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Applying the Private Equity Model in Another Organizational Setting – A Study of Nordic Firms

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ABSTRACT

This paper examines a group of 16 Nordic public firms and finds that traditional Private Equity practices can be successfully applied in other organizations. These firms hold acquired subsidiaries in a highly decentralized manner and use typical Private Equity practices, such as operational engineering, to create value. In contrast to Private Equity however, the firms never divest and their legal structure is therefore more similar to the one of a traditional conglomerate. Through analyzing these firms' operational and shareholder return, this paper also finds significant outperformance. The analysis shows that the ROCE for these firms is 7 percentage points higher than the respective sector averages 2006-2017. Furthermore, the shareholder return has a positive monthly alpha of 0.6% for 2002-2017 as measured by the CAPM, and 1.7% as measured by a four-factor model. Collectively, this paper provides evidence for the possibility of applying value-creating PE strategies in new organizational settings, particularly in public firms.

Keywords: *Private Equity, Conglomerates, Value Creation, Decentralization, Acquisitions*

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1. Introduction

"I think it is possible for public companies to take almost all of the major competitive advantages of the Private Equity sector and implement them in one way or another without actually going private."

- Michael Jensen (Jones, 2006)

Two companies listed in the United States, Danaher Corporation and Illinois Tool Works (ITW), have withstood the trend of corporate specialization and de-conglomeration through time. They instead achieve higher growth and profitability than the rest of the stock market, either by avoiding some of the traditional disadvantages connected to operating as conglomerates, or by successfully applying other value creation drivers. Similar to the model that Private Equity (PE) applies, these firms employ a highly acquisitive strategy and, within their conglomerate organizational form, keep the companies in a highly decentralized manner, almost akin to a typical PE fund structure. (Anand et al., 2008; Pangarkar, 2017; Wells & Ellsworth, 2017)

The outperformance of these two companies is especially puzzling as previous research has reached consensus on the fact that conglomerates, common in the middle of the last century, were underperforming due to misalignment of interests between managers and shareholders (Jensen, 1989). The Private Equity model emerged partly as a result of this development and could extract substantial value through splitting up the conglomerates (Bhagat et al., 1990; Lang & Stulz, 1994). When further examining the positive empirical evidence regarding the value creation by PE (Gompers et al., 2016; Harris et al., 2014), the question arises whether PE-typical characteristics and strategies would also create value when applied in other organizational forms. Potentially, it is incorporating these value-creating strategies that have protected conglomerate firms like Danaher and ITW and that enabled them to withstand the threat of being acquired and split up by PE players.

These kinds of companies, operating as what could be described as hybrid organizations placed between PE firms and conglomerates, have so far been relatively understudied, mainly due to their limited existence. Nonetheless, in the last decades a group of firms in the Nordics has emerged that seems to resemble most of the qualities of Danaher and ITW. This thesis therefore seeks to fill the research gap of this hybrid organizational form by examining these

companies (henceforth *hybrids*) in the Nordic markets. Above all, the hybrids' organizational structure and construct are of interest and will be defined through contrasting their activities with mainly PE ones, yet also with conglomerates. Specifically, this thesis aims to firstly quantitatively assess whether these firms have achieved superior value creation than the average firm on the stock market, and secondly analyze the extent to which these firms apply PE value creation strategies.

As a result, this thesis finds evidence suggesting that the hybrids outperform their publicly listed peers, both in terms of operational and shareholder return. The analysis shows that the Return on Capital Employed (ROCE) of the 16 firms in the sample is 7% higher than the sector average for 2006-2017 and that the shareholder return has had an average monthly alpha of 0.59 percent as measured by the CAPM (and 1.7 percent as measured by a four-factor model) for the last 15 years. Twelve interviews were conducted with hybrid firms, all highly acquisitive companies listed on a Nordic stock market. Through the interviews, key organizational and operational characteristics emerged such as an unusual degree of decentralization; each subsidiary has a high degree of autonomy and is mainly managed through active boards, much like a portfolio company of a PE firm. Furthermore, the hybrids use knowledge transfers by gathering key employees throughout the group in order to attend training programs, and to emphasize focus on long-term improvements within operations, financing and governance. Through the analysis of the qualitative gathered data, it can be concluded that applying the Private Equity value creation drivers, such as a decentralized ownership structure, knowledge transfers and operational, financial and governance enhancements, is possible in another environment, specifically in listed firms.

2. Previous Literature

2.1 Two Related Organizational Developments in the American Corporate Landscape

The Private Equity model emerged in the United States during the late 1980s as a reaction to the wasteful spending and inefficiencies that were taking place in many public corporations at the time. More concrete examples of this were retaining unjustifiable amounts of cash instead of returning it to shareholders, engaging in empire-building and allowing for excessive management perquisites. According to Jensen (1989), companies operating under this new organizational structure, i.e. the PE firms, discontinued the value-destructing activities and

unlocked substantial shareholder value through leveraged buyouts (LBOs), which saw a tremendous increase over this period of time. Through the LBOs, public companies were taken private and by incentivizing managers with, amongst other, larger equity stakes in the companies, shareholder and management interests were aligned. (Jensen, 1989)

In conjunction to the birth of the PE industry, another important development took place. A de-conglomeration phase struck the American corporate landscape and the typical diversified industrial firm, operating companies in several unrelated industries, was split up into individual, specialized firms focusing on their respective core businesses. The conglomerates that were not taken over started themselves to specialize by divesting non-core businesses in order not to face unwanted takeovers (Bhagat et al., 1990). Additionally, during this time Jensen (1989) describes an increasing level of criticism towards the previously assumed diversification benefits of integrating unrelated divisions in a larger corporate structure.

Lang and Stulz (1994) argue that the reason for this development was that investors started applying valuation discounts to the large conglomerates due to the inefficiencies discussed above. This valuation discount was therefore coined the conglomerate discount. By taking advantage of this discount, corporate raiders – including, but not limited to, PE firms – could make quick profits from buying the large conglomerates and then selling off the various divisions as separate firms. Berger and Ofek (1995) further suggest factors such as dis-synergies between unrelated businesses or divisions as reasons for the conglomerate discount.

The previous literature's view on the reason for the conglomerate discount can be furthermore categorized into three main factors, namely "corporate socialism", "corporate orphanage" and "destructive managerial incentives". Firstly, Scharfstein and Stein (2000) suggest that the internal capital market in a conglomerate can cause inefficient cross-subsidization within the company. In this way, a form of corporate socialism emerges as the cash flow from profitable divisions is being used for subsidizing and covering the losses of underperforming, loss-making divisions. The second reason for the conglomerate discount, as argued by Schoar (2002), relates to the factor that the management teams of large conglomerates are unable to adequately allocate their attention to the various divisions and subsidiaries. She suggests a "new toy effect", where newly acquired companies get disproportionately higher amounts of attention at the expense of other parts of the group. Henceforth, the general conglomerate issue of neglecting certain subsidiaries due to allocating excessive attention to certain favorites will be addressed as "corporate orphanage". The final factor of the conglomerate discount discussed in prior research relates to the managerial

incentives for growing the firm. Several papers have examined this topic and argue that, as prestige and compensation increase and as employment risk decreases with firm size, managers tend to make value-destructing acquisitions from a shareholder point of view. This phenomenon is a two-edged sword for many conglomerates, as the incentive to keep the firm large may on one hand promote acquisitions but may, on the other hand, dis-incentivize value-creating divestments. Thus, this occurrence of constantly growing the firm through empire-building, while failing to divest by 'holding on to losers' can appear rational for a CEO, even though it makes no economic sense for the firm. Hereafter, this will be addressed as "destructive managerial incentives". (Amihud & Lev, 1981; Davis et al., 1994; Jensen, 1986; Jensen, 1989)

2.2 The Private Equity Value Creation Debate

In the beginning of the PE era, the returns of the buyout funds and whether or not any value was actually created were heavily debated. Gradually, the PE value creation, or alternatively, lack of value destruction, on an operational level was validated in several studies, such as in Kaplan (1989) and Lichtenberg and Siegel (1990). Another commonly phrased claim is that PE firms use unhealthy amounts of leverage. Axelson et al. (2013) show that PE firms have an incentive to over-pay and apply too much leverage onto the capital structures of their portfolio companies to increase returns. However, research today provides a dispersed view on this topic as Hotchkiss et al. (2014) later have shown that there is no evidence of a larger frequency of defaults among PE owned companies compared to others.

Moreover, the fund level performance, net of fees, has been long contended, for instance by Kaplan and Schoar (2005). Due to limitations in data and difficulties in assessing the validity of fund reported returns, it was not until 2014, when Harris et al. (2014) provided evidence in favor of average fund level performance in excess of the stock market equivalent. Today, research consensus is that PE creates value on both an operational and overall fund level (Gompers et al., 2016; Harris et al., 2014).

The value creation stems from employing several different strategies that are typically associated with PE. Kaplan and Strömberg (2009) argue that the main value creation drivers of PE firms are *operational engineering*, *financial engineering* and *governance engineering*. The *operational* value creation is a result of, for instance, PE firms employing a broad range of industry experts and prior industrialists with experience from the sectors in which they invest. Empirical evidence shows that important operating metrics and key performance indicators

improve during the years of PE ownership. The *financial* value creation regards the additional value that is provided by the tax shield arising thanks to the substantial use of leverage in buyout transactions. Financial value creation can also be conducted through so called multiple arbitrage, making add-on acquisitions at low multiples while keeping the multiple valuation for the integrated entity at a higher level. Lastly, the *governance engineering* reduces agency costs primarily through aligning management and shareholder interests, e.g. through promoting management to purchase large equity stakes.

However, there are issues still remaining with the PE model, particularly with regards to the fund structure and timing pressure (Arcot et al., 2015). Gompers (1996) argues that financial sponsors divest their portfolio companies too early from a value-maximization point of view in order to attract new capital for subsequent funds. Likewise, the short-term fund structure also contributes to pressure to invest even when there is a lack of attractive opportunities; Harris et al. (2014) found a negative relationship between fund performance and capital inflows, likely due to increased competition as capital allocated to PE is larger than available investment opportunities.

2.3 Applying the PE Model in a Public Setting – The American Precedents

Despite the critique raised against both conglomerates and PE, it seems that there are at least two companies on the American stock market that successfully operate under an organizational model that could be regarded as a hybrid of the two. Their acquisition and holding strategies are following a long-term perspective, more similar to the ones of traditional conglomerates than of PE firms, while simultaneously applying some of the PE value creation drivers, and by doing so they persistently outperform the average stock market (Anand et al., 2008; Pangarkar, 2017; Wells & Ellsworth, 2017):

Danaher Corporation and Illinois Tool Works are two American industrially focused conglomerates with a very acquisitive history. Each company has made a substantial amount of acquisitions each year. The acquisition strategies of the two firms can in short be described as targeted towards profitable, cash-flow generating companies. Post-acquisition, these firms are managed in a highly decentralized manner, meaning the acquired companies are subsequently not integrated in the parent company structures, but rather led from a distance by a lean headquarter management team. ITW, for instance, held its 800 companies in 84 divisions back in 2012. In its earlier days, ITW even had a track record of buying companies and splitting them

up into even more companies within the group. In general, ITW conducts no activities across the whole group except for tax, audit and investor relations. Danaher has a similarly decentralized approach as ITW. Additionally, a part of the corporate and acquisition strategy is the Danaher Business System (DBS), which is a way to transfer the Danaher culture and management style to its acquired companies over a long period of time. One aspect of the DBS is to bring all new managers in the group together for one week of training on managerial skills and value mindset, another one is to take mid-level managers off of their regular jobs in the subsidiaries and bring them on a "three-month Danaher world tour" in order to familiarize them with best practices in other Danaher subsidiaries.

While being regarded as conglomerates, being publicly listed and acquiring a lot of companies, they also seem to apply the PE value creation drivers to certain extents. When the acquisitions have been made, the companies are held as separate entities, governed mainly through the boards and improved by various forms of knowledge transfers. By combining these PE value creation drivers with the longer-term perspective of a conglomerate, Danaher and ITW seem to systematically outperform the rest of the stock market, both historically and today, despite any good or bad economic conditions. Naturally though, these companies also face difficulties. In 2015, Danaher split into two companies as questions arose whether or not it was becoming too complex to operate efficiently. Furthermore, the larger these groups get, the harder it will be to work with slim headquarters and management structures while still successfully sourcing new value-creating acquisitions. (Anand et al., 2008; Pangarkar, 2017; Wells & Ellsworth, 2017)

2.4 Motivation, Intention and Hypotheses of this Thesis

When examining the empirical evidence by academia of value created by PE, the question arises whether PE-typical characteristics and strategies, as described above, would also create value when applied in other organizations. The American reference cases of Danaher and ITW already follow a similar pattern and demonstrate exemplary shareholder returns, thereby gaining the interest of academic research. These kinds of companies however, – operating as hybrid organizations placed between PE firms and conglomerates – have so far been understudied, especially within a European setting. This thesis therefore seeks to fill the research gap by examining comparable companies on the Nordic markets. Primarily the study will be focusing on investigating the following two hypotheses:

H1: As previous research has provided ample evidence that PE creates value, a group of firms resembling this organizational form and its methods should create higher operational and shareholder returns than its stock market counterpart.

H2: Highly acquisitive and decentralized companies that generate above average returns should furthermore be expected to employ the specific strategies defined by academia, i.e. utilizing the toolbox traditionally associated with PE companies.

3. Data and Methodology

3.1 Selection of Sample Set Companies

The basis for the sample selection criteria are the characteristics of the two American reference cases, Danaher and ITW. These are two industrially focused companies with well-defined acquisition strategies that in recent years have been examined in education academia – Danaher through two Harvard Business School case studies in 2008 and 2017 and ITW through a National University of Singapore case study in 2017 (Anand et al., 2008; Pangarkar, 2017; Wells & Ellsworth, 2017).

