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Economic and Scientific Policy**

**Private Equity  
and  
Leveraged Buy-outs**

**Study**

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## **Disclaimer**

The information contained within this report has been produced based on the statistical analysis of available data on the performance and characteristics of private equity investments. The author has taken suitable steps to ensure the reliability of the information presented; however, given the unavailability of comprehensive, reliable, and audited data on private equity investments, the author cannot guarantee the ultimate accuracy of the information collected. Therefore, Prof. Gottschalg, Peracs Ltd., HEC School of Management, or INSEAD is not in a position to accept responsibility for any decision made or action taken, based upon this report or the information provided herein.

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## **EXECUTIVE SUMMARY**

The present study looks at a range of questions related to the social and economic consequences of private equity/LBO activity raised by the European Parliament. Overall, we find private equity to be a well-functioning, established industry that fulfils a crucial role in our economy by providing corporate financing and governance services for the efficient revitalization of underperforming mature businesses. Through long-term controlling investments, Private Equity Firms trigger predominantly growth-oriented changes in the acquired businesses with a positive impact on their short- and long-term competitiveness. Private Equity activity creates value beyond the pure effect of leverage. Historically, private equity funds have generated annual returns approximating 3% above the performance of broad stock market indices gross-of-fees. However the fee structure of Private Equity Firms is such that institutional investors in their funds are left with an average underperformance of 3% relative to these same broad stock market indices. We find no sign of a negative impact of buyouts on the growth or competitiveness of the sectors in which they occur. Also, there is no empirical support for the claim that Private Equity makes the financial and economic system less stable. Finally, we found no evidence of harmful conflicts of interest between Private Equity Firms and their advisors.

### **Research Approach**

Given the general difficulty to obtain reliable information about private equity, the current debate about the possible advantages and disadvantages of this class of acquisition is often characterized by a low ratio of ‘facts’ to ‘opinion’. The present study seeks to contribute to this debate by offering data-driven insights that reveal how private equity functions, how it performs and how it affects the acquired businesses with their employees and other stakeholders. The corresponding analyses draw on the largest available databases on private equity and related activities worldwide, including the proprietary database of the HEC-INSEAD Buyout Research Group that contains detailed information on the characteristics of over 5,500 individual buyout transactions. The fact that the implications of our data-driven analysis results are, in more than one instance, in direct contradiction with, what we perceive to be widespread beliefs about private equity, is striking. Effectively, this conveys, in itself, some information regarding the transparency of this industry.

### **Value Creation**

A first set of analyses focuses on the question of whether and to what extent private equity creates value. Based on a detailed assessment of the performance of a large sample of historic private equity funds, we can conclude that, on average, private equity funds outperformed comparable investments into a broad public market index by approximately 3% p.a. gross of fees. Furthermore, we have found that the magnitude of fees<sup>1</sup> to lead to a 6% difference between annual returns gross and net-of fees, on average. As average fees exceed average outperformance, the net-of-fees returns to the average private equity fund remain below comparable investments made into a broad public market index. This means that contrary to the widespread view of private equity as a genuinely attractive class for institutional investors, historically their private equity investments have on average a negative performance of approximately -3% p.a. relative to the public markets from the perspective of the pension plans or other investors into private equity funds. We also find significant gaps between the best and the worst performing funds.

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<sup>1</sup> Basically a fixed annual ‘management fee’ of 2% of committed capital plus the performance-based ‘carried interest’ of 20% of profits above an 8% ‘hurdle rate’.

As investors in private equity cannot ‘buy’ a private equity index as they can buy indexes of quoted securities, they need to have very carefully designed selection processes in place. Additional inquiries into the drivers of private equity performance reveal that financial leverage amplifies the performance of successful LBOs, but that their success is driven by many additional factors and cannot be attributed to leverage alone. Finally, we find no support for the claim that buyouts have an adverse impact on the fundamental performance of the acquired companies.

### **Time-Horizon**

Another area of inquiry is the time-horizon of private equity. The limited life of private equity funds and the average duration of 5 years of their underlying investments at first sight suggest a restricted time-horizon for these investments. This leads to the widespread belief that buyouts focus exclusively on short-term improvements, while neglecting necessary long-term investments. However, we find no support for this view; in fact, quite the contrary seems to be true. For instance, the average duration of the controlling equity commitments of private equity funds are significantly longer than the average length of the commitment of ‘blockholders<sup>2</sup>’ in public corporations. Furthermore, research on the long-term development of buyouts indicates that even after the exit of the buyout investors, their performance compares favourably to other companies.

### **Consequences of Restructuring**

Buyouts are often seen as synonymous with downsizing, restructurings, and layoffs. We focused our examination on the nature of transformations that occur in the acquired businesses after reviewing over 1000 buyouts and found that indeed many of them involved a substantial amount of restructuring-oriented change initiatives. At the same time, our analysis revealed that restructuring is only one part of what fundamentally characterizes buyouts. In fact, we observed that in the majority of cases, buyouts brought about a combination of growth-oriented and restructuring-oriented change. Pure ‘restructuring-buyouts’ seem to be the exception rather than the rule and even occur less frequently than pure ‘growth-buyouts’ in our sample. We explored the possibility of a broader correlation between private equity activity and the pace of restructuring trends in various industry sectors over a 20-year period. Our findings do not support the claim that private equity accelerates such trends in any statistically significant fashion.

### **Conflicts of Interest**

Large private equity houses have started to replace the world’s leading corporations as the most lucrative clients of some professional services firms, such as investment banks and consultants. These service providers work for private equity companies in a variety of situations and are required to strike a balance between their role as “advisors” to these important clients and their obligation to provide objective investment advice to their other constituents. Not surprisingly, we observe a large number of cases in which a given firm is involved in a particular buyout transaction in multiple roles. We then analyzed the data to determine if such a multiple involvement has any significant impact on the characteristics or performance of the buyout in comparison to the average buyout without any such multiple involvements. In the large majority of cases, there is no sign of any adverse impact of multiple involvements. One noteworthy exception seems to be post-LBO IPOs organized by investment banks that do a lot of business with the responsible buyout fund manager as debt providers in their LBOs. According to our analysis of 820 post-buyout IPOs, the average IPO organized under such conditions has a significantly lower ‘first day return’, while its long-term performance remains unaffected.

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<sup>2</sup> Investors who own more than 5% of the equity

Lower ‘first day returns’ generally mean that the proceeds from the IPO that accrue to the buyout fund manager and/or to the underlying business are increased.

### **Impact on Financial Stability**

Given the enormous increase in private equity activity over the past few years, especially in the European Union, it is important to understand to what extent private equity activity could threaten the stability of financial markets and thereby potentially impact the economy as a whole. In order to address this question, it is first important to put the magnitude of private equity activity into perspective. Despite its recent growth, the annual amount of equity invested in private equity remains below 0.5% of GDP in the EU. The aggregate value of all businesses owned by private equity funds worldwide corresponds roughly to the size of the balance sheet of one major worldwide financial institution. Still, some elements of private equity activity suggest that it may have a negative impact on financial stability. We shed light on this issue through an analysis of five historic worldwide financial crisis situations for which we analyze the link between the level of private equity activity and changes in key economic indicators across 12 different countries. We do not find any evidence for a negative link between private equity activity and financial stability.

### **Disclosure of Information**

A final set of analyses focuses on the disclosure of information about private equity activity. The general public does not have access to information on characteristics and performance of private equity funds and their investments. However, given that in Europe disclosure requirements are largely independent of public vs. private ownership, data on the accounting performance of underlying businesses is publicly available. In addition, current and potential future investors in private equity funds receive information about the characteristics and performance of a fund’s past and current investments for reporting and fundraising purposes. The level of detail and comprehensiveness of these reports varies across fund managers, but tends to increase over time. However, we found that the measures according to which performance is generally reported to current and potential future investors can be misleading to all but the most sophisticated investors, as they tend to systematically overstate performance and make a reliable comparison to industry performance benchmarks difficult, if not impossible. This may in part explain why the previously discussed finding of negative average net performance of private equity relative to public market investments is relatively little known even among investors in private equity, which may also explain why, despite the poor performance, institutional investors tend to increase their allocation to this asset class in recent years.

### **Conclusions**

Private Equity today appears overall a well-functioning, established industry that fulfils a crucial role in our economy. In fact, this role is comparable in its importance to the role of early stage venture capital. The financing of the efficient revitalization of underperforming mature businesses can be considered equally important for the economy as the financing of start-up companies.

We find that only a fraction of buyouts have negative consequences for the acquired firms. In this context, it is important to remember the link between the performance of funds and the consequences for the acquired businesses. Poorly performing deals are predominantly made by less capable investors that strive for great return, but lack the necessary ability to guide the acquired businesses through the process of restructuring and growth.

To the extent that investors are increasingly able to discriminate between capable and less capable fund managers, they will not provide any further capital to the latter category and we can expect the number of bad deals to decrease with the number of less competent fund managers.

Greater efficiency in the information exchange between institutional investors and Private Equity Firms, along with better performance measures and benchmarks, are thus likely to not only increase the level of overall returns but also to further decrease the number of buyouts with undesirable consequences for the acquired business and their stakeholders.

## FOREWORD

In my seven years of research in the area of Private Equity and LBOs, I have been repeatedly and constantly surprised by the substantial discrepancies that exist between widespread perceptions about PE, on the one hand, and my empirical findings, on the other. There appears to be a widely held belief that PE investors get rich (or, very rich, to be more precise) and that PE has negative consequences for the acquired businesses and their stakeholders. As this study will show, the empirical evidence is not in line with several elements of this belief.

In general, the debate about Private Equity seems to be characterized by what I would like to describe as a low ratio of ‘facts-to-opinions’. In other words, we still know relatively little about what PE does and how it functions, but one observes very strong positions as to what should be done with it. At times, the debate has an ideological taste to it, i.e. on the one hand, people present PE as “the greatest thing on earth” and, on the other, it is criticized as a “catastrophe of apocalyptic dimensions.”

Personally, I am always surprised to hear such strong statements about PE, provided that many people who are concerned by the debate lack access to sufficiently deep and broad information about what really happens in PE to enable them to actually draw any definitive conclusions. This lack of insight is by no means their fault: it is called *private* equity for a reason and I know only too well how difficult it is to obtain reliable data in this secretive context.

Thanks to seven years of data gathering at leading business schools in Europe and North America, I was able to look at key characteristics of tens of thousands of LBOs made through thousand of funds managed by hundreds of Private Equity Firms. My data covers three decades of transactions made worldwide.

Based on this empirical basis, it is my intention to contribute to the current debate through a comprehensive assessment of Private Equity, which represents the characteristics of LBOs as accurately as possible with the available data. At the same time, my report will be giving you a clear indication as to where this picture is already highly accurate and where data limitations restrict us to a rather rough representation of what may be happening in reality. A consideration of this ‘level of confidence’ of different so-called ‘findings’ is also too often missing from the debate, where every small-sample collection of case studies is presented as the ultimate proof.

My analysis will largely focus on what evolves from the data, resulting in the broad patterns of Private Equity activity; it aims to identify what is the rule, not the exception. At this point, I am more concerned with finding the averages than with dealing with the extremes. I am firmly convinced that a great need exists for such a fundamental account of the PE phenomenon and that it should serve as the basis for any further debate. On a personal note, I am honoured by the privilege to contribute to the process by diligently preparing the present report.



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## 1. INTRODUCTION

Leveraged buyouts and related forms of so-called “later-stage” private equity are playing an increasingly important role across Europe both as a major asset class for investors and as acquisitions that affect thousands of companies and millions of employees in one way or another. The European Parliament's Committee on Economic and Monetary Affairs sought expert advice on this topic to strengthen its contribution to the current debate. Issues of interest to the policy-maker in this regard include assessments of the general value added of corporate restructurings through these means, e.g. whether they follow any long-term strategies and what the possible social and economic consequences of a stronger growth in this market could be. The present study takes a detailed look at the social and economic consequences of this phenomenon, focusing in particular on the six specific issues raised by the EU Parliament. A summary of research questions, data sources, and key results is given in Exhibit 1.

This chapter lays the foundation for the subsequent analyses by offering a brief introduction to the private equity domain, a description of data, and research approach. Chapter 2 deals with the question of whether and how private equity companies add value, both from the perspective of the financial investor and from the perspective of the acquired investment object. Special attention is paid to the role of fees as determinant of the difference in performance relevant for fund managers on the one hand and the ultimate investors on the other. It also explores the role of financial leverage as a performance driver. Chapter 3 analyzes whether or not private equity offers a long-term strategy for the acquired companies. We first compare the average holding period of private equity investments to the average duration of blockholding equity investments in public companies. The chapter proceeds to study the long-term performance of buyouts by examining a sample of “Reverse LBOs”. Chapter 4 sheds light on the social consequences of private equity activity. It first documents the operational, organizational, and strategic changes that occur once a company has been acquired by a buyout fund. In a second step, we explore whether private equity involvement has positive or negative consequences for the competitiveness (in terms of growth, profitability, and employment) of a given industry sector. Chapter 5 deals with the potential conflict of interest that may arise when professional services firms are involved with private equity firms in multiple roles. We first document the frequency of such multiple involvements, followed by a study to determine whether or not they could have any significant ramifications on the nature of performance of private equity investments. Chapter 6 is devoted to the consequences of private equity activity for financial stability. It first documents how important private equity has become for the financial system. In a second step it explores the extent to which the prevalent level of private equity activity in a given country influences the sensitivity of the local economy to financial crisis situations. This analysis provides insights into whether or not the stability of a local economy is influenced by the level of private equity activity. Finally, Chapter 7 documents current reporting practices of private equity funds and points to some potential areas of improvement in this area. Chapter 8 concludes the report.

**Exhibit 25: Overview of Empirical Analyses**

#	Topic	Research question to be tested empirically	Unit of analysis	Number of observations	Data source	Key Finding	See Chapter
1	<b>Private Equity Value Creation</b>	Do investors into PE Funds earn higher returns than comparable stock market investments?	Performance of Buyout Funds	236	Thomson VentureEconomics	PE creates value gross of fees, but underperforms the public market from the investor's perspective	2
2	<b>Private Equity Value Creation</b>	To what extent is leverage responsible for difference in PE Performance and comparable stock market returns	Risk-adjusted Performance of Buyout	548	Thomson VentureEconomics, Prequin, HEC-INSEAD PPM Database, Loanconnector	Successful buyouts benefit from leverage, but leverage alone cannot explain their success	2
3	<b>Private Equity Value Creation</b>	Do PE investment objects perform better than industry peers in terms of key accounting performance indicators	Long-term Accounting Performance of Individual Buyout Deal compared to industry trend	63	HEC-INSEAD PPM Database, Compustat	PE investment objects do perform better than industry peers in terms of key accounting performance indicators	2
4	<b>Time-Horizon of Private Equity</b>	Is average PE involvement longer or shorter than typical investments in public equity?	Holding period of equity investment	3903 buyout investments, ~10000 public equity shareholdings	HEC-INSEAD PPM Database, WRDS Blockholder Database	The average PE involvement is longer than the average blockholding in public equity	3
5	<b>Possible Social Consequences of Restructuring</b>	What changes does private equity trigger in the acquired investment objects?	Individual Buyout Investment	1000	HEC-INSEAD PPM Database	More buyouts are growth-oriented than restructuring-oriented	4
6	<b>Possible Social Consequences of Restructuring</b>	What is the long-term impact of private equity activity on the competitiveness of industry sectors	Profitability and employment of industry sectors by country and over time	442	Thomson VentureEconomics, Compustat	There is no sign that private equity activity significantly increases restructuring trends	4
7	<b>Conflicts of Interest in Private Equity</b>	Does the existance of multiple relationships between a given institution and a PE company alter investment performance?	Performance of RLBOs	820	Thomson VentureEconomics, LoanConnector	IPO organized by book managers doing much business with a GP as debt providers have lower first-day returns	5
8	<b>Consequences for Financial Stability</b>	How does private equity activity influence the sensitivity of key economic variables, such as interest rates, GDP growth, stock market trends, and employment to economic crisis situations	Case studies of historical crisis situations	60	Thomson VentureEconomics, Compustat	There is no sign that private equity activity significantly decreases stability of financial system	6
9	<b>Differences in Reporting Practices</b>	Which information is provided by PE companies to their investors -- how detailed, how frequent, how consistent?	Reporting documents	281	HEC-INSEAD PPM Database and Interviews	There are areas of improvement with respect to performance measures used	7

Source: Author.

## 1.1 Private Equity Basics

### 1.1.1 Definition of LBO<sup>3</sup>

A buyout can be defined as the purchase of a controlling stake in a company (or a division) from its owners for a limited time, usually financed through a combination of equity and debt and with strong involvement of specialized financial investment companies (e.g., Wright et al., 1994: 216; Meulbroek, 1996: 4; Coyle, 2000: 34), the so-called buyout firms of general partners (GP). Buyouts represent the later stage investment category of private equity while venture capital represents the early stage. They are archetypes of "unrelated" acquisitions as buyout firms typically manage their portfolio companies completely independent from one another (Baker & Montgomery, 1994). This form of takeover is not motivated by potential advantages from the integration of the acquired into another entity ("synergies"), but by the intention to increase the value of the takeover target as a stand-alone business beyond the purchase price (Baker & Montgomery, 1994).

### 1.1.2 Value Generation in Buyouts

One can differentiate between the following six broad levers that determine the value generated in a given buyout (see Berg&Gottschalg, 2005).

- **Financial arbitrage:** Generation of returns from differences in the valuation applied to a portfolio company between acquisition and divestment independent of changes in the underlying financial performance of the business ("buy low - sell high"). One can distinguish between financial arbitrage based on exogenous changes in market valuation ("multiple riding"), financial arbitrage based on private information about the portfolio company ("insider information"), financial arbitrage based on superior market information (e.g. industry expertise, networks), financial arbitrage based on superior deal making capabilities (e.g. proprietary deal flow, negotiation skills) and financial arbitrage based on optimisation of corporate scope (e.g. reduction of conglomerate discount);
- **Financial engineering:** Optimisation of capital structure and minimization of after-tax cost of capital of the portfolio company as a consequence of the utilisation of financial knowledge and experience;
- **Increasing operational effectiveness:** Implementation of measures that enhance overall productivity and effectiveness of operations, typically based on a reconfiguration of a company's resources;
- **Increasing strategic distinctiveness:** Adjustment of the strategic objectives, programmes, and processes of the portfolio company. Examples include corporate refocusing or 'buy-and-build' strategies;
- **Reducing agency costs:** Decrease of the agency costs that arise from the owner-manager-conflict in the portfolio company. One can distinguish between reducing the 'agency cost of Free Cash Flows' through increased leverage, improving incentive alignment (e.g. through equity ownership of management) and improving monitoring and controlling (e.g. through direct and fast access to confidential company information for shareholders);

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<sup>3</sup> Following Berg&Gottschalg, 2005.

- **Parenting effect:** Increase in revenues or decrease of cost due to the effect that the portfolio company benefits from association with the buyout firm. Key mechanisms include the re-establishment of entrepreneurial spirit (e.g. entrepreneurial freedom for portfolio company's management) and the advising and enabling involvement of the GP's investment managers (e.g. "stretch budgets", strategic advise, and management expertise);

### 1.1.3 Private Equity Governance Structure<sup>4</sup>

Private Equity funds are typically structured as limited liability partnerships in which a specialized Private Equity firm serves as the general partner (GP) and institutional investors or high-net-worth individuals provide the majority of capital as limited partners (LP). Most Private Equity funds are closed-end funds with a finite life of 10 or 12 years, which may be extended with the consent of the majority of the shareholders (Gompers and Lerner, 1999). During this period, the GP undertakes buyout investments, with the obligation to liquidate all investments and return the proceeds to the investors by the end of the fund's life. A minority of funds, so-called "evergreen" funds have an infinite life and no obligation to liquidate their positions.

At the time of the fund's inception, LPs commit to a percentage of total fund size. In the first years of the fund life (typically the six first years), the GP makes capital calls to LPs (also called 'take-downs') whenever it finds an investment opportunity. Typically, within two weeks, LPs have to provide the corresponding cash. The total amount of such "capital calls" can exceed the capital committed at the fund's birth, although this is relatively rare. In fact, it is more common for a fund to liquidate without having invested all the capital committed.

