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The Performance of Private Equity-backed IPOs and the Effect of M&A-activity – A European Study

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Abstract

- Title:** The Performance of Private Equity-backed IPOs and the effect of M&A-activity – A European Study
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- Five key words:** BHAR, IPO, Performance, Private Equity, M&A
- Purpose:** The purpose of this paper is to investigate how private equity-backed IPOs perform once they go public. That is, to investigate whether or not these private equity firms have created highly competitive, high-performance portfolio companies and to see if the portfolio companies are able to retain those qualities even after going public. These results are then to be compared with previous research done on the general IPO and its short- and long-term performance. It also sets out to measure what effect M&A-activity during the fund holding period may have on the fund companies after being exited onto the public market.
- Methodology:** The performance of the private equity-backed IPOs has been measured as the abnormal return using two methods, cumulative abnormal returns and buy-and-hold abnormal returns. Two types of benchmarks have been used, S&P Europe 350 as well as an industry-specific version of that index.
- Literature review:** Theories used in this study are based partially on previous research on the private equity industry as well as general IPO-theory, such as long-term underperformance and the “hot issue” anomaly. Some M&A-theory has also been used to explain the effects of M&A-activity, with regards to e.g. indigestion.
- Empirical foundation:** This quantitative study is based on a raw sample of 318 private equity-backed IPOs in Europe during the period 1994-2007. These IPOs outperformed both its industry peers as well as the market with 18.02% and 14.75%, respectively, on a three-year basis.
- Conclusions:** Private equity-backed IPOs perform abnormal returns, both short- and long-term. This goes against previous research on the general IPO, which outperforms the market short-term and underperforms long-term. However, it is in line with previous research on reversed LBOs.

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Linus Johansson

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1 Introduction

Here, the reader will get an introduction to the topic and a statement to as why the subject is worth investigating. The reader will also be introduced to the purpose of this study as well as what it intends to measure and not.

1.1 Background

The private equity industry was initially instigated in the 1940's but it was not until the 1980's it really took off (Nyman, 2002). Jensen (1989) even stated that the capital structure of leveraged buyouts (LBOs), a vital part of the private equity business, was superior to any existing capital structure and argued that soon all companies would adopt such a structure. A lot has happened since the 1980's, then, debt levels around 85 to 90% were not unusual and the slightest upward change in firm value generated a lot of return (Cao and Lerner, 2009). Private equity firms use leverage as a means of financing and today their debt levels are a bit more modest at around 70%, while the average listed company average around 30-50% debt (Unionen, 2009). They use the high leverage to make the most use out of the cheapest source of capital, debt, and the tax-shield that comes with it.

The European private equity industry has not been active for as long as the U.S. equivalent. However, it has today become a vital part of the financial mechanism, attracting foreign capital and enabling European companies with access to the capital market, thus making private equity funds function as a bridge between domestic companies and foreign investors. In fact, of the capital raised in private equity funds globally, more than 65% was invested in European companies during 2003 to 2007. Furthermore, the aggregated private equity industry has grown rapidly over the last few years, with raised funds close to USD 155.73 billion in 2006, up by more than 300% compared to 2004. In absolute terms, the U.K. market is the unquestionable leading market. However, relative to the GDP, Sweden and the Netherlands both raised significant funds (Raade and Dantas Machado, 2008).

Criticism has been circling around the private equity industry ever since the first companies were becoming active, arguing that it is value destroying rather than creating and it has become synonymic with lay-offs and downsizing. Private equity companies have also been accused of having a far too short investment horizon, thus being beneficial for no one except the firm behind the acquisition. Moreover, the high leverage of the average private equity acquisition puts, in the eyes of critics, a dangerously high pressure on cash-flow and interest payments and leaves the company with unnecessary high dependence on market changes and default risk. However, private equity firms obviously disagree, stating that they always evaluate the default risk for the acquired firm and then leverage it accordingly. That statement finds comfort in the Swedish Financial Supervisory Authority and its analysis on the lending of Swedish banks to private equity, stating that: "the level of risk was reasonable." In contrast to the general opinion, private equity firms are certain their restructuring is beneficial for the companies and increases their competitiveness even in the long run, since their intention is to increase the value of the company in order to sell it off with a profit (Unionen, 2009). Furthermore, private equity firms are not the ones with a short investment horizon according to practitioners, as Harald Mix, CEO of the Swedish private equity firm Altor expresses it: "It is not the private equity firms with an investment horizon of five to seven years that are short-sighted, it is the public market" (Ekelund and Lundell, 2011b).

1.2 Issue

Investing in a private equity fund usually turns out to be a good investment, over time private equity funds have been outperforming the market index by 3-4% (SVCA, 2011). As mentioned earlier it is partly due to the fundamental in the private equity business, high leverage and the use of a large tax-

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shield. Debt also increases monitoring through banks, thereby reducing agency and monitoring costs, followed by the added pressure on management and cash flow (Jensen 1986). Furthermore, as the company no longer is traded publically, information asymmetry is more or less non-existing between managers and the equity owners as they are often the same. No attention needs to be diverted to media and focus can instead be directed towards running the firm efficiently. The corporate governance structure of a fund portfolio firm generally differs from the average firm. Attempts of aligning the interests of management with those of stakeholders are more common in portfolio firms than others, having a further positive effect on minimising agency costs (Kaplan and Strömberg, 2008). The private equity firm and its fund managers are also in general specialised in the industry of the acquired firm and thus possess a lot of knowledge useful for optimising the firm's strategy. The strategic part of the value creation process has become more and more important, as stated in Mattson and Mårild (2006), internal value creation is today the most important factor for private equity firms. The success or failure of a portfolio firm has increasingly become a matter of improving operational efficiency and less dependent on capital structure. It poses the question if these portfolio firms are better off from having been under private equity ownership and whether or not they are able to maintain these benefits in terms of e.g. knowledge and corporate governance structure in the long run, even after the issuance?

The performance of the general IPO has been studied numerous of times and researchers have discovered multiple anomalies associated with floatings, of which the two most common ones are the under-pricing phenomenon and thus short-run outperformance, and the subsequent long run underperformance. However, given the previously stated advantages with private equity ownership, the private equity-backed firm seems to differ from most companies in many positive respects. One may wonder if these differences are attributable also to the performance of IPOs. Are private equity-backed fund portfolio firms of higher quality than the average floated firm?

Furthermore, the financial strength of a private equity fund also enables for portfolio firms to acquire or merge two or more companies to be added as one to the fund, as the need or opportunity to acquire progresses. This is another example where portfolio firms can profit from private equity funds and its capital injections, offering companies the possibility to acquire e.g. a competitor or a partner in the production chain. The firm can then benefit from synergies and expand its reach to new markets or perhaps lower its costs and risk by having its production chain in-house. However, there are potential problems with merging companies, such as overestimating the synergy potential and problems of indigestion when acquiring too many companies too fast (Bower, 2001). One would wonder whether or not any of these benefits and advantages inherited by the fund firm is kept over the short-, medium- or long-term as well as how the mergers and acquisitions (M&A) activity affects the performance of the exited fund companies. Are firms with high M&A-activity left with problems of indigestion or have they inherited synergy effects they could not have on their own?

The overall problem of the study can be summarised in the following main research questions:

- Do private equity backed IPOs outperform the market over time?
- How do M&A-activity within those companies affect the outcome?
- How do the results differ from the performance of the average IPO, studied in previous research?

1.3 Purpose

The way a fund of a private equity firm earns its return is quite straightforward and is achieved by, in some manner, selling one or more companies in its fund at a higher price than initially bought for, denoted as an exit. A company is acquired to the fund either from private owners or public owners. An acquisition from a public company is referred to as a buyout and since the majority of the financing is debt, it is denoted as a leveraged buyout. There are a number of ways for a private equity firm to exit one of its portfolio companies. It could do a trade sale, where the portfolio company is sold off to another company, usually in the same industry. It could also sell the company on to another fellow private equity firm, referred to as a secondary buyout, or it could turn to the public capital market through an IPO (Cao and Lerner, 2009).

Previous research has focused primarily on the average IPO and its performance, where strong evidence has been shown for short-term underperformance and long-term outperformance (Ritter, 1991). Focus has also been directed towards, and somewhat restricted to, leveraged buyouts and the subsequent re-floating, a secondary IPO, referred to as a reversed leveraged buyout (RLBO). Cao and Lerner (2009) and Mian and Rosenfeld (1993) could both show results indicating that reversed LBOs performed positive abnormal stock returns compared to the market. Cao and Lerner (2009) studied the U.S. market during the period 1981 to 2003 and Mian and Rosenfeld (1993) researched 85 RLBOs during 1983 to 1988. DeGeorge and Zeckhauser (1993), similarly to Cao and Lerner (2009), studied the performance of RLBOs post IPO on the U.S. market, but with even more focus towards pre- and post-IPO operational performance. This study also intends to measure the short-term stock performance of private equity-backed IPOs, both Mian and Rosenfeld (1993) as well as Cao and Lerner (2009) concentrates on long-term performance. To my knowledge, there have only been a few studies made on the share price performance of the general private equity-backed IPOs and the ones I have found have been fairly limited. Henrysson and Petterson (2007) studied private equity-backed IPOs on the Stockholm Stock Exchange, however, they narrowed their research to focusing only on a few companies. Björcke and Menzel (2006) did a similar study, on a larger sample, but were also limited to the Swedish equity market and long-term performance. Levis (2008) studied the British private equity market, but also concentrated on buyouts similar to Cao and Lerner (2009), as well as venture capitalist-backed IPOs. Thus, there seems to be a gap in the previously conducted research in the field. Either there has been made distinctions on the type of acquisition by the private equity fund, e.g. leveraged buyout, or the studies have focused on other stock exchanges or time periods.

The purpose of this paper is to investigate how firms, previously owned by a private equity firm or syndicate, perform once they go public. That is, to investigate whether or not these private equity firms have created highly competitive, high-performance portfolio companies and to see if the portfolio companies are able to retain those qualities even after going public. In this study I make no distinction between the types of acquisition, only the type of exit, and the intention is to focus on the stock price performance, not the operational. These results are then to be compared to previous research done on the general IPO and its short- and long-term performance. It also sets out to measure what effect M&A-activity during the fund holding period may have on the fund companies after being exited by the private equity funds on to the public market. This paper may be unique in its focus towards M&A-activity during the holding period for the portfolio companies. Hopefully, the study can shed some light on this matter, which has seen little to none attention earlier, and thereby improving the awareness of the issue both for practitioners and academics. It may also be unique in its attempt to cover the larger part of the European Union and thus analysing the aggregated private equity market and private equity-backed IPOs on a European basis.

1.4 Demarcations

Similar to the studies performed by Ritter (1980, 1991), I intend to study both the short-term and long-term performance post-IPO. I will thus test if the previously mentioned anomaly associated with long-term underperformance could be attributed to private equity-backed IPOs as well, and if and how the under-pricing may affect the short-run performance. However I do not intend to investigate the initial day return or under-pricing phenomenon (Ritter, 1991) specifically, only use previous research on IPOs to explain the results in my analysis. There are already studies such as the ones by Ritter (1980, 1991) on the general IPO initial day performance, however, to put these results in context of the private equity-backed IPOs, average initial returns has actually been calculated in table 6. Neither do I have any intentions of measuring the performance of general IPOs during the investigated period. When comparing the results of private equity-backed IPOs to the general IPOs I will instead again turn to previous research for the same reasons. The purpose of this study is to add something new to the foundation of IPO research, by instead measuring the performance of private equity-backed IPOs on an aggregated European basis. However, it is not part of the purpose to measure the operational performance of these firms. Making a comparison of operational performance prior and post private equity ownership would have been interesting. Still, since a sizeable part of all private equity fund acquisitions are of private nature, retrieving information would have proven both difficult and time consuming.

The study does not attempt to investigate any variations in performance based on the characteristics of the private equity sponsor. An idea would have been to test if a sponsor with an international or pan-European reach could have had any effect on the firm's performance. A sponsor with an international profile could possibly have a positive effect on a portfolio firm, in terms of both knowledge and possibility to enter new markets for the firm. However, the focus of the study needed to be limited somehow and since private equity firms tend to be focused to their own home market to a great extent, with the few exceptions of the largest ones such as 3i and KKR (Kohlberg Kravis Roberts & Co.). Adding to the problem is the small sample I would have been forced to base the variable on, since the sponsor information is dependant the firm existing in the Mergermarket database. With a small sample and skewed distribution of types sponsors, the results could possible have been misguided.

Neither do I intend to study the performance on an exchange specific basis, again chiefly due to the skewness of the distribution. Table 1 illustrates this problem with a heavy sample weight towards the U.K. market. Nor is the single or multiple bookrunner variable part of this study, see Hu and Ritter (2007). This would have been interesting to examine, even more so due to the fact that multiple bookrunner representation is used increasingly over single, especially for private equity-backed IPOs (VCCircle, 2011). However, this field is relatively unexplored so far, it was actually unheard of before the year of 1997 (Hu and Ritter, 2007). The studies I have found on the matter, such as the one by Hu and Ritter (2007), is not related towards stock performance, but rather offer price and firm negotiation power. Also, since part of the purpose of the study is related to the difference between general IPOs and private equity-backed, a focus towards a more thoroughly investigated bookrunner phenomenon, i.e. bookrunner or underwriter reputation (see Carter, Frederick and Singh, 1998) seems more feasible. No attention has been directed towards the relative importance of the deal value of the issuance either. The deal value of most leveraged buyouts, and reasonably public exits by private equity firms, tend to be larger than average (Cao and Lerner, 2009). The suitability for comparing the results to the ones of studies on general IPOs is thus questionable.

Regarding M&A-activity, no account is taken for the deal value of the merger or acquisition, an aspect, which could have been interesting to examine due to the relative importance as well as

potential synergies of an investment of varying size (see e.g. Larsson and Finkelstein, 1999). However, the deal value of the M&As found in Mergermarket was not always specified and the sample for this variable would thus have been even smaller than the sample for the M&A-activity variable actually used in the study, displayed in terms of number of deals.

1.5 Audience

This study focuses on the private equity market and IPOs. The main audience then would have to be students and academics in finance, private equity practitioners or anyone with some interest in the equity capital market. Investors and traders might also find this paper interesting in terms of using the results as part of their trading strategy. Some statistical understanding would be beneficial for the reader when going through the method and results to fully grasp the significance of the results and how the study was performed. However, through providing the reader with background information about the industry, I believe to have broadened the scope of the potential audience, one must not be that conversant with the subject in order to appreciate the work.

1.6 Disposition

The study will continue on with section two, stating the approach of the thesis and describing the methods used and the particularities of those methods. It will also give the reader a good understanding of how the study was practically performed. In section three the novice reader is introduced to the subject and the Swedish private equity industry. The business model is described as well as what major players there are in the Swedish industry. Section four provides the reader with a theoretical frame of reference, explaining the most relevant theories for this subject, to be used in the analysis of the results. These theories are used in conjunction with the purpose to build hypotheses to be answered. The theories will also try to offer an explanation for the results displayed in section six, following the hypotheses. In section seven, the results will be followed by a thorough analysis. Section eight is the final section and summarizes the findings and conclusions that I have been able to draw, as well as poses suggestions for further research.

2 Methodology

This section explains what method was used and describes how data was gathered, what complications that were encountered and provides with reasons for any sample tapering. It also argues for how credibility was ensured.

2.1 Research objectives

The private equity industry has been subject to debate for a long time. Lately the discussion in Sweden has been focused towards taxation and how most private equity companies manage to escape company taxation as well as taxation on portfolio company exits (Ekelund and Lundell, 2011a). However, the dispute regarding whether or not these companies are value destroying and bad for the general public has been going on forever. Critics argue that the investment horizon is far too short and that private equity companies are only in it for the short run capital gain, with lay offs and downsizing as a result. With the recent crisis in the rear view mirror, private equity firms are also being accused of taking far too great risks with unhealthy leverages.

Nevertheless, advocates may argue that the competition on the private equity scene has toughened and that bargains are more or less impossible to find these days. As stated in Mattson and Mårild (2006), internal value creation is today the most important factor for private equity firms. Thus, private equity firms have to create actual value, through active ownership and highly skilled management. Also, in response to the general opinion of private equity funds practising too high leverage, Kaplan and Strömberg (2008) found in their study that the annual default rate among private equity fund portfolio companies is 1.2%, compared to the average default rate for U.S. corporate bond issuers at 1.6%, portfolio companies are thus actually less prone to default than average (Hamilton, Varma, Ou and Cantor, 2006). Many private equity practitioners argue, on the contrary, that most listed companies are instead quite low leveraged.

The study seeks to answer a few questions regarding exited private equity fund portfolio companies and their performance. The idea is to investigate how these companies perform after being floated compared to the general market, as well as how they differ from the average IPO, based on previous studies. That is, can any abnormal return be recognised and how do various aspects, such as timing, bookrunner reputation and M&A-activity among others, affect these potential abnormal returns?

2.2 Research strategy

The motives for investigating this matter further are not hard to find. The main objective of this study is to answer the question of whether or not private equity firms create value in their portfolio companies, preserved even after the exit. The particular characteristics of the study make an event study the optimal form of research. An event study is performed whenever one seeks to investigate a specific event or transformation phase as well as the circumstances surrounding it (Bryman and Bell, 2003). The objective of this thesis is to be answered through quantitative analysis, by comparing the return of the sample with a general index as well as industry specific indices. This will be achieved through gathering enough data, used as the foundation of a number of statistical calculations, which in turn then will be the basis for the analysis.

2.2 Quantitative and qualitative data

There are basically two major ways to go about a study, quantitative or qualitative (Lekvall and Wahlbin, 2001). The quantitative method differentiates itself from the qualitative in a few distinct ways. It measures the performance of a greater sample population upon which the researcher can draw general conclusions of the entire sample population. The qualitative approach on the other hand usually relies on oral information, such as interviews, from which conclusions about a subject

are drawn (Eriksson and Wiedersheim-Paul, 2006). This study will take on a quantitative approach, as is consensus when performing this type of stock performance based research. Cao and Lerner (2009), who performed a similar study on reversed LBOs on the U.S. market, and Levis (2008), who studied the British private equity market, are merely two examples of similar studies with a quantitative method. The research will be based on a sample of, initially, 318 companies, representing all firms in Europe exited by private equity funds between 1994 and 2007.

2.3 Scientific approach

When making a scientific study, one can approach the subject in one of two ways, inductively or deductively, or a combination of both. When using existing theory to build one's analysis on, one is said to be using a deductive approach. Conversely, a researcher with an inductive approach uses no preconceived views or thoughts, i.e. theories and instead tries to create new theories based on the empirical results. However, no man can really be said to have no biases, even if one tried to set these aside, subconsciously one would still be affected by these (Jacobsen, 2002).

Furthermore, since this is an event study which has been done before, a deductive approach seems reasonable when drawing conclusions, and thus basing them on existing theory and comparing the results in this study with results from earlier ones. At the same time, very few studies are pure deductive or inductive ones (Lundahl and Skärvad, 1999). I will try to back any conclusions made with existing theory, however, no clear distinction has been made towards using one approach over the other and an element of induction and general conclusions may prove necessary if any result ends up impossible to be supported by existing theory (Bryman and Bell, 2003).

2.4 Primary and secondary data

There are two ways to gather data for analysis in which the data is referred to as either primary or secondary data. Primary data is data that is collected actively by the researcher himself while secondary data is data that has been collected by a third party (Lekvall and Wahlbin, 2001). I will be using secondary data for this entire study, as the time needed to spend on looking this data up myself would be extremely inefficiently spent. The databases used are all databases recognised by practitioners and used by many in their daily work (Dealogic, 2011; Mergermarket, 2011; Thomson Reuters, 2011). Thus, I see them as more than reliable enough.

The record of the particular companies subject for scrutiny, the exited fund portfolio companies, was retrieved from a database provided by Dealogic. I found the stock price information about those companies in Thomson Reuters Datastream, which is a tool provided by the university and actively used by financial industry practitioners all around the world. Datastream was also the tool used when retrieving index performance for both S&P Europe 350 and the industry-specific benchmarks. Finally, the M&A-activity data was collected from the Mergermarket database, also a tool used by professionals in the industry for gathering information about M&A statistics.

2.5 Credibility

The veracity of a scientific study is crucial and expresses itself in three major ways: reliability, validity and objectivity.

Reliability is really all about ensuring that the findings of the paper are consistent, regardless of who is making the study. That is, that anyone should be able to follow the procedures described in the paper and come up with the same results. But it is also about making sure that the results are not affected by temporary or random differences (Bryman and Bell, 2003). A time span ranging all the way from 1994 to 2007 should, hopefully, erase any such temporality or irregularity. Also, data

gathered from software such as Datastream and databases such as Mergermarket and Dealogic, would have to be seen as reliable as practitioners in the financial industry use them on a daily basis. The fact that share price data, deal specific information and M&A-activity related material, all has been collected from only one source per type of information, guarantees that there should be no differences in measurement or way of displaying results between any two companies (Björklund and Paulsson, 2003; Lundahl and Skärvad, 1999).

The validity of a study tells you how well the author has measured what he or she intended (Bryman and Bell, 2003). Many authors separate internal validity from external, meaning that there is a difference between the validity one as a researcher is able to ensure and the validity of the actual sample, something the researcher is less able to guarantee. That is, making sure that one measures what was intended is one thing, whereas making sure that the data sample really reflects reality is another. When it comes to internal validity, I have used proven methods, used in similar previous studies and am thus certain that I have measured what was intended. The external validity is ensured through reliable sources and methods that should best reflect reality. The BHAR method is used for measuring abnormal returns and is used due to its realistic features. As it compounds the abnormal returns instead of summarising them, as done with CARs, it reflects the effect on an investor's portfolio more accurately. However, CAR is used as well as a controlling variable. To make sure that the right-skewness of the BHARs is diminished as much as possible, the skewness-adjusted t-test has been used. However, the small sample used for measuring the effect of M&A-activity may pose problems of validity, as it perhaps cannot be seen as representative (Björklund and Paulsson, 2003; Lundahl and Skärvad, 1999).

Lastly objectivity, which is defined somewhat differently in various method literature, is basically related to the preconceived ideas and biases of the author. A researcher should always try to be as impartial and unbiased as possible to avoid letting anything compromise the results or the way the study is performed. It is always difficult to set aside preconceived opinions and even if one is successful in that attempt, they inevitably affect one unconsciously. I have tried to be aware of my biases to the greatest extent possible in order to be able to neutralise them, but I am still aware of the fact that perfect objectivity is almost impossible to attain and would like to inform the reader of the same. With that being said, I do not feel that this type of study is the one most affected by any biasness when actually working with retrieving and performing statistical calculations on data. Qualitative studies, performing e.g. interviews are much more affected by this type of problem when e.g. creating questions, as well as risking posing leading and slanted questions. The data retrieved does not change depending on any biases, however, it is still an important aspect for studies such as this one when it comes to interpreting the results. To come to terms with this problem, I have been extra attentive when interpreting the results, discussing my reasoning with my peers. Still, the fact that I am performing this study on my own could affect the objectivity negatively (Björklund and Paulsson, 2003; Lundahl and Skärvad, 1999).

2.6 Sample

2.6.1 Selection of countries and stock exchanges

This study limits its research to only measure the performance on private equity-backed IPOs and will thus not investigate the performance of the general IPO. Studies on general IPOs has already been performed numerous times, on multiple markets and during several time horizons, with examples such as Alvarez and Gonzalez (2005), Carter et al. (1998), Khurshed, Mudambi and Goergen (1999) and Ritter (1980, 1991), making yet another study seem redundant. My study is instead able to broaden its spectrum to include all private equity-backed IPOs and not singling out

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reversed leveraged buyouts backed by private equity firms, see Cao and Lerner (2009). By broadening the sample, a general picture of the performance and quality of the IPOs backed by the private equity industry is achieved. However, the study has no intentions of incorporating venture capital-backed IPOs, done in Levis (2008) or Hege, Palomino and Schwienbacher (2003), since these firms are deemed as neither comparable to the general IPOs nor to the general market, due to their start-up like characteristics (SVCA, 2011).

The countries included are displayed in Table 1, as well as their relative contribution to the sample. The exchange used for each country is the major exchange in the respective countries. These exchanges have been chosen since most leveraged buyouts, and reasonably public exits by private equity firms, are issued on the major markets due to the size of these firms usually being larger than average (Cao and Lerner, 2009). The particular countries have been chosen since it would be interesting to investigate the performance on an aggregated European basis, instead of on a country specific, see Björcke and Menzel (2006) and Henrysson and Petterson (2007). A lot of studies have also already been made on the U.S. market, such as Cao and Lerner (2009) and Mian and Rosenfeld (1993). By instead focusing on the aggregated European market, I hope to add to the research foundation of private equity-backed IPOs.

Table 1
Countries included in the sample and their relative contribution to the sample

United Kingdom	37.9%
Germany	11.6%
France	10.8%
Italy	7.6%
Sweden	5.8%
Switzerland	4.7%
Poland	4.0%
Norway	3.2%
Spain	2.5%
Austria	2.2%
Belgium	2.2%
Netherlands	2.2%
Ireland	1.1%
Czech Republic	0.7%
Finland	0.7%
Luxembourg	0.7%
Russian Federation	0.7%
Denmark	0.4%
Faroe Islands	0.4%
Greece	0.4%
Portugal	0.4%

This table shows that the largest equity market in Europe, United Kingdom, also seems to be the largest private equity market. It is also notable that the Swedish market seems to be the fifth largest contributor, remarkable given its size.

Looking at table 1, it is notable that the Swedish private equity market represents a large contribution relative its size, the largest one in Europe relative to its GDP, together with the U.K. market (SVCA, 2011). The Swedish private equity industry has also been subject to serious debate lately. The discussions have pertained to the lenient taxation of portfolio company exits and the obvious gaps in taxation policy for private equity firms, among other things (Ekelund, and Lundell, 2011a). Thus, due to the relative importance, the industry description in section three will have a certain degree of special focus towards Sweden. However, private equity as a business idea is international, making the specifics for the Swedish industry relatively universal.

2.6.2 Selection of time period

As I intend to build as large a database as possible, I have tried to find data reaching back as early as the database would let me. The earliest recorded data in Dealogica was from 1994 and in order to make certain a large enough time span of three years to study post-IPO, 2007 was clearly the most recent year I could use and analyse. Also, there seems to be a certain gap in the previous studies conducted, with Björcke and Menzel (2006) and Cao and Lerner (2009) displaying the most current results, ending in 2005 and 2003 respectively. The study will be conducted using four time horizons. Short-term will be defined as three months, short medium-term as six months, long medium-term as 12 months and long-term as 36 months. The time period of the thesis will reach from 1994 to 2007.

2.6.3 Selection of candidates and criteria

The study has identified 318 private equity-backed IPOs during the research period from 1994 to 2007 on all of the covered markets combined. The sample should follow two main criteria, primarily, obviously, that it was in fact an IPO, and secondly that the IPO was backed by a private equity firm or a syndicate of private equity firms.

