications to a company's operations that result in better financial results, e.g., increased revenue, EBITDA, FCF or reduced costs. Operational improvements have increasingly become more important over time, with their prominence especially growing during the financial crisis due to credit tightening circumstances (Matthews et al. 2009, p. 21). This growing emphasis on operational improvements is especially noteworthy in light of the findings on the tax shield in chapter 3.1.1. According to Achleitner et al. (2010, pp. 19-21) in 206 European deals between 1991-2005, operational improvements accounted for 46% of the total value created.

The specific methods for creating value operationally vary across industries and companies, but a general framework can be observed.

3.3.1 Human Capital

PE firms install professionals into the acquired companies to improve performance. These professionals act in a comparable manner to consultants. They are usually seasoned experts in their specific fields (same area where target company operates) and have experience working in PE owned organizations. (Matthews, et al. 2009. Pp. 21-22)

Acharya et al. (2013, p. 371) finds empirical evidence that shows individuals with relevant operational experience are significantly more successful in creating value in deals that are focused on operational improvements. In contrast, deals where value creation relies more on financial engineering greatly benefit from partners with experience in finance and accounting. Gao et al. (2021, pp. 5-6) show that PE firms with healthcare expertise implement more significant operational improvements in hospitals, showing supporting evidence.

Matthews, et al. (2009, pp. 23) observes 3 approaches of partner integration into portfolio companies: the Elder Statesman, In-House Consultant, and Integrated Partner models. The Elder Statesman approach utilizes retired industry veterans to provide high-level advice or temporarily lead companies. The In-House Consultant model employs specialists to address specific functional challenges of post-acquisition. In contrast, the Integrated Partner model embeds experienced professionals deeply within the firm's processes, from deal origination to long-term oversight, often granting them significant influence over strategic decisions. The choice of approach largely depends on the size of the company and the degree of control sought by the firm, with larger transactions typically benefiting from more embedded operational support.

Both findings by Acharya (2013) and Matthews, et al. (2009) suggest significant nuance in operations-related decisions depending on the industry and properties of the firm.

3.3.2 Growth

Changes directly affecting operations can broadly be categorized in two parts: Actions that create growth (e.g. through boosting revenue), and actions that cut costs. Gompers et al. (2016, p. 28) argue that the primary focus is on growth related activities. Specific operational actions that PE firms implement to increase performance include buying and upgrading assets, selling existing assets, improving IT, distribution, logistics,

organizations, quality, marketing, add on acquisitions, changing product/service mixes, international expansion and changing of pricing. (Biesinger et al., 2023, p. 41). Brigl et al. (2016) in a Boston Consulting Group report highlight that additional acquisitions integrated into the bought out company are increasingly important especially in buyouts of small and medium size companies.

The correlation between growth activity and PE ownership is well documented. According to Acharya et al. (2013, pp. 370-371) firms acquired by PE significantly improve profitability after acquisition compared to peer companies. This is mainly achieved through sales growth and EBITDA margin improvement. Studying retail stores Fracassi et al. (2022, p. 1439) find 50% average increase in sales in PE owned firms compared to the benchmark. They find that the increases in sales stem specifically from operational improvements, like geographical and product line expansion. They also highlight the importance of PE firms providing financing as a key driver of value, showing support for chapter 3.1.3. Cohn et al. (2022, pp. 273-278) find similar results to Fracassi et al. (2022). They find dramatic increases in sales compared to the peer group post-buyout in private firm buyouts. They also find profitability improvements across the sample, but especially in companies that were not profitable before the buyout.

Through acquisition and governance engineering PE companies also bring an entrepreneurial spirit that is usually lacking in LBO targeted companies. This leads to a refocus on growth and innovation in the strategies of the portfolio companies (Meuleman et al, 2009). Firms demonstrating clear operational guidance and focus traditionally warrant higher valuations (e.g., focusing only on semi-conductor design or semi-conductor production). Due to the fact that PE firms usually reassign resources with a clear vision, they are potentially able to create more financial value upon exit through multiple expansion. Acharya et al. (2013) empirically support this, as mentioned above.

In terms of innovation, evidence shows good results following PE acquisition. Le Nadant and Perdreau (2014, pp. 103-104) find that post-LBO companies exhibit significantly

higher innovation rates than non-LBO firms. Notably, these gains occur without increased research expenditure, indicating that PE ownership correlates with substantial efficiency improvements in innovation. This applies to both technological and non-technological innovations, with organizational innovations occurring twice as frequently as in benchmark companies. Enhanced innovation capabilities are found to persist for one to four years post-acquisition.