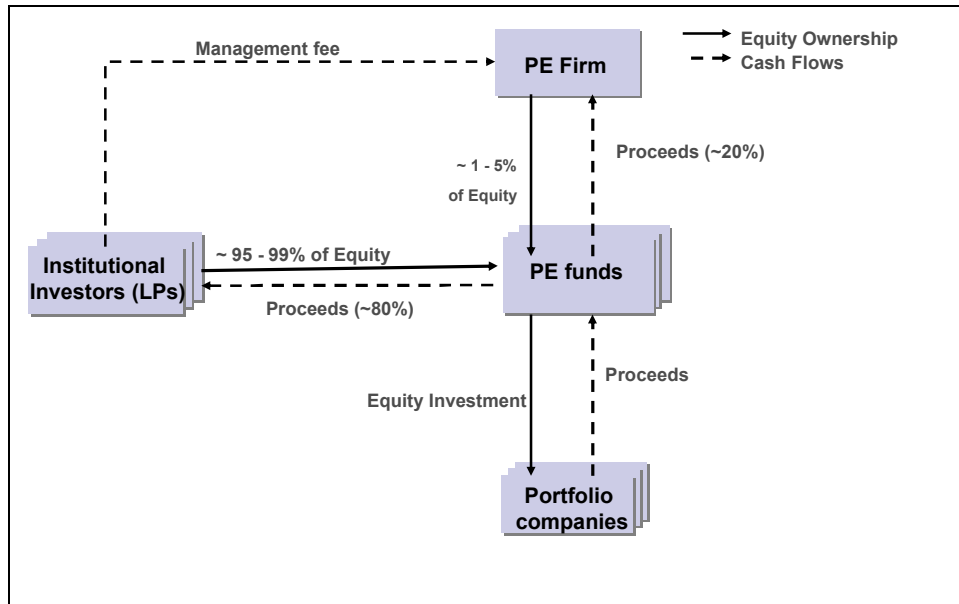
Whenever a fund receives returns on its investments, proceeds are proportionally distributed to LPs, net of fees, and so-called "carried interest". These distributions can be in the form of cash or shares (common, preferred, or convertibles). GPs receive compensation in varying forms; a fixed component, a yearly management fee (between 1% and 3%) of the total committed capital is charged to LPs. In addition, GPs can receive fees for each transaction performed (fixed or as a percentage of deal value) and participate in the fund returns through "carried interest" which often specifies that 20% of all net gains (or gains beyond a certain "hurdle rate") accrue to the GP whilst the rest is distributed among LPs (Exhibit 2).

PE firms often manage several funds, raising a new fund three to five years after the closing of the fundraising process for the previous fund (Exhibit 3). Note also that some PE funds are structured as non-partnership captive or semi-captive vehicles with one dominant (or exclusive) LP. This is mainly the case with funds that are managed by subsidiaries of large insurance companies or banks that invest the parent company's money.

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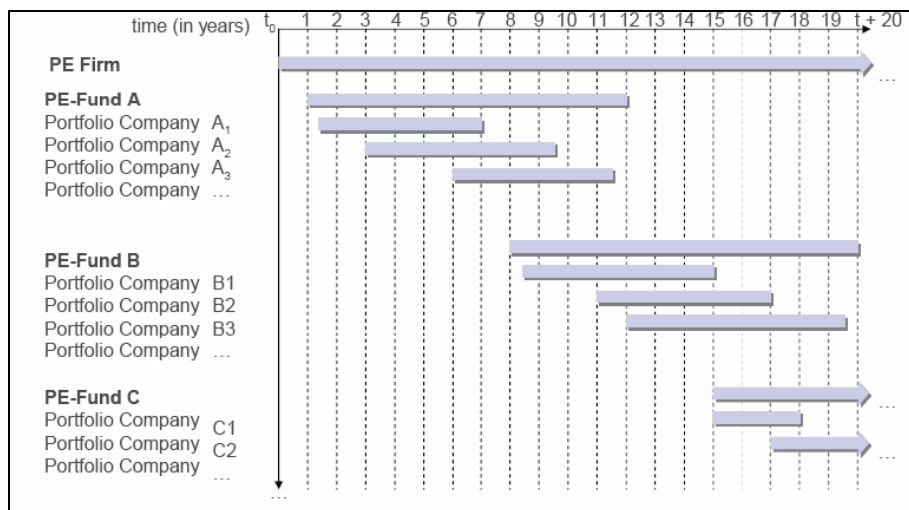
<sup>4</sup> For a more detailed description, see Lerner et al. (2004).

### Exhibit 26: Private Equity Governance Structure



Source: Author.

### Exhibit 27: Sequential Activity of Multiple Funds with Finite Life



Source: Author.

### **1.1.4 Terminology**

This report follows the invitation to tender by synonymously using the terms ‘private equity’ and ‘buyout’. In practice, buyout transactions are variously labeled (e.g. leveraged buyout (LBO), management buyout (MBO), institutional buyout (IBO), management buy-in (MBI), etc.) and often are used synonymously. In this report, the term "buyout" is considered in the broadest sense .

In line with industry practice, abbreviations are used for so-called limited partners (LP), the institutional investors or high-net-worth individuals investing in private equity funds and for the so-called general partners (GP), also referred to as fund managers, a buyout firm, or a private equity firm.

Additional explanation of the terminology of private equity is provided by the European Venture Capital Association and available at the following link:

[http://www.evca.com/html/PE\\_industry/glossary.asp](http://www.evca.com/html/PE_industry/glossary.asp)

## **1.2 Research Approach**

One particular challenge of any research in an area that calls itself *private* equity is the general difficulty to obtain comprehensive and reliable data on the characteristics of these investments and their performance. Consequently, an in-depth understanding of what happens behind-the-scenes during a leveraged buyout is still somewhat limited. This applies to the questions of whether, how, and under what circumstances, investors enjoy attractive returns, as well as the question of whether, how, and under what circumstances, target companies exit the buyout as a revitalized and more competitive firm. The current debate about the possible advantages and disadvantages of this class of acquisition tends to be dominated by opinions and beliefs that seem to be heavily influenced by subjective impressions based on a few well-publicized buyout failures and successes. These cases may not be representative for the buyout phenomenon as such, but nevertheless become stereotypes and influence the general perception of the private equity industry. Fact-based arguments, especially those that are supported by generalizable empirical findings from an analysis of large and representative sample of private equity investments, are as scarce as they are difficult to derive.

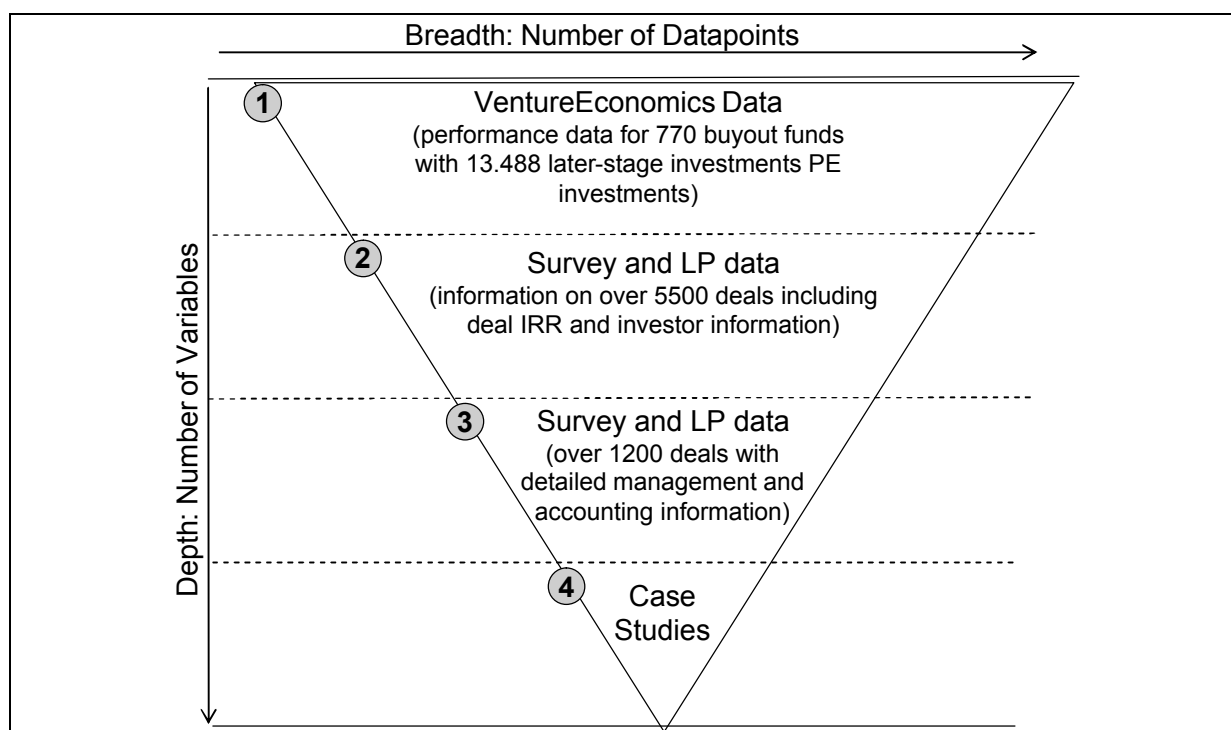
The present study intends to contribute to a more substantial and fact-based debate about possible positive and negative consequences of buyout activity in Europe by offering data-driven insights into how private equity functions, how it performs, and how it affects the acquired businesses with their employees and other stakeholders. In order to meet this objective, it follows a strictly data-driven approach and analyzes the specific issues raised in the invitation to tender through an empirical analysis of the best available data on buyouts and their social and economic consequences.

### **1.2.1 Data Sources**

The present study draws on the detailed information of thousands of buyout investments contained in the HEC-INSEAD Buyout Database (Exhibit 4). Our data include characteristics about the investing private equity houses (GPs), their ultimate investors (LPs), individual funds and transactions, financial returns to investors, long-term financial and operational success of the target company and the characteristics of the responsible investment management teams.



## Exhibit 28: Data Sources



Source: Author.

The creation of this database has been possible thanks to the participation of a number of members of the Private Equity Community and co-operations with Industry Associations, Academics and Industry Research Firms in several countries<sup>5</sup>. To the best of our knowledge, it constitutes the world's largest and most comprehensive database on individual buyout investments available for academic research.

This data has been complemented whenever possible and necessary with additional information from commercially available research databases in order to address the specific research question listed in the invitation to tender. These data sources include:

- Private Equity Fund Characteristics and Performance from Private Equity Intelligence (Prequin);
- Data on debt facilities used in LBOs from LoanConnector;
- Data on public company blockholdings from WRDS;
- Company Accounting Information from the Bureau van Dijk Amadeus Database;
- Compustat Global Industrial/Commercial;
- Compustat North American Annual; and
- Thomson VentureXpert.

<sup>5</sup> Since many of our research partners have chosen to remain anonymous, we would like to extend our deep gratitude to all of them at this point. Only through their collaboration, trust, and support for our research efforts, has the creation of this database been possible.

## **1.2.2 Advantages and Remaining Limitations of the Research Approach**

The chosen data-driven approach has several important advantages. It builds on a large and representative dataset of buyouts and hence avoids difficulties with one-shot survey studies. These may be subject to severe biases related to the fact that not all investors respond to the survey and those who provide a response are not necessarily representative of the entire universe of buyouts. For example, surveys rarely include less successful transactions, such as those that lead to bankruptcies of the acquired businesses. These failures are obviously an important group of transactions to be considered and are routinely captured in our database.

Instead, the chosen approach will make it possible to identify whether or not a specific effect is of general statistical and economic significance, rather than driven by coincidence or the famous “exception to the rule”. Whenever necessary and possible, the analysis considers multiple effects simultaneously based on multivariate statistical techniques, which makes it possible to identify the marginal impact of each relevant factor, independent of other mechanisms that potentially may influence it.

Due to the proverbial reluctance of the private equity industry to disclose information about the characteristics and performance of their investments, data availability remains imperfect despite all our data gathering efforts. Consequently, we cannot exclude the possibility that some biases continue to influence our findings. We have taken special care to address this possibility by testing for (and correcting when necessary) the presence of such biases in any of the sub-samples of data used in the specific analyses. A fully conclusive analysis that is free from any such limitations will only be possible when (if ever) data on all relevant characteristics of all private equity investments will be available for such a study.

## **2. PRIVATE EQUITY VALUE CREATION**

### **2.1 Introduction**

This work-stream addresses the fundamental question of whether and how private equity companies add value, both from the perspective of the financial investor and from the perspective of the acquired investment object. We approach this question in three distinct steps.

In the first step, we analyze data on the financial performance of private equity from the perspective of (a) the buyout fund manager (GP) and (b) the investors into private equity funds (LP) and ask the question of whether the returns to these investments have historically been above those of comparable investments in publicly traded companies. To this end, we use data on the cash flows into and out of mature buyout funds and assess their bias-adjusted performance relative to relevant stock indices, following the methodology developed by Phalippou and Gottschalg (2007).

In the second step, we shift our focus to the sources of value creation and analyze to what extent higher financial leverage plays a role in driving the performance in successful private equity investments. To this end, we followed the methodology introduced by Groh and Gottschalg (2007) in order to quantify the portion of buyout returns that could have been generated through similarly leveraged public market investments.

In the final step, we address the question of value creation from the perspective of the acquired investment object. Here, we look at the evolution of the fundamental accounting performance of the acquired companies to assess whether and to what extent these firms benefit from the private equity investment. We compare the changes in relevant accounting performance indicators to publicly traded companies from the same industry sector over several years following the buyout and determine whether (on average) buyout target companies appear to be more competitive in the long run.

### **2.2 Historic Private Equity Performance Relative to Public Market<sup>6</sup>**

#### **2.2.1 Widespread belief about private equity as an attractive asset class**

There is a widespread belief that private equity performance is extraordinarily high and that it enables investors to enjoy returns that are much higher than those available through traditional public market investments. This belief is reflected in frequent reports praising the performance of this asset class in the business press.

Examples include:

- “Mark O'Hare, managing partner of Private Equity Intelligence, a consultancy, said: ‘Private equity has delivered good returns net of fees ...’” (10 April 2006, Financial Times)
- “Private equity can seemingly do no wrong in investors' eyes. The industry is raising record amounts and returns have outstripped those from equity markets in the past few years. (...) Antoine Drean, managing partner of Triago, a private equity placement firm based in Paris, says: ‘For people looking in the rear mirror, buyouts look great performance wise.’” (3 April 2006, Financial Times)
- “Despite years of good performance, private equity is ... sidelined by many pension funds.” (25 July 2005, Financial Times)

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<sup>6</sup> This section draws on joint work with Prof. Ludovic Phalippou from the University of Amsterdam, part of which is presented in more detail in Phalippou and Gottschalg (2007)

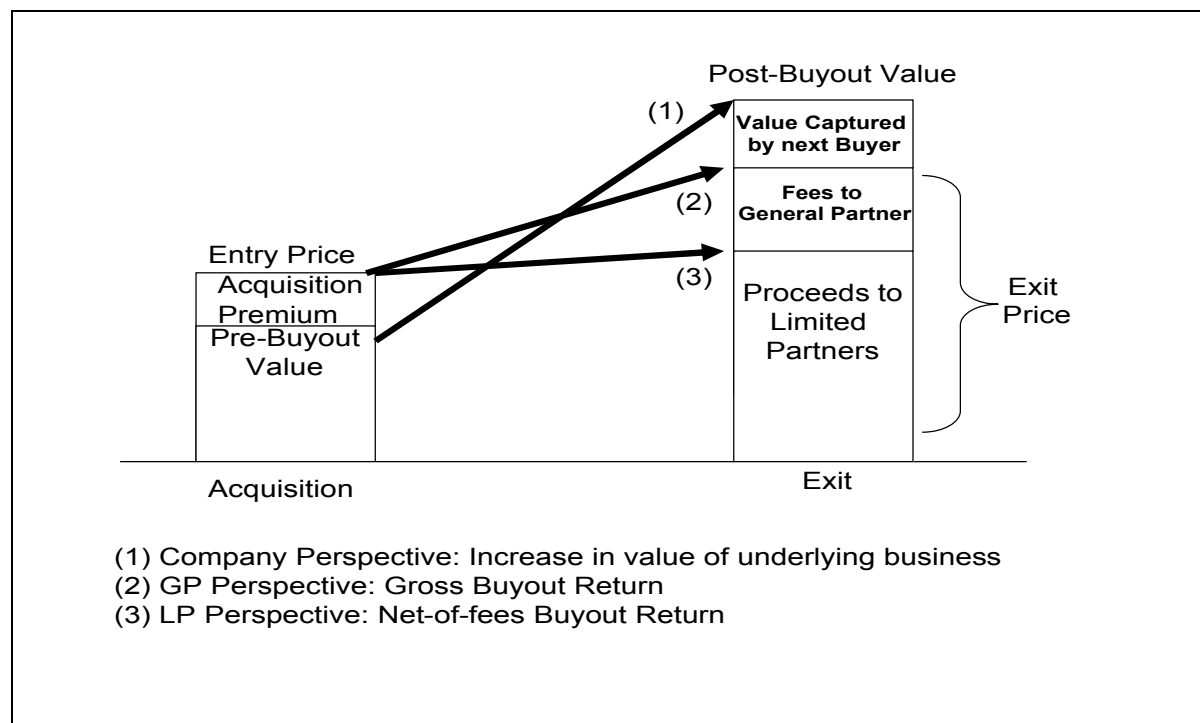
Support for the belief of private equity outperformance can also be found by a cursory review of the performance benchmark statistics jointly published by industry associations (such as EVCA, BVCA etc.) and Thomson Venture Economics that serve as a quasi industry-standard. The 20-year net-of-fees performance (pooled IRR) of all private equity funds covered by Thomson Venture Economics as of 12/2006 is 14% p.a. The S&P 500 increased by about 9.3% p.a. over the same time period.

For the uninformed reader, such data suggests that long-term private equity performance compares favourably to public market indices. However, the mere comparison of these two numbers is not an accurate assessment of the relative performance of private equity for a variety of reasons. In the following, we use the most comprehensive available data set on European and worldwide private equity activity and performance to draw an accurate picture of the relative performance for this asset class and to explain why an uninformed observer may draw misleading conclusions from industry-standard performance benchmark statistics.

### **2.2.2 Alternative Perspectives of Value Creation**

In order to avoid confusion when talking about value creation, it is important to always specify from which perspective value creation is being assessed (See Exhibit 5). For the acquired business, the value increase between the pre-buyout status and the post-buyout status is relevant. This value increase is driven by fundamental performance improvements (revenue growth, margin improvement), change in valuation multiples and the release of cash due to working capital reduction, asset sales, etc. The GP records gross performance according to the difference between the entry price (pre-buyout value plus acquisition premium) and the exit price (post-buyout value minus the portion of the value captured by the next buyer). LPs record 'net-performance' based on the value creation from the GP's perspective (exit price minus entry price), minus the fees charged by the GP for their services. In our analysis, we will look at one of these perspectives at a time and try to quantify the main differences between them.

## Exhibit 29: Alternative Perspective of Value Creation



Source: Author.

### 2.2.3 Required time lag for performance assessment

Private equity funds typically have a finite life of 10 to 12 years. They gradually invest the capital that investors have committed to them during the first half of their life. Proceeds from realized investments primarily occur during the second half. The fact that the equity of private equity portfolio companies is not continuously traded makes valuation of ongoing private equity investments inevitably imprecise. Consequently the performance of a given private equity fund can only be measured with full accuracy at the end of its life. This restricts our ability to assess the performance of private equity relative to the public markets to funds that have been raised 12 or more years ago and that have come to the end of their life.

We therefore focus our attention on the net performance, based on cash flows to and from investors net of all fees, of a worldwide sample of 236 of such "mature" buyout funds that are raised in 1993 or before<sup>7</sup>. As these funds made their investments between 1980 and 2000 and can be expected to have realized all viable investments by the end of our sample period<sup>8</sup>.

<sup>7</sup> This sample corresponds to about 50% (in terms of capital invested) of all buyout activity over the period in question. Performance information for the other 50% are unavailable.

<sup>8</sup> Performance is assessed as of 2004.

#### **2.2.4 Why industry-standard performance measures can be misleading for the uninformed**

It is standard practice in the private equity industry to report performance either as a (undiscounted) ratio of cash proceeds over cash investments (“multiple”) or as the annualized rate of return of all corresponding cash flows (“IRR”). When used in isolation, each of these measures has important limitations that are well-documented in standard finance textbooks.

