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Operating Improvements in Buyout Firms

A Quick Fix or Sustainable Improvements?

Abstract
This paper seeks to explain the operating performance of buyout firms during a three year period post exit. This matter is analyzed and explained through a quantitative method performed on a unique sample of 31 Swedish buyout firms exited between 1995-2007. Firstly, we analyze the operating performance during the buyout period in order to see if there have been any improvements. Secondly, we analyze the operating performance during a three year period post exit to observe whether these improvements are sustainable after the Private Equity firms have exited the investments. We find that buyout firms on average develop negatively during the post buyout period compared to their respective industries and can thus conclude that the operating improvements during the buyout period are unsustainable.

Tutor: Associate Professor Niclas Hellman
Keywords: Private Equity, Buyout, LBO, Operating Improvements, Value Creation

Table of Contents

List of Terms and Abbreviations

EBIT – Earnings Before Interest and Tax

EBITDA – Earnings Before Interest, Tax, Amortization and Depreciation

EV – Enterprise Value

IPO – Initial Public Offering

LBO – Leveraged Buyout

M&A – Mergers and Acquisitions

NACE - Nomenclature Generale des Activities Economiques dans l'Union Europeenne (European Union standard for industry classification)

NOPLAT – Net Operating Profit Less Adjusted Tax

NOWC – Net Operating Working Capital

PE – Private Equity

ROIC – Return on Invested Capital

SVCA – Swedish Association for Private Equity and Venture Capital

1. Introduction and Background

Private Equity (PE), the practice of buying controlling equity stakes in companies for a short to medium-term holding period, first emerged as an important phenomenon in the United States during the 1980's. Jensen (1989) predicted that PE was a superior organizational form and that it eventually would dominate the corporate landscape. His arguments were based on the basic characteristics of PE companies' investment strategies; concentrated ownership stakes, high incentives for PE professionals and a lean, more efficient organizational structure with minimal overhead costs. In addition, incentivized management, highly levered capital structures and high focused governance in the portfolio companies would drive the success of the industry. (Kaplan and Strömberg, 2009)

Since the 1980's, PE has spread across the world, and Sweden was in 2009 the second largest market for the PE industry in Europe in terms of PE investments to GDP (0.43%) and has had an astonishing growth since early 2000 (EVCA Research Statistics, 2009). During the PE boom 2005-2007, SEK 51 billion was invested in Swedish companies by PE-firms. In the second half of 2008 and 2009, the financial crisis and weakened economic climate largely impacted PE capital invested which declined by 60% from the peak in 2007 to 2009 (SVCA, 2010). In 2010 the industry recovered significantly and the invested capital in Swedish portfolio companies reached its all-time high, thus indicating that the financial turbulence of 2009 was over. According to the Swedish Private Equity and Venture Capital Association (SVCA), the large amount of capital raised between 2006-2008 was an important reason to the strong recovery in 2010. Moreover, 77% of Swedish PE companies believed that it will be easier to raise capital in 2011 compared to 2010 (SVCA, 2010). At the time of writing and in line with the strong outlook, EQT and Nordic Capital, two major Swedish private equity firms, are planning to raise SEK 80 billion in new funds, thus indicating that PE will continue to be an important ownership form in the future (Dagens Industri, 2011).

In line with the increased importance of the PE industry in Sweden, the ownership form has received much media attention and has become subject of many debates concerning their real operational impact on the portfolio companies. Critics accuse PE companies for buying businesses considered unattractive and restructuring them to generate large profits by laying off employees, divesting subsidiaries, selling property and funding the transactions with a dangerous

amount of debt (Kaletsky, 2007; The Economist, 2007). On the other hand, PE groups advocate that the criticism is unjustified and that PE firms contribute a lot more than merely through funding. Dr. Holger Frommann, Managing Director of German Venture Capital Association, argues that PE owned companies (hereafter referred to as buyout companies) have proven to grow faster, invest more, and create more jobs on average by supporting the companies with hands-on management expertise, advice and access to various networks (European Business Forum, 2007). In addition, several academic articles and consulting reports have shown that PE owned companies outperform the industry-average, based on key measures such as risk-adjusted internal rate of return (IRR) as well as operational key measures such as ROIC%[1] and EBITDA margin[2] (see for example Bergström et al. (2007), Acharya et al. (2009), and Guo et al. (2011)). Whether the improvements made by a PE company represent long-term improvements or not, is however not as clear.

> *"PE is no panacea, despite what some have claimed. It is likely to be a short-term fix, rather than a long-term solution. Whether a company succeeds over the long-term depends less on its ownership and more on its culture, management and openness to change." – Ray Maxwell* [3] (Barber, 2007)

From a societal perspective it is essential to recognize the importance of long-term performance. While PE firms generally exit their investments after three to five years (Schmidt et al., 2010), employees and external stakeholders are affected by the company's long-term performance. Therefore, it is important to extend the focus from improvements in operating performance during the holding period to also consider the period post exit.

PE returns are measured as the IRR on the invested equity capital, taking into account the time profile of investments and distributions net of carried interest and management fees (Ljungqvist and Richardson, 2003). According to a study made by Liechtenstein et al. (2008), PE returns are determined by operational improvement, market timing ability and leverage. However, changing the capital structure by adding leverage does not alternate the value of the firm other than through reduced taxes (Miller and Modigliani, 1958). Hence, from a societal perspective,

[1] Return on Invested Capital = EBIT*(1 - tax rate)/(fixed assets + non-cash current assets - short term payables)
[2] Earnings before interest, tax, depreciation, and amortization
[3] Ray Maxwell is the former Chairman of Privity, which provides strategic advice to Private Equity groups.

leverage cannot be interpreted as a true value creator, but rather as a way of redistributing value. Similarly, the market timing ability depends on the value redistribution between investments with different market momentum. Therefore, in line with Bergström et al. (2007), we argue that operational improvements are the true sources of value creation.

Thus, this thesis aims to investigate whether the operating improvements in buyouts are sustainable post exit of the PE-firm. Shedding further light on this area is of general interest as the relative importance of operating improvements has increased and is estimated to account for more than 50% of the PE returns in the 2010's (Liechtenstein et al., 2008).

Based on an extensive academic screening process (described in section 4.2.4), we can conclude that there are no academic studies on the Swedish market that study the operating performance post-exit. Our study is thus the first of its kind, and is made possible since all Swedish limited companies under Swedish law are obligated to submit their annual reports to the Swedish Companies Registration Office. As these are official documents, we are able to assemble a unique sample of buyout companies with detailed accounts. Whereas prior studies of post exit performance, due to limited data availability, only have covered US buyouts exited through IPOs, the availability of annual reports enables us to study all Swedish buyouts independent of exit type. This should be of general interest as only 14% of buyouts are exited through IPOs, and can thus not be assumed to give a comprehensive representation of the entire buyout industry. (Kaplan and Strömberg, 2009)

1.2 Delimitations and Formulation of Thesis Question

In order to investigate the sustainability of PE firms' operating impact on their portfolio companies, we formulate the following question:

"Are improvements in operating performance in Swedish Private Equity owned firms sustainable post-exit?

In order to adequately answer the above stated question, we make the following assumptions and delimitations:

(i) A PE transaction is defined as an acquisition of a controlling stake in the holding company made by a specialized investment vehicle, backed by a PE fund, that uses a relatively small portion of equity and a relatively large amount of debt (Sahlman, 1990).

(ii) We make no distinction between different PE firms but define them as a homogenous group to analyze the differences in performance between PE owned firms and other forms of ownership.

(iii) With respect to ii), and because we seek to examine the general post-exit performance differences between the buyout companies and other companies, we eliminate secondary buyouts (i.e. buyouts sold to other PE companies) from our analysis.

(iv) Because there is a large difference in the characteristics between venture capital investments[4] and buyouts, we exclude the former category by focusing on large and mature investments.

(v) Although revenue growth is depicted as an important source of value creation (Liechtenstein et al., 2008), we have disregarded this element as it is often achieved inorganically through bolt-on acquisitions. In addition, Bergström et al. (2007) found no significant improvement in growth in a recent study on the Swedish market.

This paper proceeds as follows: A theoretical framework is outlined in section 2 based on which we formulate hypotheses presented in section 3. The methodology and data collection process is described in section 4 and the results and analysis are presented in section 5. Finally, conclusions are drawn in section 6.

[4] Venture capital is defined as the investment of long-term, unquoted, risk equity finance in new firms where the primary reward is an eventual capital gain, complemented by dividend yield (Wright and Robbie, 1998)

2. Theory

In this section, we first give a brief introduction to the PE industry and a description of the general PE characteristics. We then proceed to further describe operating performance in PE owned companies during and after the buyout period.

2.1 Introduction to Private Equity

In a leveraged buyout (LBO), a company is acquired by a group of financiers (i.e. PE firm) using a relatively small portion of equity and a relatively large portion of external debt (Sahlman, 1990). The PE firms raise equity capital through a PE fund which is structured as limited partnership. PE professionals (termed "general partners")[5] manages the fund to which investors have committed capital (termed "limited partners"). Limited partners normally include institutional investors such as pension funds, insurance companies, endowments, and wealthy individuals. The lifetime of a PE fund is generally fixed to about ten years, during which a number of portfolio companies are bought, developed and sold. For the individual buyout, the average duration is three to five years (Kaplan and Strömberg, 2009; Schmidt et al., 2010).

Berg and Gottschalg (2003) divide the leveraged buyout into three phases; 1) The acquisition, 2) the holding period, and 3) the divestment. All phases and their determinants are crucial to the success of an investment. The valuation of the company is one of the single most important value determinants during the acquisition phase. A business plan is developed which serves as a framework to implement strategic, organizational and operational changes to achieve intended operational improvements during the holding period. An acquisition strategy is often included in the business plan for the portfolio company to grow through bolt-on acquisitions and extract synergies to create favorable cost positions and growth platforms (Loos, 2005). It is also common that PE firms divest non-core areas of the business to enhance focus on the core areas and hence increase corporate efficiency (Wiersema and Liebeskind, 1995). Finally, the divestment phase is a critical part of the buyout as it is the ultimate determinant of the investor returns on the transaction (Berg and Gottschalg, 2003).