Both ITW and Danaher have histories of stock market outperformance due to acquiring companies that are subsequently governed in a decentralized manner. The acquired companies have historically not been integrated to any extent, but instead held as separate entities generating profits and cash flows to the group. The academic case studies enabled in-depth analysis of the acquisition strategies in general and the successive stock market outperformance in particular.

The focus of this thesis is to make similar analyses of publicly listed Nordic companies following equivalent acquisition and holding strategies. For the purpose of this thesis, 'Nordic' refers to Sweden, Denmark, Finland and Norway due to their homogeneity in size and business environment. Thus, all companies in the Nordic mainland being listed on the following exchanges have been researched: Nasdaq Copenhagen, Nasdaq Helsinki, Nasdaq Stockholm and Oslo Børs. When researching the companies, a specific set of criteria was set up in order to identify the companies to be further examined and subsequently included in the sample. Using publicly available information, i.e. prospectuses, annual/quarterly reports, strategy documents, company websites or other regulatory filings, the following criteria were applied:

- Acquisitions are listed as a vital part of the corporate growth strategy, i.e. active screening for acquisitions, in contrast to opportunistic acquiring
- The company has no definite investment horizon or exit strategy for its acquired companies
- The company indicates that its strategy is to not consolidate or integrate the companies unless it is an add-on acquisition
- The company made at least one acquisition in the last year and/or a substantial number of acquisitions over the last five years
- The company acquires majority stakes in private companies and does not buy, hold and/or trade in public equities as a main part of its corporate strategy

Using the above criteria, a list of 16 companies was compiled, consisting of the following firms (for full sample set company descriptions, see Appendix 1):

Table 1

Companies Included in the Sample

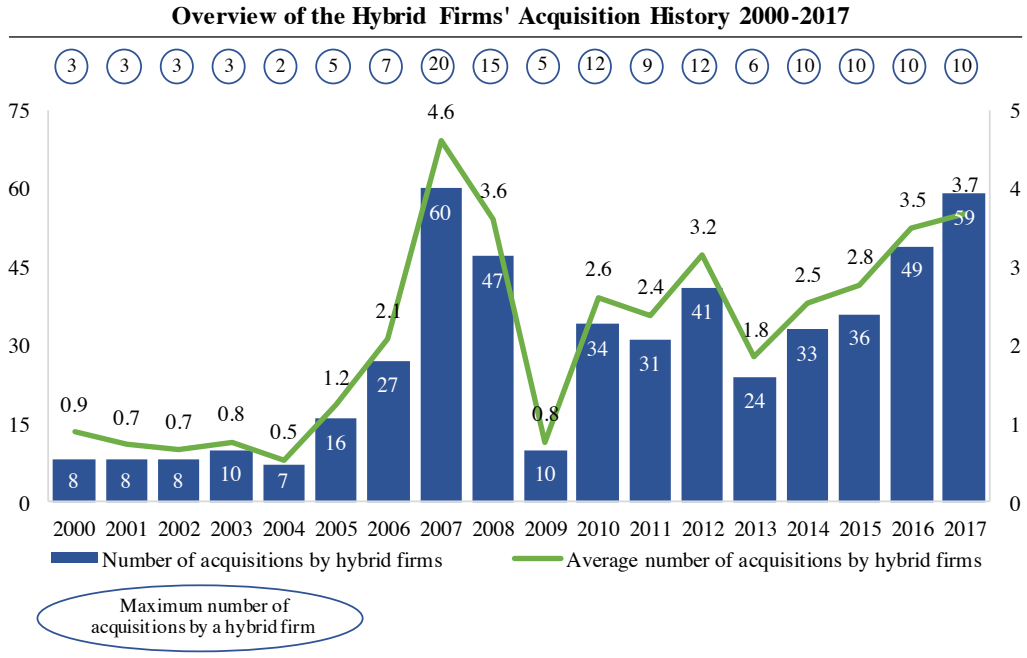
Company	Country of Origin	Sector	Other sector(s) and further business description	Market Capitalization (SEK bn)
AddLife	Sweden	Health Care	Life Sciences	3.9
Addnode	Sweden	Information Technology	IT Services and Software	2.3
Addtech	Sweden	Industrials	Technology Products Trading within Manufacturing and Infrastructure	10.9
Aspo Plc	Finland	Industrials	Shipping, Baking and other Food, Raw Materials & Chemicals, Energy	2.7
Bergman & Beving	Sweden	Industrials	Construction Tools	2.9
Duroc	Sweden	Industrials	Manufacturing within Railway, Synthetic Fibers	0.8
Indutrade	Sweden	Industrials	Components Manufacturing	25.9
Instalco	Sweden	Industrials	HVAC Installation	2.9
Lagercrantz Group	Sweden	Information Technology	IT Products and Equipment	5.9
Lifco	Sweden	Health Care	Dental, Construction Tools	24.2
Momentum Group	Sweden	Industrials	Construction Tools	2.5
NIBE Industrier	Sweden	Industrials	Construction Machinery	35.7
Schouw	Denmark	Consumer Staples	Personal Care Consumables, Fish Farming Feed, Textiles	22.1
VBG Group	Sweden	Industrials	Industrial Solutions for the Automotive Industry	3.6
Volati	Sweden	Consumer Discretionary*	Retail, Consumer, Industrials	6.1
Xano	Sweden	Industrials	Components Manufacturing	1.5

Note: Sector classifications according to GICS. Market capitalizations according to Thomson Reuters as at 2017-10-06. *The sector classification of Volati according to GICS is Financials, however, as this analysis aims to compare to the industry of the underlying industries the firm has invested in, this is misleading. Volati has therefore been reclassified to the Consumer Discretionary sector as it is the largest individual GICS sector the company's subsidiaries operate in.

To further depict the acquisitive nature of the named firms, their acquisition history is presented in Figure 1. It should be noted that the data was gathered from Thomson Eikon and could differ from information provided by other sources for several reasons. After reaching an all-time high of an average of 4.6 acquisitions per hybrid firm in 2007, the number of acquisitions decreased during the years following the financial crisis. Nowadays, it looks as the number has stabilized at around four acquisitions per firm and year. The maximum number of acquisitions by a hybrid in a given year was the 20 acquisitions made by Bergman & Beving in 2007.

For the past 9 years, Indutrade has been the most acquisitive hybrid with the highest number of acquisitions each year since 2009. The minimum number of acquisitions for a firm in a single year is zero.

Figure 1



Note: Data according to Thomson Reuters as of 2017-12-06. Acquisitions include add-ons. Number of hybrids vary across years.

3.2 Mixed Methods – Combination of Qualitative and Quantitative Analysis

This thesis applies a 'mixed methods' approach, i.e. combining quantitative and qualitative research, to analyze the chosen sample set. According to Creswell (2013), mixed methods is generally selected based on its potential of leveraging both qualitative and quantitative research and thus reducing the restraints of both approaches. Procedurally, this approach enables a more comprehensive understanding of the research question by allowing for causal connections or explanations through either method. The analysis part of this thesis will firstly focus on the quantitative examination of the sample set companies by investigating whether these companies did in fact outperform market counterfactuals. Subsequently, the qualitative analysis seeks to explain the potential outperformance by examining unique acquisition and holding strategy characteristics and relating those to point-of-views of both PE and conglomerate firms.

3.3 Research Design – Quantitative Analysis

3.3.1 Data Collection

The data required for analyzing the performance of the sample firms can be classified into two categories, fundamental financial data and stock price data. The fundamental financial data, the foundation of calculating the operational return as well as static observations of profitability and productivity has been collected from Thomson Reuters Eikon and Datastream. Thomson provides standardized information of fundamental figures, however the data can at times be flawed and limited. For instance, the information required to calculate ROCE, i.e. the measure of operational return, is largely accurate and available after 2005. However, for 2005 and before, rarely any fundamental data is available for the sample companies. To minimize noise due to data limitations, fundamental data is collected from 2006 and forward. Data is gathered on all firms currently listed on any of the major exchanges in the Nordic mainland countries. Not including delisted firms in the sample introduces a risk of incorporating survivorship bias in the data. After assessing all firms that delisted between 1996-2017 in Sweden and Norway, 2000-2017 in Denmark and 2006-2017 in Finland, with focus on those that made at least three M&A transactions, no company fit the specified sample criteria of the hybrid firms. Thus, the further analysis continues with only firms still listed in October 2017.

For the stock price data, Thomson Reuters Eikon provides both stock prices and return. To account for capital events, such as dividends, stock splits, new issues, etc., the primary data for the analysis is a return measure that incorporates any such changes. Similar to the fundamental financial data, data is collected on all firms currently listed on any of the major exchanges in the Nordic countries. The starting point of the gathered data is 1990, due to several reasons. Firstly, the sample companies, i.e. hybrid firms, are a quite new phenomenon. In 1990, only three of these companies were listed on any Nordic Exchange. Secondly, these firms may have developed over time into the hybrids they are today if their development was running in tandem with the development of PE strategies. As will be established further on, some of the hybrids only qualified to be in the sample by changing their strategy around 2005. As this thesis seeks to understand the effect of applying current PE strategies in a new corporate setting, the moderately long time-span, which avoids too much focus on prior irrelevant periods, is selected.

Furthermore, the thesis also utilizes data on Fama French factors for the Swedish Market available from "Fama French Factors", a database maintained by the Data Center of Swedish House of Finance (2017). The data is newly developed and available from 1983 to 2017 (ending January 2017) and includes the common four-factor model components as developed by Fama French and Carhart (1993; 1997).

3.3.2 Methodology of Performance Assessment

Previous research suggests that operational performance can be measured through several different methods, and most compare an operational return metric to either an industry average or to a required return based on a cost of capital calculation. For the latter, the most conventional metric such as EVA™ (Bennett, 1991) compares Return on Invested Capital (ROIC) to a weighted cost of capital. Measuring a cost of capital, however, introduces issues in terms of both necessary assumptions such as an appropriate cost of debt or debt beta and model misspecification risk when assessing the cost of equity through a market model. Therefore, this thesis opts for the former option and compares an operational metric to an industry average.

Firstly, the sample is analyzed through a static view of descriptive statistics available through previously mentioned secondary sources. Metrics measuring profitability, productivity, capital efficiency and earnings quality are measured against each sample firm's sector average. To further assess the performance the analysis dwells deeper into operational return, an assessment that combines profitability and capital requirement. The operational return focuses on ROCE due to two factors; firstly, it is capital structure indifferent (compared to e.g. Return on Equity); secondly, Capital Employed does not, compared to Invested Capital in ROIC, run the same risk of becoming negative (due to high excess cash levels in some firms) therefore distorting the sample statistic and counterfactual. The ROCE, with Average Capital Employed defined as shareholders' equity plus debt liabilities or total assets minus current liabilities, is calculated as:

$$ROCE_{it} = \frac{EBIT_{it}}{Average\ Capital\ Employed_{it}}$$

on a yearly basis. The potential outperformance is then tested through assessing if:

$$H_0: ROCE_{Sample} - ROCE_{Sector} = 0 \quad vs. \quad H_1: ROCE_{Sample} - ROCE_{Sector} > 0$$

The choice of observing sector instead of industry is due to limitations in the sample, as the groups in each sector can be very small. Comparing to an industry therefore creates a risk of outliers skewing the result, although it should be noted that only comparing to the sector creates a risk of an out- or underperformance being due to our sample firms "loading" onto industries with above sector operational returns and operational risk. To capture changes in operational performance, especially over the economic cycle, the operational performance is tested both yearly as well as for the whole period of 2006 to 2017.

The second conventional method of assessing performance is stock market performance which is conducted in three different manners. Firstly, a very simple market model is used, comparing the raw returns of our sample, adjusted for capital events, to their respective market indices. Once again, to account for differences over time, the comparison is made on the past 10 and 20 years. However, as investors are far from risk agnostic, the analysis is focused on a more complex market model, the Capital Asset Pricing Model (CAPM), as defined by Lintner and Sharpe (1965; 1964). The analysis follows the approach of Jensen (1968); assuming that the CAPM market model holds, the unexplained component of regressing excess stock price return (adjusted for capital events) on the firms' respective market premium (in excess of the risk-free rate) should represent an alpha, a measure of abnormal stock market performance.

$$R_{it} - r_{ft} = \alpha_i + \beta_i \left(R_{Mt} - r_{ft}\right) + \varepsilon_{it}$$

As some of these firms are fairly new, the analysis is made on monthly data. The monthly risk-free rate is calculated from the 2- or 3-month government bond of the country in which the sample firm is listed. The market portfolio is calculated based on the return of all stocks on the exchange on which the sample firm is listed. The index is continuously reweighted each month based on market cap as percentage of the exchange's total size. Finally, the regressions are made for each sample firm (hybrid). Alphas, betas and respective standard errors and p-values are saved from the regressions. Subsequently, the alphas are tested if they are collectively greater than zero for the sample firms. These tests are done for selective time periods, namely for the past 5 years, 10 years, 15 years and 20 years.