Perhaps most importantly, the “multiple” does not consider the “time value of money” and the information that a private equity fund doubled investors’ money (multiple of 2) is of little value unless we know for how long their money had been invested. Money also doubles (in face value) in a standard bank account if one only waits long enough.

The problems with the use of IRR for the assessment of private equity returns relative to public market investments are slightly more technical and fill an entire chapter in one of the most popular finance textbooks<sup>9</sup>. One important feature of IRR is the fact that (unlike the multiple) it considers the “time value of money” so that the timing of the underlying cash flows has a great influence on IRR. This is one of the reasons why the previously stated comparison between a 14.1 % long-term net-of-fees IRR for private equity investments and a long-term IRR of 9.3 % for the S&P 500 index over the same time horizon is misleading. The 9.3% return to the S&P 500 index are based on a “buy-and-hold” strategy, in which investors put all their money into an index fund in 1980 and sell all their stakes in this fund in 2000. In private equity, however, the timing of investments and cash distributions is irregular and somewhat unpredictable for the ultimate investor. Consequently, the IRR of private equity investments over the 20-year time period is based on a cash flow pattern that is very different from that of the “buy-and-hold” strategy in public equities, which makes the simple comparison between the two IRRs inaccurate.

A further problem with IRR as the performance measure for the industry-standard performance statistics stems from the fact that reporting aggregate performance as IRRs is misleading. As described in more detail in Phalippou and Gottschalg (2007), aggregating IRRs from multiple funds according to either of the practices used in the industry-standard performance statistics overstates the historic performance of this asset class. For our sample of mature funds, we found that both the ‘size-weighted average IRR’ and ‘Pooled IRR’ overstates performance, relative to the more accurate method of weighting each fund IRR by the product of the present value of its investments and its duration. The magnitude of this overstatement is in the area of 3% p.a. For some vintage years, this correction is even more dramatic: For the private equity funds raised in 1985, for example, the size weighted average net-of-fees IRR is almost twice as large as the average IRR that is both time and present value, in this case weighted 22.86% versus 13.88%.

These numbers show that what may look methodological hair splitting at first sight has immense practical relevance. Thus, a casual look at industry-standard performance statistics seems to be in line with the widespread belief of great historic returns to private equity. Applying simple textbook finance, however, we immediately see that these return figures are substantially overstated. Given the range of well-documented issues with the IRR measure, we base our subsequent assessment of private equity value creation on a more accurate performance measure.

#### **2.2.5 A better performance measure: the Profitability Index**

A more suitable approach to compare the performance of private equity to public market investments is the so-called profitability index (PI), defined as the present value of the cash flows received by investors divided by the present value of the capital paid by investors.

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<sup>9</sup> See Principles of Corporate Finance by Brealey & Myers, Chapter 5

Using the rate of return of comparable public market investments as the discount rate in these present value calculations, we obtain a PI measure that directly indicates outperformance of the comparable public market investments whenever it is strictly greater than one and vice versa. Sometimes, such a profitability index relative to a broad public market index is used by practitioners in the private equity community and referred to as Public Market Equivalent (PME) return.

### **2.2.6 GP Perspective: The historic gross-of-fees performance of Buyout Funds**

If we apply this measure to our sample of mature private equity funds and make a number of necessary methodological adjustments the raw data outlined in Phalippou and Gottschalg (2007), we find an average gross profitability of 1.20 for the overall sample of mature buyout funds. This means that the gross of fund managers' fees and private equity funds have generated substantially higher returns than the S&P 500 index – a value increase of 20% relative to the original investment, corresponding roughly to an annual outperformance (Alpha) of 3%.

An average historic Alpha of 3% from the GP perspective seems to be in line with the general belief of attractive returns from investments in private equity funds. We need to evaluate this figure relative to a number of less attractive features of private equity funds from the LP's perspective. Examples include the unpredictability of cash flows, the illiquidity of the investments and the resources required to build up a private equity investment program. Most importantly, however, LPs do not receive the same returns as the GPs, but have to compensate the latter for their services. As we will show in the following section, the corresponding fees are an important element to consider in the analysis.

### **2.2.7 The impact of fees charged by private equity fund managers**

GPs are compensated by the LPs for their service basically according to two principal mechanisms. First the management fee, which is usually a percentage of the committed or invested capital that the GP received as a fixed annual payment from the LPs to cover the cost of running the fund before any profits from realized investments are available. Second the carried interest ('Carry') which specifies the degree of profit sharing of the GP through a portion of the capital gains of the fund's investments. Frequently, only capital gains above a certain annual percentage return, the so-called hurdle rate, are being considered for the carried interest calculation<sup>10</sup>.

The objective of these two instruments is to provide incentives for the GP to make and manage the fund's investments in the best possible way – in other words to maximize the return to the LPs. At the same time, the management fee and carry are fundamental determinants of the cost of a given buyout fund. After all, they determine what portion of the overall gains accrues the LP and, hence, the net returns of the buyout investments that can be captured by the investors.

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<sup>10</sup> For more information regarding fees of private equity funds, see Metrick, A. and A. Yasuda, 2007, Economics of Private Equity Funds, Working Paper, Wharton Business School or Gottschalg & Kreuter 2007, More than meets the eye – Terms and Conditions of PE Funds, Private Equity International.

We conducted a detailed analysis of key terms from over 1,000 PE funds raised during the 2001-2005 period. Overall, our data confirms the rule that most funds still follow the pattern of 2% management fee, 20% carry and 8% hurdle rate. Based on this information, we simulate fee payments based on our cash flow data for mature private equity funds described above. A conservative estimate of total fee level suggests that the typical fee structure used during our sample period (20% carry with 8% hurdle and 2% management fee based on committed capital throughout) corresponds to over 6% delta between the average annual performance gross-of-fees and net-of-fees.

When we dig deeper into the different fee elements, we further observe that on average the fixed income component (management fee based) has historically been more important than the performance-based remuneration for PE funds (carry based). The dominance of the fixed income component (management fee based) increases with the size of the fund, which raises questions about the suitability of this incentive structure to push fund managers into generating the highest possible returns for their investors.

### **2.2.8 LP Perspective: The historic net-of-fees performance of Buyout Funds**

Considering the fees paid to the GP in the analysis, we replicate the previously described calculations to determine the historic net-of-fees performance of buyout funds. Seen from the perspective of the LP, we find an average profitability index of 0.96 for 236 mature buyout funds worldwide and of 0.91 for 111 mature European buyout funds. After fee payments, buyout funds have, on average, generated significantly lower returns than broad public market indices. This means that in net present value terms, one EURO invested into the average European buyout fund generated 91 cents of net returns to investors. In other words, 9% of the contributed value has been destroyed!

Expressed in terms of the profitability index (PI), the fees paid to GPs correspond to a difference of 0.24 PI between the gross-of-fees and the net-of-fees performance of historic private equity funds. Put differently, roughly one quarter of capital invested into private equity funds is paid to fund managers in fees, even though the average net performance of their funds is below that of the S&P 500. The magnitude of these fees is impressive and exceeds the level of value created by the average buyout fund relative to broad public market indices. In conclusion, one may say that private equity creates value, but that GPs on average charge more in fees than the value they create<sup>11</sup>.

It is important to keep in mind, however, that these results refer to (a) performance of a sample of mature funds and (b) the performance of the average Euro invested in private equity. One important characteristic of private equity is that performance differences that exist between the top-performing and worst-performing funds are much greater than, for example, those between the best and worst mutual funds for public equity investments. The funds in the group of the top-performing 25% of our European sample (typically referred to as the “top-quartile” in the private equity industry) has significantly outperformed by attracting public market investments with an average profitability index of 1.26. In other words, in net present value terms, a EURO invested into the average European “top-quartile” buyout fund generated 1.26 cents of net returns to investors. In other words, 26% has been added to the contributed value.

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<sup>11</sup> One may argue that an investment into the S&P 500 index is also costly, but the fees of index-tracking mutual funds can be as low as 0,25% and are hence negligible given the magnitude of PE fees.



Private equity funds are free to choose the degree to which and how they disclose information about their activities and their performance. Better performing private equity funds obviously have more incentives to advertise their successes while funds at the lower end of the performance spectrum will have good reasons to remain as secretive as possible. The fact that the outsiders are more likely to hear about the activities and performance of better-performing funds may partly explain why there is a widespread perception that all superior private equity provides returns, whereas a thorough analysis of the available data proves contradictory.

### **2.2.9 The expected performance of more recently raised funds**

The aforementioned performance figures for more recently raised private equity funds cannot be determined yet. However, by using the sample of mature funds (i.e. those raised between 1980 and 1993) at different stages of their life, it is possible to approximate the expected performance of more recent funds (i.e. those raised between 1994 and 2000). The basis for this approximation is a comparison of characteristics of mature funds for a given age (e.g. at the end of their 3rd year, 4th year, etc. all the way up to their 9th year) with the characteristics of more recent funds of the same age (i.e. funds raised in 2000, 1999, 1998 etc.)<sup>12</sup>. The analysis, described in more detail in Phalippou and Gottschalg (2007), leads to the conclusion that, based on all we can say at this point, the more recent funds are very similar in expected performance to the mature funds investigated before.

## **2.3 Higher Financial Leverage as a Source of Value Creation**

The high use of financial leverage is practically a defining element of the “leveraged” buyout. All else being equal, an increased use of debt financing amplifies the return on equity of transactions with a fundamental profitability (in terms of return on assets) above the cost of debt and decreases the return on equity of transactions with a fundamental profitability below the cost of debt financing. At the same time, leverage increases default risk and earnings volatility.

We have seen in the previous sections that the average historic net performance of buyout funds is below that of comparable brought public market indices, while the gross-of-fees performances exceeds comparable brought public market indices. To assess whether and to what extent an increase in financial leverage plays a role in driving the performance of buyouts, we look at the gross-of-fees returns in a sample of 548 individual realized buyouts.

### **2.3.1 Data**

Data for this analysis came from the HEC-INSEAD PPM database. We analyzed the GP’s investment track record indicated in over 100 fundraising documents (PPM), with information on 170 buyout funds raised between 1977 and 2000 and a total committed capital of 70 billion USD. From these documents, an anonymous dataset of individual buyouts has been generated that includes (a) the performance (gross IRR) of the buyout, time of the entry and exit, industry sector of the acquired company and amount of equity invested in the company.

As reliable performance information is only available for realized transactions, we focus our analysis on realized buyouts. These investments have been made between 1984 and 2003 in both North America and Europe and across a broad range of industries. From this data, we selected those investments for which data on comparable public market investments have been made available, which lead to a final sample of 548 individual buyouts.

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<sup>12</sup> Performance is assessed as of 2004.

It is important to note that these 548 buyouts are not a random sample of deals but that this sample is biased towards more successful buyouts by design. First, one has to suspect some form of survivorship bias inherent in our research design, as we can assume that only GPs, which were reasonably successful with their first fund, were able to send a PPM to raise money for a subsequent fund. The worst performing GPs will thus be excluded from our sample. Furthermore, we need to consider that PPMs are marketing instruments and that some bias may arise from the self-reported nature of information they contain. Finally, we focus on realized investments only, hence, exclude ongoing ‘living dead’ investments with an expected NPV of close to zero. However, this upward bias is not problematic for this particular analysis. It is our objective to explore whether successful buyouts are driven by leverage alone; hence, looking at a sample of relatively more successful buyouts makes sense. It is obvious that unsuccessful buyouts are hurt by the additional burden of interest payments that the leverage brings about.

### **2.3.2 Reducing leverage in buyouts and adding leverage to comparable publicly traded firms**

In order to assess whether and to what extent an increase in financial leverage plays a role in driving the performance buyouts, we address two questions related to the difference in leverage between buyouts and public market investments.

First, we estimate the performance of buyouts had they not been levered-up, but had the typical degree of leverage of publicly traded firms at the time. This enables us to differentiate between the portion of buyout returns attributable to fundamental performance on the one hand and the effect of higher leverage on the other.

Second, we calculate for each buyout the returns to comparable public market investments over the same time period with the following characteristics: (1) an unlevered investment made into a broad stock market index, (2) an unlevered investment made into an index of publicly traded firms from the industry sector in which the investment is made, and (3) a levered investment made into an index of publicly traded firms from the industry sector in which the investment is made, bringing the total gearing to the typical level of leveraged buyouts at the time<sup>13</sup>.

This way we can decompose buyout returns into four elements: (a) the portion driven by returns on the overall stock market, (b) the portion driven by the performance differential between the overall stock market and stock returns of the industry sector in which the investment is made, (c) the effect of buyout-typical leverage added to an investment into publicly traded industry peers and (d) the residual intrinsic value generation of the buyout.

### **2.3.3 Results**

As can be seen in Exhibit 6, the average performance of a levered investment made into an index of publicly traded firms (from the industry sector in which the investment is made, bringing the total gearing to the typical level of leveraged buyouts at the time) corresponds to 77% of the average buyout performance in our sample. This means that even if one corrects for the differences in average operating and financial risk between the two, our sample of successful buyouts creates additional value equal to 23% of overall performance (Exhibit 7).

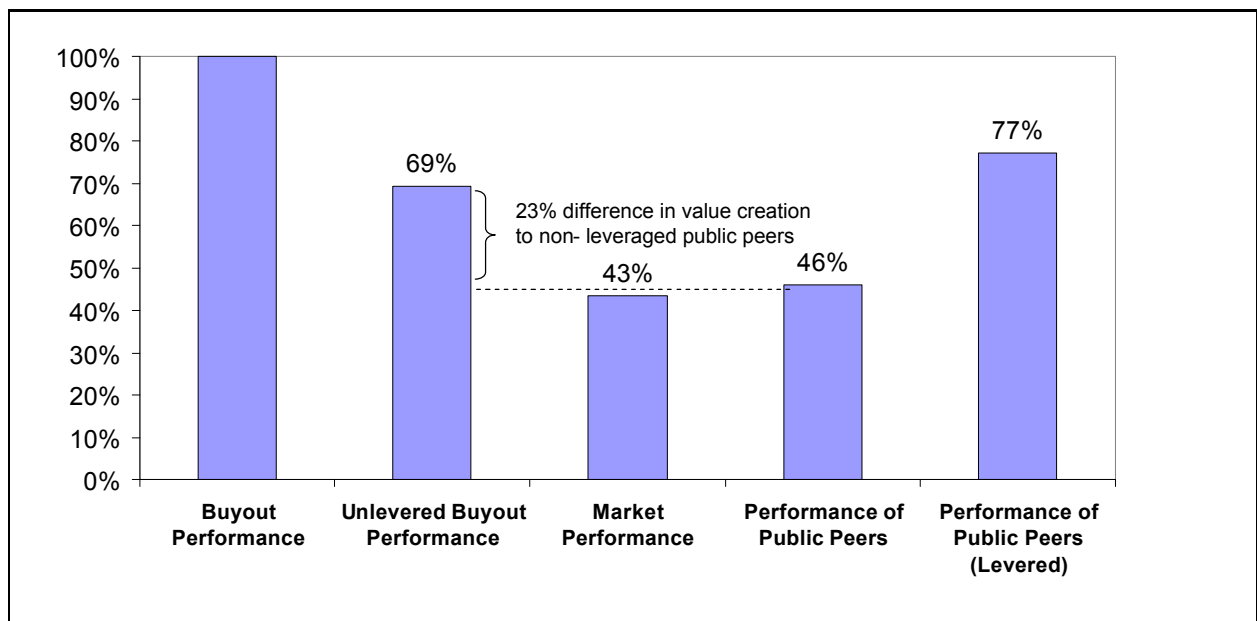
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<sup>13</sup> For details about the methodology and additional analyses, see O. Gottschalg “How important is leverage, really?”, Private Equity International Asia, July 2007 and Groh and Gottschalg (2006)

Along the same lines, the performance of buyouts had they not been levered-up, but had used the typical degree of leverage of publicly traded firms at the time, corresponds to 69% of the average buyout performance in our sample. In other words, over one-third of the performance of successful buyouts is attributable to the effect of leverage alone.

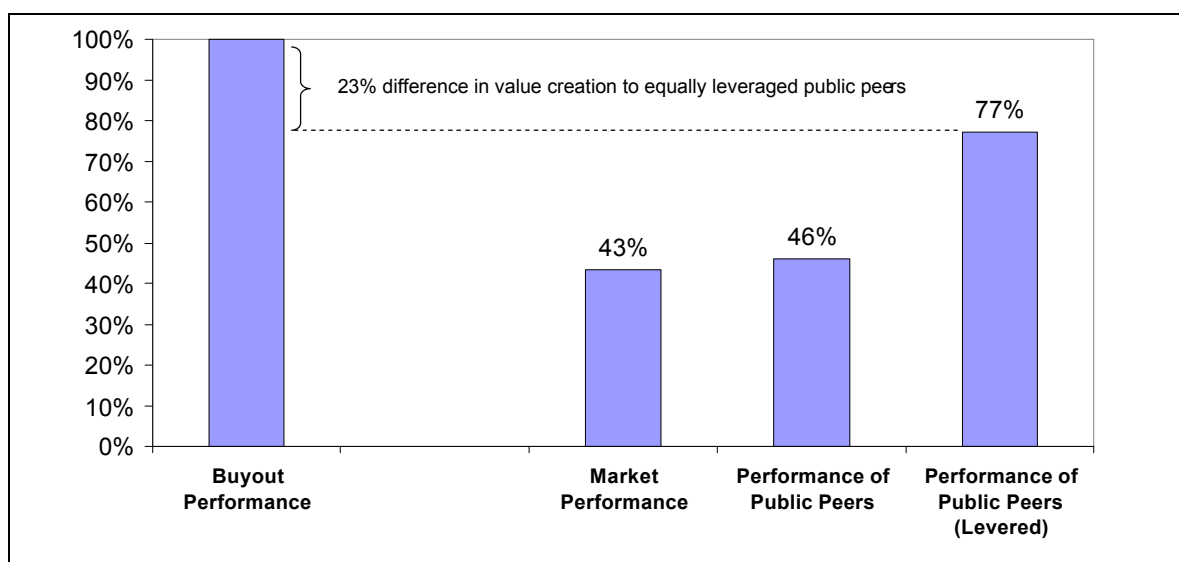
The implications of these results are straightforward: As expected, successful buyouts benefit from high leverage, but at the same time it is not leverage (alone) that drives their success. Even if we factor out the effect of leverage, the successful buyouts still create value beyond comparable public market investments. Also, if we construct a public market investment vehicle that mimics operating risk and leverage of the buyouts, its performance remains below that of the sample of successful buyouts. We can therefore conclude that successful buyouts create substantial fundamental value. For these deals, leverage adds a substantial performance boost, but is not the sole driver of outperformance.

**Exhibit 30: The Performance of Unleveraged Buyouts Relative to Public Peers**



Source: Author.

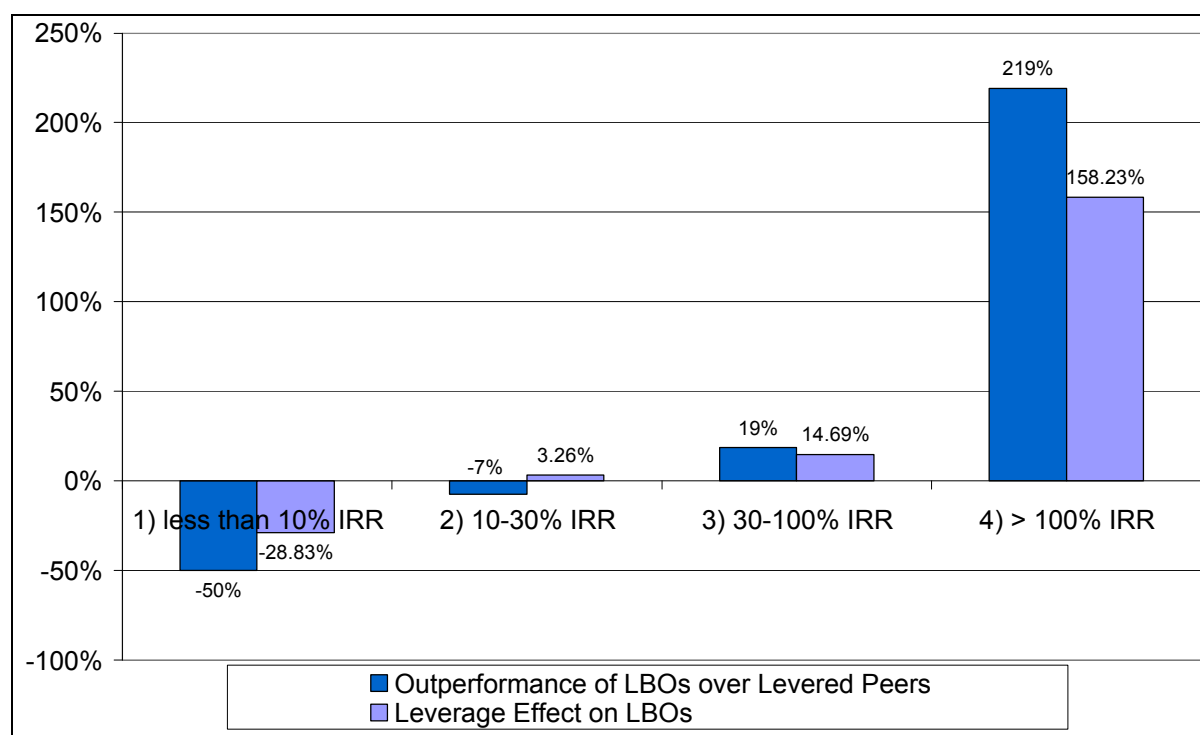
**Exhibit 31: The Performance of Buyouts Relative to Equally Leveraged Public Peers**



Source: Author.

