UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS

MARKO RIKATO

ESSAYS ON PRIVATE EQUITY: OPERATING PERFORMANCE, INVESTMENT SELECTION SUCCESS AND COSTLINESS OF PLACEMENT AGENTS

DOCTORAL DISSERTATION

Ljubljana, 2014

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AUTHORSHIP STATEMENT

The undersigned Marko Rikato, a student at the University of Ljubljana, Faculty of Economics, (hereafter: FELU), declare that I am the author of the doctoral dissertation entitled Essays on private equity: operating performance, investment selection success and costliness of placement agents (Empirična analiza zasebnega kapitala: uspešnost poslovanja, izbira investicij in cena agentov plasiranja), written under supervision of Assoc. Prof. Aleš Berk Skok and co-supervision of Assoc. Prof. Ludovic Phalippou.

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EMPIRIČNA ANALIZA ZASEBNEGA KAPITALA: USPEŠNOST POSLOVANJA, IZBIRA INVESTICIJ IN CENA AGENTOV PLASIRANJA)

POVZETEK

Empirično usmerjena doktorska disertacija ponuja odgovore na tri pomembna vprašanja, ki so pomembna za vlagatelje, ki vlagajo v sklade zasebnega kapitala[1] (omejeni družbeniki – družbeniki komanditisti oziroma vlagatelji/investitorji), vlade in njihove agencije ter portfeljska podjetja zasebnega kapitala, ki so prejemniki »pametnega denarja«[2] s strani družb zasebnega kapitala (generalni družbeniki – družbeniki komplementarji). Splošen vtis v praksi je, da v razvitih državah skladi zasebnega kapitala ustvarjajo nadpovprečne donose svojim vlagateljem, in sicer z uporabo »pametnega denarja« za nakup portfeljske družbe zasebnega kapitala (ali z odkupom s finančnim vzvodom ali v kakršni koli drugi obliki transakcije), spodbujanjem rasti ter ustvarjanjem dodane vrednosti v porfeljski družbi zasebnega kapitala. Po drugi strani, če podjetje ne prevzame sklada zasebnega kapitala, potem naj ne bi bilo zmožno rasti in biti dobičkonosno kot v primeru, če bi bilo prevzeto s strani sklada zasebnega kapitala. Investitorji lahko zagotovijo denar, ki v rokah skladov v sklopu investiranja v portfeljske naložbe zasebnega kapitala postane »pametni denar«, neposredno ali posredno preko agentov plasiranja. Nobena raziskava še ni bila opravljena na področju upravičenja obstoja agentov plasiranja. Vsa ta vprašanja so pomembne dileme v praksi in cilj disertacije je, da poda odgovore na navedena vprašanja.

V disertaciji proučujem operativno uspešnost družb, ki so bile odkupljene s finančnim vzvodom s strani sklada zasebnega kapitala v Srednji, Vzhodni, Jugovzhodni Evropi ter baltskih državah (razvijajoče se evropske države) in jih primerjam s primerljivimi podjetji v panogi. Z uporabo standardne tehnike finančnega in računovodskega analiziranja podjetja, ki je bilo odkupljeno s finančnim vzvodom, analiziram 69 portfeljskih družb, ki so bila prevzeta s finančnim vzvodom v obdobju 2002-2007. Moji rezultati nakazujejo, da model odkupa podjetja s finančnim vzvodom v povprečju ne deluje dobro v razvijajočih se evropskih državah. Moji rezultati prikazujejo, da ne prihaja do statistično značilnega izboljšanja dobičkonosnosti, merjene z dobičkonosnostjo prodaje, dobičkonosnostjo sredstev ali profitne marže v obdobju treh let po zaključku prevzema podjetja s finančnim vzvodom. V tistih primerih, kjer prihaja do izboljšanja dobičkonosnosti, rezultati potrjujejo, da skladi zasebnega kapitala v povprečju izboljšajo dobičkonosnost večjim družbam. Kljub dejstvu, da lahko skladi zasebnega kapitala izberejo in kupijo nadpovprečno delujoča podjetja, dokazujem, da kupljena podjetja v povprečju ne vzdržujejo nadpovprečne rasti, in sicer se le-ta približuje povprečni rasti. Pomembo je, da podjetja, ki jih odkupijo strani zasebnega sklada, bolj učinkovito upravljajo z obratnim kapitalom ter ustvarjajo več delovnih mest v primerjavi s primerljivimi podjetji v panogi.

[1] Banke, bogati zasebni vlagatelji, zavarovalnice, skladi "fund-of-funds", pokojninski skladi, podjetja, drugi upravljavci sredstev in druge entitete, ki vlagajo v sklade zasebnega kapitala.

[2] Imenuje se pametni denar, ker družba zasebnega kapitala ne vloži zgolj denarja kot finančno naložbo v družbo, ampak tudi poznavanje panoge ter sposobnosti vodenja, ki naj bi omogočale podjetju rast in izboljšanje dobičkonosnosti, ustvarjanje dodane vrednosti, itd.

Rezultati nakazujejo, da podjetja, ki so jih kupili skladi zasebnega kapitala, v obdobju po odkupu s finančnim vzvodom v povprečju vlagajo manj in uporabljajo več razpoložljivega denarnega toka za višje stroške financiranja zaradi višje zadolženosti.

S proučevanjem finančnih in računovodskih podatkov 28 evropskih družb, ki so bile prevzemne tarče (t.j. da bi bile prevzete s finančnim vzvodom) skladov zasebnega kapitala v letu 2005, vendar na koncu niso bile prevzete, ugotavljam, da te tarče same ustvarjajo rast dobičkonosnosti kapitala, kljub temu, da jih niso prevzeli skladi zasebnega kapitala. Ugotavljam, da skladi zasebnega kapitala prevzamejo nadpovprečno donosna podjetja in prav tako identificirajo družbe, ki imajo potencial za rast. Moji rezultati dokazujejo, da imajo skladi zasebnega kapitala dobre zmožnosti prepoznavanja nadpovprečnih družb, ki delujejo bolje kot panožno povprečje, ne glede na dejstvo, ali te družbe prevzame sklad zasebnega kapitala ali ne. Dokaza za potrditev hipoteze organizacijskih sprememb ni, ker družbe, ki jih ni prevzel sklad zasebnega kapitala, kljub temu dosegajo rast in izboljšanje dobičkonosnosti. Uspešnost podjetij, ki so jih prevzeli skladi zasebnega kapitala v letu 2005, ne presega finančne uspešnosti potencialnih tarč, ki niso bile prevzete. Družbe, ki so jih prevzeli skladi zasebnega kapitala upravljajo dobičke bolj učinkovito, česar ni možno zaslediti pri družbah, ki jih niso prevzeli skladi zasebnega kapitala.

Z analizo vloge agentov plasiranja predstavljam prve dokaze ekonomske vloge agentov plasiranja, ki delujejo kot finančni posrednik med generalnim in omejenimi partnerji v panogi zasebnega kapitala. Raziskava je osnovana na dveh lastnih podatkovnih bazah dveh omejenih družbenikov, ki vsebuje podatke 902 skladov zasebnega kapitala, ustanovljenih v obdobju 1990-2011. Podatki prikazujejo, da generalni partnerji uporabljajo agente plasiranja v desetih odstotkih skladov, ki jih odpirajo. Obstaja pozitiven vpliv relativnih stroškov agentov plasiranja na uspešnost skladov. Podobno kot pri drugih finančnih posrednikih se stroški agentov plasiranja znižujejo z velikostjo sklada oziroma s količinami denarja, ki jih omejeni partner investira v sklad zasebnega kapitala. Raven stroškov agentov plasiranja je med drugim določena s pogajalsko močjo med agentom plasiranja in generalnim partnerjem, prav tako pa tudi s pojavom "prostega jezdenja"[3]. Poleg tega dokazujem, da agenti plasiranja ne izkoriščajo možnosti heterogenosti donosov skladov zasebnega kapitala in potencialnih koristi dobro izbranih naložb, in sicer se agenti plasiranja raje odločajo za fiksne provizije. Omejena družbenika v mojem naboru podatkov sta v povprečju uspešna pri izboru bolj donosnih skladov, saj vlagata višje vsote sredstev v sklade, ki prinašajo višje donose. Ti sicer še vedno dosegajo nižje donose, kot v primeru razporejanja sredstev v sklade, pri katerih so udeleženi agenti plasiranja. Rezultati potrjujejo, da storitve agentov plasiranja ustvarja dodano vrednost tako generalnemu kot tudi omejenim družbenikom.

Ključne besede: zasebni kapital, uspešnost poslovanja, odkup podjetja s finančnim vzvodom, tvegani kapital, agent plasiranja, donos

[3] "Prosti jezdec" je posameznik/entiteta, ki uživa koristi iz naslova resursov, proizvodov ali storitev, in sicer brez plačila stroška koristi.

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SUMMARY

This empirically oriented dissertation is tackling three core questions that are relevant for private equity investors[4] (limited partners), governments and its agencies and private equity portfolio companies that receive »smart money« [5] from private equity firms (general partners). There is a perception amongst practitioners that in developed countries private equity firms generate above average returns for its investors by investing »smart money« to acquire portfolio companies (either via buyout or any other transaction type), foster growth and add value to these portfolio companies. If a company is not acquired by a private equity firm, it should not have the ability to grow and be as profitable as in the case if it was acquired by a private equity firm. »Smart money« is initially provided by investors who are involved in the fundraising process either directly with private equity companies of indirectly through placement agents. No research has been yet conducted that would assess and question the justification of existence of placement agents. These are all important practitioners' dilemmas and the key goal of this dissertation is to answer these questions.

I assess operating performance of private equity backed companies that went through a leveraged buyout in the Central, Eastern, Southeastern Europe and the Baltic countries (developing European countries) and compare them to industry benchmarks. By applying a standardized finance and accounting-based measurement technique to buyout transactions I analyze 69 portfolio companies that went through a leveraged buyout in the period 2002-2007. My evidence suggests that overall the LBO model on average does not work well in the developing European countries. My findings imply that there is no statistically significant improvement in profitability of private equity backed companies within the 3 year time frame post-buyout, measured either by ROS, ROA or profit margin. In the cases when profitability of private equity backed firms improves, private equity firms can add more value in profitability terms to larger companies. Despite the fact that private equity firms can select and acquire above average performing and growing companies, I evidence that on average acquired companies experience the mean reversion effect and cannot perform persistently. More importantly, private equity backed firms manage working capital more effectively and create more jobs compared to their industry peer companies. Findings also indicate that private equity backed firms invest less and use more of the available cash flow for higher debt financing costs.

[4] Banks, high net worth individuals, insurance companies, funds-of-funds, pension funds, corporate investors, other asset managers and other private equity investors.

[5] It is called smart money because a private equity investment is not solely a financial investment that includes financial proceeds but it also includes industry and management experience that allegedly enables any business to grow and improve profitability, added value, etc.

By assessing financial and accounting data of 28 European companies that were M&A buyout targets in 2005 and could have been acquired by a private equity firm but were ultimately not, I find that these targets can achieve ROE growth on their own. Private equity firms are able to acquire above average profitable firms and also identify firms that have prospects to grow in profitability terms. My results prove that private equity firms have target selection abilities since they are able to cherry pick the companies that outperform the market benchmark, regardless of the fact that they can acquire them in the end or not. There is no evidence for the organizational change hypothesis, since potential portfolio companies that are not acquired by private equity firms still manage to achieve growth. Private equity portfolio companies that were acquired in 2005 do not supersede the financial performance of potential portfolio companies in the 3-year post-buyout time horizon. I also find that private equity backed companies manage earnings more effectively, in contrast to non-private equity backed firms.

By analyzing the placement agent role I provide original evidence of the economic role played by placement agents as financial intermediaries between general and limited partners in private equity. Research is based on two proprietary limited partner datasets containing data on 902 private equity funds raised in the period 1990-2011. Data shows that general partners hire placement agents to provide funding of approximately one tenth of the private equity funds they manage. I find a positive impact of relative placement agent fees on fund performance. Similarly to other financial intermediaries, costliness of placement agents decreases with the investment amounts committed by limited partners. Fee levels are likely to be determined by the negotiation power between a placement agent and a general partner, as well as by the phenomenon of free riding[6]. Additionally, I find that placement agents do not take advantage of the heterogeneity of fund returns and potential high benefits of successful investment picks. Namely, they predominantly prefer to charge their clients fixed fees. Finally, limited partners succeed in picking better-performing funds as my results shows that they invest relatively higher amounts of their available private equity allocations into funds yielding higher returns. Yet, through self-allocation they on average achieve lower performance than in the case when they allocate their funds through placement agents. Results thus suggest that multitude of services provided by placement agents add value to both general as well as limited partners.

Keywords: private equity, M&A, operating performance, buyout, venture capital, placement agent, returns, private equity portfolio company

[6] A free rider is an individual/entity, who benefits from resources, goods, or services without paying for the cost of the benefit..

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
B	Benchmark
CEE	Central and Eastern Europe
EBIT	Earnings before Interest and Taxes
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortization
EMPEA	Emerging Markets Private Equity Association
EU	European Union
EUR/€	Euro
EVCA	European Venture Capital Association
FC	Free Cash Flow
GDP	Gross Domestic Product
GP	General Partner
GFC	Global Financial Crisis
IRR	Internal Rate of Return
IPO	Initial Public Offering
LBO	Leveraged Buyout
LP	Limited Partner
M&A	Mergers and Acquisitions
MBO	Management Buyout
OLS	Ordinary Leased Squares
PC	Portfolio Company
pPC	Potential Portfolio Company
ROE	Return On Equity
ROA	Return On Assets
ROI	Return On Investment
ROS	Return On Sales
SIC	Standard Industry Classification
SPA	Sales and Purchase Agreement
UK	The United Kingdom of Great Britain and Northern Ireland
U.S.A.	The United States of America
VC	Venture Capital

1. INTRODUCTION

1.1 MOTIVATION

The origin of the word leveraged buyout (henceforth, LBO) is allegedly connected with Victor Posner, an American businessman and public company hostile takeover pioneer (The Economist, 2002). His first successful hostile bid refers to a Detroit based cigar maker but he is most known for his hostile takeover of Sharon Steel Corporation in 1969, one of the earliest bigger takeovers in the U.S.A and in the world. Posner's normal approach was to use leverage to acquire and gain control in a public undervalued company, sell off some parts of the business and close other parts. Albeit, the first official leveraged buyout is considered to be the purchase of Pan-Atlantic Steamship Company by McLean Industries, Inc. in January 1955 and Waterman Steamship Corporation in May 1955 (Levinson, 2006).

A LBO is a M&A transaction, in which a company or a single asset (»the target«) is purchased with a combination of equity and significant amounts of borrowed money, structured in such a way that the target's cash flows or assets are used as leverage to secure and repay the money borrowed to purchase the target. Since the debt has a lower cost of capital than the equity, the returns on the equity increase as the amount of borrowed money does until the perfect capital structure is reached. As a result, the debt effectively serves as a lever to increase Return on investment (ROI) for the buyer (Sherwin, 1988).

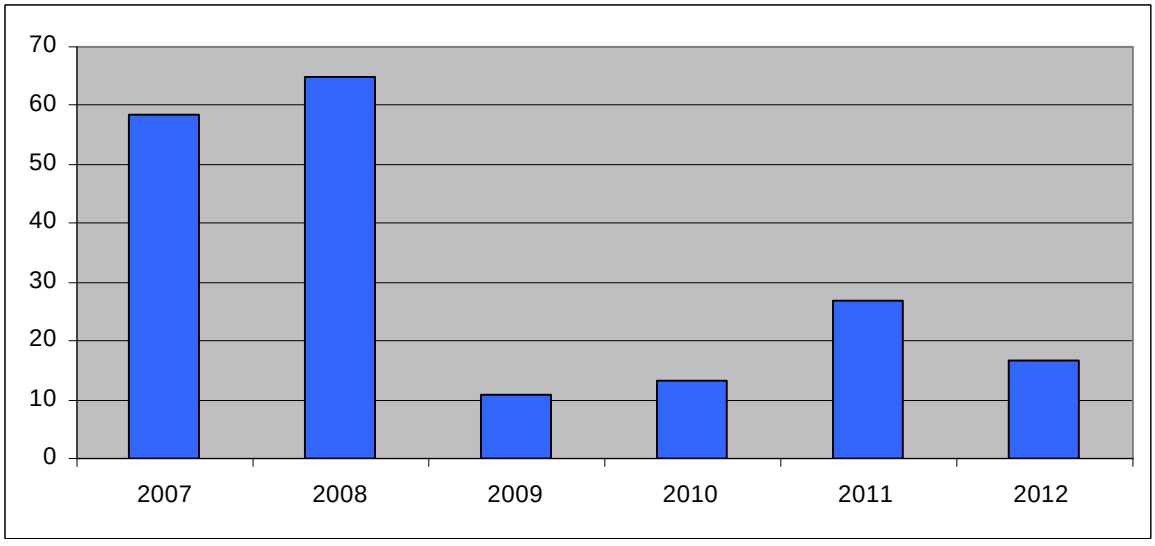
Sherwin (1988) differentiates between two general LBO categories. In the first LBO category, selling shareholders finance the buyout by accepting the buyer's note for the purchase price of the shares. Simultaneously with the purchase, the buyers cause the target to endorse the note or guarantee its payment and to grant the sellers a security interest in their assets. In the second LBO category, buyouts are financed by an independent lender, where either a lending institution advances the funds required for the acquisition to the buyers and the buyer gives the lender their unsecured note or the buyer acquires the shares and upon assuming control cause the target to endorse or guarantee buyer's note and to secure the obligation with a lien on target's assets.

A Management Buyout (MBO) is a form of a LBO acquisition, in which company's existing managers acquire a large part of or the entire target from either the parent company or from the private owners (Lee, 1992). The management team could be supported by a group of investors that could also provide financing. A decision about which category/type of a LBO is undertaken is determined by the size of the business, tax considerations, strength and knowhow of the management team, shareholder structure (e.g. listed business, presence of minority shareholders) and the position of other creditors and stakeholders in the business.

Few LBO transactions were evidenced annually in the period 1955-1980 until the first LBO wave that occurred in 1980s. The LBO wave of the 1980s was an important phenomenon, thoroughly analyzed in the academic literature. After a period of stagnation, at the beginning of the 1990s, the second wave of LBOs peaked in 2000, whilst the third wave peaked in 2007, generating new concerns about the effects that buyouts have on firms' performance and the society (Cumming at al., 2007). Existing scientific evidence for the U.S.A. and developed European countries shows that private equity firms create value, measured either by share prices or the financial and accounting data of the companies that went through a buyout. In general, the results of Lehn and Poulsen (1989), Kaplan (1989), Smith (1990), Lichtenberg and Siegel (1990), Opler (1992), Smart and Waldfogel (1994), Desbrieres and Schatt (2002), Harris et al. (2005), Renneboog et al. (2007), Groh and Gottschalg (2006), Cumming et al. (2007), Bergström et al. (2007), Gaspar (2009), Boucly et al. (2011) and Guo et al. (2011) support the putative theory that buyouts generate value and enhance the financial performance of acquired companies. Guo et al. (2011) study more recent U.S.A. public-to-private buyouts transactions completed between 1990 to 2006. The authors find modest increases in operating and cash flow margins for the 94 leveraged buyouts that are much smaller than those found in U.S.A. data in the 1980s and for Europe in the 1990s.

European private equity firms have invested more than €270bn into 22,000 European companies in the last six years (EVCA, 2013), indicating that substantial amount of proceeds is being invested in the European private equity arena. Buyout funds in Europe have gained momentum in terms of fundraising activity with a growing trend in the period 2009-2012. Fundraising levels are notably below 2007 and 2008 levels, however represent significant amount of funds raised.

Figure 1: Amount of funds raised[7] by private equity buyout funds in Europe in the period 2007-2012 (€ bn)

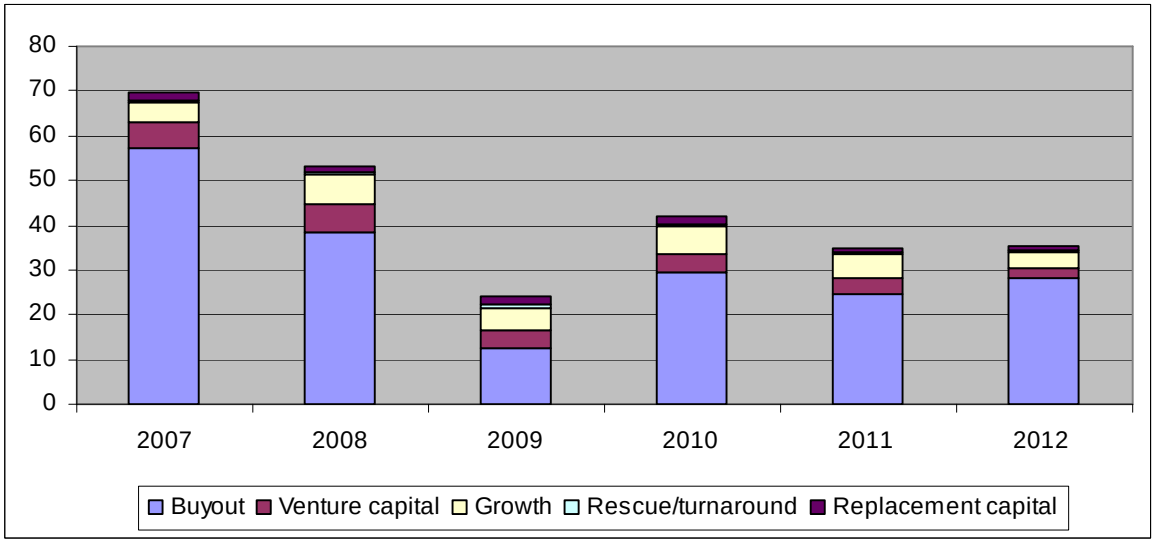


Source: EVCA/PEREP_Analytics

[7] There is a difference between funds raised and invested per annum due to the nature of the private equity industry.

Buyouts have on average represented 71% of all private equity funds invested in the period 2007-2012, which shows that buyouts represent the largest deal type in Europe. The pattern is similar on the global level because LBOs represent attractive returns with minuscule proportions of equity and vast amounts of debts used to finance a deal.

Figure 2: Overview of private equity investments by stage focus in the period 2007-2012 in Europe (€ bn)



Source: EVCA/PEREP_Analytics

Significant amount of proceeds invested via buyouts is signaling that more research is needed on this topic, especially for private equity activity in developing and emerging markets. Indeed, most of research (Desbrieres and Schatt (2002), Harris et al. (2005), Bergström et al. (2007), Gaspar (2009), Boucly et al. (2011)) in Europe has so far focused on LBOs in developed private equity markets. There has been no research conducted in developing European countries that would assess the use of funds raised and check whether invested money truly is "smart money". Furthermore, no research has looked at potential private equity portfolio companies in Europe and quantified the financial performance of companies that had been targeted by private equity firms but were ultimately not acquired by them. It is important to understand the factors that determine the success of a deal (e.g. a buyout) and if a potential private equity portfolio company is ultimately not acquired by a private equity firm. In addition, the private equity community should understand, what is the financial performance of a company that is not acquired by a private equity firm.

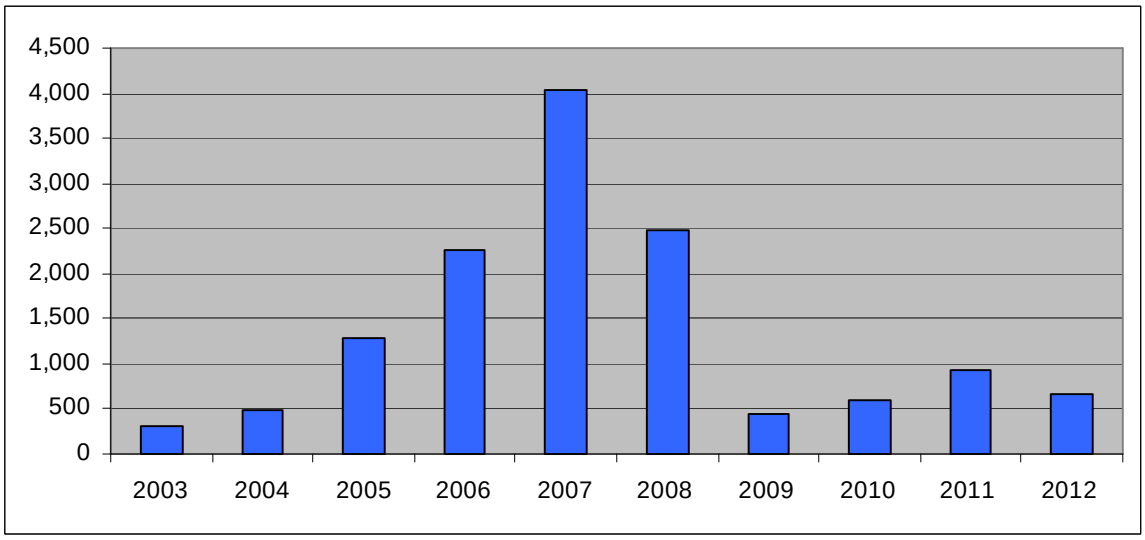
In 2012 more than €240bn of funds was raised globally in the private equity industry. Emerging markets[8], including Central and Eastern Europe (CEE), represented on average 12% of the total funds globally raised in the private equity industry, which is slightly below Western Europe (17%) but with a growing share of funds raised. In the period 2009-

[8] China, India, Latin America (excl. Brazil), Central and Eastern Europe (incl. Turkey), African countries, Middle East, Russia and Commonwealth of Independent States (CIS)

2012 around 2% of private equity European funds raised were raised in the CEE, while around 2.5%[9] of all funds invested in private equity in 2012 refer to investments in CEE (EVCA, 2013).

In the booming 2005-2008 period private equity companies in CEE raised more than €10bn and additional €2.6bn in the period 2009-2012 (EVCA, 2013). Despite the fact that funds raised in the period 2009-2012 are significantly lower compared to the period 2005-2008, there is no visibility on the use of the funds raised and its effect on companies and economies. In 2011 52% of funds raised were buyout funds, while this proportion increased to almost 70% in 2012.

Figure 3: Private equity fundraising in CEE, 2003-2012 (in € m)

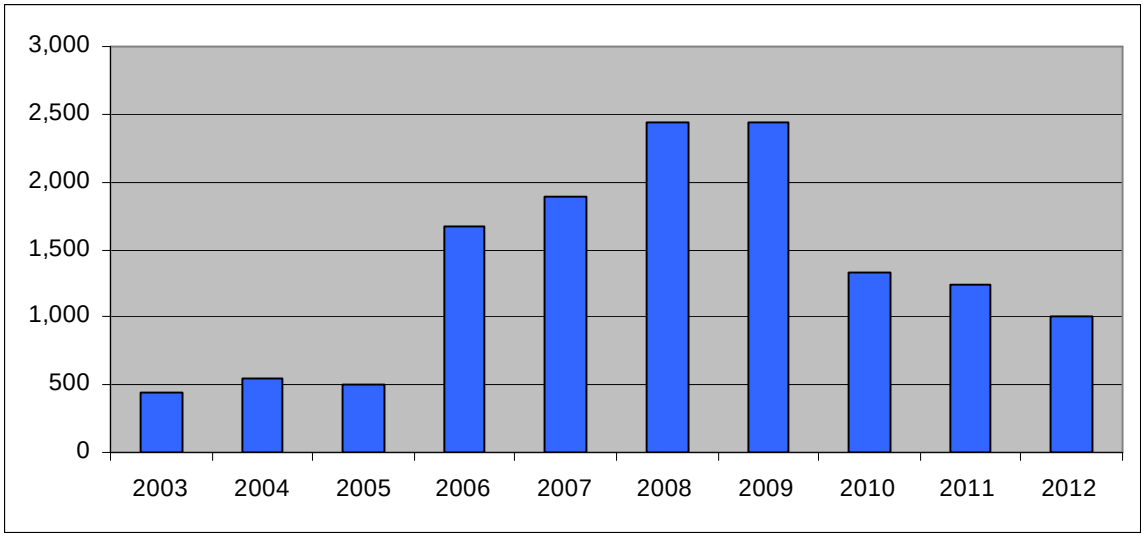


Source: EVCA/PEREP_Analytics for 2007-2012 data. EVCA/Thomson Reuters/PricewaterhouseCoopers for previous years' data.

Out of the €12.6bn of raised funds in the period 2005-2012, €12.5bn was invested in the same period. 71% of the invested funds in the period 2005-2012 were invested in the period 2005-2009. Nevertheless, over €1bn has been invested on an annual basis in the period 2010-2012, representing extensive amount of proceeds. It is important to understand, how this money is used and whether it is truly "smart money" that generates sufficient rick adjusted returns to investors.

[9] 3.1% including Commonwealth of Independent States (CIS).

Figure 4: Annual investment value in the CEE region in the period 2003-2012 (in € m)

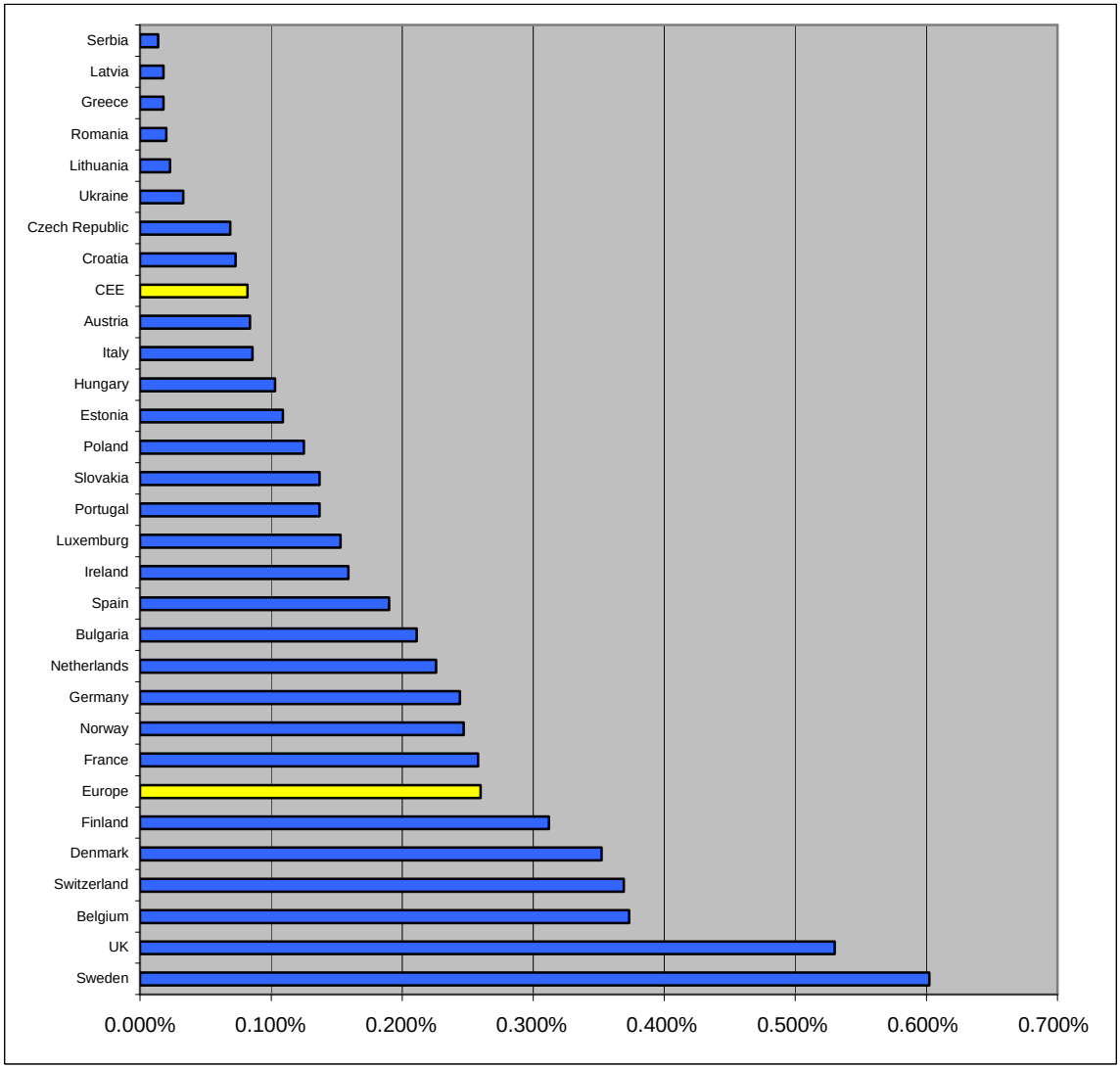


Source: EVCA/PEREP_Analytics for 2007-2012 data. EVCA/Thomson Reuters/PricewaterhouseCoopers for previous years' data.

As part of the global economic boom in years prior to 2008, the CEE and Southeastern European regions primarily benefited from enhanced FDI activity (incl. private equity), originating primarily from the EU. Attracted by the location of the countries, large scale privatization, low labor cost, favorable tax policies and palpable fragmentariness and lack of market saturation in certain sectors, strategic investors and investment funds (including private equity) mainly from Western Europe and the U.S.A. stepped in and considerably increased rates of GDP growth in most countries in this region (Regional Competitiveness Initiative, 2010).

One of the measures of development of the private equity market in a country is the share of private equity investments as percentage of its GDP. Since developing European countries remain underpenetrated in terms of private equity investments in terms of percentage of GDP, there is a probability that the percentage share will increase in the future in developing European countries, so it is important to understand the utilization of private equity funds raised and its investment returns.

Figure 5: Private equity investments as a percentage of GDP in European countries in 2012



Source: EVCA/PEREP_Analytics for investment data and Thomson Reuters for GDP data.

Lopez de Silanes et al. (2014) document a wide dispersion of private equity investment returns on portfolio company levels and find that one in ten investments goes bankrupt, one in four returns an IRR above 50% (driven predominantly by quick flips) and that scale of private equity firms is an important determinant for fund returns. Normally, investments underperform when they are carried out during periods of large number of simultaneous investments, whereas firms with few investments and large amount of money produce higher returns. Only one in eight investments is held less than two years but such investments have the highest returns (quick flips). Their database of 11,704 private equity portfolio company investments made in the last 40 years worldwide shows that the gross of fees median IRR is 21%, while the median multiple is 1.3.

Apart from understanding buyout portfolio company level data it is important to comprehend fund level data and fund returns in order to have a holistic view of private equity firms' activity. Ennis and Sebastian (2005), Phalippou and Gottschalg (2009) and

Phalippou (2010) find that the average performance of buyout funds is below that of the Standard and Poor's 500 (S&P500)[10], after fees are taken into account. Phalippou (2010) provides a literature overview on risk and returns of private equity funds and finds that average private equity fund returns seem to be lower than public equity returns. The findings of these studies contrast numerous reports and papers (Gompers and Lerner (1997), Ljungqvist and Richardson (2003), Froland (2005) and Groh and Gottschalg (2006), Marquez et al. (2012)) that find high returns from private equity industry[11] associations although the underlying data are sometimes the same. Kaplan and Schoar (2005) find that average private equity fund return net of fees approximately equals the S&P500 long term average but that the heterogeneity of fund returns is large. Chen et al. (2002) report a geometric average return of 13.0% p.a. but a high annual standard deviation of return per fund of 115.6%.

There is limited visibility on true returns to investors from private equity return databases (e.g. Preqin, Cambridge Associates, Burgiss, ThomsonOne, Mergermarket, etc.). For instance, Preqin database (2008) reports an average net IRR (net of fees) of 15.7% for 400 funds in Europe (disregarding fund vintage), although this represents only 3.3% of all the funds in their database, totaling 11,765 funds. Preqin also reports that the private equity industry produced strong returns with the 5 year median return totaling 21.3%. More recent evidence, presented by EVCA (2013), shows that the average net IRR[12] for all European private equity firms in 2012 was 9.26% (9.30% in 2011), while the average for buyout funds was 11.6%. Surprisingly, only top-quarter funds (average net IRR being 21.1%; 20.9% for buyouts) supersede the long-term S&P500 average, while the rest of the funds are below the average. Overall median net IRR in 2012 for 354 funds was only 0.4% (7.1% for buyouts) with more than 50% of funds generating negative net IRRs. The 10-year horizon net IRR, a more representative private equity long-term return indicator, for top-half European funds was 13.5%, which is significantly influenced by the 16.3% average of top-quarter funds' IRR performance. The average net IRR for all 1,416 European funds with vintage 1980-2012 reached 9.2%. Buyout funds had a net IRR of 11.6% whereas venture funds reported a net IRR of only 1.2% (EVCA, 2013).

It seems unlikely that most private equity investors expect an average performance of private equity buyout funds, after fees have been charged, below that of major stock indices. Phallippou (2009) outlines two most probable explanations for actual lower returns compared to higher expected risk adjusted returns that are "suitable" for a private equity investment as an alternative asset class.

First, funds report returns only for successful realized investments and keep the valuation of unrealized investments at cost. Returns from realized returns are generally high but

[10] The long term median return of S&P500 for the period 1926-2012 is 10.62%.

[11] Private equity industry comprises of several investment strategies, including leveraged buyouts, venture capital, distressed debt investments, growth capital and mezzanine capital.

[12] Net IRR is net of fees and carried interest; all data based on ThomsonOne database.

unrealized investments valued at cost are usually bankrupt or should be valued much lower since they will most probably not experience a profitable exit. The actual final return reported for a fund is therefore reported years later and is much lower because unrealized investments become realized and this lowers the total IRR for a fund. Jenkinson et al. (2013) stress that interim valuations of existing funds play an important role in the next fundraising. They find that fund valuations are conservative and tend to be smoothed relative to movements in public markets over the entire life of the fund. Valuations understate subsequent distributions by around 35% on average. There are two general exceptions that contrast these findings. There is a significant jump in valuations in the fourth quarter, when funds are normally audited. More importantly, when a subsequent fund is being raised, valuations and reported returns are inflated during fundraising, with a gradual reversal once the follow-on fund has been closed. They also find that investors should be extremely wary of basing investment decisions on the returns of the current fund that includes unrealized investments (especially IRR).