[5] We hereafter use the expressions PE firm and general partner interchangeably

2.2 Operational Improvements

Operating earnings play a central part in the PE industry as the valuation of the buyout firms is usually expressed as a ratio of enterprise value to EBIT or EBITDA. Hence, if the PE firm manages to improve the operating profitability, the company will be sold at a higher value and consequently generate a higher return to the shareholders. Thus, operational improvements are central to the value creation of buyouts (Acharya et al., 2010; Guo et al., 2011). Furthermore, Bergström et al. (2007) argues that operating performance is the only true element of value creation.

Most studies that compare operating improvements in buyouts have documented enhanced productivity and improved profitability during the holding period (see for example Kaplan, 1989; Muscarella and Vetsuypens, 1990; Bergström et al., 2007). The results of international empirical studies are summarized by Cumming et al. (2007) who conclude that there is an academic consensus that buyouts operationally outperform other companies. A deviation from the seemingly uniform results is apparent in a study by Guo et al. (2011) on the US public-to-private market from 1990-2006 who documented only modest increases in the operating and cash flow margins. Similar results were found by Weir et al. (2007) in the UK over roughly the same period. (Kaplan and Strömberg, 2009)

2.2.1 Capital Structure, Governance and Operational Engineering

Agency theory has been the dominant framework to explain buyout companies' superior operating performance. The underlying arguments of the theory are related to reducing conflicts of interest and information asymmetry between the principal (owners) and the agent (management). The resulting *agency costs* arise due to the conflicts of interest and the monitoring activities conducted by the principal. So called *agency* in companies arises when there is a division between owners and management, as owners are primarily interested in cash distribution from the companies, whereas managers tend to be more interested in increasing the resources under their control (Jensen, 1986).

According to Kaplan and Strömberg (2009), the operational focus of PE firms can be divided into capital structure, governance and operational engineering. The benefits of changing the capital structure and improving governance are primarily related to the reduction of agency costs,

whereas operational engineering that stems from adding new expertise to the companies enables portfolio companies to hone their business model and thereby improve operating performance.

Capital Structure

Other than the financial benefit generated from the tax deductibility of higher interest costs, high levels of leverage also serve to incentivize management to increase cash generation and thereby reduce agency costs. Since a large part of the free cash flows is needed to re-pay debt, management discretion is reduced and less cash flow can be wasted on unprofitable projects (Jensen, 1986; Berg and Gottschalg, 2003). However, the high leverage also has a potential downside as the required payments lead to inflexibility which raises the risk of financial distress (Kaplan and Strömberg, 2009).

Governance

The management team is normally given a significant equity stake in the buyout company in order to create performance incentives and align the interests of the owners and management (Berg and Gottschalg, 2003; Kaplan and Strömberg, 2009; Leslie and Oyer, 2009). By incentivizing management, agency costs that exist due to discrepancy between the goals of the owners and the personal goals of the management team can be reduced. Moreover, since the buyout company is private and hence the management ownership illiquid, any incentives to manipulate short-term performance are eliminated which further aligns the interests with the more long-term perspective of the owner. (Kaplan and Strömberg, 2009)

Through concentrated ownership PE firms control the boards of their portfolio companies. Boards in PE owned companies tend to be smaller and meet more frequently compared to the boards of public companies which, according to a study by Yermack (1986, cited in Kaplan and Strömberg, 2009), indicates that they are more efficient (Gertner and Kaplan, 1996; Cornelli and Karakas, 2008; Kaplan and Strömberg, 2009). This enables the PE firms to closely monitor the operations and adjust targets, incentives and the business strategy (Easterwood et al., 1989).

Operational Engineering

Operational engineering refers to adding industry and operating expertise to the portfolio company and is achieved by attracting PE professionals with industry experience and organizing the PE firm around a certain industry. The industry specific knowledge is important to identify

attractive targets, as well as developing and implementing a value creation plan for the buyout firm (Acharya et al., 2010; Kaplan and Strömberg, 2009; Matthews et al., 2009).

2.3 Performance Post Exit

Whereas many studies have been conducted on the operating performance of buyout companies during the buyout period, the performance post exit has not been explored to the same extent. As previously mentioned, the few studies available are based around reversed LBOs[6] in the US, as the required data becomes available first when the companies become public (i.e. after an IPO exit). Degeorge and Zeckhauser (1993) found that profitability in reversed LBOs in the US decreased compared to peers already the first year post exit. The observed differences in profitability were explained by information asymmetry, i.e. the sellers have access to internal information so that they can time the exit to the point when performance is at its peak level, and by the inflation of earnings by managers just prior to the IPO. However, this conclusion is not consistent with those of Holthausen and Larcker (1996), who found that the improvement in operating performance is more or less consistent the first four years post exit. Bruton et al. (2002) also studied reversed LBOs and evaluated the full buyout cycle using agency theory as theoretical base. The empirical results were in line with those of Holthausen and Larcker (1996), but a significant decrease in profitability during the third year post exit was found.

According to agency theory, the increase in leverage and management ownership during the buyout has a large positive impact on operating performance (Phan and Hill, 1995). The same argument could be used to explain why the performance ought to decline post exit, as the level of leverage and management ownership is reduced significantly post exit (Muscarella and Vetsuypens, 1990; Holthausen and Larcker, 1996). However, Holthausen and Larcker (1996) found that even though leverage and management ownership is reduced, it still remains high relative to other public companies. Thus, the organization becomes a type of hybrid that retains some characteristics from the buyout period. According to Holthausen and Larcker (1996) and Bruton et al (2002), these characteristics fade away gradually over a three to four year period.

[6] Buyouts that have been exited through IPOs to the public market

2.3.1 Different Types of Exit

There are three main exit routes from a buyout; IPO, write-off, and sales. Sales are further divided into the subgroups trade sales, secondary sales, and buybacks. A trade sale occurs when the company is sold to a strategic buyer, a secondary sale is the process of selling the company to another PE firm, and a buyback takes place when the old owner or management repurchases the company. (Schmidt et al., 2010) Previous empirical studies on performance post exit have exclusively studied reverse LBOs and typically relied on the agency perspective to explain differences in operating performance. As our study includes a range of buyouts exited via IPOs, trade sales as well as buybacks, it is imperative to highlight the heterogeneity of these. Hence, the following subsections describe the differences between buyout companies and other ownership forms contained in our sample for post exit data, and how differences in operating performance can be explained.

Public Companies (IPOs)

Many features of the organizational structure of public companies are related to potential agency costs, for example the separation between owners and management, low management incentives, and low levels of leverage (DeAngelo, 1987; Leslie and Oyer, 2009). Apart from these features, there are other costs associated with public companies, for example the dissemination of information about the company's past performance and prospects, and the costs of accounting and legal fees necessary to satisfy reporting standards. In addition, it is possible for buyout companies to be more discrete regarding their competitive position because information that may be sensitive does not have to be disclosed. (DeAngelo, 1987)

For companies with strong cash flows that are exited through an IPO, there is a risk that management makes investments in order to increase firm size without respect to the owners' interests. This can lead to a focus on growth rather than profitability, which may distort shareholder value if assets grow faster than profitability. (Phan and Hill, 1995)

Divisional Firms (Strategic Buyers)

Agency problems are often significant in divisions of large corporations due to a bureaucratic corporate structure. Lack of appropriate incentives and entrepreneurial opportunities stifled by parental control structures are common phenomena in this type of entity. In addition, divisional firms might not possess the required resources and capabilities to exploit growth opportunities

and enhance profitability (Meuleman et al., 2009). Finally, divisions often bear a proportion of central overhead and monitoring costs. If these costs exceed the overhead costs of a stand-alone firm, there are additional opportunities of improvements under PE ownership. (Goossens et al., 2008)

Family- and Management-owned Firms (Buybacks)

In a family or management-owned company, there is normally no separation of ownership and control, and therefore few or no opportunities for improvements from improved governance (Chrisman et al., 2004). However, management-owned firms may be unable to exploit growth opportunities because they lack required resources and capabilities which can be provided by a PE firm. It is also possible that limited growth opportunities are available to management-owned companies as they are more risk-averse in an effort to preserve the personal wealth created in the company (Meuleman et al., 2009). The strategic entrepreneurship perspective recognizes that access to resources and management capabilities may be important in generating performance and creating value (Ireland et al., 2003).

2.4 Implications on Components of Operating Performance

Berg and Gottschalg (2003) identify three main focus areas for general partners that contribute to superior returns. These include measures that increase operating performance such as cost-cutting and margin improvements, reduction of capital requirements and the removal of managerial inefficiencies. As a result, we below present theories affecting profitability, working capital and employee efficiency.

2.4.1 Profitability

Most activities employed by general partners, as described in the above sections, serve to increase profitability in the portfolio companies. The increase in management ownership and higher pressure from debt, along with monitoring activities from the board, lead to an alignment of interests between management and owners which has a positive impact on profitability and efficiency. This argument is consistent with agency theory as described above.

As managers' ownership stakes decrease, agency should return as competing agent goals and inefficiencies return, making managers less motivated to control costs. Although stricter cost

control can be put in place by the new owners, this will lead to increased costs for monitoring the agents, resulting in decreased profitability post exit. (Bruton et al., 2002)

2.4.2 Working Capital Management

An important focus area for general partners is to reduce working capital by tightening inventory control and improving the management of accounts receivables and accounts payable (Singh, 1990). Smith (1989) found an increase in cash flow per employee in buyout companies which was attributed to increases in operating profit as well as better working capital management. The average collection of receivables had improved as well as the average inventory during the holding period. However, no notable improvement could be shown in the management of payables. The findings on more efficient working capital during the holding period are also supported by Easterwood et al. (1989), Singh (1990) and Holthausen and Larcker (1996).

Since managers, according to Phan and Hill (1995), tend to be more interested in growth than firm efficiency, working capital can be assumed to increase as agency returns post exit. Holthausen and Larcker (1996) found empirical evidence among reverse levered buyouts in the US that the levels of working capital increased relative to industry peers after going public.

2.4.3 Employee Efficiency

As general partners aim to align the interest of management and the employee force with the interest of the owners, agency costs are expected to be reduced and employee productivity to increase. General partners often apply performance based compensation to management and non-managerial employees as pointed out by Bruining et al. (2005) and Bacon et al. (2004) (cited by Lutz and Achleitner, 2009). These commitment-orientated employment policies could be seen as a shift toward an entrepreneurial corporate culture which enhances motivation among employees and thereby increases productivity. (Lutz and Achleitner, 2009) In an empirical study by Muscarella and Vetsuypens (1990), sales per employee was found to increase after a company had been acquired by a PE firm.