However, some complications were encountered along the way. First of all, not all firms were covered in Datastream, which could be due to name changes not registered or acquisitions (see Appendix 1). Without any stock performance information about these companies they were excluded from the study all together. The lack of share price information reduced the sample from 318 to 277. Appendix 1 displays the companies included, as well as the country of origin, floating date (i.e. first day of trading) and industry the company operates in. Secondly, a large part of the sample was excluded when investigating the M&A-activity during the holding period. This was due to the fact that the date of acquisition and the portfolio firms' acquisitions were hard to find. Only 111 out of the original 277 firms were registered in the Mergermarket database and thus eligible for M&A-activity analysis (see, Appendix 1). Since there were firms registered in the database with no acquisitions, deeming the ones not found as having done no acquisitions seems erroneous. Furthermore, since Mergermarket was founded in 2000, there is limited information about deals being made previous to that year (Mergermarket, 2010). Thusly, including firms not in Mergermarket can distort the results, seeing as a relatively large part of the sample is actually from before 2000, see graph 4. Table 2 displays the selected sample given certain criteria more clearly.

Table 2

Sample Selection Criteria	
Total number of firms in the raw data sample	318
Less: Observations not found in Datastream	41
<i>Regression and t-test on total sample and variables (excl. M&A-activity related)</i>	277
Less: Observations not found in Mergermarket	166
<i>Regression on M&A-activity related variables</i>	111

The 277 observations found in Datastream were used in the skewness-adjusted t-test as well as the multiple regression using dummy variables, explained further in the method section. The M&A-activity related variables are calculated using the dummy variables, however, on 111 observations.

2.7 Stock performance and required return

When calculating the performance of a stock, one needs to put it in relation to some sort of benchmark in order to be able to evaluate whether or not the stock has outperformed or underperformed. A stock's performance displayed in per cent on its own does not tell an investor much about how good of an investment it actually was. Even if the stock has risen by 15%, the investor could still have been better off by merely investing in the market portfolio if the market return was higher. However, it is also a matter of the risk-return trade off, the owner of an asset with higher risk also demands a higher return. The raw performance of a stock measured in per cent for time t is calculated by formula 1, displayed below.

$$Return_t = \left(\frac{Price_t}{Price_{t-1}} - 1 \right) \times 100 \quad (1)$$

Thus, when determining if a stock has outperformed or underperformed, it is compared to the required return. The required return pertains to the expected, risk-adjusted return. That is, for a higher level of risk, a higher return is required. This relationship is explained by the CAPM-model or the Fama-French three factor model (Fama and French, 2004). If $R_{\tau,t}$ is the return of a time series of a portfolio of companies floated at time t , the forthcoming proposed tests can be seen as testing for α in a time series model.

$$R_{\tau,t} = \alpha + (R_{\tau,t})^E + \varepsilon_t \quad (2)$$

Where, $(R_{\tau,t})^E$ is the expected, or required, return and ε_t , the zero mean error term, at time t . As mentioned previously, $(R_{\tau,t})^E$ can in turn be viewed from the CAPM or Fama-French three factor model perspective. Formula 3 illustrates the CAPM view.

$$(R_{\tau,t})^E = r_{f,t} + \beta(R_{B,t} - r_{f,t}) \quad (3)$$

Where, $r_{f,t}$ is the risk-free rate at time t , and $R_{B,t}$ is the return of a specific benchmark. These benchmarks are discussed further in the subsequent section. With the restriction of $\beta = 1$ and the usage of CAPM, proposed by Lyon, Barber and Tsai (1999) and followed by Gregory, Guermat and Al-Shawawreh (2010), a better specification is achieved (Lyon et al., 1999; cited in Gregory et al.,

2010 p. 620). Through simplifying the model with the above mentioned assumptions, we end up with the following formula for the required return (Gregory et al., 2010):

$$(R_{\tau,t})^E = R_{B,t} \quad (4)$$

Formula 4 thus states that the required return equals the benchmark. The proposed procedure was also implemented by Gregory et al. (2010), in their study about IPOs in the UK.

2.8 The applied benchmarks

In order to measure and compare company performance across industries, one would have to eliminate any industry related outperformance for each firm. This is accomplished through adjusting the performance of an individual firm for the performance of the entire industry. However, to be able to see the outperformance or underperformance over the general market, a benchmark reflecting the market portfolio is needed. Thus, two benchmarks will be used to properly examine the performance, S&P Europe 350 and an industry benchmark reflecting the performance for each IPO respectively.

The S&P Europe 350 intends to cover at least 70% of the equity in Europe and serves as a general market portfolio comparison. This index represents 350 listed companies, leading their industry, in their home market, in 17 European countries. These companies then have to follow a list of criteria regarding e.g. liquidity and market capitalization. The countries included are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. The relative size of each market is then represented accordingly in the index (S&P, 2010).

Moreover, 10 economic sectors, Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Materials, Technology, Telecommunication Services, and Utilities in turn make up The S&P Europe 350. These benchmarks will be used to represent the industry-specific return for each industry included in the sample (S&P, 2010). Table 3 illustrates the distribution of economic sectors in the sample. Each company was already assigned to a specific industry when retrieved from Dealogic, however, due to the fact that so few companies were regarded to be working in consumer staples, the two consumer-related industries were combined into one. The few utility companies identified were of energy-related kind and were thus included in the energy sector.

Table 3

Distribution of economic sectors in the sample	
Consumer Discretionary & Staples	21,3%
Energy	4,7%
Financial	6,9%
Health care	15,2%
Industrials	13,7%
Materials	5,8%
Technology	26,4%
Telecom Svc	6,1%

The graph displays how many companies in the sample were active in respective economic sector. The majority was found to be working in the technology and consumer industry, whereas the minority was found in the energy and materials sector, two very capital-intensive industries.

2.9 Measuring abnormal returns

There are some implications and factors to be aware of when choosing the proper method to perform this type of study, measuring stock performance. The buy-and-hold abnormal return method is frequently used in studies such as this, the most relevant being Cao and Lerner (2009). There are other ways of measurement, however none other replicates the effect on an investor's portfolio as accurately, chiefly due to its compounding effect. The downside with BHARs is the fact that they tend to be right-skewed over time, with high kurtosis and inability to accurately measure short-term returns (Fama, 1998). Still, using average abnormal returns or cumulative abnormal returns would not reflect an investor's return realistically (Buchheim, Grinstead, Janssen, Juan and Sahni, 2011). Due to these complications and to ensure consistency and validity in my results I have chosen to use both CARs as well as BHARs when assessing the abnormal returns for the companies in this study. Even though CARs do not measure the effect on an investors portfolio as realistically, it could prove more accurate when measuring short-term returns, where the BHAR-method experiences problems.

As mentioned earlier, four time-horizons will be used in this study. Short-term, represented by three months, short medium-term, six months, long medium term, twelve months and long-term 36 months. Measuring long-term abnormal returns is exceptionally hard and treacherous as Lyon et al. (1999) expressed it, and which Fama (1998) concurs on. They recommend to measure e.g. across both different time periods as well as financial markets, both of which have been done in this study. Time periods of three years from 1994 to 2007 have been used, as well as more than 20 financial markets. Long-term studies continuously suffer from a bad-model problem, where the results become somewhat misleading. For example, CARs grow linearly over time whereas its standard error only grows with the square root. This problem becomes even greater when using BHARs, as it grows exponentially instead of linearly. In the short-run, the effect is negligible, but in the long-run it can have substantial influence on the results. Additionally, due to its compounding characteristic, BHARs are also subject to severe skewness in the long-run (Drobetz, Kammermann, Wälchli, 2003).

Nevertheless, the BHAR-method is still the one to be preferred since it is the only one that truly reflects the effect on an investor's portfolio and it is thus the most frequently used one in empirical studies on long-run performance (Drobetz et al., 2003). Now, Lyon et al. (1999) actually developed a skewness-adjusted t-test in 1999, which adjusts for the skewness experienced when using BHARs. When computing test statistics for the null hypothesis of zero abnormal returns for the entire sample, their procedure is used.

When comparing different variables however, I use a different approach referred to as multiple regression with categorical variables, or “dummy coding.” This linear regression is a useful method when one wishes to compare multiple variables and how their mean differs from both each other as well as the overall sample mean. It is most often used in time series analysis, such as this study, or qualitative survey analysis. When comparing e.g. exited fund portfolio companies across countries, economic sectors or based on their bookrunner, one needs to assign each company to a specific group. Dummy variables solve this issue easily by assigning respective company with a one or a zero. Dummy variables are also valuable when there are infinite possible independent variables, such as the market-to-book ratio for a company. With dummy variables, one can divide sets of groups with different ranges of ratios instead of evaluating each particular ratio separately. (Barreto and Howland, 2005; Garavaglia and Sharma, 1998).

2.9.1 Cumulative abnormal return

Even though the buy-and-hold abnormal return method is the one preferred in this study, as it most accurately replicates the effect on an investor’s portfolio, all calculations have been duplicated with the CAR-method. Furthermore, CARs are subject to skewness to a much lesser extent, which makes it a good controlling variable (Lyon et al., 1999). CAR_{it} is the sum of the t -period abnormal return for firm i , and is calculated as (Khotari and Warner, 2006):

$$AR_{i,t} = r_{i,t} - E(r_{i,t}) \quad (5)$$

where $E(r_{i,t})$ is the expected return for firm i , which is the benchmark and,

$$CAR_{it} = \sum_{t=1}^t (AR_{i,t}) \quad (6)$$

2.9.2 Buy-and-hold abnormal return

The buy-and-hold abnormal return formula measures the compounded capital gain for a given period of time. Even though it suffers from both problems of skewness and short-term accuracy in performance measurement, it is still the only method which takes into account the compounding effect of actually owning a stock, i.e. that a 50% negative return is not perfectly corrected by a subsequent 50% positive return. However, the skewness of the method is adjusted for in a test statistic explained next and the short-term results are also compared to their respective CAR results. Buy-and-hold abnormal returns are computed as follows:

$$BHAR = \frac{1}{N} \sum_{i=1}^N \left[\left(\prod_{t=1}^T (1 + r_{it}) \right) - \left(\prod_{t=1}^T (1 + r_{bt}) \right) \right] \quad (7)$$

where r_{it} is the return of IPO i and r_{bt} is the return of benchmark b at the month t . N represents the number of firms.

2.9.3 The skewness-adjusted test statistic

To deal with the problem of BHARs being skewed, I will follow the method of Lyon et al. (1999). The skewness-adjusted t-test stems from the work of Johnson (1978), originator of the skewness-adjusted t-statistic.

Johnson's (1978) skewness-adjusted t-statistic, in turn, branches from the conventional t-statistic:

$$t = \frac{\overline{AR}_\tau}{\sigma(AR_\tau)/\sqrt{n}} \quad (8)$$

Where \overline{AR}_τ and $\sigma(AR_\tau)$ is the sample mean and the standard deviation of abnormal returns for a firm, respectively. N represents the number of firms. Johnson (1978) then adjusted the original t-test to better fit asymmetrical populations and came up with the skewness-adjusted t-statistic formula, denoted here as t_{sa} :

$$t_{sa} = \sqrt{n} \left(S + \frac{1}{3} \hat{\gamma} S^2 + \frac{1}{6n} \hat{\gamma} \right) \quad (9)$$

where

$$S = \frac{\overline{AR}_\tau}{\sigma(AR_\tau)} \quad (10)$$

and

$$\hat{\gamma} = \frac{\sum_{i=1}^n (AR_{i\tau} - \overline{AR}_\tau)^3}{n\sigma(AR_\tau)^3} \quad (11)$$

Note that (10) is really nothing more than the conventional t-statistic equation (8). This formula adjusts the usual t-statistic by two terms through taking into consideration the skewness of the distribution of abnormal returns (Lyon et al., 1999).

To interpret the results of the returns, I will follow the methods of Ritter (1991) and calculate the wealth relative.

$$\text{Wealth relative} = \frac{1 + (\text{average total return for PE - backed IPOs}_t)}{1 + (\text{average return for benchmarks}_t)} \quad (12)$$

The wealth relative indicates whether or not the private equity-backed IPOs underperform or outperform the benchmark during time t . A wealth relative of 0.8 suggests a 20% underperformance and 1.2 a 20% outperformance.

2.9.4 Multiple regression using dummy variables

When making comparisons within the sample a multiple regression with dummy variables is used. Dummy variables are most suitable when trying to conclude variations based on different aspects within a general sample population. When performing linear regression using dummy variables, all input variables take the values of either 1 or 0. The 1 represents all “true” values, that is, the input variables for which the independent variable statement is true are denoted with a 1, a 0 represents all others. For example, when comparing exited fund portfolio companies, all companies floated during the year of 2000 are assigned a 1 under the 2000 column and all the others get a 0. However, under the 2001 column, a 0 instead represents companies floated during 2000 and a 1 represents the ones listed during 2001, and so on.

When the dummies are created for each variable, they are then used in a Classic Linear Regression (CLR) model, yielding standard Ordinary Least Squares (OLS) results. The equation below explains how the dummy variables are used in such a regression analysis.

$$Y = \alpha_i D_i + \alpha_j D_j + \dots + \varepsilon \quad (13)$$

When studying the variable i , its dummy variable D_i takes on the value of one, whereas all the other variables are assigned with zeros. This renders in:

$$Y = \alpha_i + \varepsilon \quad (14)$$

Which states that the return of any variable really is dependent on nothing more than its related dummy coefficient plus an error term. Note that no intercept is included in the equation, if it was, multicollinearity would occur and the regression would not be able to run. Without an intercept, the coefficient represents the expected return for each variable. When an intercept is used, one variable needs to be dropped from the equation and thus represents the intercept. Suppose one has three variables, a , b and c , when aiming to see how variables a and b differs from c , the latter is omitted from the regression, rendering in the following equation:

$$Y = \beta_0 + \beta_a D_a + \beta_b D_b + \varepsilon \quad (15)$$

Where β_0 is the intercept and β_a and β_b are the two variable coefficients. The coefficients of the other variables, now instead represent the mean difference from the omitted variable c , which in turn is represented by the intercept (Kennedy, 2003).

This method involves a total of five assumptions, which need to be mentioned. First of all, the dependent variables, i.e. the abnormal return, should be a linear function of the independent variables, i.e. country of exchange or M&A-activity. Secondly, for simplicity, the error term is said to be zero. Thirdly, the error terms are all uncorrelated and have the same variance. The fourth assumption regards the possibility to repeat the sample with the same independent variables. Finally, the fifth assumption states that the number of observations in the sample should be greater than the independent variables and no linear relationship should exist between these variables, that is, the linear multicollinearity should be low.

3 The Private equity industry

This section introduces the reader to the subject and its peculiarities, how the industry of private equity is set up and what characterises it. This is to make sure the reader understands the surrounding private equity environment, which hopefully improves the extent to which the reader may appreciate the study.

3.1 Private equity

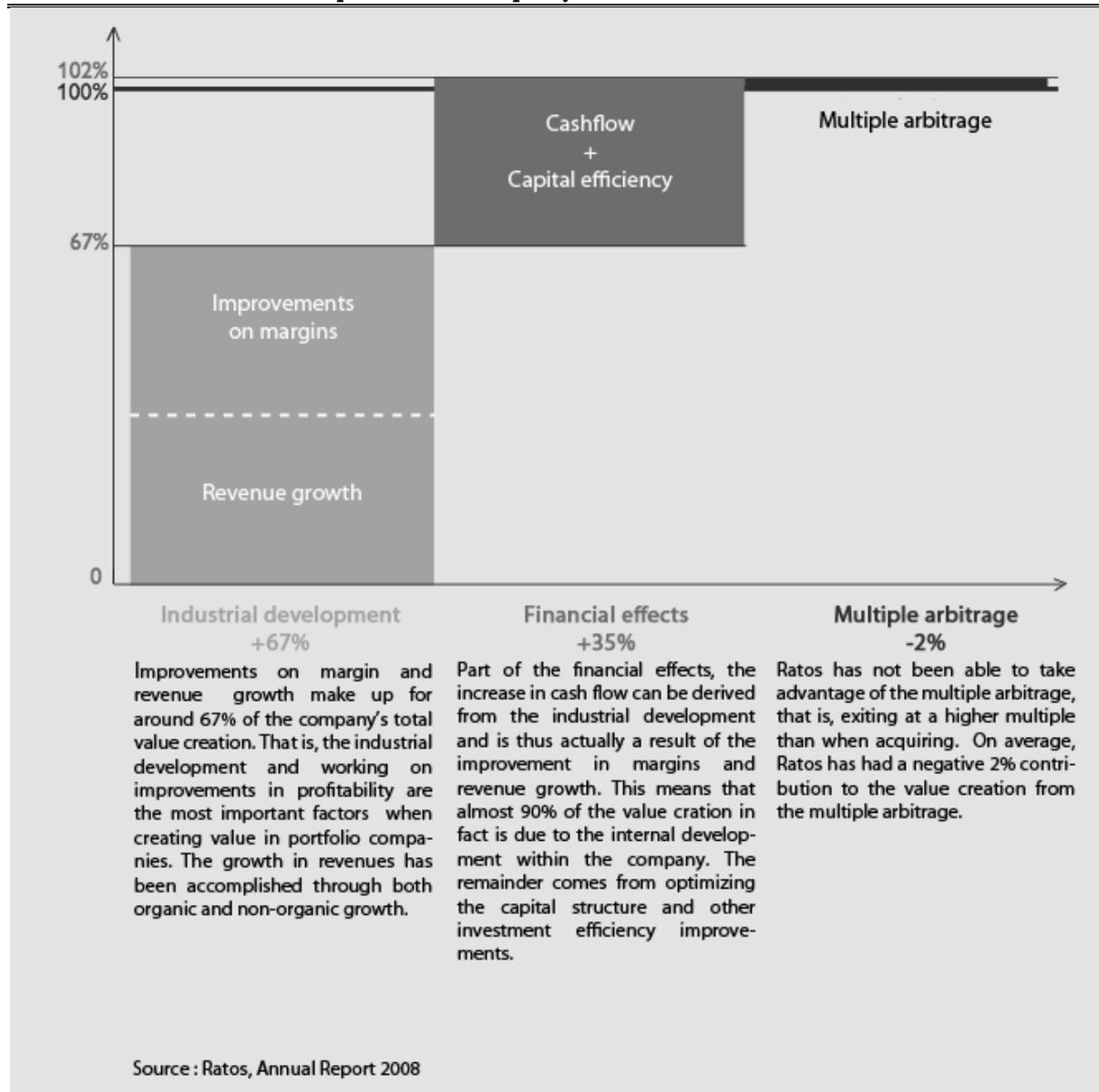
Public equity is risk capital invested in firms listed on a public exchange, investing risk capital in firms not listed on an exchange is instead referred to as private equity. Firms devoted to this type of activity where the target companies are mature and the acquisitions are financed chiefly by debt are called buyout firms or private equity firms (Unionen, 2009).

3.1.1 The Business model

The business model of a private equity firm is to acquire firms at a lower value than what they are later sold for. Private equity firms acquire targets to a fund set up by the firm, that are deemed as having potential inefficiencies in either their capital structure or operating business or potential synergies with either existing fund portfolio companies or other competitors on the market. These inefficiencies are then evaluated and in due time hopefully diminished or completely erased and synergies are realized by the expertise held by the private equity firm. Through these actions private equity firms are able to increase growth in revenue and margins through organic growth and/or acquisitions as well as minimising weighted average cost of capital (WACC) and taxes paid through relatively high debt-to-equity ratios (Unionen, 2009). Private equity funds generally perform well (SVCA, 2011). For example, Ratos has an annual average IRR of 30%. Shown below is a Graph 1 displaying how that is accomplished (Ratos Annual Report, 2008).

Graph 1

Value creation in a fund portfolio company



The graph describes how value is created by a private equity firm in a portfolio company, from Ratos point of view. Most of the value is created in increasing revenue growth and by improving margins. The perhaps preconceived notion of private equity firms only focusing on capital efficiency is only second priority. As noted, a lot of the financial effects are actually a product of internal development, rendering in industrial development making up as much as 90% of the value creation in a fund portfolio company.

3.1.2 The Fund and its investors

A fund is set up and capital is raised, investors range from insurance companies to banks and pension funds to private investors through fund in funds and corporate investors. However, not all capital is raised at once, as potential targets are being identified and acquired, capital is raised accordingly. When the fund is completely covered, no more investments will be accepted and the investments already made in the fund is locked in for, more or less, the coming 10 years. The fund will most likely

have some sort of strategic focus, be it geographical, related to firm size, industry or development stage.

The Swedish national pension funds represent a large part of the investors in this type of funds, some has mandate to invest a full 100% of the managed capital in buyout funds. However, the majority, 75%, of investments come from outside of Sweden, primarily from other European countries and the U.S. (Unionen, 2009).

3.1.3 Acquisitions

When the fund has been set up and investors have committed to investing, the fund acquires companies fitting the prerequisites regarding strategic focus and future value increasing potential. Targets for acquisitions are more often than not family companies, conservatively operated and in some way inefficient. However, it is rare to see these funds investing in firms or industries demanding high capital investments with a long payback horizon. Also, private equity funds try to stay away from highly cyclical firms since its aggressive take on leverage demands a steady stream of positive cash flow from its portfolio companies. Acquisitions made by private equity funds are actually leveraged up to 70%, while the average listed firm usually is funded by merely 30-50% debt.

Through altering the capital structure and the way the company is managed, the acquiring private equity firm can increase the value of the firm and realise a profit and return to its investors. Obviously there is also the case where private firms acquire publicly traded firms and delists them. One particular LBO and delisting, which gained a lot of press in Sweden, was the buyout of Munters by Nordic Capital (Nordic Capital, 2010). In this case, the private equity firm was able to value the target higher, and offer a higher price as a result, partly due to its ability to handle a much higher leverage (Unionen, 2009).

3.1.4 Exit

Finally, the fund exits its positions in its portfolio companies and terminates the fund. The investment period is usually around three to six years, after which a suitable exit route is chosen based on the highest value of the portfolio firms can be derived. The most common exit has been, and continues to be, an industrial sale for the obvious reason that these firms tend to pay more. Another common route is a sale to another buyout firm, a so-called secondary buyout. Exits to the stock exchange are highly dependant on the current state of the market. During recessions, IPOs and obviously also private equity-backed IPOs are very rare. Conversely, we see the most and the largest IPOs being done during booms. Reasoning over the timing of IPOs and private equity-backed IPOs will be discussed in more detail in the coming parts of the paper. (Unionen, 2009)

As seen in table 4, during 2008, and actually in 2009 as well, a great majority of companies owned by risk capitalists, that is, venture capitalists and buyout firms, were sold to industrial buyers. It is also noticeable that exits to stock exchanges make out a negligible part of the exits in 2008, which is in line with for example Benninga, Helmantel and Sarig (2004) and their findings of the positive correlation between IPOs and high stock prices (SVCA, 2009). Looking at table 4, we can see the consequences of the recession that hit more or less stock exchanges all around the world and its impact on stock prices, as a result not a lot of exits to the equity capital market was done by risk capitalists. Table 4 is a table collected directly from a study made by Kaplan and Strömberg (2008) and displays the types of exits used over a longer period of time worldwide. These statistics more or less concur with the ones from a Swedish and current standpoint. Worth to mention is the bankruptcy frequency, given the capital structure of these firms one would think leveraged buyouts suffer from bankruptcy more frequently than other firms. However, Kaplan and Strömberg argues in

their study from 2008 that the average annual default rate for leveraged buyouts is merely 1.2%, assuming an average holding period of six years. Surprisingly, the average default rate for U.S. corporate bond issuers was found to be 1.6% in a study made by S&P from 1980–2002 (Hamilton et al., 2006). It is also notable that IPOs as an exit have been steadily declining over the years while a strategic sale has been the most common form of exit consistently throughout the period.

Table 4

Exit characteristics of leveraged buyouts across time								
Year of original LBO	1970- 1984	1985- 1989	1990- 1994	1995- 1999	2000- 2002	2003- 2005	2006- 2007	Whole period
Type of exit:								
Bankruptcy	7%	6%	5%	8%	6%	3%	3%	6%
IPO	28%	25%	23%	11%	9%	11%	1%	14%
Sold to strategic buyer	31%	35%	38%	40%	37%	40%	35%	38%
Sold to financial buyer	5%	13%	17%	23%	31%	31%	17%	24%
Sold to LBO-backed firm	2%	3%	3%	5%	6%	7%	19%	5%
Sold to management	1%	1%	1%	2%	2%	1%	1%	1%
Other/unknown	26%	18%	12%	11%	10%	7%	24%	11%
% of deals exited within:								
24 months (2 years)	14%	12%	14%	13%	9%	13%		12%
60 months (5 years)	47%	40%	53%	41%	40%			42%
72 months (6 years)	53%	48%	63%	49%	49%			51%
84 months (7 years)	61%	58%	70%	56%	55%			58%
120 months (10 years)	70%	75%	82%	73%				76%

The table reports exit information for 17,171 worldwide leveraged buyout transactions that include every transaction with a financial sponsor in the CapitalIQ database announced between 1/1/1970 and 6/30/2007. The numbers are expressed as a percentage of transactions, on an equally weighted basis. Exit status is determined using various databases, including CapitalIQ, SDC, Worldscope, Amadeus, Cao and Lerner (2007), as well as company and LBO firm web sites. See Strömberg (2008) for a more detailed description of the methodology.

Source: Kaplan and Strömberg, 2008

3.2 The Swedish private equity industry

Since 1986 and the launch of the very first private equity fund in Sweden by Procuritas Partners, the private equity industry has progressed immensely, both domestically and internationally. Nowadays, the Swedish private equity market is, in relation to the country's GDP, one of the largest in the world. In 2007 more than one per cent of GDP was invested in buyouts and when it comes to listed private equity companies, the total market cap ranks Sweden as fifth in the world only surpassed by the U.S. U.K., France and Switzerland (SVCA, 2011). However, the market is fairly concentrated and ten buyout companies make up 90% of the entire market (Unionen, 2009). Table 5 gives the reader an insight into the Swedish private equity market, its major players as well as their importance.

Table 5
Ten largest PE Companies in Sweden 2008

	<i>Managed Capital (MSEK)</i>	<i>Invested Capital (MSEK)</i>	<i>Investments</i>
EQT	100 000	50 000	30
IK Investment Partners	37 032	15 948	20
Nordic Capital	32 000	-	21
Altor	20 000	14 000	21
Ratos	-	12 000	20
Hakon Invest	13 000	11 000	6
Accent Equity Partners	9 000	6 000	14
Segulah	8 500	2 500	8
East Capital Private Equity	5 200	4 300	14
Nordstjernan	-	-	11

The most influential private equity firms in Sweden are the ones in top in this table, EQT, IK, Nordic Capital, Altor and Ratos who together make up almost 50% of the Swedish market.

Source: Unionen, 2009

Most of the acquisitions being made by these firms to their fund portfolios are done in Sweden, in fact two-thirds of all investments are made in firms located in Sweden. The remaining third is more or less exclusively focused towards other Nordic countries. Thus, private equity firms in Sweden display a certain home-biasness (Shefrin, 2005) in their investment patterns. This is obviously highly dependant on their competitive edge and experience being limited to dealing with Swedish or Nordic companies. It is also easier and more cost-effective in terms of culture and legal issues, dealing with markets you are familiar with. The major Swedish players on the Swedish private equity market are EQT, IK, Nordic Capital, Altor and Ratos. Together they managed capital succeeding SEK 200 billion in 2008, resulting in a combined market share of 40-45% as the aggregated managed capital in the private equity industry was around SEK 465Bn during the same period (Ratos Annual Report, 2008; Unionen, 2009). However, there are some major foreign players on the Swedish market, coming from outside the Nordic region. The most influential being 3i Nordic, Apax Partners and Pamira Advisors, all of which are based in Great Britain. For example, 3i Nordic once had Gant in their portfolio, Apax Partners had both Capio Health Services and Pamira SBS Broadcasting, Kanal 5, Kanal 8 etc. (Unionen, 2009).