An alternative to using the CAPM is to use models with several other factors, e.g. the Fama and French factor models (1993). However, when this paper was initiated there was no factors available for any of the Nordic markets. During the fall of 2017, data containing the Fama French Factors has been made available for the Swedish stock market, although it is still unavailable for the other Nordic countries. While this analysis main assessment tool will remain

the CAPM model, another estimation based on the available Fama French four-factor model is made on the fraction of the sample that is listed on a Swedish exchange before 2017. The variations in returns are likewise split into a systematic component (factor exposure) and an alpha. This is especially done as a robustness test checking for model misspecification as research has found that dispersion in returns can be better explained by adding additional factors (Fama & French 1992; Fama & French 1993). The second model is therefore specified (in accordance with Carhart (1997)) as

$$R_{i,t} - r_{f,t} = \alpha_i + \beta_{M,i}\left(R_{M,t} - r_{f,t}\right) + \beta_{SMB,i} * r_{SMB,t} + \beta_{HML,i} * r_{HML,t} + \beta_{MOM,i} * r_{MOM,t} + \varepsilon_{i,t}$$

were the market return is a value weighted index of all stocks on the Swedish stock market and the risk-free rate is based on the one month Swedish T-Bill. The explanatory variables r_{SMB}, r_{HML}, and r_{MOM} are returns on value-weighted, zero-investment, factor mimicking portfolios for size (small-minus-big, SMB), book-to-market of equity (high-minus-low, HML), and momentum in stock returns (MOM).

Previous literature on conglomerates often analyzes diversification effects on valuation using a Herfindahl metric of firm industry diversification (Berger & Ofek, 1995). However, it is difficult to test whether diversification played a part in the return as Nordic firms (in contrast to US GAAP) do not have an obligation to report segment information, and more importantly, do not need to classify the segment industries while doing so. Also, companies vary in their way of accounting for intra-group transactions and eliminations. Thus, the data that is available through Thomson Reuters or other similar sources is full of noise and lacks industry definitions. This paper will therefore limit the diversification analysis to a static observation of segment data collected from company accounts. Important to note is that the subsidiaries within different segments of the various hybrids do not necessarily operate in different sectors, and not every hybrid name the segment for all subsidiaries. The resulting metric is therefore more an indicator of segment concentration, than a measure of industry diversification, for the latest reported financial year. The metric is calculated as:

$$H_{Hybrid} = \sum_{i=1}^{n} s_i^2 \text{ where } s_i = \frac{Segment\ Sales_i}{Total\ Sales}$$

3.4 Research Design – Qualitative Analysis

3.4.1 Data Collection

Qualitative data collection took place through verbal interviews. Out of the above listed 16 hybrid companies, representatives of 13 companies were willing to participate in qualitative dialogues and twelve interviews were held. In addition, in order to contrast collected results of hybrid companies with techniques and opinions prevalent in classical PE firms, interviews were also conducted with two PE or PE-like firms. To cover a spectrum of practices, the interviewed firms consisted of both a PE firm with a classical fund structure and a listed PE firm investing permanent capital provided by shareholders.

During the interviews, the interview subjects were asked to answer a set of questions based on critical themes explained in the literature overview (see section 2) as well as on specific characteristics apparent in the two prime examples of ITW and Danaher. These questions are divided into the following categories (see Appendix 2 for all interview questions):

- Corporate and Acquisition Strategy – questions were targeted to facilitate understanding for how the acquisition strategy is connected to the general, overall corporate strategy as well as to understand what factors are important when making an acquisition, for instance industry and strategic fit
- Decentralized Holding Structure – regards how the company works with its acquired companies after the acquisition, for instance regarding integration
- Culture Transfer – seeks to understand whether and to what extent a transfer of culture or values takes place
- Value Creation – regards how the company is working with its subsidiaries to create additional value, for instance through operational improvements or changes in the capital structure
- Governance – aims to investigate the corporate governance in the company and its subsidiaries, for instance by looking at which compensation instruments and schemes are in place at the company and in its subsidiaries
- Internal Capital Market – aims to investigate how the companies work with intra-group funding, for instance through internal loans or cash pooling
- External Stakeholders – investigates the influence of competitors and shareholders

Two types of questions were asked during the interviews: Most questions were close-ended ones and asked on a Likert-scale where the interviewee had to rank various statements to the extent whether he or she agreed on a 1-5 scale. To allow for flexibility, the interviewee then had a chance to elaborate more generally or in connection to every set of Likert-scale-based questions through open-ended questions. This type of semi-structured questions allows for the best possible outcome in a qualitative interview (Maxwell, 2012): On one hand, scale-based questions guarantee comparability of answers, and thus their effectiveness in terms of identifying characteristics. On the other hand, answers to the open-ended questions allow for confirmation and clarification of the answers to the Likert scale-based questions as well as for investigation of unanticipated facts and statements.

The interviews were held at the office of the companies being interviewed, in the cases where those were located in the Greater Stockholm area, creating a natural setting. This setup was the case for a majority of the companies. In all other cases, the interviews were held over phone. The interview subjects were typically the Head of Acquisitions, the Chief Financial Officer or a person of similar seniority of the companies and the discussions lasted for approximately 60 minutes each.

3.4.2 Data Analysis

The analysis of qualitative data aims at testing the hypothesis that the outperformance and improvement is based on the application of PE value creation strategies in the hybrid firms. To ensure data validity, the analysis of the collected qualitative data took place according to the related framework coined by Creswell (2013), who lists *1. Organization and Preparation, 2. Reading, 3. Coding, 4. Themes and Descriptions, 5. Interrelation* and *6. Interpretation* as iterative processes followed by a *7. Validation* step: After the interviews were finished, organization and preparation was achieved by transcribing each dialogue as well as saving the recorded audio files electronically in a collective space. By doing so, the authors were able to go back to the conversation to draw initial hypotheses and working conclusions as well as to gather potential follow-up questions. Subsequently, a read-through and coding process took place within the transcripts, in which paragraphs were labeled with respective summary words. Based on these, the following step of creating common themes and categories, which will be used as headlines in the findings section, occurred. Afterwards, themes and subordinate answers were interrelated both to other interviews and to previous literature standing in order to

subsequently interpret connections and deviations and ultimately derive at a set of characteristics that define the sample set's organizational hybrid form. Lastly, the qualitative research's quality was validated in the following way.

3.4.3 Research Quality

In order to confirm that the qualitative results can be generalized in the broader context that this thesis seeks to analyze, it is necessary to demonstrate that the qualitative research method upholds validity and reliability criteria. Thus, verification strategies as a means to ensure validity and reliability of the data were applied. In order to limit biasness of post hoc reflection, the following strategies were applied both throughout the interview process and after the completion of data gathering:

Morse et al. (2002) name amongst others *researcher responsiveness*, *iterative interaction between data and analysis* and *objectivity* as verification strategies within qualitative inquiry. *Researcher responsiveness* was guaranteed through the authors' pro-activeness during the interview procedure. In case of potentially interesting facts or statements, the interviewers asked for further elaboration and posed follow-up question in order to not miss important findings or individualities of the respective company. *Iterative interaction between data and analysis* was obtained through a verbal recap of each interview by the two interviewers immediately afterwards and – if necessary – through subsequently rephrasing questions, which proved not clear enough to ensure more efficient investigating. *Objectivity* was safeguarded by phrasing both pre-defined and ad-hoc questions in a way that does not lead to a possible answer or direction of such.

Creswell (2013) furthermore takes verification of validity and reliability through *triangulation* and *peer debriefing* into consideration. *Triangulation* refers to the usage of different qualitative data sources, which was achieved by conducting interviews as well as studying the annual reports of the sample set companies. Since the interviews were conducted by two out of three authors, *peer debriefing* could take place as an additional validity check. The third person, not present at the respective interview, allowed for an objective analysis of the interview through generated documentation. This documentation consisted of audit trails and transcriptions of all interviews as well as memos concluding most important open-ended answers and working theories.

4. Results

4.1 Assessing Quantitative Performance of the Hybrid Firms

If the main hypothesis of this paper holds true it should be expected that the hybrid firms have significant outperformance on several levels. First and foremost, the operational returns on investment should be higher for the companies applying the value creating strategies of Private Equity than those on the stock market that do not. Secondly, as this group of companies and their potential superior operational structure and governance have been a novelty in the past 20 years, one should expect to see superior stock returns as investors are unlikely to have accounted for the subsequent value creation of the hybrid firms' activities. As outlined in the methodology section, the analysis starts with observing readily available traditional operational performance metrics and complements these results with an evaluation of operational performance as measured by ROCE over the past 20 years. Finally, the total shareholder returns over the past 30 years are analyzed using the CAPM model and the four-factor model.

4.1.1 Observing Operational Metrics based on Fundamental Analysis

A natural starting point in this analysis is assessing operational metrics that are readily available through fundamental analysis of company accounts. By grouping the hybrid companies according to their respective sector classification, an analysis of a number of key performance indicators (KPIs) was conducted. The KPIs used were earnings before interest, taxes, depreciation and amortization (EBITDA) margin, revenue per employee, asset turnover and cash conversion. The ratio of revenue per employee is commonly used as an indicator of firm productivity, as described by Huselid (1995). In order to analyze the capitalization of the hybrid firms, two leverage ratios were also included. Refer to Appendix 3 for a full table portraying every sample company and their KPIs.

Table 2

Condensed Descriptive Statistics of Key Performance Indicators

Median by sector (sample companies per sector)	EBITDA margin %, LFY	Revenue per Employee MSEK, LFY	Revenue per Employee 10Y CAGR, %	Asset Turnover LFY	Cash Con-version LFY	Net Debt-to-EBITDA LFY	Debt-to-Total Assets LFY
Healthcare (2)							
Sample	**14.8**	**2.60**	**-0.4**	**1.01**	**0.10**	**1.80**	**0.26**
Diff. to industry	4.6	34.8%	-7.4	0.26	0.02	0.84	0.14
Information Technology (2)							
Sample	**11.4**	**2.10**	**1.7**	**1.15**	**0.10**	**0.81**	**0.16**
Diff. to industry	2.2	21.5%	0.2	0.09	0.04	1.14	0.07
Industrials (10)							
Sample	**10.5**	**2.27**	**2.2**	**1.27**	**0.09**	**2.33**	**0.26**
Diff. to industry	1.3	6.8%	0.2	0.12	0.03	1.00	0.05
Consumer Staples (1)							
Sample	**10.2**	**4.51**	**5.4**	**1.28**	**0.11**	**-0.65**	**0.06**
Diff. to industry	-4.2	36.7%	-0.7	0.26	0.00	-1.85	-0.13
Consumer Discretionary (1)							
Sample	**12.0**	**2.75**	**10.7**	**0.99**	**0.09**	**-0.63**	**0.04**
Diff. to industry	1.9	21.8%	8.9	-0.10	0.01	-1.51	0.01
All hybrid firms							
Sample	**11.2**	**2.48**	**2.2**	**1.15**	**0.09**	**1.58**	**0.22**
Difference to all listed firms	1.4	14.7%	0.0	0.10	0.02	0.70	0.01

Note: GICS sector classifications except for Volati that is reclassified from Financials to Consumer Discretionary. Data acc. to Thomson Reuters as of 2017-11-16. Asset turnover = sales over average assets. Cash conversion = operating cash flow over sales. Duroc is excluded due to a recent major reorganization that makes its financials misleading. For the sectors, healthcare and consumer discretionary, the revenue per employee CAGR is calculated on 3Y and 6Y, respectively due to data limitations. Companies that lack data for calculating the 10Y CAGR for revenues per employee are excluded in the calculation of the median for all listed firms.

Evaluating at the EBITDA margins, the performance of the hybrid firms is clearly superior. The hybrid firms collectively have higher margins in all sectors but one. Observing the revenue per employee, it is also very clear that the hybrid companies outperform their peers, a fact that holds through time. However, what is interesting is that there is no clear outperformance of the hybrids in the ten-year compounded annual growth rates (CAGR) of productivity. One probable explanation is that these companies acquire already very productive and efficient companies, leading to superior revenue per employee levels whilst keeping the CAGR in productivity low. Another sign of superior productivity in the hybrid companies is the fact that the asset turnover is consecutively higher. This is especially interesting when taking

into account the acquisitive nature of these companies, as their recently acquired assets should be close to the market value as signalled by high levels of goodwill, leading to an expanded asset base. It is also interesting to look at the cash conversion of these companies, to take into account the effect of capital tied up in net working capital. Also looking at this metric, the hybrid firms outperform their listed peers.

Due to some of the sample firms operating with negative net debt (i.e. larger cash and cash equivalents than debt) in some sectors, the Net Debt-to-EBITDA ratios are negative. Potential reasons for this include retaining large cash balances to have the financial flexibility to pursue acquisitions or entrenched management accumulating cash to increase security. Therefore, it is unclear whether the negative net debt should be seen as a disadvantage of the hybrid model. Generally, the Debt-to-Assets ratios are on par with the industry median. At first glance, the fact that the hybrid firms in the healthcare and information technology sectors seem much higher levered than their industry peers might seem puzzling. This is not unexpected however, as these two sectors are traditionally known for more financial prudence and lower leverage. Considering then that the hybrid firms generally target mature and profitable companies would imply that those could support higher leverage than for instance a listed healthcare company developing a new drug.

Table 3

Segment Concentration

Company	Herfindahl metric LFY
AddLife	0.53
Addnode	0.34
Addtech	0.26
Aspo Plc	0.37
Bergman & Beving	n.a.
Duroc	0.62
Indutrade	0.14
Instalco	0.29
Lagercrantz Group	0.26
Lifco	0.36
Momentum Group	0.63
NIBE Industrier	0.47
Schouw	0.41
VBG Group	0.35
Volati	0.36
Xano	0.43

Note: Bergman & Beving is n.a. as no segment reporting exists. Financials gathered from annual reports for the latest financial full year.