3. Hypothesis development

In this section, we present the hypotheses that will be used to test changes in operating performance during and after the buyout period.

Even though improvements in operating performance as a result of PE firms' engagement in businesses are evident in a number of academic studies, it is essential to verify whether these changes in performance are apparent for each new sample studied (Bruton et al., 2002). As a result, the first part of our hypotheses aim to verify whether our sample companies show the same improvements in operating performance that have been observed in previous studies, and the remaining part of the hypotheses examine whether the observed improvements are sustainable three years post exit.

3.1 Profitability

According to the research presented in section 2, there are several factors that should affect profitability in buyout companies. The measures of improving profitability and capital efficiency are covered by the ROIC measurement which is complemented by the EBITDA/sales metric. To verify the general view of improved operating performance among buyout companies (see for example Acharya et al., 2010 and Bergström et al., 2007), we make the following hypotheses:

H1: ROIC has increased relative to the peer group during the holding period

H2: The EBITDA margin has increased relative to the peer group during the holding period

As the PE firm exits the investment, many of the mechanisms that are thought to cause the operating improvements during the holding period, such as the incentives driven from performance based compensation and high levels of leverage, as well as the industry expertise and valuable strategic advice from general partners, are no longer present. The absence of these characteristics reintroduces agency costs, particularly among exits via IPOs and exits to strategic buyers, while buybacks might suffer from the loss of financial strength and industrial expertise needed to maintain profitability. Thus, we formulate hypothesis three and four:

H3: ROIC has decreased relative to peers during the three years post exit

H4: The EBITDA margin has decreased relative to peers during the three years post exit

3.2 Working Capital Management

While profitability is an important element of general partners' practices, they also put large emphasis on other methods to improve the management of working capital and thereby increase operating cash flow. Tightened controls of inventories, accounts receivable, and accounts payable are assumed to lead to a favorable development of net operating working capital (NOWC) as a ratio to sales relative to industry peers. To verify that these improvements are present, in line with academic research such as Easterwood et al. (1989), Singh (1990) and Holthausen and Larcker (1996), we make the following hypothesis:

H5: NOWC / Sales has decreased relative to the peer group during the holding period

It is unclear whether the working capital controls remain in place when the PE firm has exited the investment. Important characteristics that contribute to efficient management of working capital, such as management ownership, high leverage levels and monitoring activities, are likely to be significantly reduced. Therefore, we expect to see a negative development (increase) of the level of NOWC three years post exit relative to peers as formulated in hypothesis 6:

H6: NOWC / Sales has increased relative to the peer group during the first three years post exit

In order to obtain a deeper understanding of how NOWC has changed, we study the most important individual components of NOWC; inventories, accounts receivable and accounts payable (Brealey and Myers, 2003, p 130), for which change will be tested through hypotheses 7-12:

H7: Inventories / Sales has decreased relative to the peer group during the holding period

H8: Accounts receivable / Sales has decreased relative to the peer group during the holding period

H9: Accounts payable / Sales has increased relative to the peer group during the holding period

H10: Inventories / Sales has increased relative to the peer group during the three years post exit

H11: Accounts receivable / Sales has increased relative to the peer group during the three years post exit

H12: Accounts payable / Sales has decreased relative to the peer group during the three years post exit

3.3 Employee efficiency

As goals between owners, management and employees, according to agency theory, are more aligned during the buyout period and a more entrepreneurial corporate culture assumed to enhance motivation is introduced, we expect to find higher productivity measured as sales per employee, in line with the findings of Muscarella and Vetsuypens (1990).

H13: Sales per employee has increased relative to the peer group during the holding period

Should there be an increase in sales per employee during the holding period, we examine whether this increase is sustainable post exit, which is investigated through hypothesis 14:

H14: Sales per employee has decreased relative to the peer group during the three years post exit

4. Methodology

In this section we will first describe the selected accounting metrics in order to measure operating performance. Secondly, we describe the collection process of data and academic references and finally the statistical methods used to perform the hypothesis tests.

4.1 Accounting Measures

4.1.1 Profitability

To measure profitability, we use Return on Invested Capital (ROIC) and Earnings Before Interest, Depreciation and Amortization (EBITDA) as a percentage of sales. Since interest costs are excluded, both EBIT and EBITDA are independent of the capital structure and therefore preferred to using net income. Hence, differences in capital structure should not introduce bias in the analysis.

ROIC definition[7]: $ROIC = \frac{NOPLAT}{FA+CA-STP}$ $EBITDA\ margin = \frac{EBITDA}{Sales}$

ROIC gives a natural cross industry comparison as it places operating profitability in relation to the capital base and thus takes capital efficiency into account (Bergström et al., 2007). ROIC uses the book values for invested capital, rather than market values which is preferable when measuring the return on capital invested in existing assets (Damodaran, 2007). However, a problem with ROIC is that the capital base for some companies is so small that the measure becomes too volatile and thus no longer very relevant (see section 4.4 for more information on how we dealt with these issues). Consequently, we use the EBITDA margin to complement the ROIC-analysis. We argue that EBITDA is a good complementing metric as it excludes depreciation and amortization which otherwise is affected by the use of different accounting standards (e.g. buying and depreciating equipment or leasing).

To further improve comparability we have adjusted ROIC and EBITDA for one-off items that are not associated with the core operations of the business. These include items such as capital gains/losses on sale of property or companies, restructuring costs, amortization of goodwill, and currency gains/losses. (Damodaran, 2007)

[7] NOPLAT is defined as EBIT*(1-tax), where tax is the marginal tax rate in Sweden during the period (28%), FA is Fixed Assets, CA is Non-Cash Current Assets and STP is Short term payables

4.1.2 Working Capital Management

We use net operating working capital (NOWC), defined as current assets excluding cash & cash equivalents minus current non-interest bearing liabilities. Efficient use of NOWC is important to reduce capital requirements and free cash which can be reinvested or paid out to the investors. Cash and cash equivalents[8] are excluded from the definition of NOWC as they represent the firm's stock of excess liquidity (Benninga and Sarig, 1997). Interest bearing liabilities are not included in the definition as they relate to the capital structure decisions rather than the operations of the business. In line with Baker and Wruck (1989), we express NOWC and its main components; inventories, accounts receivable and accounts payable (Brealey and Myers, 2003), as a percentage of sales. Expressing all working capital components as a ratio to sales make them comparable to each other.

4.1.3 Employee efficiency

We use sales as a ratio to the average number of employees to examine the changes in employee efficiency. The average number employees is advantageous to using the year end number, as it better reflects the work force utilized to generate the revenue during the year.

4.2 Data Collection

4.2.1 Selecting the Buyout Sample

Data on all Swedish buyouts exited until 2007 (to be able to study performance three years post exit) was gathered through the database *Mergermarket* which covers global mergers and acquisitions. We applied search criteria for "Private Equity-related deals" and "Sweden" and obtained a list of 227 exited PE investments. The raw dataset was complemented with manual searches on the websites of all PE firms connected to SVCA (see appendix C).

The dataset was narrowed down by applying six search criteria to ensure a unified classification suitable for the purpose of our study:

1. Only Swedish companies
2. Minimum turnover of 100 MSEK at entry[9]
3. Minimum holding period of two years[10]

[8] Cash equivalents include liquid assets such as marketable securities
[9] To avoid selecting venture capital investments

4. At least 50% ownership stake during the full investment period[11]
5. Only transactions where the PE exit was not made to another PE firm
6. Consolidated data available during the holding period and three years post-exit[12]

The first criterion was applied at the initial screening from Mergermarket. We also made individual searches in Mergermarket, complemented with news searches in *Factiva*, a news database, and information from the PE firms' websites, to receive information about the holding period, ownership stakes and the type of exit. Finally, to ensure that the turnover was at least SEK 100 million at the entry point and that consolidated accounts were available from the entry point to three years post exit, we manually went through the buyout-companies' annual reports gathered from *Affärsdata*, a database containing financial data on all Swedish limited corporations, the Swedish Companies Registration Office and company websites.

The first screening from Mergermarket generated 227 exited PE deals in Sweden which was complemented with additional 35 transactions from PE companies' websites. From a sample of 262 transactions, 129 were eliminated due to criteria 2), 3) and 4). 44 transactions were eliminated after applying criterion 5). Finally, the sample was reduced by another 58 transactions when adding criteria 6).

When a buyout company is acquired by another firm, such as an strategic buyer, it often ceases to publish consolidated accounts. Instead, the new parent company will publish consolidated accounts, which may incorporate several other operating subsidiaries and thus distort comparability over the period. However, 16 out of 58 companies owned by strategic buyers post-exit did publish consolidated accounts for the sub-group and are therefore included in the analysis. The final sample of 31 companies further consisted of 13 IPO-exits, 6 exits to management. Our screening process and sample size is consistent with Phan and Hill (1995) and Bruton et al. (2002) whose samples dropped from 214 to 33 and from 103 to 39, respectively. The final sample can be found in appendix A.

[10] To ensure that a difference between exit and entry could be measured
[11] To assure that the PE firms held controllable ownership during the holding period
[12] For one of the companies, Scandinavian Photo, no consolidated numbers were available for the entry year. However, the organization consisted of only one entity and therefore no subsidiaries to consolidate.

4.2.2 Assigning Peer Groups

In line with previous empirical studies, we assigned a peer group using an official industry classification (see for example Kaplan, 1989 and Bergström et al., 2007). We used the NACE rev. 2 code which is a statistical classification tailored for the European industry structure. Each buyout company was assigned a peer group according to the following criteria:

1. Only Swedish peers.
2. Turnover of 20% - 500% of the buyout company at the exit year. However, the turnover should be at least SEK 100 million during the exit year.
3. Consolidated data available during the holding period and three years post-exit.
4. The NACE code should be the same as the buyout company's.
5. A minimum of five companies in each peer group in order to avoid firm-specific volatility.
6. The peer companies should not be PE owned.

When assigning the peer groups we searched through the *Orbis Neo* database, a global database containing public and private company information, using the first four criteria. We started on the four digit level of the NACE codes, which provides the narrowest industry classification. However, in order to create sufficiently large peer groups we needed to stretch the above criteria to a certain extent. We first adjusted the turnover limits upwards and downwards, and secondly the NACE code to the three and two-digit level. The peer groups can be found in appendix B.