4 Literature review

The following section presents previous research as well as theories within the field, providing a foundation upon which the analysis is to be built.

4.1 Previous research

Private equity as a business form is a relatively recent phenomenon and has not been around for that long. The industry was developed in the 1940's (Nyman, 2002) but began to grow really, together with the leveraged buyouts, in the 1980's and has since then grown more than a 100 times in terms of raised capital (Cao and Lerner, 2009). Previous research that has been conducted has focused chiefly either on fund performance, such as Kaplan and Schoar (2004) and Phalippou and Gottschal (2005) or on individual investments and their operating performance, such as Kaplan (1989) and Holthausen and Larcker (1996).

Thus, extensive research exist when it comes to fund performance and operating performance of individual investments, however, not pertaining the aggregated private equity-backed firms exiting through the stock market. Now, there have been studies made, investigating the matter of reversed LBOs and their performance on the stock market, Degeorge and Zeckhauser (1993) and most recently Cao and Lerner (2009) for example, though not to the extent of fund and operating performance. Still, to my knowledge, there have only been a few studies made on the share price performance of private equity-backed IPOs, one example being Henrysson and Petterson (2007) who studied previously private equity owned companies on the Stockholm Stock Exchange and their stock performance subsequent to a floating. However, that study is far from comparable with mine, as my study is made on the aggregated European market, and the number of observations makes this study, to my knowledge, unprecedented. Björcke and Menzel (2006) did study the performance of private equity-backed IPOs, but they were limited to the Swedish equity market and long-term performance. Levis (2008) researched the U.K. private equity market during the period 1995-2006, focusing on buyouts and venture capitalist-backed IPOs. Coverage of the complete European market, and the to some extent the Swedish, is however generally limited.

Still, the main source of inspiration for this thesis comes from Cao and Lerner (2009) and their paper on performance of reverse leveraged buyouts. The focus of their paper was in measuring the long-term performance of reversed leveraged buyouts. The study had a research horizon of 22 years, from 1981 to 2003 and sought out to discover any cross sectional differences as well as changes in patterns over time by scrutinising 526 reversed LBOs. However, unlike the purpose of this paper, Cao and Lerner (2009) also examined the operational performance pre and post IPO. Findings from this study were that RLBOs going public are larger in size, have more reputable underwriters, are more profitable and are more leveraged on average than their respective peers. The perhaps most interesting result, at least for this study, was that RLBOs seem to outperform peer-IPOs, the market as a whole as well as portfolios of other IPOs. Now, even though this study is performed on reversed LBOs, it is still a matter of listing a company. Since it has been off the public market for such a long time it is even referred to as a secondary IPO (Mian and Rosenfeld, 1993). Furthermore, as leveraged buyouts are more often than not conducted by private equity firms, the results for studies on the matter are of high importance for my own study (Olsen, 2003). The main difference however is that my study includes those listings which are not reversed LBOs as well. That is, where the private equity firms have listed firms they bought on the private market initially. This study also intends to measure the short-term stock performance of private equity-backed IPOs, both Mian and Rosenfeld (1993) as well as Cao and Lerner (2009) concentrates on long-term performance.

Cao and Lerner (2009), in turn, were themselves inspired by a number of studies which partly also have been the basis for this particular study. Degeorge and Zeckhauser (1993), similarly to Cao and Lerner (2009), studied the performance of RLBOs post IPO, but with even more focus towards pre and post IPO operational performance. Degeorge and Zeckhauser (1993) investigated 62 RLBOs during the period 1983 to 1987. Their study found no proof of RLBOs performing worse than their peers post IPO, but neither were there any indications of outperformance. Holthausen and Larcker (1996) were also unable to come up with any findings of RLBOs underperforming on the public market in their study between 1983 and 1988 of 90 LBOs, contrary to their initial expectations. Mian and Rosenfeld (1993) however, in their report came to the conclusion that RLBOs slightly outperform its IPO-peers long-term when researching 85 RLBOs during 1983 to 1988. Levis further confirms this view when he presented that buyouts on the U.K. market perform abnormal returns short-term, that is, on a one-, three-, six-, nine- and twelve-month basis.

Thus, both Cao and Lerner (2009) and Mian and Rosenfeld (1993) came across findings that would indicate that RLBOs outperform stock market peers as well as the average IPO. Mian and Rosenfeld (1993) go on and explain that reversed LBOs should be less under-priced since these firms have already been listed once before. According to Ritter (1991) and the “investor-uncertainty hypothesis”, the average IPO underperforms long-term since the market’s only source of information about the companies are the prospectus written by the companies. The pricing of the stock is thus based on insufficient information and as the market receives additional information, the price is adjusted accordingly. However, with a reversed LBO, a lot more information is available from when the company was publically traded and thus the price is set more accurately (Mian and Rosenfeld, 1993). Still, their results tell a different story with even higher short-term positive abnormal returns than the average IPO. Furthermore, Degeorge and Zeckhauser (1993) as well as Holthausen and Larcker (1996) did, at least, not find any indications on RLBOs performing worse than its industry peers. In conclusion, most research up to date on the performance of RLBOs point towards an outperformance compared to the market.

The sample in the study performed by Cao and Lerner (2009) had a mean buy-and-hold abnormal return of 18.81% on a one-year basis and 42.15% on a three-year basis. Levis on the other hand showed that buyouts on the U.K. market perform a one-year mean buy-and-hold abnormal return of 20%, using a benchmark of peers where all firms are equally weighted, and a mean of 11.7%, where the benchmark has been weighted according to market value. The study of Mian and Rosenfeld (1993) measured the long-term CAR of a sample of reversed LBOs, which experienced a mean one-year abnormal return of 4.65% with their “matching firm” principle, similar to the industry specific benchmark used in this study, and 5.33% with their value-weighted method.

As mentioned earlier, studies on general private equity-backed IPOs are scarce and the few found, such as Björcke and Menzel (2006), also tend to focus on long-term performance. To find research performed on short- and short medium-term stock returns, in this study denoted as three- and six-months, one would have to turn to Levis (2008) and his findings on buyouts in the U.K. On a three-month basis, Levis’ (2008) study shows for 14.4%, equally weighted, and 9.6%, value weighted, abnormal buy-and-hold abnormal returns. On a six-month basis they performed a 16.9% and 10.4% abnormal return.

4.1.1 IPOs - How does the average IPO perform?

As a reference to the results in this study, one can look at how general IPOs have performed in the past. In a study from 1991, Ritter examines the performance of 1 526 IPOs on the U.S. market during the period 1975-84. In the study he mentions two well-documented phenomenon, the short-

The Performance of Private Equity-backed IPOs

run under-pricing and the “hot issue” market. The first phenomenon regards the fact that IPOs tend to, on average, produce a return of 16.4% from the initial offering to the end of that day. This leaves reason to conclude that IPOs, on average, actually are under-priced. Meanwhile, private equity backed IPOs seem to be much less under-priced.

Table 6

Average initial day returns	
Ordinary IPOs	PE-backed IPOs
16,40%	4,67%

Note that the investigated periods as well as markets differ. The initial day returns of ordinary IPOs are retrieved from Ritter (1991) and his study on the U.S. market during the period 1975-84.

Source: Ritter, 1991

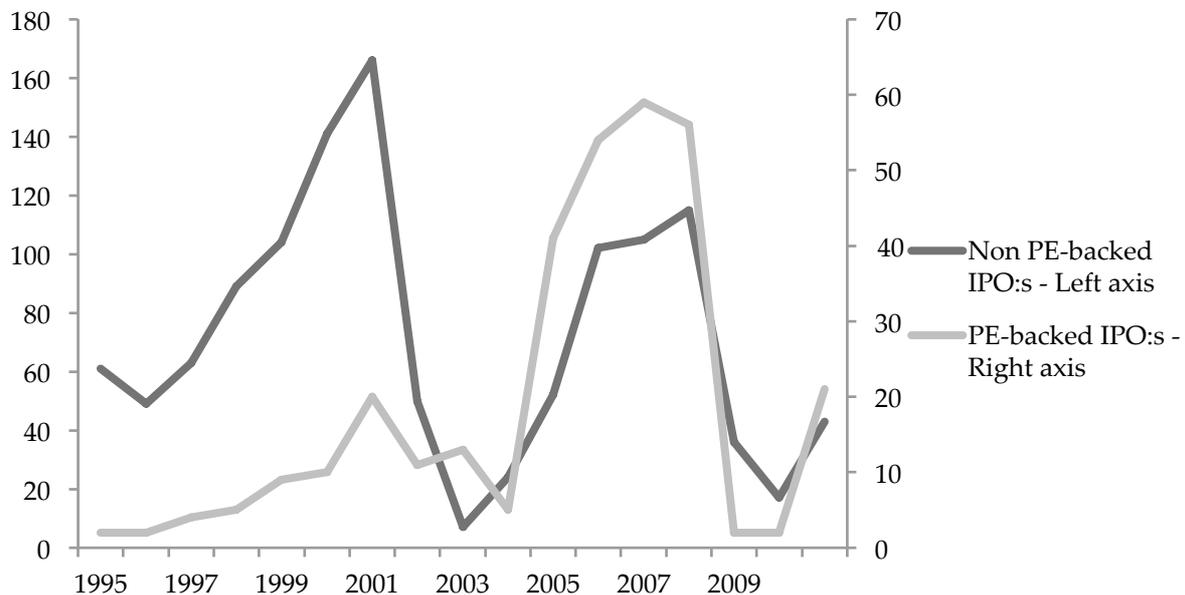
However, Ritter (1991) actually found that IPOs at the same time tend to be overpriced in the long run of three years. Ritter (1991) compared the performance of the IPO sample to comparable, already listed firms and discovered a noticeable underperformance by the IPOs during the investigated period. The investigated IPOs displayed an average return of 34.47% whereas the benchmark portfolio performed an average return of 61.86% over a three-year period. That is, they underperformed by more than 25% during this period. He finds the CAR of his sample to be -29.13% at a t-statistic of -5.89, substantially significant in other words. More recently, a study performed by Khurshed et al. (1999) on the Indian market showed for a long-run underperformance as well, of -17.81%. Carter et al. (1998) experienced almost the same results when examining the U.S. market during 1979 to 1991 with an underperformance of -19.92%. The second phenomenon pertains to the variation in IPO stock returns from one year to another (Ritter, 1980). He tests the occurrence initially proved by Ibbotson and Jaffe (1975), and poses the theory that this could be explained by varying risk, which directly affects the potential returns through the risk-reward trade off. Riskier IPOs also tend to be more under-priced, also having a clear positive effect on future return as the market adjusts. Thus, if the IPOs floated one year are riskier than the ones floated during another, a higher overall return should be expected. However, Ritter (1980) experienced difficulties in finding a relationship between the risk level of the IPOs and their subsequent return. Instead, he discovered that the abnormalities were associated with industry and proved that firms operating in the natural resources business tended to outperform others (Ritter, 1980, 1991).

4.1.2 IPO activity vs. Private equity-backed IPO activity

A lot of the theories used regarding regular IPOs should, as mentioned, also be able to be transferred to the private equity-backed IPO activities. Since the seller is always looking for the highest price for its company, the IPO activity and thus also the private equity-backed IPO activity tend to correlate with booms in the market and high stock prices. Graph 2 displays how the IPOs and private equity-backed IPOs co-exist. Apart from the difference in listings during 2001 to 2002, the peaks and lows seem to coincide, showing for the similarities in timing between non PE-backed and PE-backed IPOs.

Graph 2

IPO:s on the European Exchanges



The Graph displays the number of IPOs on the European Exchanges, from 1995 to 2010. The two charts seem, not surprisingly, to follow each other throughout the years.

4.2 Capital structure & Leverage

A firm's capital structure is simply how the firm has decided to finance itself, either voluntarily or due to its industry-specific characteristics or life cycle stage. To elaborate, some companies or industries are better suited for e.g. debt financing than others. The most important difference between debt and equity as a means of financing, from an optimal capital structure perspective, is the structure of compensation to stakeholders. Creditors demand a certain regular payment of debt and interest, whereas equity holders benefit from an increase in company value as well as any dividends, distributed on the company's own initiative. Debt financing thus demands certain regularity in the cash flow of a company, too much volatility and irregularities, and it may not be able to meet the mandatory payments when due.

How is this of importance to the private equity industry? Well, to begin with, this renders in particular industries, and certain companies at a certain stage in its life cycle, being less attractive to invest in than others. Private equity funds invest in mature companies and deploy a large amount of debt into the company's capital structure. It is therefore perhaps not that interesting for a fund to invest in a company with already high levels of debt. However, companies with a lot of remaining debt capacity are at the same time probably more prone to seeking debt financing themselves before turning private equity, according to the pecking-order theory which states that companies turn to internal funds, then debt and lastly equity when in need of financing (Myers and Majluf, 1984). Furthermore, Ward (1993) discusses how the stage in a company's life cycle determines the risks of a business and thus the appropriate type of funding for each stage. This theory somewhat questions the pecking-order theory as it recommends different pecking orders depending on what life-cycle stage the company is currently in. Ward (1993) is making the argument that debt is not a suitable source of funding for a company at an early stage, when its business risk is high. However, as the company matures, the business risk diminishes and should thus be replaced by more and more financial risk,

i.e. debt, in order to maintain a healthy risk-reward ratio. Accordingly, firms at a later stage of their life cycle are more attractive from a private equity point of view (Borell, Tykvova and Schmitt, 2009; Ward 1993).

4.2.1 Trade-off theory

The trade-off theory continues on the matter of debt or equity as a means of financing, based on the trade-off between the benefits and costs of each form. This theory reaches back to the work of Kraus and Litzenberger (1973), who discussed the disadvantages of debt when it comes to bankruptcy costs and its benefits in terms of a tax shield. Kraus and Litzenberger (1973) go on and state that there is an optimal degree of leverage for each firm, based on these trade-offs. Miller, however, disputed this theory in 1977, stating that if this theory were true, firms would be much more leveraged than they are.

4.3 Debt-overhang

There are a lot of benefits with debt, some already mentioned, such as the tax shield and the lower cost. Other benefits, such as reduced monitoring costs for the equity stakeholders and the free cash flow hypothesis will be discussed more in detail later on. Nevertheless, there are obviously disadvantages as well. The trade-off theory deliberates over the major ones, but it does not take into consideration the debt-overhang problem. Debt-overhang occurs when the company has taken on so much debt that it no longer can invest in positive NPV-projects as they arise. Put differently, the firm may have to put off or decline positive NPV-projects due to lack of funding, caused by too high leverage. Since the firm is so highly leveraged, a bank loan to fund the project may be difficult to obtain, or at least too expensive, due to the high risk that is involved with additional debt. A rights issue could also prove too expensive and thus the firm is in the position where funding is either unobtainable or too costly compared to the return of the project and has to turn down the positive NPV-project (Hillier et al., 2008). However, Levis (2008) states that this, in spite of the generally high leverage, does not seem to affect private equity fund portfolio companies significantly. He found that his sample of private equity-backed IPOs tended to invest more in research and development than its non-private equity-backed equivalents.

4.4 Information asymmetry

Information asymmetry in corporate finance pertains to the difference in information between insiders in a firm and its stakeholders. Since insiders have superior access to information about the firm, they can more accurately assess the value of it. This problem has two sides to it, on one hand the firm is in the position of being able to sell “lemons” to its investors, that is overvaluing the firm. On the other hand, investors expect “lemons” which results in them discounting the firms value accordingly, whether the firm in question in fact is a “lemon” or not. Therefore, it is in the company’s best interest to increase the transparency of the firm and the available information. Thus, the less information asymmetry present between a firm and its investors, the higher it is theoretically valued, one could say companies are “rewarded” for making more information accessible (Akerlof, 1970; Holthausen and Larcker, 1996).

The problems with information asymmetry are usually denoted as either adverse selection or moral hazard. Adverse selection refers to the problem discussed earlier and the market for lemons. Moral hazard involves the trust and reliance in the relationship between insiders in the firm and the stakeholders of that firm. Such a problem may manifest itself in e.g. managers exploiting their superior access to information in decisions with possible negative outcome for stakeholders. These decisions could include e.g. managers making extra risky choices for the firm, as they usually possess options on the company’s stock and thus are only exposed to the upside. It could also involve other

decisions not in the best interest for the firm, e.g. empire building. However, the private equity firm behind the acquisition usually deploys one or more of its own employees in the company's management team, which further reduces the information asymmetry (Jensen and Meckling, 1976; Shefrin, 2005).

4.5 Jensen's free cash flow hypothesis

Continuing on the same path of management and stakeholder relationship is Jensen (1986) and the free cash flow hypothesis. Jensen (1986) argues that there is a positive correlation between a firm's free cash flow and increasing agency costs. That is, with increasing free cash flow comes increasing agency costs. The idea is basically that with too much free cash flow, managers have too much freedom to spend this cash flow and tend to do so unwisely and not in the best interest of the company. As mentioned earlier, as part of the moral hazard problem, managers may engage in empire building where decisions boosting the managers' own careers and reputation is put in forefront of the company itself (Shefrin, 2005). With an increased leverage, which is standard procedure for any private equity firm, the degree of free cash flow is diminished by increased interest costs. Thus, the problem with managers having too much freedom and perhaps too much free cash flow is minimised in the average private equity fund portfolio firm (Jensen, 1986).

4.6 Principal-agent theory and agency costs

The theory of the principal-agent describes the relationship between management, the agents, and the firm's stakeholders, the principals. The theory states that there are conflicts of interest between the management of the firm and its stakeholders, where managers act in the best interest of themselves rather than in the best interest of the firm (Davis, Schoorman and Donald, 1997; Kim and Nofsinger, 2007). This could manifest itself in managers, yet again, engaging in empire building (Shefrin, 2005). It could also appear in the form of different acts of earnings management, such as earnings aggressiveness or earnings losses and decreases avoidance. Earnings management is an excellent way for management to steer the way information is distributed to stakeholders as well as what type of information that is released. Earnings aggressiveness is the act of making future earnings as current as possible as well as making current earnings available to the public as soon as possible. Earnings losses and decreases avoidance is basically the opposite procedure, but with losses and earnings decreases. Management thus put off losses and earnings decreases on the future, through various accounting measures, in an attempt to hide the bad results from the public. This enables management to profit from their role as intermediaries between the firm and its stakeholders when their possible stock options are either exercisable or in the midst of being set up (Chih, Shen and Kang, 2008). Jensen and Meckling (1976) describe the costs associated to monitoring management and their actions as agency costs.

Companies have been trying to align these interests through e.g. stock-based compensation. These attempts are more common in private equity fund portfolio companies than others and are also proven to be more successful. Kaplan and Strömberg (2008) argues that it is partly because of the illiquid characteristics of the stocks in a private company that makes it more effective in aligning management's interests with that of the firm. Since management cannot sell of its stocks, or exercise its options, on a public market until the company is exited they are more exposed to the firm's downside as well as upside than they would have been in a traded company. According to Kaplan and Strömberg (2008) they are thus also less prone to engage in short-term profit maximising actions.

4.7 Timing

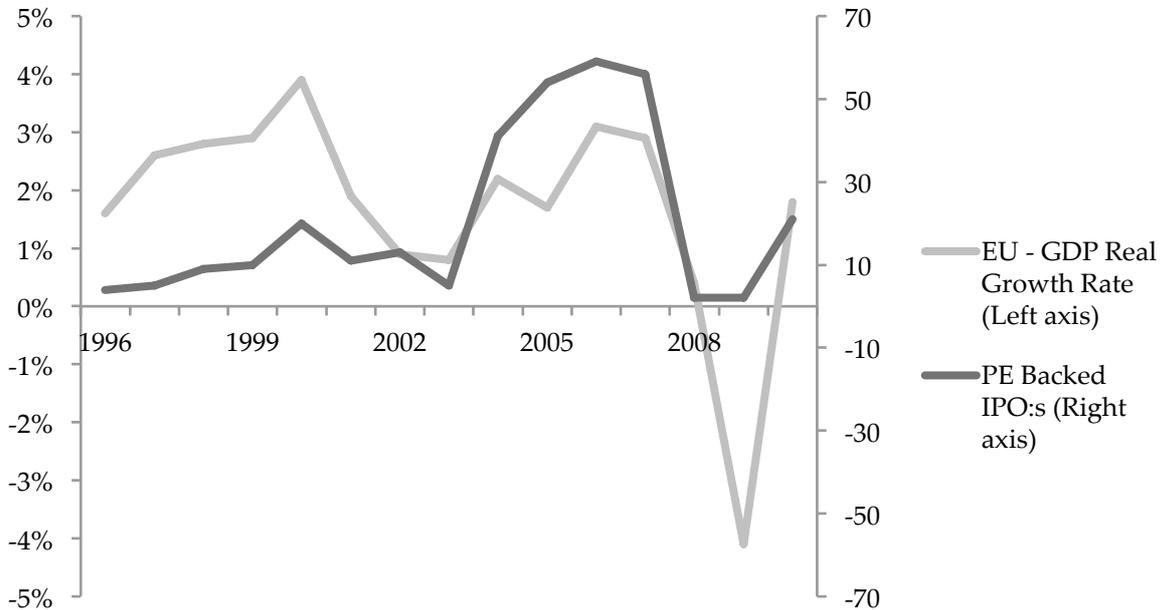
Ritter describes, in his study from 1991 about long-run performance by IPOs, how volumes in offerings seem to fluctuate with large variations over time (Ritter, 1991). In a more recent study, Benninga et al. (2004) investigated the timing of IPOs and concluded that variations in activity coincide with booms in the economy and high stock prices (Benninga et al., 2004). If these listings during peaks in IPO-activity underperform, it could be a sign of firms using the “window of opportunity” to go public and thus taking advantage of the optimism on the market to float their stock (Ritter, 1991). In a study from 1980, Ritter investigates the existence of a “hot issue” market. That is, that the return of IPOs during some particular years differ immensely from others. He offers some reasons for this, such as, that the issues during these years may be of higher risk and thus offer potential higher returns, as well as that they could suffer from a higher degree of under-pricing and through that leaving room for future stock price increases as the market aligns with the firm’s true value (Ritter, 1980).

During recessions, IPOs as well as private equity-backed IPOs are very rare. Conversely, we see the most and the largest IPOs being done during booms. The reasons for these variations is the fact that the risk appetite and thus demand for stocks is low which in turn affects the value of the listed firms and their share price negatively. Adding to that is the low purchase power among consumers (Unionen, 2009). Benninga et al. (2004) support this fact and state that IPO activity is highly cyclical. This is fairly logical, since most businesses are cyclical and thus when the economy is flourishing, so are these companies and corporate finance theory states that firms tend to sell stock when it is high or over-valued and repurchase company stock when it is deemed as low or under-valued (Dittmar, 2000). Thus, since the booming state of the economy is experienced by all sectors and companies, one public offering is consequently followed by others and we have waves of offerings. Graph 3 illustrates this relationship through mapping out GDP-growth in the European Union and comparing it to IPO activity among private equity funds.

The timing of private equity acquisitions is more reliant on credit market conditions and access to “cheap” capital to finance them. Low interest rates are usually subsequent to bust periods and thus the buyout waves move contrary to the public market exits. However, since the focus of this study is geared more towards the exit of these acquisitions, that is private equity-backed IPOs, no further description of this phenomenon will be presented (Kaplan and Strömberg, 2008).

Graph 3

EU GDP Growth vs. IPO Activity Among Private Equity Funds



This graph illustrates the correlation between GDP and IPO activity. From the graph one can easily see how the number of IPOs coincide with “boom” periods of rising GDP growth, the exception perhaps being the period 2001-2002. This period is directly subsequent to the IT-bubble and the miscorrelation may be due to the effect of firms still suffering from the aftermath of the bubble, making trade sales less attractive. Note that the number of IPOs on the right axis cannot be negative. Source: Eurostat

4.8 Parenting advantage

Grubb and Jonsson (2007) discuss in their study the effects private equity ownership. After interviewing practitioners in the field they found that having a private equity firm as an owner is superior to other owners and they are better able to create value. The private equity form of ownership is greater to others due to a number of reasons. According to their interview object, Näs, private equity firms have an optimal time horizon, there is enough time to implement structural changes but not too much either, which could have a negative effect on efficiency. Harald Mix, CEO of the Swedish private equity firm Altor, argues that the public equity market is far too short-sighted, focusing too much on growth, critics to the private equity industry usually accuse private equity firms of being the short-sighted ones but Harald Mix says: “It is not the private equity firms with an investment horizon of five to seven years that are short-sighted, it is the public market.” He also states that private equity firms are better at analysing the firms than the public market, explaining the fact that so few fund portfolio companies are exited to the stock exchange (Ekelund and Lundell, 2011b).

Private equity firms differ from other firms in other ways as well, there is no emotional attachment for instance, which usually is the case in a family-run firm and could prove problematic in certain business decisions. Moreover, there is little to none media attention, contrary to any public firm. This fact gives management time to focus on implementing changes rather than having to spend their

time in the press (Grubb and Jonsson, 2007). Private equity firms also tend to be industry focused and thus become experts on those included in the focus of the firm. This entails a great network of contacts, valuable for finding business partners and headhunting, as well as in-house expertise on the industry (Berg and Gottschalg, 2003). The financial strength of the fund also enables private equity firms to engage in mergers and acquisitions and thus taking advantage of any possible synergy effects, not possible without the involvement of the private equity firm (Grubb and Johnson, 2007).

4.9 Bookrunners

A bookrunner is the party, usually an investment bank, in charge of selling the firm's stock onto the public market through road shows and promoting the issuing company. Previous studies on the matter of prestigious bookrunners are few, most focus on the effect of prestigious underwriters, e.g. Carter et al. (1998). The underwriter, in turn, is the bookrunner or co-manager ensuring the issuance. Thus, I believe these findings and theories about underwriters to be applicable also for bookrunners. Hu and Ritter actually studied the effect of multiple bookrunners in 2007, though focusing on the offer price and the benefits to the issuing firm in terms of bargaining power. The usage of multiple bookrunners has increased dramatically and was a phenomenon unheard of before the year of 1997 (Hu and Ritter, 2007). According to an article in VCCircle, it is even more common in private equity-backed floatings (VCCircle, 2011).

In terms of stock price performance, there are studies such as the one by Carter et al. (1998), who found in their study that IPOs over a three-year period, arranged by more prestigious underwriters, suffer from less underperformance than other IPOs. They also found similar results to previous research on under-pricing, where IPOs associated with more reputable underwriters are not as under-priced as others. Furthermore, Simutin, in his study from 2009, showed for strong positive relation between underwriter reputation and future abnormal returns: "...in all but one case, underwriter rank strongly and positively relates to future raw and abnormal returns." Wu, Liu and Wang (2003) concurred on this matter in their study on the effect of prestigious bookrunners on IPOs on the Chinese market. Also, in a recent study from 2007, Hu stated that high-quality firms and highly reputable bookrunners would profit from choosing each other (Hu, 2007).