This finding can be further illustrated by splitting our sample into different performance categories (Exhibit 8). We group the 548 realized buyouts according to their IRR and repeat the previously described comparison of average buyout performance with the average performance of the leveraged public peers. As expected, the outperformance of buyouts that leveraged public peers is negative for the sub-sample of buyouts with the lowest performance. For these deals, leverage leads to lower returns than otherwise with an impact, on average, IRR of -29%. At the same time we note that the most successful buyouts are the ones that also generate the highest amount of unlevered returns. Thus, the best buyouts generate weighted average returns of over 150% even if one factors out the effect of leverage.

**Exhibit 32: Leverage and Buyout Performance Category**



Source: O. Gottschalg “How important is leverage, really?”, *Private Equity International Asia*, July 2007.

## 2.4 Value creation from the perspective of the acquired investment object

In the next step, we address the question of value creation from the perspective of the acquired investment object. Here, we look at the evolution of the fundamental accounting performance of the acquired companies to assess whether and to what extent these firms benefit from the private equity investment. We compare the changes in relevant accounting performance indicators to publicly traded companies from the same industry sector over several years following the buyout and see whether (on average) buyout target companies appear to be more competitive in the long run.

### 2.4.1 Data and Calculations

Due to data limitations it is impossible to gather a sufficiently large sample of Buyouts with detailed accounting data throughout the holding period to assess the average value creation from the acquired business in a fully reliable and generalizable fashion. The following analysis is based upon a sample consisting of 63 European buyouts which took place between 1992 and 2002.

For these transactions, we were able to obtain the necessary accounting information throughout the entire holding period from the Bureau van Dijk Amadeus Database. We analyzed the performance (as gross-of-fees IRR) of these 63 buyouts relative the total sample of 6255 buyouts in the HEC-INSEAD PPM database and found no statistically significant performance differences, which suggests a sufficient level of representativeness of the random sub-sample of 63 transactions used in this section.

We compared the change in key accounting variables of these 63 buyouts to the average change in these ratios for public firms in the same industry sector on a deal-by-deal basis. We then identified for each transaction a ‘peer group’ panel of publicly listed companies in the same 4-digit NAICS industry sector covered in the Compustat Global Industrial/Commercial database. From this database, we obtained accounting data for a total of 1,340 publicly listed peer companies for the time period that corresponds to the holding period of the buyout. The following accounting indicators have been analyzed:

- Sales
- Assets
- EBITDA
- Return on Assets : EBITDA / Assets
- Return on Sales : EBITDA / Sales

We then calculated annual compound rates of change in key accounting indicators for all 63 focal buyouts from the year of the buyout to the year of the exit. Accordingly, we calculated the average annual compound rates of change in key accounting indicators for the peer groups over the same period. In the last step, we then determined the marginal change in key accounting indicators for focal buyouts over the peer group averages.

## 2.4.2 Results

Exhibit 9 shows the median and top/bottom quartile cut-offs for changes in the key accounting indicators of the 63 buyouts in our sample. The median buyout in our sample grows sales by 17% p.a. and increases EBITDA by 15% p.a. Its asset value increases by 7% p.a. and its profitability (in terms of EBITDA/Assets) rises by 3%. The top and bottom quartile values show that as one would expect there is substantial cross-sectional variance in how buyout targets evolve in terms of key accounting indicators.

Importantly, we note that the median buyout outperforms its publicly traded industry peers in terms of Sales Growth and EBITDA Growth, but slightly declines in Asset value relative to its peers (Exhibit 9). The median buyout outperforms its industry peers by 5% p.a. in terms of profitability growth.

**Exhibit 33: Annualized Change in Key Accounting Indicators – Absolute and Relative to Industry Peers**

	Sales	EBITDA	Assets	EBITDA/Assets
<b>Top Quartile</b>	26%	26%	37%	9%
<b>Median</b>	17%	15%	7%	3%
<b>Bottom Quartile</b>	0%	-11%	-7%	-19%
<b>Industry Adjusted Median</b>	14%	5%	-1%	5%

The size of our sample (63 transactions) may be too small to draw any definitive conclusions about the average impact of buyouts on the fundamental profitability of the acquired businesses. However, we note that our data provides no support for the view that buyouts have a negative impact on the fundamental accounting indicators of the average acquired business.

### **3. TIME-HORIZON OF PRIVATE EQUITY**

#### **3.1 Introduction**

This line of research work focuses on the question of whether or not private equity offers a long-term strategy. Provided that private equity funds typically have a legal obligation to sell all their participations and return all proceeds to their investors after 10 to 12 years, it is intuitive to assume that private equity investments tend to be short-term in duration by definition.

On the other hand, private equity funds can only be successful if they are able to find an acquirer for their investment objects who is willing to pay a high price. In general, this “exit valuation” (from the perspective of the selling private equity fund) will reflect the long-term prospects of the investment object. Consequently, the obligation to sell pushes private equity companies to focus (at least to some extent) on longer-term strategies.

We assess the real time-horizon of private equity through a two-stage analysis. First, we document the average holding period of private equity investments and compare it to the average length of blockholding equity investments in public companies. This juxtaposition shows how the length of financial commitment differs between private equity and different public equity investors. Second, we explore whether private equity leaves behind crippled and anorexic companies struggling for survival or whether private equity is able to revitalize businesses and equip them with strategies and resources for long-term profitability by looking at a sample of “Reverse LBOs”.

#### **3.2 The holding period of buyouts vs. public equity blockholdings**

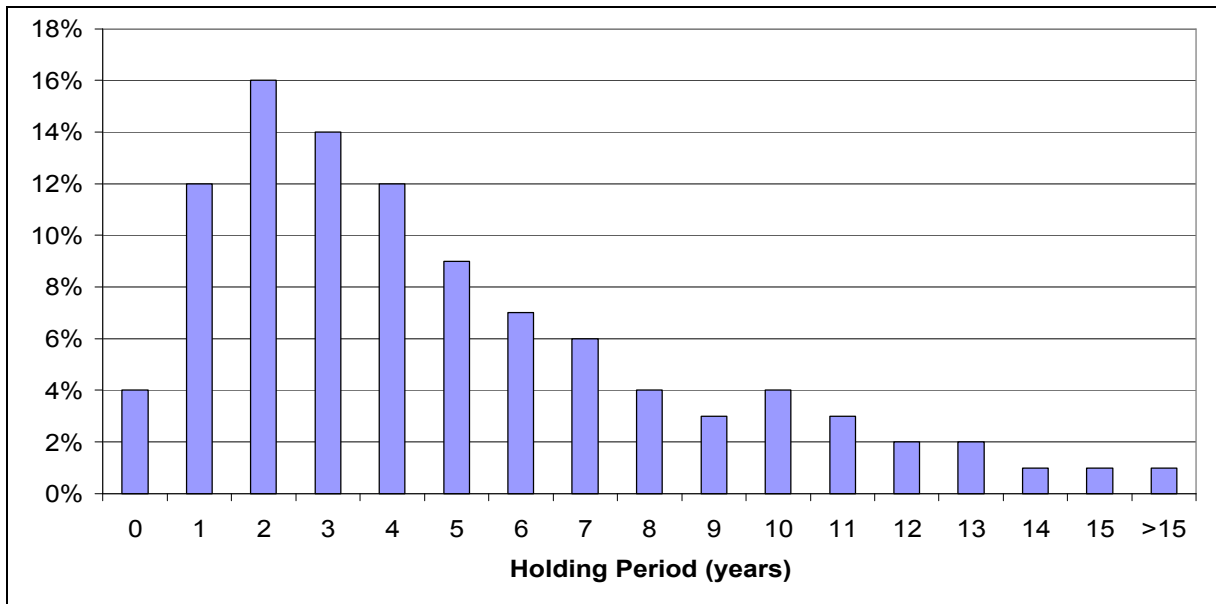
Drawing on the unique and proprietary dataset from the HEC-INSEAD PPM Database, we are able to identify 4,701 individual buyout transactions (realized and ongoing) for which the exact holding period is known. These transactions have been made between 1971 and 2004.

Considering all these deals, we can discern that two-thirds of buyouts are re-sold in less than 6 years. Historically, the average holding period of the 2,798 realized buyouts in the sample is 5.3 years (median: 4.3 years). This compares to a worldwide average tenure as a CEO, which declined from 9.5 years in 1995 to 7.3 years in 2001<sup>14</sup>.

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<sup>14</sup> Booz Allen studied the 231 CEOs of the world's 2,500 publicly-traded corporations who left office in 2001, and evaluated both the performance of their companies and the events surrounding their departure. To provide historical context, Booz Allen evaluated and compared this data to information on CEO departures for 1995, 1998 and 2000. More information can be found at <http://www.boozallen.com/media/file/110173.pdf>

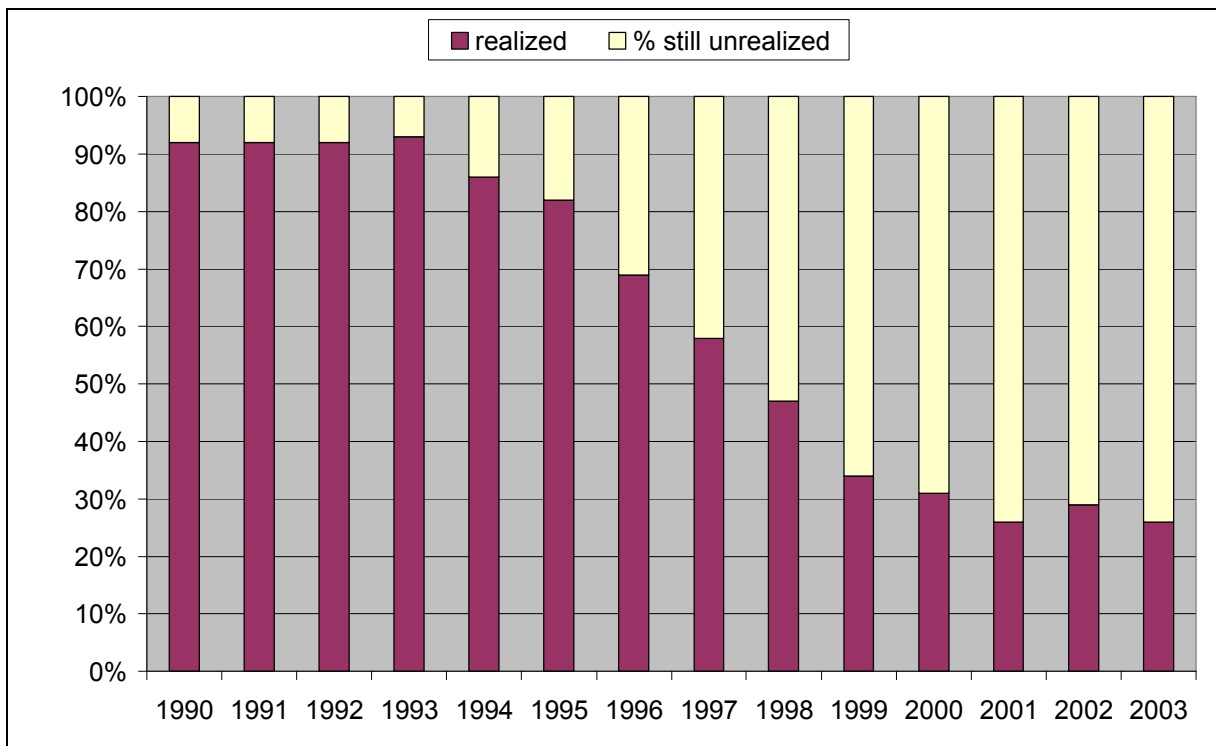
**Exhibit 34: Realized Buyouts by Holding Period**



Source: Author.

As can be observed from the distribution of realized buyouts by holding period, only 16% of all realizations take place in less than 24 months (Exhibit 10). This statistic shows that historically such ‘quick flips’ were the exception rather than the rule and that the typical buyout implies a commitment for multiple years on behalf of the majority equity investors. The status of buyouts by year of investment as of 2005 is provided (Exhibit 11).

**Exhibit 35: Status of Buyouts by Year of Investment**



Source: Author.

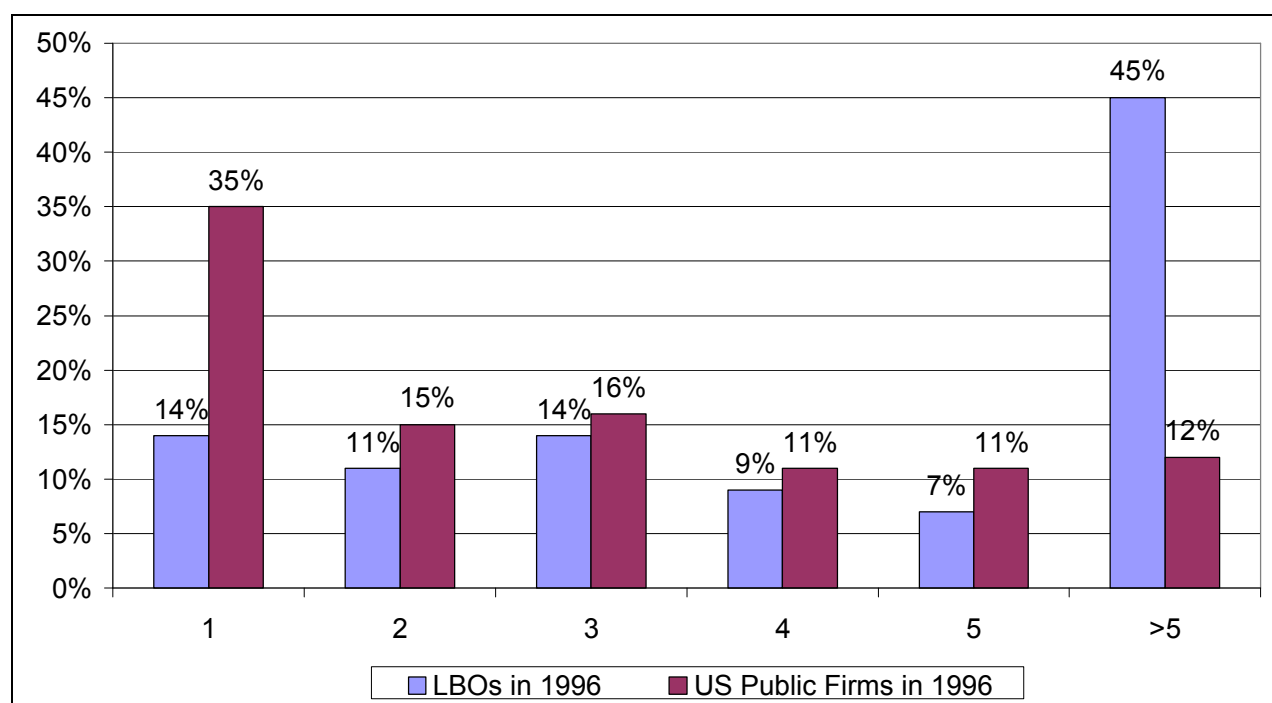
Compared to publicly listed firms, we first compared the monthly trading volume (number of shares) to the total number of shares outstanding for a sample of 22,185 publicly listed firms over the period from 1985 to 2006 covered by Compustat.

We observe that the average (median) ratio of monthly trading volume over the total number of shares outstanding is 1.1 (0.77). This means that, on average, the commitment period of investors in publicly traded firms is approximately 30 days. Of course these numbers are somewhat misleading, as they cannot distinguish between the part of shareholders that stay in much longer than 30 days and those who trade their shares on a daily or hourly basis.

A more accurate comparison can be made if one compares the investment horizon of private equity to the stability in the blockholder base of publicly traded firms. Blockholders are defined as shareholders who possess more than 5% of the issued equity of a given company. We accessed and prepared data on the blockholder composition of publicly traded companies in the US for the period from 1996 to 2001. We identified 107 firms with one or several blockholder in 1996 and analyzed what percentage of these blockholders were no longer invested with the firm (>5% equity) after x years (Exhibit 12). We compare this data to the % of buyouts made in 1996 that were re-sold in each of the subsequent years.

While half the initial blockholders left before the end of the second year of our sample period, only 25% have been re-sold over the same time period. Even at the end of our 5-year period, in more than 45% of cases, the buyout investors are still involved as majority shareholders, whereas 88% of the original blockholder have by then disappeared from the blockholder base of the publicly traded firms.

**Exhibit 36: % of initial Blockholders left after x years**



Source: Author.

This data shows that the length of the commitment of equity investors in buyouts compares favorably even to those investors in public equity that hold larger equity portions and hence are likely to have a longer investment horizon than the average stock market investor.

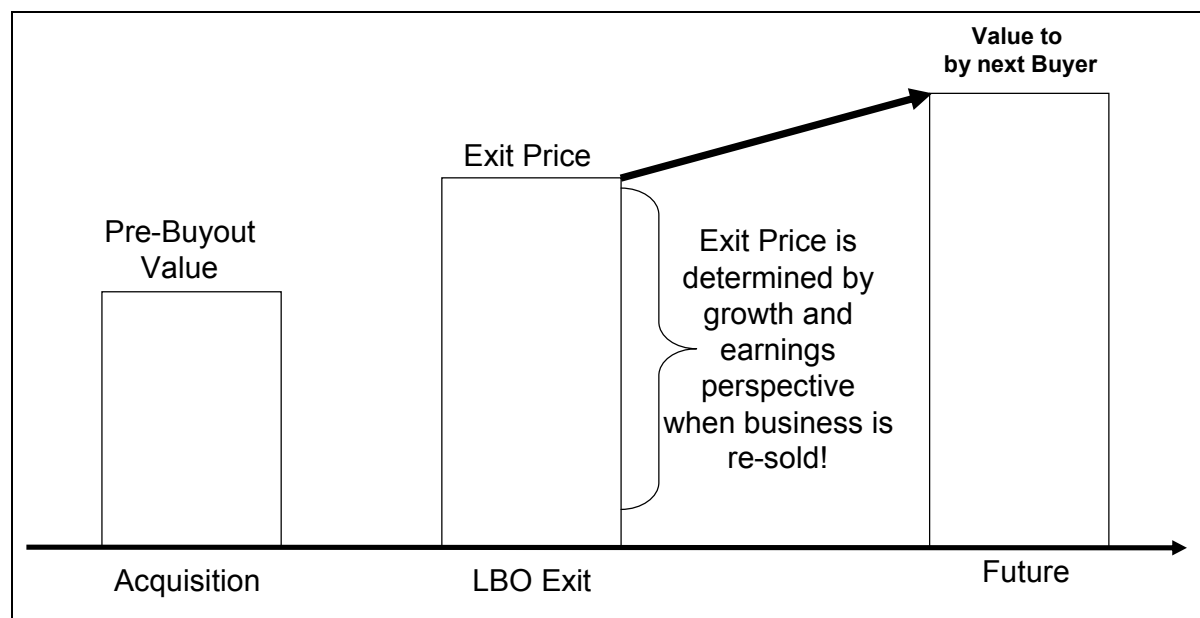
### 3.3 The long-term performance of Reverse LBOs

Private equity firms are frequently criticized for leaving behind crippled and anorexic companies struggling for survival. The industry rejects this criticism and claims that, instead, private equity is able to revitalize businesses and equip them with strategies and resources for long-term profitability.