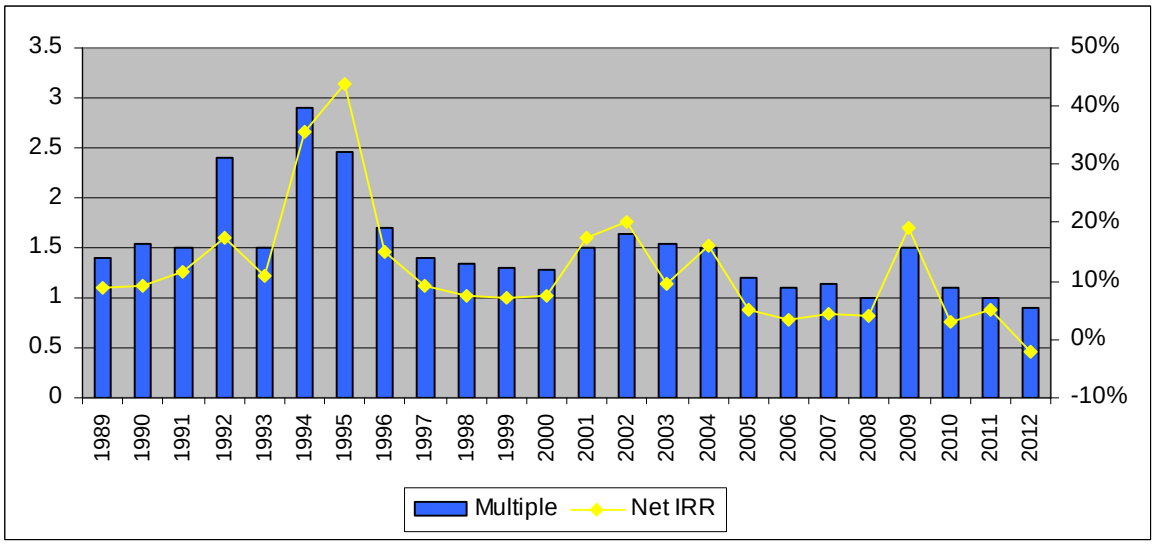
Second, limited partnership contracts could be misleading for investors and consequently investors agree to covenants in the contracts not knowing exactly how the expected fees (costs) are defined in the contracts. Limited partnership contracts for private equity are long and complex, and include details that often lead to fees higher than the basic structure of the contract might suggest. The limited partnership contractual details also vary across buyout funds, which create significant dispersion in fees across funds (Phalippou, 2009). Besides the "self-evident transparent" fees defined in the contracts (e.g. management fee, carried interest) there is a set of concealed fees that perhaps some limited partners are unaware of (e.g. transaction and monitoring fees, placement agent fees). All of the mentioned fees represent the difference between gross and net returns that private equity firms generate. Phalippou (2007) estimates that fees can annually accumulate up to 7%. Swensen (2000) refers to even higher fees of 12%. Therefore the risk adjusted returns significantly differ if fees are taken into account.

In addition to Phallippou's (2009) two notions a third view should be added, which is investor overconfidence. Recent research from EVCA (2013) has indicated that only top-quarter of funds outperform the public equity indices. However, there is limited visibility about which are the long-term outperformers. Intuition might imply that many investors in private equity are overconfident and despite the reported unattractive risk adjusted returns in private equity invest in private equity. This is because it is a) primarily a method of diversification and b) because these investors are convinced they are giving their money to top-quarter performing private equity firms, who will turn this money into "smart money" and invest it profitably. Overconfidence can be partly omitted by finding suitable private equity firms through placement agents. Placement agents are important agents in the fundraising process and have up-to-date data about performance of private equity firms. This dissertation partly answers some questions related to placement agent activity and justifies their existence and more importantly raises new questions to the private equity investment community.

Persistence of fund returns is an important open question for limited partners. Chung et al. (2013) track over 2,000 buyout and venture capital funds raised before 2005 and analyze the persistence in performance of private equity firms. They find that persistence is short-lived with little or no correlation between initial and follow-on funds. IRRs for buyout funds converge towards returns in the range of 10%-15% (gross), while the returns are even lower for venture capital funds (converge towards 0%-5%). Harris et al. (2014) study the persistence of U.S.A. buyout and venture capital funds and evidence persistence in pre-2000 funds. Contrarily, they find little evidence of persistence in post-2000 funds, except for VC funds. They also find that for post-2000 buyout funds the persistence has fallen considerably. Performance persistence of private equity fund returns has been also under the loophole of several other leading private equity researchers in recent years (Kaplan and Schoar (2005), Groh and Gottschalg (2006), Lerner et al. (2007), Phalippou (2010), Humphery-Jenner, M. (2012), Hochberg et al. (2013), Robinson and Sensoy (2013)). It still remains an open empirical question and this dissertation is trying to provide evidence that would help solving this puzzling research question that is relevant for private equity practitioners.

According to EVCA (2013), it appears that from a historical return development viewpoint average net IRR and multiples have been declining since 1989, raising new concerns about the private equity return generating ability.

Figure 6: Net IRR (right scale) and multiple (left scale) performance for 1,416 European private equity funds in the period 1989-2012

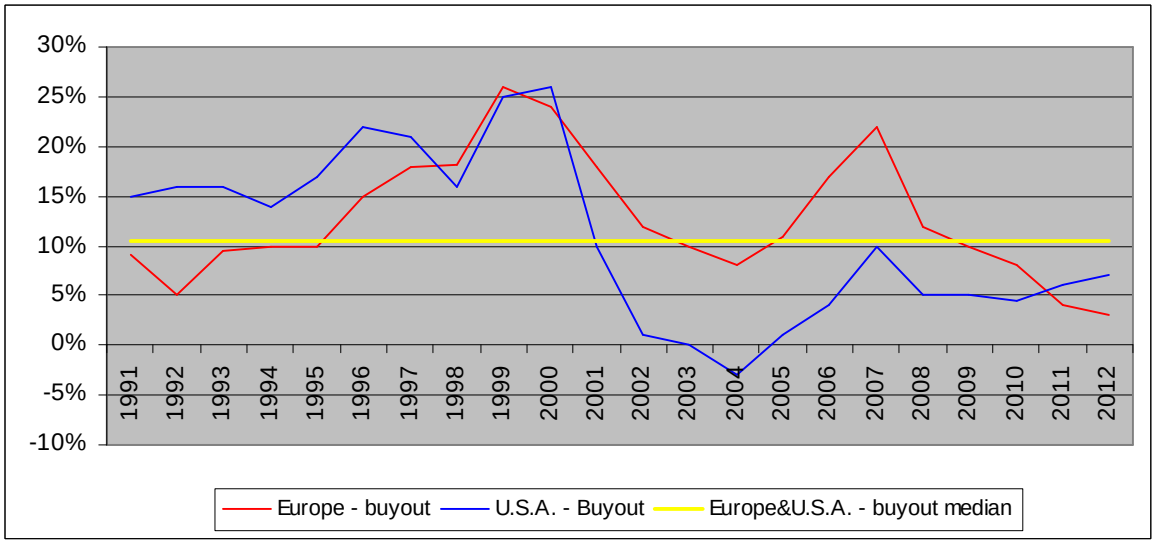


Source: EVCA, Thomson Reuters.

From the 5-year rolling IRRs it is evident that the persistence in private equity return performance is not a critical issue only in Europe but also in the U.S.A.. Since 2003 there has been a collapse in return generation by venture capital funds. Even though the picture is slightly more positive for buyout funds the picture is a bit more positive, net IRR in the U.S.A. has not exceeded the 10% threshold since 2001, while in Europe the situation is

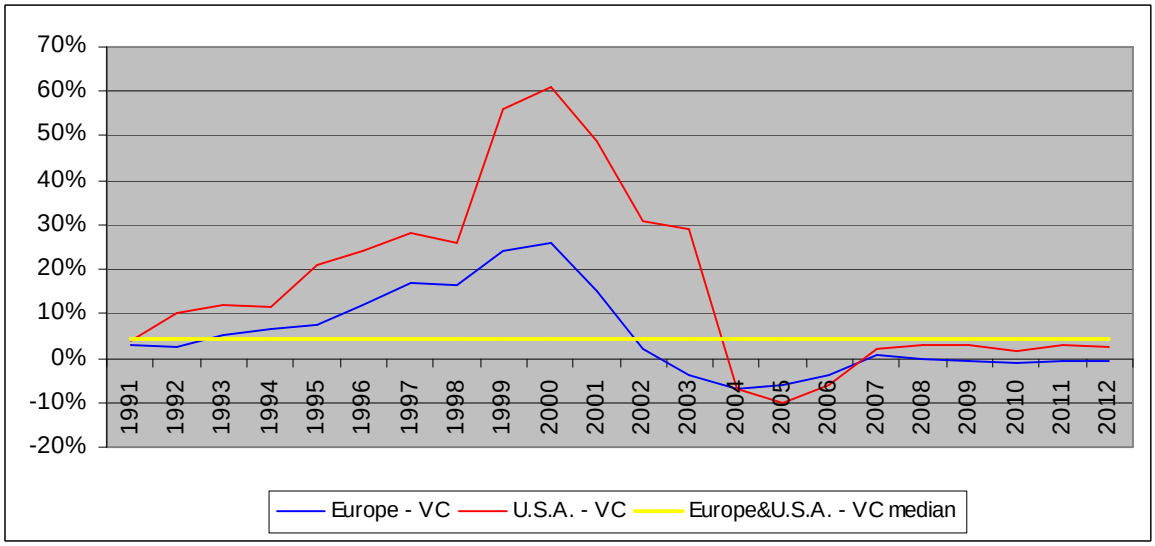
better but with a declining trend since 2007. This trend questions the return generating ability of private equity firms.

Figure 7: Development of 5-year rolling net IRR for buyout funds in Europe and the U.S.A. for the period 1991-2012



Source: EVCA, Thomson Reuters.

Figure 8: Development of 5-year rolling net IRR for venture funds (VC in Europe and the U.S.A. for the period 1991-2012



Source: EVCA, Thomson Reuters.

All this evidence presents serious concerns regarding the return generation ability of European private equity firms, which is inherently interrelated with value generation in private equity portfolio companies and how generated returns are split between the private equity firm and its investors.

1.2 PRIVATE EQUITY INDUSTRY ECONOMICS

The predominant organizational structure among private equity funds is a limited partnership, with large institutional investors and wealthy individuals (limited partners; LP) providing the capital for the private equity firms (general partners; GP). Limited partnerships usually last for 10 years and partnership agreements that are signed at funds' inceptions "clearly" define the expected payments to GP. In a limited partnership contract GP controls the fund's activities, LP monitor the fund's progress and attend annual meetings but cannot become a part of the fund's day-to-day management. A limited partnership agreement governs the relationship between the LP and GP over the fund's life of 10 years or more. Unlike other agreements (for instance employment contracts), these contracts are rarely renegotiated (Phalippou, 2009).

When raising a new fund, a private equity firm reports past returns from previous funds. Successful private equity firms raise a new fund every 3-5 years to stay in business. If their previous fund's performance was satisfactory then investors' demand curve for the new fund will shift out. This demand shift motivates general partners to potentially alter the terms of the new fund to earn higher expected revenue for each unit of money under management. They could also increase the size of their fund or actually do both at the same time (Metrick and Yasuda, 2010).

Expected payments to GP consist of a fixed and variable part. The fixed component resembles pricing terms of mutual-fund and hedge-fund services. There is a management fee (usually around 2%) charged on an annual or semi-annual basis. The variable component depends on the fund's performance and can be treated as an at-the-money option. If a GP is successful, meaning the private equity fund is able to select good investments in the portfolio, then in most cases first a hurdle fee (preferred return) is paid out to the investors, and then carried interest (usually around 20%) is paid to the GP up to a certain threshold. After this threshold the returns are split between LP and GP as defined in the limited partnership contract. In general this "clear" fee structure that seems initially innocuous results in very high fees in practice (Phalippou, 2009).

There are five sets of fees in a typical, if simplified, fee agreement for a private equity buyout fund. The technical vocabulary used here is the same as in the original contracts. Fee definitions are summarized from Litvak (2004), Kaplan and Schoar (2005), Phalippou (2009), Phalippou and Gottschalg (2009) and Metrick and Yasuda (2010).

First, fixed management fee is usually 2% of capital commitments until the end of the five-year investment period. The management fee is payable semi-annually/annually in advance. In addition, the LP bears all organizational expenses incurred in the formation of the fund (for example, legal, travel, accounting and filing expenses), which can include placement agent fees. To see how management fees are calculated, several terms need to be defined. Over the lifetime of the fund, some of the committed capital is used for these

fees, with the remainder used to make investments. At any point in time, the invested capital of the fund is defined as the portion of investment capital that has already been invested into portfolio companies. Net invested capital is invested capital, minus the cost basis of any exited investments. Similarly, contributed capital is invested capital plus the portion of lifetime fees that have already been paid to the fund. Net contributed capital is equal to contributed capital minus the cost basis of any exited investments. The typical fund has a lifetime of 10 years, with GP allowed to make investments in new companies only during the first five years (the investment period), with the final five years reserved for follow-on investments and exiting of existing portfolio companies.

Most funds use one of the following four methods for the assessment of management fees. Historically, the most common method has been to assess fees as a constant percentage of committed capital. For example, if a fund charges 2% annual management fees on committed capital for 10 years, then lifetime fees of the ten-year fund would be 20% of committed capital, with investment capital comprising the other 80%. In recent years, many funds have adopted a decreasing fee schedule, with the percentage falling after the investment period. For example, a fund might have a 2% fee during the five-year investment period, with this annual fee falling by 25/50 basis points per year for the next five years. The third type of fee schedule uses a constant rate, but changes the basis for this rate from committed capital (first five years) to net invested capital (last five years). Finally, the fourth type of fee schedule uses both a decreasing percentage and a change from committed capital to net invested capital after the investment period.

Second, carried interest is an incentive fee based on the returns earned by the fund. Four different concepts are to be distinguished: carry level, carry basis, carry hurdle, and carry timing. The carry level refers to the percentage of profits claimed by the GP (usually 20%). The carry basis refers to the standard by which profits are measured (based on committed capital or invested capital). The use of investment capital as the carry basis can have a large effect on the amount of carried interest earned by the fund. For a successful fund that earns positive profits a change in basis from committed capital to investment capital could present extremely high fees for a GP. The carry hurdle refers to whether a GP must provide a present return (preferred return) to LPs before collecting any carried interest and, if so, the rules about this present return. Of the capital divested by the fund, normally 100% goes to the LP until the cumulative distribution to LP equals an “internal rate of return” of 8% per year (hurdle rate). This 8% rate is calculated annually based on the sum of two components: i) the capital contribution used to acquire all realized investments, plus the (proportional) write-downs of unrealized investments; and ii) all expenses including management fees allocated to the realized portfolio investments. Finally, carry timing refers to the set of rules that govern the timing of carried interest distributions. Representative and simplified terms regarding the carry structure are for instance: a carry level of 20%, a carry basis of invested capital, 8% hurdle rate and carry timing that requires the repayment of the full basis before GP receives any carry. Under these terms, LP would receive every € of exit proceeds until they had received back their entire

committed capital/invested capital until 8% of preferred return is reached, and then the GP would receive 20 cents of every € after that according to the 80/20 rule.

When a discussion about carry timing takes place, the term "clawback" is of extreme importance. In a simplified setting one could assume that a GP must return the entire carry basis to LPs before collecting any carried interest. But in reality funds use a variety of rules to allow for an early collection of carried interest upon a profitable exit. When such early carry event occurs, the LP typically has the ability to "clawback" these distributions if later performance is insufficient to return the full carry basis.

Third, portfolio company fees are taken directly out of the portfolio companies and may not be directly visible for investors. These include a number of expenses:

I) transaction fees when purchasing and sometimes selling a portfolio company (when a buyout fund buys or sells a company, they effectively charge a transaction fee, similar to the M&A advisory fees charged by investment banks; this fee can be rolled into the purchase price),
II) expenses related to proposed but not realized investments,
III) taxes, expenses of accountants, litigation, counsel, annual meetings,
IV) advisory and monitoring fees, and
V) director fees.

These fees are quite opaque. Contracts usually do not specify neither the amount nor when such fees will be charged. Metrick and Yasuda (2010) document with practitioner interviews that usually transaction fees represent 2% of transaction value below $100 million, 1% of transaction value for the next $900 million and that 50% of these expenses are used to offset management fees. These are charged at entry but can also be charged when exiting an investment.

Fourth, buyout funds often charge a monitoring fee to their portfolio companies. The purpose of these fees is to compensate the funds for time and effort spent in working with their portfolio companies. In most cases, these fees are shared with LP receiving 80% and GP receiving 20%. Metrick and Yasuda (2010) report that typical monitoring fees are 0.40% p.a. (for five years) on the value of the firm (irrespective of the actual length of the investment). 80% of these expenses are used to offset management fees. In addition, GPs may charge a transaction fee. Metrick and Yasuda (2010) have been instructed by private equity industry practitioners that transaction fees range between 1% and 5% of EBITDA each year. Transaction fees and monitoring fees are rare for venture capital funds (Metrick and Yasuda, 2010).

Fifth, a number of extra fees or costs can be imposed. For instance, cash proceeds can be kept up to three months before being distributed to investors. From the time value of money perspective this is a loss for an investor in real terms. Also, distributions to investors can be in kind and with restrictions rather than cash, which creates an extra cost

for the investors. Investors may also pay penalties for selling their stakes or missing a capital call.

Gompers and Lerner (1996) analyzed 140 limited partnerships (mainly VC) and defined and identified 14 major classes of limited partnership covenants that are not strictly of compensational/monetary nature. The 14 well-structured juridical major classes are: restrictions on size of investment in any one firm, on use of debt in partnership, on co-investment by organization's earlier or later funds, on reinvestment of partnership's capital gains, on co-investment by GP, on sale of partnership interests by GP, on fundraising by GP, on other actions by GP, on addition of GP, on investments in other funds, on investments in public securities, on investments in leveraged buyouts, on investment in foreign securities and on investments in other asset classes. One should also take into account that several variants of each covenant can be found in the limited partnership agreements.

1.3 PURPOSE AND GOALS

Main purpose of each company is achieving growth and increasing the value of the company for the company's shareholders. A company can grow either organically (internally, independently) or based on M&A (externally) (Penrose, 1995). This dissertation is mostly focusing on the latter. Understanding factors that determine companies' decision to grow and underlying determinants of owners' actions to foster growth is an important aspect. Understanding of the process of capital formation and allocation is inherently related to companies' growth, determined also by M&A growth. Trautwein (1990) defines M&A as a company vehicle for growth. M&A as a means of consolidation and reorganization has since its inception in the 19th century become quasi-institutionalized as one of the primary strategic options for organizations, as they seek to secure their position in an even more competitive and globalizing market (Faulkner et al., 2012). Bower (2001) and Lynch (2006) list horizontal and vertical integration, diversification to new sectors, gaining technological knowhow, market entry and a form of cooperation as key M&A determinants. However, these are more relevant for strategic investors. The sixth and seventh (most recent) M&A wave has evidenced new deal determinants and puts question marks on rising M&A activity of financial investors.

Table 1: List of M&A waves and key aspects

Period	Name	Aspect
1897 - 1904	First wave	Horizontal M&A
1916 - 1929	Second wave	Vertical M&A
1965 - 1969	Third wave	Diversified conglomerate M&A
1981 - 1989	Fourth wave	Congeneric mergers, hostile takeovers, corporate raiding
1992- 2000	Fifth wave	Cross-border M&A
2003 - 2008	Sixth wave	Shareholder activism, private equity, LBO
2009 - 2012	Seventh wave	Distressed and forced sales, turnaround

Source: Osgoode hall Law School; own analysis

All in all, from a scientific and practitioner's perspective it is not clear why some M&As fail, while others prove to be successful. Studies done by Straub (2007) and Hassan et al. (2007) evidence that more than half of M&As fail to produce results or break even at best. 55-77% of all M&A fail to deliver on the financial promise announced when the merger was initiated and some 40% of cross-border mergers among large companies end in what is termed total failure (Carleton and Lineberry, 2004). Huang and Kleiner (2004) find that in the first four to eight months following the deal, productivity may be reduced by up to 50%. Poor communication, weak business fit, cultural differences and management misfit are standard underlying reasons for a completed M&A process turning out to be unsuccessful. Recent studies (Zollo and Maier (2008), Bertoncelj (2009) and Papadakis and Thanos (2010)) reconfirm that most firms engaging in M&A activity do not achieve the sought-after performance in the years after the deal.

Zollo and Meier (2008) provide a thorough literature review related to M&A performance and concluded that the vast majority of the published research on the performance of M&As can be classified into three research streams:

I) accounting-based measures for evaluating the performance of M&As (e.g. Kusewitt (1985), Kaplan (1989), Smith (1990), Lichtenberg and Siegel (1990), Ramaswamy (1997), Desbrieres and Schatt (2002), Zollo and Singh (2004), Harris et al. (2005), Bergström et al. (2007), Boucly et al. (2011));

II) stock-market based measures (e.g. Lehn and Poulsen (1989), Marais et al. (1989), Agrawal et al. (1992), Markides and Oyon (1998), Haleblian and Finkelstein (1999), Sudarsanam and Mahate (2006));

III) managers' personal assessments regarding the effective materialization of the original goals set before the M&A (e.g. Capron (1999), Angwin (2004),), Homburg and Bucerius (2006), Papadakis (2007)).

In addition, LBOs have also been specifically studied by:

IV) looking at the return to investors after a LBO (Acharya and Johnson (2010), Guo et al. (2011)).

Several papers (Desbrieres and Schatt (2002), Harris et al. (2005), Renneboog et al. (2007), Groh and Gottschalg (2006), Cumming et al. (2007), Bergström et al. (2007), Gaspar (2009) and Boucly et al. (2011)) have so far focused on developed countries, where private equity provided financing, while no research has been conducted in developing European countries. In the chapter *Operating performance of private equity buyouts in developing European countries* I elaborate on several reasons, why is looking at developing European countries important. This chapter, together with the chapter *Investment selection success*, provides a comprehensive view on European private equity M&A activity. The main purpose of these two chapters is to understand the potential added value that private equity firms create in the M&A arena. This is important because existing and prospective limited

partners have to know whether it is sensible to invest in funds focusing on developing European countries. Furthermore, the governments in these countries need to know what effects do private equity firms have on (potential) portfolio companies in their countries, including but not limited to profitability, employment, efficiency, which have direct salient effect on their economies.

Purpose of the chapter *Costliness of placement agents* is to provide seminal evidence about placement agent activity in the private equity industry fundraising context. This chapter is important for general partners as well as existing and prospective limited partners as it illustrates the justification of placement agent activity. Placement agents are indirectly important agents in M&A terms since they determine the front line money allocation within private equity industry, which basically defines which private equity firm the money goes to, which then defines which portfolio company the "smart money" goes to.

Shedding the light on the operating performance and the puzzling issue of real private equity returns will enable to extricate important potential benefits and drawbacks of the private equity industry players. Main goal of this dissertation is to help disentangle the lack of transparency that is costly for investors in private equity. My evidence is important in the context of sixth and seventh M&A wave and more importantly illustrates private equity activity determinants in potential future M&A waves.

1.4 RESEARCH FOCUS

The core aim of this dissertation is to systematically overview private equity portfolio company level performance and quantify the potential value added by private equity firms by analyzing financial and accounting ratios of existing and potential private equity portfolio companies. Further, focus is on private equity fund level returns and ability of private equity firms to generate above public market long-average returns and the justification of placement agent role in the fundraising context. There are three main chapter, each setting out a central objective.

The central objective of chapter *Operating performance of private equity buyouts in developing European countries* is to check whether there is any change in profitability, operating performance, employment, investment, output, leverage, liquidity, taxes and earnings management for the companies in developing European countries that went through a private equity backed buyout. I test the following hypotheses:

Hypothesis 1: *Companies in developing European countries that went through a private equity backed LBO have a significantly higher positive change in operating performance, measured by ROS or ROA, than companies that were not acquired by a private equity firm.*

Hypothesis 2: *During the economic downturn private equity backed companies perform better than companies that were not acquired by a private equity firm.*

Hypothesis 3: *Private equity backed buyouts create new jobs. Companies in developing European countries that went through a private equity backed buyout have a larger significant positive change in employment than companies that were not acquired by a private equity firm. Created jobs in private equity backed firms should generate higher wages for employees compared to benchmark firms.*

Hypothesis 4: *Private equity backed companies finance growth with leverage and hence allocate less free cash flow to investments.*

Hypothesis 5: *Regardless of the economic circumstances in the economy private equity backed companies increase turnover per employee more than benchmark firms.*

Hypothesis 6: *Growth in sales and increase in profitability are key drivers for better performance of private equity backed companies that went through a buyout.*

Hypothesis 7: *Private equity backed companies manage working capital more effectively than industry peers.*

The central objective of chapter *Investment selection success* relates is to check the organizational change hypothesis, initially outlined by Ofek (1994). He tests whether operational improvements following successful and unsuccessful MBOs are a result of organizational changes or private information. Ofek finds that unsuccessful MBOs had no increase in operating performance following the buyout attempt and his findings are consistent with the organizational changes hypothesis, which states that operational improvements are a result of organizational changes induced by the buyout (Jensen, 1989). Private equity firms should not inherently possess private information about the potential target firm as does the management in the case of an MBO. Intuitively this means that unsuccessful private equity deals should be consistent with the organizational changes hypothesis. I test the following hypothesis for European potential private equity portfolio companies that were ultimately not acquired by a private equity firm:

Hypothesis 8: *Operational performance of potential private equity investee firms that were not acquired by a private equity firm should not change after the announcement of an unsuccessful acquisition.*

The central objective of the chapter *Costliness of placement agents* evolves around the role placement agents as intermediaries play. The focus is on justifying the economic role of placement agents as financial intermediaries by observing the value added they bring to GPs on one hand and LPs on the other. By testing the following four hypotheses it is possible to point to some placement agent and return related characteristics:

Hypothesis 9: *Placement agents justify their costliness. The higher the placement agent compensation, the higher the return of the fund.*

Hypothesis 10: *By raising funds for GPs, placement agents can distinguish good funds from bad ones. They prefer the variable compensation when they raise money for*

potentially more profitable funds and take advantage of the upside potential of the heterogeneity of returns.

Hypothesis 11: *The practices of placement agents regarding the costliness schedule are similar to other financial intermediaries. This similarity means that the higher the capital committed by a LP to a GP through a placement agent, the lower the relative placement agent fees per committed capital.*

Hypothesis 12: *The LPs are efficient investors, which means they commit on average more money to funds that generate higher returns. The placement agents can provide value added as they can provide even better allocation of LPs' funds.*

1.5 DATA AND METHODOLOGY

Access to private equity fund level and portfolio company level data on a global level is a critical concern in the private equity arena. Although some databases exist, there is limited visibility on true generated returns and remaining concern about data bias. Four datasets have been used by private equity academics for fund level performance data in the last decade: Cambridge Associates, Preqin, ThomsonOne and Burgiss, of which the latter has recently proven to be the most reliable. Other more general private equity databases include Mergermarket, Amadeus and Zephyr.

This dissertation is based on three unique datasets, consisting of data collected on fund and company level during my research. While some data is collected from private data sources (Preqin, Mergermarket, Amadeus, Zephyr; used in chapter 2 and 3), other is pooled from proprietary databases of two large investors in private equity (i.e. two limited partners; used in chapter 4). My datasets are unique in the sense that they contain data that has not been used in previous research. Main drawback of applied data is small sample size, further discussed in the following section and presented in detail in each separate chapter. Applied data and methodology is described in detail in each representative chapter.

Methodology used in this dissertation varies according to different research questions and applicable chapters. In the academic literature, the changes in performance are usually assessed by studying the effect that LBOs have on companies' share prices (Lehn and Poulsen (1989), Marais et al. (1989)), by looking at the return to investors after a LBO (Acharya and Johnson (2010), Guo et al. (2011)) or by looking at the financial and accounting measures of the company that went through a LBO (Kaplan (1989), Smith (1990), Lichtenberg and Siegel (1990), Desbrieres and Schatt (2002), Harris et al. (2005), Bergström et al. (2007), Boucly et al. (2011)). To assess whether there is an improvement in the accounting and financial performance of portfolio companies that went through a private equity backed buyout or were potential portfolio companies, the latter method is used in two chapters of this dissertation. I use t-test and z-test[13] methodology to determine

[13] I use these two tests to measure the change in two statistical variables from one period to another to see if it is significantly different from zero. I use the Wilcoxon rank sum z-test for the change in median, which is a

whether there are statistically significant differences between private equity (potential) portfolio companies and its relevant industry benchmarks. I run a series of multivariate regressions to check robustness of t-test and z-test findings.

In the chapter *Costliness of placement agents* I build a model to estimate placement agent costliness and run OLS regressions and ANOVA to test statistical significance related to fund returns, size effects and other placement agent related determinants.

1.6 LIMITATIONS AND FUTURE RESEARCH

This dissertation provides new evidence of financial performance of private equity backed companies in developing European countries. It also gives an insight into the area of unsuccessful M&A activity related to private equity firms in Europe. More importantly, it provides seminal findings in the context of justification of placement agent activity in private equity fundraising. Despite insightful research contributions in several private equity areas, the research faces several limitations. Whereas specific limitations are outlined in each separate chapter, I summarize key drawbacks and caveats of the findings below.

Key unaddressed issue in the research relates to endogeneity. In several instances there is a lack of enough detailed and quality data to be able to properly address all research aspects that would prove robustness of the findings. In some cases (i.e. with IRR and multiple return data) it is possible to mitigate this risk and provide robust findings to a limited extent. Unfortunately, endogeneity represents a significant issue in any private equity research setting.

Another key concern related to the findings is associated with the small data samples. Disclosure of financial data of private equity backed companies and fund level data remains an open appeal to the private equity practitioners' community and requires more attention. Recent return disclosure, provided by EVCA (2013), raises serious concerns about the private equity return generating ability. In addition, there is limited visibility on actual financial performance of private equity portfolio companies, deal structuring, deal financing, regulation and transparency related issues in the European private equity arena. This research and findings provide fruitful evidence for justification of private equity activity, despite the small sample sizes. Further research is warranted, using currently undisclosed and unavailable private equity data and applying similar methodology on larger sample sizes.

In every chapter prospective new research ideas that are relevant for the private equity arena are outlined and illustrated. Given that the placement agent fundraising area has not been subject to previous research, this research significantly contributes to the research

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standard nonparametric test. The results for medians are presented in order to control for values which determine a very wide range within the ratios that can dominate the means due a relatively small sample size.

community also from the creative viewpoint. Findings in the chapter *Costliness of placement agents* are derived from private datasets of two large investors and do not quantify and adequately address the reputational and free riding issues which remain open empirical questions. Nevertheless, private equity practitioners might appreciate the findings and find the focus area of great importance and supportive for further investments.

1.7 STRUCTURE OF THE DOCTORAL DISSERTATION

The dissertation consists of three core chapters and concluding remarks at the end of the dissertation. Whilst each major chapter investigates a separate specific area all three are interrelated and connected. Chapters or part of the chapters have been published in different places. Chapter *Operating performance of private equity buyouts in developing European countries* is in the process of being published in the journal *Economic Business Review*. A revised version of chapter *Costliness of placement agents* is published in the *Journal of Financial Services Research.* The text in this dissertation and the one in the published paper might differ due to rewriting requests by editors of the journals.

The second chapter focuses on accounting and financial performance of private equity portfolio companies (also referred to as investee companies or target companies) that went through a buyout in developing European countries. This chapter on one hand provides useful insights for institutional investors and wealthy individuals that invest in the private equity, and on the other hand provides argumentation and reasoning for governments in developing European markets to challenge the existence of private equity as an asset class.

The third chapter focuses on unsuccessful private equity acquisitions in Europe and tries to capture the reasons for unsuccessful bids and the accounting and financial performance effects of the companies that were about to be acquired by a private equity firm but were finally not. By analyzing potential causes and consequences of unsuccessful private equity acquisitions this chapter provides empirical evidence for the rationale of pronounced value-added contributions of private equity firms in their portfolio companies. A comparison of unsuccessfully acquired private equity firms with industry benchmark firms that were not potential private equity targets allows for testing of the organizational changes hypothesis.

The fourth chapter is inherently related to performance of private equity firms. This chapter is part of disentanglement of private equity fees and provides evidence for justifying the existence of costly placement agents. Fees that limited partners have to pay to general partners are usually not as transparent and innocuous as one might think. An important fee that is paid indirectly by limited partners is a placement agent fee. So far no research has been conducted in this area.

Although each chapter provides an introduction and a conclusion, chapter *Concluding remarks* summarizes the overall main findings of the dissertation. This is followed by a list

of references, appendices and a longer abstract in the Slovene language (Daljši povzetek v slovenskem jeziku).

2. OPERATING PERFORMANCE IN PRIVATE EQUITY BUYOUTS IN DEVELOPING EUROPEAN COUNTRIES

2.1 INTRODUCTION

This chapter is primarily trying to quantify the effects of private equity backed leveraged buyouts (LBO) of private equity portfolio companies by analyzing their financial performance. The companies in my dataset underwent a LBO in Central, Eastern, Southeastern Europe and the Baltic countries (hereinafter developing European countries[14]) in the period 2002-2007. In contrast to the glowing findings by Lehn and Poulsen (1989), Kaplan (1989), Smith (1990), Lichtenberg and Siegel (1990), Opler (1992), Smart and Waldfogel (1994), Desbrieres and Schatt (2002), Harris et al. (2005), Groh and Gottschalg (2006), Renneboog et al. (2007), Cumming et al. (2007), Bergström et al. (2007), Gaspar (2009), Boucly et al. (2011) and Guo et al. (2011) I find no statistically significant improvement in ROS, ROA or profit margin in portfolio companies acquired by private equity firms.

The European private equity industry was experiencing significant growth until 2008. Despite the financial turmoil in 2008-2009, the private equity industry continued to grow in the 2010-2012 period and has become an increasingly important source of finance and expertise for companies seeking to achieve their growth aspirations.

Growth in the private equity industry has been mainly driven by a concomitant rise in LBOs. In 2011 all private equity firms in Central and Eastern Europe (CEE) raised €941 mn, which is 135% more than in 2009 and 48% more than in 2010, though still roughly only 24% from the peak in 2007. The 2011 increase in fundraising for the CEE region was driven by buyout funds, which raised €488m, representing 52% of the total amount raised (EVCA, 2012). CEE fundraisings represented 2.4% of total funds raised in Europe in 2011. Resurgence in the fundraising in the CEE region, driven predominantly by buyouts, generates new concerns regarding the potential LBO impact on organizations and society such as job creation/losses, (over)leverage, required operational improvements that enables increased debt financing to name a few. I look specifically at LBOs in developing European countries due to several reasons, outlined below.

First, despite the financial crisis LBOs remain the predominant deal type in absolute and relative terms amongst all private equity financing types in the region. From the practitioner's point of view emerging markets have been capturing a much greater share of investors' private equity allocations due to higher expected returns. According to EMPEA/Coller Capital Emerging Markets Private Equity Survey 2011 a typical emerging

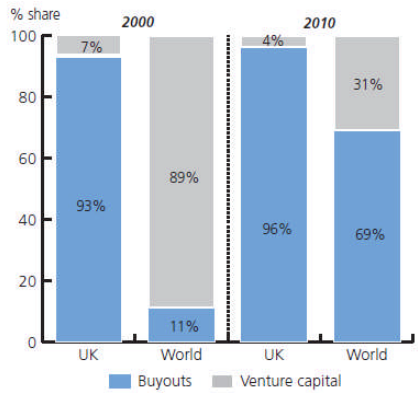
[14] According to the International Monetary Fund (IMF) and World Bank classification the countries in my dataset are classified as developing countries. According to the classification by IMF, all European countries in my dataset are specified as developing countries, measured by: a) per capita income level, b) export diversification and c) degree of integration into the global financial system. World Bank classifies developing countries as countries with Gross National Income (GNI) below $12,175.

market private equity investor will have 16-20% of their total private equity allocations targeting emerging markets by 2013, up from 11-15% in 2011. In some countries, e.g. Bulgaria, there have been specific calls for expression of interest directed to the private equity segment of the market. The calls targeted the selection of financial intermediaries to implement a Risk Capital Fund, a Mezzanine Capital Fund and a Growth Capital Fund with total fund size up to €150 million (EIF, 2011).

Second, it is essential to know that limited partners that had invested in the CEE region in the period 2000-2008, expected higher returns than in the developed markets due to political, economic and other related risks.[15] With relatively low interest rates and high growth potential in the past several types of private equity deals were interesting. However, with the recent financial crisis the high growth potential transformed into actual lower growth of companies, so investors adjusted the expected returns on equity downwards. This leaves little room for the "expensive" mezzanine (mature) debt type of financing that requires higher yields. Another two types of deals that increased with the crisis are distressed debt and turnarounds. These two types of deals deserve at least as much attention as LBOs but are difficult to analyze scientifically due to data unavailability.

Third, before the crisis banks were fiercely competing for the LBO deals due to return potential. During the crisis banks took a step back due to lack of funds. Starting with Q4 in 2010, a lot of banks in the developing European countries recuperated and managed to improve their portfolios and had money to allocate to new deals. So banks stepped up again and started underwriting LBO deals up to 100%. This fundamental shift (I call it a shift since the activity transformed during the GFC) could lead to a further strong LBO pipeline. The fact is that buyouts have globally gained significant share within the private equity financing type (up to 69% in 2010 from 11% in 2000) compared to venture capital.

Figure 9: Private equity investments by financing stage in years 2000 and 2010 for UK and World



Source: The CityUK Estimates

[15] There is less visibility about the expected returns that an investor expects in a developing market compared to a developed markets. In practice this differs on an investment-by-investment and country-by-country basis.

Fourth, according to EVCA, LBOs created 420,000 jobs in the period 2000-2004[16] in the entire Europe, representing around 40% of all jobs created by private equity owned companies. In population terms, countries in my dataset (where the LBO occurred) represent a significant 20% share of the entire EU population, which is a significant share.

Fifth, LBOs are in general an important mechanism for company restructuring and transfer of ownership. A very commonly reported motive for a LBO is lack of strategic fit with the parent organization, with other significant reasons, such as retirement of private/family owners and poor performance (EVCA, 2001). Private equity practitioners could be a vital component in finding a solid strategic owner for a company and by using a LBO as a type of financing tool, this might prove to be the perfect solution for many companies in high growth potential phase. For instance, Berger and Udell (1998) find that different capital structures vary with firm size and age. Moreover, Axelson et al. (2009) find that the financial structure of a portfolio company that is defined by the leverage used minimizes agency conflicts between the general partner and limited partners.

Sixth, Groh et al. (2009) surveyed 75 LPs in 2009 and found that LPs appreciate the growth expectations and the deal opportunities and rank countries in the CEE region in terms of private equity investments as attractive as India and China.

Seventh, in a private equity backed LBO, a company is acquired by a private equity firm using a relatively small portion of equity and a relatively large portion of outside debt financing (Kaplan and Strömberg, 2009). The European Commission (European Commission Recovery Programme, 2008) stated that particularly in this period of economic uncertainty where there is scarcity of capital, private equity could be a part of the solution to the current economic challenges facing companies across the European countries. Private equity industry could help overcome the GFC funding crisis and thereby play its own active role in contributing to the economic recovery and continued innovation in the European Union. Since developing European countries represent a large and growing portion of overall debt financing, it is useful to see whether debt is used reasonably and whether it fosters growth. An increase in debt financing on a company and country level, which is inherently interrelated, has led to few developing European countries request for a bailout financial package (e.g. Cyprus received €12.5bn, Hungary €15.6bn, Latvia €4.5bn, Romania €23.2bn). This also incurred in few developed European countries (e.g. Greece received €245.6bn, Ireland €68.2bn, Portugal €79.4bn and Spain €41.3bn). It is thus important to understand the distressed debt financing levels and situations in developing and developed European countries and what role do private equity firms have in equity and debt financing on an international level.