4.10 Market-to-book

The market value of a firm and its shares is the price one would have to pay for it on a public market. The book value of its shares is the difference between the firm's book value of assets and liabilities. The ratio, market-to-book is then nothing more than the market value of equity over the book value of equity (Damodaran, 2010). A low market-to-book value, less than one, either means that the market believes that the company's assets are overvalued or that the company's return on assets is very low or even negative. The former is obviously not positive, and the investor better stay clear from investing. The second does not necessarily have to be negative, if management is able to turn the firm around and improve its return on assets, an investor could profit from rising market value. Conversely, a high market-to-book is a sign of the firm experiencing high return on its assets. However, market-to-book ratios can be deceiving, the ratios of firms with little to no capital assets are hard to interpret. Consultancy firms and other information and knowledge-based businesses, more or less per definition have high market-to-book ratios since they are valued for their experience, which does not show on the balance sheet. It could also prove misleading when evaluating firms with naturally high levels of debt, such as companies in the real estate industry (McClure, 2011).

From this, one could draw the conclusion that a firm initially trading at a low market-to-book value is a firm where the private equity firm has failed to some extent. Such a firm, as stated earlier, either has problems with creating strong positive return on its assets or the public deems the value of the

firm's assets as overstated. Either way, it does not sound like a healthy company that has benefited from being under the ownership of a private equity company. However, such a company, where the problem is low return on assets, is also perhaps the most undervalued firm, where the largest potential for an abnormal return lies. In a study from 2009 by Simutin, firms going through an IPO with a low market-to-book, or high book-to-market, experienced higher abnormal returns: "IPO firms with higher book-to-market tend to earn better raw and abnormal returns following the issue" (Simutin, 2009). Brav, Geczy and Gompers (2000), found similar results in their study, measuring the returns of firms on the U.S. market during 1975-1992. According to their research, firms with high market-to-book, or low book-to-market, underperform the market. "We find that underperformance is concentrated primarily in small issuing firms with low book-to-market ratios" (Brav et al., 2000).

4.11 Mergers and acquisitions

As with private equity, whether or not mergers and acquisitions create value have been subject for debate for quite some time now. Many studies have been made trying to evaluate the effects of mergers and acquisitions by e.g. measuring the performance of firms, subsequent to certain merger and acquisition activity. So far, these studies have shown on patterns of not adding value to the acquiring firm. In a study by Haleblan et al. (2009), consolidating previous research in the field, a number of cases are presented where M&A-activity has a negative effect on firm value, both short- and long-term. Examples of studies measuring the short-term effect are, Asquith, 1983; Dodd, 1980; Jarrell and Poulsen, 1989; Malatesta, 1983. Studies that have been focusing on the long-term are, Agrawal, Jaffe, and Mandelker, 1992; Asquith, 1983; Loderer and Martin, 1992 (cited in Haleblan et al., 2009 p. 470). Furthermore, previous research has even been able to confirm that M&A-activity actually erodes value rather than adding to it (Chatterjee, 1992; D. K. Datta, Pinches, and Narayanan, 1992; King, Dalton, Daily, and Covin, 2004; Moeller, Schlingemann, and Stulz, 2003; Seth, Song, and Pettit, 2002; cited in Haleblan et al., 2009 p. 470). Even though studies have been conducted, stating the contrary, these are still relatively few (Haleblan et al., 2009).

One problem with M&As is that firms tend to acquire too many companies in a too short time frame, leaving the acquiring firm with problems of indigestion (Bower, 2001), the acquiring firm is then unable to efficiently integrate the acquired firms into its way of operating. Other problems include overstating synergy values as well as the time it will take to integrate the acquired firm, this leads to the firm paying overprice and the acquisition not adding value (Bower, 2001). One would then have to wonder, why firms acquire if they do not add value, but actually erode value. According to theory, the idea is, among others, to create economies of scale or scope, or diversify into new markets or products, or increase market power through an expanded market share (DePamphilis, 2010). However, in order for these actions to pay off and create value, this of course demands that the integration is implemented as efficiently as possible and that the acquiring firm does not end up with an overpriced asset.

5 Hypotheses

In this section, the hypotheses are stipulated, built upon the previously mentioned theory. The hypotheses intend to answer the purpose of the paper by breaking it down into sub-purposes.

Previous research on reversed LBOs and their stock performance tend to point towards an outperformance of reversed LBOs over its peers, two examples being Cao and Lerner (2009) and Mian and Rosenfeld (1993), both covering the U.S. market. There are a lot of similarities between the studies made on reversed LBOs and this one. The difference is that I include all IPOs backed by private equity firms, whereas the mentioned studies limit their sample to only include reversed LBOs and not true IPOs backed by private equity firms. Cao and Lerner (2009) identified its sample of reversed LBOs through a couple of criteria. First of all it needed to be a highly leveraged buyout and secondly it needed to be backed by a buyout firm. Private equity firms are the ones that are chiefly active in the buyout market and Cao and Lerner (2009) had problems sorting out the buyouts from all of the private equity-backed IPOs. As Cao and Lerner expresses it: “This gives rise to ambiguity in identifying the RLBOs among the universe of private equity-backed IPOs.” It is therefore not unlikely to believe that I will achieve similar results when investigating the European market for all private equity-backed IPOs. A lot of theories have also been sourced from previous research performed on the performance of the average IPO. Since these are also IPOs, only backed by private equity firms, it would be reasonable if the patterns of these IPOs follow those of the average ones. Following now is a presentation over the different hypotheses and independent variables used in the analysis.

5.1 Private equity-backed IPOs vs. S&P Europe 350

The abnormal return is measured as the return for a company i during period t less the expected return during the same period. The expected return for any given company or portfolio of companies is a relatively subjective term and can be seen as the market portfolio. In this study the market portfolio is represented by the S&P Europe 350 index. Studies on the average IPO have shown for results pointing towards short-term abnormal returns followed by long-term underperformance. According to theory these findings are due to the fact that bookrunners under-price firms as they are being floated in order for their clients in the book, who have invested in the floated company, to be satisfied and enjoy a healthy rise in share price subsequent to the floating. However, according to Ritter (1991), the long-term underperformance is really just a result of the aftermarket price being too high. Nevertheless, it would be highly interesting to see how results and findings in previous research on the average IPO differs from that of a private equity fund portfolio company.

H_0 : Private equity-backed IPOs show no signs of abnormal return and are thus equal to zero.

H_1 : Private equity-backed IPOs display abnormal returns when compared to S&P Europe 350, during any of the measured periods and with any of the two methods CAR or BHAR.

5.2 Private equity-backed IPOs vs. its respective financial sector

In order to make the study more reliable a second benchmark, or expected return, has been used. The performance of each firm has been compared to the performance of its respective financial sector during the observed periods. That is, the performance of a firm floated on the fifth of May in 1996 is compared to the performance of its financial sector, represented by indices provided by S&P. A more in-depth description over the financial sectors has previously been presented in Graph 3 and section 2.7.

H_2 : Private equity-backed IPOs display abnormal returns when compared to its respective financial sector, during any of the measured periods and with any of the two methods CAR or BHAR.

5.3 Sector specific performance

In order to determine if any sector is the driving force behind the results, a variable for the different sectors has been constructed. This is to ensure that the results found are general for all private equity-backed IPOs and not specific for any individual sector. Ritter (1980) performed a study on the impact of the “hot issue” anomaly and discovered that the difference in post-IPO performance really could not be ascribed to the general sample population and was instead limited to a certain sector. This aspect could thus prove important to test and by doing so, being able to rule out any sector specific differences.

H₃: There are sector specific differences in private equity-backed post-IPO performance measured as CAR and BHAR, for all time-horizons.

5.4 Private equity-backed IPOs and M&A-activity

This section aims to test the relationship between M&A-activity and firm performance in private equity fund portfolio companies. A majority of the existing theory within the field state that merger and acquisitions are value destroying rather than value creating. Studies measuring the short-term effect, e.g. Asquith, 1983 (cited in Haleblian, Devers, McNamara, Carpenter, Davison, 2009 p.470), as well as the long-term effect, Agrawal, Jaffe, and Mandelker, 1992 (cited in Haleblian et al., 2009 p. 470) have shown results of underperformance of firms engaging in M&A-activity. There are even studies pointing towards the fact that mergers and acquisitions actually erodes value for acquiring firms, e.g. Chatterjee, 1992 (cited in Haleblian et al., 2009 p. 470). It is thus not unlikely to believe that the same goes for private equity fund portfolio companies. Hypothesis three relates to the presence or absence of M&A-activity and reads as follows:

H₄: Private equity-backed IPOs that have not been engaging in mergers and acquisition-related activities during the holding period outperform private equity-backed IPOs that have, during any of the measured periods, with any of the two benchmarks and with any of the two methods CAR or BHAR.

M&A theory also debates the problem of firms acquiring too many firms during a too short time frame, causing problems of indigestion (Bower, 2001). The problem pertains to acquirers underestimating the resources needed for integration, thus perhaps ending up with non-integrated acquisitions and foregoing potential synergies. In order to examine the impact of relative M&A-activity, the amount of acquisitions per year has been investigated. Due to the findings of Bower (2001) and the likes, the following hypothesis is formulated:

H₅: There is a negative correlation between higher mergers and acquisition-related activities for a fund portfolio company during the fund holding period and CAR or BHAR, for any given time period.

The subsequent two tables, 7 and 8, illustrate the M&A-activity within the sample. The sample has been divided into five categories based on activity, shown in table 7.

Table 7

Categories of acquisitions per year				
0	0.1-0.5	0.6-1	1.1-1.5	1.6 -
70	10	19	6	6

There is an evident skewness towards zero acquisitions during the fund holding period. One should be aware of that this fact might have a negative effect on the reliability of the results.

Table 8

M&A deals		
Acquisitions		Holding period
Average total	Average per year	Average
0,8	0,33	1,79

A fund portfolio firm makes almost one acquisition on average during the fund holding period, and around one acquisition every three years.

5.5 Boom vs. bust performance

The idea here is that the quality of firms floated during bust periods is higher, partly due to the fact that they are fewer and thus even more subject to scrutiny. Firms floated during bust periods, when the state of the global economy is generally bad, would also have to struggle to attract investors as the overall appetite for risk is relatively low and thus the opportunity to invest would have to seem really attractive. During boom periods a lot of firms take advantage of the “window of opportunity”, the general outlook on firms during these periods is especially positive and may result in companies getting floated, even though they perhaps should not have (Ritter, 1991). The IT-bubble is a great example of this (Ritter, 1991; Unionen, 2009). The idea is to see how the years differ when put into context of general IPO-activity and GDP-growth. Firms listed the first three years subsequent to the IT-bubble have been sorted under the bust-period, whereas all other firms have been deemed as boom-listings. Looking at graph 2 and 3, one can see that during these years the average GDP-growth is declining and the general IPO-activity is relatively low. I thus want to test the phenomenon of “window of opportunity” described by Ritter (1991), where he investigates the relationship between IPO-activity and performance, and concludes that it is both negative and cyclical. He states: “If the high volume periods are associated with poor long-run performance, this would indicate that issuers are successfully timing new issues to take advantage of “windows of opportunity.” Consequently, I assess the performance of the years with the lowest and declining activity in concurrence with a declining GDP-growth, found in graph 3 to be the years following the IT-bubble. The formula for CAR for this variable is displayed below as an example.

$$CAR = \beta_0 + \beta_a BUST_a + \varepsilon \tag{15}$$

Where, β_0 represents listings made during boom-periods, ε is set to zero and bust-listings are represented by the dummy-variable BUST.

H₆: Private equity-backed IPOs floated during bust periods outperform private equity-backed IPOs during boom periods, during any of the measured periods, with any of the two benchmarks and with any of the two methods CAR or BHAR.

5.6 Market-to-book

The market-to-book ratio measures the market value of a company's equity over the book value of its equity. High market-to-book ratios tells an investor that return on assets are high, low market-to-book ratios is instead a sign of the company suffering from really low return on assets or overvalued assets. However, a firm initially trading at a low market-to-book ratio does at the same time have the largest potential upside if the firm's management is able to turn the company around and create higher return on assets. In a study from 2009 by Simutin, firms going through an IPO with a low market-to-book, or high book-to-market, experienced higher abnormal returns. Thus, there is reason to believe that low market-to-book ratios are positively related to abnormal returns. Each sample firm has been divided into decentiles of ten, according to its market-to-book ratio for the first day of trading. The lowest ten per cent of market-to-book ratios are put into the first decentile, the second lowest ten per cent in the second decentile, and so forth. Table 9 depicts the different ranges of market-to-book ratios.

Table 9

Decentiles	Market-to-book
1st	0.06 - 1.44
2nd	1.45 - 1.89
3rd	1.90 - 2.25
4th	2.29 - 2.68
5th	2.69 - 2.93
6th	2.94 - 3.47
7th	3.48 - 4.03
8th	4.04 - 5.09
9th	5.10 - 7.32
10th	7.47 - 95.06

Judging by the table, a market-to-book of around two to three seems most common, since two decentiles exist within the range 2.29 to 2.93.

H₇: There is a positive relationship between low market-to-book and firm performance for private equity-backed IPOs in the sample, during any of the measured periods, with any of the two benchmarks and with any of the two methods CAR or BHAR.

5.7 Bookrunner reputation and firm performance

Previous research has evaluated the effect of underwriter/bookrunner reputation of an IPO on the performance of the share. Carter et al. (1998) found in their study that IPOs backed by more reputable underwriters suffer from less underperformance than the average IPO on a long-term basis. For example, Simutin (2009) presented in his study a positive relationship between underwriter reputation and abnormal returns. That is, that having a highly reputable bookrunner has a positive effect on firm performance. The method used to assign a certain degree of reputation differs somewhat from study to study, the process in my study is inspired by the one laid out by Carter et al. (1998). Carter et al. (1998) used a proxy of number of IPOs underwritten in combination with the relative market share of the listing. In this study, I looked at how many IPOs each bookrunner represented, be it in conjunction with others or not. The most active bookrunners were: Bank of America ML, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, J.P. Morgan, Morgan Stanley and UBS, and have thus been chosen to be specially scrutinised. These bookrunners have all been the eight most active ones during the period. These are then compared to the deals

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where none of the eight bookrunners have been active to determine if how the performance of the most active bookrunners differs from the rest. These previous findings end up in a hypothesis of my own shown below.

H₃: Private equity-backed IPOs with a highly reputable bookrunner enjoy abnormal returns compared to those who do not, during any of the measured periods, with any of the two benchmarks and with any of the two methods CAR or BHAR.

5.8 Summary of hypotheses and dummy variables

To clarify, the variables measuring the sector specific performance, M&A-activity and the market-to-book ratio have been calculated with an intercept of zero, making the returns absolute. However, the bookrunner-effect as well as the boom- and bust-effect and M&A transactions per year, have all been measured with an intercept represented by the deals that these investigated bookrunners have not been engaged in, the boom-years and zero acquisitions, respectively. This results in the coefficients of the bookrunner, boom or bust, and acquisitions per year variables, being displayed relative to the intercept instead of being absolute.

Table 10

Hypothesis	Variables	
3	There are sector specific differences in private equity-backed post-IPO performance	SECTOR
4	PE-backed IPOs that have not been engaging in M&As outperform those who have	M&AACTIVE
5	There is a negative correlation between holding period mergers per year and firm stock performance	M&AYEAR
6	PE-backed IPOs during bust periods outperform the ones during boom periods	BOOMBUST
7	There is a positive relationship between low market-to-book and firm performance for PE-backed IPOs	MARKETBOOK
8	PE-backed IPOs with a highly reputable/active bookrunner enjoy higher abnormal returns	BOOKRUNNER

6 Empirical foundation

This section presents the findings of the study. These findings are then analysed and placed in context of previous research in section 7.

6.1 Skewness adjusted t-test

The sample has not gone through any regression analysis in its entirety, however, a skewness-adjusted t-test has been conducted for both CARs and BHARs. Initially, the results from the CAR-method will be presented, followed by the BHAR-method.

6.1.1 Cumulative abnormal returns (CAR)

Table 11 displays the CARs over all time periods, for both benchmarks. The mean CARs tend to show increasing returns as the holding period increases for the industry specific benchmark. However, when using the S&P Europe 350 as benchmark, the abnormal return seems to stay around 6% until the holding period is increased to three years, where it suddenly increases by around three percentage points. The observations on CARs all show signs of significance and more or less coincide with previous research using CARs, e.g. Mian and Rosenfeld (1993). However, the study by Björcke and Menzel (2006) displayed completely different results when covering the Swedish market. Their abnormal returns were negative for private equity-backed IPOs. However, this must be seen as an exception since most studies on private equity-backed IPOs or reverse LBOs show significant positive returns.

The CARs for all periods are significantly positive, independent of benchmark used. The abnormal return for the industry specific benchmark is higher for all periods. This could be explained by the fact that the industry specific index adjusts for any differences in performance between industries and more accurately compares the relative performance to the peers of the private equity-backed IPO.

Table 11

Observations: 277	Skewness-adjusted T-test	
	Mean	t-statistic
3-month AR vs. S&P Europe 350	6.37%	4.4360 ***
3-month AR vs. industry spec.	8.39%	5.8749 ***
6-month AR vs. S&P Europe 350	6.34%	3.3376 ***
6-month AR vs. industry spec.	8.74%	4.7702 ***
1-year AR vs. S&P Europe 350	6.18%	2.0993 **
1-year AR vs. industry spec.	9.25%	3.1965 ***
3-year AR vs. S&P Europe 350	9.86%	2.1052 **
3-year AR vs. industry spec.	13.74%	2.8924 ***

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

The observations of CARs are displayed in a chronologic order, beginning with the S&P Europe 350 index as benchmark, followed by the industry (economic sector) specific indices.

6.1.2 Buy-and-hold abnormal returns (BHAR)

According to table 12, the BHAR-method seems to follow a clear pattern of increasing returns over time. The BHAR mean increases from 7.76% and 9.32% to 8.87% and 11.28% for the three-month period and the two benchmarks respectively, it then continues to rise for all of the time horizons and ends up performing a 14.75% and 18.02% abnormal return over the three-year period. The BHARs are generally higher than the CARs of the sample, the notable increasing pattern over time for BHARs is also recognised by Levis (2008).

Table 12

Skewness-adjusted T-test	
	BHAR
	Mean t-statistic
Observations: 277	
3-month AR vs. S&P Europe 350	7.76% 5.9264 ***
3-month AR vs. industry spec.	9.32% 7.2164 ***
6-month AR vs. S&P Europe 350	8.87% 4.3811 ***
6-month AR vs. industry spec.	11.28% 5.8269 ***
1-year AR vs. S&P Europe 350	10.49% 3.4974 ***
1-year AR vs. industry spec.	13.70% 4.7899 ***
3-year AR vs. S&P Europe 350	14.75% 3.4640 ***
3-year AR vs. industry spec.	18.02% 4.3866 ***

* p < 0.10; ** p < 0.05; *** p < 0.01

The observations of BHARs are displayed in a chronologic order, beginning with the S&P Europe 350 index as benchmark, followed by the industry (economic sector) specific indices.

Even though the returns of this study are significantly lower than the returns confirmed by Cao and Lerner (2009), possibly explained by the fact that they covered the U.S. market, they are still positive. The results of this study are more in line with Levis' (2008), presumably due to the fact that he covered the U.K. market, representing 37.9% of my sample.

Table 13

BHAR – Wealth relatives				
	<i>3-month</i>	<i>6-month</i>	<i>1-year</i>	<i>3-year</i>
<i>Benchmark</i>				
S&P Europe 350	1.08	1.15	1.10	1.16
Industry spec.	1.09	1.17	1.14	1.20

This table illustrates the wealth relatives described in 2.8.3, formula nine.

The wealth relatives show the relative difference in wealth for holding a portfolio of the studied IPOs for the given periods in relation to the two benchmarks. It gives an investor an idea of his relative wealth gain if he had bought these IPOs and held them to the end of each given period instead of, either investing in the market portfolio, i.e. the S&P Europe 350, or a portfolio consisting of a set of matching firms, i.e. the industry specific indices. Table 13 shows that an investor would have profited from investing in the IPOs, given both benchmarks, for all periods. The results also indicate a tendency of higher wealth relatives as the holding period increases.

6.2 Linear regression using dummy-variables

The different variables in hypotheses three to seven were calculated using dummy variables. The abnormal performance for these variables is presented individually in the following sub-sections.

6.2.1 SECTOR

Table 14 illustrates the differences in the sample with respect to the respective sectors. Interesting to see is that the abnormal short-term performance, i.e. three- and six-months, seems to be chiefly driven by the sectors: technology, materials, industrials and financial, when using the S&P Europe 350 index as benchmark. However, on a longer perspective it seems to shift towards materials, financial and energy. Financial firms tend to yield high returns both short and long run, using both benchmarks. Using the industry specific benchmark, technology and financial firms tend to be the two sectors contributing to the abnormal return for private equity-backed IPOs the most.

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Table 14

SECTOR											
Observations: 277			CAR								
			3-month		6-month		1-year		3-year		
S&P Europe 350											
Sector	Coeffic.	t-stat		Coeffic.	t-stat		Coeffic.	t-stat	Coeffic.	t-stat	
Financial	17.59%	2.992	***	18.80%	2.373	**	18.22%	1.611	41.43%	2.327	**
Energy	5.64%	0.794		2.15%	0.224		18.24%	1.334	21.78%	1.012	
Health care	3.45%	0.874		2.82%	0.530		-1.94%	-0.255	9.81%	0.819	
Consumer discretionary	-0.02%	-0.007		-2.36%	-0.526		-4.88%	-0.760	4.03%	0.399	
Industrials	8.18%	1.967	*	10.26%	1.831	*	13.88%	1.736	2.41%	0.192	
Materials	15.21%	2.374	**	21.40%	2.479	**	27.07%	2.197	16.16%	0.833	
Technology	7.66%	2.555	**	7.28%	1.801	*	4.63%	0.802	6.53%	0.719	
Telecom Svc	5.89%	0.948		7.53%	0.899		11.76%	0.983	10.85%	0.576	
Industry spec.											
Sector	Coeffic.	t-stat		Coeffic.	t-stat		Coeffic.	t-stat	Coeffic.	t-stat	
Financial	16.83%	2.716	***	18.76%	2.302	**	20.17%	1.758	48.72%	2.699	***
Energy	7.06%	0.942		5.64%	0.573		14.76%	1.064	5.72%	0.262	
Health care	4.24%	1.016		5.57%	1.016		-0.76%	-0.099	8.86%	0.729	
Consumer discretionary	1.40%	0.397		0.00%	0.001		-2.51%	-0.386	6.68%	0.653	
Industrials	8.84%	2.017	**	10.26%	1.781	*	12.37%	1.525	-2.31%	-0.181	
Materials	11.96%	1.770	*	13.71%	1.544		9.72%	0.777	-14.77%	-0.751	
Technology	13.64%	4.316	***	13.81%	3.322	***	17.69%	3.022	29.04%	3.153	***
Telecom Svc	7.56%	1.154		8.26%	0.959		14.81%	1.221	14.36%	0.753	

* p < 0.10; ** p < 0.05; *** p < 0.01

These coefficients are absolute and reflect the abnormal return for each sector.

The results with the BHAR-method produce similar results with the financial sector yielding consistently high abnormal returns. However, technology is not as influential, neither short- nor long-term. Again, note that financial firms significantly outperform both the market as well as its peers on all time horizons. However, the general tendency is still that all sectors outperform, using both methods.

Table 15

SECTOR										
Observations: 277										
BHAR										
S&P Europe 350										
Sector	3-month		6-month		1-year		3-year			
	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat
Financial	20.10%	3.420 ***	22.21%	2.346 **	18.52%	1.418	53.21%	2.856 ***		
Energy	7.15%	1.007	9.77%	0.854	41.57%	2.634 ***	28.45%	1.263		
Health care	2.46%	0.622	5.79%	0.909	-3.60%	-0.410	9.88%	0.788		
Consumer discretionary	1.23%	0.368	-2.72%	-0.506	-4.00%	-0.540	3.89%	0.368		
Industrials	9.83%	2.366 **	14.93%	2.230 **	26.79%	2.902 ***	11.96%	0.908		
Materials	17.02%	2.658 ***	25.51%	2.473 **	38.08%	2.677 ***	26.96%	1.328		
Technology	9.77%	3.259 ***	8.52%	1.764 *	6.79%	1.019	8.64%	0.909		
Telecom Svc	8.18%	1.317	13.41%	1.340	16.39%	1.188	32.05%	1.627		
Industry spec.										
Sector	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat
Financial	18.97%	3.115 ***	22.04%	2.272 **	20.27%	1.555	61.72%	3.328 ***		
Energy	8.21%	1.115	13.82%	1.179	39.56%	2.510 **	20.74%	0.925		
Health care	3.33%	0.812	8.71%	1.334	-0.96%	-0.110	5.98%	0.479		
Consumer discretionary	1.84%	0.534	-0.54%	-0.098	-1.07%	-0.144	7.81%	0.742		
Industrials	9.67%	2.245 **	14.73%	2.148 **	24.77%	2.687 ***	7.67%	0.585		
Materials	13.72%	2.068 **	17.23%	1.630	19.33%	1.361	-8.59%	-0.425		
Technology	15.24%	4.906 ***	15.37%	3.107 ***	19.68%	2.959 ***	28.89%	3.053 ***		
Telecom Svc	9.86%	1.531	13.80%	1.346	18.38%	1.334	33.83%	1.725 *		

* p < 0.10; ** p < 0.05; *** p < 0.01

See table 14 for descriptive information about the specifics.

6.2.2 M&A-ACTIVE

The results of CARs and BHARs in table 16 differ a lot for the various periods and between the different benchmarks. The dummy variable method returns statistical significant results, for both acquisition active and non-acquisition active firms, only during the three-month period as well as the one-year period when using the BHAR-method. Even though the significance is high for these results, the abnormal returns differ merely by around one percentage point. With that being said, in all but one case, firms not acquiring during the holding period yield a statistical significant higher abnormal return on a three-month basis.

However, looking merely at the coefficients, one is able to detect some patterns. For instance, when using S&P Europe 350 as benchmark, the CARs tend to be higher for acquisition active firms than for non-active, for all periods. Using the industry specific benchmark, not engaging in M&A activities produces higher abnormal returns short-term, that is, on a three-month and six-month basis, whereas it produces lower returns long-term, i.e. on a one- and three-year basis.

The BHAR-method depicts a completely different pattern, using the industry specific benchmark, the abnormal return for not acquiring firms is consistently higher no matter the holding period for the stock. Adding to that fact is the presence of statistical significance, especially on a three-month as well as a one-year basis where both acquiring and not acquiring firms.