When selecting the peer groups according to the NACE code, it was sometimes the case that the peer company of interest was an operating subsidiary. In several instances this implied that the company did not report consolidated accounts. To come around this problem, we identified the global ultimate owner (GUO) in the Orbis Neo database to ensure that consolidated accounts were used. However, in some cases where the operating subsidiary of interest was part of a large group, consolidated data for the GUO would not provide a relevant comparison. In those instances we used the unconsolidated accounts of the operating subsidiary (see further discussion in 4.4). This method is in line with the approach of Gilstring and Andersson (2009).

According to Damodaran (2007), there is a scale effect in ROIC with decreasing returns on capital as the firm size increases. Thus, we have decided to use a smaller peer group than, for

example, Bergström et al (2007) who used the 20 largest firms in each industry, which could incur a bias towards lower return on capital among the peers. Also, as recognized in Bergström et al (2007), there is reason to believe that larger companies tend to be more diversified and thus less similar to the buyout company. Our choice to use five peers per buyout company makes it possible to choose firms with similar capital bases, while at the same time avoiding much of the firm-specific volatility that would be the case if using only one or two peer companies per buyout (see for example Singh (1990) and Bruton et al. (2002)).

4.2.3 Collecting accounting data

For each of the buyout companies we downloaded the annual reports ranging from the entry point of investment to three years post exit. Although this is a time consuming procedure and much of the information is available through databases such as Affärsdata or Orbis Neo, we argue that collecting the data manually from the annual reports is important for a number of reasons. First, in many instances PE firms change the corporate structures by using different holding companies during the investment period. This implies that consolidated data has to be gathered from different organizational entities in different years. In order to assure that the relevant and consolidated data is used for the whole period, it is essential to read and understand the corporate structure which would be impossible if relying solely on the above mentioned databases. Secondly, the data available in the databases is not adjusted for one-off items that affect comparability. By assembling the dataset manually, we have been able to go through the notes to the financial statements and thereby identify extraordinary items[13] as well as calculating key ratios in a consistent way (described in section 4.1).

When calculating invested capital and NOWC, we use average values rather than opening or closing values. This gives a more accurate description of the asset base that is utilized to generate profit for the period, especially for buyout companies for which the asset base can change drastically from year to year due to divestments and bolt-on acquisitions (Schwetzler and Wilms, 2007). For instance, if the entry was made in 2003, we used the average balance sheet data from 2002 and 2003. A two-point average also better reflects the NOWC during the year, rather than using the opening or closing value. However, in the cases where no data for the year prior to

[13] This process was complemented by searching for key words such as “non-recurring items”, “capital gains”, “restructuring costs”, and “amortization of goodwill”

entry was available (for example if the buyout firm was created by merging two or more firms, or if the buyout firm was created through a divisional buyout), we used only closing values for the entry-year.

According to the buyout sample criteria only companies with consolidated accounts post-exit were included in the final buyout sample. However, for companies exited to strategic buyers, the buyouts were consolidated as sub-groups within larger groups. An implication of this is that these firms did not have any external debt on their balance sheets post exit. Rather, they had long-term liabilities classified as "liabilities to group companies". As this can be argued to fill the same function as external financing (as opposed to operating liabilities), we classified the balance sheet item as interest bearing debt and included it in the Invested Capital used for the ROIC analysis.

As for the peer group, we first downloaded the accounting data from years 2000-2010 from the Orbis Neo database, which was checked and complemented with data from annual reports. As Orbis Neo only contains data for the last ten years and several of the investments occurred during the 1990's, data from earlier years was gathered from annual reports acquired from Affärsdata and the Swedish Companies Registration Office.

4.2.4 Assembling the Theoretical Framework

The theoretical framework was gathered through the online reference systems *Business Source Premier, Google Scholar* and *ProQuest,* covering full text scholarly journals and business periodicals etc., as well as from literature studies within private equity. First, we gathered academic references covering the general value creation process of PE to obtain an overall understanding of the industry which is also presented in section 2.1. This was primarily achieved by screening relevant articles from *The Journal of Private Equity* (JPE) through Business Source Premier using keywords such as "private equity", "buyout" and "value creation". From these articles we proceeded by going through the reference lists, searching for relevant sources. In addition to tracing articles through the reference lists, we also searched the above mentioned databases for relevant citations. This process was complemented by extensive searches on various keywords in Google Scholar, Business Source Premier and Proquest as well as searches

in relevant academic articles[14]. Based on this extensive screening, we were able to identify empirical studies focusing on operating performance during the buyout period as well as a few studies on operating performance post-exit.

4.3 Statistical Methods

When testing the development in operating performance, we perform event studies on each measure with event windows around the buyout period and around the post-exit period. For each measure, we calculate the difference between the entry point and the exit point, and between the exit point and a point three years post exit.

Using EBITDA as an example, the change (delta) in EBITDA during the buyout period is calculated as:

$$\Delta EBITDA_{PE} = EBITDA_{Exit} - EBITDA_{Entry}$$

These measures are then compared to the median change in the peer group in order to control for macroeconomic and industry related changes. This is calculated as follows:

$$\Delta EBITDA^{Peer\ group\ median} = EBITDA_{Exit}^{Peer\ group\ median} - EBITDA_{Entry}^{Peer\ group\ median}$$

We use the median change of the peer group as this measure is not as affected by extreme values as average values. The resulting measure is an industry adjusted EBITDA delta, calculated as follows:

$$\Delta EBITDA_{Industry\ adjusted} = \Delta EBITDA_{PE} - \Delta EBITDA_{Peer\ group\ median}$$

Since the holding periods vary between two and eleven years, one could argue that it is better to use the annual development rather than the difference between entry and exit. However, since the nature of the PE industry is such that an investment is exited at the point when highest possible return can be achieved, this is most likely the point when operational improvements have been fully realized. In addition, there is generally a high focus on cost reduction during the first two to three years (Seth and Easterwood, 1993 cited by Meuleman et al., 2009). The positive effects of the cost reduction measures are not immediate, but emerges gradually. Thus, we believe that the

[14] Keywords such as "private-equity" and "buyout" together with "operating performance" and/or "ROIC", "EBITDA", "working capital", "productivity", "efficiency", "wages" and "post-exit" were used.

exit point most accurately reflects the actual operating performance. This argument is in line with the method used by Bergström et al. (2007).

4.3.1 Student's t-test

When testing the significance of the results, the student's t-test for matched pairs is applied[15]. This test aims to verify whether there is a significant difference between the means of two samples with matched pairs, i.e. between the buyout delta and the median peer group delta. For instance, when testing whether there has been an improvement in the EBITDA margin among buyout companies relative to the peer group, we apply a one-sided t-test with the following hypothesis;

H_0: $\Delta EBITDA_{Industry\ adjusted} \leq 0$, which is tested against the alternative hypothesis H_1: $\Delta EBITDA_{Industry\ adjusted} > 0$.

The test is then carried out with the decision rule to reject H_0 if $t = \frac{\bar{D} - D_0}{s_D/\sqrt{n}} > t_{n-1,\alpha}$

4.4 Limitations of Methodology

We recognize some potential weaknesses associated with our methodology, which are discussed below.

As described in 2.1, general managers often have an extensive strategy plan that includes bolt-on acquisitions and divestments (M&A activity) during the buyout period. This means that if M&A activity has occurred, we will effectively not be comparing the same company between the different points in time. Further, M&A activity will affect goodwill as assets are revalued to the purchase price. These issues could potentially be adjusted for, however, we have decided not to do so for two reasons. 1) M&A can be seen as an integrated part of the PE value creation concept, and can be viewed as a substitute to building the same business organically. 2) Due to the limited scope of this thesis, we are unable to adjust the capital base and the depreciation/amortization of goodwill for every company in our sample. These adjustments have also been avoided in similar studies (see for example Bergström et al., 2007 and Gilstring and Andersson, 2009).

[15] The student's t-test is a parametric test which can be applied for samples with more than 30 observations. and thus can be assumed to come from a normally distributed population of differences (Newbold et al., 2006)

To avoid the effect of extreme values we use median values for the peer groups. This creates an inconsistency in the data as the industry adjusted delta is calculated using the median delta in all peer groups. Thus, the industry adjusted delta will not equal the difference between the industry adjusted entry and exit point. However, in most cases this difference is very small. A similar approach was used by Gilstring and Andersson (2009).

Another potential weakness is associated with the ROIC measure. As some companies have a low or negative asset base, ROIC will become very volatile and thereby distort comparability. Therefore, we have excluded companies that fit into these characteristics. For our sample of buyout companies only one company was excluded[16]. As for the peer groups, we had to remove a few companies due to negative invested capital. However, as we use several companies in each peer group and use median peer group values in the analysis, this should not introduce any systematic bias. Moreover, in determining profitability development, we also study EBITDA which is unaffected by the capital base and thus a good complement to ROIC.

Since the Swedish market is relatively small, the usage of unconsolidated accounts was necessary in a few cases to be able to select a relevant peer group based on size and industry. This may inflict potential disturbances, although they should be minimized as we use median values for the peer groups which dominantly consist of a majority of consolidated accounts.

For four of the buyouts, the full exit occurred in 2007[17]. This means that the year 2010 should be the post-exit point. However, since the annual reports for these companies were not yet available at the time of writing this thesis, we used data for two years post exit instead. According to Holthausen and Larcker (1996) it takes three to four years for PE characteristics to disappear. Thus, there is a potential risk that the full change in operating performance will not be captured. Since our post-exit performance hypotheses are designed to test for a decline in performance, the probability of proving our hypotheses is lowered when including these firms.

Some companies of our data sample are involved in the service business or do not offer any physical products and do thus not hold any inventories. As a result, when performing statistical tests on inventories as a ratio to sales, our sample was reduced to 25 observations which made a

[16] FAC Flygbussarna
[17] Gant, HMS Industrial Networks, Previa, and Scandinavian Photo

t-test inapplicable (n=25<30) (Newbold et al., 2006). Therefore, we performed a non-parametric Wilcoxon Signed Rank Test[18].