[16] Additionally, venture capital created another 630,000 josb in the same period. This represents a total of 5.7% average rate of growth in the period 2000-2004, compared to overall growth in employment of 0.7%.

Eighth, apart from the economic perspective of private equity activity, there has been a continuous political debate in the European Union regarding the private equity industry, a fact which makes this subject even more interesting. The European Parliament reports prepared by members of the European Parliament, Rasmussen and Lehne (2009), highlight certain real political concerns to which the industry needed to respond. Among them are the transparency level, the excessive use of leverage and the risk that can arise from LBOs, as well as the potential impact of buyout activity on the social economy. Thus, considering not only the economic, but also the recent political interest in LBOs effects on target companies, it can be underlined that this is a matter of great concern. Moreover, numerous factors have changed in the more recent wave of buyouts, including potential motivations for transactions, transaction structures, characteristics of target firms, and characteristics of the financial sponsors. There is little evidence from this more recent wave of buyouts which would document the impact of these changes and whether and how these transactions create value (Guo et al., 2011). There is no evidence from developing European countries yet.

All these reasons give more than sufficient motivation of why I analyze financial and accounting measures of companies that went through a LBO in developing European countries and glance at broader economic consequences that LBOs cause in developing European countries.

The chapter is structured in the following manner. Firstly, a literature review is provided. Secondly, data collection and its description are presented. Thirdly, methodological technique is described and evaluated, followed by presentation of the results. Finally, I outline limitations of my research and make suggestions for further research.

2.2 LITERATURE REVIEW

The free cash flow hypothesis advanced by Jensen in 1989 states that managers endowed with free cash flow will invest it in negative net present value projects rather than pay it out to shareholders. This can be seen as the starting point in explaining the existence of LBOs. The main argument was that LBO transactions solve the agency problems of publicly listed companies with high levels of undistributed free cash flows and low growth opportunities, thus the LBOs would eventually become the dominant corporate organizational form (Jensen, 1989). Lehn and Poulsen (1989) support this hypothesis; by using a sample of 263 going private transactions from 1980 to 1987 they indicate a significant relationship between undistributed cash flow and a firm's decision to go private.

Kaplan (1989) presents evidence on changes in operating results for a sample of 48 large management buyouts of the U.S.A. public companies completed between 1980 and 1986. In the three years after the buyout, these companies experience increases in operating income before depreciation, decreases in capital expenditures, and increases in net cash flow. Moreover, the evidence suggests the operating changes are due to improved

incentives rather than layoffs or managerial exploitation of shareholders through inside information.

Smith (1990) reinforces Kaplan's findings by looking at the changes in operating performance after 58 management buyouts of public companies completed during 1977-1986. Operating returns increase significantly from the year before to the year after the buyout as measured by operating cash flows per employee (before interest and taxes) and per dollar of operating assets. Subsequent changes in operating returns suggest that this increase is sustained. Adjustments in the management of working capital contribute to the increase in operating returns, thus it is not the result of layoffs or reductions in expenditures for advertising, maintenance and repairs, research and development, or property, plant, and equipment.

Lichtenberg and Siegel (1990) also examine post-buyout changes in operating performance by investigating changes in total factor productivity. Unlike Kaplan and Smith, who analyze firm-level financial data, Lichtenberg and Siegel use plant-level (manufacturing plants) physical data from the U.S.A. Census Bureau's Longitudinal Research Database on manufacturing establishments. Their sample includes approximately 1,000 plants involved in LBOs during the period 1981-1986. The main finding is that LBOs have a strong positive effect on total factory productivity and there is evidence of cost cutting and improved margins and efficiency after the buyout.

Opler (1992) documented changes in operating performance following 44 large U.S.A. LBOs which occurred between 1985 and 1990. His results suggest that the LBOs of the late 1980s produced positive operating improvements that are roughly the same as those observed by Kaplan and Smith.

Smart and Waldfogel (1994) also show that LBOs improve corporate performance on a sample similar to that of Kaplan (1989) of 48 U.S.A. companies, taken private by their management; the magnitudes of these improvements are similar to existing studies estimates.

Even though Jensen's (1989) prediction weakened during the early 1990s, it became more relevant than ever in the last years and the effect of LBOs on firm performance has again captured the attention of academic researchers as it had in the 1980s.

Most empirical work on LBOs post-1980s has focused on buyouts in Europe, largely because of data availability. Consistent with the U.S.A. results in the 1980s, most of this work finds that LBOs are associated with significant operating and productivity improvements. This includes Harris et al. (2005) for the UK, Desbrieres and Schatt (2002), Boucly et al. (2011) and Gaspar (2009) for France, and Bergström et al. (2007) for Sweden. Moreover, Desbrieres and Schatt (2002) made a comparison between French, UK and U.S.A. LBOs and found two main differences: a higher concentration of shareholding in the acquired firms before the buyout and a lower debt level in the financial structure of

the holding companies. This may also raise the question of a distinction in the academic literature in terms of the geographical coverage of the studies – the country variable can also influence the LBO effects on the target companies.

An intriguing study conducted by Pagano et al. (1998) that focused on IPOs finds some very interesting results that could be relevant also in the case of a LBO. Pagano et al. (1998) empirically analyze the determinants of an IPO and the consequences of such decision on a company's investment and financial policy. They compare both the *ex ante* and the *ex post* characteristics of IPOs with those of a large sample of privately held companies of similar size. They find that IPOs are followed by an abnormal reduction in profitability. They also find that the new equity capital raised upon listing is not used to finance subsequent investment and growth, but to reduce leverage whilst going public reduces the cost of bank credit. In this context my research contributes to the puzzling question of source of capital: why some companies choose to use public equity markets and why some do not. A model of going-public decision of a firm by Chemmanur and Fulghieri (1999) provides one plausible explanation for private equity financing. They stress that private equity financing is more adequate for small, little-known companies, while the public issue of equity (i.e. IPO) is more suited for older, better known companies. They justify this explanation by stating that financing by a venture capitalist minimizes information production costs but implies inefficient risk sharing (in the case of an IPO it is efficient risk sharing) and therefore a larger risk premium. However, the question of whether a LBO as a private equity financing type is an efficient risk sharing mechanism remains open.

Cumming et al. (2007) have a consistent literature review on this topic and conclude that there is a general consensus across different methodologies, measures, and time periods regarding a key stylized fact - LBOs and especially management buyouts enhance performance and have a salient effect on work practices. This is further supported by findings from Renneboog et al. (2007) and Groh and Gottschalg (2006).

There has been one general exception to the significantly positive improvements in operating results of LBOs. Guo et al. (2011) study more recent U.S.A. public-to-private buyouts transactions completed from 1990 to 2006. The authors find modest increases in operating and cash flow margins for the 94 leveraged buyouts that are much smaller than those found in U.S.A. data in the 1980s and for Europe in the 1990s.

Few authors looked at LBOs in emerging markets. Leeds and Sunderland (2003) elaborate that the promise of private equity in emerging markets has failed to meet expectations. After an initial proliferation of new funds in the mid-1990s, growth has slowed to a trickle. Not only have results been disappointing in absolute terms, they are even worse relative to comparable funds in the U.S.A. and developed Europe, where the risks are allegedly lower. Authors are of the opinion that the “private equity model” that worked so successfully first in the U.S.A. and then in developed Europe, does not replicate well in the emerging

markets. Virtually everyone involved in the early years assumed that a little tinkering around the edges would suffice to replicate the success achieved by private equity investors in the industrialized nations. One of the problems that GPs face was that they use existing processes for identifying, analyzing, and valuing target companies as well as for structuring deals, despite the dramatic differences in accounting standards, corporate governance practices, and exit possibilities (Leeds and Sunderland, 2003). According to the findings of the Global Competitiveness report 2009-2010, some of the most problematic factors for doing business in the developing European countries were: widespread corruption, inefficient government bureaucracy, policy instability, obstructed access to financing, inadequate supply of infrastructure and inadequately educated workforce. These factors are inherently interrelated and could be important determinants for private equity firms that invest in the developing European countries.

Leeds and Sunderland (2003) also argue that every aspect of the private equity cycle is driven by the imperative to orchestrate a profitable exit within a certain time frame. In the U.S.A. and other developed markets a well-functioning IPO market provides the fundamental underpinning for the success of the entire private equity industry. Without a credible IPO market, exit options are to a certain extent limited to management buyouts and sales to strategic investors or later-stage financial investors. According to most empirical evidence, exits achieved through IPOs tend to maximize firm value, relative to the alternatives of selling shares to strategic investors or back to the original owners (through MBOs).

The central question of this chapter is: is there any change in profitability, operating performance, employment, investment, output, leverage, liquidity, taxes and earnings management for the companies in developing European countries that went through a private equity backed buyout? I test the following hypotheses:

Hypothesis 1: *Companies in developing European countries that went through a private equity backed LBO have a significantly higher positive change in operating performance, measured by ROS or ROA, than companies that were not acquired by a private equity firm.*

Hypothesis 2: *During the economic downturn private equity backed companies perform better than companies that were not acquired by a private equity firm.*

Hypothesis 3: *Private equity backed buyouts create new jobs. Companies in developing European countries that went through a private equity backed buyout have a larger significant positive change in employment than companies that were not acquired by a private equity firm. Created jobs in private equity backed firms should generate higher wages for employees compared to benchmark firms.*

Hypothesis 4: *Private equity backed companies finance growth with leverage and hence allocate less free cash flow to investments.*

Hypothesis 5: *Regardless the economic circumstances in the economy private equity backed companies increase turnover per employee more than benchmark firms.*

Hypothesis 6: *Growth in sales and increase in profitability are key drivers for better performance of private equity backed companies that went through a buyout.*

Hypothesis 7: *Private equity backed companies manage working capital more effectively than industry peers.*

2.3 DATA COLLECTION AND DESCRIPTION

Two main data sources are used for gathering data of private equity portfolio companies. Firstly, a list of LBOs that occurred in the period 1999-2008 was generated using the Zephyr database. This list was double-checked via the websites of private equity firms in the developing European countries. Zephyr database documented 503 private equity deals in the observed region. 28 deals were excluded because they were common investments in the same portfolio companies done by different private equity firms and were treated as single investments. Additionally, I remove 140 deals from which it is evident that it was not a LBO. Second, financial data for all suitable target companies is collected using the Amadeus database. Out of 335 companies left I found financial data for 115 companies, however 42 did not have sufficient financial data for the purpose of my research. The interim dataset used for analysis consists of 73 companies that went through a LBO in developing European countries. I removed four companies as outliers due to inconsistency in financial data, leaving me with 69 final observations for the analysis. No reason could be found for data attrition in the databases.

All 69 observations are used for t-tests and z-tests, while 64 observations are used in regressions, since only these observations have a sufficient data timeframe (min -1,+3; this means 1 years of financial data prior to the buyout and 3 years of financial data post-buyout). For regressions, I eliminate 4 companies that have the (-3,+2) data time frame and 1 company that has the (-3,+1) timeframe. The reason for exclusion is that other authors proved empirically that a +3 timeframe is needed to measure the post-buyout effect. My goal was to keep the target companies that have sufficient financial data in the period 2001-2010 because this is the time span of benchmark companies that have sufficient financial data and it allows answering my research questions.

I compare operational changes between target companies and benchmark companies in the same industries. By collecting Amadeus financial data for benchmark companies with identical industry classification (SIC; 4-digit) I am able to properly assess the differences with applicable benchmarks (see the next section).

2.4 RESEARCH METHODOLOGY

Although Cumming et al. (2007) represent a broad overview over the subject of creating value in private equity and present several different methodologies used to analyze LBOs, I use the methodology used by Guo et al. (2011), which is a standardized accounting-based measurement technique for measuring operating performance, and apply this to buyout transactions. Their methodology is similar to the one used by La Porta and Lopez De Silanes (1999), which the authors use to assess the post-privatization performance of a sample of 170 Mexican companies, relying on seven broad indicators of performance, quantified by several accounting ratios. Similarly, I use financial and accounting data (income statements, balance sheets and cash flow statements) of private equity portfolio companies (*PC*) that were part of a LBO and rely on several broad indicators of performance (presented in detail in the Appendix 1): (1) Profitability, (2) Operating efficiency, (3) Employment and wages, (4) Capital investment, (5) Output, (6) Leverage, (7) Liquidity, (8) Net taxes and (9) Earnings management.

I calculate twenty eight accounting ratios (see Appendix 1 for details) for the sample companies, in order to try to assess and interpret the nine above mentioned performance indicators. Performance indicators are ideally calculated from Year -3 to Year +3 with Year 0 representing the LBO transaction date. The mentioned 7-year period provides enough time for financial and operational changes to be captured in the financial data. Since some companies do not have data available for the (-3,+3) year interval, some companies are analyzed using data with a shorter time span. Since I want to assess the effects of private equity backed buyouts on company performance in the developing European countries, this requires a comparison with a regional benchmark (*B*). This includes assessment of pre- and post-transaction performance and a comparison with benchmark companies from the same 4-digit SIC industry and of similar size. Empirical literature suggests several approaches for determining the matching firms used as a benchmark. These include unadjusted changes, using the industry median as the benchmark and matching on industry, pre-buyout level of performance, change in performance, pre-buyout and market to book ratio of assets. The industry median adjusted performance provides the most direct comparison with prior research used by Kaplan (1989) and Guo et al. (2011), who used firms in the same four-digit SIC code. Therefore I use industry median benchmarks from Amadeus with the same SIC codes as of target companies.

For each firm, the change in each calculated indicator of performance is measured by comparing its average and median value in the post-buyout period with the average and median value in the pre-buyout period. The change in these two statistical variables from one period to another is tested to see, if it is significantly different from zero, using the t-statistic test for change in mean and z-statistic for change in median. The results for medians are presented in order to control for values which determine a very wide range

within the ratios that can dominate the means due to the fact that the sample size is small. All significance levels are based on two-tailed tests.

For the sake of capturing macroeconomic sentiment, I split the entire sample (64) into two sub-samples: Growth (companies with financial data for the period at least 2002-2005; 30 companies) and Recession (companies with financial data for the period at least 2006-2010; 34 companies). The Growth sub-sample contains post-buyout financial data for the period 2005-2007, which was a period of economic prosperity in the developing European countries. The Recession sub-sample contains post-buyout financial data for the period 2008-2010.

In order to test Hypotheses 1-7 I use t-test and z-test statistics to assess the differences in performance between the private equity backed companies and their industry benchmarks. Additionally, I run multivariate regressions for post-buyout operating performance (*postbo*), similar to Guo et al. (2011) in order to analyze the marginal effects of operating categories and its effects on the performance of private equity backed portfolio companies. The dependent variables are:

- Post-buyout profitability measured by return on assets (three years after the buyout (+3); estimated by using Net income/Total assets ($ROA_{postbo(+3)}$));
- Post-buyout cash flows in the last post-buyout year (three years after the buyout (+3); estimated by using EBIT/Sales ($ROS_{postbo(+3)}$));
- Change in cash flows from the year prior to the buyout to the last post-buyout year (at least one year prior to the buyout[17] until three years after the buyout (-1, +3); change in return on sales, $\Delta ROS_{prebo(-1),postbo(+3)}$, or return on assets, $\Delta ROA_{prebo(-1),postbo(+3)}$).

The following equations depict the multivariate regressions I run. All regressions control for company size (ln*(E)*).

$$\Delta ROA_{prebo(-1),postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + \beta_5 \ln(E) + \beta_6 ROA_{prebo(-1)} + \varepsilon \quad (1)$$

$$ROA_{postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + + \beta_5 \ln(E) + \beta_6 ROA_{prebo(-1)} + \varepsilon \quad (2)$$

$$\Delta ROS_{prebo(-1),postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + \beta_5 \ln(E) + \beta_6 ROS_{prebo(-1)} + \varepsilon \quad (3)$$

$$ROS_{postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + + \beta_5 \ln(E) + \beta_6 ROS_{prebo(-1)} + \varepsilon \quad (4)$$

[17] If there is data available for e.g. three years before the buyout I use the median for the three years prior to the buyout.

where $\Delta ROA_{prebo(-1),postbo(+3)}$ is the change in return on assets from the year prior to the buyout to the last post-buyout year (-1 until +3);

$ROA_{postbo(+3)}$ is the return on assets measured by Net income/Total assets at last post buyout year (+3 years);

$\Delta ROS_{prebo(-1),postbo(+3)}$ is the change in return on sales from the year prior to the buyout to the last post-buyout year (-1 until +3);

$ROS_{postbo(+3)}$ is the return on sales measured by EBIT/Sales at last post buyout year (+3 years);

ΔEFF measures efficiency of the company (Fixed assets/Turnover), that is the difference in efficiency change between the portfolio company backed a private equity firm compared to the industry benchmark: $\left[(PC_i^{+3} - PC_i^{-1}) - (B_i^{+3} - B_i^{-1})\right]$ for each *i-th* portfolio company (PC_i) that was backed by a private equity firm and its *i-th* applicable 4-digit SIC industry benchmark (B_i). The same computation principle is applied to $\Delta SALGR$, ΔINV , ΔLEV and ΔEMP .

$\Delta SALGR$ is the change in sales growth (percentage change in growth of sales), that is the difference in sales growth change between the portfolio company backed a private equity firm compared to the industry benchmark;

ΔINV is the change in investments made (CAPEX), that is the difference in CAPEX change between the portfolio company backed a private equity firm compared to the industry benchmark;

ΔLEV is the change in leverage (measured by Financial expense incurred), that is the difference in the relative financial expense change between the portfolio company backed a private equity firm compared to the industry benchmark; $\ln(E)$ …natural log of capital (equity) to control for company size in the year of the buyout;

$ROA_{prebo(-1)}$ is the pre-buyout profitability of the private equity portfolio company (Net income/Total assets);

$ROS_{prebo(-1)}$ is the pre-buyout profitability of the private equity portfolio company (EBIT/Sales).

For Hypothesis 2 and 3 I run the following additional regressions:

$$\Delta ROA_{prebo(-1),postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \quad (5)$$

$$ROA_{postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \quad (6)$$

$$\Delta ROS_{prebo(-1),postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \quad (7)$$

$$ROS_{postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \quad (8)$$

where ΔEMP measures the relative change in employment (relative change in number of employees), that is the difference in relative number of employees change between the portfolio company backed a private equity firm compared to the industry benchmark.

2.5 RESULTS

The results are split into two sections: 1) descriptive statistics of the dataset and 2) t-test and z-test results along with the regression results that provide answers to Hypotheses 1-7.

2.5.1 DESCRIPTIVE STATISTICS

The below presented data contains details of 69 private equity portfolio companies in my dataset. Overall, I believe there is no concern for size, origin or industry bias since the sample size is very diverse and represents a wide variety of companies of different size, operating in different industries.

45 (65%) of the companies in my dataset have the most appropriate financial data timeframe, that is (-3,+3), followed by 13 (19%) with (-1,+3), 6 (9%) with (-2,+3) and 5 (7%) with already explained insufficient data.

Table 2: Data availability for portfolio companies in the final dataset

Years before LBO - Years after LBO	Number of companies
3-3	45
3-2	4
3-1	1
2-3	6
2-2	0
2-1	0
1-3	13
1-2	0
1-1	0
Total	69

The dominating company size[18] in terms of number of employees is large and medium. 52% of all companies have more than 250 employees, 39% between 50 and 250, while the rest (9%) are small companies.

Table 3: Portfolio companies in the final dataset split by number of employees

Number of employees	Number of companies
0-50	6
51-100	9
101-250	18
251-500	13
more than 500	23
Total	69

In revenue terms (and correspondingly almost exactly the same in total asset terms), 88% of the companies are small or medium sized, while only 12% are large. This gives reasoning aligned with practice in the private equity industry in developing European countries. Private equity deals, especially in Southeastern European markets, are much smaller compared to deals in e.g. developed European countries. The reason for this is that markets are much smaller and overall the percentage of larger and multinational companies according to "Western" standards is significantly smaller. This gives more opportunities in the small-medium cohort, though results depicted further on indicate that this does not justify private equity activity in developing European countries.

[18] The EU classifies four company size categories:

Category	Nr. of employees	Revenues	Total assets
Large	>250	> EUR 50 mil	> EUR 43 mil
Medium	<250	< EUR 50 mil	< EUR 43 mil
Small	<50	< EUR 10 mil	< EUR 10 mil
Micro	<10	< EUR 2 mil	< EUR 2 mil

Table 4: Portfolio companies in the final dataset split by turnover and total assets

Turnover\Total assets (in €)	0-25 million	26-50 million	51-100 million	101-500 million	501-1000 million	more than 1 billion	Total
0-25 million	37	2	1				40
26-50 million	6	3	4	2			15
51-100 million	2	1	3				6
101-500 million			2	4		1	7
501-1000 million					1		1
more than 1 billion							0
Total	45	6	10	6	1	1	69

Industry breakdown indicates that the biggest group of companies is active in the business services industry (15%), followed by food products (12%) and telecommunication (12%). In terms of asset size, the predominant industries are telecommunications (44%), chemicals (16%), utilities (7%) and steel (6%), which are amongst the most capital intensive industries in the dataset. When analyzing the distribution by industry and by number of employees, the distribution is much more diversified.

Table 5: Portfolio companies in the final dataset according to the U.S.A. SIC classification

Industry classification	Number of companies	Percentage of total assets of the sample	Percentage of number of employees of the sample
Aeronautics	1	4,8%	4,9%
Automobiles and trucks	2	2,9%	5,9%
Business services	10	2,3%	7,8%
Chemicals	3	16,4%	8,0%
Construction	1	0,4%	1,0%
Computers	1	0,4%	1,1%
Drinks and beverage	3	3,6%	5,2%
Financial services	1	0,2%	0,4%
Food products	8	2,8%	8,7%
Household appliances	1	0,5%	0,4%
Machinery	5	1,4%	6,9%
Manufacturing	5	1,6%	3,4%
Printing and publishing	1	0,1%	0,4%
Pharmaceutical products	1	0,4%	0,9%
Retail	5	2,2%	5,3%
Steel	4	5,6%	10,1%
Telecommunications	8	44,4%	12,3%
Transportation	4	2,8%	8,9%
Textile	1	0,4%	5,4%
Utilities	3	6,6%	3,1%
Wholesale	1	0,2%	0,2%
Total	69	100,0%	100,0%

The largest markets are the most represented in my. Romania is represented by 14 portfolio companies (20%), Poland by 13 (19%), Czech Republic by 10 (15%), Bulgaria by 8 (12%),

representing 66% of all portfolio companies. The largest companies in terms of total assets are based in Bulgaria (29% of total assets), Hungary (25%) and Czech Republic (15%).

Table 6: Portfolio companies in the final dataset according to country origin

Portfolio company origin	Number of companies	Percentage of total assets of the sample	Percentage of number of employees of the sample
Bulgaria	8	29,0%	10,7%
Czech Republic	10	15,1%	20,8%
Estonia	3	0,7%	0,6%
Greece	1	0,1%	0,2%
Hungary	3	25,0%	10,7%
Latvia	5	1,5%	3,5%
Lithuania	3	5,9%	2,5%
Poland	13	5,0%	8,6%
Romania	14	5,5%	19,0%
Serbia	3	4,1%	7,6%
Slovakia	5	8,0%	15,5%
Ukraine	1	0,0%	0,4%
Total	69	100,0%	100,0%

For benchmarks I use the same time period as for available data for portfolio companies backed by private equity. From a geographical perspective I use companies from the same countries as where the portfolio companies are located. I use the industry median for each financial indicator in order to keep my findings comparable with Kaplan (1989) and Guo et al. (2011) as much as possible.

2.5.2 T-TEST, Z-TEST AND REGRESSION RESULTS

T-test and z-test results for all samples are presented in Tables 7-9, whereas regression results are depicted in Table 10 and 11. Results in Tables 7-9 illustrate that private equity backed firms do not outperform comparable firms in the same industry within 3 years after the LBO. While some companies manage to achieve higher ROS, ROA and profit margin[19] compared to its benchmark, others do not. These results are not statistically significant. There is no persistency in ROS improvement across countries, size or industries. There is no sound evidence that would give proof for Hypothesis 1[20]. For the total sample of private equity backed firms the median ROS before the buyout was 5.6% (benchmark 5.0%), while post buyout the median was 4.6% (benchmark 4.8%).

My results indicate that even if a private equity firm was more profitable prior to the buyout, the difference in profitability on average diminishes[21], which shows signs of a mean reversion effect. In cases where profitability of private equity backed companies was higher before the buyout, on average these do not outperform their industry benchmarks.

[19] Results are the same also for ROA and profit margin; more details are in the Appendix 3, but I present only ROS results for clarity reasons.
[20] Additionally, I run several regressions that give no proof for Hypothesis 1.
[21] This result is not robust for ROA.

Regression results in Model 3 provide further evidence that the higher the ROS of the private equity backed company pre-buyout the lower the difference in ROS between the private equity backed firm and the benchmark in the period prior to the buyout until post-buyout. From a practitioner's perspective one could argue that most likely a private equity company is extracting additional fees from the portfolio company and thus worsening its profitability, however this remains a subject to further research, since the data I use does not allow me to test for this metric.

Table 7: T-test and z-test results for the entire sample

	PORTFOLIO COM. ENTIRE SAMPLE (PC)				**BENCHMARK ENTIRE SAMPLE (B)**				**Δ (PC – B)**	
	Mean before	**Mean after**	**Diff. (Δ)**	**t-statistic**	**Mean before**	**Mean after**	**Diff. (Δ)**	**t-statistic**	**Difference PC - B (Δ)**	**t-statistic**
Ratio	**Median before**	**Median after**		**z-statistic**	**Median before**	**Median after**		**z-statistic**		**z-statistic**
(1) Profitability										
	0.056	0.043	-0.013	1,292[c]	0.056	0.057	0.001	1.797[b]	-0.015	0.796
EBIT / turnover (ROS)	0.056	0.046	-0.010	1.685[b]	0.050	0.048	-0.002	0.421	-0.009	0.609
	0.079	0.005	-0.074	2.311[b]	0.060	0.058	-0.002	0.781	-0.071	1.103
Net income / Total assets (ROA)	0.061	0.024	-0.037	2.635[a]	0.059	0.055	-0.003	0.502	-0.033	0.985
	0.156	0.121	-0.036	1.278	0.191	0.207	0.016	0.224	-0.051	1.331[c]
EBIT / Tangible fixed assets	0.150	0.150	0.000	1,580[c]	0.180	0.175	-0.005	1.625[c]	0.005	1.539[c]
	0.035	0.016	-0.019	0.343	0.047	0.042	-0.006	2.081[b]	-0.013	0.343
Net income / turnover	0.030	0.023	-0.008	1.445[c]	0.043	0.040	-0.003	0.461	-0.005	0.910
	0.083	0.046	-0.037	1.108	0.132	0.122	-0.010	0.433	-0.027	1.135
Net income / Tangible FA	0.058	0.059	0.001	1,755[b]	0.097	0.093	-0.004	0.756	0.005	1.406[c]
(2) Operating efficiency										
	0.772	0.795	0.022	0.753	0.834	0.837	0.002	0.547	0.020	0.762
Cost of sales / turnover	0.771	0.795	0.024	1,448[c]	0.831	0.833	0.002	1.102	0.022	0.953
	1,840	2,333	493	0.766	5,399	5,467	68	0.009	425	1.113
EBIT / nr. of emp.	1,483	2,658	1,175	0.879	3,244	4,090	846	4.441[a]	329	0.442
	3.212	2.864	-0.348	0.364	2.364	2.071	-0.293	0.828	-0.055	0.475
Turnover / Tangible fixed assets	3.180	2.784	-0.396	0.157	3.377	3.367	-0.010	0.722	-0.386	0.693
	37,647	49,268	11,621	3,070[a]	79,558	115,588	36,030	0.956	-24,409	2.268[b]
Turnover / nr. of emp.	36,519	47,926	11,408	3,545[a]	63,700	107,032	43,332	6.373[a]	-31,924	3.415[a]
(3) Employment and wages										
	5,034	7,643	2,608	3,921[a]	9,333	13,167	3,833	7.926[a]	-1,225	3.852[a]
Personnel costs / nr. of emp.	5,147	7,643	2,496	5,180[a]	7,000	11,500	4,500	6.886[a]	-2,004	4.713[a]
	0.000	0.561	0.561	3.722[a]	0.000	0.042	0.042	1.692[b]	0.519	2.345[a]
Number of employees	0.000	0.726	0.726	3.311[a]	0.000	0.170	0.170	4.476[a]	0.556	1.471[c]
(4) Capital investment										
	0.117	0.012	-0.105	1.096	0.033	0.036	0.003	1.019	-0.108	1.087
Inv. in fixed assets / turnover	0.081	0.012	-0.069	3,813[a]	0.029	0.025	-0.003	0.421	-0.065	1.931[b]
	3223	359	-2,864	1.072	2747	3759	1,012	1.209	-3,876	1.328[c]
Inv. in fixed assets / nr. of emp.	1912	23	-1,889	1,919[b]	2360	2320	-40	1.197	-1,848	1.325[c]
	0.356	0.107	-0.249	1.060	0.093	0.122	0.029	1.302	-0.278	1.032
Inv. in fixed assets / Tangible FA	0.356	0.079	-0.277	3,446[a]	0.153	0.132	-0.021	0.120	-0.256	2.130[b]
	12,141	15,240	3,100	1.040	29,084	30,367	1,284	2.355[a]	1,816	1.553[c]
Tangible fix. assets / nr. of emp.	11,659	14,783	3,124	1.245	22,338	21,614	-724	3.685[a]	3,848	1.027

Ratio (continued)	PORTFOLIO COM. ENTIRE SAMPLE (PC) Mean before / Median before	Mean after / Median after	Diff. (Δ)	t-statistic / z-statistic	BENCHMARK ENTIRE SAMPLE (B) Mean before / Median before	Mean after / Median after	Diff. (Δ)	t-statistic / z-statistic	Δ (PC – B) Difference PC - B (Δ)	t-statistic / z-statistic
(5) Output										
	1.197	1.081	-0.115	1,851[b]	1.132	1.110	-0.022	0.944	-0.093	1.384[c]
Turnover	1.236	1.085	-0.150	3,703[a]	1.171	1.126	-0.046	2.294[b]	-0.105	2.284[b]
(6) Leverage										
	0.339	0.337	-0.002	0.836	0.400	0.411	0.012	0.794	-0.014	0.943
Equity / Total assets	0.332	0.339	0.007	1,390[c]	0.814	0.810	-0.004	0.681	0.011	1.102
	3.205	1.902	-1.3	1.177	35.558	33.907	-1.652	0.283	0.349	1.700[b]
Interest coverage	2.852	2.103	-0.7	1,966[b]	4.305	4.045	-0.260	1.231	-0.489	1.321[c]
	3.856	2.379	-1.5	1.005	4.161	4.719	0.558	1.199	-2.035	1.936[b]
EBITDA/financial expense[1)]	3.897	2.184	-1.7	1.001	5.911	6.745	0.834	2.187[b]	-2.547	1.972[b]
	0.000	1.080	1.080	5.661[a]	0.000	0.272	0.272	4.354[a]	0.808	1.745[b]
Financial expenses	0.000	0.967	0.967	5.339[a]	0.000	0.396	0.396	4.956[a]	0.570	3.516[a]
(7) Liquidity										
	1.141	0.985	-0.156	0.845	1.990	1.880	-0.110	0.839	-0.046	3.748[a]
Current ratio	1.090	0.979	-0.111	0.356	1.245	1.220	-0.025	0.003	-0.086	4.828[a]
	0.745	0.757	0.012	0.828	0.944	0.932	-0.012	1.108	0.024	0.932
Quick ratio	0.707	0.697	-0.010	0.272	0.982	0.991	0.009	1.115	-0.019	0.753
	0.046	0.046	0.001	2,128[b]	0.035	0.066	0.031	1.296	-0.030	1.693[b]
Working capital/ nr. of emp.	0.049	0.042	-0.007	1,706[b]	0.023	0.027	0.005	2.410[a]	-0.011	2.120[b]
(8) Net Taxes										
	0.006	0.005	-0.002	1,434[c]	0.015	0.008	-0.006	0.042	0.005	0.563
Net taxes / turnover	0.006	0.004	-0.002	1,384[c]	0.013	0.011	-0.002	0.742	0.000	0.762
	44,989	61,726	16,737	1,504[c]	271,688	277,303	5,615	1.132	11,121	1.091
Net taxes	38,868	48,571	9,702	0.471	252,365	235,907	-16,458	1.143	26,160	0.762
	0.109	0.130	0.021	1,930[b]	0.058	0.188	0.129	0.864	-0.108	0.878
Net Taxes / net income	0.114	0.130	0.016	1.067	0.088	0.162	0.074	0.132	-0.058	0.427
(9) Earnings management										
	0.611	0.575	-0.036	1,307[c]	0.386	0.415	0.028	0.828	-0.064	0.839
Net income / Free cash flow	0.609	0.589	-0.020	0.009	0.304	0.297	-0.007	1.725[b]	-0.013	0.038
	0.031	0.015	-0.016	1,331[c]	0.034	0.026	-0.007	1.143	-0.009	0.562
Chg. in working cap. / total assets	0.025	0.012	-0.013	1,726[b]	0.043	0.011	-0.032	0.996	0.019	0.742

1) based on solely 40 observations
a=1%, b=5%, c=10%

Table 8: T-test and z-test results for the Growth sample

Ratio	PORTFOLIO COM. GROWTH SAMPLE (PC) Mean before / Median before	Mean after / Median after	Diff. (Δ)	t-statistic / z-statistic	BENCHMARK GROWTH SAMPLE (B) Mean before / Median before	Mean after / Median after	Diff. (Δ)	t-statistic / z-statistic	Δ (PC – B) Difference PC - B (Δ)	t-statistic / z-statistic
(1) Profitability										
	0.029	0.039	0.010	0.148	0.052	0.054	0.003	0.212	0.007	0.758
EBIT / turnover (ROS)	0.029	0.047	0.018	0.205	0.049	0.048	-0.001	1.676[b]	0.019	0.278
	0.017	0.045	0.027	0.623	0.058	0.063	0.006	1.630[c]	0.022	0.972
Net income / Total assets (ROA)	0.002	0.025	0.022	1.141	0.052	0.055	0.002	1.589[c]	0.020	0.897
	0.080	0.128	0.048	0.547	0.205	0.225	0.020	0.388	0.027	1.250
EBIT / Tangible fixed assets	0.106	0.152	0.046	0.091	0.185	0.223	0.038	2.293[b]	0.008	0.273

	-0.003	0.022	0.025	0.732	0.043	0.045	0.002	1.431[c]	0.023	1.391[c]
Net income / turnover	0.006	0.027	0.021	0.746	0.041	0.040	-0.002	1.707[b]	0.022	0.812
	-0.002	0.064	0.067	0.339	0.110	0.161	0.051	2.355[a]	0.016	0.819
Net income / Tangible FA	0.025	0.061	0.036	0.433	0.093	0.128	0.034	3.162[a]	0.002	0.023
(2) Operating efficiency										
	0.771	0.775	0.004	0.088	0.834	0.837	0.002	0.542	0.002	0.372
Cost of sales / turnover	0.771	0.772	0.002	1.007	0.832	0.834	0.002	0.894	-0.001	0.492
	95	1449	1,355	1.112	4275	5144	869	0.207	486	1.105
EBIT / nr. of emp.	73	1866	1,793	0.876	2332	3604	1272	3.877[a]	521	0.743
	2.535	2.962	0.427	0.169	2.948	2.926	-0.022	0.043	0.450	0.694
Turnover / Tangible fixed assets	2.551	2.666	0.116	0.068	3.708	4.231	0.523	0.689	-0.407	1.002
	32,852	47,222	14,370	2.264[b]	71,897	115,588	43,691	0.159	-29,321	2.168[b]
Turnover / nr. of emp.	33,291	45,219	11,928	2.627[a]	59,374	102,716	43,343	4.330[a]	-31,415	2.497[b]
(3) Employment and wages										
	2,315	4,403	2,088	2.041[b]	7,500	11,167	3,667	4.113[a]	-1,579	1.818[b]
Personnel costs / nr. of emp.	2,315	4,509	2,194	1.851[b]	6,500	9,000	2,500	4.653[a]	-306	1.720[b]
	0.000	0.619	0.619	2.462[a]	0.000	0.100	0.100	1.111	0.519	1.736[b]
Number of employees	0.000	1.012	1.012	2.220[b]	0.000	0.128	0.128	2.235[b]	0.884	1.635[c]
(4) Capital investment										
	0.189	0.021	-0.168	1.186	0.017	0.053	0.036	1.047	-0.204	1.470
Inv. in fixed assets / turnover	0.114	0.022	-0.092	3.622[a]	0.017	0.042	0.025	2.787[a]	-0.117	3.427[a]
	5,328	309	-5,019	2.848[a]	1,147	5,571	4,424	1.159	-9,444	1.225
Inv. in fixed assets / nr. of emp.	3,095	29	-3,066	2.114[b]	0,882	3,471	2,588	3.260[a]	-5,654	2.186[b]
	0.564	0.102	-0.462	0.560	0.072	0.144	0.073	2.809[a]	-0.535	2.566[a]
Inv. in fixed assets / Tangible FA	0.490	0.099	-0.390	3.772[a]	0.115	0.213	0.098	3.384[a]	-0.489	3.844[a]
	10,178	16,338	6,160	0.560	64,793	29,973	-34,820	2.495[a]	40,980	0.167
Tangible fix. assets / nr. of emp.	10,178	14,373	4,195	1.153	39,325	14,466	-24,859	1.882[b]	29,054	1.153

	PORTFOLIO COM. GROWTH SAMPLE (PC)				**BENCHMARK GROWTH SAMPLE (B)**				**Δ (PC – B)**	
	Mean before	**Mean after**	**Diff. (Δ)**	**t-statistic**	**Mean before**	**Mean after**	**Diff. (Δ)**	**t-statistic**	**Difference PC - B (Δ)**	**t-statistic**
Ratio (continued)	**Median before**	**Median after**		**z-statistic**	**Median before**	**Median after**		**z-statistic**		**z-statistic**
(5) Output										
	1.141	1.140	-0.001	1.355[c]	1.074	1.162	0.088	2.017[b]	-0.090	1.391[c]
Turnover	1.144	1.160	0.017	0.943	1.143	1.210	0.067	1.635[c]	-0.050	2.193[b]
(6) Leverage										
	0.379	0.387	0.008	0.931	0.372	0.382	0.010	0.865	-0.002	0.896
Equity / Total assets	0.359	0.359	0.000	0.771	0.787	0.837	0.050	1.097	-0.051	0.752
	1.199	2.883	1.684	0.695	30.084	34.493	4.41	0.754	-2.726	1.085
Interest coverage	1.681	2.907	1.226	0.553	3.995	5.190	1.20	2.355[a]	0.031	0.264
	3.577	2.428	-1.149	0.203	4.056	4.926	0.9	1.098	-2.019	0.465
EBITDA/financial expense[2)]	3.397	2.553	-0.844	0.386	5.498	7.029	1.5	3.445[a]	-2.376	2.335[a]
	0.000	0.865	0.865	3.038[a]	0.000	0.209	0.209	2.652[a]	0.656	1.504[b]
Financial expenses	0.000	0.427	0.427	2.411[a]	0.000	0.206	0.206	2.252[b]	0.221	1.308[c]
(7) Liquidity										
	1.114	1.029	-0.085	0.949	1.965	2.012	0.047	0.600	-0.132	3.799[a]
Current ratio	1.103	0.958	-0.145	1.121	1.270	1.240	-0.030	0.693	-0.115	3.445[a]
	0.773	0.681	-0.092	0.949	0.995	0.980	-0.015	1.003	-0.077	0.658
Quick ratio	0.766	0.615	-0.150	0.895	0.991	1.014	0.023	0.992	-0.173	0.926
	0.033	0.074	0.040	2.797[a]	0.039	0.069	0.030	1.190	0.001	1.972[b]
Working capital/ nr. of emp.	0.045	0.055	0.010	2.354[a]	0.026	0.030	0.004	1.656[c]	0.006	2.354[a]