Table 16

M&AACTIVE							
Observations: 111		CAR			BHAR		
		Coefficient	t-statistic		Coefficient	t-statistic	
3-month AR vs. S&P Europe 350	Acquisition	7.80%	2.606	***	8.41%	2.514	**
	No acquisition	6.99%	3.050	***	8.70%	3.396	***
6-month AR vs. S&P Europe 350	Acquisition	3.20%	0.766		3.87%	0.802	
	No acquisition	2.61%	0.816		4.99%	1.353	
1-year AR vs. S&P Europe 350	Acquisition	9.87%	1.349		14.65%	1.506	
	No acquisition	4.19%	0.749		12.06%	1.619	
3-year AR vs. S&P Europe 350	Acquisition	17.21%	1.558		7.30%	0.671	
	No acquisition	8.63%	1.021		21.62%	2.595	***
3-month AR vs. industry spec.	Acquisition	8.95%	2.887	***	9.20%	2.734	***
	No acquisition	9.77%	4.122	***	10.70%	4.154	***
6-month AR vs. industry spec.	Acquisition	4.43%	1.061		4.93%	1.031	
	No acquisition	5.35%	1.675	*	7.97%	2.176	**
1-year AR vs. industry spec.	Acquisition	12.50%	1.625	*	15.78%	1.633	*
	No acquisition	8.76%	1.488		16.13%	2.180	*
3-year AR vs. industry spec.	Acquisition	13.23%	1.154		8.33%	0.736	
	No acquisition	11.06%	1.260		23.43%	2.706	***

* p < 0.10; ** p < 0.05; *** p < 0.01

The results are sorted by type of benchmark in a sequential order, beginning with the shortest horizon. Firms that have engaged in M&A activities during the holding period are sorted under “Acquisition” and firms who have not are denoted as “No acquisition”. Note that all of these results are absolute.

6.2.3 M&AYEAR

Analysing the results, method for method, we can see that the highest significant CAR is experienced by firms acquiring 1.1-1.5 targets per year, with a time horizon of one year. These firms have a 42.40% significantly higher CAR than firms acquiring zero targets per year. Between the benchmarks, there are not any great differences really. Although, the market portfolio benchmark suggests that, on a three-year basis, acquiring firms has a positive effect on firm stock performance, however not significantly. Using the industry specific benchmarks and comparing to peers on the other hand, that relationship is not as strong. The CARs also show signs of firms acquiring targets being worse off on a six-month basis, for both benchmarks. All of these acquiring firms actually perform a negative CAR compared to firms not engaging in acquisitions, except for the ones acquiring 1.1-1.5 targets per year. The somewhat deviating results of firms in the 1.1-1.5 group could perhaps be explained by the small sample. Still, it is difficult to find any signs of relative M&A-activity being positively or negatively related to firm stock performance subsequent to an IPO. That is, that firms perform better or worse given a certain degree of M&A-activity with respect to the length of their fund holding period, e.g. higher CARs with increasing relative acquisitions or vice versa.

Table 17

M&AYEAR									
Observations: 111									
CAR									
S&P Europe 350									
Acquisitions per yr.									
	<u>3-month</u>		<u>6-month</u>		<u>1-year</u>		<u>3-year</u>		
	Coeffic.	t-stat		Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat
Intercept	6.99%	3.025 ***		2.61%	0.819	4.19%	0.756	8.63%	1.010
0.1-0.5	-2.91%	-0.445		-3.75%	-0.416	-4.15%	-0.265	1.47%	0.061
0.6-1.0	2.66%	0.531		-1.28%	-0.186	-3.65%	-0.304	4.96%	0.268
1.1-1.5	5.39%	0.656		19.46%	1.716 *	42.40%	2.148 **	30.82%	1.013
1.6 -	-3.40%	-0.413		-5.11%	-0.451	14.86%	0.753	9.69%	0.319
Industry spec.									
Acquisitions per yr.									
Intercept	9.77%	4.077 ***		5.35%	1.683 *	8.76%	1.503	11.06%	1.249
0.1-0.5	-3.31%	-0.488		-4.96%	-0.552	-6.26%	-0.380	-8.18%	-0.327
0.6-1.0	-0.20%	-0.039		-4.17%	-0.606	-7.27%	-0.576	-3.02%	-0.158
1.1-1.5	3.96%	0.464		19.14%	1.692 *	39.12%	1.886 *	30.74%	0.976
1.6 -	-3.46%	-0.405		-3.98%	-0.352	19.88%	0.958	7.30%	0.232

* p < 0.10; ** p < 0.05; *** p < 0.01

Again, note that the intercept represents zero acquisitions and that the other coefficients are relative to the intercept.

The BHAR results do not differ dramatically from those achieved by the CAR-method. On a six-month basis, as well as on a three-month basis using the industry specific benchmark, firms that acquire tend to perform worse than those who do not. Similar to the outcomes found with the CAR-method, the deviating factor here is firms acquiring 1.1-1.5 targets per year. This deviation is, interestingly enough also found in the only group, besides the one engaging in zero acquisitions, with significant results. However, the BHAR-method produces results that differ from those found by using CAR in chiefly one case. With a horizon of three-years, firms not acquiring at all seem to outperform the ones that do, for both benchmarks and all M&A-activity groups. Although, none of the results for the groups with activity are significant and one still struggles with finding any positive or negative relationship between relative M&A-activity and firm performance, even for the BHARs.

Table 18

M&AYEAR									
Observations: 111									
BHAR									
S&P Europe 350									
Acquisitions per yr.									
	<u>3-month</u>		<u>6-month</u>		<u>1-year</u>		<u>3-year</u>		
	Coeffic.	t-stat		Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat
Intercept	8.70%	3.367 ***		4.99%	1.359	12.06%	1.663 *	21.62%	2.561 **
0.1-0.5	-5.33%	-0.730		-6.69%	-0.644	-8.74%	-0.426	-7.87%	-0.330
0.6-1.0	2.25%	0.403		-3.47%	-0.437	-15.02%	-0.957	-18.41%	-1.008
1.1-1.5	3.47%	0.377		22.06%	1.687 *	67.83%	2.629 ***	-8.36%	-0.278
1.6 -	-3.66%	-0.398		-7.62%	-0.583	12.07%	0.468	-18.06%	-0.601
Industry spec.									
Acquisitions per yr.									
Intercept	10.70%	4.108 ***		7.97%	2.192 **	16.13%	2.248 **	23.43%	2.670 ***
0.1-0.5	-4.59%	-0.624		-8.35%	-0.812	-9.99%	-0.493	-10.44%	-0.420
0.6-1.0	-0.38%	-0.067		-6.89%	-0.876	-21.17%	-1.364	-18.72%	-0.985
1.1-1.5	2.92%	0.315		21.49%	1.661 *	63.51%	2.488 **	-9.76%	-0.313
1.6 -	-4.29%	-0.463		-6.48%	-0.501	17.81%	0.698	-16.77%	-0.537

* p < 0.10; ** p < 0.05; *** p < 0.01

See table 17 for specifications regarding the intercept and coefficients.

6.2.4 BOOMBUST

Since very few listings were made during the bust-periods, see graph 4, achieving high significance for the results proved difficult. Per definition, bust-periods are defined as periods of low IPO-activity, partially due to the effect of deteriorating risk appetite. Still, for all periods but one, the six-month, listings during bust-periods performed higher positive abnormal returns than those during boom-periods. Interesting to see is that bust-period listings achieve higher differences in abnormal return long-term than short-term. These findings are somewhat in line with Ritter (1991) and his study on long-run performance of the average IPO, in which he found that IPOs in general tend to perform better when floated during bust-periods.

Table 19

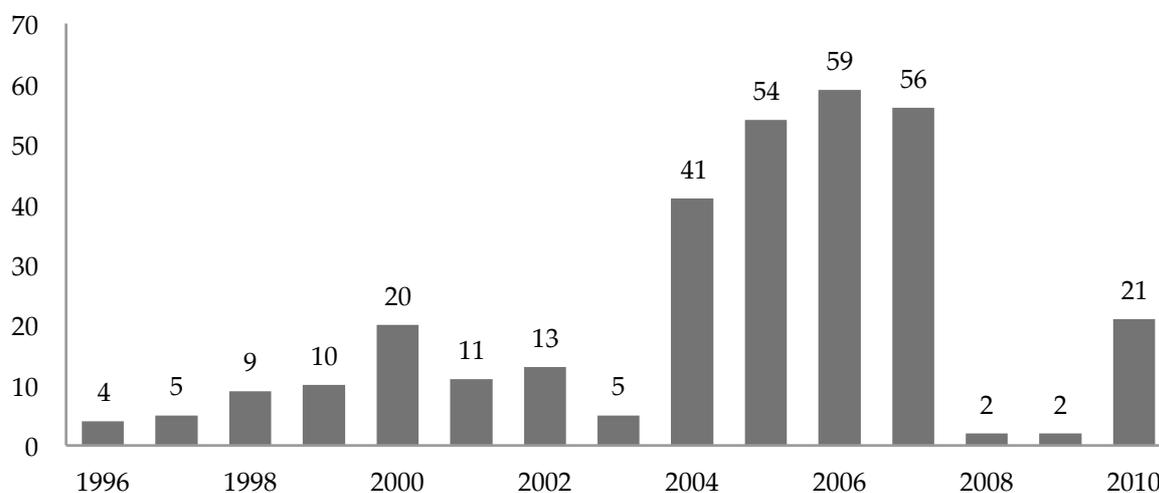
BOOMBUST							
Observations: 277		CAR			BHAR		
		Coefficient	t-statistic		Coefficient	t-statistic	
3-month AR vs. S&P Europe 350	Intercept	6.15%	3.754	***	7.54%	4.580	***
	Bust	2.09%	0.412		2.09%	0.411	
6-month AR vs. S&P Europe 350	Intercept	6.19%	2.802	***	9.07%	3.433	***
	Bust	1.38%	0.202		-1.88%	-0.230	
1-year AR vs. S&P Europe 350	Intercept	5.23%	1.660	*	9.86%	2.671	***
	Bust	9.13%	0.938		6.07%	0.532	
3-year AR vs. S&P Europe 350	Intercept	8.35%	1.703	*	12.82%	2.485	***
	Bust	14.41%	0.951		18.47%	1.158	
3-month AR vs. industry spec.	Intercept	8.17%	4.729	***	9.17%	5.369	***
	Bust	2.11%	0.396		1.48%	0.281	
6-month AR vs. industry spec.	Intercept	8.57%	3.793	***	11.44%	4.252	***
	Bust	1.60%	0.229		-1.56%	-0.188	
1-year AR vs. industry spec.	Intercept	8.43%	2.647	***	12.99%	3.561	***
	Bust	7.83%	0.795		6.84%	0.607	
3-year AR vs. industry spec.	Intercept	12.55%	2.493	**	15.79%	3.054	***
	Bust	11.35%	0.729		21.30%	1.333	

* p < 0.10; ** p < 0.05; *** p < 0.01

In this table, “Intercept” represents the absolute performance of listings made during the boom-periods. “Bust” entails the relative performance, for listings during the bust-periods, to booms.

Graph 4

PE Backed IPO:s 1994-2010



As the graph exhibits, the majority of all listings took place during the last boom during 2004-2007. The low interest and cheap source of capital that followed the IT-bubble in 2000 should have contributed to private equity companies acquiring candidates during the subsequent years of the bubble and sold them off as interest began to rise.

6.2.5 MARKETBOOK

Generally, it is difficult to discover any obvious pattern for the CARs in table 20. However, on a three-year basis there seems to be a slight tendency for higher abnormal returns, for higher market-to-book ratios. During this period, high, significant positive abnormal returns can be observed for the 9th and 5th deciles. Also, with the same horizon and using the industry specific benchmark, firms in the 1st and 3rd decentile produce a negative abnormal return. When only analysing the results on a three-month basis, the highest and most significant results can be found around the 4th, 5th and 6th decentiles. This, somewhat, goes against the findings of Simutin (2009), who stated that firms with initially low market-to-book ratios tend to outperform firms with initially high ratios.

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Table 20

MARKETBOOK									
Observations: 277									
CAR									
S&P Europe 350									
Decentiles	3-month		6-month		1-year		3-year		
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	
1st	4.70%	0.947	5.35%	0.751	12.87%	1.263	-9.71%	-0.613	
2nd	9.77%	2.124 **	11.38%	1.728 *	6.35%	0.673	14.38%	0.980	
3rd	2.51%	0.506	-4.22%	-0.594	4.69%	0.461	1.06%	0.067	
4th	9.67%	1.986 **	2.57%	0.368	5.85%	0.586	5.14%	0.331	
5th	9.81%	2.016 **	8.75%	1.255	3.22%	0.322	25.97%	1.672 *	
6th	13.17%	2.706 ***	18.46%	2.647 ***	19.29%	1.931 *	13.15%	0.847	
7th	3.74%	0.785	2.57%	0.376	7.26%	0.741	9.44%	0.620	
8th	7.30%	1.470	4.14%	0.582	-3.27%	-0.321	2.12%	0.133	
9th	6.72%	1.380	13.12%	1.882 *	7.35%	0.736	34.53%	2.224 **	
10th	6.33%	1.274	4.35%	0.611	3.20%	0.314	2.49%	0.157	
Industry spec.									
Decentiles	3-month		6-month		1-year		3-year		
	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	
1st	6.51%	1.234	5.73%	0.781	9.20%	0.886	-12.36%	-0.765	
2nd	10.34%	2.118 **	11.14%	1.640 *	3.70%	0.384	7.43%	0.497	
3rd	5.36%	1.016	-1.94%	-0.265	4.00%	0.385	-2.38%	-0.147	
4th	15.45%	2.989 ***	8.11%	1.129	10.73%	1.055	16.02%	1.012	
5th	12.97%	2.509 **	14.75%	2.052 **	11.03%	1.084	31.65%	2.000 **	
6th	12.70%	2.458 **	19.38%	2.696 ***	18.10%	1.779 *	8.26%	0.522	
7th	4.87%	0.962	4.50%	0.638	14.15%	1.418	13.23%	0.852	
8th	10.39%	1.969 **	5.54%	0.755	1.40%	0.135	8.10%	0.502	
9th	7.26%	1.405	15.55%	2.164 **	14.97%	1.472	49.45%	3.124 ***	
10th	8.38%	1.589	6.91%	0.942	2.41%	0.232	4.14%	0.256	

* p < 0.10; ** p < 0.05; *** p < 0.01

The deciles represent the relative book-to-market ratios for firms on the first day of trading. Firms with the lowest ten per cent are in the first decile and so on. Note that the coefficients are absolute.

According to table 21, which shows the difference in CAR between the highest and lowest five deciles, firms with higher initial market-to-book seem to outperform those with lower on a long-term basis, that is, one to three years. Short-term however, the results are a bit more vague.

Table 21

MARKETBOOK									
CAR									
S&P Europe 350									
Decentiles									
	3-month		6-month		1-year		3-year		
	Average	Median	Average	Median	Average	Median	Average	Median	
1-5	7.29%	9.67%	4.77%	5.35%	6.60%	5.85%	7.37%	5.14%	
6-10	7.45%	6.72%	8.53%	4.35%	6.77%	7.26%	12.35%	9.44%	
Industry spec.									
Decentiles									
1-5	10.13%	10.34%	7.56%	8.11%	7.73%	9.20%	8.07%	7.43%	
6-10	8.72%	8.38%	10.38%	6.91%	10.21%	14.15%	16.64%	8.26%	

To better illustrate the differences between “high” and “low” market-to-book ratios, a table over the average and median CAR is presented.

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Table 22 illustrates the results from the regression with the BHAR-method. These findings are not that much different from the ones found with the CAR-method. Short-term, on a three-month basis, the highest and most significant returns are found between decentiles four and six. Whereas long-term, a slight tendency for higher abnormal returns for higher market-to-book ratios is observed.

Table 22

MARKETBOOK									
Observations: 277									
BHAR									
S&P Europe 350									
Decentiles									
	3-month		6-month		1-year		3-year		
	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	
1st	3.97%	0.762	5.69%	0.663	19.08%	1.552	-0.48%	-0.029	
2nd	11.74%	2.435 **	13.94%	1.755 *	16.15%	1.419	21.62%	1.403	
3rd	3.12%	0.599	-0.39%	-0.046	10.48%	0.853	2.18%	0.131	
4th	10.12%	1.985 **	1.48%	0.176	4.49%	0.373	1.18%	0.072	
5th	10.22%	2.004 **	10.91%	1.298	7.90%	0.656	29.27%	1.794 *	
6th	13.11%	2.570 ***	27.88%	3.317 ***	28.81%	2.392 **	1.25%	0.077	
7th	5.57%	1.114	4.97%	0.603	8.35%	0.707	27.32%	1.708 *	
8th	10.07%	1.935 *	4.64%	0.541	0.04%	0.003	5.53%	0.332	
9th	10.02%	1.965 **	17.67%	2.102 **	0.34%	0.028	22.70%	1.391	
10th	7.64%	1.468	6.25%	0.728	14.87%	1.210	21.68%	1.302	
Industry spec.									
Decentiles									
1st	6.32%	1.164	5.69%	0.650	16.72%	1.373	-3.05%	-0.183	
2nd	11.07%	2.203 **	13.62%	1.679 *	13.62%	1.208	14.65%	0.949	
3rd	6.15%	1.133	1.83%	0.209	10.73%	0.881	5.39%	0.323	
4th	15.09%	2.839 ***	7.27%	0.847	13.05%	1.094	5.87%	0.359	
5th	13.12%	2.467 **	16.86%	1.964 **	16.12%	1.350	40.29%	2.467 **	
6th	12.48%	2.348 **	28.89%	3.365 ***	27.04%	2.266 **	-4.09%	-0.250	
7th	5.86%	1.123	6.95%	0.826	12.63%	1.080	33.46%	2.089 **	
8th	11.51%	2.122 **	5.81%	0.663	4.87%	0.399	13.42%	0.805	
9th	10.28%	1.934 *	20.54%	2.393 **	7.81%	0.654	31.43%	1.924 *	
10th	8.71%	1.605	8.60%	0.982	14.47%	1.188	21.38%	1.283	

* p < 0.10; ** p < 0.05; *** p < 0.01

Displayed the same way as the CARs, we can see the decentiles to the left, where each firm has been divided according to their book-to-market ratio. The coefficients are all absolute.

The results from the BHAR-method, over the highest and lowest five decentiles, are even more convincing than the ones found with the CAR-method. Table 23 illustrates that firms with higher market-to-book ratios tend to outperform firms with lower ratios, when looking at a three-year horizon. However, on a one-year basis, the relationship seems to be the opposite.

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Table 23

	MARKETBOOK				BHAR			
	3-month		6-month		1-year		3-year	
	Average	Median	Average	Median	Average	Median	Average	Median
S&P Europe 350								
Decentiles								
1-5	7.83%	10.12%	6.33%	5.69%	11.62%	10.48%	10.75%	2.18%
6-10	9.28%	10.02%	12.28%	6.25%	10.48%	8.35%	15.70%	21.68%
Industry spec.								
Decentiles								
1-5	10.35%	11.07%	9.05%	7.27%	14.05%	13.62%	12.63%	5.87%
6-10	9.77%	10.28%	14.16%	8.60%	13.36%	12.63%	19.12%	21.38%

See table 22 for a description over the attributes in the table.

6.2.6 BOOKRUNNER

The bookrunner-effect of more reputable bookrunners can be observed in table 24. In this study, reputation is defined as correlating with activity, and the degree of involvement in the deals studied is shown in graph 5. According to table 24, UBS significantly outperforms deals with no reputable bookrunner involvement, on a three-year basis by 5.17%. Deutsche Bank also significantly outperforms with the same stock holding period by a striking 23.6%. Goldman Sachs on the other hand underperforms significantly on a one-year basis with a negative 9.42%. The one pattern that might be noticed is the fact that, when using the S&P Europe 350 index, six of the eight bookrunners display positive coefficients, with UBS and Deutsche Bank as two examples with significance.

Table 24

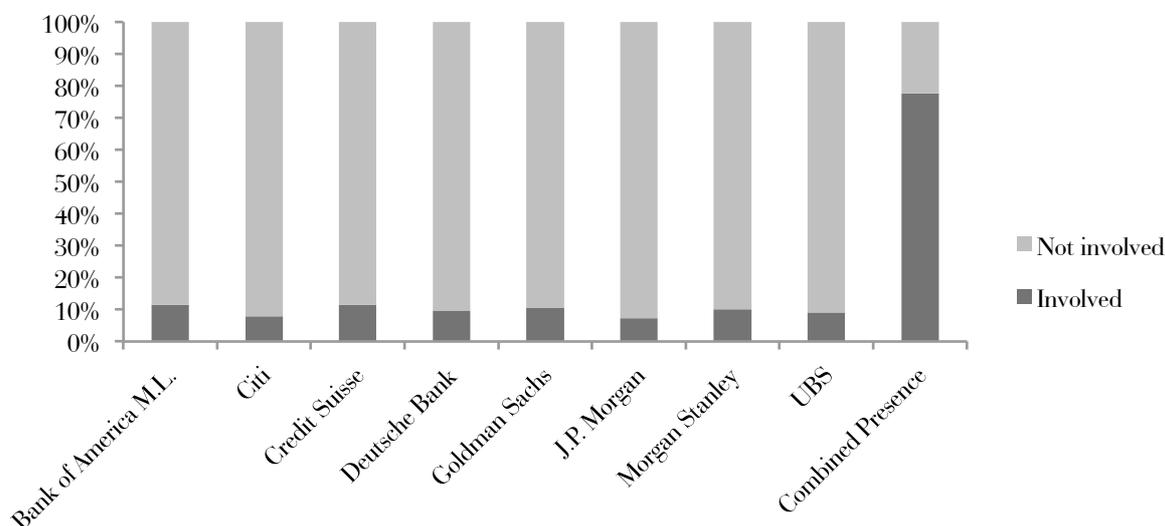
	BOOKRUNNER											
	Observations: 277											
			3-month		6-month		1-year		3-year		CAR	
S&P Europe 350		Bookrunners	Coeffic.	t-stat								
Intercept			6.00%	2.896 ***	7.91%	2.824 ***	6.00%	1.513	8.04%	1.303		
Bank of America ML			3.14%	0.638	-5.12%	-0.770	-8.73%	-0.925	1.42%	0.097		
Citi			-5.77%	-0.984	3.16%	0.399	7.11%	0.633	22.60%	1.294		
Credit Suisse			5.02%	1.019	-6.79%	-1.020	-5.12%	-0.543	-10.69%	-0.728		
Deutsche Bank			-5.75%	-1.049	3.44%	0.464	19.59%	1.867	23.60%	1.448 *		
Goldman Sachs			2.44%	0.457	-1.04%	-0.144	-9.42%	-0.921 *	3.62%	0.228		
J.P. Morgan			-0.06%	-0.010	-5.01%	-0.609	5.48%	0.470	3.26%	0.180		
Morgan Stanley			0.78%	0.151	-0.70%	-0.100	-4.85%	-0.487	-22.56%	-1.456		
UBS			1.29%	0.232	-2.64%	-0.352	4.28%	0.404	5.17%	0.314 **		
Industry spec.												
Bookrunners												
Intercept			9.25%	4.242 ***	10.53%	3.676 ***	9.22%	2.290 **	11.93%	1.880 *		
Bank of America ML			-2.22%	-0.429	-3.75%	-0.550	-4.86%	-0.507	8.15%	0.540		
Citi			0.60%	0.098	0.24%	0.030	6.73%	0.591	26.49%	1.475		
Credit Suisse			-8.61%	-1.660	-5.16%	-0.757	-2.16%	-0.225	-8.13%	-0.538		
Deutsche Bank			3.60%	0.625	2.40%	0.317	15.81%	1.485	15.92%	0.949		
Goldman Sachs			-3.21%	-0.572	-5.71%	-0.773	-12.59%	-1.213	2.78%	0.170		
J.P. Morgan			-3.47%	-0.542	-7.07%	-0.839	2.73%	0.231	-5.78%	-0.310		
Morgan Stanley			3.87%	0.706	2.14%	0.298	-5.25%	-0.519	-18.65%	-1.170		
UBS			2.08%	0.357	-1.37%	-0.179	4.61%	0.428	1.83%	0.108		

* p < 0.10; ** p < 0.05; *** p < 0.01

The "Intercept" in this table consists of all deals in which the bookrunners under scrutiny are not involved in.

Graph 5

IPO involvement for Scrutinised Bookrunners 1994-2007



As the graph depicts, the bookrunners under special scrutiny together make up around 80% of the aggregated deals under the period and individually they each contribute with around 10%.

Looking at the BHARs in table 25, we again find Deutsche Bank significantly outperforming, this time on a one-year basis using both benchmarks. Conversely, Morgan Stanley underperforms significantly by a striking -36.53% on a three-year basis and insignificantly on both a six-month and one-year basis. Contrary to the results achieved by the CAR-method, using BHAR, it is actually possible to detect some negative tendency for the investigated bookrunners during the six-month and one-year periods, when using the industry specific benchmark. For the one-year holding period, six out of the eight bookrunners display negative returns relative to the intercept and for the six-month period all but one bookrunner achieve negative returns, however insignificantly. On the other hand, on a three-month basis, using the S&P 350 benchmark, as well as on a three-year basis, using the industry specific benchmark, six out of eight outperform.

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Table 25

BOOKRUNNER										
Observations: 277										
BHAR										
S&P Europe 350										
	3-month		6-month		1-year		3-year			
Bookrunners	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat
Intercept	7.53%	3.611 ***	10.77%	3.218 ***	11.04%	2.383 **	14.08%	2.174 **		
Bank of America ML	1.75%	0.353	-4.54%	-0.571	-14.83%	-1.348	8.00%	0.520		
Citi	-4.63%	-0.785	0.99%	0.105	0.34%	0.026	18.37%	1.002		
Credit Suisse	5.08%	1.024	-5.66%	-0.711	-2.01%	-0.183	-0.93%	-0.060		
Deutsche Bank	-5.36%	-0.972	6.71%	0.758	28.59%	2.336 **	18.59%	1.086		
Goldman Sachs	1.98%	0.369	-4.36%	-0.506	-13.11%	-1.098	9.25%	0.554		
J.P. Morgan	0.30%	0.049	-6.11%	-0.621	1.91%	0.140	-12.06%	-0.634		
Morgan Stanley	0.58%	0.111	-3.39%	-0.403	-3.10%	-0.266	-36.23%	-2.227 **		
UBS	0.48%	0.087	-2.41%	-0.270	1.50%	0.121	1.69%	0.097		
Industry spec.										
Bookrunners										
Intercept	10.18%	4.717 ***	13.38%	3.924 ***	14.53%	3.166 ***	16.98%	2.616 ***		
Bank of America ML	-2.16%	-0.421	-2.80%	-0.346	-12.11%	-1.110	11.47%	0.744		
Citi	0.35%	0.057	-1.54%	-0.160	-0.14%	-0.011	20.96%	1.141		
Credit Suisse	-7.59%	-1.478	-4.40%	-0.543	-0.93%	-0.085	1.00%	0.065		
Deutsche Bank	3.66%	0.641	5.45%	0.604	23.94%	1.973 **	13.14%	0.766		
Goldman Sachs	-3.51%	-0.631	-8.84%	-1.006	-16.86%	-1.425	10.36%	0.619		
J.P. Morgan	-4.01%	-0.633	-8.25%	-0.823	-1.24%	-0.092	-16.40%	-0.860		
Morgan Stanley	2.98%	0.549	-0.51%	-0.060	-0.45%	-0.039	-36.53%	-2.240 **		
UBS	2.69%	0.467	-1.19%	-0.130	2.83%	0.231	4.90%	0.283		

* p < 0.10; ** p < 0.05; *** p < 0.01

Just as in table 24, the intercept contains all deals that none of the bookrunners have had any involvement in and the coefficients of the dummy variables are relative to the intercept.