[18] A Wilcoxon Signed Rank test is a non-parametric test which can be applied in cases where the normality assumption is not tenable. The test can be employed when testing a random sample of matched pairs. (Newbold et al., 2006)

5. Results and Analysis

In this section the raw- and industry adjusted data is presented together with the results from the statistical tests that have been performed on the hypotheses presented in section 3. The statistical tests and the analysis is based solely on industry adjusted data, computed as the operating statistic of the buyout company less the median operating statistic of the peer group.

5.1 Profitability

We divide profitability into ROIC and EBITDA margin and measure the industry adjusted development during the holding period and during a three year period post exit. We can conclude that there is a significant improvement during the holding period relative to industry peers in terms of EBITDA margin and ROIC. These results are in line with previous empirical research such as Bergström et al. (2007) and Acharya et al. (2010). We can further document that the buyout companies underperform their peers in terms of ROIC and EBITDA during the post exit period. Similar results were found by Degeorge and Zeckhauser (1993) and Bruton (2002) who studied the operating performance post exit of reverse LBOs on the US market.

5.1.1 ROIC

During the Holding Period

During the holding period, buyout companies show a positive industry adjusted ROIC development of 12.3% (median of 12.1%) which is significant on the 1% level (see exhibit 1 and 2). A similar result was found by Bergström et al. (2007). At entry, the average ROIC among buyout companies was 9.4% lower than industry peers (significant on the 1% level). This indicates that PE firms targeted underperforming companies in terms of ROIC. These results are in line with Bloom et al. (2009) and Gilstring and Andersson (2009). A possible explanation is that PE firms see more potential in underperforming companies. At exit there is no significant difference in ROIC between buyout companies and peers which indicates that the increased performance during the holding period was achieved by developing underperformers to an industry average level.

Exhibit 1 – Descriptive Statistics (ROIC%)

	Raw Data					Industry-Adjusted Data				
	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit
Average	7.3%	14.9%	7.6%	7.6%	(7.3%)	(9.4%)	1.1%	(5.4%)	12.3%	(5.6%)
Median	7.3%	12.8%	7.5%	5.3%	(4.4%)	(8.6%)	(1.3%)	(6.7%)	12.1%	(3.8%)
Max	47.6%	48.8%	50.5%	33.6%	19.3%	22.9%	37.3%	35.1%	55.5%	21.7%
Min	(15.9%)	(26.8%)	(30.9%)	(46.9%)	(43.7%)	(48.9%)	(29.9%)	(24.6%)	(33.6%)	(37.5%)
Stdev	11.9%	13.7%	14.1%	17.0%	13.5%	16.7%	14.1%	12.9%	20.2%	14.8%

Δ Buyout = Exit – Entry; Δ Post-exit = Post-exit – Exit

Exhibit 2 – T-test: Industry adjusted ROIC

	Average	Median	Sign.
ROIC(%) - Entry	(9.4%)	(8.6%)	0.2%
Delta ROIC(%) - Buyout period	12.3%	12.1%	0.1%
Delta ROIC(%) - Post-exit period	(5.6%)	(3.8%)	2.4%

Post Exit

During the post-exit period, we found that buyout companies had an average negative industry adjusted development in ROIC of (5.6%) (median of (3.8%)) that was significant on the 2.5% level (see exhibit 2). This result is in line with Degeorge and Zeckhauser (1993) and Bruton et al. (2002).

5.1.2 EBITDA

During the Holding Period

During the holding period, buyout companies show an industry adjusted improvement in EBITDA margin of 2.3% (median of 2.9%) which is significant on the 5% level (see exhibits 3 and 4). While the conclusion that PE firms target underperforming companies holds in terms of ROIC, the same could not be statistically proven in terms of EBITDA margin. A potential reason is that targeted buyout companies may be underperforming in terms of capital efficiency rather than profit margin at the time of entry.

Post Exit

During the post-exit period, buyout companies had an average industry adjusted development in EBITDA of (1.7%) (median of (0.4%)) which was significant on the 10% level (see exhibit 3 and 4). Similar results were found by Degeorge and Zeckhauser (1993).

Exhibit 3 – Descriptive Statistics (EBITDA%)

	Raw Data					Industry-Adjusted Data				
	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit
Average	8.3%	11.0%	8.3%	2.6%	(2.7%)	(0.7%)	2.5%	0.4%	2.3%	(1.7%)
Median	7.1%	10.6%	7.7%	2.5%	(1.3%)	(2.3%)	2.1%	(0.6%)	2.9%	(0.4%)
Max	26.1%	25.1%	26.4%	16.3%	11.1%	22.9%	21.1%	16.1%	20.9%	8.6%
Min	(4.0%)	(4.2%)	(9.9%)	(10.0%)	(22.1%)	(20.4%)	(14.0%)	(10.7%)	(10.6%)	(24.0%)
Stdev	6.7%	7.2%	7.8%	5.6%	6.2%	8.4%	7.9%	7.2%	6.7%	6.1%

Exhibit 4 – T-test: Industry adjusted EBITDA margin

	Average	Median	Sign.
EBITDA(%) - Entry	(0.7%)	(2.3%)	-
Delta EBITDA(%) - Buyout period	2.3%	2.9%	3.2%
Delta EBITDA(%) - Post-exit period	(1.7%)	(0.4%)	6.7%

5.1.3 Analysis of Profitability

The increase in profitability during the holding period is assumed to be strongly related to the measures employed by general partners, such as incentivizing management and adding financial/industrial support to the portfolio company. The same argument can be used to explain why performance deteriorates post-exit.

According to agency theory, the decline in operating profitability post-exit can be related to the reduction of leverage and management ownership (Phan and Hill, 1995). As managers' ownership stakes decrease, agency costs are reintroduced and profitability lowered. Agency theory can be strongly related to IPOs and trade sales which account for 80% of our sample. Because low or no agency costs are persistent in management owned companies (Chrisman et al., 2004), a decline in profitability among buybacks must be affected by other parameters[19]. We argue that the absence of resources and capabilities which was provided by PE firms potentially may explain the decrease in profitability post-exit among this type of exits. The strategic entrepreneurship perspective supports that these are important features that vanish post exit (Ireland et al., 2003). Hence, rather than agency costs, a dependency of resources and capabilities is assumed to be the main source of negative post-exit performance among buybacks. However,

[19] Among the seven buyouts exited through buybacks (found in appendix A), six had a negative industry adjusted development post exit (average ROIC development of (16.4%) and a median of (14.0%)).

further research covering a larger sample of buyback companies could give deeper insight into this argument.

Another potential explanation to the observed deterioration in profitability post-exit is based on the information asymmetry argument (Degeorge and Zeckhauser, 1993). As the PE firm and managers know more about the future prospects of the company than the market, general partners can time their exit at the peak level performance and thereby extract the maximum potential of the company. The argument is based solely on reverse LBOs, however, we argue that it can be extended to trade sales which together with IPOs account for 80% of our sample. In an exit to any third party (IPO or trade sale), PE firms and company management will try to maximize profitability at the time of exit as valuation is usually expressed as a multiple of EBIT or EBITDA. As a result, performance may have been inflated by the time of exit and the same impressive returns may not be present in the following years. However, the information asymmetry argument does not hold in the case of buybacks as management has access to the same information as the PE firm.

Some further analysis of the post exit performance can be found in appendix D.

5.2 Working Capital Management

Any significant industry adjusted improvement in working capital management, measured as NOWC/sales, could not be detected during the holding period or during the three year period post exit (see exhibit 5 for descriptive statistics). This is surprising as PE firms put much emphasis on improving working capital management to generate excess cash used to repay debt.

Previous academic research on leveraged buyouts show that working capital efficiency improved during the holding period (see for example Easterwood et al., 1989; Singh, 1990; Smith, 1989) and deteriorated post exit (Holthausen and Larcker, 1996). However, any specific change in accounts payable/sales, was not documented in the above mentioned research papers.

To further analyze the outcome, we break down the metric into its main components; inventories, accounts receivable, and accounts payable.

Exhibit 5 – Descriptive Statistics (NOWC/sales)

	Raw Data					Industry-Adjusted Data				
	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit
Average	6.9%	6.0%	6.8%	(0.8%)	0.8%	(3.1%)	(3.2%)	(1.7%)	(0.1%)	1.4%
Median	8.9%	7.6%	8.4%	0.6%	0.5%	(2.1%)	(4.0%)	(0.9%)	(0.2%)	(0.6%)
Max	38.4%	18.6%	23.5%	36.5%	24.6%	22.7%	11.8%	20.2%	35.1%	28.8%
Min	(38.3%)	(13.6%)	(13.8%)	(26.4%)	(12.0%)	(38.0%)	(19.5%)	(18.2%)	(24.4%)	(15.9%)
Stdev	14.9%	8.4%	8.8%	11.5%	6.4%	11.8%	8.6%	9.0%	11.2%	8.3%

5.2.1 Breakdown of Working Capital

Accounts receivable/sales

No significant industry adjusted development of accounts receivables/sales could be detected during the holding period nor over the three year period post exit (see exhibit 6 for descriptive statistics).

Exhibit 6 – Descriptive Statistics (accounts receivable/sales)

	Raw Data					Industry-Adjusted Data				
	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit
Average	13.8%	14.0%	13.6%	0.1%	(0.4%)	2.7%	2.2%	1.2%	(0.5%)	(0.5%)
Median	13.0%	12.3%	12.5%	(0.7%)	0.2%	1.4%	1.2%	(0.1%)	0.1%	0.1%
Max	39.9%	41.3%	37.1%	15.6%	2.8%	28.4%	23.5%	20.2%	16.0%	4.1%
Min	0.2%	0.3%	0.1%	(19.9%)	(7.5%)	(5.6%)	(8.6%)	(10.6%)	(18.0%)	(6.9%)
Stdev	9.1%	8.6%	7.8%	6.0%	2.7%	7.0%	6.8%	7.4%	6.4%	2.8%

Inventories/sales

The non-parametric Wilcoxon Signed Rank Test (described in section 4.4) did not yield any significant results during the holding period nor over the three year period post exit (see exhibit 7 for descriptive statistics).