(8) Net Taxes										
	0.001	0.005	0.004	0.046	0.013	0.017	0.004	0.689	0.000	0.637
Net taxes / turnover	0.000	0.008	0.007	0.292	0.023	0.027	0.004	1.003	0.003	0.591
	3,367	9,636	6,269	1.825[b]	238,073	329,205	91,132	1.247	-84,863	1.023
Net taxes	1,278	28,308	27,030	1.978[b]	236,697	372,738	136,041	2.014[b]	-109,011	0.972
	0.012	0.190	0.178	1.784[b]	0.093	0.298	0.205	1.009	-0.027	0.762
Net Taxes / net income	0.000	0.192	0.192	1.682[b]	0.052	0.200	0.148	1.098	0.044	1.011
(9) Earnings management										
	0.559	0.567	0.008	1.109	0.319	0.428	0.109	1.529[b]	-0.101	0.614
Net income / Free cash flow	0.408	0.594	0.186	0.037	0.279	0.360	0.080	3.240[a]	0.106	0.560
	0.037	0.038	0.001	1.090	0.024	0.031	0.007	1.104	-0.006	0.751
Chg. in working cap. / total assets	0.056	0.023	-0.033	1.177	-0.002	0.036	0.038	0.942	-0.071	1.003

2) Based on solely 20 observations
a=1%, b=5%, c=10%

Table 9: T-test and z-test results for the Recession sample

	PORTFOLIO COM. GROWTH SAMPLE (PC)				**BENCHMARK GROWTH SAMPLE (B)**				**Δ (PC – B)**	
Ratio	**Mean before** / **Median before**	**Mean after** / **Median after**	**Diff. (Δ)**	**t-statistic** / **z-statistic**	**Mean before** / **Median before**	**Mean after** / **Median after**	**Diff. (Δ)**	**t-statistic** / **z-statistic**	**Difference PC - B (Δ)**	**t-statistic** / **z-statistic**
(1) Profitability										
	0.062	0.050	-0.012	0.961	0.060	0.063	0.004	1.939[b]	-0.016	0.364
EBIT / turnover (ROS)	0.059	0.041	-0.019	1.744[b]	0.052	0.048	-0.004	1.718[b]	-0.014	0.727
	0.133	-0.030	-0.163	4.485[a]	0.063	0.054	-0.009	2.156[b]	-0.153	0.741
Net income / Total assets (ROA)	0.112	0.023	-0.089	1.163	0.061	0.055	-0.005	2.137[b]	-0.083	0.658
	0.302	0.121	-0.181	1.274	0.189	0.184	-0.005	0.768	-0.176	1.236
EBIT / Tangible fixed assets	0.161	0.150	-0.011	1.786[b]	0.169	0.164	-0.005	0.009	-0.005	1.530[c]
	0.043	0.011	-0.032	1.108	0.055	0.038	-0.017	3.574[a]	-0.015	0.598
Net income / turnover	0.038	0.017	-0.021	2.456[a]	0.045	0.040	-0.006	2.026[b]	-0.015	1.906[b]
	0.158	0.029	-0.129	1.315	0.151	0.110	-0.041	0.034	-0.088	1.048
Net income / Tangible FA	0.131	0.047	-0.084	2.330[a]	0.104	0.070	-0.034	2.539[a]	-0.050	1.616[c]
(2) Operating efficiency										
	0.779	0.838	0.059	0.342	0.834	0.837	0.002	0.973	0.057	0.879
Cost of sales / turnover	0.764	0.838	0.075	0.788	0.831	0.833	0.002	0.972	0.072	0.911
	3,377	2,770	-608	0.204	6,478	5,999	-479	2.526[a]	-129	0.168
EBIT / nr. of emp.	3,406	3,179	-227	0.597	3,390	4,287	898	2.556[a]	-1,124	0.075
	3.499	2.754	-0.745	0.453	1.930	1.887	-0.043	0.635	-0.702	0.434
Turnover / Tangible fixed assets	3.335	2.799	-0.537	0.210	2.376	2.387	0.011	0.282	-0.547	0.134
	39,528	51,514	11,986	1.297	83,962	115,577	31,615	5.389[a]	-19,629	1.290[c]
Turnover / nr. of emp.	39,397	51,343	11,946	2.372[a]	83,662	118,367	34,705	4.676[a]	-22,758	2.225[b]
(3) Employment and wages										
	5,338	8,959	3,621	3.645[a]	10,333	14,500	4,167	7.393[a]	-546	3.621[a]
Personnel costs / nr. of emp.	5,220	9,136	3,916	4.782[a]	8,000	13,000	5,000	5.102[a]	-1,084	4.349[a]
	0.000	0.515	0.515	2.824[a]	0.000	-0.033	-0.033	0.162	0.548	1.779[b]
Number of employees	0.000	0.502	0.502	2.411[a]	0.000	0.182	0.182	3.138[a]	0.320	1.017
(4) Capital investment										
	0.068	0.011	-0.057	1.202	0.059	0.032	-0.027	0.783	-0.030	0.914
Inv. in fixed assets / turnover	0.046	0.001	-0.045	1.772[b]	0.049	0.011	-0.038	3.480[a]	-0.007	0.932
	2,252	514	-1738	0.266	3,522	3,616	94	0.726	-1,832	0.658
Inv. in fixed assets / nr. of emp.	1,783	23	-1760	0.762	3,938	1,090	-2,849	2.043[b]	1,080	0.116

	0.239	0.107	-0.132	1.077	0.099	0.102	0.002	0.871	-0.134	1.063
Inv. in fixed assets / Tangible FA	0.255	0.025	-0.230	1.437[c]	0.215	0.077	-0.138	3.753[a]	-0.092	0.744
	12,287	15,133	2,847	1,543[c]	24458	41,485	17,027	4.370[a]	-14,180	1.568[c]
Tangible fix. assets / nr. of emp.	12,287	14,946	2,660	1.245	19169	26,927	7,758	3.685[a]	-5,098	1.027

	PORTFOLIO COM. RECESSION SAMPLE (PC)				BENCHMARK RECESSION SAMPLE (B)				Δ (PC – B)	
Ratio (continued)	Mean before / Median before	Mean after / Median after	Diff. (Δ)	t-statistic / z-statistic	Mean before / Median before	Mean after / Median after	Diff. (Δ)	t-statistic / z-statistic	Difference PC - B (Δ)	t-statistic / z-statistic
(5) Output										
	1.257	1.035	-0.222	2.334[a]	1.171	1.062	-0.109	6.653[a]	-0.113	0.145
Turnover	1.273	1.048	-0.225	3.379[a]	1.193	1.065	-0.128	4.540[a]	-0.097	1.137
(6) Leverage										
	0.331	0.317	-0.015	0.834	0.424	0.437	0.013	0.979	-0.028	1.001
Equity / Total assets	0.314	0.337	0.023	1.130	0.838	0.786	-0.052	1.043	0.075	0.872
	3.789	1.800	-1.989	1.119	35.890	31.708	-4.182	0.934	2.193	1.306[c]
Interest coverage	3.544	1.811	-1.733	3.130[a]	4.480	3.930	-0.550	0.231	-1.183	1.496[c]
	4.282	2.379	-1.903	1.083	4.315	4.312	-0.003	0.084	-1.900	0.256
EBITDA/financial expense[3)]	4.282	1.854	-2.428	2.550[a]	6.412	5.885	-0.527	0.316	-1.901	1.628[c]
	0.000	1.188	1.188	1.975[b]	0.000	0.339	0.339	3.514[a]	0.849	1.612[c]
Financial expenses	0.000	1.932	1.932	4.609[a]	0.000	0.558	0.558	4.403[a]	1.373	3.493[a]
(7) Liquidity										
	1.171	0.985	-0.186	0.509	1.990	1.872	-0.118	2.829[a]	-0.068	2.399[a]
Current ratio	1.090	0.985	-0.106	0.405	1.185	1.195	0.010	0.565	-0.116	3.445[a]
	0.731	0.825	0.093	0.547	0.933	0.924	-0.010	1.204	0.103	0.418
Quick ratio	0.704	0.742	0.038	0.279	0.979	0.989	0.010	1.107	0.028	0.925
	0.059	0.025	-0.034	0.063	0.026	0.063	0.036	1.223	-0.071	0.472
Working capital/ nr. of emp.	0.055	0.024	-0.031	0.093	0.018	0.027	0.009	1.724[b]	-0.040	0.569
(8) Net Taxes										
	0.009	0.003	-0.005	1.971[b]	0.015	0.008	-0.007	0.672	0.002	0.721
Net taxes / turnover	0.008	0.003	-0.005	2.060[b]	0.012	0.010	-0.002	0.883	-0.003	0.519
	91337	73388	-17949	0.630	285048	274654	-10,395	1.201	-7,554	0.138
Net taxes	68213	54787	-13426	0.999	256230	226665	-29,565	1.172	16,139	0.286
	0.157	0.091	-0.066	1.013	0.051	0.178	0.128	0.538	-0.193	1.023
Net Taxes / net income	0.181	0.087	-0.094	0.066	0.094	0.156	0.062	0.952	-0.156	0.324
(9) Earnings management										
	0.621	0.575	-0.045	0.681	0.432	0.369	-0.062	0.666	0.017	0.576
Net income / Free cash flow	0.621	0.589	-0.032	0.078	0.322	0.284	-0.038	0.539	0.007	0.091
	0.021	0.007	-0.014	0.959	0.046	0.025	-0.021	0.137	0.007	0.538
Chg. in working cap. / total assets	0.024	0.003	-0.022	1.002	0.053	0.001	-0.052	0.528	0.030	0.541

3) Based on solely 20 observations; a=1%, b=5%, c=10%

Further I describe results for the Growth and Recession subsample. In the Growth subsample the private equity backed companies on average manage to improve ROS (from 2.9% to 4.7%; not significant), while this is not evident for the benchmark (from 4.9% to 4.8%; statistically significant at 10% for z-test). However, the differences are not statistically significant. In the Recession sub-sample, ROS decreases for both, portfolio companies (from 5.9% to 4.1%) and benchmark (from 5.2% to 4.8%) and results are statistically significant at 10%, when looking at two groups separately. When running the

t-test and z-tests for differences amongst the two, I find no statistically significant results that would give proof for Hypothesis 2.

Intuitively, my portfolio level findings are showing a similar pattern to findings evidenced by Phalippou and Gottschalg (2009) that analyze private equity fund level returns. They find that the average value-weighted performance is typically equal to the 75th percentile, indicating three quarters of the funds' performance is below average. Further, they show that 25% of the funds in their sample have a negative IRR and returned less than half of invested capital to their LPs in present value terms. 60% of the companies in my dataset experienced no improvement or worsened their operating performance measured by ROS. In 42% of cases companies' performance worsens (10 from the Growth subsample (33%) and 17 from the Recession sub-sample (50%) have poorer performance 3 years post-buyout) and in additional 18% cases there is no improvement in performance (ROS).

When comparing the performance with the benchmark, 55% of the private equity backed companies perform worse. For those 45% that do outperform the median, excess performance is 5 percentage points above the applicable benchmark, which is 1.25 percentage points per annum in the +3 post-buyout period.

Further, by running regressions I explore the marginal effect of operational categories on private equity backed companies' profitability. For those cases where profitability improves the regression results show that private equity firms are able to increase ROS profitability more for larger companies (Model 2, 3, 4, 5 and 8 provide evidence). This is in line with findings from Metrick and Yasuda (2010) who claim that private equity firms add more value to portfolio companies that are larger, i.e. invested via larger funds. One explanation for poor average performance of portfolio companies could be that some companies are too small to be a part of a buyout.

Table 10: Regression results of entire dataset – Model 1-4

	MODEL 1		**MODEL 2**		**MODEL 3**		**MODEL 4**	
	Dependent variable:		**Dependent variable:**		**Dependent variable:**		**Dependent variable:**	
	$\Delta ROA^{(t-1,t+3)}$		**$ROApostbo^{(t+3)}$**		**$\Delta ROS^{(t-1,t+3)}$**		**$ROSpostbo^{(t+3)}$**	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Constant	-0.490	1.617	-0.517[c]	1.796	-0.577[b]	2.669	-0.577[b]	2.669
ΔEFF	0.113	0.865	0.138	0.922	0.086	1.242	0.110	1.242
ΔSALGR	0.045	0.353	0.060	0.409	-0.015	0.226	-0.019	0.226
ΔINV	-0.029	0.225	-0.041	0.278	-0.033	0.483	-0.042	0.483
ΔLEV	-0.204	1.633	-0.235	1.640	-0.578[a]	8.699	-0.739[a]	8.899
ln(E)	0.229	1.659	0.286[c]	1.808	0.254[a]	3.143	0.325[a]	3.143
$ROSprebo^{(t-1)}$					-0.659[a]	8.982	-0.135	1.435
$ROAprebo^{(t-1)}$	-0.462[a]	3.619	0.176	1.207				
Model diagnostics								
Nr. of observations	49		49		49		49	
Adjusted R^2	0.265		0.038		0.796		0.667	
F-Statistic	3.888		1.317		32.27		17.02	

$\Delta ROA^{(t-1,t+3)}$ measures the change in return on assets between the portfolio company backed by a private equity investor and the industry benchmark in the period at least one year prior to the buyout (t-1) and three years after the buyout (t+3). $ROApostbo^{(t+3)}$ is the post buyout return on asset of the portfolio company backed by a private equity investor, three years after the buyout (t+3). ΔLEV is the difference between change in leverage between the portfolio company backed by a private equity investor and the industry benchmark. The -Δ- notation for EFF, SALGR, INV, LEV and EMP uses the same computation principle as for ΔLEV. $ROSprebo^{(t-1)}$ and $ROAprebo^{(t-1)}$ refer to the profitability of the portfolio company that went through the private equity backed buyout at least one year prior to the buyout. Notation a=1%, b=5%, c=10% relates to significance level.

Table 11: Regression results of the entire dataset – Model 5-8

	MODEL 5		**MODEL 6**		**MODEL 7**		**MODEL 8**	
	Dependent variable:		**Dependent variable:**		**Dependent variable:**		**Dependent variable:**	
	ΔROA(t-1,t+3)		**ROApostbo(t+3)**		**ΔROS(t-1,t+3)**		**ROSpostbo(t+3)**	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Constant	-0.610[b]	2.129	-0.367	1.558	0.095	0.34	-0.421[b]	2.385
ΔINV	-0.120	0.902	-0.061	0.445	0.671[a]	8.275	0.722[a]	12.717
ΔLEV	-0.246[c]	1.906	-0.211	1.595	-0.518[a]	6.588	-0.489[a]	8.899
ln(E)	0.255[c]	1.904	0.230	1.668	-0.017	0.211	0.167[a]	2.926
ΔEMP	0.117	0.904	0.032	0.243	-0.004	0.056	-0.003	0.057
Model diagnostics								
Nr. of observations	58		58		58		58	
Adjusted R^2	0.086		0.036		0.661		0.834	
F-Statistic	2.342		1.532		28.746		72.571	

$\Delta ROA^{(t-1,t+3)}$ measures the change in return on assets between the portfolio company backed by a private equity investor and the industry benchmark in the period at least one year prior to the buyout (t-1) and three years after the buyout (t+3). $ROApostbo^{(t+3)}$ is the post buyout return on asset of the portfolio company backed by a private equity investor, three years after the buyout (t+3). ΔLEV is the difference between change in leverage between the portfolio company backed by a private equity investor and the industry benchmark. The -Δ- notation for EFF, SALGR, INV, LEV and EMP uses the same computation principle as for ΔLEV. $ROSprebo^{(t-1)}$ and $ROAprebo^{(t-1)}$ refer to the profitability of the portfolio company that went through the private equity backed buyout at least one year prior to the buyout. Notation a=1%, b=5%, c=10% relates to significance level.

Companies in my dataset that were backed by private equity are on average small to medium size in revenue terms. 88% of the private equity backed companies in my dataset had total assets smaller than €100 million. Private equity financing is perhaps a good fit for some companies in developing European countries, since they have a high growth potential and could be in need of a private equity investor in a particular growth phase and are able to improve operating performance, measured by ROS. Chemmanur and Fulghieri (1999) argue that private equity financing is more adequate for smaller companies, not larger listed entities. Contrarily, my findings could be interpreted in a manner that private equity firms should not be levering up portfolio companies that are too small, since it does not leave them a lot of maneuvering space for leverage and higher financial expenses.

However, this does not change the finding that on average the performance of private equity backed companies in developing European countries does not improve. One interpretation could be that findings from the Global competitiveness report (2009-2010) could be interlinked with findings of Wu (1997), who shows that management manipulates earnings in the time of the buyout. In general, my accounting-based measurement approach is dubious according to Cumming et al. (2007). They state that earnings manipulation impacts the market's ability to assess the quality of buyouts. It could be the case that earnings of private equity backed companies in developing European countries do not

represent a true picture of companies' profitability. Though, I believe this should not be an issue for my findings since I use the financial data for at least 1 year prior to the buyout.

It could be argued that one good reason in favor of a LBO could be that the government collects much more proceeds in a buyout that in the case of a low-growing publically traded company that does not distribute free cash flows and is sitting on owner's money. However, my findings for developing European countries indicate that this might not be true since there is no clear evidence that private equity backed firms can persistently outperform their benchmark, giving less visibility on potential value added by private firms and a doubt about generating higher profits with which the government would be better off.

For the entire sample the relative number of employees increase for both, portfolio companies and benchmark, and the difference between the two is statistically significant for t-test (5%) and z-test (15%). This means that private equity backed firms on average hire more people than their industry peers. I calculate the difference in relative terms in order to reduce noise from absolute differences in number of employees. In absolute terms the number of employees in private equity backed firms is on average lower than in industry benchmarks, meaning that private equity firms tend to see more potential for improvement in below the industry average cohort. On the other hand, I find that personnel costs per number of employees increase less in private equity backed firms than in the benchmark firms and this result is persistent during the Growth and Recession phase, except for the increase in number of employees in the Recession. This gives proof for Hypothesis 3, however regression results from models 5-8 do not back this finding. Reduction in wages could be a result of lowering profitability in the private equity backed companies. My t-test and z-test findings are aligned with views of Amess and Wright (2006), who find that employment grows in MBO cases.

Hypothesis 4 is proven by t-test, z-test and regression results depicted in Models 3, 4, 5, 7 and 8. On average leverage increased 57% more than in benchmark firms in the comparable period in the entire sample. This result is persistent also in both subsamples and backed by regression results, however the results are not that strong in the Growth subsample. It is evident that the private equity backed firms invest less compared to their peers in the post-buyout period. It appears that more resources are used to repay debt and higher financing costs, however this remains a subject for further research since more an in-depth analysis of company level cash flows should take place. Nevertheless, my results are consistent with findings of Pagano et al. (1998). Private equity houses know how to take advantage of debt financing and can finance company growth cheaper through a LBO mechanism, by using more of debt financing and less of their own resources. Contrarily, my finding contrasts the findings of Cumming et al. (2007), who state that LBO specialists tend to have stronger control through board representation and control a majority of the post-LBO equity but have less debt and thus, are less likely to experience financial distress.

Private equity firms are able to cherry pick above average growing and performing firms and acquire them (see tables 7-9, Output measure). This is persistent throughout all subsamples. Nevertheless, private equity backed firms cannot keep up the growth and above average profitability. Turnover growth is statistically significant for the entire sample, the Growth subsample for portfolio companies, the benchmarks and the differences between the latter. The sign is negative though, indicating that turnover of private equity backed companies increases more gradually compared to its peers. In the Recession subsample the turnover growth decreases for portfolio companies and benchmarks but the drop in growth is on average higher for private equity backed companies and the differences between the two are not statistically significant. Thus I cannot reject Hypothesis 5 but the results clearly lean in favor of the benchmark firms. Also, regression results do not back the findings provided by t-tests and z-tests. This result is somehow surprising since one would imagine that private equity backed companies would grow faster than their benchmark since private equity firm should be able to put in place management that would boost growth. On average this does not seem to be the case. Unfortunately, my dataset does not allow me to check for deal values and fees extracted from the portfolio companies, which would partly solve also the puzzling question of what is going on with returns to LPs.

Regression results, t-test and z-test results give no proof for Hypothesis 6. Operating efficiency measures do not seem to be a determinant factor and there are no statistically significant differences between private equity backed firms and benchmarks.

My evidence shows that private equity backed companies manage working capital more effectively, measured by working capital/number of employees ratio or current ratio. This gives proof for Hypothesis 7. By managing working capital more effectively, the private equity backed company has more cash flow available for OPEX, CAPEX or debt financing. However, my findings show that the cash flow is used for the latter. In the entire sample and also in the Growth subsample the growth in leverage is affecting the resources available for CAPEX, which on average decreases in private equity backed companies in contrast to the increase in CAPEX in benchmark firms.

2.6 LIMITATIONS, FUTURE RESEARCH AND EXTENSIONS

The main unaddressed issue of my research is endogeneity. It is extremely hard to devote the operating performance improvement to solely a private equity firm that acquired a portfolio company. It could be that successful (new) management was the main reason for improvement in a firm's performance. One could argue that if a private equity firm sets its own management that is successful in improving operating performance this represents the value added by the private equity firm. Further, it is hard to define the market sentiment in a certain industry. It could be that growth is a result of a favorable macroeconomic environment or solely great industry development. I have addressed this issue to a small extent by comparing portfolio companies to industry benchmarks (comparable companies

within the industry). I reckon that the industry development captures growth/decline within an industry better than an overall economic sentiment, measured by macroeconomic variables. It is impossible to check for this on a macro level since industries perform differently during growth/recession and additionally there is a lagging issue. I address this issue by splitting the sample into two subsamples (growth/recession). Albeit, the issue of favorable overall economic activity remains an open empirical question.

In my dataset there are around 10 portfolio companies that went through a buyout and were then sold to another private equity firm in the period 2009-2011. Most of these exits were done by private equity firms based in "developing Europe" to private equity firms with headquarters in "developed Europe". These investments (practitioners refer to these as secondaries) should be addressed more into detail since several questions arise from the fact that a private equity portfolio company is resold to another financial investor. Is the private equity firm that performs such a sale forced to sell such a company? Is it not able to add additional value to the portfolio company? Was there a mismatch in the industry selection? Sales of portfolio companies within private equity firms could have some explanatory power for existence of good/bad private equity firms.

Findings from Amess and Wright (2006) should be put under the loophole in further research. I was not able to identify whether the management gained an equity stake in the LBOs that the private equity firm did in the developing European countries. It would be interesting to see, whether in the cases where management was given an equity stake or has undertaken a MBO, the company exploits better its growth opportunity.

Further research is warranted in the field of private equity deals in the developing European countries. Focus should be on larger and more representative datasets and gathering data directly from private equity firms and connecting the operating performance of private equity firms with the returns delivered to LPs.

2.7 CONCLUSIONS

This chapter provides some answers in the justification context of private equity activity in the developing European countries. It seems that LBOs are on average not an appropriate financing mechanism for all companies in my dataset. These findings are aligned with views of Leeds and Sunderland (2003). Private equity firms do not justify their existence in developing European countries in all LBO cases. The key LBO determinant is company size, since my evidence suggests that private equity firms add more value in profitability terms to larger firms, aligned with findings from Metrick and Yasuda (2010).

Private equity backed companies do not outperform their industry peers, measured either by ROS, ROA or profit margin. Even if a private equity backed company is more profitable prior to the buyout, the profitability difference, compared to the benchmark,

diminishes within the 3-years post buyout period, indicating the mean reversion effect is present.

My research shows that private equity firms are able to select and acquire above average growing and performing companies. Further, their portfolio companies manage working capital more effectively. More importantly private equity backed companies create more jobs in relative terms, compared to their industry peers. This evidence suggests that all in all, private equity firms can add some value to their portfolio companies and developing European economies. Contrarily, private equity backed firms invest less and use more of the available cash flow for higher debt financing costs.

Findings of Groh et al. (2010) stress that property rights, belief in the entrepreneurial management quality of local people and lack of size and liquidity of the CEE capital markets are the dominant concerns for LPs, when considering investing in the CEE markets. My accounting based approach does not capture these "soft" measures and it could be the case that there are other determinants driving the returns to LPs, which is a drawback of my approach on portfolio company level. I believe further research should focus on added value creation on both, portfolio company and fund level.

3. INVESTMENT SELECTION SUCCESS IN PRIVATE EQUITY

3.1 INTRODUCTION

This is the first research attempt that is trying to assess and quantify the effects of unsuccessful private equity buyouts. Private equity firms, as one of the most essential groups of financial investors, are important agents in terms of M&A activity and are typically considered to be specialized intermediaries, which invest in illiquid assets, i.e. their portfolio companies (PC), and aim to add value over the life of their investment (Cumming et al., 2009). However, their acquisitions are not always successful.

In general, an acquisition/deal (e.g. buyout) can be either completed (successful or unsuccessful) or uncompleted (unsuccessful). It is important to distinguish between the two types of unsuccessful acquisitions. In the first case, an unsuccessful acquisition means that a company was actually acquired by a private equity firm and the post-acquisition performance of a portfolio company was unsatisfactory, thus the acquisition is perceived as unsatisfactory from a financial and return perspective. For example, Lopez de Silanes et al. (2014) document that one in ten private equity investments goes bankrupt, all of which are considered as unsuccessful. Further, all private equity investments that fail to deliver such value added, i.e. that the net of fee returns from these investments are below a mutually acceptable market benchmark (e.g. the S&P500) can be considered as unsuccessful. In the second case, an unsuccessful buyout means that the private equity firm was involved in the bidding process for the potential portfolio company (pPC) but a company was ultimately not acquired by a private equity company. This chapter analyses the latter category of unsuccessful acquisitions, however gives a uniform overview of the reasons for unsuccessful M&As/buyouts in general.

M&A have been one of the central empirical research topics in the past three decades. Motives for M&A activity differ on a deal-by-deal basis and are different between strategic and financial investors. One of the key motives for an acquisition done by a strategic investor is inorganic growth, while other motives include reputation, strategic cooperation, synergies that are reflected in higher cash flows and profitability, increase in wages, defending from a hostile takeover or personal pride (Bertoncelj, 2009).

Transaction motives of financial investors differ to those of strategic investors. While growth in productivity, profitability and efficiency are also wishful by-products, core goal of the transaction for a financial investor is to acquire a company for the purpose of generating profits that are paid to investors (either via dividend payments, fee extractions (e.g. monitoring/transaction fees) or when selling a business for a higher multiple) and also generating sufficient cash flows and profits in their PC to pay back debt, used for deal financing (i.e. buyout). In an acquisition done by a private equity firm the key objectives of an acquisition are growth of business, divesting non-core parts of the business, carving out

part of the business or keeping the healthy part of the business and dissolving the less/non-profitable part (Straub, 2007). Private equity firms could try to include existing or new management in the acquisition (MBO) in order to keep them motivated for growing the business and making sure the focus is on maximizing cash flow and profits.

Cumming et al. (2009) stress that there are two obvious issues, which relate to the performance of private equity funds. First, how pronounced are the value-added contributions of private equity firms in their entrepreneurial investee firms relative to other factors which are responsible for the success of the investment? The second issue is a lack of transparency for unrealized investments (valuation of the portfolio of investee firms and hence the implicit return on investments). These are indeed important issues. If private equity firms are able to select good performing companies, acquire them and add value to these firms, then private equity firms are valuable economic agents. According to the organizational changes hypothesis (Ofek, 1994) private equity firms should be able to select companies with growth potential and potential for organizational improvement, which should result in operational improvement. This means that when a potential target firm is finally not acquired, the potential target should not be financially intact and should not realize the growth that it would have, if it was acquired by a private equity firm.

I look at potential portfolio companies (pPC) in Europe, which were targeted by private equity firms but were finally not acquired by a private equity firm or any other strategic or financial investor within 3 years of the unsuccessful deal announcement (i.e. a company was not acquired by any company). In this chapter I also analyze the potential causes of unsuccessful acquisitions of pPC that were not acquired by private equity firms and try to provide a conceptual background of the pronounced value added of private equity firms in the economy. My results indicate that private equity firms have good market screening abilities and can identify companies that are profitable and have growth potential. In some cases private equity firms are able to acquire above average performing companies, while some pPC can achieve growth and boost profitability without private equity firms being their owners.

Chapter is structured in the following manner. Firstly, a literature review is provided. Secondly, determinants of (un)successful deals are discussed. Thirdy, data collection and its description are presented. Fourthly, methodological technique is described and evaluated, followed by presentation of the results. Finally, I outline limitations of my research and make suggestions for further research.

3.2 LITERATURE REVIEW

A vast majority of literature has focused on different types[22] of completed M&A deals, which have proven to be either successful or unsuccessful. In the case of completed M&A deals, several M&A deals fail due to inappropriate motives, poor post-merger integration

[22] By type, M&A can be split into the following categories: horizontal, vertical and conglomerate.

of the business, deteriorating macroeconomic conditions, regulation restrictions (further outlined below). Historically, the research community assessed and split the M&A activity by looking through different lenses, differentiating between strategic, organizational and financial.

Larsson and Finkelstein (1999) provide a literature overview on successful M&A deals that have been studied through several theoretical lenses. The field of strategic management studies M&A as a method of diversification, focusing on both the motives for different types of combinations (Ansoff et al. (1971), Salter and Weinhold (1981), Walter and Barney (1990)) and the performance effects of those types (Lubatkin (1983), Singh and Montgomery (1987), Shelton (1988) and Seth (1990)). Economies of scale and market power have been emphasized as motives for merger, and researchers have examined acquisition performance with mostly accounting-based measures (Steiner (1975), Goldberg (1983), Ravenscraft and Scherer (1987)). Some finance scholars study acquisition performance, relying on stock-market based measures in doing so (Jarrell et al. (1988), Jensen (1984), Weston and Chung (1983)). Habech et al. (2000) also differentiate M&A according to strategy: extensive strategy, vertical integration strategy, concentric strategy and non-core strategy.

Organizational research focuses primarily on the post-combination integration process (Haspeslagh and Jemison (1991), Pablo (1994)), highlighting both the culture clash (Buono et al. (1985), Nahavandi and Malekzadeh (1988)) and the conflict resolution (Alarik and Edstrom (1983), Blake and Mouton (1985), Mirvis (1985)). Research on M&As in the human resource management (HRM) literature has emphasized psychological issues (Astrachan 1990), the importance of effective communication (Schweiger and DeNisi (1991), Sinetar (1981)) and how M&A affect careers (Hambrick and Cannella (1993), Hirsch (1987), Walsh (1989)).

The financial lense stream, initiated by Kaplan (1989), Smith (1990), and Lichtenberg and Siegel (1990), focused on successful buyouts. They find improvements in profitability and operating efficiency in successful buyouts. Kaplan (1989) reports an increase in operating income, operating margins, and cash flow for a sample of 48 firms that completed management buyouts. Smith (1990) reinforces Kaplan's findings in an examination of 58 management buyouts (MBOs) between 1977 and 1986. She shows that operating cash flow per employee and per dollar operating assets increase in absolute terms and in comparison with the industry. Lichtenberg and Siegel (1990) find that productivity in MBO plants increases significantly in the two years following the buyout.

Jemison and Sitkin (1986), Covin et al. (1996), Marks and Mirvis (1992, 1998), Schraeder and Self (2003), Bertoncelj and Kovac (2007), Straub (2007), Hassan et al. (2007) and Bertoncelj (2009) argue that more than half of M&As fail to produce results or break even at best. 55-77% of all M&A deals fail to deliver on the financial promise announced when the merger was initiated and some 40% of cross-border mergers amongst large companies

end in what is termed a total failure (Carleton and Lineberry, 2004). Huang and Kleiner (2004) find that in the first four to eight months that follow the deal, productivity may be reduced by up to 50%. Poor communication, weak business fit, cultural differences and management misfit are standard underlying reasons for a completed M&A process that turns out to be unsuccessful.

Most of the M&A literature has focused on completed successful and unsuccessful general M&A. Ofek (1994) and Citron et al. (2003) take a look at the various aspects of (un)successful investments from a buyout perspective. Lee (1992) is the only author that looks at withdrawn buyout deals, in particular MBOs.

Ofek (1994) tests whether operational improvements following successful MBOs are a result of organizational changes or private information. He finds that unsuccessful MBOs had no increase in operating performance following the buyout attempt. His findings (improved operating performance following successful MBOs) are consistent with the organizational changes hypothesis, which states that operational improvements are a result of organizational changes induced by the buyout (Jensen, 1989). Alternatively the private information hypothesis provides an additional potential explanation for the improved operating performance. Private information hypothesis supports the notion that operational improvements would have occurred even in the case when the buyout is not finalized. Managers' private information about future improvement allows them to exploit the firm's undervaluation by bidding to take the company private. Ofek (1994) elaborates that while observing the changes in performance in a sample of unsuccessful MBO offers this can also help distinguish between the competing hypotheses about operational improvement. A successful MBO is usually associated with several organizational changes such as an increase in managerial ownership and a sharp increase in leverage. He argues that these changes do not occur when a buyout attempt fails, so the firms in question do not experience associated improvement in performance. Moreover, if the management bids for a firm for which it has favorable private information about future performance, the firm's performance should improve following the MBO offer, whether or not it succeeds. Thus the private information hypothesis predicts a positive change in performance for firms that receive a buyout bid from management that is later canceled, whereas the organizational change hypothesis predicts no such change. While the author focuses strictly on MBOs, my focus is on LBOs including private equity investors.

Citron et al. (2003) look at secured creditor recovery rates from MBOs in distress. By using a unique dataset of 42 completed and failed MBOs they examine the extent of credit recovery by secured lenders under the UK insolvency procedures and the factors that influence the extent of this recovery. They find that on average, secured creditors recover 62% of the amount owed. The percentage of secured credit recovered is increased, where the distressed buyout investments are sold as a going concern and where the principal reason for failure concerns the managerial factors. Recovery rate by secured creditors is

reduced with the presence of a going concern qualification in the audit report and the size of the buyout.

Lee (1992) explores stock price behavior surrounding the withdrawn and uncompleted MBO proposals to determine whether managers' proposal announcements reveal any information which is unrelated to the efficiency gains associated with completed MBOs. He finds that on average, firms whose managers withdraw buyout proposals do not sustain significantly positive stock price effects unless they receive subsequent acquisition bids. In addition, managers of firms with completed buyouts are no more likely to have access to the inside information than managers who withdrew proposals. Lee interprets his evidence as inconsistent with the notion that inside information commonly motivates management buyout proposals.

According to Jensen's (1989) view, a greater managerial ownership and high financial leverage associated with the buyout give managers strong incentives to generate higher cash flow through improved operating performance. In practice the same logic applies to the private equity firms that usually acquire a significant stake in the target firm and have a strong incentive to generate higher cash flows.

Ofek's reflection (1994) on organizational improvement is an important notion in the acquisition context. When a pPC is finally not acquired, the pPC should not be financially intact and should not realize the growth that it would have, if it was acquired by a private equity firm. Given that private equity firms do not inherently poses private information about the pPCs as the management does in the case of a MBO, intuitively this means that unsuccessful private equity deals should be consistent with the organizational changes hypothesis. Consequently, I test the following hypothesis:

Hypothesis 8: *Operational performance of potential private equity investee firms that were not acquired by a private equity firm should not change after the announcement of an unsuccessful acquisition.*

3.3 UNSUCCESSFUL BIDS AND DEALS

Another very important aspect of every bid made by private equity investors is to understand the company selection and acquisition process that leads to a completion of a bid and to a transaction completion. The selection and acquisition process of a private equity firm is a complex process that requires agreements from several economic agents (e.g. banks, shareholders, other stakeholders, unions, advisors, etc.). Private equity firms have skillful in-house experts that have significant M&A experience and some work closely with their independent financial advisors that can provide useful deal related information. Since several agents are involved it is not always easy to reach an agreement with everyone involved in the transaction. In every step of the bidding process there is always a chance that one of the agents would not agree with conditions set out in the Sales

and Purchase Agreement (SPA) and the private equity bid for the potential portfolio company would ultimately not acquire a company.

There are several potential reasons that can lead to a completed (un)successful or uncompleted (unsuccessful) deal. Straub (2007) identified three key deal factors that determine success, split into 12 deal variables that should be assessed when considering a successful/unsuccessful M&A:

I) Strategic logic - is reflected by six variables: market similarities, market complementarities, operational similarities, operational complementarities, market power and purchasing power.
II) Organizational integration - is reflected by three variables: acquisition experience, relative size, cultural compatibility.
III) Financial / price perspective - is reflected by three variables: acquisition premium, bidding process, and due diligence.

All 12 variables can affect M&As either positively or negatively at any stage of a deal, pre- or post-deal. Organization integration is the most evident deal driver that a private equity firm possesses. Intuitively, it seems that acquisition experience is something that is a given talent of private equity firms, since they are constantly screening for prospective targets but decide to put only a few under the investment loophole.

Bertoncelj (2009) elaborates on hard (acquisition capabilities, financing capabilities, due diligence, integration plan and execution) and soft (communication between agents, management team, human and intellectual capital and corporate culture) M&A success factors. From a practitioners point of view a private equity investor should master all hard and soft success factors, in order to be able to complete a deal and add value to the company and investors. If any of the factors is missing, there is reason for concern that post-deal operations might not go as planned.

Sneath and Adler (1989) outlined ten critical areas[23], which are ultimately the cause for an unsuccessful completed or uncompleted M&A. These include:

I) Bad strategic planning: once management of the acquiring company has clear goals about what exactly they want to do with a target, only then a thorough market screening for a good target should take place.
II) Too high price: if the target is to be acquired at a too high multiple that eliminates synergy effects, this is a warning sign for canceling the deal.
III) Non-core assets acquisition: generally the closer the industries of the acquirer and target, the better the chances for synergies and higher profitability.

[23] Some apply only to strategic investors.

IV) Timing: if a deal is executed too fast and a poor due diligence took place, there is a chance that if the deal goes through, the acquirer may be facing risks that were not quantified.

V) Due diligence of existing management: if the acquirer plans to keep existing management, they should thoroughly assess the capabilities and fit into the new owner.

VI) Cultural differences: one crucial factor is that in the pre-deal period it is made clear how the envisaged new business culture will be implemented.

VII) Implementation of changes is too fast: all changes should be carefully considered and clearly communicated and provide a good reasoning what each change should occur.