In order to better see the difference in performance between reputable and non-reputable bookrunners, a comparison between reputable-classified bookrunners and the ones not classified as reputable, is displayed in tables 26 and 27. That is, all independently scrutinized bookrunners have been summed into one category. Even though it exhibits no significant results, it suggests that IPOs with more reputable bookrunners yield a higher CAR than those without, on all horizons except for the long-term of three years.

Table 26

BOOKRUNNER										
Observations: 277										
CAR										
S&P Europe 350										
	3-month		6-month		1-year		3-year			
S&P Europe 350	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat
Intercept	6.67%	4.045 ***	6.91%	3.112 ***	7.18%	2.266 **	9.62%	1.946 *		
Prestigious bookrunners	-2.57%	-0.530	-4.97%	-0.761	-8.62%	-0.925	2.07%	0.142		
Industry spec.										
Intercept	8.66%	4.982 ***	9.21%	4.050 ***	9.84%	3.069 ***	12.73%	2.512 **		
Prestigious bookrunners	-2.31%	-0.452	-4.02%	-0.601	-5.10%	-0.540	8.74%	0.586		

* p < 0.10; ** p < 0.05; *** p < 0.01

The coefficients are relative to the intercept.

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Table 27

BOOKRUNNER												
Observations: 277												
BHAR												
3-month 6-month 1-year 3-year												
S&P Europe 350												
	Coeff.		t-stat	Coeff.		t-stat	Coeff.		t-stat	Coeff.		t-stat
Intercept	8.13%	4.914	***	9.42%	3.547	***	12.26%	3.311	***	13.91%	2.675	***
0.1-0.5	-3.25%	-0.668		-4.77%	-0.611		-15.26%	-1.401		7.29%	0.476	
Industry spec.												
Intercept	9.60%	5.588	***	11.68%	4.313	***	15.19%	4.148	***	16.82%	3.225	***
0.1-0.5	-2.39%	-0.473		-3.43%	-0.430		-12.86%	-1.194		10.42%	0.679	

* p < 0.10; ** p < 0.05; *** p < 0.01

See table 26 for descriptive information over the table.

The results from the BHAR-method are similar to the ones when using the CAR-method. No real significance can be proven, still, the tendency described in the previous paragraph is even stronger for the BHARs.

7 Analysis

In order to bring some clarity to the reader about the findings and their contribution to answering the hypotheses, a set of subsections will follow. The results are analysed with regards to existing theory as well as previous studies.

7.1 Private equity-backed IPO performance

The hypotheses one and two, both sought out to clarify how private equity-backed IPOs performed when compared to the general market, using the S&P Europe 350, and their respective financial sector, using industry specific indexes for each individual firm and time horizon. The results presented in table 11 and 12, under section 6.1.1 and 6.1.2 respectively, clearly shows that no matter the method used and no matter the horizon, private equity-backed IPOs significantly outperform the market as well as their industry specific peers. This is in line with previous studies on reversed LBOs, e.g. Cao and Lerner (2009) and Mian and Rosenfeld (1993), but differ somewhat from the study made on private equity-backed IPOs on the Swedish market by Björcke and Menzel (2006). It is also interesting to compare these results to those of Ritter (1991) and his findings on long-term IPO performance. When adjusting for comparable firms, the IPOs in his sample yield a long-term CAR of -29.1% at the 0.01 significance level, whereas my sample, using a similar method with an industry-specific benchmark, yield a CAR of 13.74% and a BHAR of 18.02%, both at the 0.01 significance level. Thus, the private equity-backed IPOs in my sample outperform his sample by over 40 and almost 50 percentage points respectively, be it on different markets and during dissimilar time frames.

For an investor, the wealth gain may be of greatest interest. In table 13, the wealth relatives for the given periods are presented. Contrary to the wealth relatives of 0.880 experienced by Ritter (1991), when studying the long-term performance of IPOs, private equity-backed IPOs seem to produce wealth relatives higher than 1.00 over all periods and for both benchmarks. The returns experienced with a holding period of three years resulted in a wealth relative of 1.16 over the market portfolio and 1.20 over matching firms. These results indicates that an investor would earn 20 cents to the dollar by investing in private equity-backed IPOs instead of a set of matching firms, and 16 cents more for each invested dollar in private equity-backed IPOs over the market portfolio.

The reasons behind this outperformance of the market and industry peers, short-term, could lie in previous research on general IPOs and the under-pricing phenomenon (Ritter, 1991) described in section 4.1.1. Long-term, general IPOs tend to underperform on average (Ritter, 1991), making the application of general IPO research less appropriate for explaining the long-term private equity-backed IPO performance. Mian and Rosenfeld (1993) mention the effect of leverage and the benefits of an increased tax-shield as one reason. They also discuss how the financial risk differs between reversed LBOs and other firms, and an increased financial risk should offer potential greater returns according to the risk-reward trade-off. Since the average private equity-backed IPO is highly leveraged, one would deem this theory as applicable also for the current study. The level of leverage also helps to minimise the effects of Jensen's free cash flow theory. With less free cash flow for management to spend on destructive investments for personal gain, due to the increased regular interest payments, a higher value can be obtained. Interest payments also put pressure on management to perform well, since their employer would cease to exist upon default due to lack of funds.

Grubb and Jonsson (2007) discuss the parenting advantage and the effects of having a private equity firm as an owner. According to their study, private equity firms are superior in creating value due to a number of reasons. They state that private equity firms, have an optimal investment horizon, can

work efficiently distant from the media spotlight, are often industry experts with a lot of knowledge and the fund offers financial strength with the possibility to acquire. The effect of acquiring firms is answered more in detail in a subsequent sub-section. Still, it would seem as if these advantages of being private equity-owned are sustained also for the long run. Levis (2008) concurs on this fact, supported by his research on previous studies. According to Levis (2008), previous studies conclude that the characteristics of a venture capital firm are often seen as a highly contributing factor to the outperformance of their portfolio firms following a listing, characteristics that are true for most private equity firms as well. These attributes are denoted, as previously mentioned, as proficient management teams and superior corporate governance structures, skills and terms that are kept within the firm even on a long-term basis (Levis, 2008). The corporate governance structure of a fund portfolio firm generally differs from the average firm and attempts to align the interests of management with those of stakeholders are more common in a portfolio firm than others (Kaplan and Strömberg, 2008). Thus, agency costs are lower and may also be an explanatory factor for the outperformance. In short, it would seem as if private equity companies create portfolio more efficient firms of higher quality with sustainable future profits as a result.

7.1.2 The Relative importance of the sectors

As Ritter (1980) explored in his study on the existence of the “hot issue” anomaly, the sector specific performance can prove important for the conclusions on the performance of the aggregated sample. In my study, the difference in performance over the various sectors is quite substantial. The sectors: technology, materials, industrials and financial seem to be the underlying driving force behind the positive abnormal returns in the short run and materials, technology, financial and energy in the long run. Overall, the financial industry is the one performing more or less consistently above the others.

Firms in the technology industry do not seem to outperform the market substantially, however, compared to its peers the abnormal return is relatively high. The abnormality could derive from the, often, capital intense characteristics of these kind of firms. The technology industry is usually dependant on funding for research or marketing, in order to get the product out to the general public and thereby generating income. High-tech firms also profit from economies of scale, with high initial fixed costs and diminishing variable costs, as production increases. A necessity for increasing production, without suffering from losses, is a coinciding increase in sales. Private equity firms can use their expertise and capital strength to improve efficiency as well as enter new markets, by acquiring or not, and thereby expanding the customer base for the portfolio firm. A similar explanation could be given for the materials industry, which also is relatively capital intense. Financial firms are per definition capital intense, seeing as part of their business is to supply with access to capital, and could therefore also be especially suitable for private equity ownership.

Still, all sectors show for positive abnormal returns, except for the consumer discretionary, health care and materials industry that during some of the investment horizons show for negative abnormal return, however not significant and far from substantial. All other observations are consistently positive, whereas Ritter's (1980) observations differed dramatically, as he expresses it: “there was a tremendous disparity in the behaviour of monthly average initial returns on natural resource issues and on non-natural resource issues.” This, however, does not seem to be the case for my study, I thus deem it unreasonable to attribute the entire abnormal return to only some of the industries as Ritter (1980) did.

7.2 M&A-activity

Through taking into consideration whether or not the sample firms have been engaging in M&A-related activities, this study intended to assess the effect of acquisitions during the fund holding period. That is, if there are any differences between fund portfolio firms only relying on organic growth and firms growing wholly or partially through acquisitions. Table 16 displayed some interesting results, in all cases but one, not acquiring generated significantly higher CARs and BHARs on a three month-basis. A similar tendency can be observed on a one-year basis, showing for significantly higher BHARs compared to firm peers. Furthermore, in all but one case, not acquiring generated higher significant or insignificant BHARs. This effect on firm performance is in line with previous studies mentioned in Haleblan et al. (2009), stating that acquisitions have a negative effect on firm value. In these studies, this effect is explained by the problems related to both assessing the value of the target firm as well as the amount of resources needed to integrate it with the existing business. According to Bower (2001), firms suffer from problems of indigestion and tend to overstate synergy values. Even though private equity firms usually are supposed to be experts in their respective fields (Levis, 2008), the BHAR results indicate that they seem to be affected by these acquisition related problems as well.

However, just as there are studies stating the opposite (Haleblan et al., 2009), that firms engaging in mergers and acquisitions are better off than firms that do not, my study also shows signs of M&As being value creating. The CARs in table 16 reflect a somewhat different pattern compared to the BHARs. Six out of eight observations actually imply that firms produce higher positive abnormal returns when acquiring compared to those who not. Still, only two of the total eight observations of CARs are significant. One of which suggests that engaging in M&As is value creating short-term and the other that it is not beneficial in the long run, making it difficult to read too much into the findings of CARs. However, it implies that M&As add to firm value short-term but fails to do so long-term, perhaps due to an initial overvaluation of synergies or underestimation of resources needed for implementation.

Furthermore, in order to test the relative M&A-activity for each firm engaging in acquisitions, I conducted a test on the number of acquisitions in relation to the fund holding period, displayed in tables 17 and 18. As mentioned earlier, achieving any statistical significance proved difficult for two major reasons; the sample was somewhat small, and heavily skewed towards zero acquisitions. Still, it offered some support for the results stated earlier regarding the comparison between M&A-activity versus no M&A-activity. On a three-year basis, using the industry specific benchmark, acquiring firms has a negative effect on stock performance, no matter how many targets that are acquired per year, on average. It is also interesting to see that, with the BHAR-method, acquiring more than 1.6 targets a year has an increasingly negative effect on stock performance as time progresses, with the exception of the one-year horizon. This effect is in line with the digestive problem-theory, indicating that a heavy focus towards acquisitions has a negative effect on firm performance, an effect that thus is increasingly noticeable the longer the investment horizon. It also suggests that the market grows more and more aware of the possibly overstated synergy effects and/or resources needed and the fact that the acquisitions could have been value destroying.

With somewhat conflicting results using the two methods, it is also a matter of what method one deems as most reliable. As mentioned previously, BHARs replicate the effect of an investor's portfolio much more accurately, as it compounds the returns instead of merely adding them up. Thus, from an investor's point of view, BHARs would be the most accurate, implying that merger and acquisitions during the private equity fund holding period have a negative effect on firm stock performance, both short-term and long-term.

7.3 Timing – Boom vs. Bust

The boom or bust hypothesis originated from the previous studies of Ritter (1980, 1991) and his theory on the “windows of opportunity” as well as “hot issue” markets. According to theory, IPOs fluctuate with the economic cycle and the activity increases during booms and decreases during busts. Benninga et al. (2004) and Ritter (1991), support this statement, and by looking at graph 3, there seems to be a tendency towards IPO-activity coinciding with the movements in GDP-growth. However, due to this nature and the size of the sample, there are obvious difficulties in showing for statistical significance. Graph 4 illustrates the problem, where only 29 out of the total 277 listings took place during the investigated bust period.

Nevertheless, the findings in table 19, showing for a tendency of private equity-backed IPOs issued during busts performing better than the ones during booms, are in line with the results experienced by Ritter (1991). He concludes that the performance of IPOs is highly cyclical and varies with the volume and IPO-activity. The “hot issue” market phenomenon expresses the matter in another fashion, initially presented by Ibbotson and Jaffe (1975), and thoroughly explained and tested in Ritter (1980). He argues in his study (1980), that an increase in return for a certain year could perhaps be explained by the risk profile of the IPOs that particular year. Riskier IPOs also tend to be more under-priced than less riskier ones, making this essentially a matter of under-pricing. Even though Ritter (1980) finds no support for the statement proclaimed by Ibbotson and Jaffe (1975), this could very well be an explanatory factor for the positive deviations found in table 19 during bust periods, at least short-term. It is not unlikely to believe that firms need to sell the its stock at relatively low prices in order to entice a market, which during busts, on average is lacking appetite for risk. Or, as Ibbotson (1975, p.264) expresses it when referring to under-pricing, firms need to “leave a good taste in investors’ mouths so that future underwritings from the same issuer could be sold at attractive prices.” Given the state of the market, IPOs during busts could perhaps be seen as riskier investments than IPOs during booms, due to the uncertainty of future performance. This relatively high degree of under-pricing is subsequently corrected by the market, which has a strong, positive effect on stock performance, and could possibly explain the short-run outperformance during bust-years.

However, as the under-pricing is corrected, it may be dubious to justify the long-term outperformance through the “hot issue” phenomenon. Instead, one would have to turn to e.g. Ritter’s study from 1991, mentioned previously in this section, and his theory about “window of opportunity.” The theory states that firms take advantage of the positive attitude amongst investors during peaks in the economic growth and issue their stock at a relatively high price, that is, relatively over-priced, leading to a presumable subsequent drop (Ritter, 1991). It seems logical to believe, that since IPOs are more under-priced during busts according to Ritter (1980), IPOs during booms should at least be not as under-priced. Due to the general positive atmosphere, firms are presumably also not as scrutinized, adding to the problem, with low quality firms entering the public market. This would entail that firms during busts are instead relatively thoroughly investigated and thus of higher quality. High quality firms should be able to perform better than those that are not, even long-term. Aggregating these factors of relative pricing, quality and “window of opportunity”, it is perhaps not surprising to see a tendency for firms, of varying quality, timing their issuance with peaks in IPO activity and economic growth, exploiting the general positive approach to floatings.

7.4 Market-to-book effect

The market-to-book ratio measures the market value of a firm's equity over its book value. Previous studies have been testing for the effect of market-to-book ratio on a firm's performance following a listing. Theory states that the market-to-book value is representative of a firm's return on assets or the valuation of said assets. A firm with a market-to-book ratio below one either have assets that are overvalued by the firm or earning a too low return. If the low valuation pertains to a low return on assets, then a possibility for management to improve it exists. This possibility leaves room for a potential upside, whereas firms with initially high ratios could be deemed as already highly valued, with less upside, and could perhaps explain the findings in previous studies. Simutin (2009) discovered that firms with low book-to-market ratios, performing an IPO, tended to outperform the ones with relatively high ratios. Brav et al. (2000) who stated, conversely, that firms with high market-to-book ratios seem to underperform, concurs on this matter.

However, the results presented in tables 20 to 23 point towards the opposite tendency, where tables 21 and 23 depict a strong pattern of higher long-term returns for firms with higher market-to-book ratios. The outcome of studying this variable is somewhat inconsistent, showing for a positive correlation for some investment horizons and benchmarks and a negative for other. Still, looking foremost at table 21, higher ratios tend to perform better than low ratios with an increasing magnitude. The observations in line with Brav et al. (2000) and Simutin (2009) can be explained by the potential upside in these firms with low market-to-book, whereas the conflicting observations could possibly be related to the characteristics of the studied firms.

The sample firms are, unlike in the two previously mentioned studies, backed by private equity firms, and part of the business idea in the private equity industry, is to implement their superior expertise to the fund portfolio firms. Graph 1 illustrates the value creation process in such a portfolio firm and according to Ratos (2008), almost 90% can be attributed to internal development, i.e. improved margins and revenue growth. The value creation process has in recent years shifted from being capital structure driven to becoming more about improving operating efficiency (Mattson and Mårild, 2006). In a sense, the success or failure of a fund portfolio firm is thusly dependant on the private equity firm's ability to increase the portfolio firm's return on assets. By reasoning, a portfolio firm going through an IPO and initially trading at a relatively low market-to-book ratio is, either relatively low-valued by the market or yielding relatively low return on assets. However, as it is in the best interest of the private equity firm to ensure a high valuation and thus a high return on its investment, the low-valuation explanation seems unreasonable. First day returns, an indicator of under-pricing is, as seen in table 6, a lot lower than for traditional IPOs. It is also unlikely that they have not tried to increase the return on assets during the holding period in every possible way, given a reasonable investment that could earn a reasonable rate of return. Such a firm could then be deemed as earning low return on its assets and thus somewhat of a failure by the private equity firm, since the return on assets should be the driving force behind the value creation in a portfolio firm. A subsequent underperformance is for these reasons not unlikely since the private equity firm, in a sense, has floated a low-quality portfolio firm with which it has presumably failed to achieve what it intended.

7.5 Bookrunner reputation

The bookrunner has the important task of actually selling the firm's stock to the public through road shows and other promotional activities. The reputation of a bookrunner thus plays a vital part of the impression a firm wants to send to its investors. Using a highly reputable bookrunner signals a certain degree of legitimacy and that the bookrunner deems the floating as one of high quality.

Reasoning presented in previous studies, e.g. Carter et al. (1998) and Simutin (2009), contemplate over both short-term and long-term effects of bookrunner reputation. On a short-term basis, IPOs arranged by more reputable bookrunners tend to be less under-priced than the ones that are not. Thus, these IPOs with higher bookrunner reputation experience a lower return initially and on a short-term investment horizon it could surely have a negative effect on the aggregated return. The reduced under-pricing phenomenon could possibly explain the results experienced on a three- and six-month basis as well as with a one-year investment horizon. Tables 26 and 27 display the negative impact of reputable bookrunners on these mentioned horizons. Regardless of which of the two abnormal return-models used, the pattern is quite convincing with negative returns for all of these three horizons, although not significant.

However, long-term, i.e. in my case three-years, the tendency is the opposite and is more in line with previous studies on the matter. Both Wu et al. (2003) as well as Simutin (2009) suggest that there is a strong positive correlation between underwriter reputation and a firm's future stock performance. The study performed by Wu et al actually had an investment horizon of three years and is thus more comparable with the results found on a similar time frame. These results suggest that the under-pricing effect on IPOs arranged by more reputable bookrunners has been eliminated long-term and that these firms, of presumably higher quality, outperform those that have not been sponsored by more reputable bookrunners in the long run. It also says something about the bookrunners and their ability to identify high-quality firms sustainable for the long run. These bookrunners profit from their reputation and should seek the firms of the highest quality to maintain a healthy relationship with their investors. They should also seek these firms since there evidently seems to exist a win-win situation between the two, Hu (2007) states: "high-quality companies and reputable underwriters are very likely to choose each other, because this combination will generate a higher amount of surplus than the high and low (or low and high) matched pairs." The results on a long-term basis imply that, either bookrunners possess this ability to find long-term high-quality firms or that these firms actively choose bookrunners with greater reputation to sponsor their floating.

8 Conclusions

For the purpose of concision, the reader is presented with a summary of the major findings and answers to the questions posed in section one, as well as any suggestions on future research.

8.1 Major findings

This paper has documented that private equity-backed IPOs, on an aggregated European basis, outperform both the market as well as its industry peers. It also seems as if private equity-backed IPOs differ from the general IPO in terms of performance, both short-term and long-term. Private equity-backed IPOs yield a significant positive average CAR and BHAR, on all investment horizons, in contrast to the previous findings on general IPOs that tend to outperform only short-term and instead underperform long-term. However, the results are in line with previous studies on reversed LBOs, e.g. Cao and Lerner (2009) and Mian and Rosenfeld (1993). For an investor, investing in private equity-backed IPOs should result in an abnormal return of 20 cents to the dollar instead of a set of matching firms, and 16 cents more for each invested dollar compared to the market portfolio. These results have been accredited to the characteristics of a private equity firm, described as the parenting advantage, superior capital and corporate governance structure as well as industry specific expertise, among others. The study has also been able to more or less out rule the fact that such an outperformance would be attributable to merely one or two of the industries, even though there appears to be industrial specific differences in performance. Furthermore, private equity-backed IPOs tend to coincide with other IPOs as well as the overall state of the economy. These concurrences seem to have an effect on the post-IPO performance of exited fund portfolio firms, with firms floated during low IPO activity outperforming the ones issued during highs, implying that firms take advantage of the “window of opportunity”. Regarding the relative importance of bookrunners and their reputation, the study suggests that, as for general IPOs, firms with more reputable bookrunners promoting and selling their stock has a positive effect on long-term firm performance. These results imply that there is a positive relationship between long-term firm quality and bookrunner reputation. Regardless if one party seeks out the other or they both seek out each other, reputable bookrunners seem to, on average, signal long-term high-quality firms.

However, the effect of M&A-activity is not clear. There does not appear to be any strong relationship between M&A-activity and firm performance. Still, acquiring more than 1.6 targets a year tends to have an increasingly negative effect on the average abnormal return of the sample firms, as time progresses. This effect is in line with the digestive problem-theory, indicating that a heavy focus towards acquisitions has a negative effect on firm performance. Nevertheless the answers are not significant and somewhat conflicting based on the method used. The effect of a firm’s initial trading market-to-book ratio has been even harder to depict. Depending on the investment horizon and method used, the results have varied. On one hand, a low market-to-book ratio seems to represent a great upside and potential undervaluation, whereas it in some cases tends to indicate a low-quality portfolio firm with which the private equity firm has presumably failed to achieve what it intended.

Achieving statistical significance has proved difficult on a more detailed basis, nevertheless, indications can still be distinguished based on the average results of the sample, as depicted by the previous reasoning. The study attempted to answer the question whether or not fund portfolio firms are of higher quality than the average firm based on the performance of their subsequent floating as well as certain descriptive variables. Through the methods used, this study proves that private equity-backed IPOs in Europe, on average, significantly outperform both the market and its peers, short- and long-term, and thus differ from previous studies on the performance of average IPOs. These results indicate that exited portfolio firms are in fact able to maintain the benefits that come with being under the ownership of a private equity firm in the long run, even after the issuance. The

results also suggest that these firms are of higher quality than the average floated firm. However, the effect of M&A-activity in a firm during the holding period is vague, illustrated by conflicting results in post-IPO performance. Still, the tendency is that acquiring a high number of firms during a short time frame has a negative effect on firm performance, a tendency that increases with time.

8.2 Suggestions on future research

Since the M&A effect on firm performance could not be significantly distinguished, another study on the matter would be desirable. One solution to the small sample problem of M&A-activity could be to include or switch the study to the U.S. market. Extending the time horizon would probably not have any effect, due to the fact that private equity backed IPO activity before 1994, as well as data over mergers and acquisitions from before the year of 2000, is presumably scarce.

It could also be interesting to have another view on M&A-activity, and instead focusing on how many acquisitions or mergers that have been made in close conjunction with the listing. That is, how M&A-activity prior to a listing affects the subsequent post-IPO performance. If the deal value of the M&As somehow could be found at a higher rate, then another take on the issue would be to account for the relative size of the M&A, in order to measure the effect on firm performance as a result of large or small investments. As mentioned, Larsson and Finkelstein (1999) tested this variable in their study on synergy realisations in M&A deals. Larsson and Finkelstein (1999) presented some interesting theories on how the size of the target could have an important effect on potential synergies (Kusewitt 1985, Seth 1990; cited in Larsson and Finkelstein, 1999 p.8) as well as on managerial attention, stating that too small M&As would not receive the attention needed (Diven 1984, Ravenscraft and Scherer 1987; cited in Larsson and Finkelstein, 1999).