The Herfindahl segment concentration ranges from 0.0 to 1.0, where, for instance, 1.0 would imply that the firm has only one segment, and 0.5 would imply that the firm has two segments of equal revenue size. On average, the 15 hybrid firms that do have segment reporting organize their business in ~4 segments. Indutrade is the hybrid with the largest number of segments, namely six, which is expected considering this is also the hybrid with the largest number of subsidiaries (more than 200). Indutrade is also the company with the lowest Herfindahl metric, which also was expected due to the relatively similar size of the segments (only one segment has sales that account for more than 20% of total sales). Momentum Group, with only two segments where one accounts for 76% of sales, does naturally have the highest Herfindahl metric indicating the highest segment concentration. Although this is not a perfect proxy for industry diversification, this could be used as an indication, namely that Indutrade is more diversified than Momentum Group.

4.1.2 Analysis of Operational Return

To understand whether there is a statistically significant operational outperformance the analysis focuses on one operational metric over time, namely the operational return of the hybrid companies in comparison to a sector benchmark. As mentioned in both methodology and the previous section, data limitations result in the analysis only being possible for 2006 and forward and the industry average being assessed on sector averages. As can be seen in Table 4, the companies' average ROCE minus the sector average is significantly greater from zero on at least the 90% level as assessed by t-test for all years between 2006 and 2017. Collectively as well as for the individual years 2006, 2011 and 2013, the companies have an outperformance that is significantly greater than zero at the 99% level. Across years, the sample companies have an average ROCE of 12% which indicates an outperformance compared to the respective sector of 7 percentage points (the benchmark weighted sector average has a ROCE of 5%).

The years with least significant results are 2008, 2016 and 2017. For the years 2008 and 2016, periods of deep recession and economic boom, a higher degree of dispersion can be seen in the data. Particularly in 2008, a time of great change in the economy, the fact that the firms have different fiscal years would naturally create noise in both benchmark and the sample group of firms reducing the chances of a significant result even if companies were outperforming in those times. Even though the statistical and economic significance decrease for the recession period 2008-2010, the average difference remains positive. This is a noteworthy fact indicating that these firms fare well in down periods and that the positive returns are unlikely to be due to

systematic risk loading. These results are in alignment with Bernstein's et al. (2017) findings on PE-backed companies in economic downturns, where they likewise find that these companies fare better than their non-PE-backed counterparts. Another likely scenario for the recent years is that the amount of excess capital and all time high stock valuation have led to companies having a harder time to acquire companies at reasonable valuations, slumping inorganic growth. Finally, for the 2017 fiscal year only four hybrid companies have reported results and it is thus expected that 2017 is not as significant as the rest of the sample.

To conclude, the hypothesis H_0: $ROCE_{sample} - ROCE_{sector} = 0$ can be rejected on the highest conventional significance level across years, meaning that the hybrid firms likely are conducting activities that result in continuous operational returns on investment above the level of companies that are not applying PE strategies.

Table 4

Collective Test of the Hybrid Firms' Operational Return

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Across Years
Average ROCE	20%	17%	10%	6%	7%	10%	10%	13%	9%	13%	14%	12%	12%
Difference to Industry	11%	7%	4%	7%	5%	6%	5%	12%	7%	11%	8%	7%	7%
P-value	0.00	0.01	0.09	0.03	0.02	0.01	0.01	0.00	0.03	0.02	0.06	0.07	0.00
Sign.	***	***	*	**	**	**	**	***	**	**	*	*	***
N	14	14	14	14	14	15	15	15	16	16	17	4	177

Note: An operational return is created for 705 firms on the Nordic Exchanges, resulting in 6773 observations. Pan-Nordic sector averages are created and a difference to sector is calculated as the average of the difference between all sample firms ROCE (hybrid) and a yearly sector average. Sector definitions are taken from Thomson Reuters according to the GICS system. Volati's sector is changed from Financials to Consumer Discretionary. The significance relates to the difference to sector measure asessed by a one sided t-test.

4.1.3 Analysis of Shareholder Return

The original reason why these companies have gained attention is their stock market outperformance. Companies such as Lifco, Addtech and Indutrade have had stock price developments clearly above that of the Stockholm All Share Index, as can be seen in Figures 2–4. Not all of the hybrid firms have these exemplary performances, although most of the sample companies outperform since 1990 (please refer to Appendix 1 for share price graphs of

each sample company). The chosen time frame seems to be important and should thus be kept in mind when examining the stock price development, as more firms outperform in recent years.

One theory behind the noteworthy stock price development would be that these companies do indeed utilize the value creating strategies of PE without the stock market incorporating this effect into the initial stock price. Apart from assessing whether or not these companies are simply loading on to market risk, there are several questions that arise when delving deeper into the stock market development of these firms. Firstly, would a wider group of firms (the sample) collectively outperform their respective indices? Secondly, when would these value-creating strategies have started to be employed by the sample companies? Finally, should one expect this outperformance to continue, or might one now observe that the increase in price actually has corrected the stock markets initial mispricing?

Figure 2

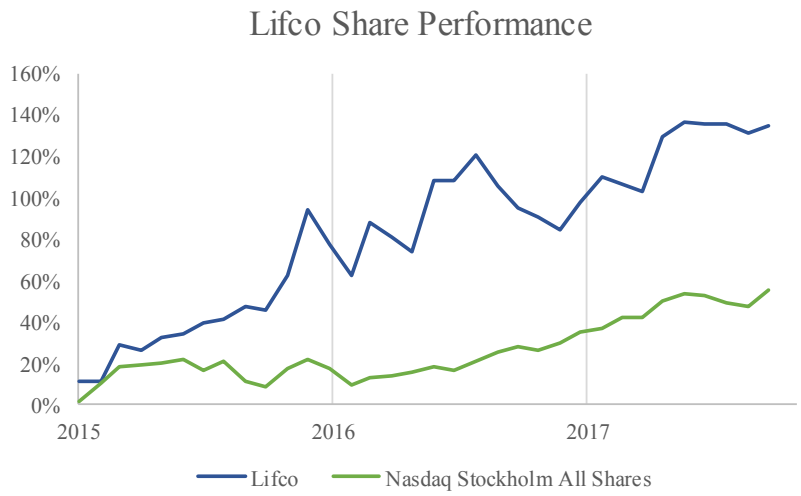


Figure 3

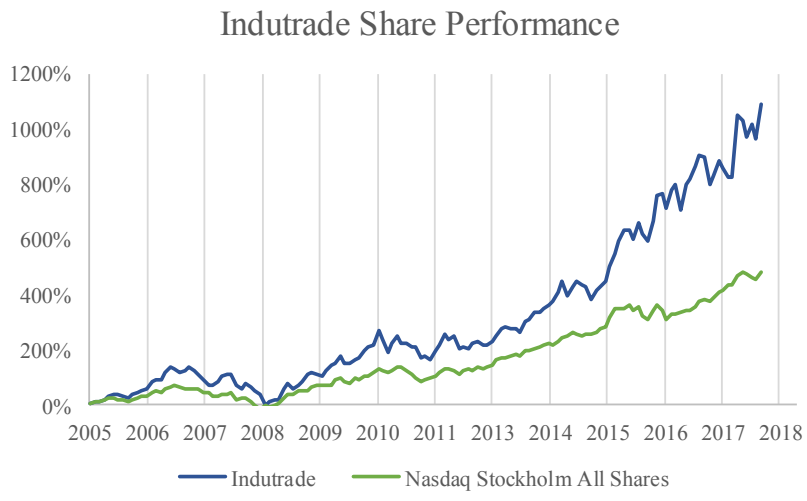
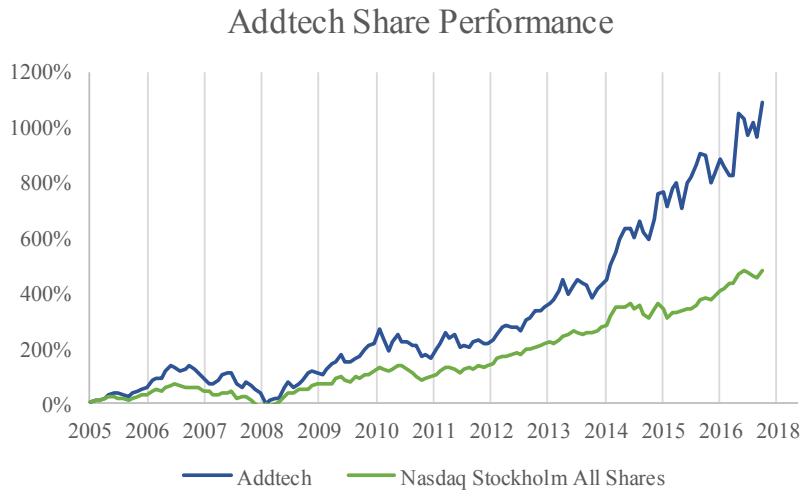


Figure 4



Analyzing the results of the simplest form of the market model, differences in raw returns, the sample companies' monthly returns have outperformed their respective indices throughout the past 20 years (before that only three companies of the sample had gone public). Similar to what was observed for the firms' individual stock price development, the average outperformance per month differs greatly depending on the starting point of the analysis. Particularly, in the last 10 years these companies have outperformed by ~0.3% per month, or ~3.8% per year, whilst looking at the whole sample period, 1990-2017, the sample company outperformance is less than a quarter at ~0.1% per month, or ~0.9% per year, as shown in the last column in Table 5.

Table 5

Simple Comparison of Nordic Gross Returns

		Market Returns	Sample Returns	Difference
All Years	Monthly Returns	1.58%	1.65%	0.06%
	Annualized	*20.77%*	*21.68%*	*0.91%*
10 years	Monthly Returns	1.19%	1.47%	0.27%
	Annualized	*15.32%*	*19.09%*	*3.77%*

Note: All years refer to the period January 1990 - October 2017 and the past 10 years refer to the period October 2007 - October 2017. Market Returns are equal weighted by the sample (hybrid) observations.

As investors are not risk agnostic, the natural continuation of this analysis is applying a market model that accounts for systematic risk. This paper starts by using the CAPM, in which the companies' systematic risk exposures and alphas are calculated following the approach developed by Jensen (1968). For the companies that have less than one year of observations there is high likelihood of model mismeasurement, therefore these are excluded in the main analysis but also presented below. Subsequently, the results will be tested for robustness against the issue of model misspecification by utilizing the four-factor model as developed by Fama and French (1993) and Carhart (1997).

Starting with the estimated statistics of the main CAPM analysis, (Table 6) the average betas for the sample companies (equal weighted by all firms that have at least one year of observations) is 0.79 and the average monthly alpha is 0.45% for the time period 1990-2017. The results therefore allow for two significant takeaways. Firstly, these firms seem to be focusing on industries with lower systematic risk than the overall stock market as the average market beta is less than 1. Secondly, the above zero alpha estimate indicate that these firms create above stock market value for their shareholders, adjusted for systematic risk. Assessing the full sample (Table 7), including the firms with less than one year of observations, shows similar results with an average beta of 0.90 and an average monthly alpha of 0.20%, although the economic magnitude is slightly diminished.

Table 6

Summary of the Estimated Regression Statistics for the 13 Hybrid Firms with over One Year of Data 1990-2017

			Extreme Values	
Item	Mean Value	Median Value	Minimum	Maximum
α	0.452	0.644	-1.668	1.807
β	0.791	0.841	0.317	1.415
N	213	218	17	333

Note: Alpha values are measured in %, an alpha of 0.2 represents 0.2% of monthly return. Momentum, Instalco and Volati are excluded as they only have 2, 3 and 9 observations respectively.

Table 7

Summary of the Estimated Regression Statistics for the 16 Hybrid Firms 1990-2017

			Extreme Values	
Item	Mean Value	Median Value	Minimum	Maximum
α	0.206	0.400	-3.377	1.807
β	0.905	0.857	0.317	2.250
N	174	204	2	333

Note: Alpha values are measured in %, an alpha of 0.2 represents 0.2% of monthly return.

Notably, there is a quite high dispersion in both estimated alphas and betas, regardless of whether the firms with few observations are excluded or not, as evidenced by the large difference between extreme values in the tables above. Additionally, observing all regressions individually in Table 8 it is also apparent that the alphas are not significant on an individual firm level except for NIBE, where the estimated 1.2% alpha is significant on the 95% level. Most alphas are however positive; to be precise 75% of all firms and 81.25% of the firms with more than one year of observations have estimated alphas above zero, indicating clear market outperformance.

Table 8

Estimated CAPM Regression Statistics for the 16 Hybrid Firms 1990-2017

Company	α	β	Excess Return	Market Excess Return	N
AddLife	1.807	1.018	3.635	1.795	17
	(1.032)	(0.669)			
Lifco	1.673	0.938***	3.018	1.434	33
	(1.185)	(0.312)			
NIBE Industrier	1.220**	0.451***	1.601	0.845	242
	(0.548)	(0.087)			
Aspo Plc	0.939	0.317***	1.135	0.620	215
	(0.576)	(0.077)			
Indutrade	0.742	0.925***	1.631	0.960	142
	(0.534)	(0.143)			
Addtech	0.678	0.841***	1.417	0.879	192
	(0.498)	(0.092)			
Lagercrantz Group	0.644	0.830***	1.435	0.953	191
	(0.565)	(0.112)			
Instalco	0.404	0.559	-0.195	-1.073	3
	(7.464)	(3.856)			
Momentum Group	0.396	1.393	-1.528	-1.381	2
	(n.a.)	(n.a.)			
VBG Group	0.343	0.538***	0.581	0.441	333
	(0.668)	(0.127)			
Xano	0.116	0.496***	0.334	0.441	333
	(0.574)	(0.098)			
Schouw	0.022	0.918***	0.906	0.963	274
	(0.516)	(0.111)			
Bergman & Beving	-0.179	0.719***	0.138	0.441	333
	(0.485)	(0.105)			
Duroc	-0.464	0.874***	0.379	0.965	250
	(0.787)	(0.151)			
Addnode	-1.668	1.415***	-0.542	0.795	218
	(1.002)	(0.318)			
Volati	-3.377	2.250	0.521	1.733	9
	(3.133)	(0.981)			

Note: "***" denotes a p-value <=0.01, "**" denotes a p-value <=0.05 and "*" denotes a p-value <=0.1. Figures in parenthesis are robust standard errors of the regression estimates. Alpha values are measured in %, an alpha of 0.2 represents 0.2% of monthly return.