VIII) Poor communication: there should be a clear communication line between the target and acquirer during all M&A phases.

IX) Risk management: if it is a cross-border deal, the acquirer might be exposed to additional risks (i.e. currency exchange risk, legislation risk, etc). The acquirer should be familiar with all material risks after a due diligence of the target is undertaken.

X) Deal financing: although cash is always the preferred way to finance the deal, stock, bonds and external loan financing is always a financing possibility that is not accepted by all shareholders.

Potential portfolio companies in my dataset are international large legal entities with a diversified shareholder structure. In practice, shareholders appoint an independent lead financial advisor that leads the sell-side process in the name of the shareholders. The advisor leads an internationally competitive sales process and tries to bring as many quality investors to the table in order to boost the competitiveness and consequently increase the probability for higher bids. In most acquisition processes both strategic and financial investors are involved, where strategic investors are normally willing to pay the highest price due to synergy effects, industry knowhow, geographical footprint, trademarks, etc. Even in the cases where a financial investor acquires a firm, this firm is finally resold to a strategic investor that is willing to own the company in the long run. So in any case in any industry the potential portfolio company will end up in the hands of a strategic investor in the mid to long run. The question is whether a financial investor has the ability to acquire this target firm for a limited amount of time and add value to the firm and to the investors who provided money for the acquisition.

The very fact that bids were not successful is not random but reflects an endogenous decision of the involved agents. I do not try to tackle the endogenous problem of the decision making process by the private equity investor since I do not have the relevant confidential data to answer such an issue. Deal failure can be driven by objective reasons (e.g. political reasons (discontinuation of the privatization process)) or subjective reasons (e.g. the shareholders decide not to sell a company due to below than expected priced offer, unfavorable intentions of the prospective bidder (e.g. layoffs), due diligence process

reveals that the business is not as profitable as it seems, has excessive associated risks and/or hidden liabilities, the shareholders do not want to provide sufficient warranties and/or indemnities, etc). For illustrative purposes I elaborate further on some most common potential reasons, which can lead to an unsuccessful deal.

The first and the most obvious reason for an unsuccessful bid from a private equity firm is that a strategic investor offers a higher bid and thus a private equity firm is not invited to the next negotiation round. This is standard practice in the M&A arena, in which a private equity firm has more aggressive pricing views and a clear entry and exit point, in comparison to a strategic investor. A private equity firm is willing to normally acquire a company at a lower multiple compared to a strategic investor. Further, a strategic investor is normally willing to offer a higher multiple due to the synergies one can exercise by acquiring a company.[24] Potential portfolio companies in my dataset were finally not acquired neither by a financial nor a strategic investor, though there is no visibility whether pricing was the main reason for a deal falling through. This is not one of the reasons for an unsuccessful acquisition in my analysis because the pPC in my data set was not acquired by another company within 3 years post the deal announcement date.

If a private equity firm has made a competitive bid and is invited to the next negotiation round, this increases the chances of closing the transaction but there is still a long way to go. In the initial transaction phase the private equity firm only had access to the potential portfolio company's teaser and information memorandum, which can both be very illustrative and do not disclose all relevant company details. In the next round the private equity firm undertakes a thorough financial, tax, commercial and legal due diligence[25] in order to get familiar with the existing and potential risks that the business is facing. If there are significant unavoidable risks[26] that have not been evidenced in the information memorandum, then this can normally be a deal-breaker for the private equity firm (but also for a strategic investor). Despite the fact that the bidding price is a core deal determinant there are also other potential reasons for an unsuccessful deal that are normally more specific for financial investors[27], such as:

I) Inappropriate transaction structure: the banks may not favor a deal that is overleveraged. This was not the case until 2008 but with the recent GFC banks have begun to be more cautious when it comes to "over" leveraging. There is an ongoing debate amongst practitioners about the optimal debt and capital structure. Theoretically, it is the one that maximizes shareholder

[24] E.g. in the telecommunication industry a strategic investor that acquires a target can immediately experience an EBITDA boost due to addition of the existing customer base. There are also some overhead costs of the acquired company that can be immediately reduced due to existing centralized functions of the strategic investor. These effects are also evidenced in other industries such as logistics, transportation, aviation, etc. but I do not elaborate further since this is not the core focus of this chapter.

[25] Private equity firm usually hires an independent financial and legal advisor to undertake a due diligence.

[26] E.g. environmental risks, legal claims, significantly overdue balance sheet liabilities, other off-balance sheet liabilities, etc.

[27] Based on practical experience.

value, lowers the weighted average cost of capital and increases the enterprise value, which is the ultimate goal of any M&A deal. Private equity firms tend to aim for as much debt possible in order to boost equity returns for their investors.

II) Disapproval from labor unions: if the SPA is not favorable to the employees that are part of the labor union, this can lead to an unsuccessful transaction. If a private equity firm clearly indicates that it will make significant changes that would concern employees, this can be a deal breaker.

III) Disapproval from local authorities: if a financial investor clearly indicates that they plan to reallocate the production premises or close down a part of the business, this can be sometimes unacceptable for the local authorities and/or the government.

IV) Non-participative management of the company: if the management sees that the private equity firm will replace the management, this can be a demotivating signal for the existing management, which can result in non-cooperation. Thus, the management can decide to disclose only selective financial information and make life much more difficult for any bidder.

V) Inability to find refinancing: in some deals existing financial lenders want to exit the company and this means that a private equity investor has to agree on refinancing and find a suitable bank to participate. If it is a distressed business that would be acquired, banks might be reluctant to provide financing for such a business.

VI) Different groups of shareholders have different goals: i.e. there can be a group of shareholders, whose main priority is to maintain the existing voting rights since these allow them to make favorable decisions. These shareholders can be suppliers or buyers and are more tightly interconnected with the company, since they are not involved only as shareholders but have an existing contractual business relationship with the company that is being sold. If there is a risk of a financial investor bringing new suppliers/customers to the table that are in conflict and could hamper the existing business relationships, it is likely that these types of shareholders would not be inclined to sell their stakes.

VII) If a transaction involves a distressed business, normally a discussion evolves around the debt reduction in the form of debt-to-equity swaps and haircuts. The latter are not favorable by banks, whereas a debt-to-equity swap can cause dilution of existing equity holders and also changes the position of the lenders. Sometimes it is difficult to reach an agreement on the new proposed debt and equity structure and can lead to a deal incompletion.

Adversely, private equity firms are normally not restricted with anti-trust restrictions[28] and can more easily obtain approvals from anti-trust authorities in comparison to strategic investors that already have market shares in the target industry and are more limited in this respect.

3.4 DATA DESCRIPTION

In order to identify potential portfolio companies that were targeted by private equity firms but were not successful buyout (unsuccessful private equity buyouts) I use the Mergermarket database. This database includes details of 4,600+ private equity exits, 5300+ private equity portfolio companies that are currently still held in their portfolio and 5000+ potential private equity companies (pPC). A pPC is a company that was for sale and a private equity company was in the bidding process for the company. However this company was finally not acquired by a private equity firm and the outcome for the potential portfolio company is either: a) it was sold to another investor (i.e. a strategic buyer) or b) it was not acquired by any bidder. I exclude all potential portfolio companies that were acquired by any investor within the three years after the potential acquisition that was to be undertaken by a private equity firm in order to keep "clean", intact and non-acquired companies as potential portfolio companies.

Out of the 5,000+ pPCs I select only companies with an estimated deal size above €500m. This increases the chances of collecting quality financial data that improves the quality of my analysis and results. Thus, I take 2,696 companies with an adequate estimated deal size. Further, since I focus my analysis strictly on European companies, on this account eliminate 503 companies. Because I want to assess the financial effect in a period of economic prosperity, I select only potential acquisitions from 2005. This allows me to have a clear (-3,+3) seven year time horizon, without a GFC effect. Out of 2,193 companies, 202 potential acquisitions took place in 2005 (9.2% of the total 2,193), in which a private equity was involved as a bidder. This is slightly below the annual average in the period 2002-2009 (12.5%), though still representative, considering that 40% of the potential acquisitions took place in 2007 and 2008. Potentially there could be bias on this account, however I believe that roughly 10% of the entire population is still quite representative. Out of the 202 companies, 107 companies were acquired by another investor within the +3-year period, leaving me with 95 potential portfolio companies. I try to collect financial data for these companies, using the Amadeus database and find quality financial data that is purposeful for my analysis for 28 companies. Taking into account that quality financial data is not available for 70% of the companies that were potential portfolio companies, there is reason for concern for sample bias.

[28] Except in the case of a) when bolt-on acquisitions are taking place and the private equity firm already has portfolio companies in the same industry and b) when a private equity wants to acquire a company in the same industry as one of their existing portfolio companies and merge the two businesses.

Financial and accounting effects of pPCs have to be compared to an appropriate benchmark, in order to get good visibility on the performance of pPCs vs. the market. I also use Amadeus to collect financial data for all benchmarks (B). By collecting Amadeus financial data for benchmark companies with identical industry classification (SIC; 4-digit) I am able to properly assess the differences between pPCs and benchmarks with industry comparable benchmarks.

For comparative reasons I also collect financial data for private equity portfolio companies that were acquired by a private equity firm in 2005 and already exited (EXITS)[29]. There were 125 companies acquired by a private equity firm in 2005 in Europe (those that report multiples) but I am able to gather quality financial data for only 35 entities. Mean multiple for 125 companies is 2.2 (median is 1.5). For the 35 companies, for which I present results and include in my analysis the mean multiple is 2.0 (median is 1.6), showing little room for bias on this account, despite the fact that I present financial analysis results for only 28% of the exited private equity companies.

In addition to the 125 companies that reported multiples, there were 37 companies that were acquired in 2005 and were also exited but no multiples are disclosed[30]. I was able to collect financial data only for 6 companies (16%) and hence do not include these in the analysis and also do not report findings for these 6 entities.

3.5 RESEARCH METHODOLOGY

The methodology for this chapter is based on works related to value creation based on accounting and financial measures. Methodology is based on works by La Porta and Lopez De Silanes (1999) and Guo et al. (2011). I use financial and accounting data (income statements, balance sheets, cash flow statements) of potential portfolio companies and rely on several broad indicators of performance (presented in detail in the Appendix 2): (1) The firm's profitability, (2) Operating efficiency, (3) Employment and wages, (4) Capital investment, (5) Output, (6) Leverage, (7) Liquidity, (8) Net taxes and (9) Earnings management.

I want to assess the financial and operational effects of unsuccessful private equity buyouts. I calculate twenty nine accounting ratios (see Appendix 2 for details) for the sample companies in order to try to assess and interpret the nine above mentioned performance indicators. Performance indicators are calculated from Year -3 to Year +3 with Year 0 representing the unsuccessful buyout transaction date. The mentioned seven year period provides enough time for financial and operational changes to be captured in

[29] Average months held for these portfolio companies is 29 months, allowing a proper assessment of strictly private equity firm management effect within the +3-year time frame.

[30] Average months held for these portfolio companies is 34 months, which is surprisingly low. This means that technically these investments can be considered as quick flips, however the question of why no multiples are disclosed remains open and arises transparency dilemmas already raised by Cumming et al. (2009).

the financial data. Since some companies will not have data available for the (-3,+3) year interval, some companies are analyzed using data with a shorter time span.

For each firm, the change in each calculated indicator of performance is measured by comparing its average and median value in the unsuccessful post-buyout period with the average and median value in the unsuccessful pre-buyout period. The change in these two statistical variables from one period to another is tested to see if it is significantly different from zero, using the t-statistic test for change in mean and z-statistic for change in median. The results for medians are presented in order to control for values which determine a very wide range within the ratios that can dominate the means due to the fact that the sample size is small. All significance levels are based on two-tailed tests.

Since I assess the effects of unsuccessful private equity backed buyouts on a pan-European level, measured by a company's performance, this requires a comparison with a relevant industry benchmark. This includes assessment of pre-(post-) private equity transaction performance and a comparison with European benchmark companies (that were not private equity portfolio companies) from similar industries and of similar size. The industry median adjusted performance provides the most direct comparison to prior research (Kaplan (1989), Guo et al. (2011)), using firms in the same four-digit SIC code. Therefore I use industry benchmarks with the same SIC codes as of target companies from the Amadeus database.

I compare potential portfolio companies (pPC) with comparable benchmarks (B) and also present the not directly comparable private equity portfolio companies exits (EXITS). Results are not directly comparable in this respect because the industries of EXITS do not match the industries of pPC. Though, illustratively it still shows the financial effects that these two groups of companies achieve in the same period and gives a good idea about the potential added value by owners of these two groups of companies.

In order to test Hypothesis 8 I use t-test and z-test statistics to assess the differences in performance between the pPCs and their industry benchmarks.

3.6 RESULTS

The results are split into two sections: 1) descriptive statistics of the dataset and 2) t-test and z-test results that provide answers to my Hypothesis.

3.6.1 DESCRIPTIVE STATISTICS

Overall, my sample consists of predominantly large international corporations, which operate in several markets. More than 85% of companies have total assets above €500m, while 64% have assets above €1bn. All pPC have turnover above €1bn. There is a concern for sample bias since I include only companies that are large in size and results for smaller of medium-sized companies could be different.

Table 12: Potential portfolio companies in the final dataset split by number of employees

Number of employees	Number of companies
0-50	1
51-100	1
101-250	2
251-500	1
more than 500	23
Total	28

Table 13: Potential portfolio companies in the final dataset split by turnover and total assets

Turnover\Total assets (in €)	0-25 million	26-50 million	51-100 million	101-500 million	501-1000 million	more than 1 billion	Total
0-25 million							0
26-50 million							0
51-100 million							0
101-500 million							0
501-1000 million							0
more than 1 billion			2	2	6	18	28
Total	0	0	2	2	6	18	28

From the industry diversification point of view I believe there is no reason for concern for sample bias. When considering assets, retail industry is the most represented (31%), followed by automobiles and trucks (24%), while the rest of the pPC are active in other industries.

Table 14: Potential portfolio companies in the final dataset according to the U.S.A. SIC classification

Industry classification	Number of companies	Percentage of total assets of the sample	Percentage of number of employees of the sample
Aeronautics	3	5.6%	2.1%
Automobile and trucks	2	23.9%	12.4%
Business services	2	5.5%	1.6%
Chemicals	1	0.1%	0.0%
Electrical appliances	1	5.1%	2.7%
Financial services	1	0.3%	0.1%
Food products	3	9.9%	50.2%
Leisure	3	2.3%	3.2%
Manufacturing	1	0.8%	0.0%
Retail	4	31.3%	26.2%
Real estate	3	3.8%	0.2%
Transportation	1	7.5%	0.3%
Utilities	1	2.1%	0.1%
Wholesale	2	1.8%	0.9%
Total	28	100%	100%

When considering employees, there is a reason for concern for sample bias since 50% of the companies operate in the food industry and additional 26% in retail. It appears that the retail industry was very attractive in M&A terms in 2005 and that there were several attractive targets that achieved growth in the 2005-2008 period.

Table 15: Potential portfolio companies in the final dataset according to country origin

Portfolio company origin	Number of companies	Percentage of total assets of the sample	Percentage of number of employees of the sample
Finland	1	0.9%	0.2%
France	2	4.7%	1.8%
Germany	7	34.9%	16.9%
Italy	3	9.9%	50.2%
Poland	1	0.8%	0.6%
Sweden	1	1.0%	1.6%
UK	13	47.8%	28.6%
Total	28	100.0%	100.0%

Geographically the sample is heavily determined by the UK firms, which represent 48% in asset terms and 28% in employee terms. Other key markets for potential private equity firms in 2005 include Germany (35% of total assets and 17% of all employees) and Italy (10% of total assets and 50% of all employees). Obviously, the size of the targets and its representativeness in the sample is also determined by the market size. The larger the economy, the larger the representativeness in asset or employee terms. For instance Finland, Poland and Sweden represent only a small portion in the entire sample.

Unfortunately, the sample is too small to draw any further conclusions in terms of average profitability, indebtedness, efficiency, etc.

3.6.2 T-TEST AND Z-TEST RESULTS

Results for t-test and z-test statistics are presented in tables below and are split into results for potential portfolio companies (pPC), comparable benchmarks (B) and not directly comparable private equity portfolio companies exits (EXITS). Potential portfolio companies that were to be acquired in 2005, but were finally not, managed to increase their profitability measured by EBITDA/Tangible fixed assets, Profit margin, Net income/Tangible fixed assets or ROE.

Results for ROE show strong significance and the increase in ROE supersedes the increase in benchmark firms and the difference between the two is also statistically significant. My findings indicate that firms that were not acquired either by a private equity firm or any other company can boost profitability (measured by ROE) without being acquired by private equity firms.

ROE also increases in private equity companies (EXITS), thought the increase is lower than for pPC. Nevertheless, one should take into account that the average ROE of private equity firms that were acquired in 2005 was higher compared to pPC. This proves that private equity firms have target selection abilities since they are able to identify the companies that have above average ROE profitability and these companies can outperform the market benchmark, regardless of the fact whether a private equity firm acquires them in the end or not.

Table 16: Results for t-tests and z-tests for potential portfolio companies (pPC), benchmarks companies and private equity exits (EXITS)

	POTENTIAL PC COMPANIES (pPC)				BENCHMARK (B)				EXITS				Δ (PC – B)	
	Mean before Median before	Mean after Median after	Diff. (Δ)	t-statistic z-statistic	Mean before Median before	Mean after Median after	Diff. (Δ)	t-statistic z-statistic	Mean before Median before	Mean after Median after	Diff. (Δ)	t-statistic z-statistic	Difference pPC - B (Δ)	t-statistic z-statistic
(1) Profitability														
	11.41	15.16	3.75	0.569	10.47	11.06	0.59	0.041	11.44	11.31	-0.12	0.018	3.16	0.714
EBITDA / turnover	11.32	15.48	4.16	1.617[c]	9.15	9.51	0.360	0.911	11.49	11.73	0.238	0.157	3.80	0.834
	5.56	7.78	2.21	0.526	5.92	6.81	0.892	0.143	6.75	7.54	0.795	0.007	1.32	0.724
EBIT / turnover	5.51	6.74	1.23	1.389[c]	4.83	5.92	1.09	2.516[a]	6.76	8.12	1.36	0.606	0.14	0.319
	0.32	0.47	0.15	0.720	0.37	0.45	0.075	0.332	0.50	0.79	0.288	0.846	0.07	0.732
EBITDA / Tangible fixed assets	0.28	0.45	0.18	2.066[b]	0.42	0.52	0.10	3.461[a]	0.52	0.79	0.27	0.647	0.07	0.505
	4.23	5.50	1.26	0.875	2.60	2.85	0.258	2.041[b]	5.80	6.70	0.895	0.251	1.00	0.377
Net income / turnover	3.69	8.57	4.88	2.475[a]	2.52	2.89	0.371	2.414[a]	5.74	7.53	1.791	0.197	4.51	1.682[b]
	0.07	0.14	0.07	1.620[c]	0.10	0.12	0.018	1.607[c]	0.11	0.26	0.153	0.828	0.05	0.747
Net income / Tangible fixed assets	0.06	0.18	0.12	2.070[b]	0.09	0.16	0.071	3.188[a]	0.13	0.22	0.087	0.372	0.05	0.038
	9.45	30.09	20.64	4.530[a]	15.51	17.42	1.91	1.320[c]	15.18	27.74	12.56	1.061	18.73	1.235
ROE	9.51	30.73	21.22	3.676[a]	13.35	18.38	5.03	2.482[a]	17.11	29.24	12.13	2.038[b]	16.20	2.883[a]
(2) Operating efficiency														
	0.72	0.66	-0.07	1.000	0.85	0.86	0.005	0.600	0.54	0.65	0.109	0.000	-0.07	0.174
Cost of sales / turnover	0.74	0.65	-0.08	1.000	0.86	0.84	-0.020	1.377[c]	0.54	0.65	0.113	0.000	-0.06	0.452
	22.7	34.1	11.4	1.593[c]	28.3	21.3	-7.0	0.546	34.3	27.3	-7.0	1.033	18.3	0.522
EBITDA / number of employees	21.0	34.7	13.7	1.184	58.0	93.0	35.1	1.753[b]	30.6	30.2	-0.4	0.216	-21.4	1.526[c]
	2.37	2.95	0.58	1.073	4.05	4.55	0.507	0.187	6.89	5.89	-1.005	0.548	0.07	1.199
Turnover / Tangible fixed assets	2.36	3.01	0.65	0.432	4.77	5.40	0.630	1.662[b]	6.94	6.04	-0.892	1.313[c]	0.02	0.889
	259.55	227.51	-32.05	1.644[c]	255.10	261.93	6.83	0.449	311.36	349.99	38.63	0.733	-38.88	1.647[c]
Turnover / number of employees	268.24	229.63	-38.61	0.205	271.03	277.15	6.12	1.844[b]	310.38	330.03	19.65	1.617[c]	-44.74	0.729

	POTENTIAL PC COMPANIES (pPC)				BENCHMARK (B)				EXITS				Δ (PC – B)	
	Mean before Median before	Mean after Median after	Diff. (Δ)	t-statistic z-statistic	Mean before Median before	Mean after Median after	Diff. (Δ)	t-statistic z-statistic	Mean before Median before	Mean after Median after	Diff. (Δ)	t-statistic z-statistic	Difference pPC - B (Δ)	t-statistic z-statistic
(3) Employment and wages														
	47.40	47.14	-0.26	1.809[b]	16.46	16.50	0.04	0.275	48.72	47.16	-1.56	0.717	-0.30	1.836[c]
Personnel costs / number of employees	46.90	47.23	0.33	1.970[b]	15.30	14.50	-0.80	1.640[c]	49.38	49.05	-0.33	1.254	1.13	1.946[c]
	3957	4369	412	1.727[b]	4034	4781	747	0.698	334	508	174	0.102	-336	1.672[b]
Number of employees	4029	4415	387	1.207	3733	2890	-843	0.364	307	380	73	2.103[b]	1230	1.662[b]
(4) Capital investment														
	0.00	0.02	0.02	0.744	0.00	0.00	0.005	0.573	0.00	0.03	0.031	0.684	0.01	0.691
Investments in fixed assets / turnover	0.00	0.02	0.02	0.888	0.01	0.00	-0.006	0.888	0.00	0.03	0.027	2.403[a]	0.02	1.139
	0.00	0.00	0.01	1.138	-0.09	0.73	0.820	0.350	-0.05	0.47	0.522	0.976	-0.81	1.144
Investments in fixed assets / number of employees	0.00	-0.01	-0.01	0.387	1.31	0.21	-1.105	0.820	0.00	-0.21	-0.211	1.063	1.10	0.615
	0.00	0.61	0.61	1.302	0.00	0.01	0.010	1.143	0.02	0.53	0.512	0.003	0.60	1.300[c]
Investments in fixed assets / Tangible fixed assets	0.00	0.13	0.13	2.571[a]	0.03	0.01	-0.020	1.298[c]	0.00	0.09	0.091	2.162[b]	0.15	2.955[a]
	70.91	32.73	-38.18	0.237	60.06	58.42	-1.637	0.758	36.90	34.85	-2.057	1.178	-36.54	0.305
Tangible fixed assets / number of employees	73.04	33.10	-39.94	0.296	46.43	52.68	6.250	0.934	37.62	36.81	-0.820	1.152	-46.19	1.002
(5) Output														
	0.01	0.02	0.01	0.903	0.05	0.03	-0.02	2.046[b]	0.10	0.07	-0.03	0.923	0.03	0.575
Turnover	0.02	0.01	-0.01	0.114	0.06	0.02	-0.04	1.503[c]	0.08	0.08	0.01	0.759	0.02	1.297[c]
(6) Leverage														
	0.29	0.30	0.01	0.668	0.33	0.28	-0.048	0.778	0.24	0.28	0.041	1.616[c]	0.05	0.444
Equity / Total assets	0.28	0.31	0.02	0.114	0.27	0.27	0.004	0.965	0.24	0.29	0.057	2.834[a]	0.02	0.478
	3.28	3.86	0.57	0.980	6.27	15.42	9.155	0.374	3.65	4.26	0.604	1.098	-8.58	0.942
Interest coverage	3.21	4.31	1.10	0.913	3.50	3.23	-0.275	1.139	3.03	3.39	0.362	1.161	1.38	0.360
	0.41	0.48	0.07	0.531	0.44	0.43	-0.010	1.825[b]	0.43	0.42	-0.017	0.979	0.08	0.595

EBITDA/financial liabilities	0.37	0.45	0.08	0.456	0.73	0.59	-0.140	1.321[c]	0.39	0.41	0.023	1.139	0.23	1.225
	442857	534745	91888	0.386	382382	405510	23128	1.794[b]	23733	26098	2366	1.209	68760	0.502
Financial liabilities	436079	533070	96991	0.408	187157	193349	6192	0.205	23519	17755	-5764	1.159	90799	0.697

	POTENTIAL PC COMPANIES				BENCHMARK				EXITS PC				Δ (PC – B)	
	Mean before	Mean after	Diff. (Δ)	t-statistic	Mean before	Mean after	Diff. (Δ)	t-statistic	Mean before	Mean after	Diff. (Δ)	t-statistic	Difference PC - B (Δ)	t-statistic
	Median before	Median after		z-statistic	Median before	Median after		z-statistic	Median before	Median after		z-statistic		z-statistic
(7) Liquidity														
	1.14	1.06	-0.08	1.510[c]	1.71	1.44	-0.268	2.165[b]	1.16	1.34	0.179	0.126	0.19	1.048
Current ratio	1.15	1.03	-0.12	0.797	1.19	1.18	-0.015	0.273	1.19	1.17	-0.020	0.262	-0.10	1.366
	0.92	0.98	0.07	1.551[c]	1.29	1.07	-0.213	2.590[a]	1.00	1.03	0.031	0.150	0.28	0.894
Liquidity ratio	0.91	0.95	0.04	1.002	0.95	0.93	-0.025	1.550[c]	0.92	0.96	0.040	0.311	0.06	0.820
	24.03	14.55	-9.48	0.004	47.00	78.00	31.000	1.560[c]	13.21	10.23	-2.977	0.945	-40.48	1.537[c]
Working capital/ number of employees	25.02	14.61	-10.40	0.408	31.00	37.00	6.000	0.980	13.61	9.85	-3.757	0.098	-16.40	0.456
(8) Net Taxes														
	0.05	0.05	0.00	0.075	0.04	0.05	0.010	0.119	0.05	0.05	0.000	0.399	-0.01	0.570
Net taxes / turnover	0.05	0.05	0.00	0.025	0.06	0.05	-0.010	1.169	0.05	0.04	-0.010	0.091	0.01	0.917
	278684	279900	1216	0.116	275324	264941	-10383	2.200[b]	279589	276555	-3034	0.393	11599	1.335[c]
Net taxes	274622	278329	3707	0.319	274048	270149	-3899	0.023	272502	279687	7185	1.605[c]	7606	0.000
	0.13	0.13	0.00	0.680	0.12	0.12	-0.005	0.443	0.11	0.10	-0.010	0.686	0.00	0.776
Net Taxes / net income	0.12	0.13	0.01	1.221	0.11	0.09	-0.015	0.722	0.12	0.13	0.010	0.047	0.03	1.163
(9) Earnings management														
	0.43	0.50	0.07	0.840	0.34	0.62	0.280	1.540[c]	0.66	0.77	0.110	2.014[b]	-0.21	2.330[a]
Net income / Free cash flow	0.42	0.60	0.18	1.586[c]	0.33	0.41	0.082	1.321[c]	0.65	0.81	0.161	3.038[a]	0.10	0.625
	0.22	-0.14	-0.37	0.747	0.77	-0.34	-1.11	0.929	0.00	0.09	0.09	0.835	0.75	0.462
Change in working capital / total assets	0.00	0.00	0.00	0.089	-0.33	0.00	0.33	0.961	0.00	0.00	0.00	0.278	-0.33	0.292

a=1%, b=5%, c=10%

Surprisingly, profitability measured by EBITDA increases the most for pPC and increases only slightly for the benchmarks and EXITS. Nevertheless none of these increases is statistically significant. Since the results are not statistically significant for all profitability indicators, I cannot accept or reject my hypothesis, though results indicate there is a weak ground for the organizational change hypothesis in the context of potential private equity buyouts. Intuitively, officially published EBITDA figures might not give a clear picture of the actual EBITDA that the companies achieve. In order to thoroughly understand the cash generating ability of each business, a deeper insight into adjusted EBITDA (adjusted for exceptional items, one-off effects, extracted fees, etc.) and EBITDA to FCF conversion should be undertaken, to have a clear picture on actual cash generation capacity.

Since I analyze potential and actual investments in a booming period, my results are aligned with intuition of Axelson et al. (2009). They state that in buyouts debt is the optimal security as additional financing in a deal and thus general partners choose to undertake all investments they can get financing for, even if some investments are value decreasing. They claim that during boom times, there will be more good projects than in bad times, but bad projects will be financed in addition to good ones, since financing is easily available in good times. Their view is also supported by findings by Jones and Rhodes-Kropf (2003) and Kandel et al. (2006).

My z-test results for EXITS in my sample indicate that even though EBITDA margin does not increase, ROE significantly increases, meaning a private equity firm's focus is on maximizing returns for their limited partners. Nevertheless, the fact that ROE of potential private equity firms increases even more shows two signals:

I) Private equity firms know how to identify good potential investments – whether they finally acquire them depends on deal financing, pricing and other objective and subjective key elements in a transaction.
II) ROE increases even more in pPE firms, comparing to EXITS, showing that other economic agents/owners can boost profitability even more and that a private equity firm is not necessarily the best possible owner of the company in terms of boosting productivity and profits to be paid out to investors.

I leave the important question of whether private equity firms outperform their peers in the long run across all industries on a global level throughout the private equity history, for future research. My findings answer only a minuscule part of this puzzling question.

My findings contradict Bertoncelj (2006), who claims that M&A targets are under-performers, which attract capital market discipline. Potential private equity firms' EBITDA profitability in my dataset is in line with market benchmarks and profitability of other targets that were actually acquired by private equity firms.

Companies backed with private equity managed to increase equity/total assets and consequently reduce leverage within the 3-year post-buyout horizon. This somehow surprising finding is not robust since all other leverage indicators are not statistically significant and show misaligned leverage movement.

Statistically significant results also show that private equity portfolio companies increase net income/free cash flow, proving that private equity firms can manage earnings efficiently. The latter findings are aligned with ROE findings and also indicate that core focus of private equity practitioners is on earnings extraction for their investors. This finding is not significant for pPC or their benchmarks. Unfortunately, I do not have the dividend payout data that would allow me to statistically test whether more profits are paid out to their investors in private equity cases, compared to other cases.

3.7 LIMITATIONS, FUTURE RESEARCH AND EXTENSIONS

There is a limited reach of findings in this chapter, especially because of sample size and limitation of investment horizon. I provide some answers to private equity practitioners, however further research in the area of unsuccessful M&A is warranted. Since I do not have confidential data on a deal-by-deal basis that e.g. a lead sell-side financial advisor or a private equity firm would possess, I am not able to explicitly quantify and pinpoint the reasons why a firm is finally not acquired by a private equity firm or any other investor. A plausible reason could be pricing and/or owners' decision not to proceed with the transaction due to several reasons, outlined in the Unsuccessful bids and deal section.

Further research should focus on quantifying the distinction between hard and soft M&A success factors, based on the data provided by private equity firms.

3.8 CONCLUSIONS

I find no evidence that would support the organizational change hypothesis in unsuccessful private equity buyouts. By analyzing 28 potential private equity companies and their benchmarks, I find that these firms can generate ROE increases without being owned by private equity firms.

In the 3-year post-buyout time horizon the financial performance of private equity backed companies that were acquired in 2005 does not seem to be better than the financial performance of potential private equity firms. One exception that is in favor of private equity investors is that private equity backed companies manage earnings more effectively, in contrast to non-private equity backed firms.

It appears that acquisition experience is one of the strong points of private equity firms, since they manage to cherry pick potential portfolio companies that have profitability growth opportunities. Why did they not manage to acquire particular pPC remains an open

empirical question that requires confidential deal data, available by sell-side and/or buy-side advisors and/or private equity firms.

I managed to provide some answers to a narrow research focus area, which should be assessed further in order to get a better and more comprehensive understanding of which company to acquire, why to make a deal and how to achieve a successful M&A. Further research is warranted in private equity M&A success factor quantification area.

4. COSTLINESS OF PLACEMENT AGENTS

4.1 INTRODUCTION

Some private equity firms hire a placement agent to do their fundraising, while other firms decide to do the fundraising in house. In the fundraising process, placement agents interact with the general partner (GP) and the limited partners (LPs) and presumably play an important role in terms of added value, performance, and reputation. In 2008, $396 billion was raised globally in the private equity industry. Although in 2010 the amount fell to $225 billion, it still represented a large amount of allocated capital. The largest pension fund in the United States, CalPERS, has paid more than $180 million in fees to placement agents in the last decade (Bloomberg, 2011).[31] This number alone calls for more attention to be paid to placement agents, their behavior, and the value added they provide as financial intermediaries. The literature on private equity compensation contains numerous aspects of GP remuneration schemes, their economic consequences, and their implications. However, there is no literature on the economic role of placement agents as financial intermediaries.

My main research question is oriented towards private equity funds for which GPs raise capital through placement agents, and the LPs pay for such fundraising. I focus on justifying the economic role of placement agents as financial intermediaries by observing the value added they bring to GPs on the one hand and the LPs on the other. My research is based on an unique sample of 902 private equity funds. I find that placement agents were involved in around 10% of the fundraisings. The placement agents charge fees at the level of around 2% of the capital committed to the fund. Although the placement agent's costs are paid by the GPs, they are passed on to the LPs through their contractual relationship with the GPs.

My chapter contributes to the literature in several aspects. I provide an answer to the interesting question, among others, of whether LPs that allocate their funds through placement agents on average receive higher returns compared to their peers who self-allocate in exchange for the fees paid. I measure costliness by summing all types of placement agents fees charged per committed capital for each separate fund for each LP. Further, I show that only a few placement agents vote for variable-remuneration schemes, but these agents collect higher and less volatile fees. I also contribute by showing the relationship between capital committed by an LP and the costliness of a placement agent, discussing the role of reputation in a game played between GPs and placement agents, and also highlighting the issue of free riding present among LPs who can observe the behavior of the leading LPs. The existence of free riding also nicely supports the negative

[31] Around $125 million was paid to ARVCO, Tullig, Wetherly Capital, and others (source: CALPERS webpage). ARVCO was run by Alfred Villalobos, who served on the CALPERS board from 1993 to 1995 and later became a placement agent. Villalobos was paid more than $58 million in commissions by private equity and real estate investment managers to help them win the CalPERS contracts to manage about $4.8 billion worth of the fund's securities from 2005 to 2009 (*Los Angeles Times*, 2011; Perenews, 2010).

relationship between costliness and the committed capital of the LPs because the leading LPs are highly likely to be investors with the largest assets under management and thus the most investable funds available.

This chapter is structured as follows. In the second section, I provide a literature review on private equity compensation. In the third, there is a description of the placement agent's activities as a financial intermediary and the benefits. The fourth section contains the hypotheses. In the fifth section, I describe the data collection, and in the sixth section, I describe my methodological approach. I report my findings in the seventh section and the limitations of my analysis and suggestions about future research in the eighth. In the last section, I conclude.

4.2 LITERATURE REVIEW

There is only a limited amount of research that investigates the private equity compensation area. It predominantly shows that the remuneration schemes of the GPs are not well aligned with performance of the private equity funds they manage for the LPs.

The payments to the GPs consist of fixed and variable components. The fixed component resembles the pricing terms of mutual and hedge fund services. There is a management fee (usually around 2%) that is charged on an annual or semiannual basis. The variable component depends on the fund's performance and can be treated as an at-the-money option. If a GP successfully selects good investments for the fund's portfolio, then in most cases a hurdle fee (preferred return) is first paid out to the investors and then the carried interest (usually around 20%) is paid to the GP. After this threshold, the returns are split between the LP and the GP as defined in the limited partnership contract (Metrick and Yasuda, 2010).

In general, this management fee structure initially seems innocuous but results in very high fees in practice. A GP can, for instance, charge high transaction and monitoring fees that are seldom defined in the contracts. The GP can also not define when the fees will be charged. Conner (2005) finds that all charged fees equal 5%; Phalippou (2007) estimates 7%; Swensen (2000) estimates even higher at 12%. These percentages reflect what practitioners call other "portfolio company fees" that are not directly visible to investors. These include transaction fees, expenses related to proposed but unconsummated investments, taxes, expenses of accountants, litigation, counsel, PR materials, annual meetings, advisory, and monitoring fees. These fees are quite opaque. Contracts usually do not specify the amount or when such fees will be charged. However, these fees are not the research focus of this chapter.

Metrick and Yasuda (2013) highlight that the private equity industry is different from other assets classes because private ownership, information asymmetry, and illiquidity are key explanatory factors of the relations between the LPs, GPs, and the portfolio companies.

They argue that the LPs do not monitor the GPs on a day-to-day basis. Thus, the limited partnership contracts are designed to best align their interests via the use of a profit-sharing agreement (carried interest); closed-end, finite-life fund structure; limited reinvestments; and explicit negative covenants that prevent the GPs from taking excessive risk and/or diverting efforts away from the funds.

Gompers and Lerner (1999) are pioneers in investigating the revenue-based terms of limited partnerships. In their paper, they focus on 419 venture capital funds in the United States, mostly founded in the 1980s, and explore the cross sectional and time series variation in the fund terms. They find that although the fee structures appear quite uniform across the funds, there are many subtle differences. Gompers and Lerner (1999) find that older and larger venture organizations charge lower management fees than newer and smaller venture capital firms. They also find that the fixed component of compensation is higher for those funds that are smaller, younger, and more focused on advanced technology and early stage investments.

One of the seminal research contributions in the fundraising context also comes from Gompers and Lerner (1996). They elaborate on venture capital fundraising in the period 1972–1994. Their findings give evidence that the demand for venture capital plays a critical role. The GDP growth, R&D spending, and capital gain taxes are core determinants for greater venture capital activity and define the proceeds committed to the activity. More importantly, they find that the fund's performance is an important determinant of the ability of the venture organizations to raise new capital. Venture capital firms, which hold larger equity stakes in their portfolio firms and go public, raise more funds with greater probability. The firm's reputation, in the form of age and size, also positively impacts the ability to raise new capital.

Lerner and Schoar (2004) analyze 243 US venture capital partnerships and argue that fund managers can use the illiquidity of venture funds to screen for cash rich LPs that will not step away from their capital commitments. In their model, LPs can harm venture capitalists when they are hit by liquidity shocks that prevent them from reinvesting in the next fund, thus increasing the venture capitalists' fund costs. They also find that transfer restrictions are more common in first-time funds for which information asymmetries are more acute, and in funds that invest in industries with longer investment cycles that make liquidity shocks more likely.