Exhibit 7 – Descriptive Statistics (inventories/sales)

	Raw Data					Industry-Adjusted Data				
	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit
Average	11.8%	10.8%	11.4%	(0.9%)	0.5%	(0.4%)	(0.9%)	(1.1%)	(1.1%)	0.5%
Median	11.4%	12.6%	11.4%	(0.9%)	0.2%	(0.3%)	(0.5%)	(0.5%)	(0.8%)	0.1%
Max	25.3%	23.4%	23.3%	4.7%	5.0%	7.7%	10.8%	9.0%	5.9%	9.6%
Min	1.2%	0.1%	0.0%	(8.6%)	(1.9%)	(9.2%)	(13.4%)	(13.9%)	(12.5%)	(9.1%)
Stdev	6.6%	6.4%	7.0%	3.0%	1.7%	4.1%	5.1%	4.8%	3.7%	3.3%

Accounts payable/sales

The buyout companies were found to significantly outperform industry peers in terms of accounts payable/sales during the holding period. The industry adjusted increase was 1.9% (median of 2.0%), significant on the 1% level (see exhibit 8 and 9).

As for post-exit performance, we found that accounts payable/sales changed by (0.9%) (median of (0.7%)), significant on the 10% level.

Exhibit 8 – Descriptive Statistics (accounts payable/sales)

	Raw Data					Industry-Adjusted Data				
	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit
Average	7.7%	9.4%	8.6%	1.7%	(0.8%)	1.0%	2.9%	1.5%	1.9%	(0.9%)
Median	7.7%	7.4%	7.8%	1.2%	(0.7%)	0.3%	1.3%	0.6%	2.0%	(0.7%)
Max	15.3%	23.5%	22.6%	16.5%	11.8%	11.4%	19.8%	19.7%	17.3%	10.0%
Min	1.9%	3.4%	1.8%	(4.4%)	(9.3%)	(5.4%)	(3.9%)	(8.1%)	(5.0%)	(9.3%)
Stdev	3.5%	4.9%	4.4%	3.9%	3.8%	3.9%	5.1%	5.2%	4.3%	3.7%

Exhibit 9 – T-test: Industry adjusted accounts payable/sales

	Average	Median	Sign.
Delta accounts payable/sales - Buyout Period	1.9%	2.0%	0.9%
Delta accounts payable/sales - Post-exit Period	(0.9%)	(0.7%)	8.8%

5.2.2 Analysis of Working Capital Management

Accounts payables/sales is the only element of the NOWC analysis that is in line with the predictions of the agency theory. The incentives placed on high cash generation contribute to the improvement of accounts payables/sales while the loss of incentives post-exit has the opposite effect. It is, however, surprising that no change in accounts receivable/sales and inventories/sales could be determined. Given no significant change in two main components of NOWC, no changes could be statistically proven in overall NOWC.

5.3 Employee efficiency

During the Holding Period

We found no significant improvement in employee efficiency measured as sales/employee during the buyout period. In fact, employee efficiency developed largely in line with industry related companies during the holding period (see exhibit 10 and 11). This is interesting as other

empirical studies have found support for an increase in sales per employee (see Muscarella and Vetsuypens, 1990). However, our results are in line with those of Gilstring and Andersson (2009) who were unable to find support for an increase in industry adjusted sales per employee.

Post Exit

As for employee efficiency post-exit, we find a significant decrease in industry adjusted sales per employee, with an average development of (460) KSEK (median of (181) KSEK) among buyout companies relative to peers (see exhibit 10 and 11). This result is significant on the 1% level. As the average value is affected by extreme values, the median change may be a more relevant measure. However, the median points in the same direction as the average, thus providing further support to the conclusion that sales per employee decreased during the post-exit period.

Exhibit 10 – Descriptive Statistics (sales/employee)

(KSEK)	Raw Data					Industry-Adjusted Data				
	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit	Entry	Exit	Post-exit	Δ Buyout	Δ Post-exit
Average	2,337	2,710	2,446	318	(264)	465	637	256	94	(460)
Median	1,327	1,633	1,674	203	20	2	63	34	57	(181)
Max	9,238	9,759	8,308	4,059	964	8,108	6,636	4,128	4,894	204
Min	543	590	679	(3,037)	(2,758)	(3,324)	(2,893)	(2,356)	(3,150)	(2,751)
Stdev	2,317	2,485	1,932	1,211	793	1,953	2,039	1,328	1,327	735

Exhibit 11 – T-test: Industry adjusted sales/employee

(KSEK)	Average	Median	Sign.
Delta sales/employee - Buyout period	93.6	56.8	-
Delta sales/employee - Post-exit period	(459.8)	(181.0)	0.1%

5.2.3 Analysis of Employee Efficiency

Our results cannot verify that employee efficiency increases during the holding period. This is surprising as theory suggests that the interests of the employee force and management should be more aligned with the interests of the owners. At the same time, performance based compensation and the introduction of en entrepreneurial corporate culture would be assumed to enhance motivation. (Lutz and Achleitner, 2009)

As described above, employee efficiency was significantly reduced during the post-exit period. This may indicate that the transition from PE ownership to other corporate structures affects employee efficiency negatively, despite no positive development occurred during the holding period.

6. Conclusion

To adequately answer our thesis question – *Are improvements in operating performance in Swedish Private Equity owned firms sustainable post-exit?* – we first verified that there have been significant operational improvements during the holding period and secondly, we examined whether these improvements are sustainable three years post-exit. Operating performance was divided into three categories: Profitability, working capital management, and employee efficiency. Based on selected key metrics within each category we applied an event study methodology, using comparable companies to control for macroeconomic and industry related changes.

Exhibit 14 – Summary of Hypotheses and Results

Hypotheses	Support	Level of significance
Holding Period		
H1: ROIC has increased relative to the peer group	YES	1%
H2: The EBITDA margin has increased relative to the peer group	YES	5%
H5: NOWC / Sales has decreased relative to the peer group	NO	-
H7: Inventories / Sales has decreased relative to the peer group	NO	-
H8: Accounts receivable / Sales has decreased relative to the peer group	NO	-
H9: Accounts payable / Sales has increased relative to the peer group	YES	1%
H13: Sales per employee has increased relative to the peer group	NO	-
Post Exit		
H3: ROIC has decreased relative to peers	YES	2.5%
H4: The EBITDA margin has decreased relative to peers	YES	10%
H6: NOWC / Sales has increased relative to the peer group	NO	-
H10: Inventories / Sales has increased relative to the peer group	NO	-
H11: Accounts receivable / Sales has increased relative to the peer group	NO	-
H12: Accounts payable / Sales has decreased relative to the peer group	YES	10%
H14: Sales per employee has decreased relative to the peer group	YES	1%

In line with our first two hypotheses and previous empirical research, we found that the industry adjusted development in ROIC and EBITDA margin is significantly higher among buyout companies during the holding period. We could also confirm our post-exit hypotheses for ROIC and EBITDA as we found a significant negative development during the post exit period. This indicates that the operational improvements during the holding period are not sustainable. We

see two potential explanations to this scenario. 1) When the PE characteristics fade away, the buyout company loses its advantageous organizational structure driven from managerial incentives and the financial/industrial support provided by the PE firm. As a result, agency costs are reintroduced and/or management loses the capabilities required to maintain profitability. 2) PE firms use their information asymmetry advantage to time the divestment at the peak level of profitability to maximize the investor returns. As a result, earnings may be inflated and the full potential of the portfolio company extracted, which lowers the probability of realizing the same impressive returns the in the consecutive period. We further recognize that both agency theory and the information asymmetry argument fail to explain the negative development of buybacks post-exit. Based on the strategic entrepreneurship perspective, we argue that the negative post-exit development can be related to a dependency of resources and capabilities provided by the PE firm.

The same pattern (improvement during the holding period and deterioration post exit) was identified and significant in terms of accounts payable as a ratio to sales. Surprisingly, no change in overall working capital management or its other main components; receivables and inventories as a ratio of sales, were statistically evident. Another surprising observation was that a significant decline in employee efficiency during the post-exit period was found, despite no improvement during the holding period was evident. This could indicate that the transition from PE ownership to other corporate structures affects employee efficiency negatively, irrespective of the performance during the holding period.

The main contribution of this thesis has been to provide empirical evidence, based on a diverse sample of buyouts in Sweden, of a negative post-exit development in profitability. This suggests that the profitability improvements under PE ownership are not sustainable post exit. However, a deeper explanation of the specific reasons for this development will be left for further research to explore.

6.1 Suggestions to further research

Our results are interesting from several perspectives as there has been a limited number of academic studies on post-exit performance and we see many areas for further research. Firstly, it would be interesting to study the negative performance post exit to determine whether information asymmetry or the absence of PE characteristics is the most critical factor. A second

interesting focus area would be to study the differences in post-exit performance between buyouts exited via IPOs, trade sales and buybacks as agency costs are more prevalent in some organizational structures. A third suggestion involves an analysis of the negative relationship between profitability at exit and the development post-exit as showed in appendix D. Finally, an analysis conducted on a similarly broad sample measuring the yearly change in operating performance post-exit, would be interesting to determine whether the there is a gradual negative change post-exit or a dramatic change three years post, as showed by Bruton et al. (2002). This could potentially serve to explain under what time frame the PE characteristics fade away post-exit.

7. References

Literature

Acharya, V., Hahn, M. and Kehoe, C. (2010) Corporate governance and value creation evidence from private equity, working paper, NYU.

Bacon, N. Wright, M. and Demina, N. (2004) Management buyouts and human resource management, British Journal of Industrial Relations, 42(2): 325–47.

Baker, P. B. and Wruck, K. H. (1989) Organizational Changes and Value Creation in Leveraged Buyouts: The Case of the O. M. Scott & Sons Company, Journal of Financial Economics 25(2)

Barber, F. (2007) Private Equity: Changing Europe for the Better? EBF Debate, European Business Forum, 28

Benninga, S. and Sarig O. H. (1997) Corporate Finance: A Valuation Approac, New York: MacGraw-Hill, international edition

Berg, A. and Gottschalg, O. (2003) Understanding Value Generation in Buyouts, INSEAD working paper

Bloom, N. Van Reenen, J. and Sadun, R. (2009) Do Private Equity-owned have better management practices?, Globalization of Alternative Investments Working Papers Volume 2: The Global Economic Impact of Private Equity Report

Bergström, C. Grubb, M. and Jonsson, S. (2007) The operating impact of buyouts in Sweden: A study of value creation, Journal of Private Equity, 11(1) pp. 22-39.

Brealey, R. and Myers, S.C. (2003) Principles of corporate finance, 7th edition, New York: McGraw Hill-Irwin.