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Appendices

Appendix 1. Table of portfolio companies

Sector	Floating Date	Company	Datastream	Mergermarket
Financial	2000-02-25	3i European Technology Trust plc	yes	no
Financial	1994-03-29	3i Group	yes	no
Industrials	1998-06-03	A-Rakennusmies Oyj (Ramirent)	yes	yes
Energy	2006-07-03	Ability Group ASA - AGR	yes	yes
Health care	2007-11-06	Ablynx NV	yes	no
Materials	2006-05-15	Acertec plc	yes	no
Health care	2007-05-22	Addex Pharmaceuticals SA	yes	yes
Financial	2004-09-22	Admiral Group plc	yes	yes
Financial	2006-11-21	AerCap Holdings NV	yes	yes
Health care	2006-02-24	AGI Therapeutics plc	yes	yes
Consumer Discretionary	2002-04-11	Alain Afflelou SA	yes	yes
Industrials	2002-05-17	Alfa Laval AB	yes	no
Telecom Svc	2007-05-16	Alfacam Group	yes	yes
Health care	2007-03-27	Algeta ASA	no	no
Technology	2010-04-27	Amadeus IT Holding SA	yes	no
Materials	2007-07-11	AMG Advanced Metallurgical Group NV	yes	yes
Health care	2007-06-20	AMT - Amsterdam Molecular Therapeutics BV	yes	no
Technology	2004-12-02	Andor Technology Ltd	yes	yes
Industrials	2001-06-22	Andritz AG	yes	no
Technology	2004-12-22	Anker plc	yes	no
Health care	2005-03-08	Ardana plc	yes	no
Health care	2004-03-02	Ark Therapeutics Group plc	yes	no
Technology	2004-12-09	ArmorGroup International Ltd	yes	yes
Health care	2005-05-03	Arpida Ltd	no	no
Financial	2006-10-11	Ashmore Group plc	yes	no
Materials	2004-06-10	ATH Resources plc	yes	no
Technology	2004-05-14	austriamicrosystems AG - AMS	yes	yes
Financial	2004-07-06	Azimut Holding SpA	yes	yes
Consumer Discretionary	2002-06-19	Ballingslov International AB	yes	yes
Technology	2006-06-19	Bankier.pl SA	yes	no
Industrials	2006-07-03	Bauer AG	yes	no
Industrials	1997-11-13	BCH Group plc	yes	no
Materials	2006-11-24	BE Group AB	yes	no
Consumer Discretionary	2006-11-03	BENE AG	yes	no
Consumer Discretionary	2010-10-22	Betfair Group Ltd	no	no
Health care	2000-07-28	Biosearch Italia SpA	yes	no
Health care	2006-09-15	Biovitrum AB	yes	yes
Health care	2007-10-08	Bouty Healthcare SpA	yes	yes
Consumer Discretionary	1996-11-06	Brands Hatch Leisure plc	yes	no
Materials	2010-03-29	Brenntag AG	no	no
Industrials	2006-06-26	Burckhardt Compression AG	yes	yes
Technology	2007-10-22	Bureau Veritas SA	yes	yes
Telecom Svc	2008-06-19	Burkhalter Holding AG	no	no
Industrials	2010-06-02	Byggmax AB	no	no
Consumer Discretionary	2004-05-14	Cantrell & Cochrane Group plc	no	yes
Technology	2005-02-01	Carter & Carter Group plc	yes	yes
Financial	2004-03-31	Catlin Group Ltd	yes	yes
Health care	2007-02-06	Collectis SA	yes	no
Technology	2005-10-26	Celoxica Holdings Ltd	yes	no
Health care	2010-06-03	Chr. Hansen Holding A/S	no	no
Consumer Discretionary	2007-04-26	Cineworld Group plc	yes	no
Technology	2004-02-27	Civica plc	yes	no
Health care	2007-04-02	Clinica Baviera SA	yes	yes

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Technology	2006-06-22	ClinPhone Ltd	yes	no
Industrials	1994-12-07	Clydeport plc	yes	no
Financial	2000-10-23	Collins Stewart Holdings plc	yes	no
Technology	2000-07-14	Condat AG	no	no
Health care	2002-05-08	Corin Group plc	yes	no
Health care	2005-07-13	Corporacion Dermoestetica SA	yes	yes
Financial	1995-11-29	Cox Insurance Holdings plc	yes	no
Technology	2004-02-25	CSR plc	yes	no
Health care	2007-10-09	CVS Group plc	yes	no
Financial	2005-11-21	Davenham Group plc	yes	yes
Consumer Discretionary	2006-05-03	Debenhams	yes	yes
Industrials	2006-06-22	Demag Cranes AG	yes	no
Industrials	2011-02-03	Derby Cycle AG	no	no
Consumer Discretionary	2007-07-25	Devin AD	no	yes
Health care	2007-07-18	DiaSorin SpA	yes	no
Technology	2007-08-09	Digital Avenue SA	yes	no
Technology	2006-05-12	Digital Identification Solutions AG	yes	no
Technology	2004-04-01	Dignity Caring Funerals Services	yes	yes
Consumer Discretionary	2007-05-18	Dixy Group OAO	yes	no
Technology	1997-05-06	DOCdata NV	yes	no
Financial	2010-12-28	Dom Maklerski TMS Brokers SA	no	no
Consumer Discretionary	1999-03-19	Ducati Motor Holding SpA	yes	yes
Consumer Discretionary	2005-12-06	Dufry Travel Retail Ltd	yes	yes
Consumer Discretionary	2007-11-14	Duni AB	yes	yes
Technology	2004-07-14	e2v Technologies plc	yes	yes
Technology	2007-06-21	EAG Ltd - Evans Analytical Group	no	no
Consumer Discretionary	1999-03-30	Edscha AG	yes	no
Technology	2006-04-21	EEMS Italia SpA	yes	yes
Health care	1999-01-28	Effik SA	yes	no
Telecom Svc	2004-03-19	Eircom plc	yes	yes
Energy	2007-03-30	Electromagnetic GeoServices ASA	yes	yes
Technology	2000-03-07	Elior SCA	yes	no
Technology	2010-09-29	Elster Group SE	no	no
Industrials	2005-07-01	Entrepose Contracting SA	yes	no
Health care	2004-07-19	Epigenomics AG	yes	no
Consumer Discretionary	2000-06-28	Euphon SpA	no	no
Health care	2007-05-16	Eurand NV	yes	yes
Industrials	2004-06-24	Eurocastle Investment Ltd	yes	no
Materials	2006-06-05	Eurofilms SA	yes	no
Consumer Discretionary	2005-12-16	Eurofly SpA	no	yes
Telecom Svc	2005-11-30	Eutelsat SA	yes	yes
Health care	2005-11-17	ExonHit Therapeutics	yes	no
Energy	2003-06-18	Faroe Petroleum plc	yes	no
Industrials	2000-06-19	Ferretti SpA	yes	no
Technology	2004-05-24	Findexa AS	yes	yes
Consumer Discretionary	2010-10-21	Fortuna Entertainment Group NV	no	no
Materials	2005-05-09	Foseco plc	yes	no
Industrials	2007-06-27	Fontaine Pajot SA	yes	no
Technology	2006-11-30	Francotyp-Postalia Holding AG	yes	no
Technology	1999-06-17	Future Network plc	no	no
Industrials	2006-10-19	Gagfah SA	yes	no
Consumer Discretionary	2006-03-28	Gant Co AB	yes	yes
Financial	2009-12-11	Gartmore Group Ltd	no	no
Consumer Discretionary	1999-06-21	Geberit AG	yes	no
Technology	2000-12-07	Gemplus International SA	yes	no
Industrials	2006-06-12	General de Alquiler de Maquinaria SA - GAM	yes	yes
Health care	2001-06-19	Generale de Sante SA	yes	no
Health care	2000-10-10	Genmab A/S	yes	no

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Consumer Discretionary	2007-06-08	Gerresheimer Glas AG	yes	yes
Consumer Discretionary	2000-06-15	Gifi SA	yes	no
Industrials	2001-11-20	Ginger SA	yes	no
Technology	2007-07-25	GlobeOp Financial Services SA	yes	no
Consumer Discretionary	2005-11-02	Gondola Holdings plc	yes	no
Telecom Svc	2004-03-29	Grupo Media Capital SGPS SA	yes	yes
Materials	2005-11-18	Guala Closures SpA	yes	yes
Financial	2006-05-08	H&T Group plc	yes	no
Consumer Discretionary	2004-06-03	Halfords Group	yes	yes
Industrials	2004-07-14	Hamworthy plc	yes	no
Materials	2005-11-24	Hargreaves Services plc	yes	yes
Technology	2007-10-19	HMS Industrial Networks AB	yes	yes
Consumer Discretionary	2002-05-08	HMV	yes	no
Technology	2006-10-06	Hogg Robinson plc	yes	yes
Industrials	2007-07-13	Homag Group AG	yes	yes
Health care	2007-12-18	Hybrigenics SA	yes	no
Consumer Discretionary	2005-04-28	IG Group Holdings plc	yes	yes
Telecom Svc	2004-01-29	Iliad SA	yes	no
Telecom Svc	2005-06-17	Inmarsat	yes	yes
Technology	2006-05-19	Inova Holding plc	yes	no
Industrials	2006-06-02	Inspired Gaming Group plc	yes	yes
Health care	2002-02-08	Integrated Dental Holdings plc	yes	no
Health care	2005-02-25	Intercell AG	yes	no
Health care	2006-02-01	Intercytex Group plc	yes	no
Financial	2005-09-28	Interhyp AG	yes	no
Industrials	1996-12-16	Interpump SpA	yes	no
Health care	2002-05-23	Intertek Testing Services plc	yes	no
Telecom Svc	2011-01-27	InterXion Holding NV	no	no
Financial	2002-06-06	Intrum Justitia AB	yes	yes
Health care	2005-12-06	Ipsen SA	yes	yes
Materials	2010-10-13	IRC Ltd	no	no
Technology	2000-07-11	iSOFT Group plc	yes	yes
Technology	1998-06-04	ITNET plc	yes	no
Technology	2006-04-07	IX Europe plc	no	no
Health care	2005-10-31	Jerini AG	yes	no
Consumer Discretionary	2004-10-29	Jessops	yes	yes
Financial	2010-06-16	Jupiter Fund Management plc	no	no
Financial	2006-11-28	Just Retirement Holdings Ltd	yes	no
Telecom Svc	2010-03-19	Kabel Deutschland GmbH	no	no
Consumer Discretionary	2006-02-23	KappAhl AB	yes	no
Materials	2006-06-28	Kloeckner & Co AG	yes	yes
Consumer Discretionary	2005-06-23	Kongsberg Automotive Holding ASA	yes	yes
Financial	2005-12-12	Lancashire Holdings Ltd	yes	no
Consumer Discretionary	2005-07-21	Land of Leather Holdings plc	yes	yes
Technology	2006-04-06	Legrand SA	yes	yes
Technology	2000-07-11	Leica Geosystems Holdings AG	yes	yes
Telecom Svc	2006-10-25	LHS AG	yes	no
Materials	2006-12-01	Lindab AB	yes	yes
Consumer Discretionary	1995-04-07	Lindex AB	yes	no
Consumer Discretionary	1998-05-15	Ludwig Beck am Rathauseck-Textilhaus Feldmeier AG	yes	no
Financial	2007-09-25	Magellan	yes	yes
Technology	2006-04-06	Magix AG	yes	no
Industrials	2005-06-15	Mapeley Ltd	yes	no
Consumer Discretionary	2006-02-10	Marazzi Gruppo Ceramiche SpA	yes	yes
Technology	1997-12-01	Market Link Publishing plc	yes	no
Technology	2001-04-04	Marlborough Stirling plc	yes	no
Consumer Discretionary	2005-06-17	Marr SpA	yes	yes
Technology	2004-08-20	Mediasurface plc	yes	no

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Health care	2010-02-09	Medica France SA	no	no
Health care	2006-06-23	Medicrea International SA	yes	yes
Technology	2007-07-17	Mercor SA	yes	yes
Technology	2000-08-10	Meta4 NV	yes	no
Technology	2006-12-11	Metris International Holding NV	yes	no
Technology	2005-05-12	Micro Focus International plc	yes	yes
Consumer Discretionary	2004-11-30	MicroEmissive Displays Ltd	yes	no
Technology	2000-03-09	Micronic Laser Systems AB	yes	no
Consumer Discretionary	1999-05-31	Mirato SpA	yes	no
Industrials	2004-03-12	Moneybox plc	yes	no
Health care	2009-12-03	Movetis NV	no	no
Consumer Discretionary	2010-06-17	MQ Holding AB	no	no
Technology	1999-09-06	MSH International Service AG	yes	no
Industrials	2005-06-06	MTU Aero Engines Holding AG	yes	yes
Technology	2004-07-09	NCC Group plc	yes	yes
Industrials	2007-05-14	Nederman Holding AB	yes	yes
Materials	2001-11-01	Negri Bossi SpA	yes	no
Industrials	1999-02-23	Neopost SA	yes	no
Telecom Svc	2000-04-06	Netgem SA	yes	no
Telecom Svc	1999-07-28	Netia Holdings SA	yes	no
Telecom Svc	2006-10-24	Neuf Cegetel SA	yes	no
Consumer Discretionary	1998-06-12	New Look Group plc	yes	no
Materials	2008-05-06	New World Resources BV	no	no
Health care	2006-12-08	Newron Pharmaceuticals SpA	yes	no
Technology	1997-10-16	Newsquest plc	yes	no
Industrials	2004-10-21	Nexity SA	yes	yes
Telecom Svc	2005-10-06	NextradioTV	yes	no
Consumer Discretionary	2002-06-18	Nobia AB	yes	no
Industrials	2007-07-16	Norcros (Holdings) Ltd	yes	yes
Health care	2010-07-21	Novagali Pharma SA	no	no
Health care	2000-11-02	Novuspharma SpA	yes	no
Technology	2010-08-05	NXP Semiconductors NV	no	no
Consumer Discretionary	2004-06-24	office2office plc	yes	no
Health care	2006-06-26	OncoMethylome Sciences SA	yes	no
Consumer Discretionary	2006-08-22	One-2-One SA	yes	no
Consumer Discretionary	2005-06-17	Opoczno SA	yes	yes
Technology	2000-10-05	Orbital Software Holdings plc	yes	no
Consumer Discretionary	2004-03-24	Oriflame Cosmetic SA	yes	yes
Consumer Discretionary	2010-04-22	Orior AG	no	no
Telecom Svc	2007-03-13	Outremer Telecom SA	yes	no
Consumer Discretionary	2004-07-07	Oxbow	yes	yes
Telecom Svc	1996-06-19	Pace Micro Technology plc	no	no
Consumer Discretionary	2010-10-05	Pandora A/S	no	no
Financial	2007-07-12	Paris Re Holdings Ltd	yes	no
Consumer Discretionary	2002-05-22	Parkdean Holidays plc	yes	no
Technology	2001-06-29	Parkman Group plc	yes	yes
Telecom Svc	2006-06-27	Parrot SA	yes	no
Consumer Discretionary	2001-03-15	Patientline plc	yes	no
Consumer Discretionary	1999-11-26	Peacock Group plc	yes	no
Consumer Discretionary	2006-12-15	Pegas Nonwovens SA	yes	no
Energy	2005-10-03	Petrofac	yes	no
Energy	2006-11-30	Petroplus Holdings AG	yes	no
Energy	2006-11-06	Petrotec AG	yes	yes
Technology	2007-07-03	Phion AG	no	no
Technology	2004-11-10	Phoenix IT Group plc	yes	no
Health care	2005-11-03	Phoqus Group plc	yes	no
Consumer Discretionary	2001-06-26	PHS Group plc	yes	yes
Consumer Discretionary	2006-07-06	Piaggio & C SpA	yes	yes

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Consumer Discretionary	2004-05-07	Pinewood Shepperton plc	yes	no
Technology	2003-12-02	Pixology plc	yes	no
Materials	2005-04-22	Polymoon AS	yes	no
Health care	2010-10-06	Polmed SA	no	no
Consumer Discretionary	2006-11-10	Poltrona Frau SpA	yes	yes
Consumer Discretionary	2006-04-27	Polytec Holding AG	yes	yes
Consumer Discretionary	2004-07-20	Premier Foods plc	yes	no
Telecom Svc	2005-03-08	Premiere AG (SKY Deutschland)	yes	yes
Technology	2010-03-12	Promethean World plc	no	no
Health care	2007-10-11	Pronova BioPharma ASA	yes	yes
Financial	2002-05-16	Property Fund Management plc	yes	no
Health care	2005-06-10	ProStrakan Group Ltd	yes	no
Materials	2007-04-30	Prysmian Cables & Systems SpA	yes	yes
Consumer Discretionary	2002-05-20	Punch Taverns plc	yes	no
Technology	2004-12-14	Pure Wafer Ltd	yes	no
Energy	2007-06-06	PV Crystalox Solar plc	yes	no
Technology	2005-10-05	Q-Cells AG	yes	no
Consumer Discretionary	2006-02-09	QinetiQ Group plc	yes	yes
Industrials	2005-07-14	Quintana Maritime Ltd	yes	no
Consumer Discretionary	2001-02-01	QXL.com plc	yes	no
Industrials	2004-12-01	Raymarine plc	yes	yes
Health care	2005-08-05	ReNeuron Group plc	yes	no
Industrials	2006-04-04	Renta Corporacion	yes	no
Energy	2005-06-27	Revus Energy AS	yes	no
Technology	2007-04-04	Rexel SA	yes	yes
Consumer Discretionary	2005-07-19	RHM plc	yes	yes
Technology	2000-12-08	RiverSoft plc	yes	no
Technology	2005-09-29	RueDuCommerce SA	yes	no
Technology	2007-08-02	S4E SA	yes	no
Consumer Discretionary	2007-07-25	SAF-Holland SA	yes	yes
Industrials	2007-03-09	Safestore Holdings plc	yes	yes
Health care	2005-12-05	Safilo Group SpA	yes	yes
Technology	2005-06-30	Saft Groupe SA	yes	no
Technology	1998-05-10	SAlA-Burgess Electronics Holding AG	yes	no
Energy	2006-11-30	Salamander Energy plc	yes	no
Technology	2006-03-10	Salcomp Oy	yes	yes
Technology	2004-12-16	Sanderson Group	yes	yes
Technology	1998-06-15	Schaffner Holding AG	yes	no
Consumer Discretionary	2007-06-07	Screen Service Broadcasting Technologies - SSBT	yes	yes
Technology	2006-11-30	SeLogger.com SA	yes	yes
Technology	1997-05-20	Semcon AB	yes	no
Telecom Svc	2007-07-31	Sapura plc	yes	no
Industrials	2007-10-17	SHB AG	no	no
Materials	2007-03-13	Smurfit Kappa Group plc	yes	yes
Industrials	2004-07-09	Societe Marseillaise du Tunnel Prado-Carenage	no	no
Technology	2005-11-02	Software Radio Technology plc	yes	no
Energy	2003-06-05	Sondex plc	yes	yes
Health care	2006-07-07	Southern Cross Healthcare Group plc	yes	yes
Health care	2010-10-22	Stentys SA	no	no
Technology	2005-11-10	SThree plc	yes	no
Consumer Discretionary	1998-05-10	Superdiplo SA	yes	no
Consumer Discretionary	2007-07-12	Superglass Holdings plc	yes	yes
Consumer Discretionary	2006-12-08	Symrise AG	yes	no
Health care	2005-11-07	Synexus Clinical Research Ltd	yes	no
Technology	2005-06-22	System C Healthcare plc	yes	no
Technology	1998-06-25	TDS Informationstechnologie AG	yes	no
Technology	2000-02-23	Techem AG	yes	no
Technology	2007-10-24	TelecityGroup	yes	yes

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Telecom Svc	2005-10-10	Telenet NV	yes	yes
Technology	2005-11-17	Teta SA	yes	no
Consumer Discretionary	2007-06-29	Tognum	yes	yes
Consumer Discretionary	2010-03-24	Tom Tailor AG	no	no
Industrials	2001-03-12	Tornos Holding SA	yes	no
Technology	2007-06-12	Transics International NV	yes	yes
Technology	2005-07-01	Travelplanet.pl SA	no	no
Energy	2000-07-05	Tredi Environnement SA	yes	no
Industrials	2003-11-03	Trevisan SpA	yes	yes
Technology	2007-10-26	u-blox Holding AG	yes	no
Technology	2005-05-19	Ubiquity Software Corp plc	yes	no
Industrials	1996-10-02	Ultra Electronics Holdings plc	yes	no
Consumer Discretionary	2004-05-28	Umbro Holdings Ltd	yes	yes
Industrials	2007-10-19	Uster Technologies AG	yes	yes
Telecom Svc	2007-04-26	Versatel Deutschland Holding GmbH	yes	yes
Technology	2005-06-06	VIA Travel Group ASA	yes	yes
Energy	2007-04-20	Volga Gas plc	yes	yes
Industrials	2007-06-27	VTG AG	yes	no
Consumer Discretionary	2006-11-29	Vueling Airlines SA	yes	yes
Industrials	2007-05-14	Wacker Construction Equipment AG	yes	no
Industrials	2006-10-12	Wavin NV	yes	yes
Energy	2007-04-25	Wellstream Holdings plc	yes	no
Health care	2006-11-09	Wilex AG	yes	no
Consumer Discretionary	2002-06-14	William Hill	yes	no
Financial	2001-06-11	Willis Group Holdings Ltd	yes	no
Technology	2004-05-18	Wincor Nixdorf AG	yes	no
Industrials	1998-05-11	Winkler & Duennebier AG	yes	yes
Materials	2005-06-30	Winterthur Technologie AG	yes	no
Technology	2007-04-25	Xchanging plc	yes	no
Technology	2003-07-10	Yell Group plc	yes	yes
Health care	2004-06-23	Zentiva NV	yes	no
Materials	2005-02-28	Zetkama SA	yes	no
Technology	2006-05-11	Zumtobel AG	yes	yes

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Appendix 3. Year by year BHARs

BOOMBUST									
Observations: 277									
BHAR									
S&P Europe 350									
Year	3-month		6-month		1-year		3-year		
	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	Coeffic.	t-stat	
1994	13,56%	0,751	30,30%	1,025	24,89%	0,599	-29,32%	-0,523	
1995	-11,76%	-0,652	-5,57%	-0,189	-10,00%	-0,240	123,48%	2,202	**
1996	1,33%	0,090	-12,55%	-0,520	-29,88%	-0,881	-26,68%	-0,583	
1997	-13,61%	-1,192	-3,56%	-0,190	10,57%	0,402	-39,54%	-1,115	
1998	15,06%	1,770	18,69%	1,342	4,17%	0,213	-23,00%	-0,870	
1999	-9,00%	-1,058	18,32%	1,315	-9,50%	-0,485	-0,99%	-0,038	
2000	22,34%	3,713	17,17%	1,743	13,96%	1,008	10,57%	0,565	
2001	9,06%	1,177	8,73%	0,693	20,28%	1,144	19,56%	0,818	
2002	12,92%	1,825	9,87%	0,852	18,18%	1,115	59,82%	2,719	***
2003	2,33%	0,205	-3,17%	-0,170	0,47%	0,018	-17,09%	-0,482	
2004	9,92%	2,426	12,50%	1,868	12,00%	1,275	33,73%	2,656	***
2005	11,30%	3,161	14,19%	2,425	6,38%	0,776	40,47%	3,644	***
2006	7,59%	2,264	9,64%	1,756	20,50%	2,656	-1,35%	-0,130	*
2007	1,35%	0,382	-3,04%	-0,524	5,12%	0,628	-0,13%	-0,012	
Industry spec.									
1994	12,29%	0,665	31,51%	1,053	28,46%	0,694	-13,48%	-0,240	
1995	-6,21%	-0,336	-1,51%	-0,050	-9,17%	-0,224	133,92%	2,383	**
1996	3,50%	0,232	-6,68%	-0,273	-15,10%	-0,451	17,98%	0,392	
1997	-6,43%	-0,550	0,37%	0,020	22,62%	0,873	-8,12%	-0,228	
1998	17,33%	1,989	27,91%	1,978	11,96%	0,619	-6,42%	-0,242	
1999	-8,35%	-0,958	18,39%	1,303	-5,87%	-0,304	6,52%	0,246	
2000	28,12%	4,565	27,78%	2,784	30,87%	2,259	27,06%	1,444	**
2001	7,81%	0,990	9,18%	0,719	23,64%	1,353	21,69%	0,905	
2002	15,32%	2,113	12,28%	1,046	22,15%	1,378	66,57%	3,019	***
2003	4,77%	0,408	5,18%	0,274	5,38%	0,208	-5,67%	-0,159	
2004	13,71%	3,276	16,21%	2,392	17,04%	1,836	42,48%	3,338	***
2005	13,01%	3,553	14,50%	2,447	9,08%	1,119	38,79%	3,485	***
2006	9,58%	2,791	11,35%	2,043	20,19%	2,653	-2,91%	-0,278	***
2007	-1,10%	-0,304	-2,91%	-0,495	3,94%	0,490	-5,62%	-0,510	

* p < 0.10; ** p < 0.05; *** p < 0.01

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Appendix 4. Companies in M&A regression

Acquisition Date	Floating Date	Company	Holding period	N.o. acquisitions
2004-09-17	2006-07-03	Ability Group ASA - AGR	1,79	3
2006-08-23	2007-11-06	Ablynx NV	1,21	0
1999-10-01	2004-09-22	Admiral Group plc	4,98	1
2005-07-04	2006-11-21	AerCap Holdings NV	1,38	2
2004-05-11	2006-02-24	AGI Therapeutics plc	1,79	0
2000-05-03	2002-04-11	Alain Afflelou SA	1,94	0
2000-08-11	2002-05-17	Alfa Laval AB	1,76	1
2005-09-06	2007-03-27	Algeta ASA	1,55	0
2006-07-01	2007-06-20	AMT - Amsterdam Molecular Therapeutics BV	0,97	0
1999-12-31	2001-06-22	Andritz AG	1,48	2
2003-11-26	2004-12-09	ArmorGroup International Ltd	1,04	0
2000-06-01	2004-05-14	austriamicrosystems AG - AMS	3,95	0
2002-02-12	2004-07-06	Azimut Holding SpA	2,40	0
1998-06-29	2002-06-19	Ballingslov International AB	3,98	0
2001-06-11	2006-09-15	Biovitrum AB	5,27	2
2002-11-01	2007-10-08	Bouty Healthcare SpA	4,94	0
2002-04-18	2006-06-26	Burckhardt Compression AG	4,19	0
2004-09-06	2007-10-22	Bureau Veritas SA	3,13	7
2001-01-31	2005-02-01	Carter & Carter Group plc	4,01	1
2002-07-04	2004-03-31	Catlin Group Ltd	1,74	0
2005-05-16	2007-04-02	Clinica Baviera SA	1,88	1
2002-05-04	2005-07-13	Corporacion Dermoestetica SA	3,19	1
2000-06-20	2005-11-21	Davenham Group plc	5,42	0
2003-12-04	2006-05-03	Debenhams	2,41	0
2002-02-10	2004-04-01	Dignity Caring Funerals Services	2,14	0
1998-08-31	1999-03-19	Ducati Motor Holding SpA	0,55	0
2004-03-01	2005-12-06	Dufry Travel Retail Ltd	1,77	0
2001-09-27	2007-11-14	Duni AB	6,13	1
2002-07-12	2004-07-14	e2v Technologies plc	2,01	0
1999-05-27	2006-04-21	EEMS Italia SpA	6,91	0
2001-10-01	2004-03-19	Eircom plc	2,47	0
2004-07-06	2007-03-30	Electromagnetic GeoServices ASA	2,73	0
1999-04-15	2007-05-16	Eurand NV	8,09	0
2002-12-13	2005-11-30	Eutelsat SA	2,97	0
2001-09-17	2004-05-24	Findexa AS	2,68	2
2003-07-01	2006-03-28	Gant Co AB	2,74	0
2003-07-11	2006-06-12	General de Alquiler de Maquinaria SA - GAM	2,92	3
2004-11-11	2007-06-08	Gerresheimer Glas AG	2,57	4
1999-09-14	2004-03-29	Grupo Media Capital SGPS SA	4,54	0
2000-11-21	2005-11-18	Guala Closures SpA	4,99	1
2002-07-25	2004-06-03	Halfords Group	1,86	0
2004-05-04	2005-11-24	Hargreaves Services plc	1,56	1
2004-08-16	2007-10-19	HMS Industrial Networks AB	3,18	0
2000-05-10	2006-10-06	Hogg Robinson plc	6,41	5
2006-11-15	2007-07-13	Homag Group AG	0,66	0
2003-07-29	2005-04-28	IG Group Holdings plc	1,75	0