The length of commitment of an equity investor is related to, but not identical with, the investor's time horizon, when it comes to its influence on strategic and operational decisions of the underlying business. Private equity funds can only be successful if they are able to find an acquirer for their investment objects who is willing to pay a sufficiently high price. In general, this "exit valuation" (from the perspective of the selling private equity fund) will reflect the long-term prospects of the investment object (Exhibit 13). One might argue that their obligation to sell pushes private equity companies to focus (at least to some extent) on longer-term strategies.

**Exhibit 37: GP Returns Reflect Long-term Prospects**



Source: Author.

We shed light on the question of whether and to what extent acquired businesses have favorable long-term prospects using evidence on the long-term financial and operational performance of so-called "Reverse LBOs", i.e. companies that underwent a leveraged buyout and then were put back on a stock market through an IPO. It is important to remember that by looking at Reverse LBOs, one looks inevitably at a sub-sample of relatively more successful buyouts, as our data shows that only the most successful transactions attract sufficient demand for an IPO.

In an ongoing research project, researchers from Boston College, Harvard Business School, HEC Paris and the University of Amsterdam are gathering data on worldwide Reverse LBOs to better understand the characteristics of their long-term financial and operational performance. A first set of findings on close to 500 US Reverse LBOs over the past 25 years is presented in a recent paper by Cao and Lerner (2007). According to the study, 8% of all US IPOs over this time period were Reverse LBOs. On average, the IPO pricing of Reverse LBOs left less money "on the table" for IPO investors interested in short-term arbitrage, as the degree of underpricing (the available first-day IPO returns) was significantly lower than for non-buyout backed IPOs (15% versus 33%). At the same time, the longer-term returns (based on a 1-year, 2-year, 3-year, 4-year or 5-year buy-and-hold investment strategy) are significantly higher for Reverse LBOs than for non-buyout backed IPOs. For example, a 3-year investment in the average Reverse LBO generated shareholder wealth that was 10% greater than a comparable three-year investment in the S&P 500 index, while a 3-year investment in the average non-buyout backed IPOs generated shareholder wealth that was 15% lower than the S&P 500 benchmark.

Overall, this finding suggests that Reverse LBOs do not only generate higher returns to the LBO investors than the average buyout, but that (unlike other IPOs) they also create wealth for IPO investors in the long run. This important finding is insensitive to different assumptions regarding suitable risk-return models and has been found consistently for transactions made in the 1980s, 1990s, and 2000s.

The finding that Reverse LBOs (on average) perform better than other IPOs and other publicly traded companies is inconsistent with the view that private equity leaves behind crippled and anorexic companies struggling for survival. Instead, it provides additional evidence that private equity adds value in the longer-term for another important group of constituents, namely investors in the public stock markets looking for attractive IPO investment opportunities. In this context, it is important to note that private equity firms only partially exit their investments at the IPO moment. The average shareholding of private equity firms sold in the IPO is less than 20%. A substantial portion of IPO proceeds is used to pay down debt and/or to provide cash for the ongoing operations of the underlying business. Consequently, private equity firms participate in the long-term value appreciation of the IPO stock by selling their remaining shareholdings over time after the IPO. At least in the case of the buyouts with a (potential) IPO exit, this fact creates additional incentives for private equity firms not to neglect the long-term prospects of the underlying business.

## **4. POSSIBLE SOCIAL CONSEQUENCES OF RESTRUCTURINGS IN THE CONTEXT OF PRIVATE EQUITY**

### **4.1 Introduction**

The possible social consequences of private equity activity, especially with respect to restructurings triggered by leveraged buyouts, are a topic that is difficult to approach unless reliable information on the type of restructurings that actually occur in the context of a buyout is available. Accordingly, we first conduct a comprehensive empirical analysis of the available data on operational, organizational and strategic changes that occur once a company has been acquired by a buyout fund. In a second step, we explore whether private equity involvement has positive or negative consequences for the competitiveness (in terms of growth, profitability and employment) of a given industry sector.

### **4.2 How Buyouts Change the Acquired Businesses**

#### **4.2.1 Data**

The HEC-INSEAD Buyout Research Group Based has access to roughly 1000 mini-case studies of buyouts generated from internal investment descriptions provided by buyout companies to their investors<sup>15</sup>. Thanks to this unique data, we are, for the first time ever, able to document what really happens during a typical buyout with the acquired unit based on such a large dataset.

#### **4.2.2 Analyses**

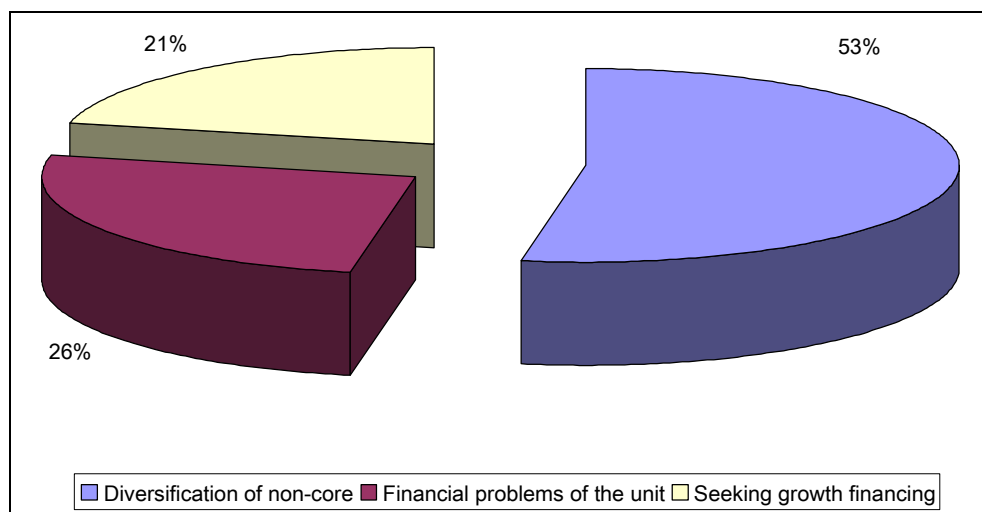
First, we gain insights into the reasons why businesses are sold to buyout funds by their former owners. Based on the investment descriptions analyzed, we classified the transactions into three categories (Exhibit 14):

- Businesses units that were considered non-core by the previous owners and that were sold in an effort to streamline the owner's portfolio of activities (53% of our sample)
- Businesses that were sold because the previous owners had financial difficulties and needed to generate cash (26% of our sample)
- Businesses looking at the acquisition by a buyout fund as a possibility to access growth financing (21% of our sample)

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<sup>15</sup> Due to the heterogeneous nature of this data source, not all relevant pieces of information are available for all deals in the sample. Percentages are based on the respective sub-samples with available information.

### Exhibit 38: Why Businesses are Sold to Buyout Funds

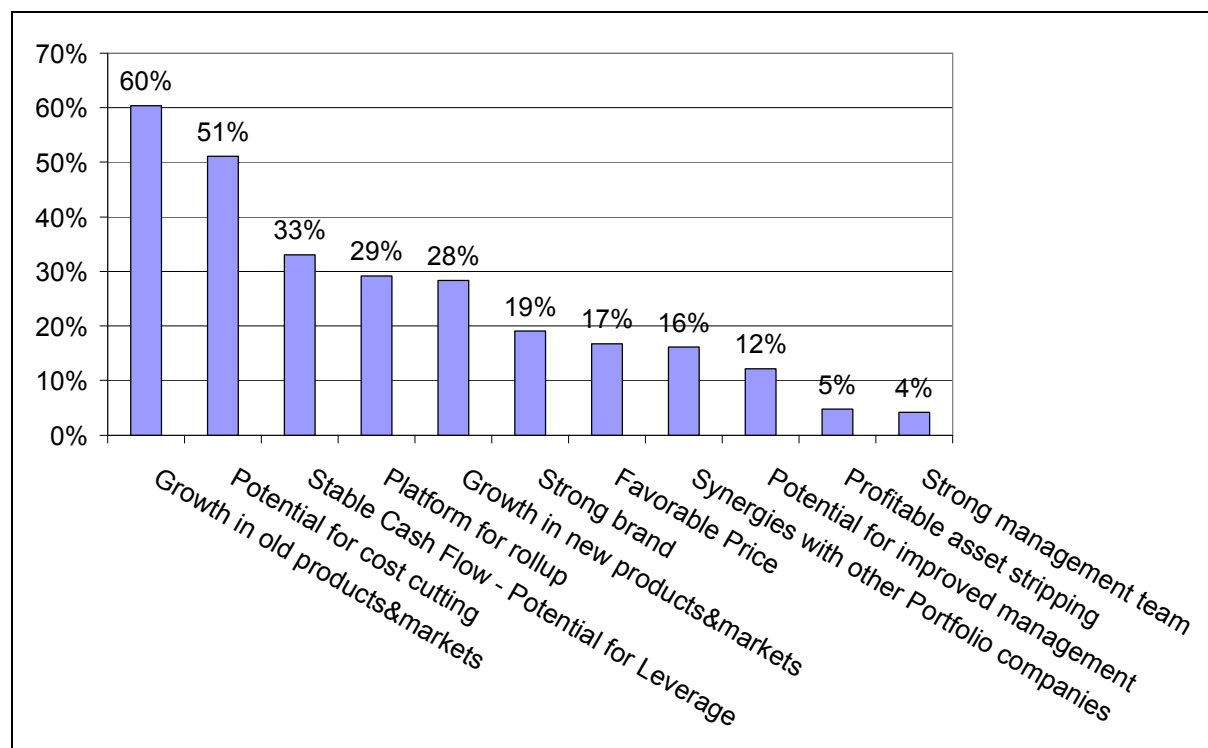


Source: Author.

This data shows that over half of all buyouts originate as a side-product of corporate strategy decisions of their corporate parents. At the same time, one buyout in five is triggered by an explicit growth-logic, which contrasts the dominant view of buyouts as exclusively focused on defensive strategies, such as downsizing and relocations in shrinking markets. We further observe that prior to the buyout, the majority (59%) of buyout targets (or their respective mother companies) have been privately held.

Shifting our focus to the perspective of the acquiring buyout firm, we identified one or more value creation objectives for each transaction (Exhibit 15). The results draw a multi-faceted picture of buyouts driven by a variety of growth-related and restructuring-related activities. The most frequent motivations behind the deals are growth potential in the target company (60%) and potential cost-cutting opportunities (50%). From this, we can infer that typical buyout deals are not just either restructuring oriented or growth seeking, but rather a combination of both. Overall, we see signs of a growth-oriented objective in 86% of the cases and signs of a restructuring-oriented objective in 73% of the cases. Interestingly, we find that a good majority (60%) of buyouts are driven by 2 or more objectives and that about half of them combine growth-oriented objectives with restructuring-oriented objectives.

**Exhibit 39: Initial Value Creation Rationale Identified by the Acquiring Buyout Fund**



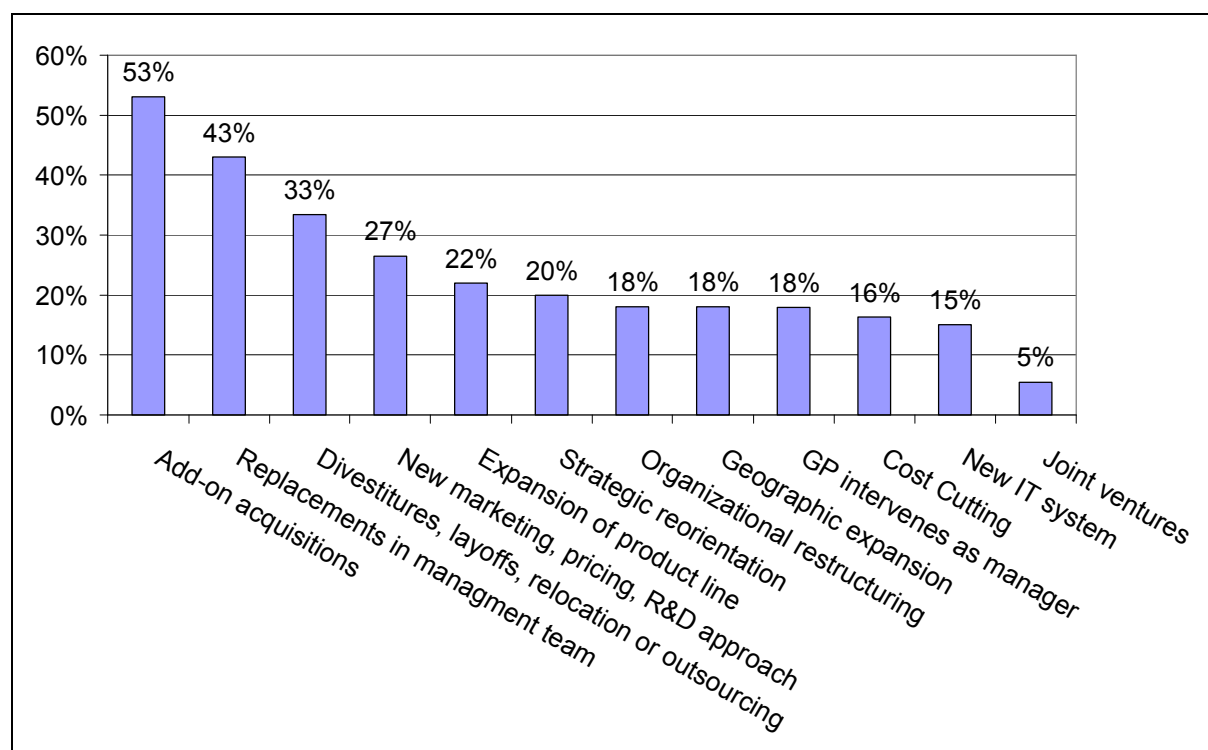
Source: Author.

Our data allows us not only to capture the value creation intention of the acquiring buyout firm at the outset of the deal, but also to analyze the post-buyout change(s) that occurred in the acquired businesses. More than half of the deals were followed by add-on acquisitions (53%); the complete or partial replacement of management took place in 43% of the buyouts. Again, we regularly observe a combination of growth-oriented and restructuring-oriented changes. 91% of all transactions induce growth-oriented initiatives<sup>16</sup>, while 54% lead to restructuring-oriented changes<sup>17</sup>. Interestingly, 45% of the transactions combine growth-oriented with restructuring-oriented changes during the post-acquisition period (Exhibit 16).

<sup>16</sup> Characterized by at least one of the following: Add-on acquisitions, New Marketing/ R&D/ Pricing approach, Expansion of product line, Geographic expansion, New IT system, and Joint ventures.

<sup>17</sup> Characterized by at least one of the following: Divestitures/ Relocation/ Outsourcing/ Consolidation of facilities, Non-Core Units closed, Strategic reorientation, Organization restructuring, Layoffs, Cost Cutting.

**Exhibit 40: Actual Post-buyout Change(s) Occurred in the Acquired Businesses**



Source: Author.

If we contrast the initial buyout investment rationale with the actual initiatives that have been implemented after the buyout, we see that only a minority of deals was made with a pure restructuring logic (14%) and even less actually turned out to be concerned exclusively with restructuring-related change. A majority (12% out of 14%) of those entered with a restructuring logic turned out to induce in part or even exclusively growth-related change initiatives. Overall, a mixed objective or a growth focus was dominant initially and even more deals actually turned out to be about growth than initially planned. This is not to deny that buyouts often bring about restructurings, downsizing, and layoffs. At the same time, it reveals, however, that there is another important growth-oriented element to buyouts that is often overlooked in the debate (Exhibit 17).

**Exhibit 41: Frequency of Growth-orientation and Restructuring-orientation Ex-ante and Ex-post**

Actual post-buyout change

	Restructuring only	Combination	Growth only	Total
Restructuring only	2%	6%	6%	14%
Combination	5%	32%	23%	60%
Growth only	2%	7%	17%	26%
Total	9%	45%	46%	100%

Source: Author.

**4.3 The impact of buyout activity on sector competitiveness**

In this section, we explore whether private equity involvement has positive or negative consequences for the competitiveness (in terms of profitability, growth and employment) of a given industry sector. To this end, we identify industry sectors and geographic areas with high levels of buyout activity and measure how the competitiveness of these evolves in the long term relative to broader economic trends. This way we are able to objectively identify whether and when restructurings triggered by leveraged buyouts have undesirable social consequences.

**4.3.1 Data Sources**

As this type of analysis needs to consider long-term trends, we consider data from the US economy, where buyout activity reached significant levels in several industry sectors about 5-10 years earlier than in Europe. We gathered data on 22,466 publicly traded companies in the US over the period from 1980-2005 from Compustat. These companies were allocated based on their NAICS industry code to 17 broad industry categories that reflect areas of substantial private equity activity over time. Based on this data, we derived 442 observations for combinations of 17 sectors with 26 years.

As a second data source, we used data on annual equity investments in buyouts provided by Thomson VenturExpert, the broadest and most comprehensive commercially available source for such information. This database contains 7,058 US buyouts made over the relevant time period and enabled us to classify them according to the same 17 industry categories and 26 years<sup>18</sup>.

Based on this data, we calculated the following key accounting indicators for each of the 442 sector-year combinations<sup>19</sup>:

- Sales of all public corporations
- EBIT of all public corporations
- Net Income of all public corporations

<sup>18</sup> We thank Thomson Venture Economics for making this analysis possible through generous access to their databases.

<sup>19</sup> To avoid biases to companies entering or exiting from the public stock markets, we considered only firms with at least 13 out of 26 year observations in the analysis.

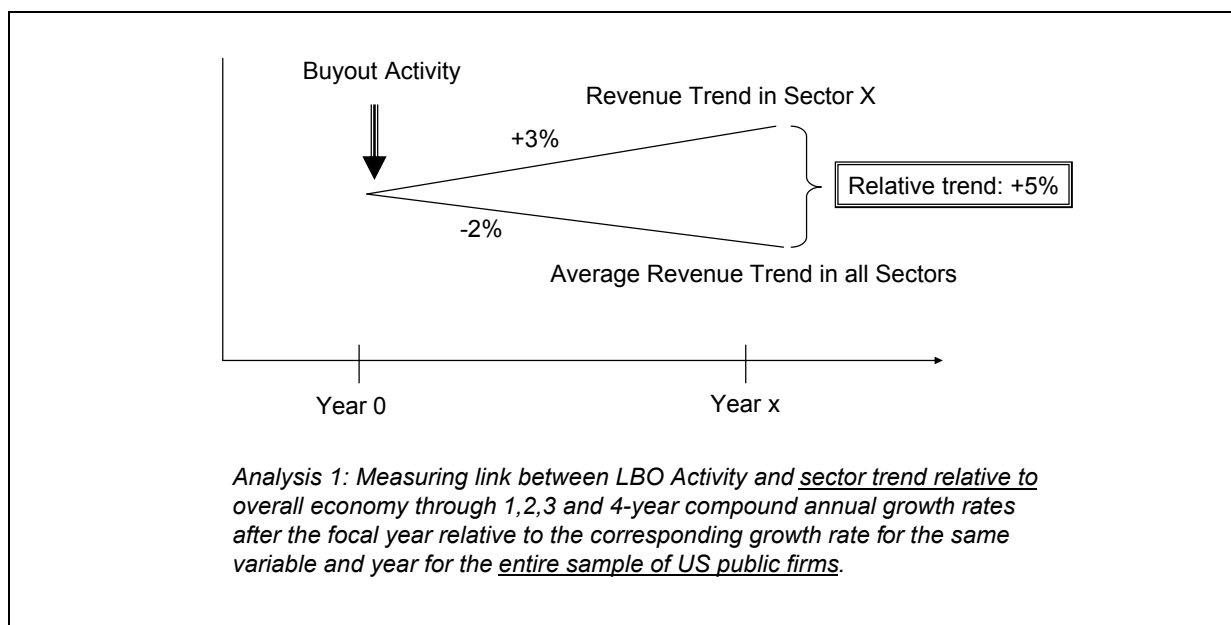
- Receivables of all public corporations
- Inventories of all public corporations
- Assets of all public corporations
- Long-term-debt of all public corporations
- Market cap of all public corporations
- Interest Expense of all public corporations
- Employees of all public corporations
- Average Net Profit Margin (ROA) of all public corporations
- Average Net Sales Margin (ROS) of all public corporations
- Average Debt-Asset Ratio of all public corporations
- Average Inventory Days of all public corporations
- Average Receivable Days of all public corporations

For these items we calculated

- Variables for the 1, 2, 3 and 4-year compound annual growth rates after the focal year relative to the corresponding growth rate for the same variable and year for the entire sample of US public firms: These variables are used to assess the relationship between buyout investment intensity and subsequent long-term change in the key accounting indicators in the focal industry relative to the change in the same key accounting indicators for the entire US economy (see Exhibit 18).
- Variables for the change between the 1, 2, 3 and 4-year compound annual growth rates for the n years prior to the focal year and the 1, 2, 3 and 4-years following the focal year: These variables are used to assess the relationship between buyout investment intensity and the subsequent change in the short- and longer long-term trend of key accounting indicators in the focal industry (see Exhibit 19).