Bruining, H. Boselie, P. Wright, M. and Bacon, N. (2005) The impact of business ownership change on employee relations: Buyouts in the UK and the Netherlands, International Journal of Human Resource Management, 16: 345–65.

Bruton, G., Keels, J. K. and Scifres, R. L. (2002) Corporate restructuring and performance: An agency perspective on the complete buyout cycle, Journal of Business Research, 55: 709–24.

Chrisman, J. Chua, J. and Litz, R. (2004) Comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence, Entrepreneurship: Theory and Practice, 28(4): 335–54.

Cornelli, F. and Karakas, O. (2008) Private equity and corporate governance: Do LBOs have more effective boards? In: Lerner, J. and Gurung, A. (eds.) The Global Impact of Private Equity Report 2008, Globalization of Alternative Investments, 65–84. Working Papers Volume 1, World Economic Forum.

Cumming, D. Siegel, D. S. and Wright, M. (2007) Private equity, leveraged buyouts, and governance, Journal of Corporate Finance, 13: 439–60.

DeAngelo, H. and DeAngelo, L. E. (1987) Management buyouts of publicly traded corporations, Financial Analysts Journal, 43: 38-49.

Degeorge, F. and Zeckhauser, R. (1993) The reverse LBO decision and firm performance, Journal of Finance, 48: 1323-1348.

Damodaran, A. (2007) Return on capital (ROC), return on invested capital (ROIC), and return on equity (ROE): Measurement and implications, working paper, Stern School of Business.

Easterwood, J. Seth, A. and Singer, R. (1989) The impact of leveraged buyouts on strategic direction, California Management Review, 32(1): 30-43.

Gertner, R. and Kaplan S. (1996) The value-maximizing board, University of Chicago, working paper.

Gilstring, H. and Andersson, G. (2009) Operational effectiveness in buyouts, Master thesis, Stockholm School of Economics.

Goossens, L., Manigart, S. and Meuleman, M. (2008). The change in ownership after a buyout: impact on performance. Journal of Private Equity. 12(1): 31-41.

Guo, S. Hotchkiss, E.S. and Song, W. (2011) Do buyouts (still) create value?, Journal of Finance, 66(2): 479-517

Holthausen, R. and Larcker, D. (1996) The financial performance of reverse leveraged buyouts, Journal of Financial Economics 42(3): 293-332.

Ireland, R.D. Hitt, M.A. & Sirmon, D.G. (2003) A model of strategic entrepreneurship: The construct and its dimensions, Journal of Management, 29(6): 963–989.

Jensen, M. C. (1986) Agency costs of free cash flow, corporate finance and takeover, American Economic Review Papers and Proceedings, 76: 323–29.

Jensen, M. C. (1989) Eclipse of the public corporation, Harvard Business Review, 67(5): 61–37.

Kaplan, S. N. (1989) The effects of management buyouts on operations and value, Journal of Financial Economics, 24: 217–54.

Kaplan, S. N. and Strömberg, P. (2009) Leveraged buyouts and private equity, Journal of Economic Perspectives, 23(1): 121–46.

Leslie, P. Oyer, P. (2009) Managerial incentives and value creation: Evidence from private equity, Stanford Graduate School of Business.

Liechtenstein, H. Prats, J. Herrera, A. Meerkatt, H. Rose, J. Brigl, M. (2008) The advantage of persistence: How the best private-equity firms "beat the fade", IESE Business School and Boston Consulting Group.

Ljungqvist A. and Richardson M. (2003) The cash flow, return and risk characteristics of private equity, working paper.

Loos, N. (2005) Value creation in leveraged buyouts, dissertation paper, University St. Gallen.

Lutz, E. and Achleitner A. K. (2009) Angels or demons? Evidence on the impact of private equity firms on employment, Special Issue Entrepreneurial Finance, 5: 53-81.

Matthews, G. Bye, M. Howland, J. (2009) Operational Improvement: The key to value creation in private equity, Journal of Applied Corporate Finance, 21(3): 21-27

Meuleman, M. Amess, K. Wright, M. and Scholes, L. (2009) Agency, strategic entrepreneurship and the performance of private equity backed buyouts, Entrepreneurship Theory and Practice, 33: 213–40.

Miller, M. and Modigliani, F. (1958) The cost of capital, corporate finance and the theory of investment, American Economic Review 48(3): 261–297.

Muscarella, C. and Vetsuypens, M. (1990) Efficiency and organizational structure: A study of reverse LBOs, The Journal of Finance 45(5): 1389–1413.

Newbold, P., Carlson, W. L. and Thorne, B. (2006) Statistics for Business and Economics, New Jersey: Prentice Hall, 6th ed

Phan, P. and Hill, C. (1995) Organizational restructuring and economic performance in leveraged buyouts: An ex post study, Academy of Management Journal, 38: 704–39.

Sahlman, W. (1990) The structure and governance of venture capital organizations, Journal of Financial Economics, 27: 473-521.

Schwetzler, B. and Wilms, A. (2007) Value generation in private equity investments – pilot study on value drivers in 100-day programs, working paper, Leipzig Graduate School of Management

Schmidt, D. Steffen S. and Szabó F. (2010) Exit strategies of buyout investment - An empirical analysis, working paper.

Seth, A. and Easterwood, J. (1993) Strategic redirection in large management buyouts: The evidence from post-buyout restructuring activity, Strategic Management Journal, 14(4): 251–73.

Singh, H. (1990) Management buyouts and shareholder value, Strategic Management Journal, 11: 111–29.

Smith, A. (1989) Corporate ownership structure: The case of management buyouts, Journal of Financial Economics 27(1): 143-164.

Weir, C. Jones, P. and Wright, M. (2007) Public to private transactions, private equity and performance in the UK: An empirical analysis of the impact of going private, working paper, Nottingham University.

Wiersema, M. and Liebeskind, J. (1995) The effect of leveraged buyouts on corporate growth and diversification in large firms, Strategic Management Journal, 16(6): 447-460.

Wright, M. and Robbie, K. (1998) Venture capital and private equity: A review and synthesis, Journal of Business Finance and Accounting, 25: 521–70.

Yermack, D. (1996) Higher market valuation of companies with a small board of directors, Journal of Financial Economics, 40: 185-211.

Internet Sources

Dagens Industri (2011) Riskkapitalbolag på jakt efter miljarder, 4 January, Available at: <http://di.se/Artiklar/2011/1/3/223870/TISDAG-MORGON-Riskkapitalbolag-pa-jakt-efter-milj/>, [Accessed: 13 May 2011]

EVCA Research Statistics (2009), Private equity investment as a percentage of GDP. Available at: <http://www.evca.eu/uploadedFiles/Home/Knowledge_Center/EVCA_Research/Statistics/4_3_Investment/YB10_Private_equity_investment_as_a_percentage_of_GDP.pdf>, [Accessed: 05 May 2011]

Kaletsky, A. (2007) The real reason why private equity is under fire, The Times, [online] 21 June, Available at: <www.timesonline.co.uk>, [Accessed 13 May 2011]

SVCA (2007), Riskkapitalåret 2010. Stockholm: Swedish Private Equity and Venture Capital Association. Available at: <http://svca.se/PageFiles/807/SVCA%20Riskkapital%C3%A5ret%202010.pdf>, [Accessed: 13 May 2011]

The Economist (2007), The trouble with Private Equity, [online] 5 July 2007, Available at: <http://www.economist.com/node/9441256?Story_ID=9441256>, [Accessed 13 May 2011]

8. Appendices

Appendix A – Buyout Companies used in the Sample

Buyout Company	PE Firm	Entry	Exit	Type of Exit
Lindex	IK	1993	1995	IPO
Karlshamns	Accent	1994	1997	IPO
Byggfakta Scandinavia	Segulah	1996	1998	Trade Sale
ReadSoft	Capman	1996	1999	IPO
Alfa Laval	Industri Kapital	2000	2002	IPO
Ballingslöv International	EQT	1998	2002	IPO
FAC Flygbussarna	Nordico Invest	2000	2002	Buyback
Modul-System	Segulah	1999	2002	Trade Sale
Nobia	Industri Kapital	1996	2002	IPO
Nordisk Renting	3i	1998	2003	Trade Sale
Victor Hasselblad	Cinven	1996	2003	Trade Sale
Education & Entertainment	Duke Street Capital	2000	2004	Buyback
Elmo Leather	Accent, Nordic Capital	1999	2004	Buyback
Norfoods	Segulah	2000	2004	Buyback
Oriflame Cosmetics	Industri Kapital	1999	2004	IPO
Atea	Atle / Ratos	1998	2005	Trade Sale
Finndomo	3i	1997	2005	Buyback
Frigoscandia Distribution	Triton	2002	2005	Trade Sale
Intrum Justitia	Industri Kapital	1998	2005	IPO
BE Group	Nordic Capital	1999	2006	IPO
Eldon	EQT	2001	2006	Buyback
Guide Konsult	Nordic Capital	2001	2006	Trade Sale
Kappahl	Nordic Capital	2004	2006	IPO
Lindab	Ratos	2001	2006	IPO
SATS	Nordic Capital	2002	2006	Trade Sale
SYSTeam	Bure Equity	1999	2006	Trade Sale
Gant	3i	2003	2007	Trade Sale
HMS Industrial Networks	Segulah	2004	2007	IPO
Previa	Segulah	2004	2007	Trade Sale
Scandinavian Photo	Priveq	2000	2007	Buyback
Duni	EQT	1997	2007	IPO

Appendix B – Peer Groups

Alfa Laval
Atlas Copco AB
Atlet AB
Itt Water & Wastewater AB
Seco Tools AB
SKF AB
Yaskawa Nordic AB

Atea
Addnode AB
Cybercom Group AB
Enea AB
HIQ International AB
IBS AB
Know IT AB
Proact IT Group AB
Semcon AB

Ballingslöv
Efg European Furniture Group AB
HL Display AB
ITAB Shop Concept AB
Scandinavian Business Seating AB
Svedbergs i Dalstorp AB

BE Group
Fagersta Stainless AB
Kubikenborg Aluminium AB
Profilgruppen AB
SSAB AB
Surahammars Bruks AB

Byggfakta
AB Skånska Dagbladet
AB Svensk Byggtjanst
AB Upsala Nya Tidning
Medströms AB
Sundsvalls Tidnings AB