3.3.3 Cost cutting

PE companies implement significant cost reductions to achieve higher profitability and improved efficiency in portfolio companies. According to Gompers et al. (2016, p. 43) cost cutting is a significant, but secondary method for operational value creation. Additionally, the emphasis on cost reduction varies based on the backgrounds of the PE firm's founders, with those having operational or prior PE experience tending to prioritize cost efficiencies more than those with financial backgrounds.

PE acquired firms also cut whole operations. Davis et al. (2014, p. 3959) find that portfolio companies aggressively cut manufacturing plants with low total productivity, while at the same time aggressively opening new plants with high total productivity. Ciao (2018, pp. 26-27) demonstrates this in the buyout of toys "r" us, where PE investors saw greater potential in international markets, which led to the closing down of a significant number of U.S stores and the opening of international ones.

4 Returns

The fourth chapter addresses the first hypothesis directly. We start off by assessing what kind of returns PE funds achieve in general compared to markets. We then continue by breaking down what variables affect those returns, eventually finding an answer to the first hypothesis.

4.1 General

Kaplan & Schoar (2005, pp. 1798-1799) show that US fund returns are on average net of fees slightly below the S&P 500. They use a capital-weighted public market equivalent (PME) calculation, where PME measures returns relative to an equivalent investment in the S&P 500 ($1 = \text{S\&P 500 investment}$). They find that buyout funds yield an average PME of 0.93 after fees. However, the study suggests that before fees, their PME would be above 1, and thus returns exceed those of the S&P 500. Kaplan & Schoar (2005, pp. 1804-1805, 1820) also find that larger and more experienced PE firms exhibit significantly stronger performance, but overly large funds are linked to declining returns, suggesting negative economies of scale. More buyout funds enter during periods of high market returns, but those raised in booms are less likely to raise follow-on funds, indicating weaker performance.

Comparing PE returns to the S&P 500 Harris et al. (2014, pp. 1-3) find consistent outperformance in US based funds, with PME metrics showing 20%–27% excess returns over a fund's life, or over 3% annually. Performance negatively correlates with aggregate capital commitments, suggesting lower returns during high capital inflows, showcasing market timing importance. No significant link was found between fund size and performance, going against the findings of Kaplan & Schoar (2005).

Analyzing buyout fund performance around the world during the years 1980-2018, Ain Tommar et al. (2024, p. 110) find that North American, European, and global (primarily US-sponsored) buyout funds outperformed public markets before 2010 but not after. Asia-pacific funds only beat markets in the 1990s, while funds in the rest of the world constantly underperformed. PME calculations for North American funds compared to the S&P 500 range from 2.1 to 1.25 before 2010. For Europe the range was between 1.84 to 1, while global funds showed numbers between 2.41 and 1.21 for the same time period. After 2010 PMEs were found to be negative in the previously well performing regions. Ain tommar et al. (2024, p. 109) explain the low PME performance being due to low realization rates of the investments. Thus, we can draw the conclusion that global, North American, and European funds will most likely outperform indexes in 2010-2018 after full materialization. Another notable finding of Ain tommar et al. (2024, p. 112) is the fact that in European and global firms, top and bottom performing firms maintain similar returns from investment to investment.

4.2 Market timing

In the previous chapter we showed evidence that suggests PE firms do generate abnormal positive returns in European, North American and global funds compared to market indexes. Now we explore the role of market timing for those returns to provide context before diving into the effect of improvements on returns.

Significantly higher raw returns can be achieved by acquiring companies during market downturns and making exits when valuations are high in market uptrends. PE firms have not been very good at timing the entry of the market (Morgan Stanley, 2021; Jenkinson et al. 2022). A major reason for this is because of market conditions. Ljungqvist et al. (2020, pp. 3, 18-26) find that established funds accelerate investments and achieve higher ROE when credit conditions loosen, investment opportunities improve, and competition decreases, accurate with the market timing theory. Ljungqvist et al. (2020, pp.