Kaplan and Schoar (2005) show that the performance of venture capital funds appears highly persistent across a sequence of funds that is managed by the same manager. Hochberg at al. (2013) raise the question of why successful venture capital GPs do not raise their performance fees to the highest bidder for follow-on funds. The authors incorporate the asymmetric evolution of information in their model and show that LPs manage to hold the GP up for the next fundraising, because other potential investors in the

market interpret failure to reinvest by the “incumbent” LP as a negative signal about the GP's skill. They claim that this “incumbent” LP’s bargaining power when negotiating follow-on investments with the GP leads to performance persistence.

Setteboun (2006) finds that limited partnership agreements are to some degree inefficient: although their goal is to prevent and resolve conflicts of interest, they cannot address severe conflicts. In them, LPs are unable to negotiate rigid covenants. Although the LP agreements mitigate some agency problems, the contracts do not address the role of uncertainty sufficiently (Mathonet and Meyer, 2007).

Lerner at el. (2007) examine the experience of various institutional investors in private equity funds. They find that there are significant differences in the performance of investments by different institutions. Endowments have an annual return that is 14% better than other institutions, while funds selected by investment advisors and banks perform particularly poorly. They also find that endowments and corporate pension funds are much less likely to reinvest in a given partnership. Lerner et al. (2007) stress that it cannot be ruled out that “incumbent” LPs through their early experience as LPs might have greater access to established, high-performing funds and can thus achieve higher returns through their GP selection abilities.

Robinson and Sensoy (2013) examine 532 buyout funds and 295 venture capital funds over the period of 1984 to 2010. They show that compensation structures adjust to market conditions and that there is a cyclical component to the private equity compensation setting. The fund’s size increases during fundraising booms while management fees and carried interest remain stable in percentage terms, and the fixed component of compensation also increases. They find that both the probability of raising a follow-on fund and the size of the follow-on if one is raised are significantly and positively related to the final performance of the current fund, even though the final performance is generally not known with certainty at the time of fundraising. They also show that net returns are not correlated to compensation, nor to the managerial ownership of the funds, even after including a proxy for risk and controlling for the market’s condition. They argue that venture capital GPs with greater ability generate higher gross returns, charge higher fees, and raise larger funds; thus, they end up delivering the same net returns to the LP.

From the learning model developed by Chung et al. (2013), based on 838 US private equity partnerships that manage 1,700 private equity funds, we see that future fundraising creates incentives for private equity funds to generate high returns over and above those provided by fees. Their estimations show that past performance is the foundation of the LP’s decision about recommitments and about the size of their potential future commitments. Also, past performance has an incentive effect beyond what is captured by the fees. The incentive effects of fundraising should be the highest for first-time funds for which the information on partners’ abilities is minimal. Their model estimates that

fundraising incentives are about as large as fee incentives and stronger for buyout funds that are more scalable than venture funds.

Metrick and Yasuda (2010) analyze the economics of the private equity industry by using detailed data on 238 (94 venture capital and 144 buyout funds) funds founded between 1993 and 2006. They use a novel model with which they estimate the expected revenue to managers as a function of their investor contracts and test how this estimated revenue varies across the characteristics of the sample funds. They compute that the GPs' compensation fees represent $22.7 million for venture capital funds and $18.2 million for buyout funds per $100 million of committed capital (for their benchmark model). They find that close to two-thirds of the expected revenue comes from fixed revenue components that are not sensitive to performance. They also find sharp differences between venture capital and buyout funds. The buyout managers build on their prior experience by increasing the size of their funds faster than the venture capital managers do. This increased size leads to significantly higher revenue per partner and per professional in the later buyout funds raised. The crucial difference between buyout and venture capital funds derives from the fact that a buyout manager's skill can add value to extremely large companies, whereas a venture capital manager's skill can only add value to generally small companies. Their analysis shows that this difference has significant implications for the organizational economics of the two segments of the private equity industry and the relation between fund characteristics and future fund terms.

Conner (2005) analyzes covenants and tries to find out which details in the limited partnership contracts are worth "fighting" for. Conner quantifies the impact on the net returns of some of the most common terms used in the private equity industry. He projects cash flows of a representative private equity fund over its entire life and observes its performance from the perspective of an LP. His ex post analysis requires specific assumptions about fund returns and includes systematic runs of multiple scenarios. He does these runs by changing one term at a time, which means that he isolates the expected economic value of that particular covenant. Conner models 27 parameters to capture both management fees and carried interest. He finds that under typical private equity terms and conditions, the expected fees paid to a GP total $71 million over the life of a $100 million fund (assuming that gross internal rate of return (IRR) is 21.3% and the net return is 16.2%). He finds that the level of carried interest is by far the most valuable term in his analysis in which, on average, a $100 million fund with 30% carry returned $27 million less capital to investors than a fund with a 20% carry, holding returns constant.

The fixed management fees and the "carry" structures in the private equity industry (private equity's profit-sharing model) have changed remarkably little over the past 25 years. The management fees that used to cover the costs of running an office for some larger funds now generate substantial surpluses. These surpluses produce a lack of alignment between GPs and LPs because the GPs receive large fees, but the LPs do not

receive sufficient risk adjusted returns. Carry structures are equally rigid and create further distortions (e.g., indemnifications, use of leverage). Therefore, the answer might be in the detailed covenants in the limited partnership contracts between a GP and a LP. The GPs use detailed covenants in the limited partnership contracts to mitigate agency costs and idiosyncratic risk, while the LPs agree to limited covenants in the partnership contracts in the hope of returns higher than the public equity (Metrick and Yasuda, 2010). Kaplan and Strömberg (2008) argue that fee sharing among GPs and LPs is a contentious issue and that a common agreement regarding the sharing of deal and monitoring fees is a 50-50 split between the GP and the LP. Disdale (2009) further argues that private equity firms charge excess fees and that the change has been minuscule, without taking into account the risk the LPs are taking by investing in the private equity industry. However, Schäfer (2011) states that some changes have been evident in the market recently. He reports that the LPs benefit from the off-setting of transaction fees.

However, there are several other fees that should also be of interest to researchers and private equity stakeholders, for example, transaction fees, monitoring fees, and placement agent fees. So far the placement agent fees that I address in this chapter have not yet been the subject of research. The predominant reason for such a situation is the lack of disclosure. The closest neighboring intermediaries to placement agents within the alternative investment industry are funds of funds. Namely, in their role they are similar to GPs and placement agents. They provide investors with access to otherwise closed funds, diversification across manager styles, and professional oversight of fund operations that can provide the necessary degree of due diligence. In return fund of funds not only charge management and incentive fees, but also pass on fund level fees in the form of after-fee returns to the fund of fund investors (Brown et al., 2004). Underlying hedge fund fees are transferred to the fund of funds' investors regardless of whether the fund of funds make a profit or not. As a result, the total fees from a fund of fund can exceed the total realized return on the fund (Liang 2004). Ibbotson et al. (2011) estimate that the hedge fund pre-fee return is 11.42% of which the fees represent 3.78%, with an alpha return of 3.01% and a beta return of 4.62%.

4.3 WHO ARE PLACEMENT AGENTS?

Guliner (2007) defines a placement agent as a firm that specializes in finding institutional investors that are willing and able to invest in a private equity fund or a firm that issues securities. Californian law defines a placement agent as any person hired, engaged, retained, or serving for the benefit of or on behalf of an external manager, or on behalf of another placement agent, who acts or has acted for compensation as a finder, solicitor, marketer, consultant, broker, or other intermediary in connection with the offer or sale of the securities, assets, or services of an external manager to a board or an investment vehicle, either directly or indirectly (Californian legislation, Assembly Bill 1743).

Private equity institutions have increasingly hired placement agents to facilitate the fundraising process in the past decade. However, the recent financial crisis had a significant effect on the private equity industry in general, and the average fundraising time has increased from 12 to more than 18 months in 2009. According to the Annual Review of Terms and Conditions by Strategic Capital Management (SCM) (2009), the percentage of private equity firms that used a placement agent also dropped by 10% from 2007 to 2009. [32] In a difficult fundraising environment, GPs should need placement agents more than before and therefore their percentage should increase. The SCM claims that this development is the result of fewer GPs trying to engage placement agents; and more likely, that the placement agents' decision not to accept mandates, which in the placement agent's view will not result in successful fundraising. According to SCM, some placement agents consequently changed their model from a pure success fee to a mix of retainer and a success fee.

In the past, placement agents just introduced private equity funds to LPs. Tighter competition and rough financial circumstances have forced placement agents to transform themselves. Some have become highly valued advisors to the GPs who understand and know their LPs and the market's demand for different types of funds and strategies. The evolution of the private equity industry has positioned placement agents as an established part of the fundraising process for some GPs. What is the rationale for a GP to use a placement agent? And why do some GPs manage to raise money on their own while others are increasingly turning to placement agents? The decision-making process of choosing a placement agent remains a puzzling question. Do GPs really have various options to choose from? Could the case be that badly performing GPs are forced to choose placement agents, but the placement agent can refuse to take their fundraising mandate? However, whether the market transparently possesses this information is not known, and so LPs make their decisions based on the use of placement agents.

Raising LP's capital on a global basis is a highly specialized, time-consuming process. With the increased appeal of alternative investment strategies among LPs and the increased heterogeneity of LPs seeking good investments, luring more talented competitors into the field, GPs have been forced to bolster their marketing efforts and make themselves more accessible to investors. In addition, sophisticated LPs and their advisors are demanding answers to increasingly refined questions. As a result, a growing number of GPs retain placement agents to assist in the fundraising process, leveraging the fund manager's resources more efficiently and extending the depth and breadth of their penetration into the investor market. Increasingly, GPs have realized that they spend excessive time preparing marketing materials, planning and attending meetings with investors, and filling numerous

[32] SCM, an independent Swiss institutional investment advisor for private market investments, surveyed 368 closed-end private equity funds. My data indicates that in 2007 there were 20 funds raised where a placement agent was involved (13.7% of all funds raised in 2007), while in 2009 there were no funds raised where a placement agent was involved.

and detailed follow-up requests[33]. Consequently, the fundraising process has become an impediment for some GPs to achieve their purpose, i.e. selecting the right investments, managing portfolio companies, adding value, and providing high returns for LPs. Therefore, some GPs find value in hiring (outsourcing) a placement agent to execute the fundraising process. Besides, there are other benefits of using a placement agent: 1) a shorter time-span for executing a fundraising (compared to an in-house funding); 2) development of fund proposition; 3) fund formation and structuring (advice on structure and terms); 4) marketing strategy (marketing timetable and strategy) and material preparation; 5) due diligence preparation and in-depth due diligence[34]; 6) LP's pre-qualification and introductions to LPs, together with a response from LPs; 7) project management to final closing (includes distribution of private placement memorandum, road show coordination, attending presentations, provision of follow-up information to LP, delivery of LP commitments, and closing of each transaction) and post-closing activities (maintaining fund "brand recognition," providing ongoing advisors services for next fundraising, providing LP-related services and building the client's relationship); and finally, 8) an ongoing market intelligence, management, and support of LP's relationships.

Additionally, placement agents also claim advantages of retaining a placement agent that can to some extent be questioned. Such advantages perhaps are[35]:

I) Expanding the GP's investor base: first-time GPs are often motivated to hire a placement agent; GPs may want to increase the size of the following fund, may want to raise a different type of fund, hence targeting a different group of potential LPs;

II) Multiple funds: GPs that hire placement agents can already start raising a new fund while still completing the investment process for the current/previous fund. Private equity firms typically raise a new fund every 3-4 years, while placement agents raise several funds each year and are "in the market" and "up-to-date" all the time;

III) Fundraising requires preparing a marketing strategy for the fund. This includes meetings with potential LPs (generating a list of potential LPs, organizing meetings, making calls), fund premarketing, material

[33] Source: Fortress Group.

[34] This process usually takes up to three months. For instance, the private equity firm Permira, which keeps fundraising in-house and does not hire placement agents, was asked to complete 140 due diligence questionnaires for one or their fundraising rounds (Mills, 2005).

[35] Explanation of advantages is collected from web pages of several placement agents and experts' industry insights: Mvision, Arvco, Probitas Partners, Atlantic-Pacific Capital, C.P. Eaton Partners, Campbell Lutyens&Co., Monument group, Jefferies Helix, Mercury Capital Advisors, Triago, Almeida Capital, Fortress Group, Benedett, Gartland&Co., Far Hills Group, BerchWood Partners, Siypoint Partners, Greenhill&Co., Trinity Group, Stanwich Advisors, Acanthus Advisers, Knight Capital Partners, Thomas Capital Group, Champlain Advisors, Ariane Capital Partners, Axon Partners, Farrell March&Co., Forum Capital Partners, Griffin Financial Group, Klitzberg Associates,, Lancea Partners, Young America Capital, Alternative Investment Source, Brittany Capital Group, Hudson Partners Group, Mallory Capital Group, Prevail Capital, XT Capital Partners, Apple Lane Group, Beacon Hill Financial, Benteley Associates, Cygnus Capital, Denning&Co, EdgeLine Capital Partners, Fitzgibbon Toigo Associates, Harken Capital Advisors, Spouting Rock Capital Advisors, Troy Investment Associates, Veritage Group, Presidio Partners, Donaldson, Lufkin&Jenrette Securities Corp (DLJ) and Bridge 1 Advisors.

preparation, planning the timing of the optimal fund's launch, due diligence request, solicitation – all this can be transferred to a placement agent;

IV) Assistance in fund structuring: experienced placement agents have a current and in-depth understanding of trends in the alternative investment market because of ongoing discussions with active institutional investors. This includes information on the types of fund in demand and appropriate funds terms that GPs should offer to LPs;

V) Access to investors: a placement agent has access to many institutional investors and wealthy individuals that the fund manager may never identify. Besides acquaintances with potential investors knowledge about the working relationships and relations with consultants and decision makers are of great importance. Moreover, placement agents can ensure that GPs only go to meetings with the right people and that the sales message is put across in the most effective way;

VI) Proof for credibility: funds that enter the market should be attractive and well structured. The placement agent that can guide the fund manager early in the fundraising process in developing appropriate structure and fund terms can provide credibility to GPs. Additionally, some LPs prefer to see fund offerings from placement agents, since it is assumed that a thorough analysis and due diligence of the GP has taken place. In practice LPs will receive numerous fund offerings monthly and make priorities according to the type of placement agents. LPs may prefer funds introduced by placement agents with consistent and professional processes and stable and experienced senior placement professionals;

VII) Placement agents as coordinators of investor due diligence: experienced placement agents are familiar with and understand all crucial steps in the fundraising process. Professional project management is needed at all times to maintain marketing momentum, to follow up with investors, and to provide accurate and comprehensive responses to all investor due diligence questions and requests. Experienced GPs who have tried to raise funds on their own are aware of the fact that such processes are time-consuming. It requires loads of a GP's resources;

VIII) The GP's brand name recognition: throughout the fundraising process, a placement agent will raise investor's awareness of the fund manager and ensure the manager's brand name becomes more recognized in the marketplace. After the final closing, the placement agent can continue managing the relationship between a fund manager and new investors. While fund returns are a key measure of success, sophisticated investors also need to be provided with up-to-date information on the fund manager's activities, with responses to questions and concerns delivered on a timely basis. A placement agent is well-positioned to ensure that ongoing

investor's relationships are managed effectively. Perhaps placement agents gather certain valuable information and gain value added insight, which can serve as a foundation for good GP selection;

IX) Track on fund developments: placement agents can keep good track of fund returns and developments. With each new fund raised, placement agents can advise GPs on further fund and term improvements;

X) Background checks: placement agents may make several if not several tens of reference-calls to establish and check perceptions of GP's principals and top executives. This is especially important in cases when a group of professionals leave an investment bank to form their own private equity company;

XI) Increasing efficiency and minimizing risk: placement agents can choose LPs that will stick to agreements and provide funds when capital is called and therefore minimize risk by doing background checks on LPs.

After thoroughly analyzing the potential added value by placement agents and taking into account the fees charged by placement agents one would think that placement agents would generally accept every GP as their client. This is not the case. Some placement agents[36] use special client selection criteria. Criteria include: attractive historical performance, unique strategies, principals with a successful track record in a given asset category, well defined investment philosophy and strategy, and management enthusiasm. For instance, the placement agent Fitzgibbon Toigo Associates uses a proprietary model to evaluate all potential clients based on 38 principal and 84 secondary evaluation variables (not disclosed in detail).

4.4 HYPOTHESES

In this chapter I test four hypotheses regarding the role that placement agents play as intermediaries. From these hypotheses, I am able to point to some characteristics and to raise some further research questions. The four hypotheses are:

Hypothesis 9: *Placement agents justify their costliness. The higher the placement agent compensation, the higher the return of the fund.*

Hypothesis 10: *By raising funds for GPs, placement agents can distinguish good funds from bad ones. They prefer the variable compensation when they raise money for potentially more profitable funds and take advantage of the upside potential of the heterogeneity of returns.*

Hypothesis 11: *The practices of placement agents regarding the costliness schedule are similar to other financial intermediaries. This similarity means that the higher the capital*

[36] E.g. Fitzgibbon Toigo Associates LLC mentions the specific selection criteria on their website. They are one of the very few placement agents that officially state the conditions for their potential clients (GPs).

committed by a LP to a GP through a placement agent, the lower the relative placement agent fees per committed capital.

Hypothesis 12: *The LPs are efficient investors, which means they commit on average more money to funds that generate higher returns. The placement agents can provide value added as they can provide even better allocation of LPs' funds.*

4.5 DATA COLLECTION AND GENERAL DATA DESCRIPTION

In this chapter, I use data from two proprietary data sets of two LPs that invest at least 10% of their assets in private equity.[37] I merge the two proprietary data sets to create my initial data set, which includes data on 902 private equity funds. All funds in the initial data set include data on the placement agents' activities at the fund level. The LPs used in my analysis made 83 investments into the same fund. For the purpose of presenting unbiased descriptive statistics at the fund level, I eliminate these observations, leaving me with 819 funds (modified data set 1). However, not all of the funds from the initial data set have readily available data on their type and size. I use the Preqin database to find the missing data. When eliminating some observations from the initial data set, my goal is to keep the funds that have data for fund size, vintage, private equity fund type, capital committed, IRR, multiple[38], placement agent use, and data on actual fees charged. In order to run consistent multivariate regressions, I eliminate all of the funds that do not include the aforementioned data. Of the observations, 12.6% (114) are removed because of a lack of performance data, and an additional 2.2% (20) of the observations are removed because of a lack of fund size data, leaving me with 770 observations (modified data set 2). The majority of the funds that are removed were founded from 2008 onwards, meaning that their IRR and multiple data are not meaningful because they hold a vast proportion of unrealized investments. The initial data set includes 88 funds that used placement agents (9.9% of the initial data set). The second modified data set contains consistent data, including multiple performance data on 81 funds that used placement agents and 65 funds that used placement agents including IRR performance data. All other funds in the initial and modified data sets do not use a placement agent in their fund raising process.

Because I removed only 14.8% of the observations from the initial data set, there is no serious concern for sample bias. However, I acknowledge that sample bias is possible because the LPs that provided the data are US-based. Furthermore, I am aware that sample bias is possible because the collected data is from only two LPs. However, because the initial data set is large, any possible bias does not undermine my results. Further, the sample bias is mitigated as much as possible because of the diversity of fund types.

[37] In order to respect the confidentiality of both organizations that provided the data, the names of specific organizations have intentionally not been disclosed.

[38] A multiple is calculated as "cash out + remaining value" divided by "cash in."

Although well-known, two additional biases are perhaps worth noting. First, survivorship bias is possible. There are some funds (98; 10.8% of the initial data set) in my data set that are unprofitable (closed funds with negative IRR), and some funds (63; 6.9% of the initial data set) with IRR returns below 5%; therefore survivorship bias could exist to some extent because of exclusion of some unprofitable funds. Namely, LPs could have eliminated some unprofitable funds from the list of total funds where they invested. Second, there is a bias on behalf of unrealized investments in private equity, which is often of serious concern (Phalippou, 2009). This type of bias exists in all non-liquidated private equity funds and so far has not been mitigated in any research setting.

Based on the list created by the Private Equity Insider (October 2009) and the list of placement agents used by the two LPs used in my research, I create my own database of placement agents in order to check the current placement agent activity. This list consists of 87 placement agents. There were 45 independent placement agents; 11 placement agents are part of an investment bank; and the rest (31) did not disclose this information, but from the webpage and article data, I estimate they are predominantly independent boutique placement agents. By analyzing the placement agent activity (last fund raising) and their up-to-date website posts, I estimate that in 2011 there were only 27 placement agents (31%) visibly active, and another 31 (36%) that show signs of some activity (at least they still have a webpage). For the rest (29; 33%), I estimate that they are no longer active since either they no longer have a website or their website indicates that there has been no new fundraising since 2008. Out of the 29 nonactive/nonexistent agents, there are four (Flandana Holdings Ltd, Arapaho Partners, Shelbourne Securitites, and Aldus) that were involved in the kickback financing scandal of the New York state pension fund CRF (Common Retirement Fund) [39] that of course no longer operate; and two (ARVCO and Tullig) that were involved in the extremely high placement agent fees paid by the California based pension fund CalPERS.[40]

4.6 RESEARCH METHODOLOGY

Even though the placement agent has a decent political background, which includes lobbying as well as several other aspects of corporate governance, I focus on the financial aspect. Using a simulation model similar to Metrick and Yasuda's (2010), I adjust the model for the LP's ex post perspective and calculate how costly placement agents actually are.

In order to address my first two hypotheses, I separate the placement agent's compensation into four categories: a retainer, a fixed fee (as % of capital committed or other fixed amount charged), a variable fee (as % of carried interest), and an out-of-pocket expense

[39] U.S. Securities and Exchange Commission, Litigation Release No. 21001. "Records link city pension middlemen to pay-to-play probe of $122 billion state pension fund." (*NY Daily News*, 2009).
[40] "Top earners among intermediaries dealing with CALPERS." (*Los Angeles Times*, 2010).

that covers general placement agent expenses. All of the fees are summed for each fund and for each LP. All of the placement agents' fees are at the fund level, which means that if several placement agents are used to raise a fund and the LPs committed money to this fund, then the fees are recalculated as total placement agent fees charged per fund. I measure the placement agent's costliness for each LP separately, taking into account the capital committed by each LP. I use the initial data set (902 funds; 88 funds with placement agents used) to analyze this. I run a multivariate regression to find out whether there is a connection between the placement agent's compensation proportional to the capital committed, and the returns that a private equity firm achieves. The model for testing Hypothesis 1 thus reads:

$$FP_i = \alpha + \beta_1 PAC_i + \beta_2 VIN_i + \beta_3 \log FS + \varepsilon_i \quad (9)$$

where FP_i denotes fund's performance (measured by an IRR or a multiple) for fund *i*; PAC_i is the costliness of placement agents per fund that is represented by

$$PAC_i = \left(Ret + FixMgF + CarI + OopExp\right)_i CAPCOM_i^{-1} \quad (10)$$

and where *Ret* denotes the retainer charged by the placement agent, *FixMgF* is the fixed amount charged by a placement agent as a proportion of the capital committed, *CarI* the proportion of carried interest charged by the placement agent, based on realized returns, *OopExp* out-of-pocket expenses that the placement agent charges, $CAPCOM_i$ is the capital committed by an LP in absolute terms; VIN_i fund vintage, *FS* fund size, and ε_i an error term.

Placement agent costliness has to be calculated as costliness for each LP. Measuring costliness for each separate LP is the only correct way of measuring costliness since placement agent fees apply for each LP for each capital committed for each fund raised separately. Additionally, measuring costliness per capital committed by an LP is technically the only appropriate measurement, because other LPs that committed money to the same fund may have also used placement agents.

In order to test *Hypothesis 10* I analyze the type of compensation, measured as a proportion of fees paid to placement agents proportional to the fund's size. I use the modified dataset 2 (770 funds; 71 funds with placement agents used) to test the heterogeneity of returns in connection with type of remuneration (costliness) by using one-way ANOVA. Analysis of variance allows me to test whether there is a connection between the fixed/variable type of placement agent compensation and the return volatility.

Hypothesis 11 is tested by running two OLS regressions by using the modified dataset 2. In the first regression I use capital committed by an LP in absolute terms (*CAPCOM*):

$$PAC_i = \alpha + \beta_1 \log CAPCOM_i + \varepsilon_i \quad (11)$$

and in the second one, a percentage of committed capital by an LP in relative terms to the total fund size (*PCPF*):

$$PAC_i = \alpha + \beta_1 PCPF_i + \varepsilon_i . \quad (12)$$

Hypothesis 12 is tested by running an OLS test that uses data from the modified dataset 2. Within this regression analysis I regress the capital committed by the LP in relative terms to the total capital of the LP available for private equity investments (*TCAPCOM*) against fund's performance *FP*, measured in terms of IRR and in terms of a multiple:

$$TCAPCOM_i = \alpha + \beta_1 FP_i + \varepsilon_i . \quad (13)$$

4.7 RESULTS

The results are split into three categories: 1) I present the descriptive statistics of the initial dataset and the modified dataset 2; 2) I present results for my estimated model that measures the costliness of placement agents; and 3) the regression results and ANOVA results provide answers to Hypotheses 8-12.

4.7.1 DESCRIPTIVE STATISTICS

In both the initial and modified dataset 2 buyout funds account for roughly 40 percent of all funds, followed by VC funds and the early stage. There is wide variety of fund categories in the sample (see Table 17). There are 88 funds in the initial dataset that used a placement agent. If I compare the use of placement agents among groups, I find that placement agents are the most frequently employed by natural resources (in 26 percent of all such funds), distressed debt funds (in 23 percent of all such funds), buyout funds (in 13 percent of all such funds). I find that placement agents only seldom cooperate with VC funds. Because of the structure of my database, more than 50 percent of all placement agents in the database (45) are related to buyout funds, and is then followed by distressed debt (9), venture capital (9), and natural resources (5).[41]

[41] My dataset shows much less frequent use of placement agents from SCM survey results mentioned above (i.e. 10 vs. 52 percent). Potential reasons are: 1) My dataset contains large percentage of buyout funds that only use placement agents in low percent of cases; 2) SCM is European-based, while the two LPs from my dataset are US-based; and 3) SCM is a private investment advisor with a clear focus in attracting more customers. There is limited scope of transparency on sample bias and methodology in the SCM survey.

Table 17: Fund Type Breakdown of the Initial Dataset and Modified Dataset 2

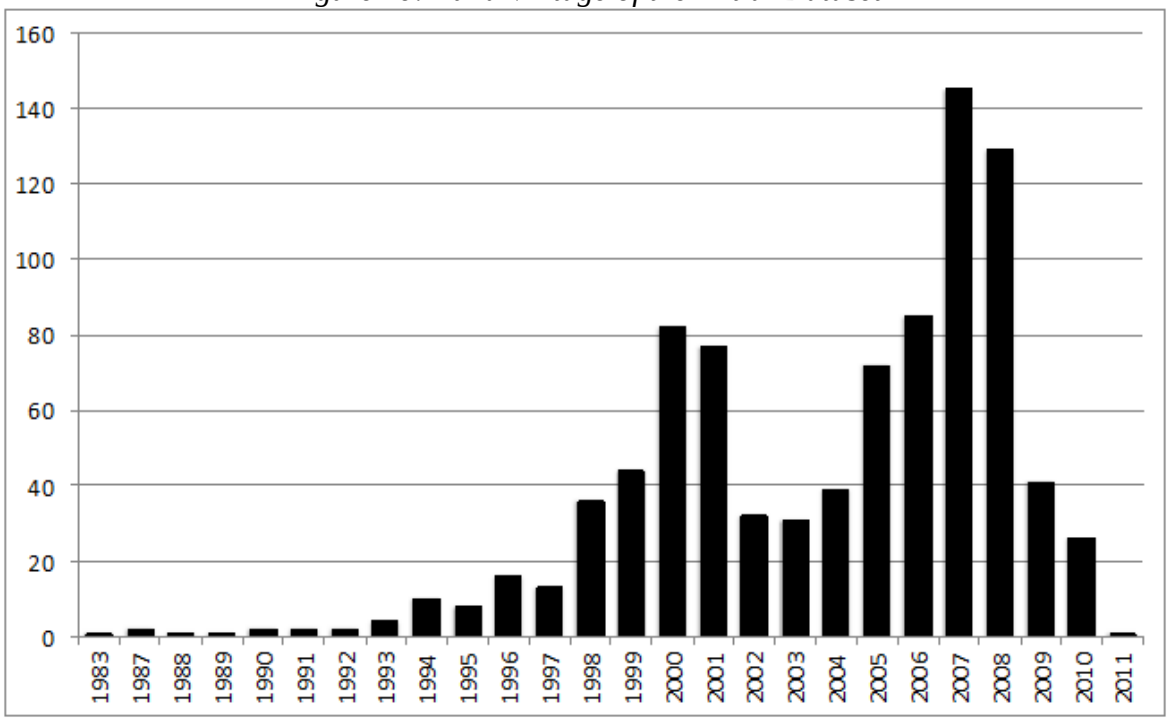
	Initial dataset		**Modified dataset 2**	
	No. of funds	**(%)**	**No. of funds**	**(%)**
Buyout	359	39.80	334	43.38
VC	149	16.52	138	17.92
Early stage	88	9.76	81	10.52
Missing data	74	8.20		0.00
Fund of funds	48	5.32	45	5.84
Distressed debt	39	4.32	36	4.68
Expansion	30	3.33	28	3.64
Mezzanine	21	2.33	20	2.60
Natural resources	19	2.11	18	2.34
Secondaries	17	1.88	16	2.08
General specialist situation	13	1.44	12	1.56
Balanced	19	2.11	18	2.34
Late stage	8	0,.89	8	1.04
Infrastructure	5	0.55	5	0.65
VC Debt	5	0.55	5	0.65
Real estate	4	0.44	4	0.52
Other	4	0.44		
Co-investment			2	0.26
TOTAL	902	100	770	100

The average IRR[42] of the modified dataset 2 is 7.99%, the median IRR is 6.70%, with a standard deviation of 18.95% (see Table 18), whereby the IRR is higher with funds that use placement agents (8.26% vs. 7.97%). [43] The fund creations range from 1990 to 2011 and are aligned with the general dynamics of the global private equity fundraising trend, providing evidence of no bias on this behalf (see Figure 10).

[42] The net IRR that is calculated based upon actual dates of cash flows and quarter-end valuations. The IRR calculation includes interest paid, if applicable.

[43] Differences are not statistically significant.

Figure 10: Fund Vintage of the Initial Dataset



I split funds into closed funds[44] and funds with unrealized investments[45] as presented in Table 18. The average IRR of all of the closed funds, which represent 59% of all funds, is 10.77% (median 8.55%), of those which used placement agents 8.56% (median 8.90%), and of those which did not use placement agents 10.96% (median 8.50%). The average IRR of all of the funds with unrealized investments is 3.94% (median 2.90%), for those that used placement agents 7.95% (median 9.20%), and for those that did not use placement agents 3.42% (median 2.90%). Of note, the standard deviations of fund returns are always significantly lower in cases where placement agents are present.

In both cases (i.e., closed funds and funds with unrealized investments) the average and median IRR of funds that used a placement agent are higher than in the case of funds where no placement agent was used. The standard deviation of returns of funds that used a placement agent is lower than in the case of funds where no placement agents were used (for both closed funds and funds with unrealized investments).

[44] Funds with vintage up until year 2005 (incl.). Most of the committed capital has been invested, and the IRR and multiple data are meaningful.

[45] Funds with vintage from 2006 onwards. Internal rates of return (IRR) and multiples are not meaningful, nor are they indicative of future performance. The capital committed has not been yet fully called and invested.

Table 18: Descriptive statistics of modified dataset 1: Fund returns measured by IRR regarding the use of placement agents (PA)

IRR	Vintage	Number of funds with IRR data	Structure	Average IRR (%)	Median IRR (%)	Standard deviation of IRR
Total number of funds	1990-2011	687	100%	7.99	6.70	18.95
Closed funds	≤2005	408	59%	10.77	8.55	18.70
Funds with unrealized inv.	≥2006	279	41%	3.94	2.90	18.60
Total funds without PA	1990-2011	622	100%	7.97	6.50	19.43
Closed funds	≤2005	375	60%	10.96	8.50	19.09
Funds with unrealized inv.	≥2006	247	40%	3.42*	2.50	19.10
Total funds with PA	1990-2011	65	100%	8.26	8.90	13.57
Funds w PA - closed	≤2005	33	51%	8.56	8.90	13.59
Funds w PA - w unrealized inv.	≥2006	32	49%	7.95*	9.20	13.76

* t-test significance level is 10% (equality/inequality taken into account when running the t-tests)

Results are similar for returns measured by multiples (see Table 19 and the distributional plot of both IRR and multiples in Appendix 3), with the exception that the funds with unrealized investments have higher performance without placement agents. The closed funds with placement agents have statistically and significantly lower returns (measured by a multiple) than their peers without placement agents.

Table 19: Descriptive statistics of modified dataset 1: Fund returns measured by multiples regarding the use of placement agents (PA)

MULTIPLE	Vintage	Number of funds with multiple data	Structure	Average multiple (%)	Median multiple (%)	Standard deviation of multiple
Total number of funds	1990-2011	768	100%	1.29	1.13	0.7
Closed funds	≤2005	443	58%	1.44	1.30	0.85
Funds with unrealized inv.	≥2006	325	42%	1.07	1.00	0.31
Total funds without PA	1990-2011	687	100%	1.30	1.13	0.72
Closed funds	≤2005	402	59%	1.46*	1.30	0.87
Funds with unrealized inv.	≥2006	285	41%	1.06**	1.00	0.31
Total funds with PA	1990-2011	81	100%	1.20	1.10	0.51
Funds w PA - closed	≤2005	41	51%	1.24*	1.27	0.65
Funds w PA - w unrealized inv.	≥2006	40	49%	1.16**	1.10	0.29

* t-test significance level 10%, ** t-test significance level 5% (equality/inequality taken into the account when running the t-tests)

4.7.2 DETERMINATION OF COSTLINESS OF PLACEMENT AGENTS

To answer my first research question, that is, to estimate the costliness of placement agents, I first build a model to compute the fixed and variable part of placement agent's fees per committed capital by an LP. By building such a model I am able to estimate the actual costs of a placement agent (per fund) that is participating in the fundraising process. Costliness is measured as the sum of all types of placement agent fees charged per committed capital for each separate fund by each LP.

A retainer is used in 13 funds that were raised (charged on a monthly basis for the entire time of the fundraising) but this type of fee represents only 0.7% of all fees charged.

Fixed fees, as percentage of capital committed, represent the majority of the placement agents' fees (94.1%) for all of the funds raised. Most contracts between a GP, LP, and a placement agent include a progressive fixed fee scale. I use the actual percentage for the fixed fee charged as defined by the contracts and the total capital committed by the LP. In some cases, the placement agents split the LPs into subgroups and charge different fixed fees according to the subgroup. In the majority of cases, the LPs used in my analysis are in the most favorable group, meaning that other LPs were charged higher fees. This differentiation among LPs might contain additional reasoning and information in the context of the use of a placement agent.

A variable fee compensation type (incentive fee, carried interest) is used in only seven funds that were raised, and represent only 2.4% of all of the fees charged. For the carried interest, I take into account the presumption that a hurdle fee was first paid out to the LP, and then the rest of the proceeds were split between the GP and LPs. A placement agent receives a proportion of the carried interest as defined in the contracts.

More than a third of the funds that used a placement agent are by contract obliged to cover the out-of-pocket expenses. These expenses represent 2.4% of all of the fees charged. For four funds, more than one placement agent is used and each placement agent is compensated separately.

I summed the fees per fund and estimated the total per fund costliness for each LP, (see Table 21). To make things empirically and practically meaningful, I recalculate the costliness per the average capital committed, the median capital committed, and $100 mn capital committed (see Table 21). The average fee charged represents 2.55% of the committed capital, while the median is 1.50%. Over a 10-year fund lifetime, the placement agent's fee is on average equivalent to approximately 10% of the management fee (2%). Interestingly, in only one case from my data set is the fee paid by the GP, in all other cases placement agent costs are borne by LP.

Table 20: Type of placement agent compensation (cumulative in USD) for the initial dataset

	No. of funds	**Fees (in USD)**	**Structure (%)**
Retainer	13	1,632,750	0.7
Fixed fee (as % of committed capital or other fixed amount paid)	88	221,953,597	94.1
Variable Fee	7	5,556,043	2.4
Out-of-pocket expenses	33	5,629,177	2.4
Total	88	235,771,568	100

Table 21: Costliness of placement agents per committed capital (in USD)

	Total PA cost per average commitment ($102mil)	Total PA cost per median commitment ($50mil)	Total PA cost per median commitment ($100mil)	As % of total committed capital ($100mil)
Minimum	76.5	37.5	75	0.08
Maximum	24,874,654	12,193,458	24,386,916	24.39
Average	2,602,139	1,275,559	2,551,117	2.55
Median	1,530,000	750,000	1,500,000	1.5

The average costliness differs throughout different sub-periods, however no statistically significant results could be extracted from the data (see Table 22).

Table 22: Temporal cross-section of placement agent fees charged in the period 1990-2011

Period	No. of funds with PA	Total PA median cost per commitment ($100mil)	Average - As % of total committed capital ($100mil)	Median - As % of total committed capital ($100mil)
1990-1995	4	1,553,340	2.39%	1.55%
1996-2000	4	1,287,500	2.21%	1.29%
2001-2005	35	1,358,333	2.95%	1.36%
2006-2011	47	1,923,726	2.30%	1.92%
2006	14	2,268,333	2.84%	2.27%
2007	20	1,074,310	1.69%	1.07%
2008	9	797,801	1.15%	0.80%
2009	-	-	-	-
2010	3	3,514,286	5.65%	3.51%
2011	1	3,428,571	3.43%	3.43%
Median		1,455,837		1.50%
Average			2.55%	

It seems that placement agents are more costly in the period of 2001 to 2005. Because of the numerous funds raised in 2007 and 2008, their costliness decreased. This decrease is sensible because more funds raised means higher competition among placement agents. Since the downturn in 2009, the placement agents' fees have risen again. This is a result of the natural development of the placement agent industry. Fewer placement agents are able to stay in the market (as indicated by my own placement agents database), and those that remain have less fundraising to choose from, meaning that they are able to impose higher fees that a more established market can bear. However, not enough observations are in the data set to draw statistically significant conclusions. My results are aligned with Robinson and Sensoy (2013) who show a cyclical component in private equity compensation. However, I find that in booming times the placement agents' fees drop due to higher

competition and more money in the market, in contrast to private equity firm compensation where the fixed fees and carried interest stay stable in percentage terms.

4.7.3 OLS REGRESSIONS AND ANOVA RESULTS

The regressions that use the IRR or a multiple support Hypothesis 9. The higher the placement agent's fee, measured in relative terms per fund, the higher the fund's performance. This finding is statistically significant at the 5% level when using the IRR (model 2), and at 1% level when using a multiple (model 1).