Duni
Bong Ljungdahl AB
Korsnäs AB
Nilörngruppen AB
Nordic Paper Backhammar AB
Segezha Packaging AB

Education & Entertainment
Halens Holding AB
Fyrklövern AB
Ginza AB
Homeentertainment AB
Dustin AB

Eldon
Autokaross i Floby AB
Interconsult i Falkenberg AB
Joab-Gruppen AB
Karosseriverken I. Urbanusson AB
Soliferpolar AB
Zetterbergs Industri AB
VBG Group AB

FAC Flygbussarna
AB Dalatrafik
Borås Lokaltrafik AB
Gamla Uppsala Buss AB
Länstrafiken i Norrbotten AB
Länstrafiken Örebro AB
X-Trafik AB

Finndomo
AB Onsalavillan
Lb Hus AB
Mjobacks Entreprenad AB
Myresjöhus AB
Älvsbyhus Intressenter AB

Frigoscandia Distribution
Cejn AB
Imo AB
Itt Water & Wastewater AB
Nederman Holding AB
Systemair AB

Gant
Dressman AB
Gina Tricot AB
Hemtex AB
Indiska Magasinet AB
New Wave Group AB
Nilson Group AB
Stadium AB
Venue Retail Group AB

Guide Konsult
Addnode AB
Cybercom Group AB
Enea AB
HIQ International AB
IBS AB
Know IT AB
Semcon AB

HMS Industrial Networks
AB Thoreb
Doro AB
Partnertech AB
Tilgin AB
Transmode Systems AB
Westermo Teleindustri AB

Intrum Justitia
Alektum Inkasso AB
Prioritet Group AB
Svea Inkasso AB
UC AB
Visma Collectors AB

KappAhl
Dressman AB
Gina Tricot AB
Hemtex AB
Indiska Magasinet AB
New Wave Group AB
Nilson Group AB
Stadium AB
Venue Retail Group AB

Karlshamns
Cloetta AB
Danisco Sugar AB
Lithells AB
Nordfalks AB
Pågengruppen AB

Lindab
Cardo AB
Gunnebo AB
Lindab International AB
Munters AB
NIBE Industrier AB
Weland Holding AB

Lindex
Hemtex AB
Indiska Magasinet AB
New Wave Group AB
Nilson Group AB
Stadium AB

Modul-System
Ages Industrier i Unnaryd AB
Aros Quality Group AB
Eab Industrier AB
Hellmer Group AB
Norma Sweden AB
Stena Stål AB

Nobia
Efg European Furniture Group AB
HL Display AB
ITAB Shop Concept AB
Scandinavian Business Seating AB
Svedbergs i Dalstorp AB

Nordisk Renting
Atrium Ljungberg AB
Förvaltnings AB Framtiden
Hufvudstaden AB
Kungsleden AB
Wallenstam AB

Norfoods
AB Anders Löfberg
Bergendahl & Sons AB
Everfresh AB
Lobster Seafood Sweden AB
North Trade Stockholm AB
Servera R&S AB
Svensk Cater AB
Sydgrönt AB

Oriflame
Apoteket AB
Bringwell AB
Hardford AB
Incos AB
Invima AB
JC AB
Svenska Elkedjan AB

Previa
Brommageriatriken AB
Feelgood Svenska AB
Praktikertjänst AB
Proxima AB
Sophiahemmet AB

ReadSoft
AB Svensk Byggtjanst
Amadeus Scandinavia AB
Industrial & Financial Systems AB
Modul 1 Data AB
Know IT AB

SATS
Feelgood Svenska AB
Hagabadet AB
Onyx Sportcenter AB
Studio Aktiverum AB
World Class Sverige AB

Scandinavian Photo
Dustin AB
Efi AB
Fyrklövern AB
Ginza AB
Halens Holding AB
Homeentertainment AB
Willab Garden AB

SYSTeam
Addnode AB
Cybercom Group AB
Enea AB
HIQ International AB
IBS AB
Know IT AB
Proact IT Group AB
Semcon AB

Victor Hasselblad
Aimpoint AB
Beijer Electronics AB
Doro AB
Elektronikgruppen BK AB
Flir Systems AB

Appendix C – Private Equity Firms connected to SVCA

The following Private Equity firms are connected to the Swedish Association for Private Equity and Venture Capital (SVCA), and work with buyouts with deal values greater than 50 MSEK.

- Accent Equity Partners
- Altor Equity Partners
- Anchor Capital Management
- Armada Mezzanine Capital
- Bridgepoint Capital
- CapMan
- Connecting Capital
- Credelity Capital
- EDP
- EQT Partners
- FSN Capital Partners
- Granitix NPE
- IK Investment Partners Norden
- K III Sweden
- Litorina
- Mannerheim Invest
- MedCap
- Naxs Nordic Access Buyout Fund
- Nordic Growth
- Norvestor Equity
- Permira Adviser
- Polaris Private Equity
- Priveq Investment
- Procuritas
- Ratos
- Riverside Europe Partners
- Scope Capital Advisory
- SEB Venture Capital
- Segulah Advisor
- Valedo Partners Fund 1
- Vinovo
- Volati

Appendix D – Additional analysis: Post-exit performance determinants

In trying to understand the post-exit performance and its determinants, a few additional analyses were performed. One particularly interesting relationship was found when examining whether the industry-adjusted ROIC level at exit had any explanatory power on the post-exit ROIC performance.

Through a regression analysis we examined whether there is a relationship between the profitability level (measured as ROIC) at exit and the profitability development during the post-exit period. We found that the industry adjusted ROIC at exit had explanatory power on the industry adjusted ROIC development post exit of 41.9% (measured as adjusted R^2), significant on the 1% level (see *exhibit* D.1 and D.2). Removing one outlier[20] increased adjusted R^2 to 59.9%, significant on the 1% level. The elimination of another outlier[21] increased adjusted R^2 increased additionally, to 63.8%, significant on the 1% level. The regressions have negative coefficients of (0.696), (0.940) and (0.933) respectively, which indicates a strong negative relationship between profitability at exit and the development post exit. In other words, portfolio companies that outperform the industry at exit are likely to underperform peers during the following three year period whereas portfolio companies that underperform at exit are likely to outperform peers during the post exit period.

The information asymmetry argument presented in the analysis can serve to explain the negative development of buyout companies that achieved a high profitability at the exit year. However, this arguments fails to explain why unprofitable companies at exit would outperform their peers during the post-exit period.

A possible explanation to this pattern is that the buyout companies converge to an industry average post exit. Outperformers at exit significantly underperform their peers during the post-exit period whereas underperformers increase their industry adjusted profitability considerably. As the dissimilarities related to the PE ownership model according to Holthausen and Larcker (1996) and Bruton et al. (2002) tend to fade away during the three to four years post exit, formerly PE owned companies will converge to the industry average.

[20] Oriflame
[21] Education & Entertainment

Whereas we do not have the possibility to further analyze this matter, we can conclude that there seems to be an interesting relationship between exit level performance and post-exit development, and would like to encourage further research on this matter.

Exhibit D.1 – Post Exit Performance (ROIC%)

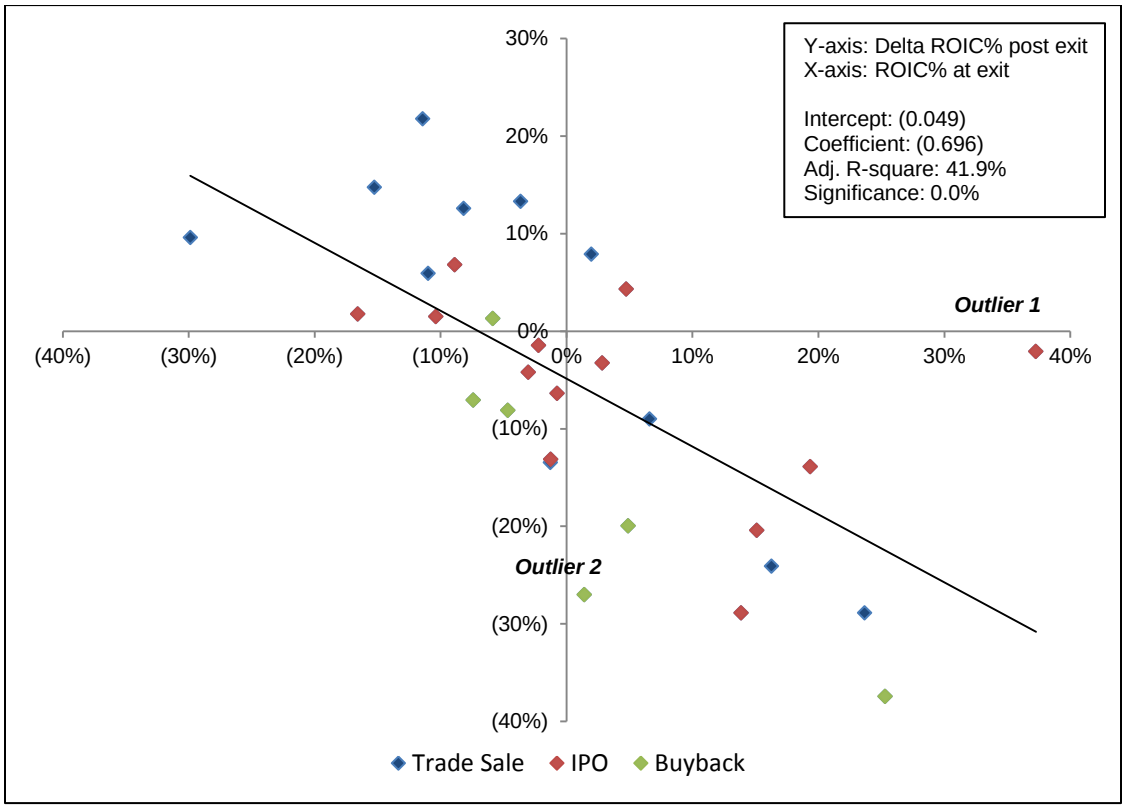

Exhibit D.2 – Regression Data of Post Exit Performance (ROIC%)

	Full Sample	Excl. outlier 1	Excl. outlier 2
Adjusted R^2	41.9%	59.9%	63.8%
Standard error	9.5%	9.5%	8.9%
Significance	0.0%	0.0%	0.0%
Intercept	(0.049)	(0.059)	(0.052)
Coefficient	(0.696)	(0.940)	(0.933)