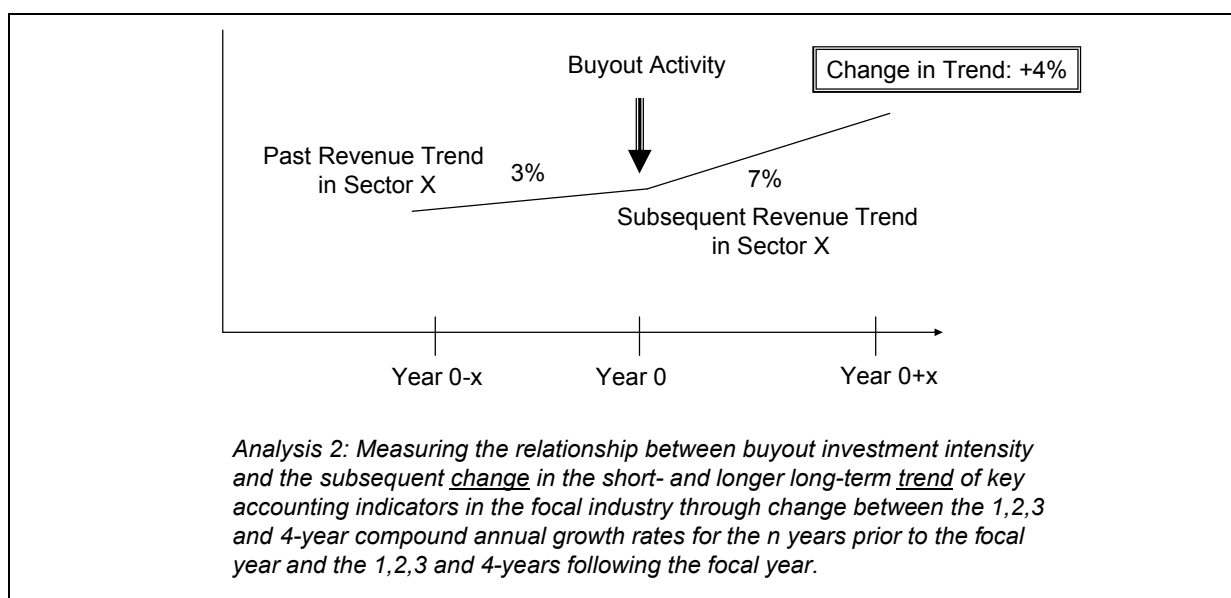


#### Exhibit 42: Measuring the Link between Buyout Activity and Relative Industry Trends



Source: Author.

#### Exhibit 43: Measuring the Link between Buyout Activity and Change in Industry Trends



Source: Author.

We further determined for each of the 442 sector-year combinations: (a) the Absolute Buyout Investment Volume (in US\$ M) and (b) the Percentage of Buyout Investment Volume relative to the market cap of all public corporations

#### 4.3.2 Analyses and Results

In a first step of the analysis, we derived bivariate regression coefficients (Pearson Correlations) for the relationship between (a) the Percentage of Buyout Investment Volume relative to the market cap of all public corporations for a given sector-year combination and (b) the 1, 2, 3 and 4-year compound annual growth rates for each of the 17 key accounting indicators relative to the corresponding growth rate for the same variable, sector and year for the entire sample of US public firms.

The results are shown in Exhibit 20 (only correlations significant at  $p < 0.05$ , two-tailed test are reported) and indicate that buyout activity indeed correlates negatively with short- and longer-term changes in many of the key accounting indicators, such as sales, net income, ROA, ROS and employees. This observation makes intuitive sense and is consistent with the view that buyouts mostly happen in sectors that undergo consolidation and have negative growth in sales, assets, and earnings. At the same time, buyout activity also seems to be related to a short- and longer-term improvement in efficiency indicators, such as inventory days or receivable days.

It is important to emphasize that this type of analysis is not able to provide any insight into the causal relationship between buyout activity and the observed trends. In other words, we cannot distinguish between the possibilities that these sectors are entering a consolidation phase for some exogenous reason and that this attracts buyout investments or whether the fact that buyout investors are actively triggering broad restructuring and consolidation activities in these sectors.

**Exhibit 44: Findings Regarding the Link between Buyout Activity and Relative Industry Trends**

Correlation with Relative Industry Trend	1-year trend	2-year trend	3-year trend	4-year trend
Sales				Negative
EBIT				
Net Income			Negative	
Receivables			Negative	Negative
Inventories	Negative	Negative	Negative	Negative
Assets	Negative	Negative	Negative	Negative
long-term-debt		Negative	Negative	Negative
Interest expense				
Employees		Negative	Negative	Negative
Net Profit Margin (ROA)			Negative	
Net Sales Margin (ROS)			Negative	
Debt-Asset Ratio			Negative	Negative
Market Capitalization				
Inventory Days	Negative	Negative	Negative	Negative
Receivable Days			Negative	Negative
Employees per Sales		Negative		
Times Interest Covered (based on EBIT)				

Source: Author.

We can gain partial (but by no means conclusive) insight into the role of buyout investments in influencing consolidation trends in the second analysis, in which we derived bivariate regression coefficients (Pearson Correlations) for the relationship between (a) the Percentage of Buyout Investment Volume relative to the market cap of all public corporations for a given sector-year combination and (b) the change between the 1, 2, 3 and 4-year compound annual growth rates for the 1, 2, 3 and 4-years prior to the focal year and the 1, 2, 3 and 4-years following the focal year for each of the 17 key accounting indicators. This analysis captures the relationship between buyout investment intensity and the subsequent change in the short- and longer-term trend of key accounting indicators in the focal industry. The results are shown in Exhibit 21 (only correlations significant at  $p < 0.05$ , two-tailed test are reported) and indicate that buyout activity has in fact no statistically significant link with changes in the trend of key accounting indicators in the focal industry prior and subsequent to the buyouts.

The observed negative impact on the long-term trend of Total Assets and Total Market Cap is driven by the fact that buyouts take companies off the stock market, which decreases the book and market value of the remaining public firms in the sample<sup>20</sup>.

**Exhibit 45: Findings Regarding the Link between Buyout Activity and Change in Industry Trends**

Correlation with Change in Industry Trend	1-year trend	2-year trend	3-year trend	4-year trend
Sales				
EBIT				
Net Income				
Receivables				
Inventories				
Assets		Negative	Negative	Negative
long-term-debt				
Interest expense				
Employees				
Net Profit Margin (ROA)				
Net Sales Margin (ROS)				
Debt-Asset Ratio				
Market Capitalization				Negative
Inventory Days				
Receivable Days				
Employees per Sales				
Times Interest Covered (based on EBIT)				

Source: Author.

### 4.3.3 Implications

Our data suggest that buyouts mostly happen in sectors that undergo consolidation and have negative growth in sales, assets, and earnings. At the same time, buyout activity also seems to be related to a short- and longer-term improvement in efficiency indicators, such as inventory days or receivable days. Based on the data at hand, it is impossible to provide conclusive insight into the causal relationship between buyout activity and the observed trends; all we can conclude is that we find no evidence of buyout activity accelerating or worsening any restructuring trends.

<sup>20</sup> Note that the observed negative link is between buyout activity and a change in the trend of book value of assets of public companies and not of buyout targets. Hence, it would be inaccurate to interpret this figure as a sign of ‘asset-stripping’ activity by buyout firms.

## 5. CONFLICTS OF INTEREST IN PRIVATE EQUITY

### 5.1 Introduction

Large private equity houses have started to replace the world's leading corporations as the most lucrative clients of some professional services firms, such as investment banks and consultants<sup>21</sup>. These service providers work for private equity companies in a variety of situations and are required to strike a balance between their role as “advisors” to these important clients and their obligation to provide objectives for investment advice to their other constituents. Intuitively, there is a potential conflict of interest when, for example, an institution managing third-party pension money can increase the likelihood of winning profitable investment-banking business from a major private equity company by investing this pension money into the corresponding private equity fund. Naturally, it is difficult to determine to what extent this conflict of interest leads to undesirable behavior that hurts market participants, companies, or their employees. We shed light on this important, but difficult-to-approach question based on comprehensive data about the multiple relationships that exist between GPs and their service providers.

### 5.2 Data

We gathered data on relationships between major professional services firms and private equity firms in three essential roles:

- As limited partners in funds managed by the private equity firm: We obtained information on over 3,070 LP commitments to 1,032 GPs based on from Thomson VentureXpert.
- As debt providers in the transactions undertaken by the private equity firm: We obtained information on 7,313 LBO debt facilities based on LoanConnector.
- As book managers of post-buyout IPOs (RLBOs) organized by the private equity firm: We obtained information on the 162 book managers of 820 post-buyout IPOs from Thomson VentureXpert.

Using this data, we identified cases of multiple involvement of a given professional services firms (or one of its subsidiaries) and private equity firms. Given the amount of possible relationships to be analyzed, we focused on the largest professional services firms in each sample. We ranked the 162 Book Managers by the number of underwriting deals done. Entities that were acquired or merged are treated as though they belonged to the current corporate ownership throughout the study period. We found that the top 22 Book Managers and their affiliates accounted for 82.9% of the IPOs.

These tradeoffs may introduce some ‘noise’ in the statistical analysis, but it is important to note that the corresponding bias decreases the likelihood of finding a statistically significant impact of multiple relationships. Hence, if we observe such an effect with these simplifying assumptions, we would also find it in the fully comprehensive analysis.

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<sup>21</sup> See “Private equity groups pay \$11bn in fees” By Ben Whitein, Financial Times, Jan 05, 2007

### 5.3 Analyses

**Exhibit 46: Differences in IPO Performance between Cases with/without such a Multiple Relationship**

	Book Manager is affiliated with GP	Book Manager is LP (invested in Fund)	Book Manager is debt provider in focal LBO	Book Manager is debt provider in other LBOs by the same GP
# of Cases	55	47	71	416
1 <sup>st</sup> day return	non-significant	non-significant	non-significant	Significantly Negative
6-month return	non-significant	non-significant	non-significant	non-significant
9-month return	non-significant	non-significant	non-significant	non-significant
12-month return	non-significant	non-significant	non-significant	non-significant

Source: Author.

Our analysis of 820 RLBOs revealed, first of all, that multiple relationships between the GPs that sell a business in the IPO and professional services firms are relatively frequent. We observe 55 cases (7%) in which the book manager is directly affiliated with the GP, i.e. both are part of the same organization (Exhibit 22). In 47 cases (6%), the book manager's organization is invested as an LP in one of the funds managed by the GP. In 71 cases (9%), the book manager's organization served as a debt provider in focal buyout and, in 416 cases (51%), the book manager's organization serves as a debt provider in any buyout undertaken by the focal GP.

We proceed to compare the average first-day and long-term returns to RLBO investors for sub-samples with and without multiple involvement of the book manager's organization using independent sample t-tests. We observe no statistically significant differences between the two categories with respect to 6-month, 9-month, and 12-month returns based on any of the four forms of involvement (Exhibit 22). With respect to the first-day returns, however, we observe that RLBOs that involve the book manager's organization as debt provider in other buyouts undertaken by the focal GP have significantly ( $p < 0.01$ ) lower first day returns in comparison to other RLBOs.

Even when controlling for different IPO years and industry sectors of the acquired company, we continue to find a statistically significant ( $p < 0.05$ ) negative influence due to involvement of a book manager as debt provider with other buyouts of the focal GP and the first day returns from the IPO.

Book Managers systematically 'underprice' an IPO in order to leave some value for positive 1st day returns that give the stock price a 'good start'<sup>22</sup>. The level of underpricing has been found to be lower when the reputation of the book manager is high. Our finding would be consistent with the view that book managers doing a lot of business with a given GP arrange an IPO with less 'money left on the table' for first day returns.

<sup>22</sup> The average first-day returns to RLBOs are about 15% of the IPO price (Cao and Lerner 2007) with those of non-buyout backed IPOs even at 33% on average.

Depending on the lock-up period of the GP, this money goes to the GP and/or the underlying company in the form of IPO proceeds.

Given that the long-term stock performance of the RLBOs (an indicator of the financial health of the underlying firm) is not affected, it is not obvious that this finding points to a harmful conflict of interest or is instead a sign of increased efficiency of the IPO process in the context of GPs and financial institutions with repeated engagements and a high level of knowledge of each other.

## 6. CONSEQUENCES OF PRIVATE EQUITY ACTIVITY FOR FINANCIAL STABILITY

### 6.1 Introduction

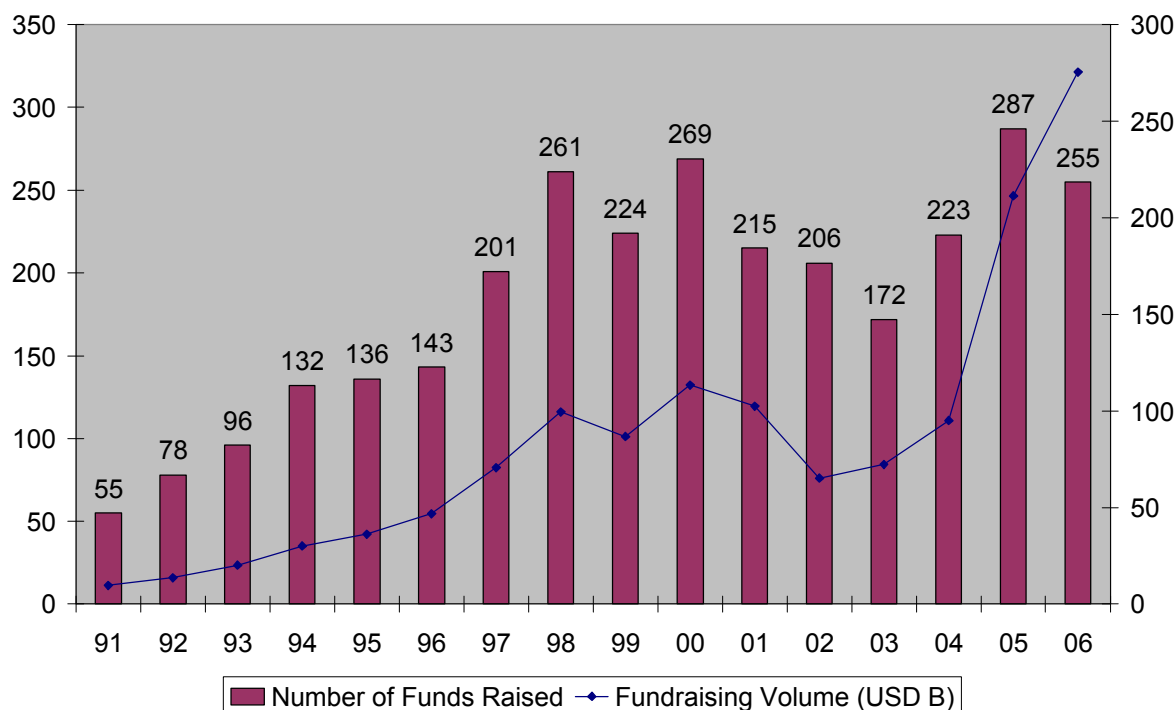
Given the enormous increase in private equity activity over the past years, especially in the European Union, it is important to understand to what extent growth and/or fluctuations in private equity activity and performance could threaten the stability of financial markets and thereby the economy as a whole. In order to address this question, we start out by documenting how important private equity really is for the financial system. We then proceed to study in detail the historical patterns of relationships between private equity activity and key economic variables, such as interest rates, GDP growth, stock market trends and unemployment. In particular, we will focus on historical “crisis situations” and explore to what extent their consequences are influenced by the prevalent level of private equity activity in a given country.

### 6.2 The Magnitude of Private Equity Relative to the Financial System

#### 6.2.1 Private Equity is large

According to Thomson VentureExpert, the largest and most comprehensive source of information on global private equity activity, the yearly amount of capital committed to buyout funds worldwide, has increased by a factor of 28 since 1991, an annual growth rate of 25%, reaching almost 300B US\$ in 2006 (Exhibit 23). Provided that the typical buyout finances its transactions with about 30% equity and 70% debt, this translates into an ability of the buyout funds raised in 2006 to collectively acquire business worth close to 1,000B US\$.

Exhibit 47: Evolution of Buyout Fundraising Activity

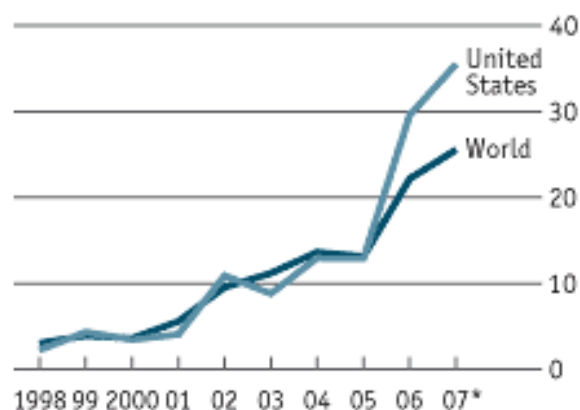


Source: Thomson VentureXpert Fund Commitments Report (Buyouts)

For most people, these numbers seem impressively high and they indeed show that buyout funds have become a major player in the worldwide market for corporate control. Buyouts

account for about 25% of worldwide M&A activity in mid. 2007, up from less than 5% in the late 1990s (Exhibit 24).

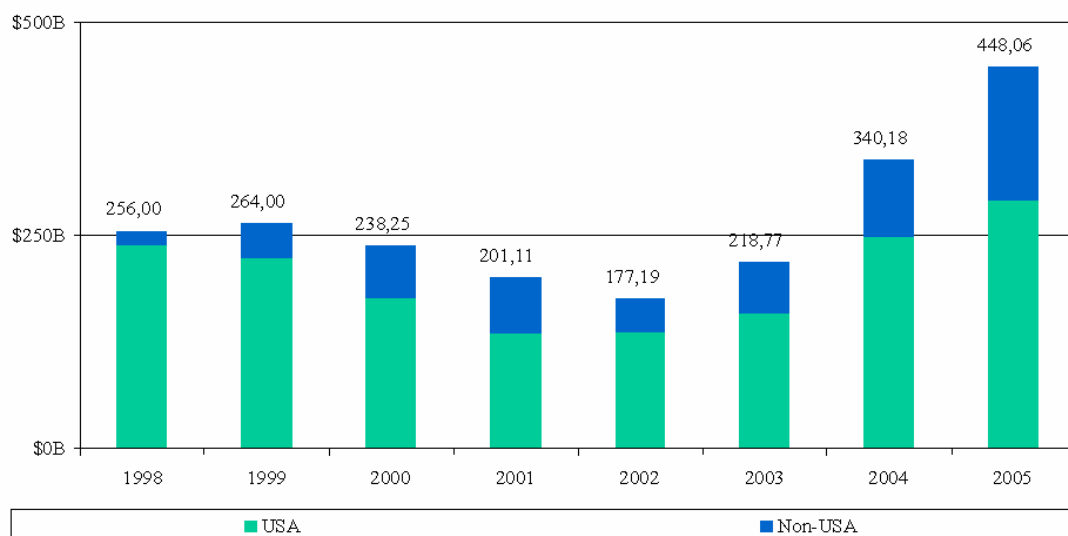
**Exhibit 48: Value of Private Equity Deals as % of all M&A Deals**



Source: Thomson Financia<sup>23</sup> (\* year to date)

Buyouts are also an important driver of the increase in leveraged lending volumes of the past years, which reached almost 450B US\$ in 2005, up 75% from the average of the prior 7 years (Exhibit 25). Nowadays LBOs account for about 25% of all new leveraged debt issues (Exhibit 26).