Table 23: Hypothesis 9 OLS Regression Results

	MODEL 1		**MODEL 2**	
	Dependent variable:		**Dependent variable:**	
	$FP_{MULTIPLE}$		FP_{IRR}	
	Coefficient	t-Statistic	Coefficient	t-Statistic
Constant	1.542[a]	3.64	3.418	0.25
PAC	4.316[a]	2.71	93.171[b]	2.00
VIN	-0.041[a]	-2.75	-0.201	-0.46
logFS	0.166[c]	1.68	2.325	0.66
Model diagnostics				
Nr. of observations	81		65	
Adjusted R^2	0.155		0.023	
F-Statistic	5.90		1.51	

a - significant at1%; [b] - significant at 5%; [c] - significant at 10%; * number of funds where placement agents were used.

PAC - costliness of placement agents per fund; VIN - fund vintage; FP_{IRR} - fund performance measured by IRR; $FP_{MULTIPLE}$ - fund performance measured by multiple; FS - fund size.

Model 1 also proves that the creation is statistically significant at the 1% level. This significance means that the funds with earlier creations (older funds) record higher performance (see Table 23). This finding supports the basic economic reasoning behind the private equity industry, aligned with the J-curve theory. This reasoning makes sense because younger funds hold more unrealized investments or keep them at cost. They record lower returns, usually even negative in the first couple of years. Further, I also find that size contributes to the higher performance of the fund. In terms of the type of fund, venture capital funds yield significantly lower returns than buyout funds (results not shown).

The presence of placement agents is by itself not a guarantee for high performance. My robustness regressions (where I included dummy variables for the presence of placement agents to distinguish the effect of the presence of a placement agent and the level of the fee's effect) prove that their presence can even have a more negative than positive effect[46], but performance improves with the level of the fee that a placement agent charges for his

[46] Negative effect is significant for closed funds, i.e., funds with creation years before 2006.

or her services. Such a conclusion is supported by both of the performance measures that I use.

My results show that despite costly fees, the placement agents provide GPs with valuable fundraising services. They provide more than just a fundraising service through the expansion of the GPs' investor base, multiple simultaneous fundraisings, fundraising marketing and structuring, proof of credibility, track of the fund's development, and risk minimization. By the use of such services, the GPs can focus on the investments of the fund that can deliver higher performance. For LPs, on the other hand, the background checks on the GPs provide a welcome benefit. Although costly, the intermediation service fees of the placement agents are worth paying because the LPs that choose to employ placement agents on average achieve higher returns. My regression results are in line with the findings of Kaplan and Schoar (2005) and Hochberg at al. (2013) since fund size does seem to be the contributing determinant of higher returns.

Therefore, the high fees of a placement agent might signal higher achievable performance for investors. At this point an interesting question arises. Namely, what are the characteristics of the placement agents with highest remuneration? Unfortunately, my database does not allow us to test for that.

ANOVA of the fund returns (see Table 24) proves that there is no statistically significant difference in the variability of the fund returns regarding the fixed/variable type of placement agent compensation. This finding means that the placement agents as a group do not care about the heterogeneity of the returns and the upside return potential. This orientation towards fixed fee compensation is to some extent motivated by the fact that the variable fees are remote and are paid in five to ten years after the fund's creation. Most placement agents are reluctant to bear this risk. My results agree with the findings of Metrick and Yasuda (2010). The placement agents' fees fit well into the fixed fee scheme. However, the few placement agents that use performance-based remuneration earn higher fees because the fund's performance is higher. Specifically, the median IRR for funds that used placement agents who charged fees according to the variable-remuneration scheme is 13.5%, while the median IRR for funds that used placement agents who charged fees according to the fixed-remuneration scheme is 8.9%. [47] Further, placement agents receive higher remuneration because their costliness has a statistically significant and positive relationship with the type of remuneration scheme. [48] Interestingly, the volatility of the returns in such cases is even lower than in the cases where placement agents are remunerated through fixed fees. This interpretation must be treated with a grain of salt because there are only seven placement agents who chose variable compensation, which

[47] Return variables (IRR and MULTIPLE) are also statistically, significantly, and positively related to the remuneration type (variable vs. fixed) in the logit regression model (results not shown).
[48] Again, I tested this with a logit regression (results not shown).

leaves the statistical results weak. This is definitely a fruitful area for further research through a database containing more diversely remunerated placement agents.

Table 24: Hypothesis 10 ANOVA Results for Heterogeneity of Returns Measured by IRR and Placement Agent Fees

	Sum of Squares	**df**	**Mean Square**	**F**	**Significance**
Between Groups	13,439.75	64	209,996	1.510	0.320
Within Groups	834.48	6	139,080		
Total	14,274.23	70			

My results are to some extent similar to the findings of Brown et al. (2004) who show that overall there is no connection between the after-fee performance and the incentive fees charged by fund of funds managers (in the majority of my cases, placement agents charge fixed fees). Conversely, they also find that fund of fund managers who charge higher fixed fees achieve a lower risk adjusted return. In terms of fixed fees, my findings contrast the findings of Brown et al. (2004). They claim that the management fee for a typical fund of funds is a deadweight loss that has the effect of simply reducing the after-fee return. This could also be the case with placement agents but my findings suggest this view does not hold. Namely, the after-fee returns in my case are above average. My results also contrast Brown et al. (2004) from the aspect of the superior performance linked to the incentive fee structure. While the fund of fund managers are not motivated to achieve superior returns due to their management and incentive fee structures, superior returns are recorded by placement agents and GPs where the former are compensated according to a variable-remuneration scheme.

Model 3 and 4 address Hypothesis 11. The OLS results show that the higher the capital committed in absolute terms the lower the placement agent's fee. This result is significant at 1% level.[49] The relative amount of capital investment specification (Model 3) does not divulge and significant results (see Table 25).

Table 25: Hypothesis 11 OLS Regression Results

	MODEL 3		**MODEL 4**	
	Dependent variable:		**Dependent variable:**	
	PAC		*PAC*	
	Coefficient	t-Statistic	Coefficient	t-Statistic
Constant	0.028	6.10	0.197	3.29
PCPF	-0.021	-1.25		
logCAPCOM			-0.009[a]	-2.88
Model diagnostics				
Nr. of observations	82		88	
Adjusted R^2	0.007		0.077	
F-Statistic	1.556		8.270	

[49] I have checked robustness of my results using quintile regression, which confirmed my finding (not shown here).

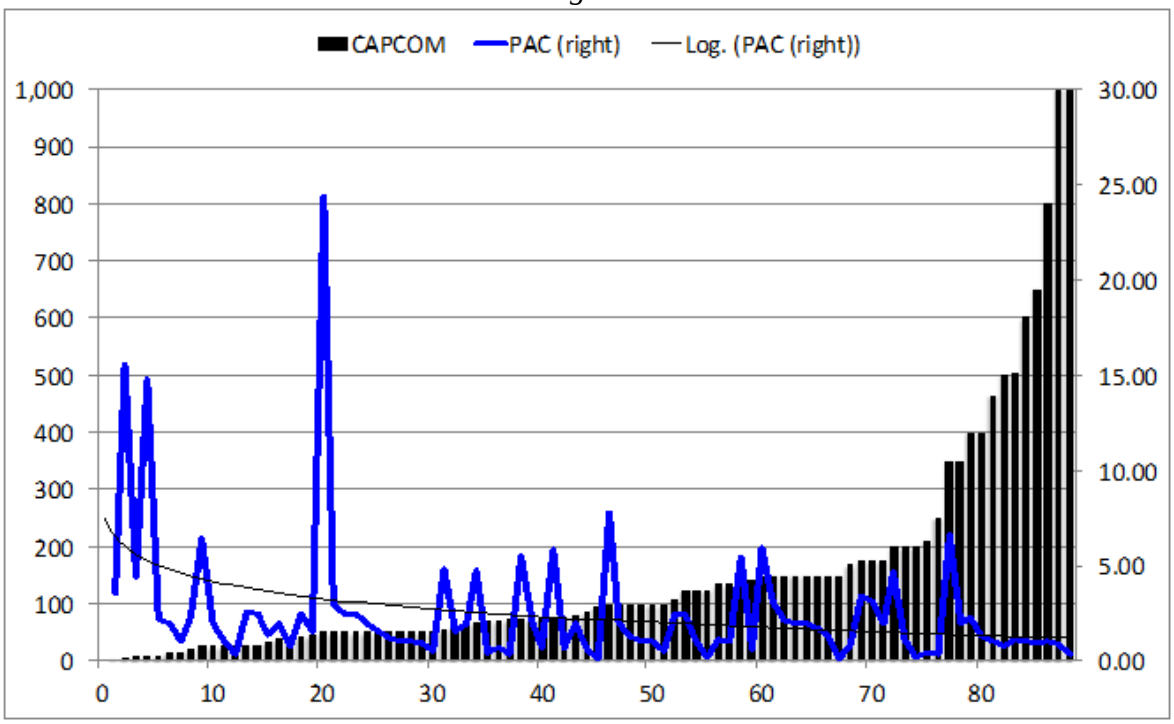
[a] - significant at1%; [b] _ significant at 5%; [c] - significant at 10%; * number of funds where placement agents were used.
PAC - costliness of placement agents per fund; CAPCOM - capital committed by limited partner; PCPF - percentage of committed capital by the LP in relative terms to total fund size.

The negative relation between committed capital and the costliness of placement agents can also be observed in Figure 11.

My findings provide evidence that the placement agent's fee scheme is similar to the fee schemes in neighboring asset management industries such as mutual funds or hedge funds in which the fees also fall with the amount of committed capital.

In general, the LPs in my sample commit more money to funds where placement agents are used, both in relative and absolute terms (see Table 26). The average capital commitment by an LP, measured as committed capital per total committed fund size/capital in the initial data set is 11.7% or $102 million (median 5.9% or $50 million). The average commitment to funds where placement agents are used is 16.2% or $154 million (median 9.4% or $89 million). The average commitment to funds where no placement agents are used is 11.2% or $96 million (median 5.4% - $40 million).

Figure 11: Relationship between Committed Capital by LP and Costliness of Placement Agent



CAPCOM - capital committed by limited partner (in USD mln.); PAC - costliness of placement agents per fund (in percent); Log. (PAC (right)) – logarithmic trend.

Table 26: Capital Commitments (CC) by LPs to Funds, Where Placement Agents (PA) Were Used

	Total sample		Without PA sample		PA sample	
	Absolute	**Relative**	**Absolute**	**Relative**	**Absolute**	**Relative**
Total fund number	902		812		90	
No. of funds with all data	770		686		84	
Representativeness	85.4%		84.5%		93.3%	
Average CC	102,321,592	11.7%	96,532,603	11.2%	154,486,817	16.2%
Median CC	50,000,000	5.9%	40,000,000	5.4%	89,631,945	9.4%
Minimum CC	464,674	0.2%	464,674	0.2%	4,761,905	0.6%
Maximum CC	2,428,600,802	100%	2,428,600,802	100%	1,000,000,000	100%
Standard deviation	167,724,983	0.19	163,371,833	0.18	196,234,992	0.22

Regardless of the results, the amount of committed capital might not be a predominant determinant of the placement agent's costliness. I am aware that placement agents are allegedly very selective about which funds they raise money for. They want to have a good fundraising track record to maintain/improve their reputation among LPs. In this context the relation (i.e., the game played) between a GP and a placement agent has a significant role in the fundraising process. Reputation and signaling are of great importance on both sides, as Levy and Lazarovich-Porat (1995) argue. Lerner at el. (2007) find that endowments and corporate pension funds are much less likely to reinvest in a given partnership. My small LP sample does not allow us to test for this finding, but further research should address the reputational concept and signaling theory between LPs, GPs. and placement agents.

The reputation of a GP increases as it raises subsequent larger funds that follow funds with relatively good performance. Such a reputation leaves the GPs more powerful in relation to placement agents. Namely, it is in a placement agent's interest, who also wants to build on its own reputation among LPs (and perhaps among GPs as well), to provide fundraising services for a well-known GP. In return, a placement agent accepts smaller fees from such GPs. Additionally, the GPs with a higher reputation have greater and easier access to exclusive placement agents with better fundraising services.

There is also another aspect that might have a significant impact on the level of the placement agent's costliness. Different levels of fees to different LPs raise the question of the LP selection and the issue of free riding. Reasonably, placement agents intentionally charge lower fees to some LPs because they know that if they can get leading LPs on board, other LPs will follow more easily. This could mean a potentially much easier fundraising process for the placement agent, and there might be additional information in the structure of the different fees charged to different LPs. I assume that some LPs wait for the leading LPs to get on board to obtain this information. In this case, the free riding issue appears when some LPs are able to consequently pick the right fund to invest in by simply observing the behavior of the leading LPs. The fact that supports my reasoning is that

leading LPs are very likely to be the largest funds for which I find the lowest fees charged by placement agents.

I test Hypothesis 12 by running multivariate regressions in Table 27. I find that capital committed by an LP in relative terms to an LP's total capital available for private equity investments increases with performance measured by IRR, but does not increase with performance measured by a multiple (see Table 27). The regression coefficient is statistically significant at a 5% level for all funds (model 7) and also for category of closed funds (model 8).[50]

Table 27: Hypothesis 12 OLS Regression Results for Capital Committed by LP in Relative Terms to Total Capital Available for Private Equity Investments

	MODEL 5		**MODEL 6**		**MODEL 7**		**MODEL 8**	
	Dependent variable:		**Dependent variable:**		**Dependent variable:**		**Dependent variable:**	
	TCAPCOM (all funds)		*TCAPCOM* (closed funds)		*TCAPCOM* (all funds)		*TCAPCOM* (closed funds)	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Constant	0.000[a]	8.900	0.002[a]	6.711	0.002[a]	15.894	0.002[a]	10.070
$FP_{MULTIPLE}$	1.67E-02	0.097	-9.92E-03	-0.049				
FP_{IRR}					1.30E-02[b]	2.521	1.63E-02[b]	1.923
Model diagnostics								
Nr. of observations	897		475		790		427	
Adjusted R^2	0.000		0.000		0.007		0.006	
F-Statistic	0.009		0.002		6.357		3.698	

[a] - significant at1%; [b] - significant at 5%; [c] - significant at 10%; * number of funds where placement agents were used.

$TCAPCOM_i$ – capital committed by the LP in relative terms to total capital of the LP available for private equity investments; FP_{IRR} - fund performance measured by IRR; $FP_{MULTIPLE}$ - fund performance measured by multiple.

I additionally study the relation for the split data set between the cases where LPs allocate funds on their own as opposed to where a placement agent is involved. The results are significant only with the former (see Table 28). The results are similar when I further limit the analysis to only the funds that are already closed. These results indicate that the LPs have some ability to efficiently allocate their funds to private equity, which could also be the reason they do not necessitate placement agents for all of their private equity investments.

Several important dilemmas arise from these findings. First, do some placement agents manage to sell a bad fund to an LP, and the LP is unaware of this fact because it relies on the background checks performed by the placement agent? Second, do LPs put too much weight and trust in some placement agents and base their investment decisions too much on the past track records of the funds presented by placement agents? Or are placement

[50] I have also tested the same model specification by using percentage of committed capital by an LP in relative terms to total fund size, but no significant relationship was revealed (not reported).

agents simply good solicitors and manage to get LPs on board based on their convincingly tailored track record?

Table 28: Hypothesis 12 OLS Regression Results for Capital Committed by LP in Relative Terms to Total Capital Available for Private Equity Investments - The Role of Placement Agents

	MODEL 9		**MODEL 10**		**MODEL 11**		**MODEL 12**	
	Dependent variable:		**Dependent variable:**		**Dependent variable:**		**Dependent variable:**	
	TCAPCOM (all funds) (no placement agents)		*TCAPCOM* (all funds) (with placement agents)		*TCAPCOM* (closed funds) (no placement agents)		*TCAPCOM* (closed funds) (with placement agents)	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Constant	0.002[a]	14.838	0.003[a]	5.211	0.002[a]	9.391	0.003[a]	3.696
FP_{IRR}	1.16E-02[b]	2.276	3.86E-02	1.207	1.80E-02[b]	2.088	-1.75E-02	-0.393
Model diagnostics								
Nr. of observations	719		71		393		34	
Adjusted R^2	0.006		0.006		0.008		0.000	
F-Statistic	5.182		1.457		4.360		0.154	

[a] - significant at1%; [b] - significant at 5%; [c] - significant at 10%; * number of funds where placement agents were used.

$TCAPCOM_i$ – capital committed by the LP in relative terms to total capital of the LP available for private equity investments; $_{FP_{IRR}}$ - fund performance measured by IRR.

4.8 LIMITATIONS AND FUTURE RESEARCH

I argue that this is a seminal paper in the field of compensation for placement agents, which is characterized by the lack of quality data and the difficulty of obtaining it. I am aware that this paper does not provide answers to several important research and practitioners' questions. In fact, it raises them and I am able to outline interesting future research questions in this field.

First, a comparison of independent placement agents (boutique vs. bigger) and placement agent departments of investment banks in terms of fund returns, costliness, and fund raising might be interesting. This is a big issue among practitioners, and the case might be that some segments of the placement agent market are more efficient than others.

Second, the practitioners' perception is that placement agents are more useful for first-time funds and maybe second because later on, the GPs are better equipped to do fundraising alone. The question is whether GPs with more recognition are able to raise sufficient funds alone and also limit the costliness of the placement agents who are more willing to raise funds for such a well-established GP for their own recognition (even for a relatively low fee).

Third, the work-flow relevance in the placement agent industry is an open question. Maybe placement agents who work on fewer fundraisings at a time can add more value; meaning

they can select better GPs to work for and convince more LPs to commit more capital. Lopez de Silanes et al (2014) addressed this issue on a GP level and find that the scale of private equity firms is an important determinant for fund returns. Perhaps a similar notion for placement agents could apply.

Fourth, this paper has outlined some of the corporate governance problems related to placement agents. The case of Wetherly Capital where three private equity partners decided to set up their own placement agent office gives reasonable doubt about some placement agents. Are some placement agents strictly seeking money to make money or can they add value to GPs or LPs? Can the market identify and approach such placement agents?

Fifth, which countries require by law that GPs cover the placement agent's fees and how does this requirement works in practice might be relevant. And further, do GPs mitigate this requirement by opening offshore funds, or do they somehow manage to bypass this expense?

Sixth, some placement agent directors are required to invest a small portion of their own personal funds in a private equity fund. By using data from placement agents, investigating which funds placement agents commit their personal savings to and how this commitment is related to performance.

Seventh, the inter-temporal use of services provided by placement agents remains an open empirical question. But, Fenn et al. (1997) expect that the role of placement agents might diminish somewhat over the long term as institutional investors become more familiar with the market and as large GPs become more familiar with the individuals who have discretionary power over the institutional investors' assets that are allocated to private equity.

Eighth, to give a full answer to the placement agent activity we need fundraising data for each placement agent for all preceding fundraisings and performances to entirely capture the reputational issues among LPs. Unfortunately, I am not able to test this due to the lack of data that only could be provided by placement agents.

Finally, there are some bad placement agents who do not justify their costliness. The question that we need to answer for the sake of LPs is: are some LPs persistently bad or sporadically bad? If the latter applies, then in what cases do placement agents miss their target and select bad funds or bad GPs? Perhaps market sentiment also plays a significant role in this context and we simply put placement agents on a pedestal too soon.

4.9 CONCLUSIONS

By merging two proprietary limited partner data sets of private equity funds created over the period of 1990 to 2011 and a modified model used by Metrick and Yasuda (2010), I find that placement agents justify their costliness. I provide evidence about the positive value added by placement agents to LPs as higher compensation of placement agents brings them higher fund returns. This is perhaps possible because the multitude of services provided by placement agents leaves the GPs with more time to better focus on the investments of the fund to deliver higher performance. Interestingly, the involvement of a placement agent in the fundraising activities does not by itself bring higher returns to investors, but high remuneration for a placement agent is positively related to higher performance for investors. An interesting question for further research that I am unable to address is: what are the characteristics of the placement agents with the highest remuneration requirements? My results show that a very valuable asset of placement agents is reputation, and that in order to build and keep it, professional due diligence and careful fund selection of funds are crucial.

An analysis of variance of the fund returns and the placement agent's fees indicates that placement agents do not take advantage of the heterogeneity of returns and the upside potential of the fund return on a larger scale. Namely, fixed fees, as a percentage of committed capital, represent the majority of the fees charged (94.1%), which is a similar finding to Metrick and Yasuda (2010). This is to some extent surprising as carried interest can bring relatively high remuneration when an intermediary can distinguish high performing funds from low performing ones (Conner 2005). On the other hand, potentially high remuneration is remote and thus more risky. However, the few placement agents that use performance-based remuneration do earn higher fees as the fund's performance is higher. In my data set, the performance of funds whereby placement agents have a relatively large part of variable compensation is also less volatile. Therefore, only a few placement agents set favorable remuneration mechanism ex ante, but those that succeed, profit by higher remuneration, which is less volatile than in their fixed-paid peer group.

Regarding the placement agent's costliness, I find that higher amounts of committed capital by an LP lowers the placement agent's fee. However, apart from the obtained results, I believe that the placement agent's costliness might also significantly depend on the relative negotiation power of the GPs on the one hand, and the placement agents on the other. Namely, stronger GPs that raise subsequently larger funds that follow successful funds have greater access to exclusive placement agents, which supply better services for the same or even lower payment. Hence, strong GPs are able to reduce the fundraising costs because the placement agents, who also want to build on their reputation by cooperating with a reputable GP, require smaller fees from stronger and well-known GPs. When, on the other hand, a placement agent is seen as a valuable element in the private equity industry that enjoys the reputation of consistently delivering high quality offerings

to its LPs, the placement agent negotiates higher fees with the GPs as the latter know that cooperation with a placement agent has greater chances of attracting wider potential LP clientele. An aspect that might also be of importance in explaining the placement agent's costliness, stems from a differentiation in the fee structure aimed at attracting some important, large LPs whereby the placement agent gains reputation. Those LPs might (when information gets somehow circulated within the industry) in turn be used by other LPs as an indicator of a good investment pick, which raises the issue of free riding. I believe that the signaling theory in those contexts is well worth further research efforts.

On average LPs commit more capital available to be invested into private equity as an asset class to funds with higher performance. Interesting though, good investment-picking ability measured in terms of relationships between the percentage of capital available for private equity asset class and fund returns, is confined to self-allocated investments by the LPs.

Results documented in this paper provide first and interesting insights into the value-enhancing role of placement agents for LPs as well for GPs. However, there are many questions left unanswered regarding various aspects of placement agents as financial intermediaries that call for future research.

CONCLUDING REMARKS

Findings presented in this empirically oriented dissertation raise some concerns regarding the return generation ability of European private equity firms and created value added in private equity portfolio companies.

Chapter *Operating performance in private equity buyouts in developing European countries* provides some answers in the justification context of private equity activity. My findings indicate that private equity LBOs are on average not an appropriate financing mechanism for all companies in the developing European countries. Namely, private equity firms do not justify their existence in the developing European countries in all LBO cases. These findings are aligned with views from Leeds and Sunderland (2003). A key LBO determinant is company size, since my evidence suggests that private equity firms add more value in profitability terms to larger firms, aligned with findings from Metrick and Yasuda (2010). Private equity backed companies do not outperform their industry peers, measured either by ROS, ROA or profit margin. Even if the private equity backed company is more profitable prior to the buyout, the profitability difference, compared to the benchmark, diminishes within the 3-years post buyout period, indicating the mean reversion effect is present.

My research shows that private equity firms are able to select and acquire above average growing and performing companies. Importantly, their portfolio companies manage working capital more effectively and create more jobs in relative terms, compared to their industry peers. This evidence suggests that all in all, private equity firms can add some value to their portfolio companies in the developing European economies.

Chapter *Investment selection success* illustrates that private equity portfolio companies increase net income/free cash flow, proving that private equity firms can manage earnings efficiently. The later findings are aligned with ROE findings and also indicate that core focus of private equity practitioners is on earnings extraction for their investors. Contrarily, I find no evidence that would support the organizational change hypothesis for the unsuccessful private equity buyouts. By analyzing 28 potential private equity companies and their benchmarks in Europe, I find that these firms can generate ROE increases without being owned by private equity firms. In the 3-year post-buyout time horizon the financial performance of private equity backed companies that were acquired in 2005 does not seem to be better than the financial performance of potential private equity firms. One exception that is in favor of private equity investors is that private equity backed companies manage earnings more effectively, in contrast to non-private equity backed firms.

One of the strong points of private equity firms is acquisition experience, since private equity firms manage to cherry pick potential portfolio companies that have profitability

growth opportunities. Why did they not manage to acquire particular potential portfolio companies remains an open empirical question that requires confidential deal data, available by sell-side and/or buy-side advisors.

In chapter *Costliness of placement agents* I find that placement agents justify their costliness. I provide evidence about the positive value added by placement agents to LPs as higher compensation of placement agents brings them higher fund returns. This is perhaps possible because the multitude of services provided by placement agents (i.g. expansion of GPs' investor base, multiple simultaneous fundraisings, fundraising marketing and structuring, proof of credibility, track of fund development, and risk minimization), leaves GPs with better focus on the investments of the fund to deliver higher performance.

An analysis of variance of fund returns and placement agents' fees indicates that placement agents do not take advantage of the heterogeneity of returns and upside fund return potential on a larger scale. Namely, fixed fees, as a percentage of capital committed, represent the majority of placement agent fees charged (94.1%), which is a finding similar to the one in Metrick and Yasuda (2010) regarding the GP compensation schemes. This is to some extent surprising as carried interest can bring relatively high remuneration when an intermediary can distinguish high-performing funds from low performing ones (Conner, 2005). On the other hand, potential high remuneration is remote and thus more risky. However, few placement agents that employ performance-based remuneration do earn higher fees as fund performance is higher than by placement agents that only stick to fixed-remuneration schemes. In my dataset performance of funds whereby placement agents have a relatively large part of variable compensation is also less volatile. Therefore, only few placement agents set favorable remuneration mechanism *ex ante*, but those that succeed, profit by higher remuneration, which is less volatile than in their fixed-paid peer group. I find that higher amounts of capital committed by a LP lowers the placement agent fee charged. However, apart from the obtained results, I believe that placement agent costliness might also significantly depend on the relative negotiation power of GPs on one hand, and placement agents on the other. Namely, stronger GPs that raise subsequently larger funds that follow successful funds with lower vintage have greater access to exclusive placement agents, which supply better services for the same or even lower payment. Hence, strong GPs are able to reduce the fundraising costs as placement agents, who also want to build on their reputation by co-operating with a reputable GP, require smaller fees from stronger and well-known GPs. When, on the other hand, a placement agent is seen as a gatekeeper that enjoys the reputation of consistently delivering high quality offerings to its LPs, the placement agent negotiates higher fees with GPs as the latter know that cooperation with a placement agent has great chances of attracting wider potential LP clientele. An aspect that might also in my opinion be of importance by explaining placement agent costliness, stems from a differentiation of fee structure aimed at attracting some important, large LPs, whereby placement agent gains reputation. Those LPs might (when information gets somehow circulated within the industry) in turn be used

by other LPs as an indicator of a good investment pick, which raises the issue of free riding. I believe that the signaling theory in those contexts is well worth further research efforts.

On average LPs commit more capital available to be invested into private equity as an asset class to funds with higher performance. Interesting though, good investment-picking ability measured in terms of relationships between the percentage of capital available for private equity asset class and fund returns, is confined to self-allocated investments by the LPs. Yet, LPs earn higher returns when they invest through placement agents.

Results presented in this thesis provide some relevant answers to the puzzling practitioners' questions, however further research and focus on private equity return generation and performance persistence ability area is warranted, both on fund and portfolio company level.

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APPENDICES

LIST OF APPENDICES

Appendix 1: Measured indicators and description of accounting items

Table 29: List of measured indicators

(1) Profitability	
▪ Operating income (EBIT) / sales	EBIT / turnover (ROS)
▪ Net income / Total assets	Net income / Total assets (ROA)
▪ Operating income (EBIT) / PPE	EBIT / Property plant & equipment (tangible fixed assets)
▪ Net income / sales	Net income / turnover
▪ Net income / PPE	Net income / Property plant & equipment (tangible fixed assets)
(2) Operating efficiency	
▪ Cost per unit	Cost of sales / turnover
▪ EBIT / number of employees	EBIT / number of employees
▪ Sales / PPE	Turnover / Property plant & equipment (tangible fixed assets)
▪ Sales / number of employees	Turnover / number of employees
(3) Employment and wages	
▪ Labor costs per employee	Personnel costs / number of employees
▪ Number of employees	Relative change in number of employees (yearly average)
(4) Capital investment	
▪ Investment / sales	Investments in fixed assets / turnover
▪ Investment /number of employees	Investments in fixed assets / number of employees
▪ Investment / PPE	Investments in fixed assets / Property plant & equipment (tangible fixed assets)
▪ PPE / number of employees	Property plant & equipment (tangible fixed assets) / number of employees
(5) Output	
▪ Sales	Yearly change in the company's turnover
(6) Leverage	
▪ Equity / Total assets	Total book value equity / total assets
▪ Interest coverage	(Net income + Interest expense + Tax expense) / Interest expense
▪ EBITDA/Financial expenses	EBITDA/Financial expenses
▪ Financial expenses	Financial expenses as a proxy for leverage
(7) Liquidity	
▪ Current ratio	Current assets / Current liabilities
▪ Quick ratio	(Cash + short term investments + Account receivables) / Current liabilities
▪ Working capital per employee	Working capital / number of employees
(8) Net taxes	
▪ Net taxes / sales	Net taxes / turnover
▪ Net taxes	Net taxes
▪ Effective corporate tax rate	Net Taxes / net income
(9) Earnings management	
▪ Net income / Free cash flow	Net income / Free cash flow
▪ Change in working capital / total assets	(Working capital -/- working capital last year)/ Total assets

Table 30: Description of accounting items

Variable	Definition
Sales	Total turnover sold during period
Cost of sales	All cost relevant for the production of goods sold, including personnel costs, depreciation, materials etc.
Personnel costs	All costs for personnel including salaries, social security taxes etc.

Operating income (EBIT)	Earnings before interest and taxes: net income + minority interest + taxation + net interest costs. Or, Sales, minus operating expenses, minus cost of sales, and minus depreciation.
Net taxes	Sum of taxes to be paid and to be received
Total assets	Total assets on the balance sheet
PPE	Property plant & equipment (tangible fixed assets)
Investments (CAPEX)	All investments in intangible & tangible fixed assets. If not provided in the annual report (cash flow statement): Intangible & Tangible fixed assets in year t. -/- intangible & tangible fixed assets in year t-1 -/- depreciation costs intangible & tangible fixed assets
Equity	Book value of shareholders equity
Current assets	All current assets
Current liabilities	All current liabilities
Number of employees	All employees
Operating working capital	(Current assets -/- cash and marketable securities) -/- (current liabilities -/- short-term and current portion of long-term debt)
Free Cash Flow	EBIT – change in Net Operating Assets. Net operating assets are: Cash Accounts receivables, Inventories, Prepaid expenses and other current assets, Property, plant and equipments Other assets minus operating liabilities: Accounts payable Accrued compensation Accrued royalties Income taxes payable Other accrued liabilities Other long term liabilities Net operating assets are not: Cash equivalents (e.g. securities) Short-term investments Long-term investments Current portion of long-term debt Long-term debt

Appendix 2: Measured indicators and description of accounting items 2

Table 31: List of measured indicators 2

(1) Profitability	
▪ EBITDA / turnover	EBITDA / turnover
▪ Operating income (EBIT) / turnover	EBIT / turnover
▪ EBITDA / PPE	EBITDA / Property plant & equipment (tangible fixed assets)
▪ Net income / turnover	Net income / turnover
▪ Net income / PPE	Net income / Property plant & equipment (tangible fixed assets)
▪ ROE	Net income / Total assets
(2) Operating efficiency	
▪ Cost per unit	Cost of sales / turnover
▪ EBITDA / number of employees	EBITDA / number of employees
▪ Turnover / PPE	Turnover / Property plant & equipment (tangible fixed assets)
▪ Turnover / number of employees	Turnover / number of employees
(3) Employment and wages	
▪ Labor costs per employee	Personnel costs / number of employees
▪ Number of employees	Relative change in number of employees (yearly average)
(4) Capital investment	
▪ Investment / sales	Investments in fixed assets / turnover
▪ Investment /number of employees	Investments in fixed assets / number of employees
▪ Investment / PPE	Investments in fixed assets / Property plant & equipment (tangible fixed assets)
▪ PPE / number of employees	Property plant & equipment (tangible fixed assets) / number of employees
(5) Output	
▪ Sales	Yearly change in the company's turnover
(6) Leverage	
▪ Equity / Total assets	Total book value equity / total assets
▪ Interest coverage	(Net income + Interest expense + Tax expense) / Interest expense
▪ EBITDA/Financial liabilities	EBITDA/Financial liabilities
▪ Financial liabilities	Long-term and short-term financial liabilities
(7) Liquidity	
▪ Current ratio	Current assets / Current liabilities
▪ Liquidity ratio	Cash / Short term liabilities
▪ Working capital per employee	Working capital / number of employees
(8) Net taxes	
▪ Net taxes / turnover	Net taxes / turnover
▪ Net taxes	Net taxes
▪ Effective corporate tax rate	Net Taxes / net income
(9) Earnings management	
▪ Net income / Free cash flow	Net income / Free cash flow
▪ Change in working capital / total assets	(Working capital -/- working capital last year)/ Total assets

Table 32: Description of accounting items

Variable	Definition
Sales	Total turnover sold during period
Cost of sales	All cost relevant for the production of goods sold, including personnel costs, depreciation, materials etc.
Personnel costs	All costs for personnel including salaries, social security

	taxes etc.
EBITDA	Earnings before interest, taxes, depreciation and amortization
Operating income (EBIT)	Earnings before interest and taxes: net income + minority interest + taxation + net interest costs. Or, Sales, minus operating expenses, minus cost of sales, and minus depreciation.
Net taxes	Sum of taxes to be paid and to be received
Total assets	Total assets on the balance sheet
PPE	Property plant & equipment (tangible fixed assets)
Investments (CAPEX)	All investments in intangible & tangible fixed assets. If not provided in the annual report (cash flow statement): Intangible & Tangible fixed assets in year t. -/- intangible & tangible fixed assets in year t-1 -/- depreciation costs intangible & tangible fixed assets
Equity	Book value of shareholders equity
Current assets	All current assets
Current liabilities	All current liabilities
Financial liabilities	Outstanding long-term and short-term financial liabilities
Number of employees	All employees
Operating working capital	(Current assets -/- cash and marketable securities) -/- (current liabilities -/- short-term and current portion of long-term debt)
Free Cash Flow	EBIT – change in Net Operating Assets. Net operating assets are: Cash Accounts receivables, Inventories, Prepaid expenses and other current assets, Property, plant and equipments Other assets minus operating liabilities: Accounts payable Accrued compensation Accrued royalties Income taxes payable Other accrued liabilities Other long term liabilities Net operating assets are not: Cash equivalents (e.g. securities) Short-term investments Long-term investments Current portion of long-term debt Long-term debt

Appendix 3: Overview of return distribution of the Modified dataset 1 – by multiple and IRR

Figure 12: Return Distribution in the Modified Dataset 1 Measured by a Multiple

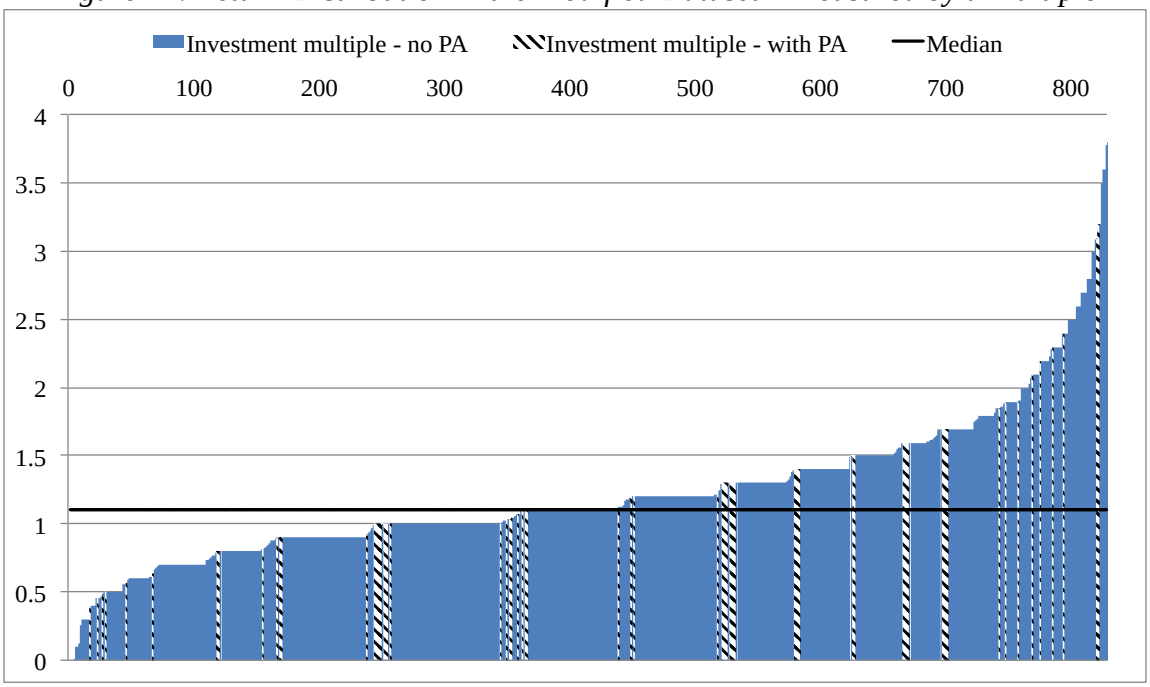
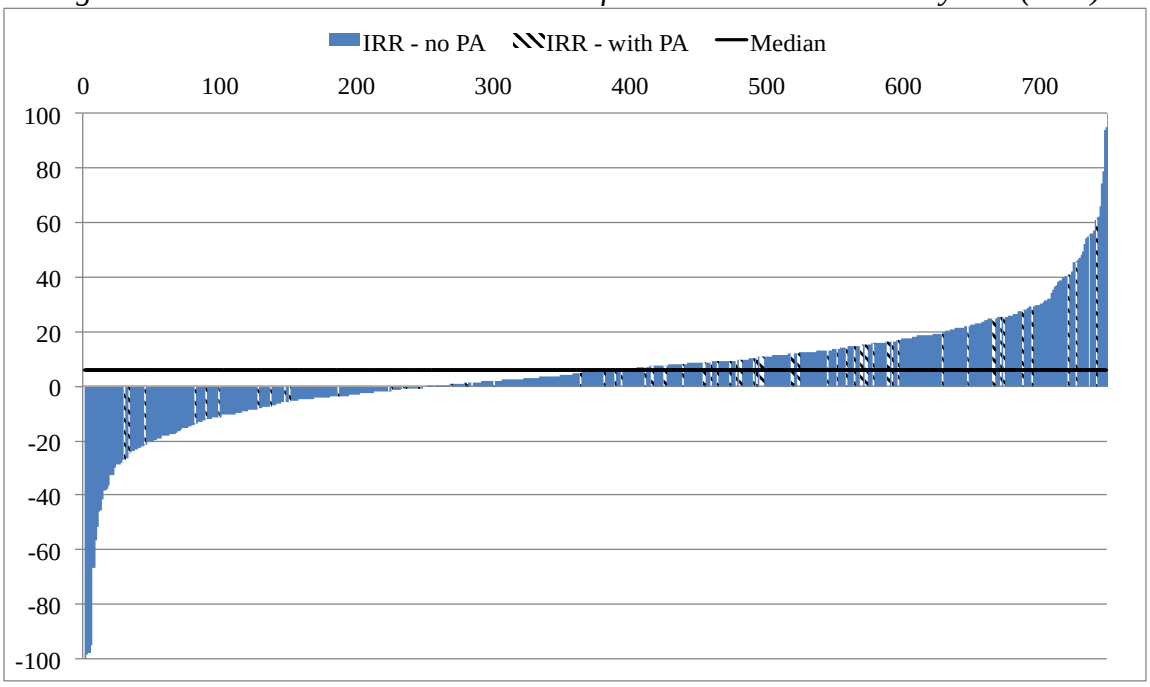


Figure 13: Return Distribution in the Modified Dataset 1 Measured by IRR (in %)



Note: Due to missing IRR data 76 cases were removed.