Due to the combination of a positive average and lack of individual significance of the alphas it is interesting to do a collective assessment of all estimated alphas. A one-sample t-test is therefore conducted on the estimated alphas of the 13 firms with at least one year of observations. As can be seen in Table 9 the alphas are collectively significant (the mean is greater than zero) on the 99% significance level for both the last 5 and 15 years. For the remaining time period of the most recent 10 years the mean is collectively different from zero at the 95% level and for all observed years they are significant on the 90% level. In terms of economic significance, the average alpha ranges between 0.45-0.92 percent per month, indicating that investing in these firms would generate a substantial abnormal return over time. Interestingly enough, the largest alpha, and the highest significance, is not for the full sample, but again for the latest period. This fact could be an indication that this type of firm was either performing less well in the 90's, or it could be due to these firms gradually changing into the hybrids they are today and therefore only more recently achieving the full value-creation possible through the application of PE strategies.

Table 9

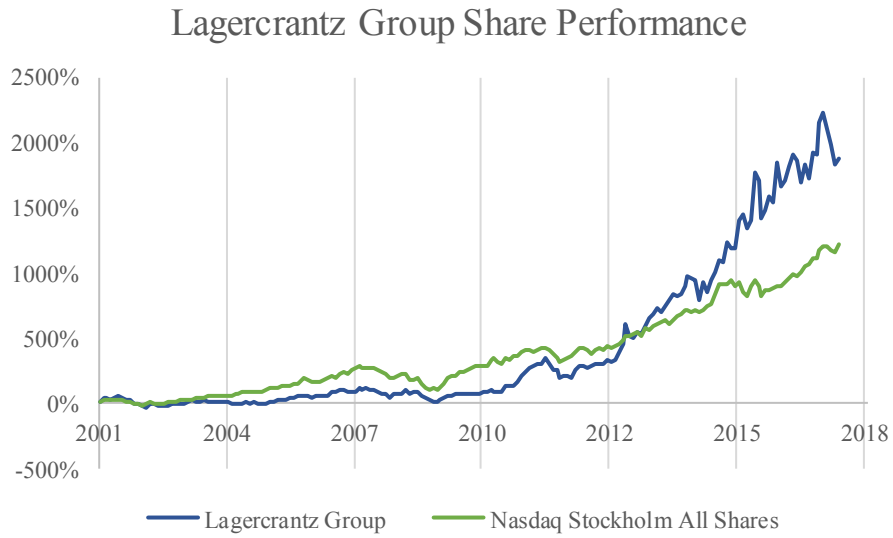
Collective Test of Estimated CAPM Alphas of Hybrid Firms

	α	N
5 Year	0.921***	13
Std. Dev.	(0.867)	
10 Year	0.499**	13
Std. Dev.	(0.821)	
15 Year	0.593***	13
Std. Dev.	(0.682)	
All Year	0.452*	13
Std. Dev.	(0.929)	

Note: "***" denotes a p-value <=0.01, "**" denotes a p-value <=0.05 and "*" denotes a p-value <=0.1. Momentum, Instalco and Volati are excluded as they only have 2, 3 and 9 observations respectively.

The last factor previously mentioned, focusing on when these firms began employing the potentially value adding PE strategies, is worth discussing more in depth. Although it is difficult to pinpoint the exact moment in time when these firms started adopting the strategy, there are some observable factors that have evolved and developed over time. Clearly, the strategy of these firms has changed over the window to become more similar to Private Equity. For instance, Bergman & Beving only started with their "BB Tools Academy", a human capital development program where managers meet, leverage experiences and develop leadership skills, in 2006 and it did not include or focus on executives' and leadership development until 2010, 34 years after their initial listing. Likewise, Lagercrantz Group, one of the companies that spun-off from Bergman & Beving, reformed their strategy in 2005 and defined it as "focusing on profitability, growth, *decentralization*, greater value-added, broadening of the operations into new technology niches, and *growth via acquisitions*", which greatly resembles PE strategies. (Bergman & Beving, 2006; Bergman & Beving, 2010; Lagercrantz Group, 2006)

Figure 5



Unfortunately, the operational returns of the companies are not observable before 2006 (due to data limitations). Nonetheless, the increase in raw return outperformance from the simple market model might be an indication of the fact that these companies have increased the amount of *operational engineering* in tandem with the increased usage of these techniques in the second LBO wave in the mid 2010's. The general strategy of the hybrids and its PE

resemblance, explaining the quantitative findings, will be further developed in the following section. However, what clearly can be concluded from this study of operational and stock market returns is that the CAPM provides evidence in favor of the fact that public companies operating under a decentralized structure and applying PE strategies create value.

However, as the alpha assessment is sensitive to model specification issues, the conclusion needs to be further checked. The analysis is therefore repeated with another model for risk adjusted returns, the Fama French four-factor model. As mentioned previously, the Fama French Factors are only readily available for Swedish data and until January 2017, thus limiting the sample to the 11 Swedish firms that had listed before 2017 and 10 firms with more than one year of data. The four-factor model allows the analysis to test if these firms are loading on to other risk factors such as growth or value stocks, firms with small or large market capitalizations and/or a momentum investment strategy. Specifically, the small-minus-big factor (SMB), representing the level a firm loads onto risk factors common to smaller firms, may be especially relevant as the hybrid firms themselves invest in small- to lower midcap investments.

Table 10

Summary of the Estimated Four-Factor Statistics for the 10 Hybrid Firms with over One Year of Data, 1990-2017

			Extreme Values	
Item	Mean Value	Median Value	Minimum	Maximum
α	1.360	1.587	-0.809	2.172
β_{Mkt}	0.287	0.165	0.051	1.095
β_{SMB}	0.462	0.326	0.157	1.696
β_{HML}	0.194	0.205	-0.226	0.623
β_{MOM}	0.222	0.121	-0.022	1.180
N	219	222	25	325

Note: Alpha values are measured in %, an alpha of 0.2 represents 0.2% of monthly return. Momentum, Instalco and Volati are excluded as they lack returns before 2017 (due to recent listing). AddLife is excluded as there is less than 12 months of data.

As can be seen in Table 10 the estimated alphas specified with the four-factor model are of higher economic significance and the overall range is shifted upward, compared to the main CAPM analysis, with alphas ranging between -0.8 and 2.2 percent. When observing the individual regression estimates in Table 11, 91% have positive alphas and, perhaps even more noteworthy, 64% of the alphas are significantly different from zero at least at the 90% level. In terms of the betas for the other factors, the small-minus-big factor is the one with the highest number of positive and significant estimates (55%), as hypothesized in the previous section. This is an indication that these firms may in fact load onto this risk factor by acquiring small companies.

Table 11

Estimated Four-Factor Regression Statistics for 11 Swedish Hybrid Firms 1990-2017

Company	α	β_{Mkt}	β_{SMB}	β_{HML}	β_{MOM}	Excess Return	Market Excess Return	N
AddLife	**2.471**	1.398	1.933	-0.096	-0.118	3.740	2.151	9
	(3.430)	(1.691)	(2.294)	(0.662)	(1.505)			
NIBE Industrier	**2.172*** **	0.095	0.437***	0.349***	0.004	2.160	0.826	234
	(0.570)	(0.096)	(0.091)	(0.086)	(0.054)			
Lifco	**2.156**	0.499	1.696*	0.035	1.180*	3.089	1.447	25
	(1.642)	(0.493)	(0.719)	(0.599)	(0.717)			
Addtech	**2.045*** **	0.051	0.534***	0.223	-0.022	1.836	0.856	184
	(0.587)	(0.129)	(0.204)	(0.143)	(0.072)			
Indutrade	**1.874*** **	0.170	0.253	0.623**	0.146	1.935	0.934	134
	(0.808)	(0.143)	(0.277)	(0.228)	(0.191)			
Lagercrantz Group	**1.612** **	0.241*	0.157	0.273	0.113	1.881	0.934	183
	(0.691)	(0.173)	(0.215)	(0.186)	(0.101)			
VBG Group	**1.562** **	0.125	0.242*	0.187	0.015	1.525	0.418	325
	(0.731)	(0.128)	(0.157)	(0.129)	(0.102)			
Bergman & Beving	**1.378** **	0.077	0.368***	0.155	0.063	1.205	0.418	325
	(0.578)	(0.096)	(0.170)	(0.115)	(0.081)			
Xano	**1.293** **	0.160	0.239**	-0.086	0.180*	1.204	0.418	325
	(0.626)	(0.109)	(0.157)	(0.077)	(0.067)			
Duroc	**0.315**	0.351**	0.284	0.408**	0.130	0.633	0.950	242
	(0.883)	(0.173)	(0.171)	(0.195)	(0.140)			
Addnode	**-0.809**	1.095***	0.407	-0.226	0.409**	-0.245	0.773	210
	(1.151)	(0.398)	(0.353)	(0.264)	(0.204)			

Note: "***" denotes a p-value <=0.01, "**" denotes a p-value <=0.05 and "*" denotes a p-value <=0.1. Figures in parenthesis are robust standard errors of the regression estimates. Momentum, Instalco and Volati are excluded as they lack returns before 2017 (due to recent listing).

Given the results of the main analysis using the CAPM it is not surprising that the collective tests of the alphas, as seen in Table 12, are even more significant, at the 99% level for all time-spans. Additionally, the finding of higher alphas for the shorter, more recent time spans persists, as shown by the full span average of 1.4 being 1.2 percent lower than the estimate for the past five years. The four-factor model results are also robust when including companies with less than one year of data, i.e. AddLife (see Appendix 4 for results for 11 hybrid firms).

Table 12

Collective Test of Estimated Four-Factor Alphas of Hybrid Firms

	α	N
5 Year	2.137***	10
Std. Dev.	(0.940)	
10 Year	1.428***	10
Std. Dev.	(0.705)	
15 Year	1.749***	10
Std. Dev.	(0.572)	
All Year	1.360***	10
Std. Dev.	(0.939)	

Note: "***" denotes a p-value <=0.01, "**" denotes a p-value <=0.05 and "*" denotes a p-value <=0.1. Momentum, Instalco and Volati are excluded as they lack returns before 2017 (due to recent listing). Addlife is excluded as there is less than 12 months of data.

As not all of the firms have alphas significantly different from zero it is important to note that we cannot be certain that picking one of these firms and repeatedly investing in random periods would have generated above market returns. Rather, the significant mean indicates that an outperformance is highly likely if the investor invests in these firms collectively. Overall, based on the assessment of ROCE and of alphas estimated by the CAPM and the four-factor model this quantitative assessment concludes that there is clear evidence for these firms outperforming the market as a group, both in terms of operational and stock price return.

4.2 Analyzing Qualitative Characteristics of the Hybrid Firms

Having quantitatively revealed that the selected companies within the sample set achieve superior performance, indicated by the shareholder return and operational measures above, the qualitative research seek to shed light on defining characteristics of these firms. Collectively, these aim at explaining their organizational form and thus the reason behind their above average value creation. In addition, the section seeks to investigate the hypothesis to what extent typical PE value creation strategies are applied by the hybrid firms. In the following section, overarching themes and the respective characteristics for the hybrid organizational form will be presented, defined and elaborated on. The particular characteristic will be defined as either a collectively similar trait for the entire sample set or one with differing extents or even peculiarities within the sample. Furthermore, by comparing these with typical PE strategies and contrasting to conglomerate traits, an analysis of PE approaches applicable in a public setting can be conducted.

Overall, the results show that the hybrid firms portray distinct characteristics in their corporate and acquisition strategy, on one hand, and in their subsidiary holding process, on the other. Both stages incorporate some of the typical PE strategies, such as targeting well-managed companies with unutilized potential. In addition, employing a decentralized management approach resembles PE techniques as well. Some characteristics, however, stand in direct contrast to PE traits, e.g. the lack of divestments and the influence of external stakeholders. Simultaneously, the hybrid firms make usage of the conglomerate-like group structure by operating through an internal capital market and strategic culture transfers.

4.2.1 Corporate and Acquisition Strategy

The general corporate strategy of the hybrid organizations emphasizes the importance of acquisitions, which all interviewed representatives completely agreed with. However, in contrast to PE-firm-typical investment strategies, the sample set companies do not intend to divest their acquisitions after a certain investment horizon. On the contrary, all interviewees agreed completely with pursuing a very long-term, preferably unlimited, holding period. This strategy is enabled by a permanent capital, in contrast to a fund structure, thus allowing investments directly out of the balance sheet of the parent company. Divestments (partly by sample set design) were therefore rated at lowest importance, having historically taken place only in a few seldom cases due to strategic misalignments or in acquisitions when only part of

the acquired group was the actual target. When being asked whether the interviewees would classify their respective firm as a 'listed Private Equity firm', the difference in corporate strategy in general, and in investment horizon in particular, was stated to be the main differentiator of the hybrid firms to PE firms. This difference was explained as the underlying reason for the clear opposition of being likened to PE firms in general. The CEO of a mid-cap Nordic PE firm O weighs in on the advantages of either model: "The advantage of not having an exit focus is that […] you know the company and how to create and grow the value, so why not use that instead of divesting and jumping on to the next investment. […] The advantage for us of actually having an exit strategy is that we have to do things quickly. We cannot just wait and see what happens. We have to take action, which I think can be an advantage. You usually notice that you do things too late or at least late and it is an advantage that we cannot really wait, but we have to act."