**Exhibit 25: Global Total New Issue Leverage Loan Volume by Year and Region**

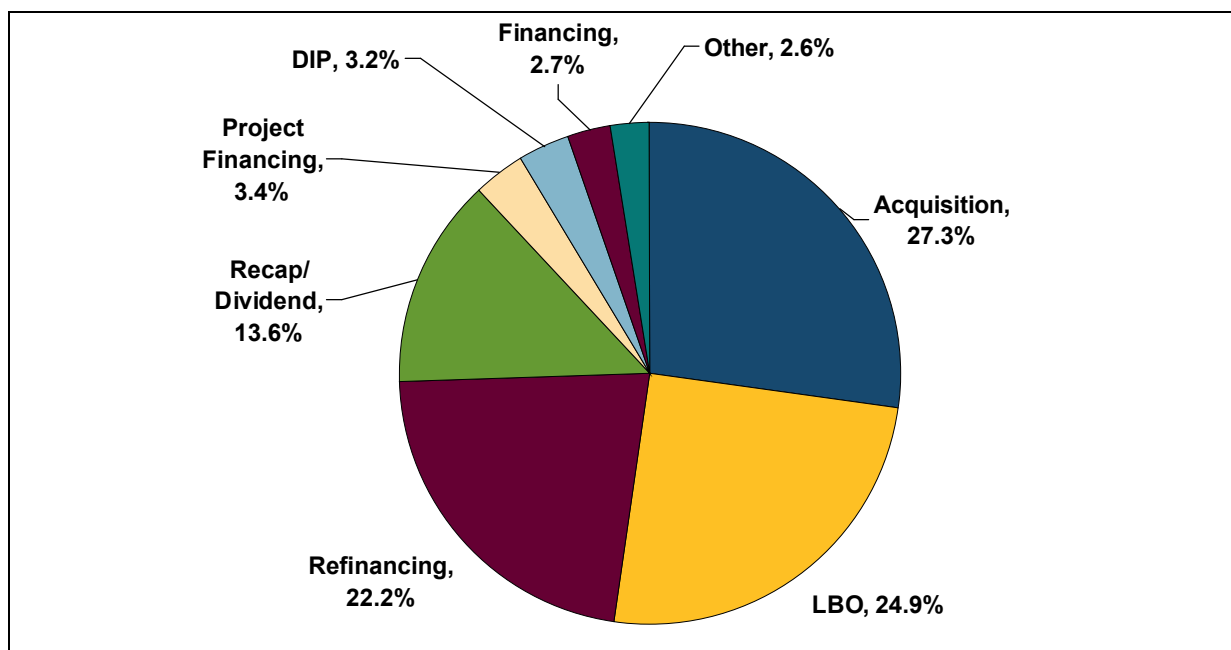


Source: S&P Leveraged Lending Review 2006

<sup>23</sup> Reported in The Economist, Jul 5th 2007, [www.economist.com/finance/displaystory.cfm?story\\_id=9440821](http://www.economist.com/finance/displaystory.cfm?story_id=9440821)



**Exhibit 26: 1Q06 Total New Issue Leveraged Loan Volume by Purpose**

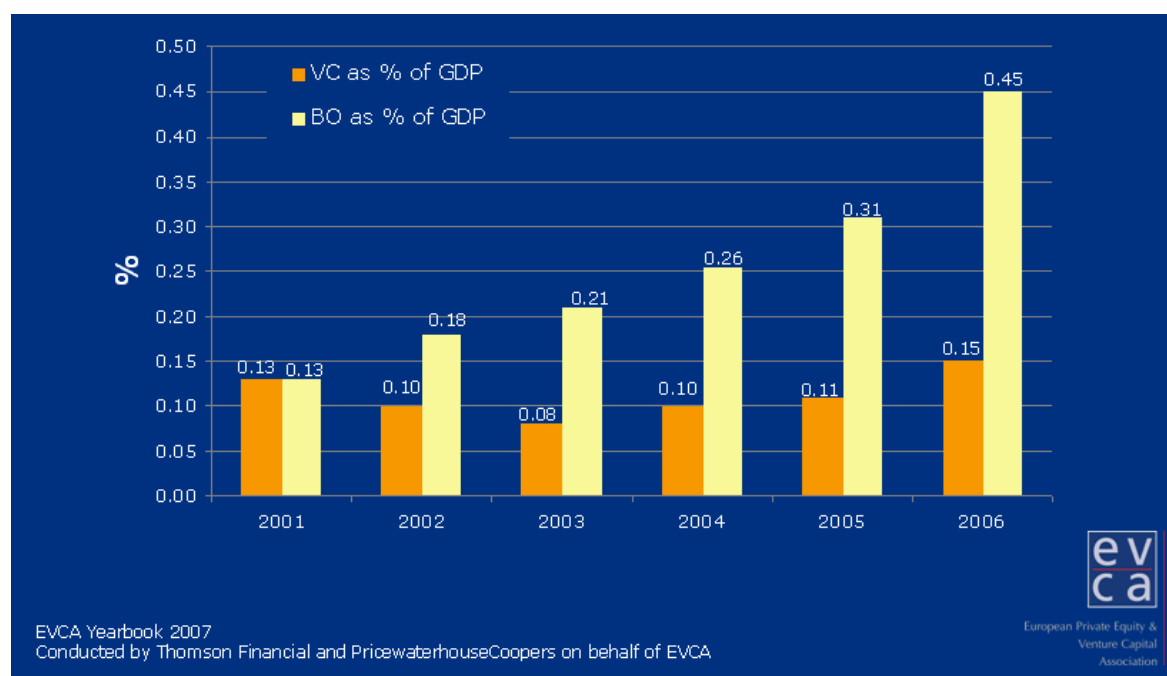


Source: S&P Leveraged Lending Review 2006

### 6.2.2 Private Equity is small

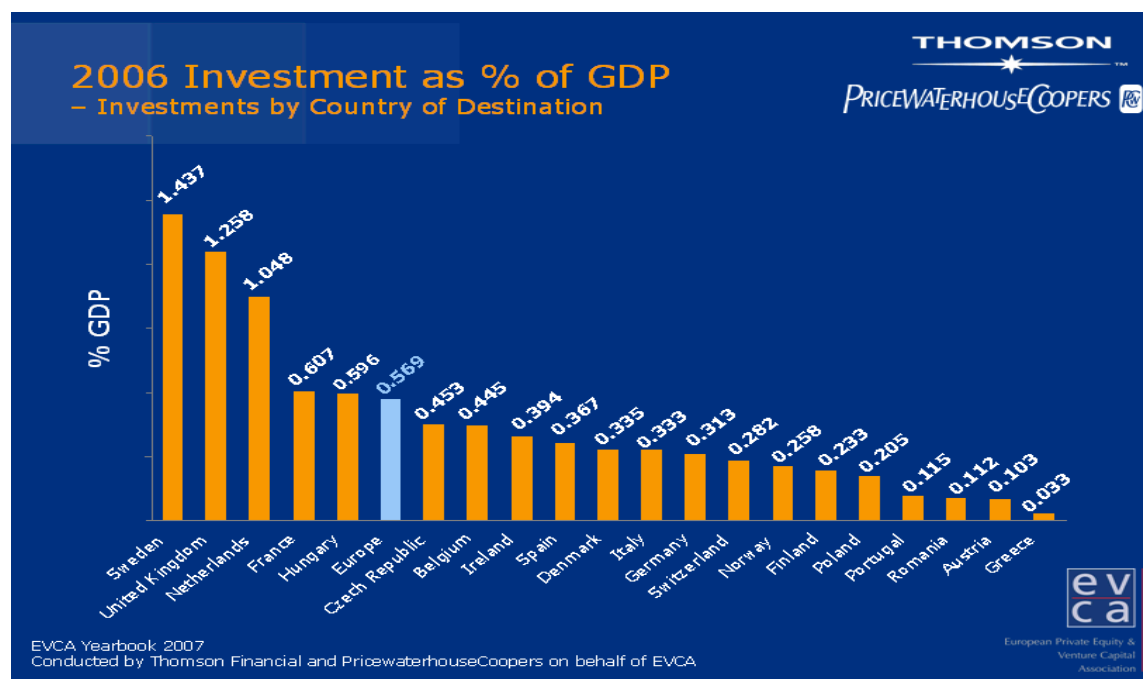
Despite its recent growth and undeniable importance for some parts of the financial system, the private equity industry is still a relatively small component of the overall economy. According to the 2006 European Private Equity Survey conducted by PwC and Thomson Financial on behalf of EVCA, the amount of equity invested by European buyout funds has increased substantially over recent years (Exhibit 27), but still represents less than 0.5% of European GDP. The percentages vary by country, but even for the countries with the highest relative (Sweden) and absolute (UK) level of buyout activity, this represents less than 2% of GDP (Exhibit 28).

**Exhibit 27: Venture capital and Buyout – 2006 Investment as % of GDP**



Source: EVCA Yearbook, 2007.

Exhibit 28: 2006 Investment as % of GDP, Investments by Country of Destination



Source: EVCA Yearbook, 2007.

Another way to put the magnitude of private equity into perspective is to look at the exposure of European banks to leveraged lending. According to a survey conducted by the ECB, LBO exposure represents less than 1% of the total balance sheet size of European banks, and the median value of LBO debt as a share of tier 1 capital is about 15%. The report on Leveraged Buyouts and Financial Stability in the ECB Monthly Bulletin, August 2007, concludes that these data do not support the argument that exposure to LBO lending could pose risks to the banking or financial system (Leveraged Buyouts and Financial Stability, ECB Monthly Bulletin, August 2007, page 21).

### 6.3 Sources of Risk from a Financial Stability Perspective

What are the principal sources of risk associated with the increased levels of private equity for the stability of the international financial systems<sup>24</sup>? Here, a number of possible mechanisms can be identified.

First, one can imagine a scenario in which several large and high buyout profile deals encounter difficulties during the syndication stage. In this case, banks that underwrite the debt financing of these deals may find themselves unable to pass the debt on to a broader community of investments, as is usually the case in the syndication process. Consequently these banks may want to reduce their exposure to, for example, high yield corporate bonds, which could sharply decrease the availability of debt funding in these segments and limit market access for higher-risk corporate borrowers.

Second, the increased debt levels of businesses subsequent to an LBO increase the vulnerability of acquired firms to economic shocks. In other words, the likelihood of bankruptcies of these firms in an economic downturn increases.

<sup>24</sup> The arguments presented in this section are in part based on the 2007 Global Financial Stability Report of the IMF and the ECB Report on Large Banks and Private Equity-sponsored leveraged buyouts in the EU, April 2007.

In addition to the obvious consequences for the businesses, their employees, and their investors, the occurrence of bankruptcies in several large and high buyout profile deals could have a much broader impact on the credit market, in the sense that the availability of higher-risk debt funding decreases and that the credit spread increases.

A third relevant element is the increased demand for leveraged loans from investors, which has led to a shift of power from creditors to borrowers. The intensifying competition among market participants may create pressure on banks to lower their due diligence requirements and to loosen their standards with respect to loan covenants.

Overall, factors identified may have an adverse impact on the profitability and future earnings of the involved banks, but it is unlikely that their consequences are severe enough to create a large-scale threat to the stability of the financial system as such.

## **6.4 Private equity activity and the sensitivity to economic crisis situations**

The preceding arguments highlight some potential risks related to private equity activity, but they also suggest that it is not very likely that private equity will trigger a major shock to the financial system. At the same time, it is important to assess the impact of private equity activity, as such, on the stability or vulnerability of a focal economy in economic crisis situations. In other words, we are going to address the question of whether a high level of private equity activity makes a focal economy more sensitive to the shocks of an exogenous crisis triggered elsewhere in the financial system.

### **6.4.1 Data**

To shed light on this issue, we focus on five major crises with consequences for the worldwide economy (Exhibit 29). For each of these crises, we analyzed their impact on key economic indicators in the following countries:

- Australia
- Canada
- Finland
- France
- Germany
- Hong Kong
- Mexico
- Netherlands
- Singapore
- Spain
- UK
- US

We analyzed worldwide buyout investments over time as provided by Thomson Venture Economics and calculated the level of buyout activity as a percentage of GDP for each of these countries at the time of the respective crisis. We obtained data on the monthly market value of 2,772 publicly traded companies in our 12 focal countries from Compustat and calculated the % change in total national market capitalization from the month preceding the crisis date to the 1, 2, and 3 months following the crisis.

We then gathered data on the change in interest rates, GDP growth, and unemployment between the year preceding the crisis event and the year following the crisis event. Data was available for 45 of these (country x crisis) observations.

**Exhibit 29: Historic Crisis Situations**

Crisis	Year
« Junk Bond Meltdown »	1989
Mexican Crisis	1994
Asian Crisis	1997
Russian Crisis	1998
« 9-11 »	2001

Source: Author.

### 6.4.2 Analysis and Results

We then ran bivariate correlations between the percentage of buyout activity and the change in key economic indicators for each country and each crisis. In a first step, we looked at the sensitivity of local stock market valuations to the crisis events. The bivariate correlation analysis between percentage of buyout activity and the change in total national market capitalization led to the rejection of the hypothesis that buyout activity influences the sensitivity of local stock market valuations to international crises events in any statistically significant fashion. Similarly, the bivariate correlation analyses between percentage of buyout activity and the change in interest rates, GDP growth, and unemployment between the year preceding the crisis event and the year following the crisis event provided no support for the hypothesis that buyout activity influences the sensitivity of any of these indicators to international crises events in any statistically significant fashion.

### 6.4.3 Results

**Exhibit 30: Historic Crisis Situations**

	Bivariate Correlation with level of PE Investment (as %of GDP)
Change in stock market valuations (-30 days, +30 days)	non-significant
1-year change in GDP	non-significant
1-year change in interest rates	non-significant
1-year change in unemployment	non-significant

Source: Author.

We fail to find any statistically significant link between the level of private equity activity and the magnitude of change in any of the macroeconomic indicators subsequent to a crisis event (Exhibit 30). The absence of any statistically significant link does not support the claim that buyout activity makes the financial system substantially less stable. Instead, it is consistent with the view that observed levels of PE activity are too low to have a substantial impact on economic stability.

## **7. DIFFERENCES IN REPORTING PRACTICES BETWEEN PRIVATE EQUITY AND LISTED COMPANIES**

### **7.1 Introduction**

One particular feature of private equity is the absence of general requirements to disclose detailed information about investment activity and performance to the general public. Consequently, non-investors obtain little systematic information about the activities of private equity companies, especially relative to the detailed and regular financial reporting and release of other business relevant information by publicly traded companies.

At the same time, private equity companies inform their investors (LPs) in detail about their investment activity and the corresponding returns. A comprehensive assessment of the reporting practices of private equity firms thus has to distinguish between different audiences. Here, it is helpful to differentiate between (a) current investors in a given private equity fund, (b) the population of potential investors involved with private equity funds and (c) other outside parties.

At the HEC-INSEAD Buyout Research Group, we have been working closely with leading investors in private equity funds and therefore have an inside-perspective on the nature of information flows between private equity companies and their Limited Partners. This allows us to empirically approach this question by providing a detailed account of the nature, content, and accuracy of information provided by private equity companies to their investors based on the analysis of hundreds of fundraising documents (PPM), regular performance reports, and fund contracts made available by our different research contacts from the private equity industry.

### **7.2 Reporting Practices to the General Public**

As no general disclosure requirements exists for private equity funds, the general public does not have access to information on characteristics and performance of private equity funds and their investments. However, given that in Europe financial reporting requirements are largely independent of public vs. private ownership, data on the accounting performance of businesses owned by private equity funds is publicly available, even though it may be more challenging to access such information than in the case of publicly traded firms.

Any information about the strategies of private equity firms, the characteristics of their investment and the performance of their funds available to the general public is based on voluntary disclosure of such information by the respective private equity firms<sup>25</sup>. Provided that successful private equity firms have more incentives to disclose any such data, it is to be expected that the information received by the general public based on such selective disclosure paints an overly positive picture of private equity activity. The discrepancy between the general belief of stellar performance to private equity investments and the actual historic average underperformance documented in Section 2 is consistent with this expectation.

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<sup>25</sup> One exception would be the disclosure of fund performance and investment activity by some US LPs, such as UTIMCO and CalPERS that were required by US courts based on the US Freedom of Information Act.

It is a widely debated issue whether the general public has a need to have access to comprehensive and unbiased information about the strategies of private equity firms and the characteristics of their investment, in addition to the performance of their funds. Critics of the current situation (Cumming and Johan, 2007) argue that the “public” has a legal right to additional, more informative, disclosure, insofar as it is the “public” who invest in a certain insurance company with private equity exposure. Furthermore, they are required to place their pension funds with a certain company with private equity exposure.

On the other hand, private equity firms and their industry associations defend the status quo based on the argument that any further disclosure requirements would be detrimental to the private equity fund as well as its portfolio companies. They claim that part of the advantage of the private equity governance structure and hence their ability to create value for their investors is grounded in the fact that they can operate without the obligation to disclose information about their investment approach and strategies, as well as their success, to the general public and hence also make this information accessible for competition on the investor level, as well as on the portfolio company level.

### **7.3 Reporting Practices to potential and current investors**

It is standard industry practice that private equity companies disclose information about their investment activity and the corresponding returns to the community of LPs. The principal sources of such information are (a) ‘Private Placement Memoranda’ (PPM) sent to potential investors for fundraising purposes and (b) Quarterly or Annual Reportings to current investors of a given fund.

PPM contain all information the GP considers relevant and helpful for LPs to assess the quality of a proposed new fund. This typically includes the characteristics and the (audited) performance of a private equity firm’s past investments (‘track record’), the credentials of the investment management team, the fund’s intended future investment strategy, terms and conditions, including GP remuneration, and how it will be shared among the members of the investment management team. One may argue that the breadth and depth of information provided in the PPM often surpasses the amount of information available to (potential) investors in simple mutual funds, especially when it comes to characteristics, experience, and track record of the responsible investment managers or the level and distribution of their compensation. On the other hand there are no standards for the format and content for PPM. Consequently we observe in our analysis of several hundred of such documents that the level of information available to potential private equity investors differs vastly from one PPM to another. This makes it sometimes difficult for LPs to compare different funds along a standard set of criteria. Furthermore, PPM are only available when (and if) a GP intends to raise a new fund. This implies that non-investing LPs cannot observe a given GP’s performance and activities on an ongoing basis, but that they receive such information in irregular intervals typically lasting 2-5 years. The fact that poorly performing GPs without any chance to raise a new fund will never prepare another PPM implies that an assessment of the performance of the private equity industry based on PPM alone will lead to an overstatement of its actual performance, as poor performance is missing from the picture.

Current investors of a given fund, in general, receive additional data on the investment activity and performance of this fund in quarterly or annual reports provided by the GP. This information put them in a position to monitor the corresponding fund in a more regular fashion.

### **7.4 Shortcomings of current reporting practices to investors**

Even if, as has been argued above, the level of information on private equity funds available to LPs often exceeds the information available to investors in mutual funds, we note that

there are areas in which the current reporting practices of private equity firms to the community of (potential) investors could be improved. These relate to four aspects of the status quo of reporting practices: (a) the reliability and consistency of valuations for ongoing investments, (b) the heterogeneous nature of self-reported information provided in PPM and reports to investors, (c) the understatement of investment risk due to sticky valuations, and (d) the potentially misleading standard return measures used to report investment and fund performance.

#### **7.4.1 The reliability and consistency of valuations for ongoing investments**

Given that the equity of private equity investments is not continuously traded, no market valuations are available to assess their value between the buyout and the exit of the private equity fund. Any valuation of an acquired business during that period is bound to be a somewhat subjective exercise<sup>26</sup>. GPs are nevertheless required to indicate a value for their portfolio companies in regular intervals, e.g. for PPM or reports to investors. Most of them keep the investment at cost. Others use ad-hoc approaches such as a valuation based on a multiple of EBITD or on stock market comparables. Accordingly, one observes that funds differed a great deal historically in the way they measure the value of their ongoing investments<sup>27</sup>.

Within Europe there has been an initiative to agree on valuation guidelines, and an agreed approach to valuation now exists. This approach has been endorsed by all major national industry associations in Europe and many outside Europe (with the notable exception, as of this writing, of the National Venture Capital Association in the United States). However, the guidelines require nonbinding legal requirement for non-members of these associations.