3, 20-26) also find that first-time funds are less responsive to credit market timing, often prioritizing riskier deals to build a track record, leading to suboptimal returns. According to Haddad et al. (2017, pp. 371-375) the role of aggregate risk premiums in driving buy-out activity is more important. They argue that lower risk premiums increase buyout volume by boosting the future cash flows from improvements in buyout targets and thus making deals more attractive. They also reduce the cost of holding illiquid investments, as investors demand less compensation for illiquidity when risk premiums are low. Their analysis argues that risk premiums explain over 30% of activity variation, outweighing credit-specific factors with 10% explanatory power in the study.

Morgan Stanley's (2021, pp. 1-7) report reveals that fund managers reduce capital calls by approximately 33% in post-crisis years compared to pre-crisis periods, indicating a failure to deploy capital when valuations are low. The so-called capital dry powder ratio, a key metric that assesses the amount of capital deployed, declines by 53% during crises, with fund managers deploying 19% less capital on average. Furthermore, during favorable years, a higher proportion of called capital is used to support existing portfolio companies rather than to pursue new investments at attractive valuations. For instance, new deal capital decreases by 51% post-crisis compared to pre-crisis levels, largely because fund managers prioritize stabilizing current holdings over seizing new opportunities. This behavior was evident during the Dot Com Crash (2001-2002) and the Global Financial Crisis (2009-2010), where capital calls consistently fell below the long-term median for funds active in those periods.

The findings of Morgan Stanley (2021) correlate with those of Ljungqvist et al. (2020) and Haddad et al. (2017), which suggest that during bust periods with low availability of capital and high-risk premiums there are less deals being made, even when through leveraging low valuations very high returns could be achieved. Morgan Stanley (2021, p. 10) recommends that the investors of PE firms take a proactive role by increasing commitments during post-crisis periods. This, however, doesn't entirely fix the fact described by

Morgan Stanley (2021, p. 5) that suggests that already acquired companies also demand capital during low market cycles, pulling away from potential high return investments.

Studies show that in contrast to the failure of timing the entry, PE firms are successful at exit timing. Morgan Stanley (2021, pp. 2, 7-8) finds that 49% more capital is distributed to investors during high valuation periods. Jenkinson (2022, pp. 10-12) corroborates these findings. They find that PE companies do not have any investment entry timing capabilities but have a significant ability to exit investments at the right time. Their findings indicate that on average, market exit timing is utilized to increase company valuation multiple by a factor of 0.32. Jenkinson et al. (2022) highlight that greater timing ability in PE compared to other investment funds likely stems from larger flexibility in investment decisions.

4.3 Improvements and Company Selection

Assessing exactly what part of PE returns come from PE improvements is difficult and understudied. Brigl et al. (2016) argues that the largest contributor to created financial value is operational improvements, growing from 18% in the 1980s to 48% in 2012. When adding in leverage effects the total contribution of changes to value created rises to 61%. Snyder et al. (2023) in a report by CAIS group find similar reports and also refer to operational improvement as the most important driver of returns. Achleitner et al. (2010 p. 21) identifies the combination of operational improvements and leverage accounting for 78% of value created during PE ownership. The reports by Brigl et al. (2016) Snyder et al. (2023) and Achleitner et al. (2010) all identify multiple expansion, driven by market timing as the other important driver of value.

A significant issue regarding the returns from improvements is ignored by the above-mentioned findings: How can we determine whether improvements result from the changes driven by PE owners or from changes the original management was already

planning? Ofek (1994 , p. 637) finds that in failed buyouts the targeted companies did not experience operational improvements when the buyout didn't go through. Acharya et al. (2013, p. 370) also argue that target companies in their study didn't show any signs of improving their performance were it not for PE acquisition. In a recent study, however, Biesinger et al. (2023, pp, 4-6, 25-27) through comparison of confidential pre-deal value creation strategies, and the post-deal implemented changes argue that both the PE firms' ability to select the right company, as well as PE-led changes create economic value for investors. They argue that the selection effect is more important but also highlight that successful implementation of PE improvement strategies drives even higher returns than selection effects alone. Brigl et al. (2016) and Snyder et al. (2023) add to the complication of the issue by identifying that improvement actions also contribute to multiple expansion, working together with market timing.

Regardless of the unclear details, it can be concluded that at least some parts of excess positive returns are driven by improvements that directly originate from PE owners. The overwhelming consensus of chapter 3 shows that portfolio companies massively improve during the holding period, with a substantial number of documented attempts at those improvements made by PE firms. The studies that do discuss selection versus PE management as the origin of the improvements by Ofek (1994), Acharya (2013) and Biesinger et al. (2023) also support this, even though Biesinger et al. (2023) only sees PE-led changes as a secondary effect.