Furthermore, conglomerate-like firms are often accused of not making value-creating choices, by refraining from selling, closing down or merging subsidiary operations when necessary (*holding on to losers*) or acquiring firms when unnecessary (*empire building*). As the hybrid organization explicitly excludes divestments as a strategy, the possibility to make a net present value increasing divestment is even further limited. Thus, incorporating this strategy means that the previously explained conglomerate issue of *holding on to losers* is as applicable and even exacerbated for the hybrid organizations, since all subsidiaries are held indefinitely, irrespective of performance. However, given that the reputation of the firms is to create long-term, superior value within the firms, the lack of divestment may make economic sense for the firms. There may be a positive externality to this choice, if their reputation as a gentle and long-term owner results in lower costs for future acquisitions. Regarding the incentives resulting in empire building, the general strategy of these firms often states clear goals of earnings growth which often include either explicit or implicit non-organic growth targets. Therefore, although there is no structure or safeguard hindering value destructive acquisition, focus on long-term targets and a strategy allowing for non-organic growth might limit the initial principal agent problem. Regardless of the reason, clearly these firms have until today been taking decisions that on the whole create value, as can be seen in the performance assessment in section 4.1.

The subsequent theme, which generates further insights, relates to the companies' acquisition rationale. When selecting potential target companies, the vast majority of the sample set firms look for highly profitable and stable companies that are already (or have the potential to be) industry leaders. Additionally, favored targets are often family-owned, entrepreneurial

and/or niche players. Three interviewees however, mentioned that turnaround cases might be considered as well, albeit only when there are other special circumstances increasing the attractiveness, and primarily for add-on acquisitions. The reason for the typical hybrid firm not engaging in turnaround cases is that they operate with lean structures at their headquarters and this would require a considerably more active and time-consuming ownership approach. As such, the target firms of hybrid organizations fall into similar classifications as PE acquirers typically look for, based on collected interview results.

Contrary to PE firms, who responded to often employing consultants or investment banks during an acquisition process, the selected hybrid firms conduct business and commercial due diligence predominantly in-house and limit their use of external advisors. This differentiation can potentially be explained by the source of capital of PE firms versus hybrid firms. PE company O elaborates that due to the fact that PE firms invest other people's money, increased prudence and thoroughness within the due diligence is required, which can be safeguarded by an external analysis. Hybrid firms invest their own capital, which allows them to trust their own judgement, even if that comes at a higher risk. In contrast, company D claims that the reluctance of using external advisors is due to the intention of operating with a smaller cost base. In addition, as many of the hybrids are focused on a few industries, they have ability to leverage the accumulated industry knowledge present at either headquarter level or at portfolio company level to assess potential targets.

When it comes to deal sourcing, the sampled companies take a very active approach by marketing themselves to potential acquisitions, sometimes even over an extended period, e.g. a couple of years, in order to establish a pre-acquisition relationship. Targets are often also conducting business with an existing portfolio company, as they are commonly in an adjacent industry or in a vertical relationship. Looking at factors relevant to the acquisition, price plays the highest role for 92% of interviewed hybrid companies. Strategic fit and the industry of the target company, however, are of lower importance compared to price. Yet, within these two factors, strategic fit seems to be valued higher than industry, quantified by 42% (33%) of interviewees who consider the strategic fit (industry) to be of highest importance. In comparison, PE interviewees disagreed with the importance of both strategic fit and industry, except for add-on acquisitions. Two companies within the hybrid sample set state to be completely industry-agnostic, and thus evaluate potential targets based only on other factors, such as price, economic ratios and/or growth potential.

Examining the general improvement potential with regards to corporate governance, capital structure or operations as investment criteria resulted in mainly neutral statements from the hybrids companies, neither agreeing nor disagreeing with their importance. This result can be acknowledged to the fact that the hybrid firms primarily target well-run companies with capable management and financial structure, which reduces the direct necessity of taking major improvements into account. Nonetheless, comparing these three criteria shows the effect that operational improvements might act as a decisive factor within the acquisition rationale, as 50% of interviewed firms agreed or even agreed completely to its importance. Comparing to PE firms' answers, potential for operational improvements was ranked similarly high, while potential to improve corporate governance was assigned a higher value than hybrid firms expressed.

4.2.2 Decentralized Holding Structure

Turning to the process after the acquisition stage, the integration phase offers further core insights into the characteristics of the hybrid firms. Generally, it can be stated that the companies do not integrate the acquired firms, which resembles the comparable holding structure of PE firms. The exception to this holding structure are add-on acquisitions to portfolio companies, which are integrated by both hybrid and PE firms. On the contrary, all companies stressed the importance of a decentralized governance and ownership structure, very similar to the strategy applied and valued by Danaher and ITW. The interviewed company representatives fully agreed to the statements that 'acquired companies operate independently' and that these companies 'take important operational decisions independently'. More detailed, collective agreement was expressed regarding the fact that the headquarter professional, responsible for a certain subsidiary and usually sitting on the firms' board, is not involved in the day-to-day business of the respective company.

By managing subsidiaries in this decentralized manner, the entrepreneurial organization style that is apparent in most target companies prior to acquisition as well as the brand name and image is maintained. Keeping this structure is possible due to the fact that the acquired companies have a proven track record of successfully managing the previously stand-alone firm. Company F describes it as follows: "We are basically buying companies that we see have the necessary toolbox already. Then we can make some necessary changes, but it is not our main strategy. We are not buying companies to change them really." Thus, no pivotal changes or even limitations of managements' authority through organizational integration are required.

Instead, enhancement or improvement of existing managerial culture and techniques might prove valuable, which will be further elaborated later on. In addition, the decentralized ownership reduces or even eliminates the issue of *corporate orphanage*, since no subsidiary requires much supervision; hence, no subsidiary deteriorates due to neglect, while others flourish due to being closely managed.

Despite the decentralization, there are still activities that the hybrid companies conduct on group level, i.e. across companies, in order to leverage the group structure and its chosen synergies. These activities, however, are not aimed at increasing integration, a differentiation that was stressed repeatedly. The amount and depth of cross-conducted activities varies greatly between interviewed hybrid companies, yet the most common ones named were financing, accounting, insurance and purchasing. Interesting in this regard is the fact that all common activities – if any are employed – take place on a voluntary level, meaning no subsidiary is forced to participate. The only exception to this voluntary method portrays financing through the usage of an internal capital market that the group structure predetermines, which is a well-examined construct of conglomerates and will therefore be elaborated more detailed below (see 4.2.5). Comparing these activities to methods common in PE, coordinating activities at headquarter level is also rare, although e.g. conducting purchasing on a voluntary basis occurs.

Examining the human capital workforce administering group management and finance, deal sourcing and these cross-conducted activities, it appears very noteworthy that the hybrids' headquarter consists of only a few full-time employees (FTE). The median number of FTEs for the sample set companies is 8 employees, with the lowest one being only 3 FTEs, which resembles the lean structure apparent in PE firms (Company O; Jensen, 1989). A potential difference between these two setups of lean management, however, lays in the background of the respective FTEs. Company H explains the following distinction: "If you see the difference between us [the hybrid group, A/N] and PE companies, I think we have a group management with a solid industrial experience. All of us in the parent company have long and solid experience from [our] industry. I think this is where we can bring value to the acquired companies." Generalizing this fact throughout the sample set firms, one can conclude that for most hybrids not all FTEs come from an industrial background, yet some expertise is constantly present. The exception to this is the industry-agnostic hybrid firms, where PE-typical backgrounds, as investment banking or management consulting, prevail.

With an increasing number of acquisitions, it becomes continuously more difficult and intense to competently manage and oversee all subsidiaries with the detailed low number of FTEs. As a consequence, interview results have revealed that one part of the sample set companies follows the approach of splitting up into several individual hybrid companies that still maintain in the same strategy and values. One of these companies (Company E) elaborates: "The reason for why we split up the companies is that we lose focus when we get too big. We are all afraid to end up in this bureaucratic way and have too much to focus on in the same time. Then we might have to split up again." This approach is comparable to the way Danaher split and spun-off a part of its company in 2016 in order to cope with the increasing size and number of subsidiaries. On the other hand, some respondents answered to at least not plan on splitting up in the near future, but to maintain focus and overview through separated business divisions. One possible explanation for these differing tactics portrays the human capital intensity of the acquired firms' sectors. Subsidiaries operating in human capital-intensive industries might require greater focus and enhancement from the group. Therefore, it can prove beneficial to spin-off these divisions to refocus. According to this logic, the companies precluding a potential split might own predominantly portfolio firms operating in human-capital scarce industries.

4.2.3 Culture Transfer

To draw on the previous point of enhancing the managerial culture in the acquired firms, the possible transfer of culture of the hybrid parent company onto the subsidiaries reveals the following distinguishing characteristic. When specifically asking whether a transfer or implementation of culture takes place, results were mixed with regards to the scale-based-answer as well as to the interpretation of the question itself. A differentiation was necessary to define culture not as an operational standard or a brand-related image, but as a collective state of mind that is shared and valued throughout the entire group. Interviewees were then immediately able to relate and rephrased the process as "developing a common language so we can understand each other" (Company M). Others emphasized the importance of a culture transfer through creating "value in the sense that they [the subsidiaries, A/N] become part of a bigger family" (Company L) or through "lay[ing] the foundation for how we want to act towards each other and our customers, suppliers and other stakeholders" (Company H).

This strategic culture transfer takes place predominantly through human resource (HR) related activities that do not directly change the subsidiary's operations, but that enhance the managerial abilities of its executives. Thereby, the strategic and operational decisions the

managers make at each subsidiary are subsequently improved. Company B describes the process as follows: “We do not impose things but slowly and in a structured way, we introduce a new way of thinking in the companies and that usually gives a lot of effect.” A majority of interviewed hybrid firms highlight several strategic HR-activities, such as firm-specific schools or academies as well as workshops for senior management that are conducted across all subsidiaries. Within educational courses, leadership-positioned employees are brought together at reoccurring time points throughout their careers. Also, immediately after being acquired by the hybrid, the executives are educated in management and business related to their specific positions. On top of these seminars, there is often a knowledge transfer of best-practices and common agreements ensured through a database of materials, expert contacts and value principles. Access to this database again secures the autonomy and entrepreneurial management of subsidiaries by enabling leaders to make informed decisions independently, while also by being held fully accountable for all actions. In addition, almost all companies stressed the importance of structured meetings between the executives of each company. By conducting these meetings on a regular basis, these executives can take advantage of the group structure by creating a network and exchanging best-practices with colleagues facing similar decisions and scenarios. The above outlined initiatives resemble closely the techniques of Danaher’s DBS, which was taught and applied onto every new subsidiary and seen as the core of Danaher’s superior value creation. One interviewed company even reported that its entire strategic human capital initiatives are based on the DBS. Its elements were taught in a workshop by consultants formerly working at Danaher and subsequently adapted to the respective company’s culture.

Besides enhancing the skills and decision-making of existing employees within the group, some hybrids claimed that their ownership allows for a more successful recruitment process in individual subsidiaries as they are “able to attract high-caliber individuals that the businesses would not have been able to attract without our assistance” (Company M).

4.2.4 Value Creation

Alongside the transfer of culture and business mindset, one further important aspect in evaluating the hybrid organizations’ characteristics is to what extent these companies apply the typical PE value creation drivers, i.e. *operational engineering*, *financial engineering* and *governance engineering*. Asking specifically about value being created through changes in either capital structure, operational strategy, management or governance, answers were very dispersed between firms with emphasis placed on different levers, while stating the neglect of

others. Whereas some firms confirmed to use several levers to a moderate to high degree, others disregarded all but one. This dispersion compares well to the differing usages of these levers by PE firms, as described by Kaplan and Strömberg (2009) and concluded by Gompers et al. (2016). Predominantly though, operational engineering and financial engineering proved to be of highest practice within value creation for the sample. Simultaneously, governance engineering with focus on change of management received the lowest score on average. Throughout the sample, 67% of respondents disagreed with its usage, if it is not inevitably connected to the acquisition deal, e.g. the owner and manager of a family-firm sells in order to retire. Comparing this ranking to PE firms' indication, similar values were assigned to all levers but governance engineering, which received a higher score. This is explained by the PE firms' intention of eventually exiting a firm through possibly an IPO, which requires specific governance schemes. When asked about corporate governance improvement, one interviewed PE firm elaborated: "That is a very important area to work with. We always work with trying to make all our companies IPO-able. We always have an IPO committee, via the board of directors, to institutionalize the company with reporting structure, transparency, policies" (Company O). The hybrid firms, on the other hand, who do not plan on taking their subsidiaries public but on holding them indefinitely, perhaps perceived the necessity of this value creation lever as lower.

Looking more closely at the two major levers employed by hybrids, financial and operational value creation, some commonalities between the sample firms can be examined. Operational value enhancements are achieved by first allocating a period of time to understanding and examining the business model of the acquired company and analyzing potential improvement areas. This period reportedly varies between a few months and up to several years and often starts before the acquisition. Identified improvements aim at enhancing or simplifying the existing strategy over the long-term, not at changing it extensively and rapidly, as discussed above. "We like to see that the companies we buy have a very clear strategy and way of thinking. Then we can inject more fuel into that process. But we are not changing the direction, that is not the case", comments Company F, when asked about operational value creation. Secondly, a strategic business plan for the long-term value creation is generated or adapted, where bureaucracy efforts and overhead costs are limited and efforts are taken to minimize net working capital. Afterwards, for the unlimited holding period, a structured, timely reporting process of specific economic ratios is established in order to enable

both entrepreneurial autonomy of subsidiaries' managing directors and a regular monitoring of the value creation. These operational value enhancements mirror closely the procedure of PE firms, both in accordance with previous literature and as disclosed by the PE firms interviewed.