Appendix 4: Daljši povzetek disertacije v slovenskem jeziku

Doktorska disertacija obravnava tri pomembna vprašanja, ki so relevantna za vlagatelje, ki vlagajo v sklade zasebnega kapitala (omejeni družbeniki – družbeniki komanditisti oziroma investitorji ali vlagatelji), vlade in njihove agencije ter portfeljska podjetja zasebnega kapitala, ki so prejemniki »pametnega denarja« s strani družb zasebnega kapitala (generalni družbeniki – družbeniki komplementarji). Splošna percepcija v praksi je, da v razvitih državah skladi zasebnega kapitala ustvarjajo nadpovprečne donose svojim investitorjem, in sicer z uporabo »pametnega denarja« za nakup portfeljske družbe zasebnega kapitala (ali z »odkupom s finančnim vzvodom« (angl. leveraged buyout (LBO); v nadaljevanju LBO) ali v kakršni koli drugi obliki transakcije), spodbujanjem rasti ter ustvarjanjem dodane vrednosti v porfeljski družbi zasebnega kapitala. Po drugi strani, če podjetja ne prevzame sklad zasebnega kapitala, potem naj ne bi bilo zmožno rasti in biti dobičkonosno kot v primeru, če bi ga prevzel sklad zasebnega kapitala. Investitorji lahko zagotovijo denar, ki v rokah skladov v sklopu investiranja v portfeljske naložbe zasebnega kapitala postane »pametni denar«, neposredno ali posredno preko agentov plasiranja. Vsa ta vprašanja so pomembne dileme v praksi in cilj disertacije je, da poda odgovore na navedena vprašanja.

Pojem odkup podjetja s finančnim vzvodom je bil v 80-ih letih 20. stoletja pomemben pojav, ki je bil podrobno analiziran v akademski literaturi (Lehn in Poulsen (1989), Kaplan (1989), Smith (1990), Lichtenberg in Siegel (1990), Opler (1992), Smart in Waldfogel (1994)). Na splošno so rezultati več avtorjev podpirali domnevo, da odkupi podjetij ustvarjajo dodano vrednost in pozitivno vplivajo na uspešnost poslovanja podjetja. Avtorji so dokazali, da podjetja zasebnega kapitala ustvarjajo vrednost, merjeno bodisi s cenami delnic ali z računovodskimi kazalci podjetij. Po obdobju stagnacije v začetku 1990-ih je drugi val LBO-jev dosegel vrh leta 2000, tretji pa leta 2007, kar je povzročilo nova razmišljanja o učinkih odkupov podjetij na uspešnost podjetja in družbe (Cumming et al., 2007).

Desbrieres in Schatt (2002), Harris et al. (2005), Renneboog et al. (2007), Groh in Gottschalg (2006), Cumming et al. (2007), Bergström et al. (2007), Boucly et al. (2011), Gaspar (2009) in Guo et al. (2011) so raziskovali drugi val odkupov s finančnim vzvodom v razvitih gospodarstvih. Njihovi rezultati potrjujejo domnevno teorijo, da odkupi s finančnim vzvodom ustvarjajo vrednost in da se poslovanje teh podjetij izboljša po izvedenem LBO. Ena izmed zadnjih študij na tem področju (Guo et al., 2011) ugotavlja, da je 94 proučevanih odkupov s finančnim vzvodom iz obdobja 1990-2006 doseglo le skromna izboljšanja operativnih marž in denarnih tokov. Večina dosedanjih raziskav o odkupih s finančnim vzvodom se je osredotočala na razvite trge zasebnega kapitala, vendar pa zasebni kapital ter z njim povezani odkupi s finančnim vzvodom na razvijajočih se trgih še niso bili empirično raziskani.

Razvijajoče se evropske države so kot del svetovnega gospodarskega razcveta pred letom 2008 koristile večinoma neposredne tuje investicije (vključno z zasebnim kapitalom), ki so izhajale pretežno iz EU. Zaradi privlačnosti lege držav, velikih privatizacij, nizkih stroškov dela, ugodnih davčnih politik in geografske razdrobljenosti ter pomanjkanja tržne zasičenosti v določenih sektorjih so se vključili strateški investitorji in investicijski skladi (vključno z zasebnim kapitalom) večinoma iz Zahodne Evrope in ZDA ter znatno zvišali rast BDP v večini držav omenjene regije (Regional Competitiveness Initiative, 2010).

V znanstveni literaturi se spremembe v poslovanju ocenjuje z analizo učinkov LBO na cene delnic podjetij (Kaplan (1989), Lehn in Poulsen (1989), Marais et al. (1989)), z analizo donosov investitorjev po LBO (Guo et al. (2011), Acharya et al. (2010)) ali z analizo finančnih in računovodskih kazalcev podjetja, ki je šlo skozi LBO (Kaplan (1989), Smith (1990), Lichtenberg in Siegel (1990), Desbrieres in Schatt (2002), Harris et al. (2005), Bergström et al. (2007), Boucly et al. (2011)). Slednja metoda je uporabljena v dveh poglavijh te disertacije, z namenom ocenjevanja napredka v računovodskem in finančnem poslovanju podjetij, ki so šla skozi LBO z zasebnim kapitalom.

V zadnjem desetletju je vse več raziskovalcev več pozornosti začelo namenjati donosnosti in zmožnosti ustvarjanja konstantnih donosov v panogi zasebnega kapitala (Kaplan in Schoar (2005). Groh in Gottschalg (2006), Lerner et al. (2007). Phalippou (2010), Humphery-Jenner, M. (2012), Chung et at. (2013), Hochberg et al. (2013), Robinson in Sensoy (2013). Še vedno ostaja odprto empirično vprašanje, ali so nekateri družbeniki komplementarji zmožni ustvarjati višje donose na dolgi rok.

Ennis in Sebastian (2005) ter Phalippou in Gottschalg (2009) so odkrili, da je povprečna donosnost skladov zasebnega kapitala nižja od dolgoročne povprečne donosnosti indeksa Standard and Poor's 500, če upoštevamo provizije. Rezultati te študije so v nasprotju s poročili in članki (Gompers in Lerner (1997), Ljungqvist in Richardson (2003), Froland (2005) ter Groh in Gottschlag (2006)), ki kažejo na visoke donose družb industrije zasebnega kapitala, čeprav so izhodiščni podatki enaki. Chen et al. (2002) poročajo o 13% letnem geometričnem povprečnem donosu, vendar tudi o visoki letni standardni deviaciji donosa na sklad – 115,6%. Na primer, podatkovna baza Preqin (2008) kaže na 15,7% povprečno interno stopnjo donosa (IRR) za 400 skladov za evropsko področje ne glede na starost sklada zasebnega kapitala, čeprav to predstavlja le 3,3% vseh skladov v njihovi podatkovni bazi, od skupno 11.765. Preqin prav tako trdi, da je industrija zasebnega kapitala ustvarila velike donose; 5-letna mediana donosov znaša 21,3% za obdobje 2003-2008.

Neverjetno se zdi, da večina investitorjev zasebnega kapitala po zaračunanih provizijah pričakuje povprečen donos skladov zasebnega kapitala pod donosnostjo borznih indeksov (Phalippou, 2009). Obstajata dve verjetni razlagi za dejanske nižje donose v primerjavi s

prirejenimi donosi za visoko tveganje, ki so »primerni« za investicije zasebnega kapitala kot vira alternativnih sredstev financiranja.

Prvič, skladi transparentno prikazujejo donose samo za uspešno izvedene investicije in ohranjajo vrednotenje neprodanih podjetij v portfelju po nabavni vrednosti. Donosi uresničenih investicij so navadno višji, vendar so neprodana podjetja v portfelju skladov zasebnega kapitala ponavadi bankrotirana podjetja ali pa bi morala biti ovrednotena precej nižje, saj zelo verjetno ne morejo doseči dobičkonosnega izhoda. Dejanski končni donos sklada je tako objavljen leta kasneje in je precej nižji, saj nerealizirane investicije postanejo realizirane, to pa zniža skupno interno stopnjo donosa sklada.

Drugič, pogodbe o omejenih partnerstvih (angl. limited partnership contracts) so lahko zavajajoče za investitorje, zato investitorji pristanejo na dogovore v pogodbi, ne da bi vedeli, kakšne so dejanske provizije (stroški), določeni v pogodbi. Pogodbe o omejenem partnerstvu za zasebni kapital so dolge in kompleksne in vključujejo podrobnosti, ki pogosto vodijo k provizijam, višjim kot lahko navaja osnovna struktura pogodbe. Te pogodbene podrobnosti se razlikujejo med skladi, kar ustvarja pomembno disperzijo provizij med skladi (Phalippou, 2009). Poleg samoumevnih in očitnih provizij v pogodbah (npr. upravljalska provizija, provizija na uspešnost) obstaja vrsta skritih provizij, ki se jih mogoče nekateri omejeni partnerji ne zavedajo (npr. transakcijske provizije, provizije za monitoring in agente plasiranja). Vse navedene provizije predstavljajo razliko med bruto in neto donosi, ki jih ustvarijo podjetja zasebnega kapitala. Phalippou (2007) ocenjuje, da lahko provizije lahko znašajo 7% na letni ravni, Swensen (2000) pa jih ocenjuje celo na 12%. Zato se donosi prilagojeni za tveganje pomembno razlikujejo, če upoštevamo provizije.

Disertacija je napisana v obliki treh člankov, ki so med seboj vsebinsko povezani, vendar se vsak članek posebej osredotoča na določeno tematiko na področju zasebnega kapitala. Osvetljevanje uspešnosti poslovanja in kompleksna problematika dejanskih donosov zasebnega kapitala omogoča izluščenje potencialnih slabosti akterjev industrije zasebnega kapitala. Glavni cilj disertacije je pripomoči k razvozlanju vprašanja pomanjkanja transparentnosti, ki predstavlja strošek za investitorje zasebnega kapitala.

USPEŠNOST POSLOVANJA PODJETIJ, ODKUPLJENIH S FINANČNIM VZVODOM Z ZALEDJEM ZASEBNEGA KAPITALA V RAZVIJAJOČIH SE EVROPSKIH DRŽAVAH

To poglavje se osredotoča na računovodsko in finančno poslovanje podjetij, financiranih z zasebnim kapitalom, ki so šla skozi odkup s finančnim vzvodom v razvijajočih se Evropskih državah (Centralna, Vzhodna, Jugovzhodna Evropa ter Baltske države). Poglavje nudi koristen vpogled institucionalnim investitorjem in premožnim

posameznikom, ki investirajo v zasebni kapital, ob enem pa služi kot ena izmed izhodiščnih točk za vlade razvijajočih se evropskih držav za morebitno nadaljnjo promocijo zasebnega kapitala kot enega izmed virov financiranja rasti podjetij.

V doktorski disertaciji tako analiziram finančne kazalnike podjetij, odkupljenih s finančnim vzvodom in podprtih z zasebnim kapitalom, in preverjam sledeče hipoteze:

Hipoteza 1: *Podjetja v razvijajočih se evropskih državah, ki so bila odkupljena s finančnim vzvodom in podprta z zasebnim kapitalom, so doživela bistveno bolj pozitivno spremembo pri operativnem poslovanju, merjeno z dobičkonosnostjo prodaje ali sredstev, kot pa primerljiva konkurenčna podjetja v panogi, ki jih niso prevzeli skladi zasebnega kapitala.*

Hipoteza 2: *V času recesije poslujejo podjetja, ki so bila odkupljena s finančnim vzvodom in podprta z zasebnim kapitalom, bolje kot primerljiva konkurenčna podjetja v panogi, ki niso bila prevzeta s strani zasebnega kapitala.*

Hipoteza 3: *Podjetja, ki so bila odkupljena s finančnim vzvodom in podprta z zasebnim kapitalom, ustvarjajo delovna mesta. Ustvarjena delovna mesta omogočajo višje povprečne plače kot v primerljivih konkurenčnih podjetjih v panogi, ki niso bila prevzeta s strani zasebnega kapitala.*

Hipoteza 4: *Podjetja, ki so bila odkupljena s finančnim vzvodom in podprta z zasebnim kapitalom, financirajo rast s finančnim vzvodom in povečanjem zadolženosti in posledično namenjajo manj prostega denarnega toka za investicije.*

Hipoteza 5: *Ne glede na ekonomske razmere podjetja, ki so bila odkupljena s finančnim vzvodom in podprta z zasebnim kapitalom, povečujejo prihodke na zaposlenega bolj kot primerljiva konkurenčna podjetja.*

Hipoteza 6: *Rast prodaje in povečanje dobičkonosnosti sta ključna dejavnika boljšega poslovanja podjetij, ki so bila odkupljena s finančnim vzvodom in podprta z zasebnim kapitalom.*

Hipoteza 7: *Podjetja, ki so bila odkupljena s finančnim vzvodom in podprta z zasebnim kapitalom, upravljajo obratni kapital bolj učinkovito kot primerljiva konkurenčna podjetja.*

Čeprav Cumming et al. (2007) predstavljajo širok pregled teme ustvarjanja vrednosti v zasebnem kapitalu in več različnih metod za analiziranje LBO, se poslužujem metodologije, uporabljene v študiji Guo et al. (2011). Slednji uporabljajo standardizirano metodo merjenja uspešnosti poslovanja, ki jo uporabijo za transakcije odkupov. Njihova metodologija je podobna metodi, ki sta jo uporabila La Porta in Lopez De Silanes (1999). V tem članku skušajo avtorji oceniti post-privatizacijsko poslovanje na vzorcu 170 mehiških podjetij, pri tem pa se opirajo na sedem širših kazalcev poslovanja, kvantificiranih z več računovodskimi razmerji. Uporabljam finančne in računovodske

podatke podjetij, ki so šla skozi LBO z zasebnim kapitalom, in se zanašam na več širših kazalcev poslovanja: (1) Dobičkonosnost podjetja, (2) Učinkovitost poslovanja, (3) Zaposleni in plače, (4) Investicije kapitala, (5) Rezultati, (6) Vzvodi, (7) Likvidnost, (8) Neto davki in (9) Upravljanje dobičkov.

Izračunanih je osemindvajset računovodskih kazalnikov za vzorčna podjetja z namenom ocene in interpretacije devetih zgoraj omenjenih kazalcev poslovanja. Kazalci poslovanja so izračunani za tri leta pred (-3) in tri leta po (+3) odkupu z letom 0, ki predstavlja leto odkupa. Omenjeno sedemletno obdobje nudi dovolj časa za finančne spremembe in spremembe v poslovanju, da jih lahko zaznamo v finančnih kazalcih. Ker nekatera podjetja nimajo na voljo podatkov za (-3, +3) obdobje, le-ta analiziram za krajše časovno obdobje. Ker želim oceniti učinke odkupov z zasebnim kapitalom v razvijajočih se evropskih državah, to zahteva primerjavo s primerljivimi regionalnimi podjetji v panogi. To vključuje oceno poslovanja v obdobju pred in po odkupu z zasebnim kapitalom in primerjavo s primerljivimi podobno velikimi podjetji v panogi (ki niso ciljna podjetja zasebnega kapitala). Empirične študije uporabljajo različne pristope za določanje ustreznih primerljivih podjetij (neprilagojene spremembe, uporaba panožne mediane primerljivih podjetij in ujemanje s panogo, uspešnost poslovanja pred odkupom, sprememba v poslovanju ter razmerje tržne vrednosti napram knjigovodski). Panožna mediana prilagojenega poslovanja nudi najbolj neposredno primerjavo s prejšnjimi študijami (Kaplan (1989), Guo et al. (2011)) z uporabo podjetij z enakimi štirimestnimi kodami SIC. Zato uporabljam primerljiva podjetja v panogi iz lastniške finančne podatkovne baze z enakimi kodami SIC kot za podjetja, preveta s strani zasebnega kapitala s finančnim vzvodom.

Za vsako podjetje je izmerjena sprememba v vsakem izračunanem kazalcu poslovanja s primerjavo povprečij in median vrednosti v po-odkupnem obdobju s povprečji in medianami vrednostmi v pred-odkupnem obdobju. Merim spremembe v teh dveh statističnih spremenljivkah med enim in drugim obdobjem, da bi ugotovil, če je pomembno različen od nič, statistično testiran s t-statističnim testom spremembe za povprečja in z-statističnim testom za spremembe v medianah (uporabljam Wilcoxon-ov neparametrični test). Rezultati za mediano so predstavljeni zaradi preverjanja vrednosti, ki določajo zelo širok razpon med razmerji, ki lahko dominirajo povprečja, ker je vzorec relativno majhen.

Poleg tega testiram različne multivariatne regresije presečnih podatkov za uspešnost poslovanja v po-odkupnem obdobju, podobno kot so storili Guo et al. (2011). Za preverjanje hipotez 1-7 določam odvisne spremenljivke:

- Po-odkupna dobičkonosnost, merjena z dobičkonosnostjo sredstev (tri leta po odkupu (+3); ocenjena z uporabo razmerja dobiček/celotna sredstva ($ROA_{postbo(+3)}$));

- Po-odkupni denarni tok na zadnje obdobje po odkupu s finančnim vzvodom (tri leta po odkupu (+3); ocenjen z uporabo kazalnika EBIT/prodaja ($ROS_{postbo(+3)}$));
- Sprememba denarnih tokov od leta pred odkupom s finančnim vzvodom do zadnjega razpoložljivega leta po odkupu (vsaj eno leto pred odkupom do tri leta po odkupu (-1, +3); sprememba v dobičkonosnosti prodaje, $\Delta ROS_{prebo(-1),postbo(+3)}$, ali dobičkonosnosti sredstev, $\Delta ROA_{prebo(-1),postbo(+3)}$).

Spodaj navedene enačbe ponazarjajo multivariatne regresije, ki jih testiram. Vse regresije vključujejo spremenljivko za velikost podjetja (ln*(E)*).

$$\Delta ROA_{prebo(-1),postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + \beta_5 \ln(E) + \beta_6 ROA_{prebo(-1)} + \varepsilon \quad (1)$$

$$ROA_{postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + + \beta_5 \ln(E) + \beta_6 ROA_{prebo(-1)} + \varepsilon \quad (2)$$

$$\Delta ROS_{prebo(-1),postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + \beta_5 \ln(E) + \beta_6 ROS_{prebo(-1)} + \varepsilon \quad (3)$$

$$ROS_{postbo(+3)} = \alpha + \beta_1 \Delta EFF + \beta_2 \Delta SALGR + \beta_3 \Delta INV + \beta_4 \Delta LEV + + \beta_5 \ln(E) + \beta_6 ROS_{prebo(-1)} + \varepsilon \quad (4)$$

kjer je $\Delta ROA_{prebo(-1),postbo(+3)}$ sprememba v dobičkonosnosti sredstev od zadnjega razpoložljivega leta pred odkupom s finančnim vzvodom do zadnjega leta po odkupu (najmanj -1 do +3);

$ROA_{postbo(+3)}$ je dobičkonosnost sredstev, merjena z razmerjem dobiček/celotna sredstva na zadnje leto po odkupu (+3 leta);

$\Delta ROS_{prebo(-1),postbo(+3)}$ je sprememba dobičkonosnosti prodaje od leta pred odkupom s finančnim vzvodom do zadnjega leta po odkupu (najmanj -1 do +3);

$ROS_{postbo(+3)}$ je dobičkonosnost prodaje, merjena z EBIT/prodajo na zadnje leto po odkupu (+3 leta);

ΔEFF meri učinkovitost podjetja (fiksna sredstva/prodajo), kar je razlika v spremembi učinkovitosti med podjetjem, ki je bilo del prevzema s finančnim vzvodom ter primerljivim podjetjem v panogi: $\left[(PC_i^{+3} - PC_i^{-1}) - (B_i^{+3} - B_i^{-1})\right]$ za vsako *i-to* podjetje v vzorcu (PC_i), ki je bilo podprto s strani družbe zasebnega kapitala in *i-tega* primerljivega podjetja v panogi z ustrezno 4-mestno SIC klasifikacijo za primerljiva podjetja (B_i). Isti princip izračuna je uporabljen pri izračunu $\Delta SALGR$, ΔINV, ΔLEV in ΔEMP.

$\Delta SALGR$ je sprememba rasti prodaje (odstotek v rasti prodaje), kar pomeni razliko med podjetjem, ki je bilo del prevzema s finančnim vzvodom ter primerljivim podjetjem v panogi;

ΔINV je sprememba v investicijah, to je razlika v investicijah med podjetjem, ki je bilo del prevzema s finančnim vzvodom ter primerljivim podjetjem v panogi;

ΔLEV je sprememba finančne zadolženosti (merjeno s finančnimi odhodki), to je razlika med relativno spremembo finančnih odhodkov podjetja, ki je bilo del prevzema s finančnim vzvodom ter primerljivim podjetjem v panog;

$\ln(E)$ …naravni logaritem kapitala za kontrolo velikosti podjetja v letu odkupa z financnim vzvodom;

$ROA_{prebo(-1)}$ je pred-odkupna dobičkonosnost podjetja, ki je bilo odkupljeno s finančnim vzvodom s strani zasebnega kapitala (dobiček/celotna sredstva);

$ROS_{prebo(-1)}$ je pred-odkupna dobičkonosnost podjetja, ki je bilo odkupljeno s finančnim vzvodom s strani zasebnega kapitala (EBIT/prodajo).

Za preverjane hipotez 2 ter 3 dodatno testiram sledeče regresije:

$$\Delta ROA_{prebo(-1),\,postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \qquad (5)$$

$$ROA_{postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \qquad (6)$$

$$\Delta ROS_{prebo(-1),\,postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \qquad (7)$$

$$ROS_{postbo(+3)} = \alpha + \beta_1 \Delta INV + \beta_2 \Delta LEV + \beta_3 \ln(E) + \beta_4 \Delta EMP + \varepsilon \qquad (8)$$

pri katerih ΔEMP meri relativno spremembo v zaposlenosti (relativna sprememba pri številu zaposlenih), ki je razlika med relativno spremembo števila zaposlenih med podjetjem, ki je bilo del prevzema s finančnim vzvodom ter primerljivimi podjetji v panogi.

Z uporabo standardne tehnike finančnega in računovodskega analiziranja podjetja, ki so bila odkupljena s finančnim vzvodom, analiziram 69 portfeljskih družb, ki so bila prevzeta s finančnim vzvodom v obdobju 2002-2007. Rezultati kažejo, da model odkupa podjetja s finančnim vzvodom v povprečju ne deluje dobro v razvijajočih se evropskih državah. Moji rezultati prikazujejo, da ne prihaja do statistično značilnega izboljšanja dobičkonosnosti, merjene ali z dobičkonosnostjo prodaje, dobičkonosnostjo sredstev ali profitne marže v obdobju treh let po zaključku prevzema podjetja s finančnim vzvodom.

V primerih, kjer prihaja do izboljšanja dobičkonosnosti, rezultati potrjujejo, da skladi zasebnega kapitala v povprečju izboljšajo dobičkonosnost večjim družbam. Kljub dejstvu, da lahko skladi zasebnega kapitala izberejo nadpovprečno delujoča podjetja in jih kupijo, dokazujem, da kupljena podjetja v povprečju ne vzdržujejo nadpovprečne rasti, in sicer se le-ta približuje povprečni rasti.

Prav tako dokažem, da podjetja, ki so odkupljena s strani zasebnega sklada, bolj učinkovito upravljajo obratni kapital ter ustvarjajo več delovnih mest kot primerljiva podjetja v panogi. Nasprotno pa podjetja, ki so jih kupili skladi zasebnega kapitala, v obdobju po odkupu s finančnim vzvodom v povprečju vlagajo manj in uporabljajo več razpoložljivega denarnega toka za višje stroške financiranja zaradi višje zadolženosti.

Izsledki raziskave Groh et al. (2010) poudarjajo, da so intelektualna lastnina, prepričanje v kakovostno podjetniško vodenje lokalnih ljudi ter pomanjkanje velikosti in likvidnosti na trgih Srednje in Vzhodne Evrope, ključni dejavniki dvomov omejenih družbenikov, ko vlagajo denar v zasebni kapital na tovrstnih trgih. Moja študija, zasnovana na finančnih in računovodskih kazalnikih, ne obsega "bolj mehkih" dejavnikov, in obstaja možnost, da obstajajo drugi gonilniki donosov omejenim družbenikom, kar je slabost mojega pristopa. Verjamem, da so potrebne dodatne raziskave na tem področju, tako na ravni podjetij, ki so podprta s zasebnim kapitalom, kot tudi na ravni skladov zasebnega kapitala.

USPEŠNOST IZBIRE INVESTICIJ ZASEBNEGA KAPITALA

Poglavje obravnava neuspešne prevzeme zasebnega kapitala in poskuša predstaviti učinke računovodskega in finančnega poslovanja podjetij, ki naj bi jih odkupila podjetja zasebnega kapitala, vendar se to zaradi objektivnih razlogov ni zgodilo. Primerjava neuspešno prevzetih podjetij zasebnega kapitala s primerljivimi podjetji v panogi, ki niso bila tarče zasebnega kapitala, omogoča preverjanje hipoteze o organizacijskih spremembah, ki jo je v primerih managerskih odkupov s finančnim vzvodom preverjal že Ofek (1994). Ofek ugotavlja, da se poslovanje podjetij po neuspešnem managerskem odkupu s finančnim vzvodom ni izboljšalo, kar je podlaga za hipotezo o organizacijskih spremembah.

Z analiziranjem neuspešnih prevzemov s strani podjetij zasebnega kapitala poskušam podati dokaze za utemeljitev izrazitih prispevkov k dodani vrednosti podjetij zasebnega kapitala v njihovih ciljnih podjetjih. Zato preverjam sledečo hipotezo:

Hipoteza 8: *Operativno poslovanje podjetij, ki so potencialne prevzemne tarče skladov zasebnega kapitala in niso bila prevzeta s strani zasebnega kapitala, se ne bi smelo spremeniti po naznanitvi neuspešnega prevzema s strani družbe zasebnega kapitala.*

Uporabljam finančne in računovodske podatke podjetij, ki naj bi bila del LBO z zasebnim kapitalom, in se zanašam na več širših kazalcev poslovanja: (1) Dobičkonosnost podjetja, (2) Učinkovitost poslovanja, (3) Zaposleni in plače, (4) Investicije kapitala, (5) Rezultati, (6) Vzvodi, (7) Likvidnost, (8) Neto davki in (9) Upravljanje dobičkov.

Izračunam devetindvajset računovodskih kazalnikov za vzorčna podjetja z namenom ocene in interpretacije devetih zgoraj omenjenih kazalcev poslovanja. Kazalci poslovanja so izračunani za tri leta pred (-3) in tri leta po (+3) odkupu z letom 0, ki predstavlja leto odkupa. Omenjeno sedemletno obdobje nudi dovolj časa za finančne spremembe in spremembe v poslovanju, da jih lahko zaznamo v finančnih kazalcih. Ker nekatera podjetja nimajo na voljo podatkov za (-3, +3) obdobje, le-ta analiziram za krajše časovno obdobje. Ker želim oceniti učinke odkupov z zasebnim kapitalom v evropskih državah, to zahteva primerjavo s primerljivimi podjetji v panogi. To vključuje oceno poslovanja v obdobju pred in po odkupu z zasebnim kapitalom in primerjavo s primerljivimi podjetji v panogi iz podobne panoge in podobne velikosti (ki niso ciljna podjetja zasebnega kapitala). Empirične študije uporabljajo različne pristope za določanje ustreznih primerljivih podjetij (neprilagojene spremembe, uporaba panožne mediane primerljivih podjetij in ujemanje s panogo, uspešnost poslovanja pred odkupom, sprememba v poslovanju ter razmerje tržne vrednosti napram knjigovodski). Panožna mediana prilagojenega poslovanja nudi najbolj neposredno primerjavo s prejšnjimi študijami (Kaplan (1989), Guo et al. (2011)) z uporabo podjetij z enakimi štirimestnimi kodami SIC. Zato uporabljam primerljiva

podjetja v panogi iz lastniške finančne podatkovne baze z enakimi kodami SIC kot za podjetja, preveta s strani zasebnega kapitala s finančnim vzvodom.

Za vsako podjetje izmerim spremembo v vseh izračunanih kazalcih poslovanja s primerjavo povprečij in median v po-odkupnem obdobju s povprečji in medianami v pred-odkupnem obdobju. Merim spremembe v teh dveh statističnih spremenljivkah med enim in drugim obdobjem, da bi ugotovil, če so pomembno različne od nič, statistično testiram s t-statističnim testom spremembe za povprečja in z z-statističnim testom spremembe v medianah (uporabljam Wilcoxon-ov neparametrični test). Rezultati za mediano so predstavljeni zaradi preverjanja vrednosti, ki določajo zelo širok razpon med razmerji, ki lahko dominirajo povprečja, ker je vzorec zelo verjetno relativno majhen.

Rezultati prikazujejo, da skladi zasebnega kapitala prevzamejo nadpovprečno donosna podjetja in prav tako identificirajo družbe, ki imajo potencial za rast. Prav tako dokažem, da imajo skladi zasebnega kapitala dobre zmožnosti identificiranja nadpovprečnih družb, ki delujejo bolje kot panožno povprečje, ne glede na dejstvo ali te družbe prevzame sklad zasebnega kapitala ali ne. Dokazov za potrditev hipoteze organizacijskih sprememb ni, ker družbe, ki niso bile prevzete s strani skladovzasebnega kapitala kljub temu dosegajo rast in izboljšanje dobičkonosnosti.

Uspešnost podjetij, ki so bila prevzeta s strani skladov zasebnega kapitala, v letu 2005 ne presega finančne uspešnosti neprevzetih potencialnih tarč v 3-letnem obdobju po potencialnem prevzemu. Pomembna ugotovitev tega poglavja je, da družbe, so jih prevzeli skladi zasebnega kapitala, upravljajo dobičke bolj učinkovito, česar ni možno zaslediti pri družbah, jih niso prevzeli skladi zasebnega kapitala.

CENA AGENTOV PLASIRANJA

Poglavje proučuje transparentnost in delovanje podjetij zasebnega kapitala. Provizije, ki jih morajo plačati omejeni partnerji, ponavadi niso tako transparentne in neškodljive, kot je videti na prvi pogled. Pomembna provizija, ki jo posredno plača omejeni partner, je provizija agentov plasiranja. Do sedaj na to temo še ni bila opravljena nobena raziskava in poglavje podaja del odgovorov o procesu problematike razvozlanja provizij zasebnega kapitala in nudi dokaze za upravičenje obstoja dragih agentov plasiranja.

Ključno vprašanje poglavja se osredotoča na vlogo, ki jo igrajo agenti plasiranja. Osredotočam se na ekonomsko upravičenost obstoja agentov plasiranja z opazovanjem dodane vrednosti, ki jo agenti plasiranja ustvarjajo omejenim družbenikom ter prav tako družbenikom komplemenarjem. V disertaciji zato preverjam sledeče hipoteze:

Hipoteza 9: *Agenti plasiranja upravičujejo svoj strošek. Višja kot je kompenzacija agenta plasiranja, višji je donos sklada zasebnega kapitala.*

Hipoteza 10: *Z zbiranjem sredstev za družbenika komplementarja lahko agenti plasiranja razločijo med dobrim in slabim skladom. Zato raje izberejo variabilni način plačila, ko zbirajo denar za potencialno bolj donosne sklade in izkoriščajo možnost navzgor neomejenih heterogenosti donosov.*

Hipoteza 11: *Praksa agentov plasiranja je podobna kot pri ostalih finančnih posrednikih. Višja kot je vsota zbranih sredstev omejenih družbenikov, nižji je strošek agenta plasiranja.*

Hipoteza 12: *Omejeni družbeniki so učinkoviti investitorji, kar pomeni, da v povprečju namenjajo več denarja skladom, ki ustvarjajo višje donose. Agenti plasiranja lahko ustvarjajo dodano vrednost z doseganjem še višjih donosov v povprečju.*

Z uporabo podobnega modela, kot sta ga uporabljala Metrick in Yasuda (2010) za oceno pričakovanih prihodkov družbenikom komplemetarjem na podlagi pogodb z omejenimi partnerji, prilagodim model za omejena partnerja za *ex post* obdobje in izračunam, kako dragi so agenti plasiranja.

Za testiranje hipotez 9 in 10 razdelim kompenzacijo agentov plasiranja v štiri kategorije, tipično definirane v pogodbah med družbenikom komplementarjem, omejenim partnerjem in agentom plasiranja: splošen honorar[51], fiksna provizija (kot delež prispevanih sredstev ali druga fiksno zaračunana provizija), variabilna provizija (kot delež "prenesenih obresti"), in ostali splošni stroški, ki pokrivajo splošne stroške agentov plasiranja. Vse provizije agentov plasiranja seštevam za vsak sklad in za vsakega omejenega partnerja. Vse provizije agentov plasiranja so seštete na ravni skladov zasebnega kapitala, kar pomeni, da če je bilo uporabljenih več agentov plasiranja za zbiranje sredstev za sklad zasebnega kapitala, so bile provizije preračunane kot celotne provizije agentov plasiranja na sklad. Ceno agentov plasiranja merim za vsakega omejenega partnerja posebej, upoštevajoč količino vloženih denarnih sredstev omejenega partnerja. Testiram multivariatne regresije, da bi ugotovil, če obstaja povezava med kompenzacijo agentov plasiranja, merjeno kot delež provizij plačanih agentom plasiranja v razmerju do vloženih sredstev in donosi, ki jih družbeniki komplementarji ustvarjajo s skladom zasebnega kapitala. Za testiranje uporabim sledeči model:

$$FP_i = \alpha + \beta_1 PAC_i + \beta_2 VIN_i + \beta_3 \log FS + \varepsilon_i \qquad (9)$$

kjer je FP_i donos oz. uspešnost sklada (merjena ali z interno stopnjo donosa (IRR) ali multiplikatorjem sklada) za sklad i; PAC_i je cena agenta plasiranja:

$$PAC_i = \left(Ret + FixMgF + CarI + OopExp\right)_i CAPCOM_i^{-1} \qquad (10)$$

[51] Splošen honorar, ki ga agent plasiranja mesečno obracunava.

pri kateri *Ret* predstavlja splošen honorar, ki ga zaračunava agent plasiranja, *FixMgF* je fiksni del provizij, ki jih zaračunava agent provizij kot delež prispevanih sredstev, *CarI* je delež "prenesenih obresti", ki jih zaračunava agent plasiranja, na podlagi realiziranih donosov, *OopExp* predstavlja ostale splošne stroške, ki jih zaračunava agent plasiranja, $CAPCOM_i$ so prispevana sredstva omejenega družbenika v absolutnem znesku; VIN_i je starost sklada, *FS* velikost sklada in ε_i napaka v residualu.

Za testiranje hipoteze 10 analiziram vrsto kompenzacije agentov plasiranja, merjeno kot delež plačanih provizij agentu plasiranja napram velikosti sklada. Testiram heterogenost donosov v povezavi z vrsto provizij agentov plasiranja, in sicer z analizo varianc (ANOVA). Z analizo varianc testiram ali obstaja povezava med fiksno/variabilno obliko kompenzacije agentov plasiranja in volatilnostjo donosov.

Hipoteza 11 je testirana z dvema linearnima regresijama po metodi najmanjših kvadratov (OLS). V prvi regresiji uporabljam delež prispevanih sredstev omejenega partnerja v absolutnem znesku (*CAPCOM*):

$$PAC_i = \alpha + \beta_1 \log CAPCOM_i + \varepsilon_i \qquad (11)$$

V drugi regresiji pa kot odstotek prispevanih sredstev omejenega partnerja kot relativni delež celotne velikosti sklada (*PCPF*):

$$PAC_i = \alpha + \beta_1 PCPF_i + \varepsilon_i \qquad (12)$$

Hipotezo 12 testiram z OLS regresijo, in sicer analiziram prispevana sredstva omejenega partnerja v relativni vrednosti do celotnih vloženih sredstev omejenega partnerja, ki jih ima na razpolago za naložbe v zasebni kapital (*TCAPCOM*) v primerjavi z donosnostjo sklada *FP*, merjeni kot interna stopnja donosa ali multiplikatorja:

$$TCAPCOM_i = \alpha + \beta_1 FP_i + \varepsilon_i \qquad (13)$$

Z analizo vloge agentov plasiranja predstavljam prve dokaze ekonomske vloge agentov plasiranja, ki delujejo kot finančni posrednik med generalnim in omejenimi partnerji v panogi zasebnega kapitala. Raziskava je zasnovana na dveh lastnih podatkovnih bazah dveh omejenih družbenikov, ki vsebuje podatke 902 skladov zasebnega kapitala, ustanovljenih v obdobju 1990-2011. Podatki prikazujejo, da generalni partnerji uporabljajo agente plasiranja v desetih odstotkih skladov, ki jih odpirajo. Ugotavljam, da obstaja pozitiven vpliv relativnih stroškov agentov plasiranja na uspešnost skladov. Podobno kot pri drugih finančnih posrednikih se stroški agentov plasiranja znižujejo z velikostjo sklada oziroma s količinami denarja, ki jih omejeni partner investira v sklad zasebnega kapitala. Raven stroškov agentov plasiranja je med drugim določen s pogajalsko močjo med agentom plasiranja in generalnim partnerjem, prav tako pa tudi s pojavom "prostega jezdenja". Poleg tega dokazujem, da agenti plasiranja ne izkoriščajo možnosti

heterogenosti donosov skladov zasebnega kapitala in potencialnih koristi dobro izbranih naložb, in sicer se agenti plasiranja raje odločajo za fiksne provizije. Omejena družbenika v mojem naboru podatkov sta v povprečju uspešna pri izboru bolj donosnih skladov, saj vlagata višje vsote sredstev v sklade, ki prinašajo višje donose. Ti sicer še vedno dosegajo nižje donose kot v primeru razporejanja sredstev v sklade, pri katerih so udeleženi agenti plasiranja. Moje rezultati tako potrjujejo, da množica storitev agentov plasiranja ustvarja dodano vrednost tako generalnemu kot tudi omejenim družbenikom.