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2003-10-16	2005-06-17	Inmarsat	1,67	0
2001-09-09	2006-06-02	Inspired Gaming Group plc	4,73	0
1998-02-10	2002-06-06	Intrum Justitia AB	4,32	1
2004-02-29	2005-12-06	Ipsen SA	1,77	0
1999-06-16	2000-07-11	iSOFT Group plc	1,07	0
2002-09-15	2004-10-29	Jessops	2,12	0
2004-12-18	2006-06-28	Kloeckner & Co AG	1,53	2
2001-07-06	2005-06-23	Kongsberg Automotive Holding ASA	3,97	2
2004-07-23	2005-07-21	Land of Leather Holdings plc	0,99	0
2002-07-24	2006-04-06	Legrand SA	3,70	5
1998-09-03	2000-07-11	Leica Geosystems Holdings AG	1,85	0
2001-05-14	2006-12-01	Lindab AB	5,55	0
2003-03-27	2007-09-25	Magellan	4,50	0
2004-10-27	2006-02-10	Marazzi Gruppo Ceramiche SpA	1,29	1
2003-04-08	2005-06-17	Marr SpA	2,19	2
2002-09-23	2006-06-23	Medicrea International SA	3,75	0
2006-01-12	2007-07-17	Mercor SA	1,51	0
2001-06-12	2005-05-12	Micro Focus International plc	3,92	0
2003-11-21	2005-06-06	MTU Aero Engines Holding AG	1,54	0
2003-04-16	2004-07-09	NCC Group plc	1,23	0
1999-12-17	2007-05-14	Nederman Holding AB	7,41	0
2000-03-10	2004-10-21	Nexity SA	4,62	0
1999-10-06	2007-07-16	Norcros (Holdings) Ltd	7,78	0
2004-05-07	2005-06-17	Opoczno SA	1,11	0
1999-09-13	2004-03-24	Oriflame Cosmetic SA	4,53	0
2003-12-18	2004-07-07	Oxbow	0,55	0
2000-05-15	2001-06-29	Parkman Group plc	1,12	0
2006-04-13	2006-11-06	Petrotec AG	0,57	0
1999-07-09	2001-06-26	PHS Group plc	1,97	0
2003-09-25	2006-07-06	Piaggio & C SpA	2,78	0
2003-10-15	2006-11-10	Poltrona Frau SpA	3,07	2
2000-08-04	2006-04-27	Polytec Holding AG	5,73	1
2003-02-15	2005-03-08	Premiere AG (Sky Deutschland)	2,06	0
2003-12-23	2007-10-11	Pronova BioPharma ASA	3,80	0
2005-06-01	2007-04-30	Prysmian Cables & Systems SpA	1,91	1
2002-12-15	2006-02-09	QinetiQ Group plc	3,16	6
2001-01-30	2004-12-01	Raymarine plc	3,84	0
2004-12-13	2007-04-04	Rexel SA	2,31	7
2000-07-21	2005-07-19	RHM plc	5,00	0
2005-12-22	2007-07-25	SAF-Holland SA	1,59	1
2003-08-21	2007-03-09	Safestore Holdings plc	3,55	2
2002-12-16	2005-12-05	Safilo Group SpA	2,97	0
1999-10-10	2006-03-10	Salcomp Oy	6,42	0
1999-12-03	2004-12-16	Sanderson Group	5,04	0
2004-07-08	2007-06-07	Screen Service Broadcasting Technologies - SSBT	2,92	0
2005-11-25	2006-11-30	SeLogger.com SA	1,01	0
2002-06-17	2007-03-13	Smurfit Kappa Group plc	4,74	4
2002-10-31	2003-06-05	Sondex plc	0,59	0
2004-09-16	2006-07-07	Southern Cross Healthcare Group plc	1,81	4
2005-08-19	2007-07-12	Superglass Holdings plc	1,90	0

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2005-07-18	2007-10-24	TelecityGroup	2,27	2
2001-02-22	2005-10-10	Telenet NV	4,63	1
2005-12-28	2007-06-29	Tognum	1,50	2
2006-05-18	2007-06-12	Transics International NV	1,07	1
2002-07-30	2003-11-03	Trevisan SpA	1,26	0
1999-04-26	2004-05-28	Umbro Holdings Ltd	5,09	0
2006-11-08	2007-10-19	Uster Technologies AG	0,95	0
2003-06-12	2005-06-06	VIA Travel Group ASA	1,99	1
2005-06-06	2007-06-27	VTG AG	2,06	2
2003-12-19	2007-05-14	Wacker Construction Equipment AG	3,40	1
2005-07-11	2006-10-12	Wavin NV	1,25	1
2003-03-11	2007-04-25	Wellstream Holdings plc	4,13	0
1999-02-20	2002-06-14	William Hill	3,32	0
2001-05-25	2003-07-10	Yell Group plc	2,13	2
2002-12-01	2006-05-11	Zumtobel AG	3,44	0

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Appendix 5. Bookrunners

Company	Bookrunners
3i European Technology Trust plc	Bank of America Merrill Lynch - Bookrunner
3i Group	ING - Bookrunner
A-Rakennusmies Oyj (Ramirent)	BNP Paribas - Bookrunner; JPMorgan - Bookrunner; Morgan Stanley - Bookrunner; Nomura - Bookrunner;
Ability Group ASA - AGR	Pareto AS - Bookrunner; SEB - Bookrunner
Ablynx NV	JPMorgan - Bookrunner; KBC - Bookrunner;
Acertec plc	Collins Stewart - Bookrunner
Addex Pharmaceuticals SA	Nomura - Bookrunner;
Admiral Group plc	Bank of America Merrill Lynch - Bookrunner; Citi - Bookrunner
AerCap Holdings NV	Bank of America Merrill Lynch - Bookrunner;
AGI Therapeutics plc	Davy Stockbrokers - Bookrunner
Alain Afflelou SA	Credit Agricole CIB - Bookrunner
Alfa Laval AB	Credit Suisse - Bookrunner; Nomura - Bookrunner;
Alfacam Group	ING - Bookrunner; KBC - Bookrunner
Algeta ASA	ABC Sundal Collier Holding ASA - Bookrunner; DnB NOR Bank ASA - Bookrunner;
AMG Advanced Metallurgical Group NV	Credit Suisse - Bookrunner;
AMT - Amsterdam Molecular Therapeutics BV	RBS - Bookrunner; Van Lanschot NV - Bookrunner
Andor Technology Ltd	Landsbanki Islands hf - Bookrunner
Andritz AG	Deutsche Bank - Bookrunner;
Anker plc	Collins Stewart - Bookrunner
Ardana plc	Nomura - Bookrunner
Ark Therapeutics Group plc	Credit Suisse - Bookrunner; Morgan Stanley - Bookrunner;
ArmorGroup International Ltd	RBS - Bookrunner Goldman Sachs - Bookrunner;
Ashmore Group plc	UBS - Bookrunner
ATH Resources plc	Seymour Pierce - Bookrunner
austriamicrosystems AG - AMS	Citi - Bookrunner; UBS - Bookrunner;
Azimut Holding SpA	Bank of America Merrill Lynch - Bookrunner; UniCredit - Bookrunner;
Ballingslov International AB	BNP Paribas - Bookrunner; ING - Bookrunner;
Bankier.pl SA	Dom Maklerski IDM SA - Bookrunner
Bauer AG	Deutsche Bank - Bookrunner;
BCH Group plc	HSBC - Bookrunner
BE Group AB	Svenska Handelsbanken AB - Bookrunner;
BENE AG	RBS - Bookrunner; Raiffeisen Bank International AG - Bookrunner
Biosearch Italia SpA	Intesa Sanpaolo - Bookrunner;
Biovitrum AB	Carnegie - Bookrunner;
Bouty Healthcare SpA	Intermonte - Bookrunner
Brands Hatch Leisure plc	Evolution Securities - Bookrunner
Burckhardt Compression AG	Lombard Odier & Cie - Bookrunner;
Bureau Veritas SA	BNP Paribas - Bookrunner;

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Carter & Carter Group plc	RBS - Bookrunner
Catlin Group Ltd	Goldman Sachs - Bookrunner; JPMorgan - Bookrunner; Morgan Stanley - Bookrunner
Collectis SA	SG Corporate & Investment Banking - Bookrunner
Celoxica Holdings Ltd	Arbuthnot Securities Ltd - Bookrunner
Cineworld Group plc	JPMorgan - Bookrunner; Nomura - Bookrunner
Civica plc	Seymour Pierce - Bookrunner
Clinica Baviera SA	Banco Financiero y de Ahorros SA - Bookrunner; Banco Popular Espanol SA - Bookrunner; UBS - Bookrunner;
ClinPhone Ltd	Investec Inc - Bookrunner
Clydeport plc	Allied Provincial Securities Ltd - Bookrunner
Collins Stewart Holdings plc	HSBC - Bookrunner
Corin Group plc	Evolution Securities - Bookrunner
Corporacion Dermoestetica SA	Morgan Stanley - Bookrunner;
Cox Insurance Holdings plc	Numis Securities - Bookrunner
CSR plc	Credit Suisse - Bookrunner;
CVS Group plc	Panmure Gordon/ThinkEquity - Bookrunner
Davenham Group plc	Panmure Gordon/ThinkEquity - Bookrunner
Debenhams	Bank of America Merrill Lynch - Bookrunner;
Demag Cranes AG	Goldman Sachs - Bookrunner; Mediobanca - Bookrunner;
DiaSorin SpA	Mediobanca - Bookrunner; UBS - Bookrunner
Digital Avenue SA	Wroclawski Dom Maklerski SA - Bookrunner
Digital Identification Solutions AG	DZ Bank - Bookrunner
Dignity Caring Funerals Services	Panmure Gordon/ThinkEquity - Bookrunner;
Dixy Group OAO	Deutsche Bank - Bookrunner; JPMorgan - Bookrunner; UBS - Bookrunner
DOCdata NV	Credit Suisse - Bookrunner; Morgan Stanley - Bookrunner; UniCredit - Bookrunner;
Ducati Motor Holding SpA	Credit Suisse - Bookrunner;
Dufry Travel Retail Ltd	Credit Suisse - Bookrunner;
Duni AB	ABC Sundal Collier Holding ASA - Bookrunner; SEB - Bookrunner;
e2v Technologies plc	RBS - Bookrunner
Edscha AG	Bank of America Merrill Lynch - Bookrunner; Citi - Bookrunner;
EEMS Italia SpA	Citi - Bookrunner; Goldman Sachs - Bookrunner;
Effik SA	BNP Paribas - Bookrunner; HSBC - Bookrunner
Eircom plc	Citi - Bookrunner; Davy Stockbrokers - Bookrunner; Deutsche Bank - Bookrunner; Goldman Sachs - Bookrunner
Electromagnetic GeoServices ASA	ABC Sundal Collier Holding ASA - Bookrunner; Goldman Sachs - Bookrunner; Nomura - Bookrunner;
Elior SCA	Credit Agricole CIB - Bookrunner; Lazard - Bookrunner; Morgan Stanley - Bookrunner;

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Entrepose Contracting SA	Natixis - Bookrunner
Epigenomics AG	Morgan Stanley - Bookrunner;
Eurand NV	Barclays Capital - Bookrunner; Deutsche Bank - Bookrunner;
Eurocastle Investment Ltd	Morgan Stanley - Bookrunner;
Eurofilms SA	Millennium Investment Banking - Bookrunner Bank of America Merrill Lynch - Bookrunner; Credit Suisse - Bookrunner;
Eutelsat SA	JPMorgan - Bookrunner
ExonHit Therapeutics	SG Corporate & Investment Banking - Bookrunner
Faroe Petroleum plc	Evolution Securities - Bookrunner
Ferretti SpA	Citi - Bookrunner; UniCredit - Bookrunner;
Findexa AS	Goldman Sachs - Bookrunner; Oppenheimer & Co Inc - Bookrunner;
Foseco plc	UBS - Bookrunner;
Fontaine Pajot SA	Collins Stewart - Bookrunner
Francotyp-Postalia Holding AG	Portzamparc Societe de bourse - Bookrunner
Gagfah SA	Cazenove AG - Bookrunner;
Gant Co AB	Commerzbank Group - Bookrunner;
Geberit AG	SEB - Bookrunner;
Gemplus International SA	Credit Suisse - Bookrunner;
General de Alquiler de Maquinaria SA - GAM	Credit Suisse - Bookrunner;
Generale de Sante SA	Morgan Stanley - Bookrunner;
Genmab A/S	Citi - Bookrunner; RBS - Bookrunner;
Gerresheimer Glas AG	UBS - Bookrunner; Credit Suisse - Bookrunner; Deutsche Bank - Bookrunner;
Gifi SA	JPMorgan - Bookrunner;
Ginger SA	Credit Agricole CIB - Bookrunner
GlobeOp Financial Services SA	Credit Agricole CIB - Bookrunner Bank of America Merrill Lynch - Bookrunner; JPMorgan - Bookrunner;
Gondola Holdings plc	RBS - Bookrunner; Bank of America Merrill Lynch - Bookrunner; Credit Agricole CIB - Bookrunner;
Grupo Media Capital SCPS SA	Lazard - Bookrunner; Banco Espirito Santo - Bookrunner;
Guala Closures SpA	Credit Suisse - Bookrunner;
H&T Group plc	Intesa Sanpaolo - Bookrunner; JPMorgan - Bookrunner;
Halfords Group	Numis Securities - Bookrunner Bank of America Merrill Lynch - Bookrunner; Barclays Capital - Bookrunner;
Hamworthy plc	Goldman Sachs - Bookrunner; Morgan Stanley - Bookrunner;
Hargreaves Services plc	Collins Stewart - Bookrunner
HMS Industrial Networks AB	Brewin Dolphin Ltd - Bookrunner SEB - Bookrunner
HMV	Citi - Bookrunner; UBS - Bookrunner;
Hogg Robinson plc	UBS - Bookrunner;
Homag Group AG	Bank of America Merrill Lynch - Bookrunner;
Hybrigenics SA	Commerzbank Group - Bookrunner; Euroland Finance SA - Bookrunner;
	Oddo & Cie - Bookrunner

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IG Group Holdings plc	UBS - Bookrunner;
Iliad SA	SG Corporate & Investment Banking - Bookrunner;
	Bank of America Merrill Lynch - Bookrunner;
	Intesa Sanpaolo - Bookrunner;
Inmarsat	UniCredit - Bookrunner;
Inova Holding plc	Daniel Stewart & Co plc - Bookrunner
Inspired Gaming Group plc	Evolution Securities - Bookrunner
Integrated Dental Holdings plc	Altium Capital - Bookrunner
	Goldman Sachs - Bookrunner;
Intercell AG	Nomura - Bookrunner;
Intercytex Group plc	Piper Jaffray & Co - Bookrunner
Interhyp AG	Deutsche Bank - Bookrunner
Interpump SpA	Goldman Sachs - Bookrunner;
	Citi - Bookrunner;
Intertek Testing Services plc	Goldman Sachs - Bookrunner
	Carnegie - Bookrunner;
Intrum Justitia AB	Goldman Sachs - Bookrunner
	BNP Paribas - Bookrunner;
	Bank of America Merrill Lynch - Bookrunner;
	Credit Agricole CIB - Bookrunner;
	JPMorgan - Bookrunner;
Ipsen SA	Nomura - Bookrunner;
iSOFT Group plc	RBS - Bookrunner
ITNET plc	RHJ International SA - Bookrunner
Jerini AG	Credit Suisse - Bookrunner;
Jessops	RBS - Bookrunner
	Deutsche Bank - Bookrunner;
	Goldman Sachs - Bookrunner;
Just Retirement Holdings Ltd	UBS - Bookrunner;
	Carnegie - Bookrunner;
KappAhl AB	DnB NOR Bank ASA - Bookrunner
	Deutsche Bank - Bookrunner;
KloECKner & Co AG	Goldman Sachs - Bookrunner;
	Carnegie - Bookrunner;
Kongsberg Automotive Holding ASA	SEB - Bookrunner;
	Bank of America Merrill Lynch - Bookrunner;
	JPMorgan - Bookrunner;
	Morgan Stanley - Bookrunner;
Lancashire Holdings Ltd	Nomura - Bookrunner
Land of Leather Holdings plc	Investec Inc - Bookrunner
	BNP Paribas - Bookrunner;
Legrand SA	Goldman Sachs - Bookrunner;
Leica Geosystems Holdings AG	Credit Suisse - Bookrunner;
	Cazenove AG - Bookrunner;
LHS AG	Deutsche Bank - Bookrunner;
	Morgan Stanley - Bookrunner;
Lindab AB	Santander - Bookrunner;
	Svenska Handelsbanken AB - Bookrunner;
Lindex AB	UBS - Bookrunner;
Ludwig Beck am Rathauseck-Textilhaus Feldmeier AG	Morgan Stanley - Bookrunner;
Magellan	UniCredit - Bookrunner
	Commerzbank Group - Bookrunner;
	Deutsche Bank - Bookrunner;
	Goldman Sachs - Bookrunner;
Magix AG	Morgan Stanley - Bookrunner;
	Bank of America Merrill Lynch - Bookrunner;
Mapeley Ltd	Commerzbank Group - Bookrunner;

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Marazzi Gruppo Ceramiche SpA	Mediobanca - Bookrunner; Morgan Stanley - Bookrunner
Market Link Publishing plc	Landsbanki Islands hf - Bookrunner
Marlborough Stirling plc	UBS - Bookrunner;
Marr SpA	Bank of America Merrill Lynch - Bookrunner; Deutsche Bank - Bookrunner; Goldman Sachs - Bookrunner; Morgan Stanley - Bookrunner;
Mediasurface plc	KBC Peel Hunt - Bookrunner
Mediarea International SA	Bryan Garnier & Co - Bookrunner
Mercor SA	UniCredit - Bookrunner
Meta4 NV	Bank of America Merrill Lynch - Bookrunner;
Metris International Holding NV	KBC - Bookrunner;
Micro Focus International plc	Goldman Sachs - Bookrunner; UBS - Bookrunner;
MicroEmissive Displays Ltd	Brewin Dolphin Ltd - Bookrunner
Micronic Laser Systems AB	Bank of America Merrill Lynch - Bookrunner;
Mirato SpA	Intesa Sanpaolo - Bookrunner
Moneybox plc	Numis Securities - Bookrunner
MSH International Service AG	Deutsche Bank - Bookrunner; UBS - Bookrunner;
MTU Aero Engines Holding AG	Deutsche Bank - Bookrunner; Goldman Sachs - Bookrunner;
NCC Group plc	Commerzbank Group - Bookrunner
Nederman Holding AB	Svenska Handelsbanken AB - Bookrunner
Negri Bossi SpA	Banca Akros - Bookrunner; Credito Emiliano - Bookrunner
Neopost SA	UBS - Bookrunner;
Netgem SA	Bank of America Merrill Lynch - Bookrunner; Citi - Bookrunner; Credit Suisse - Bookrunner; Morgan Stanley - Bookrunner
Netia Holdings SA	Credit Suisse - Bookrunner; Morgan Stanley - Bookrunner;
Neuf Cegetel SA	UBS - Bookrunner;
New Look Group plc	BNP Paribas - Bookrunner;
Newron Pharmaceuticals SpA	JPMorgan - Bookrunner
Newsquest plc	Morgan Stanley - Bookrunner;
Nexity SA	Bank of America Merrill Lynch - Bookrunner; UBS - Bookrunner;
NextradioTV	Credit Agricole CIB - Bookrunner; RBS - Bookrunner;
Nobia AB	BNP Paribas - Bookrunner;
Norcros (Holdings) Ltd	Carnegie - Bookrunner;
Novuspharma SpA	Altium Capital - Bookrunner
office2office plc	Cowen & Co LLC - Bookrunner; Intesa Sanpaolo - Bookrunner;
OncoMethylome Sciences SA	Panmure Gordon/ThinkEquity - Bookrunner
One-2-One SA	ABN AMRO Bank - Bookrunner;
Opoczno SA	ING - Bookrunner;
Orbital Software Holdings plc	Dom Maklerski IDM SA - Bookrunner
Oriflame Cosmetic SA	Credit Suisse - Bookrunner;
Outremer Telecom SA	Evolution Securities - Bookrunner
	Bank of America Merrill Lynch - Bookrunner;
	Natixis - Bookrunner;
	SG Corporate & Investment Banking - Bookrunner

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Oxbow	BGC Partners Inc - Bookrunner; BNP Paribas - Bookrunner;
Paris Re Holdings Ltd	Citi - Bookrunner;
Parkdean Holidays plc	Commerzbank Group - Bookrunner;
Parkman Group plc	Charles Stanley Group plc - Bookrunner
Parrot SA	RBS - Bookrunner
Patientline plc	Goldman Sachs - Bookrunner; JPMorgan - Bookrunner;
Peacock Group plc	UBS - Bookrunner;
Pegas Nonwovens SA	ING - Bookrunner
Petrofac	ING - Bookrunner;
Petroplus Holdings AG	Credit Suisse - Bookrunner; Intesa Sanpaolo - Bookrunner;
Petrotec AG	Mediobanca - Bookrunner;
Phoenix IT Group plc	Credit Suisse - Bookrunner;
Phoqus Group plc	Erste Group Bank AG - Bookrunner
PHS Group plc	Deutsche Bank - Bookrunner;
Piaggio & C SpA	UBS - Bookrunner
Pinewood Shepperton plc	UBS - Bookrunner
Pixology plc	Nomura - Bookrunner
Polimoon AS	Bank of America Merrill Lynch - Bookrunner;
Poltrona Frau SpA	Carnegie - Bookrunner
Polytec Holding AG	Citi - Bookrunner;
Premier Foods plc	Deutsche Bank - Bookrunner;
Premiere AG (Sky Deutschland)	Bank of America Merrill Lynch - Bookrunner;
Pronova BioPharma ASA	UniCredit - Bookrunner;
Property Fund Management plc	Nomura - Bookrunner;
ProStrakan Group Ltd	Bank of America Merrill Lynch - Bookrunner;
Prysmian Cables & Systems SpA	JPMorgan - Bookrunner;
Punch Taverns plc	KBC - Bookrunner;
Pure Wafer Ltd	Nomura - Bookrunner;
PV Crystalox Solar plc	Goldman Sachs - Bookrunner;
Q-Cells AG	Lazard-NATIXIS - Bookrunner
QinetiQ Group plc	Bank of America Merrill Lynch - Bookrunner;
Quintana Maritime Ltd	Carnegie - Bookrunner;
	UBS - Bookrunner;
	HSBC - Bookrunner
	Morgan Stanley - Bookrunner;
	Goldman Sachs - Bookrunner;
	Lazard-NATIXIS - Bookrunner
	Bank of America Merrill Lynch - Bookrunner;
	Carnegie - Bookrunner;
	Numis Securities - Bookrunner
	JPMorgan - Bookrunner;
	Citi - Bookrunner;
	Commerzbank Group - Bookrunner;
	Bank of America Merrill Lynch - Bookrunner;
	Citi - Bookrunner;
	Credit Suisse - Bookrunner;
	Nomura - Bookrunner
	Citi - Bookrunner;
	Morgan Stanley - Bookrunner;

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QXL.com plc	Credit Suisse - Bookrunner;
Raymarine plc	Collins Stewart - Bookrunner
ReNeuron Group plc	Collins Stewart - Bookrunner
Renta Corporacion	Morgan Stanley - Bookrunner; Santander - Bookrunner;
Revus Energy AS	SEB - Bookrunner; Swedbank Markets - Bookrunner
Rexel SA	BNP Paribas - Bookrunner;
RHM plc	Credit Suisse - Bookrunner;
RiverSoft plc	Morgan Stanley - Bookrunner; UBS - Bookrunner; UniCredit - Bookrunner;
RueDuCommerce SA	Lazard-NATIXIS - Bookrunner; Natixis - Bookrunner
S4E SA	Wroclawski Dom Maklerski SA - Bookrunner
SAF-Holland SA	Morgan Stanley - Bookrunner;
Safestore Holdings plc	Bank of America Merrill Lynch - Bookrunner;
Safilo Group SpA	Bank of America Merrill Lynch - Bookrunner; Goldman Sachs - Bookrunner
Saft Groupe SA	Goldman Sachs - Bookrunner;
SAIA-Burgess Electronics Holding AG	UBS - Bookrunner;
Salamander Energy plc	Bank of America Merrill Lynch - Bookrunner; Oriental Securities Ltd - Bookrunner
Salcomp Oy	Danske Bank - Bookrunner
Sanderson Group	Arden Partners plc - Bookrunner
Schaffner Holding AG	Credit Suisse - Bookrunner;
Screen Service Broadcasting Technologies - SSBT	Mediobanca - Bookrunner
SeLogger.com SA	BNP Paribas - Bookrunner; UBS - Bookrunner;
Semcon AB	SEB - Bookrunner
Sepura plc	Citi - Bookrunner; Deutsche Bank - Bookrunner; Intesa Sanpaolo - Bookrunner; Mediobanca - Bookrunner; Nomura - Bookrunner
Smurfit Kappa Group plc	Citi - Bookrunner; Credit Suisse - Bookrunner;
Software Radio Technology plc	Westhouse Securities LLP - Bookrunner
Sondex plc	Collins Stewart - Bookrunner
Southern Cross Healthcare Group plc	Morgan Stanley - Bookrunner; Svenska Handelsbanken AB - Bookrunner;
SThree plc	UBS - Bookrunner;
Superdiplo SA	Morgan Stanley - Bookrunner; Nomura - Bookrunner;
Superglass Holdings plc	Brewin Dolphin Ltd - Bookrunner
Symrise AG	Deutsche Bank - Bookrunner; UBS - Bookrunner;
Synexus Clinical Research Ltd	Brewin Dolphin Ltd - Bookrunner
System C Healthcare plc	Collins Stewart - Bookrunner
TDS Informationstechnologie AG	Commerzbank Group - Bookrunner; JPMorgan - Bookrunner;
Techem AG	Citi - Bookrunner;
TelecityGroup	Citi - Bookrunner; Deutsche Bank - Bookrunner; Goldman Sachs - Bookrunner; Morgan Stanley - Bookrunner;

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Telenet NV	Bank of America Merrill Lynch - Bookrunner; Intesa Sanpaolo - Bookrunner;
Teta SA	Dom Maklerski IDM SA - Bookrunner
Tognum	Deutsche Bank - Bookrunner;
Tornos Holding SA	Credit Suisse - Bookrunner; Deutsche Bank - Bookrunner;
Transics International NV	BNP Paribas - Bookrunner; Deutsche Bank - Bookrunner; Goldman Sachs - Bookrunner; HSBC - Bookrunner; SG Corporate & Investment Banking - Bookrunner;
Tredi Environnement SA	BNP Paribas - Bookrunner; Credit Suisse - Bookrunner; Goldman Sachs - Bookrunner; JPMorgan - Bookrunner;
Trevisan SpA	Credito Emiliano - Bookrunner; Unione di Banche Italiane Scpa - UBI Banca - Bookrunner;
u-blox Holding AG	Credit Suisse - Bookrunner; SEB - Bookrunner;
Ubiquity Software Corp plc	Evolution Securities - Bookrunner
Ultra Electronics Holdings plc	JPMorgan - Bookrunner
Umbro Holdings Ltd	JPMorgan - Bookrunner;
Uster Technologies AG	Credit Suisse - Bookrunner;
Versatel Deutschland Holding GmbH	Credit Suisse - Bookrunner;
VIA Travel Group ASA	DnB NOR Bank ASA - Bookrunner; SEB - Bookrunner
Volga Gas plc	Renaissance Capital - Bookrunner; Goldman Sachs - Bookrunner;
VTG AG	UBS - Bookrunner;
Vueling Airlines SA	Goldman Sachs - Bookrunner; Intesa Sanpaolo - Bookrunner;
Wacker Construction Equipment AG	Deutsche Bank - Bookrunner; Renaissance Capital - Bookrunner;
Wavin NV	Bank of America Merrill Lynch - Bookrunner; Nomura - Bookrunner; RBS - Bookrunner;
Wellstream Holdings plc	Credit Suisse - Bookrunner;
Willex AG	WestLB - Bookrunner;
William Hill	Citi - Bookrunner; Deutsche Bank - Bookrunner;
Willis Group Holdings Ltd	Citi - Bookrunner; Intesa Sanpaolo - Bookrunner
Wincor Nixdorf AG	Deutsche Bank - Bookrunner;
Winkler & Duennebier AG	HSBC - Bookrunner;
Winterthur Technologie AG	Credit Suisse - Bookrunner;
Xchanging plc	Citi - Bookrunner; UBS - Bookrunner;
Yell Group plc	Bank of America Merrill Lynch - Bookrunner; Deutsche Bank - Bookrunner
Zentiva NV	Bank of America Merrill Lynch - Bookrunner; Deutsche Bank - Bookrunner; Goldman Sachs - Bookrunner
Zetskama SA	UniCredit - Bookrunner
Zumtobel AG	Morgan Stanley - Bookrunner; UBS - Bookrunner;