Financial value creation levers are applied through the improvement of the capital structure as well as through multiple arbitrage. The latter was explicitly mentioned by one company (Company N), while many others simply stated to aim for buying companies at a lower multiple than what the hybrid is valued at. While PE firms are known for highly utilizing leverage in the acquisition process of a firm, the hybrid firms act differently regarding financial engineering. The capital structure is primarily adjusted through the inclusion of the subsidiaries into a group-wide financing system, which is used to achieve a target equity ratio for the acquired companies. Admittedly, the level of indebtedness might fluctuate shortly after the acquisition. For instance, Company M describes that "when we make an acquisition, obviously leverage goes up, but then we use the cash flows from the companies to de-lever quite quickly". Overall however, most companies describe the use of leverage to create value as non-important; Company B, whose representative has a PE background, states: "We do not look that much on financial levers. In PE, we looked a lot at that and built complex Excel models, here we do it quite simply, […] we do not create value by restructuring the capital structure through an Excel model".

4.2.5 Governance

The governance scheme is worth examining more closely for the selected hybrid companies in order to define their characteristics and to understand the value creation process and its similarities with PE governance measures. Agency conflicts between shareholders of a public corporation and its management were and still are one of the most destructive features of a conglomerate, and as such one of the main improvements of the PE organizational form. Consequently, the hybrid firms could apply PE-like governance schemes, for instance with regards to monetary or equity incentives and to directorial steering, in order to mitigate arising conflicts and to safeguard alignment of interests.

Regarding executives' compensation at either the headquarter or the subsidiary, these firms use not only a fixed salary, but a performance-based part as well, connected to operational metrics, in order to incentivize managers. This percentage ranges usually between 10% and 30% for most of the interviewed firms, with some referring to an even higher level of 30% to

50%. Noteworthy is that the respective percentage is stated to be the same for both headquarter and subsidiary executives. Defining the payout of this performance-based compensation, all firms agree to use cash-based bonuses, while only some firms apply stock-based bonuses or options additionally within their schemes. By using these monetary incentives, the hybrid firms aim at aligning the interests of shareholders and management, and thus enabling greater value creation. Comparing this to PE firms' strategy of incentivizing however, the lack of equity-based incentives appears critical and would offer an opportunity to increase the principal-agent alignment even more.

In addition, an earn-out structure, as it is commonly used within PE transactions, can be implemented during the acquisition process, as some of the firms indicated during the interviews. This structure allows that entrepreneurs, who sell their companies yet stay active as managers, contractually obtain further compensation at a later point than the acquisition if the firm achieves pre-specified financial targets. Thus, earn-outs offer another option to align management and shareholder interests, and therefore effectively counteract a common disadvantage of conglomerates.

Within the governance-related drivers, however, the usage of board seats is the most influential on subsidiaries and as such the most similar to PE practices. The majority of interviewed companies (75%) described that the boards of its subsidiaries are active to very active. Usually, the board consists of at least one responsible investment professional from the headquartered parent company, who is in close contact with the subsidiary's managers and who gathers relevant financials on a repeating basis. Beside that person and subsidiary executives, the board comprises only very few external members, reportedly less than 10%. This figure is much lower than the one PE firms reported; PE interviewees stated ranges of external board members to be between 10% and 50%, which aligns with the highly mixed board composition described by Gompers et al. (2016). Nonetheless, very similar to the practice PE firms apply, the board involvement is the main tool to exercise influence over the subsidiaries of the hybrid organization. Value creation, especially with regards to operational analysis and enhancements and culture transfer, as elaborated above, is predominantly enabled and supervised through this position. Company B describes in this regard: "The best effect [comes, A/N] from the board work [in the way, A/N] that we, who are on the board of directors, have a certain way of thinking, and models that we use. That quite quickly imposes our way of thinking. At first, it is quite surprising for them, but quite quickly they get a hang of how we think and what we value".

4.2.6 Internal Capital Market

The previous sections regarding acquisition rationale, subsequent integration (or lack thereof) and value creation have shown high similarities with positively-established PE strategies. The following characteristic, however, sets the hybrid organizational form apart from PE firms and rather portrays its rooting connection to the conglomerate organizational form. The sampled hybrid companies are defined to always obtain a majority stake, if not full ownership, of the acquired company. Even though this is usually also the case for an acquisition by a PE fund, though accompanied by a much higher usage of leverage, these two kinds of ownerships do not allow for the same handling of capital within the holding structure. The hybrid firms' group structure allows them to create an internal capital market that comprises both the parent firm and the subsidiaries, comparable to the capital flow within conglomerates. Through this market, a transfer of funds in both directions, meaning from subsidiary to parent firm and the other way around, is possible due to their connection to a group-wide cash pool. Such a capital system is legally not possible within the PE fund structure and its holdings.

For the hybrid organizations, this structure is usually applied to collect excess earnings or dividends from the subsidiaries. At the same time, yet on a less regular basis, the cash pool is used to fund investments and financial needs of portfolio companies. All interviewed firms stated to employ (92%) or currently plan for the implementation (8%) of such an internal capital market. By taking advantage of this group-wide cash pool, the majority of interviewees agree with the fact that financing on group level enables cheaper financing than if each subsidiary secures its own external funding. Company A explains that "we have a good balance sheet at group level, we have good financing backing us, so if they [the subsidiaries, A/N] have projects that they want to do, it is easier for them to make it happen in our group, because we have the body to finance it". Company M adds that "the benefit […] around financing is that we already have financing in place. We can just pick up the phone to the bank and we already have an RCF to draw from". In addition to the easier access to funding, Company F stresses that the subsidiaries "can also take higher risks with us backing them, than what they could as a standalone company". This ability is resembled by the situation of portfolio companies owned by PE funds, which similarly allows for higher risk taking (Gompers et al., 2016).

Looking at the subsidiaries' need for funding, i.e. for add-on acquisitions or capital-intensive projects, more closely, transfers from the group cash pool can be given as either cash or loan agreements. The latter is used more commonly, as 91% (42%) of respondents indicate agreement on loan (cash) usage. These loan agreements come with company-specific interest

agreements and might vary between projects or subsidiaries. For both loan and cash-based deals regarding project funding, the subsidiary needs to present a business case to the parent company throughout specific time intervals, i.e. quarterly meetings, or on ad-hoc basis. Evaluating and granting of funding is decided on a case-by-case basis and is aligned with individual return hurdles that must be achieved at a future date. This handling of using varying discount rates and return hurdles for each individual subsidiary and its respective funding requirements presents a more sophisticated approach compared to the common conduct of conglomerates, who tend to employ a single discount rate throughout one firm and thus undertake potentially value-destructive investment decisions (Krueger et al., 2015).

Investigating if subsidiaries were funded – relatively seen – with the same amount by the group's internal capital market, the majority of hybrid firms (80%) strongly agreed that they transfer more funds to some companies and less to others based on individual investment requirements. Subsequently, the valid question arises whether the more intensively-funded companies are those that perform better or worse compared to the rest of the portfolio or if there is no causal relation. In this regard, answers were quite dispersed, which might be explained by different designs of the internal capital market with regards to how much generated cash is kept at the subsidiary to fund business model needs. Some companies are clearly in favor of funding the well-performing companies (20%), while others state the opposite, meaning that they give more funds to the worst-performing companies (20%). The majority of interviewed hybrid firms, however, chose to stay neutral in this matter, indicating therefore that previous performance is not relevant within funding decisions. These results indicate that although the hybrid organizations are party to the risk of *corporate socialism*, some at least partially limit or even counteract inefficient cross-subsidization.

4.2.7 External Stakeholders

The following two sections take other stakeholders or players of the hybrid firms into account, namely competitors and the stock market, i.e. shareholders.

Examining the hybrid firm's competition for acquisition targets from traditional PE funds, interview respondents categorized the competition level as high; more specifically, 91% agree that their respective hybrid organizations compete with Private Equity firms when acquiring a firm. Within this competition for deals, the hybrid firms express that PE players almost always are able to pay a higher price for a target than the hybrid. Nonetheless, the hybrid firm wins

some deals despite offering a lower price due to its reputation of maintaining the brand and business model and long-term investment horizon, which can soothe potential sellers. This seems to be especially true in family-firm cases, where the seller of a company currently is or used to be the founder and manager. Company D elaborates on this matter: "When it comes to buying companies, we have to differentiate ourselves. […] At least with the PE competition, they will always pay higher. We will win the process, since the guy who founded the selling company would like to know who owns it in 20 years. […] It is about convincing the owner that we would be the better buyer and holder." This selling argument is critical, as it may have implications on previous findings. Since the firms are able to purchase at lower prices than other acquirers do due to their emphasis on long-term ownership and limited change, it is in the hybrids' interest to proclaim that only modest changes are conducted. Therefore, responses detailing a laissez-faire approach to the acquired firms' development should be interpreted with this in mind.

The fact that the hybrid firm conducts its investment strategy while being listed is a clear differentiator to the classical PE firms, however, external stakeholders could possibly have an influence on both strategies. Although there is no shareholder pressure, external influence within a PE setting takes place through the necessity to invest continuously throughout and divest at the end of a predefined fund life as well as raise a new fund every 4 to 5 years approximately, irrespective of macroeconomic conditions. PE company O elaborates as follows: "We know we cannot rush into something because we have to pay for it later, when we are not able to perform. But of course, if we had 1 to 1.5 years, where we do not make any acquisitions, then we would feel the pressure. And that is dangerous, because then you would be stressed and then you might do things you should not do." Additionally, external influence might occur, if a fund feels pressured to exit earlier than planned in order to show positive track records to investors when raising a new fund. With regards to the hybrids' setting, the stock market and its investors normally possess a short-term mind set, which contradicts the long-term investment approach of the hybrid organizations, and might have an effect on shareholder's value perception of the firm. Still, despite this disparity in views, the large majority of respondents (83%) disagreed with the statement that their investment activities are affected by short-term earnings pressure form the stock market. These firms explain that by clearly publicizing to shareholders that financial targets are linked to a long-term investment horizon, they are able to neglect the stressful weight of quarterly or even annual reports. "I never look at the share price. I would lie if I said we do not care, we do, but it is all about

patience and sticking to what you have promised. We deliberately set very few, if any, annual targets. Our targets are long-term targets", specifies Company M on this matter. Furthermore, the claimed lack of external pressure allows the hybrids to vary their investment behavior based on macroeconomic conditions. One interviewed PE firm when asked about the pressure to invest in periods of high valuations explains as follows: "They [the hybrid firms, A/N] can actually go from being more PE-like in periods when that is an advantage to being more of a conglomerate." (Company O).

On a related note, another finding might explain why the above-mentioned short-termism of the stock market is not as relevant for the hybrid firms. During the interviews, a pattern emerged of several firms mentioning having one or two strong, controlling owners backing their firm. One firm, furthermore, highlight this fact specifically as a main section on its web page. By having this support, linking goals and returns primarily to long-term dates and future events is indicated to be possible. This is described by Company L: "We have a very strong and stable ownership structure. We are on the stock market of course, and we need to obey both the rules there and the expectations of the owners. […] but the ownership structure here is very stable, which gives us long-term perspective, so we are not maximizing anything just to meet the quarter or meet someone's short-term expectations, we are in for the long run." In order to analyze, whether this finding might actually differentiate the hybrid firms from other firms on the same stock exchanges, the percentage of free float was studied. However, the average of free float percentage of the sample compared to the exchange average shows quite close figures (sample set firms' free float: 69% vs. market's free float: 64%). One potential explanation offers Company M: "The two founders are still our main owners. The ownership is fairly concentrated and the free float is around 27%, but arguably the free float is much lower, because we had a lot of anchor investors that took the bulk of the IPO."

4.2.8 Key Characteristics

Based on the above-elaborated analysis of different decisive themes, it is possible to consolidate the particular characteristics that collectively form the understudied construct of a hybrid company, as can be seen in Table 13 below:

Table 13

Key Characteristics Comparison of Hybrids, Conglomerates and PE Firms

	Hybrids	Conglomerates	PE firms
Acquiring firms is a vital part of the corporate strategy			
Divesting firms is a vital part of the corporate strategy			
Manage its holdings in a decentralized manner			
Transfer culture onto acquired subsidiaries		n.a.	
Create value by employing operational, financial and governance engineering			
Successfully align managerial and shareholder incentives			
Funnel funds within the group by the usage of an internal capital market			
Are subject to short-term investor/stock market pressure		n.a.	

Note: Key defining characteristics for the three organizational forms discussed in this paper. Indicators for the conglomerates are based on academia.