5 Social Effects

This chapter summarizes literature on the social effects of changes stemming from PE changes in portfolio companies, targeting the second hypothesis. We start with the classical focus of critics, employment and bankruptcy, and move on to new research in the fields of education and health care.

5.1 Employment and Bankruptcy

The foundation of LBO criticism regarding social effects is the consequences of employees and the company's future after the acquiring PE company exits the deal. This part of the study takes account of the empirical facts concerning the topic. Davis et al. (2014, p. 3987-3988) find that post-buyout firms overall engage in layoffs significantly more than standard companies. These layoffs are, however, almost entirely offset by the number of jobs added to high productivity plants, leading to a nearly neutral effect on employment levels. Overall, the study suggests that the role PE owners take in terms of employment is a restructuring one, where resources are taken from low productivity jobs and plants, and given to high productivity ones. This contradicts the theory of PE firms extracting value from cutting costs in the short term by firing people and suggests instead positive effects on the employee economy through increased turnover speed based on productivity. Davis et al. (2021, pp. 33-35) find similar results, but emphasize differences across transactions based on the details, industry, and economic conditions of the transaction. They do, however, maintain that overall buyouts tend to lead to employee productivity gains without a major effect on net employment.

Effects on employees have also been studied in hospital acquisitions. Gao et al. (2021) find that employment levels in them decline by 7% in the first 4 years and 10% over 8 years. Core medical workers, however, only see a temporary decline that reverses by

year 8, returning to pre-acquisition levels. Administrative workers experience a persistent 18% reduction in the first 4 years, increasing to 22% by year 8. They also find that core worker wages remain stable, while administrative wages decline by approximately 7% over the long term. Offodile II et al. (2021) find that PE firms were also committed to maintaining employee salaries and benefits, investing in promised capital improvements, and preserving charity care missions (e.g. for nonprofit or faith-based hospitals).

Regarding bankruptcy, literature does not find support for increased bankruptcy risk from PE ownership. Tykvová & Borell (2012, pp. 139-140, 147-148) find increased financial distress, likely from increased debt, but finds that the distress does not exceed that of benchmark companies after a three-year period. Importantly, they find that PE ownership actually leads to a decreased bankruptcy rate. Hotchkiss et al. (2021, pp. 28-29) also argue for positive results. They find that PE owned firms do not have an increased bankruptcy risk. They also display PE firms' significantly better ability to manage distress. PE owned companies have lower bankruptcy costs and manage to remain in control after bankruptcy more often than normal firms. In a recent literature review on the topic, De Silva et al. (2025, p. 1) come to an identical conclusion: Financial distress grows post-buyout, but bankruptcy rates don't increase.

5.2 Education

Eaton et al. (2020, pp. 4025-4026) find negative social effects from US based private higher education institutions acquired by PE firms between 1987 and 2016. The students at targeted schools experience a 13% drop-in graduation rates from the mean, and more modest drops of 5.6% and 5.8% in loan repayment rates and post-graduation income, also compared to the average. The ratio of faculty to students also lowers in addition to the spending on education. The study finds that the changes cannot be explained by school bias or student composition. Eaton et al. (2020, pp. 4025-4026, 4053) also find that post acquisition school profits triple, while enrollment increases by around 40%.

Tuitions, student borrowing and federal grants also increase by significant amounts, and federal aid as a percentage of revenue increases, coming close to the statutory limit of 90%. The findings highlight an important misalignment of incentives in private education. In a subsidized environment, the owners of private schools maximize financial results at the same time as student performance drops and reliance on taxpayer money increases. Eaton et al. (2020, p. 4056-4057) highlight the freshness of the topic and call out attention to the fact that the field of private higher education is highly subsidized and low competition. They call for more research into similar industries. The next chapter investigates effects on patients, including those in nursing homes, which are also heavily subsidized and non-competitive.

5.3 Patients

Recently there have been a lot of studies on LBO effects on patient care in health care company acquisitions in the US. Gao et al. (2021, p. 1) describe the debate as follows:

Proponents claim that they provide hospitals with much needed managerial expertise and operational reform, which help turn around struggling hospitals. Opponents voice concerns that PE firms load hospitals with debt, sell assets, lay off workers, and even close hospitals.