Even with such guidelines in place, deriving the exact value of ongoing investments remains difficult and some room for subjectivity remains. Differences in accounting and legal rules across countries can influence valuation standards in the sense that less stringent accounting rules and weak legal systems entail systematic overvaluation (Cumming and Walz, 2004). One may suspect that poorly performing funds might be reluctant to write down the book value of their ongoing investments in hopes of masking part of their underperformance and preserving the possibility of raising subsequent funds. There is empirical evidence in favor of this hypothesis (Phalippou and Gottschalg, 2007). According to this analysis, funds with ostensibly more-aggressive residual values have lower fund performance, irrespective of the assumptions regarding the market value of the residual values, and vice versa.

As much as the imperfect reliability of valuations for ongoing investments may be an undesirable feature of private equity, the very nature of the asset class, with its discontinuously traded portfolio companies, makes it difficult (if not impossible) to substantially improve the situation beyond what could be achieved through a general application of the valuation guidelines developed by industry associations.

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<sup>26</sup> The arguments presented in this section are in part based on Phalippou, Ludovic, "Investing in Private Equity Funds: A Survey". Available at SSRN: <http://ssrn.com/abstract=980243>

<sup>27</sup> GPs occasionally even diverge in their valuations of the same business, and thus it happens that an LP who invests in the same company via two different funds receives two different valuations (see Blaydon and Horvath 2002).

#### **7.4.2 The heterogeneous nature of self-reported information**

The breadth and depth of the information LPs receive about investment activity, strategies, and performance of a given fund are largely subject to the discretion of the responsible GP. Given that especially PPM vary substantially with respect to content and format, it can be difficult for LPs to compare different funds along a standard set of criteria. This often pushes LPs to revert to the ‘smallest common denominator’ and base their investment decisions only on a limited range of factors. From our work with several LPs, we know that this can be a substantial concern in practice, considering that it limits the LP’s ability to give a detailed and comprehensive account of the performance and nature of their own private equity program.

More specifically, the self-selected nature of these reporting practices may create possibilities for black sheep within the community of GPs to compose PPM in a way that presents their own performance in an overly positive fashion. Some LPs may lack the experience or sophistication to see through the marketing facade of such a PPM, thereby risking being misled in their investment decision.

#### **7.4.3 The understatement of investment risk due to sticky valuations**

Private equity is often praised for an attractive feature: its low correlation with public market returns. This characteristic is, however, primarily an artefact of the widely accepted reporting convention that book values of unrealized investment in a private equity fund’s portfolio are kept at entry cost over the first year(s), at minimum, and adjusted, if at all, only in large intervals. In our case, we looked at 2,543 unrealized buyouts reported in Private Placements Memoranda. After an average holding period of over 2 ½ years, these investments had a median performance of 0% IRR, which corresponds to being carried at cost. Similarly, we analyzed the evolution of net asset values for thousands of private equity funds on a quarterly basis. In roughly 50% of the cases, we observed no change at all in net asset values from one quarter to the next. This means that no adjustment in the valuation of *any* of the portfolio company took place during that quarter.

It is thus not surprising that correlations between PE funds that have a good part of their capital in unrealized investments kept at cost, on the one hand, and volatile public market values, on the other, are low. The low volatility of a PE portfolio’s value over time makes it an attractive ingredient for portfolio managers. Even if historic returns are lower than commonly believed (See Section 2), they are certainly above alternative investments with a similarly low volatility. However, the low volatility in valuations of unrealized investments is misleading if we consider the risk of the underlying investments. Imagine a publicly listed company with a beta of 1.2 that is taken private in an LBO. There is no reason to believe that this company will have a beta of zero (i.e. risk-free) after the LBO as its sticky valuation in the books of a portfolio manager may suggest. If anything, the additional leverage of the LBO would have made the company more risky than it was before. The convention to carry unrealized investment in a private equity fund’s portfolio at cost may seem conservative from a valuation perspective. As long as the correlation of its value with the stock market is used as a measure of risk, it may however create false incentives to invest into private equity<sup>28</sup>.

#### **7.4.4 The potentially misleading return measures**

As described in section 2, private equity performance is typically reported as either a cash return multiple or as an IRR of underlying cash flows. Both measures have important limitations that are well-documented in standard finance textbooks.

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<sup>28</sup> It is obvious that investors do not base their investment decisions on gross returns of the average private equity fund combined with the effect of artificially low correlation alone. Otherwise the allocation by investors to the asset class in terms of percentage of their total assets should be even higher than the one observed in the market.



The inability of the return multiple to consider the “time value of money” is well known to private equity investors and hence there is only a limited danger of investors being misled by this measure.

As mentioned, the challenges with the use of IRR, as the basis for an investment decision, fill an entire chapter in one of the most popular finance textbooks<sup>29</sup>. Despite these well-documented shortcomings, IRR is a most widely used performance measure in the private equity community. Here, it is important to demonstrate that the textbook advice against IRR has practical relevance in private equity. The method, based on which IRR is calculated, makes the implicit assumption that intermediate cash proceeds are reinvested at the IRR rate over the entire investment period. If a private equity fund reports a 50% IRR and has returned cash early in its life, this money is implicitly assumed to be put to work again at 50% annual returns. This assumption is implied in the very use of IRR, even if the GP is unaware of it. In reality, investors are unlikely to immediately find such an investment opportunity each time cash is distributed, if ever.

One disguised example, inspired by a real observation in our data, illustrates the practical implications of the so-called reinvestment assumption. Imagine the case of a multi-billion dollar private equity firm raising its next fund with a track record of investments that dates back over roughly two decades. It reports an IRR of 59% which suggests it is a ‘star fund’ and must have played a role in its ability to raise another several billion dollar fund. This IRR was arithmetically correct, but did not reflect the fact that after a period of highly successful deals in its early years, this particular firm had to record substantial capital losses (Exhibit 31). The IRR calculations assume that cash proceeds from the early successes were reinvested at 59% p.a. At this rate, they would have grown to such a large amount of money over the years that the losses over a decade later did not carry much weight any more.

Finance 101 teaches us a simple solution to this ‘reinvestment problem’: using the so-called ‘modified IRR’ (M-IRR) instead of the simple IRR. This measure works similar to the simple IRR, but rather than assuming reinvestments at the IRR rate, it specifies a fixed rate of return for investing and borrowing. It is as easy to use as an IRR, as the M-IRR formula is part of standard software such as MS Excel. If we apply this measure to the previously mentioned private equity firm, the M-IRR of 16% (assuming borrowing and investing at 12% p.a.) points immediately to the performance problems that the IRR did not reveal<sup>30</sup>.

Some claim that sophisticated investors are able to integrate the joint use of IRRs *and* Multiples into thorough fund due diligence processes to identify top performing funds. Nevertheless it may be desirable to use performance measures and benchmarks that avoid the risk of being misled in the first place.

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<sup>29</sup> See Principles of Corporate Finance by Brealey & Myers, Chapter 5

<sup>30</sup> An experienced LP would have also been warned by the low return multiple of 1.23 of this particular example, but the situation is often less obvious than in this illustrative example.

**Exhibit 31: Inflated IRR due to reinvestment assumption**

Vintages	Year	Takedowns	Distributions	Net CF
Fund 1	1980	-10		-10
...	1981	-20	0	-20
...	1982	-30	0	-30
...	1983	-10	30	20
...	1984		60	60
Fund 2	1985	-50	90	40
...	1986	-100	300	200
...	1987	-150		-150
...	1988	-50	150	100
...	1989		300	300
Fund 3	1990	-100	450	350
...	1991	-200	150	-50
...	1992	-300		-300
...	1993	-100	300	200
...	1994		600	600
Fund 4	1995	-1000	900	-100
...	1996	-1000	300	-700
...	1997			0
...	1998		200	200
	Sum	-3120	3830	710
			Multiple	1.23
			IRR	59%
			MIRR	16%

Source: Author.

In general, the ‘reinvestment’ hypothesis makes top performers in terms of IRR look much better than they really are, based on the more accurate M-IRR (and vice versa for the worst performers). The top 25% (ranked by their IRR) of all 1,184 mature private equity funds in our sample (raised between 1980 and 1995) have an average net-of-fees IRR of 35.32% while the top 25% (ranked by their M-IRR) have an average M-IRR of only 18.56% (assuming borrowing and investing at 12% p.a.).

This observation is particularly important, as investors in private equity are typically attracted by the great performance of this ‘top quartile’ group as it is reported in standard industry performance statistics. The average IRR of this group of funds clearly suggests that such an investment offers outstanding returns. The M-IRR exhibit reveals, however, that much of this performance figure is inflated by the reinvestment assumption. The more accurate account of their performance based on the M-IRR of 18.56% is still attractive, but much more in line with other investment opportunities.

At least equally relevant, using IRR can mislead investors trying to compare returns of different fund managers. Consider a ranking of the mature private equity funds in our sample according to different performance measures. A look at the 25 funds in our sample with the highest IRR (Exhibit 32) illustrates two best funds in terms of M-IRR are not even in the top 10 IRR list. In other words, investment decisions based on IRR do not always lead LPs to invest in the most attractive funds. Efforts to quantify the corresponding loss in performance indicate that 3%-4% annual performance could be gained by LPs using more appropriate performance measures than IRR and Multiples<sup>31</sup>

<sup>31</sup> See “IRR versus NPV: How much is left on the table?” Ludovic Phalippou (2007); University of Amsterdam Working Paper

**Exhibit 32: Ranking by Alternative Performance Measures**

rank by IRR	rank M-IRR	IRR	MIRR	Multiples	PI
1	9	463.75	30.89	7.01	5.36
2	4	313.04	41.64	18.71	13.85
3	10	247.82	30.45	8.65	5.72
4	6	243.86	41.15	18.22	13.76
5	3	190.12	43.44	19.61	12.09
6	5	166.48	41.29	17.75	11.13
7	8	154.75	33.24	10.82	8.25
8	15	153.07	27.58	22.01	12.09
9	21	146.73	23.12	5.92	4.19
10	13	143.38	29.06	7.69	5.52
11	11	133.24	30.06	9.36	5.63
12	25	124.74	18.32	9.42	4.55
13	2	122.72	43.51	16.51	8.57
14	18	122.54	25.02	6.99	4.23
15	23	113.01	21.60	9.19	4.79
16	24	107.80	20.94	5.49	3.40
17	12	107.71	29.32	13.39	7.08
18	16	104.28	26.02	7.23	4.25
19	1	103.87	74.52	14.71	6.80
20	14	102.34	27.88	14.10	6.50
21	7	98.57	35.23	28.04	11.59
22	22	96.89	21.71	4.78	3.46
23	19	95.27	24.51	6.68	3.79
24	17	94.56	25.75	6.32	3.93
25	20	91.26	23.78	2.81	2.01

Source: Author.

## 8. CONCLUSION

The present report analyzed a number of aspects of private equity investment activity in Europe raised by the European Parliament's Committee on Economic and Monetary Affairs. It sought to contribute to the ongoing debate by offering data-driven insights into how private equity functions, how it performs, and how it affects the acquired businesses with their employees and other stakeholders. ***The corresponding analyses draw on the largest available databases on private equity and related activities worldwide, including the proprietary database of the HEC-INSEAD Buyout Research Group with detailed information on the characteristics of over 5500 individual buyout transactions.***

So what does the bigger picture of the broad patterns of Private Equity activity look like that emerged from the empirical analysis? This picture can basically be painted in four layers: The first layer is comprised of the acquired businesses, with their employees and other stakeholders. The second layer is comprised of a Private Equity Firm as the entity responsible for most of the fundamental decisions in an LBO. The third layer is comprised of the investors (pension funds, insurances, foundations) who provide the equity capital for LBOs. Finally, the fourth layer is comprised of the implications of LBOs for other stakeholders, the general public and the economy as a whole.

First it is important to revisit the fundamental elements of a buyout. What seems on the surface to be a simple equity investment made by the Private Equity Firm in a particular business has several distinct features: It typically concerns a controlling stake, often the entire equity. It is illiquid and constitutes a multiple-year commitment of the Private Equity firm. It is financed by a combination of equity provided by the Private Equity Firm and debt provided by a third party. After the investment, the business is not listed on the stock markets; it is not publicly traded and somewhat below the radar for many observers. Importantly, the objective of the investment is to re-sell the business after 3-7 years, which is mandatory given the legal structure of the Private Equity fund. Furthermore, in order to earn any return on their investment, the Private Equity Firm will have to sell the business at an increased value. As a logical consequence, the buyout creates a pressure for change in the acquired business – change – with the objective to increase its value.

So what did the data tell us about ***what happens during a buyout?*** The answer to this question is more interesting than what one may think. Generally, buyouts are seen as acquisitions that heavily restructure the target firm, close divisions, and strip its assets. ***Based on a detailed analysis of case descriptions for over 1000 buyouts, we definitely observed many instances of restructuring-oriented changes, but also a lot of growth-oriented change initiatives.*** Many buyouts are creating value through new growth strategies, follow-on acquisitions, new R&D and marketing initiatives, international expansion, and so forth. ***What the data show is that the pure restructuring buyout exists, but that it is relatively infrequent,*** i.e. less than 9% of all cases in my sample fall into this category. In comparison, 45% of the cases classify as ‘growth-oriented’ buyouts and most of them (46%) combine both elements.

This finding makes a lot of intuitive sense because, in most cases, the acquired businesses are performing below their potential, prior to the buyout. In order to increase their value over a 3-7 year horizon, one would expect an approach in which some parts of the business first undergo the required restructuring and afterwards the growth potential of the entire business is released. Restructuring is always painful for many stakeholders and never desirable, but sometimes it is inevitable. The buyout may be to some extent like seeing a surgeon, e.g. her cut may cause pain, but one leaves the hospital in better shape than without the treatment.

The same may be true for certain businesses in certain stages of their life when they undergo a buyout.

The data further revealed that, ***for the majority of buyouts, the acquired business is in better shape (in terms of profitability and growth indicators) after the buyout than before the buyout.*** Moreover, the acquired business outperforms its industry peers (in terms of profitability and growth indicators) over the period of the buyout. Finally, ***the acquired businesses continue to perform better than its industry peers after the exit of the Private Equity Firm.***

Therefore, the bottom line seems to be that buyouts are vehicles for change in the acquired businesses, especially since they trigger and/or facilitate necessary restructuring and growth initiatives to create more competitive businesses. If this were not the case, the Private Equity Firm could never sell them at a value that allows them to earn their target rate of return.

Are there exceptions to this rule? Absolutely! In the data, one can observe bankruptcies, wrong decisions taken by Private Equity firms, abuses of the buyout structure, and cases in which Private Equity firms make money by destroying rather than building businesses. But it is important to keep in mind that these are outliers and that the previously listed positive findings are what characterizes the vast majority of the over 1000 buyouts in the sample. Most importantly, in the discussion, it is crucial to keep in mind what is the rule and what is the exception.

So what does the picture look like at the level of the Private Equity Firm? First of all, we have to note that the returns earned by Private Equity funds are strongly correlated to a Private Equity Firm's ability to transform companies in a way that they can be profitably resold. This transformation requires time and it is thus not surprising to see that ***the average buyout is re-sold after more than 5 years. The so-called quick-flips that are often criticized in the debate are a clear exception: only 16% of all buyouts change owners in less than 24 months.*** This should be compared to the average share in a publicly listed firm being traded about once a month. Even large investors in public firms, the so-called blockholders with more than 5% equity stake, on average, tend to re-sell their stakes at a higher frequency than Private Equity firms.

A fundamental issue is the question of how successful Private Equity Firms are with their investments, and, for the Private Equity Firm, the relevant measure of success is the return on the equity investments they manage. Here there seems to be a widespread opinion that returns are stellar and this belief attracts more and more investors to this asset class. A closer look at the data reveals, however, that performance is only outstanding for some of the Private Equity Firms. With this examination, ***we observe an average performance (gross of fees) of historic Private Equity funds of about 3% above comparable stock-market investments, but also great differences between the best-performing and the worst-performing funds. The best Private Equity funds in the sample show a performance of more than 10 times that of the stock market, while the worst ones essentially destroy most of the capital that was committed to them.***

Another element of the picture of the Private Equity Firm is the compensation these firms receive for making and managing buyout investments. Private Equity Firm are compensated according to two principal mechanisms. The first mechanism is the management fee, which is usually a percentage of the committed or invested capital that the Private Equity Firm received as a fixed annual payment to cover the cost of running the fund before any profits from realized investments are available. The second mechanism is the carried interest, also referred to as Carry, which specifies the degree of profit sharing of the Private Equity Firm through a portion of the capital gains of the fund's investments. Frequently, only capital gains above a certain annual percentage return, also referred to as the hurdle rate, are being considered for the carried interest calculation.

We analyzed cash flows and fee structures of thousands of Private Equity funds and were able to quantify the impact of fees on returns. ***We found, on average, a 6% difference between annual returns gross-of-fee versus after fees.*** This seems large when compared to fees charged by other fund managers, but the management of Private Equity funds also requires much more effort and highly skilled human resources.

This brings us to the third part of our picture. ***For the investors in Private Equity funds, private equity performance was not very exciting on average. 3% gross alpha minus 6% fees = -3% alpha net-of-fees, i.e. a significant underperformance of the broad stock markets to them.*** We see that the caricature of US pension money benefiting from stripping European companies is wrong in both aspects, because buyouts are not primarily about asset stripping, and the average Private Equity performance to pension investors is not particularly exciting.

***Many investors look less at average returns than at the ability to generate high returns when investing with the 'right' funds. Here Private Equity offers attractive opportunities, even though investors may overestimate their ability to identify top performers ex-ante.*** The group of investors able to invest into Private Equity funds is restricted, but even for those 'sophisticated investors', it remains hard to accurately find the top performers. This challenge stems in part from the fact that ***Private Equity uses performance measures and benchmarks that make it difficult to accurately compare and assess the quality of a given Private Equity Firm.***

Finally, we consider the implications of Private Equity for other stakeholders and the economy as a whole. The present study explored several areas of potential consequences of Private Equity. ***Based on the empirical evidence, there seems to be no sign of a negative impact of buyouts on the growth or competitiveness of the sectors in which they occur. Also, there is no empirical support for the claim that Private Equity makes the financial and economic system less stable.*** Instead, buyout activity seems to create stronger and more competitive businesses, and part of the value created by their activity flows to outside stakeholders, such as the investors who buy these businesses from the Private Equity Firm.

What are the key messages that emerge from this picture? ***Private Equity today appears to be overall a well-functioning, established industry that fulfils a crucial role in our economy. In fact, this role is comparable in its importance to the role of early stage venture capital. The provision of financing and good corporate governance for the efficient revitalization of underperforming mature businesses can be considered equally important for the economy as the provision of financing and good corporate governance for the establishment of new companies.***

***What are the most problematic areas that have been identified in the analysis? Overall, it seems disappointing that the ultimate investors, on average, did not participate in any of the value creation through buyouts.*** One reason for this seems to be a fee structure that, on the average, allocates more value to the Private Equity Firms in fees than the value of the outperformance over the stock market they were able to generate through their activity. This leaves many investors in their funds with unsatisfactory performance relative to other investment opportunities.

As soon as this fact is fully realized by the community of investors in Private Equity funds, market forces between Private Equity fund managers and investors can be expected to alter the fee structure in a way to improve the situation. An increase in the level of co-investments that LPs can make alongside GPs in individual deals under a largely reduced fee structure may be a first sign of such a trend.

A second possible reason for this unsatisfactory performance can be attributed to the difficulties of investors to accurately assess and benchmark the performance of a given Private Equity Firm and compare it to other Private Equity Firms in terms of risk and return. This difficulty contributes to the present situation in which more investors find themselves earning returns below the comparable stock market performance than expected.

In this context, it is important to remember the link between underperforming funds and negative consequences for the acquired businesses. *Only a fraction of buyouts have negative consequences for the acquired firms. But these deals are predominantly made by less capable investors that strive for great return, but lack the necessary ability to guide the acquired businesses through the process of restructuring and growth.*

However, let alone truly extreme situations, bad deals and wrong decisions on behalf of the Private Equity Firm will not only lead to bankruptcy and layoffs, but also to poorly performing investments and funds. *To the extent that investors are able to discriminate between capable and less capable fund managers, they will not provide any further capital to the latter category and we can expect the number of bad deals to decrease with the number of incapable investors in the industry.* This suggests that *increased efficiency in the information exchange between LPs and GPs, along with better performance measures and benchmarks, are likely not only to increase the level of overall returns but also to further decrease the number of buyouts with undesirable consequences for the acquired business and their stakeholders.*

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