According to Gupta et al. (2024, pp. 1031-1032) PE owned nursing home populations are lower risk, i.e., healthier compared to their counterparts. Regardless of this, they find unmistakable evidence that PE ownership in nursing homes leads to an 11 % higher mortality rate, with pain intensity and mobility issues also increasing. The study does not, however, include evidence that shows that the PE firms created financial value on the expense of patients, or if the PE firms indeed lost financial value due to the same actions that led to the increased suffering. Regardless, the actions show malice, because PE-led changes in companies can be assumed to at least be made with the intent of making money. The financial results would show whether PE firms have an incentive to repeat

the actions taken in the future. Regardless, the fact that they were willing to make the changes in the first place shows a willingness to cause negative social effects, when there is potential for financial value gains.

Taking a slightly opposing view, Gandhi et al. (2023, p. 2) argue that PE owned nursing homes experience declining care quality only in markets with low competition but improve quality in highly competitive markets for example by increasing registered nurse staffing. This is an interesting find considering Eaton et al. (2020) claims about low competition industries.

On the other hand, studying hospital acquisitions, Gao et al. (2021, p. 2) don't find increased mortality rates post PE acquisition. In fact, they do not find any declines in healthcare quality. Patient demographics also stay the same after acquisition, showing that the results do not come from changing the populations of the hospitals. The only negative effect they do find is that in patient satisfaction, which they consider to be due to declines in administrative staff, as described in chapter 5.1.

In contrast, Liu (2022, pp. 8-11, 30, 40) finds some negative effects in hospital acquisitions. He argues that PE buyouts increase the price of health care. While the study does find some operational improvements in the hospitals, they are outweighed by price increases that are accounted mostly to PE bargaining skills and financial engineering. The price increases are also not limited to the bought-out hospital. Prices are found to increase in other non-PE hospitals that share a common insurer.

Together the studies indicate a need for further, and more conclusive, research. Nursing homes in particular remain an important topic of research due to mixed results and subsidized financing.

6 Conclusion

This thesis investigates both the effects of PE-led improvements on returns as well as society according to the current literature. We accept the first hypothesis but also recognize the nuanced results. First of all, we find that PE LBOs consistently beat public indexes in developed financial markets. We also prove that improvements made during the holding period contribute significantly to those returns, with operational improvements contributing the most, while tax shield benefits have lowered in importance. We find that the improvements coming directly from PE owners cause increased returns, but how much, is unclear, as current literature doesn't do a good job of disentangling PE-led improvements from improvements that were about to happen regardless of the buyout. We present the distinction of PE-led improvements from those stemming from target company selection as a future research problem. The results of Biesinger et al. (2023) on the topic are important, but should be considered with caution, as the findings are only from Europe, and the research method of comparing pre-buyout strategies to post-buyout results can be thought of as questionable. Other than improvements, we find that exit market timing is a significant contributor to returns, with PE firms historically being unable to utilize entry market timing, at least partly because of market conditions. We also note that the factors driving PE returns are not independent of each other, for example because higher exit multiples are influenced by the combination of market timing and improvement effects. The capture of any positive returns from successful improvements can also be seen as extremely difficult, for example in a recessionary environment.

We also reject the second hypothesis, but not because of expected reasons. We find that buyouts do not lead to excessive layoffs. Instead, we find that PE firms hire and fire more, based on productivity. Regarding bankruptcy rates, the overwhelming consensus of literature states that financial distress increases because of leverage, but bankruptcy rates don't because of superior management by the PE firm. In contrast, we find evidence that buyouts in the education and health care sectors have negative social effects on students and patients. For future research we suggest refocusing from employees and bankruptcy

to areas such as private education and patient care. Firstly, because these fields still remain understudied. Secondly, initial studies indicate negative results particularly in vulnerable and subsidized sectors like education and nursing homes. We also note that the new negative results are exclusive to the United States, as of now. Overall, the results in education and health care show preliminary support for legislation that would protect vulnerable groups in situations where PE firms have an incentive to profit at the same time as they suffer.

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Appendices

Use of AI in assignment

xAI. (2025). Grok 3 (February 17, 2025 version). Used for preliminary research, as well as for assistive tasks during the writing process, such as proof reading, grammar corrections and sentence refinements. <https://grok.com/>.