The hybrid's corporate strategy places highest focus on ACQUISITIONS with a long-term investment horizon and little to no focus on divestments. This strategy is enabled through permanent capital and a few strong owners, with a long-term capital investment focus. Acquisition targets are mature, profitable companies that are industry leaders often in niche markets and that are well-run by skilled, entrepreneurial managers. These criteria lead to the acquisition of companies that do not require pivotal changes after its purchase, therefore suiting the hybrid long-term model focusing on improving through enhancement of existing skills or business models. Whether the typical hybrid focuses on a specific industry or invests industry-agnostically cannot clearly be determined, positive evidence is provided for both preferences. Contrary to conglomerates, the hybrid firm does not integrate the subsidiary, but values DECENTRALIZATION as the key holding principle. By managing firms in decentralized manner, the entrepreneurial spirit and the brand is prevailed. Consequently, subsidiaries' executives can

continuously make day-to-day decisions based on their expertise and company experience and thus have incentives to succeed. Despite the focus on decentralization, some cross-company activities are conducted on a voluntary basis in order to leverage the group structure. The results provided mixed evidence with regards to the nature of the activities being employed. These activities are usually not located at headquarter level, but only facilitated by the parent companies' professionals. The headquarter of the hybrid firm itself is operated very lean with only a small number of professionals, of whom some have previous industry experience. One of the most distinct characteristics is the CULTURE TRANSFER, specifically the strategic human capital initiatives, which generate common values and a common mindset, as well as managerial skill and knowledge exchange across subsidiaries. In addition to these, the hybrid firm employs similar VALUE CREATION levers to the PE industry, yet over a much longer time span, that seek to improvingly engineer financial structure, governance and operations, with emphasis put on the latter. In further resemblance of PE strategies, the hybrid organization uses its board seats as GOVERNANCE influence to intensively monitor development based on the culture transfer and value creation and assist in important strategic decisions. The hybrid operates an INTERNAL CAPITAL MARKET throughout its group in order to enable quicker and cheaper financing to subsidiaries' projects. Thereby, the burden of financial worries is lifted off of portfolio firms, while investment projects are monitored through incorporating specific performance hurdles. Still however, some firms manage to limit or even counteract the problem of corporate socialism as evidence has been found of most hybrid firms not engaging in inefficient subsidization of value-destroying firms or divisions. Lastly, the hybrid firm is characterized through its unique behavior towards EXTERNAL STAKEHOLDERS. Shareholders are attracted and appeased by the hybrid's focus on long-term targets without short-term market pressure and its accompanying track record. PE competitors are surpassed due to a similar rationale towards a seller of providing long-term ownership without merely targeting financial gains.

In a nutshell, the elaborated characteristics of the hybrid define a distinctive and understudied organizational form that very clearly applies value-creating strategies predominantly used in the PE industry in a public setting, providing evidence in favor of the proposed hypothesis.

5. Conclusion, Limitations and Suggestions for Further Research

5.1 Conclusion

Previous research has comprehensively analyzed whether Private Equity firms create value. In this regard, evidence has been provided showing the creation of abnormal returns for PE investors as well as confirming that the increase in fund value is due to portfolio firm enhancement. Naturally, the question arises whether the strategies that lead to this distinct value creation in the PE industry can be applied in other organizational settings as well in order to achieve similar success. Two prominent examples of this application in a public industrial setting are depicted by the American firms Danaher and ITW, demonstrating the potential for a value-creating employment of PE strategies through their distinct hybrid structure. With the intention of providing similar evidence for hybrid firms in the Nordic markets, a sample set consisting of matching firms was investigated.

The quantitative examination validates that the sample set outperforms in both operational and shareholder returns, probably driven by the application of value-creating strategies traditionally employed in PE. Specifically, a significant outperformance of the ROCE and the existence of continuously positive alphas of the sample firms' shareholder returns, regardless of specification with the CAPM or four-factor-model, provides evidence in favor of these firms applying superior strategies. Subsequently, this thesis provides insights on these firms' organizational structure and operational strategies, thereby examining whether PE strategies are applied and therefore affecting these firms' performance.

Albeit by design, the largest difference to PE is that the hybrid firms differ in their investment horizon; the combination of a decentralized structure and undefined holding period rather resembles that of a conglomerate firm. The lack of a time-limited fund structure enables long-term ownership and development of portfolio companies. This structure also functions as a selling argument towards acquisition targets by signaling a long-term perspective, a comfort in ownership continuity and a slower pace of change in contrast to PE acquirers. Compared to the classical conglomerates, the typical shortfalls of this model are mitigated in most sample firms through strict operational processes. However, a few firms still admit to *inefficient cross-subsidization*, and the *destructive managerial incentives* might even be exacerbated as the hybrid's ownership continuity reputation might be harmed if acquired firms are discontinued or sold. It is therefore important to note that applying PE strategies in these firms is not a solution to the conglomerate model, rather it is an improvement of the average listed corporation.

Similar to PE however, the long-term perspective of hybrids' investors enables these firms to partly limit short-term market pressure, thereby allowing necessary risk taking and mitigating stock market myopia. The core characteristic of the hybrid firms is a PE-like decentralized holding structure that allows for entrepreneurial decision-making and development of subsidiaries. This decentralization is complemented greatly through a variety of strategic human capital initiatives, which are designed to create a common value mindset, improve managerial skills, and generate knowledge and best-practice exchanges. In addition, classical PE value levers, such as operational, governance and financial engineering, are applied to enhance the existing business model and generate long-term growth opportunities. Further steering and supporting influence is conducted similarly to PE through governance mechanisms, such as high board activity, knowledge transfer between subsidiaries and compensation incentives. Lastly, the hybrids' group structure enables a beneficial use of an internal capital market, allowing for cheaper and simpler funding for subsidiaries utilizing investment plans and specified returns. Although any change is applied at a slower pace, the hybrids' organizational construct closely resembles many traditional PE features, especially regarding core characteristics and procedures. Thus, it can be concluded that these firms apply PE strategies as well as outperform on both operational and shareholder level, thereby providing evidence in favor of the possibility to apply PE strategies in other organizational forms and consequently create value.

The implications of this result beyond the sample are twofold. Firstly, the evidence of value creation further provides evidence for the proponents of PE in the discourse of PE firms' value creation. Secondly, it gives higher credibility to the combination of a decentralized structure and PE strategies outside the PE environment, and provides encouragement for other firms considering applying this organizational structure and operational strategy. Going forward, if the conclusions of this paper hold true one can expect the operational return outperformance of these sample firms to continue. However, the shareholder return progress is unclear as it is subject to the future development of the market opinion; if investors start expecting these superior returns, the alphas would gradually decrease and eventually disappear.

However, it needs to be bared in mind that with an increasingly public exposé of the hybrids' success as well as rising competition from PE firms, the contest for suitable and promising targets becomes progressively difficult. This situation is intensified by the necessity of gradually finding larger targets as the hybrid firm itself grows over time.

A potential counterbalance is generated by the designed set-up of PE funds, which by default divest portfolio companies. These firms could serve as one potential acquisition source for the hybrid companies.

5.2 Limitations and Suggestions for Further Research

The aim of this thesis was to investigate the hybrid firms on an aggregated level, with regards to their performance and their defining characteristics. If the hybrid organizational form were to be examined further, a deeper look into the portfolio companies of the hybrid firms would be interesting. Just as a number of academic papers look into the perspective of companies before and after PE ownership, such as Davis et al. (2011) as well as Cohn and Towery (2013), a similar analysis on the hybrid firms' portfolio companies could provide further evidence in favor of the value creation suggested in this thesis. For instance, looking into profitability, growth and productivity in companies before and after the ownership of a hybrid firm could confirm the findings of this thesis also on an individual portfolio company basis. While analyzing the portfolio companies, asking them for their opinion of the hybrid structure, would provide an opportunity to contrast or validate the views of the hybrid headquarter management. For instance, whether the hybrid subsidiaries agree with the laissez-faire approach and the decentralization stressed by their owners could be of interest.

The question whether or not the results that have been derived would hold also for a larger sample in a different or extended geographical market similarly remains. The quantitative analysis would benefit from containing a larger sample, for instance of all hybrid firms in Europe. However, the main targeted outcome of this thesis was to qualitatively define a typical hybrid firm and hence, a smaller sample that could be interviewed thoroughly with resulting highly-comprehensive quality answers was prioritized.

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Appendix

Appendix 1: Description of Hybrids & Share Development Graphs

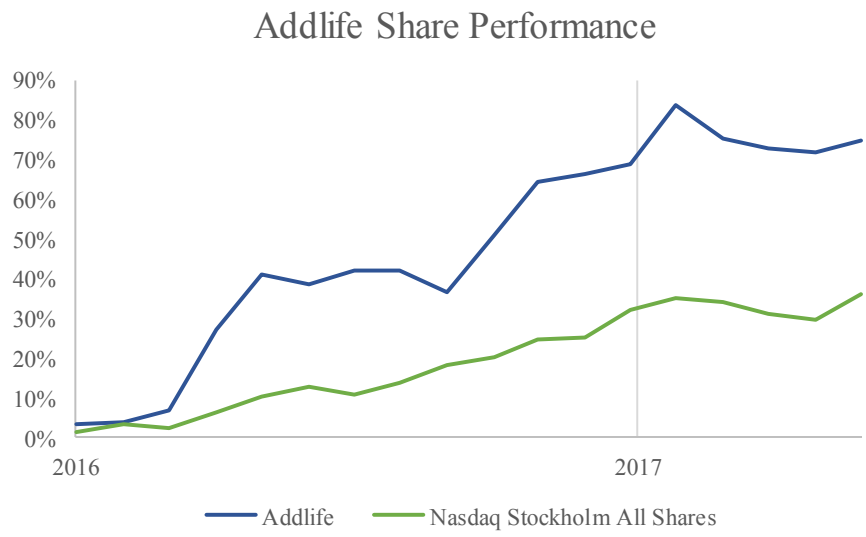
Note: Market capitalizations and share price data according to Thomson Reuters as of 2017-10-06.

Company: **AddLife**

Market Cap: SEK 3.9 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Roosgruppen	13.8%	22.6%
	Tom Hedelius	1.9%	13.4%

ADDLIFE is a highly-acquisitive company founded in June 2015 as a spin-off of the Addtech Group and is headquartered in Stockholm, Sweden. The company invests primarily in the life science and health care industry, more specifically in LabTech and MedTech. It owns 30+ subsidiaries in 11 countries. The company is listed on NASDAQ Stockholm since 2016.



Company: **Addnode**

Market Cap: SEK 2.3 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Staffan Hanstorp and Jonas Gejer	7.5%	20.1%
	Dick Hasselström	4.8%	12.0%

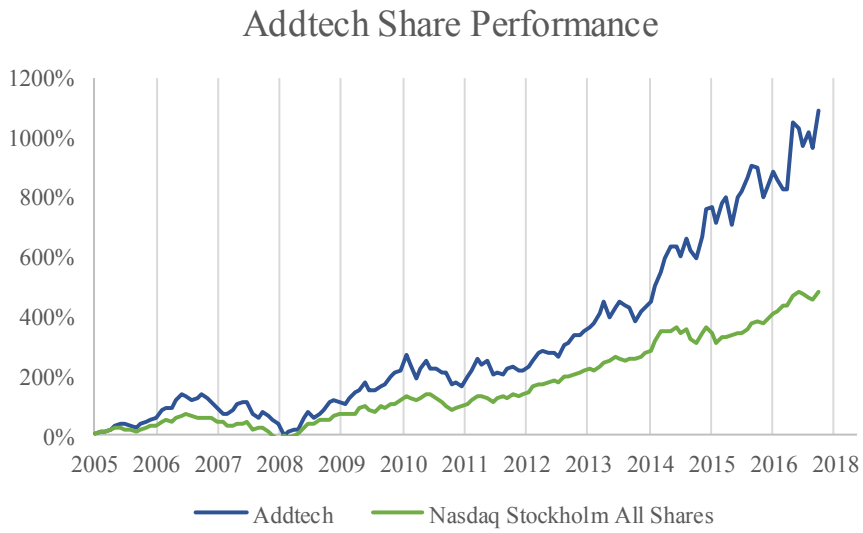
ADDNODE is a highly-acquisitive company founded in 1987 and headquartered in Stockholm, Sweden. The company invests primarily in the information technology industry. It acquired 40+ subsidiaries in 14 countries. The company is listed on NASDAQ Stockholm since 1999.

Company: **Addtech**

Market Cap: SEK 10.9 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Anders Börjesson	2.3%	15.4%
	Tom Hedelius	2.2%	14.9%

ADDTECH is a highly-acquisitive company founded in 2001 as a spin-off of Bergman & Beving and is headquartered in Stockholm, Sweden. The company invests primarily in the industrials and technology industry, more specifically in technological manufacturing and infrastructure. It owns about 120 subsidiaries in around 20 countries. The company is listed on NASDAQ Stockholm since 2001.

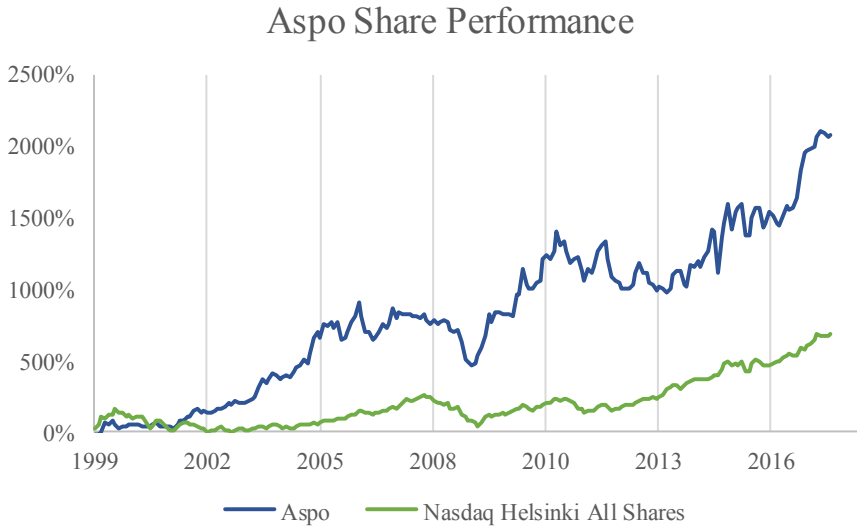


Company: **Aspo Plc**

Market Cap: SEK 2.7 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Havsudden Oy Ab	10.2%	10.2%
	Vehmas Tatu Antti Aleksi	7.5%	7.5%

ASPO is a highly-acquisitive company founded in 1999 and is headquartered in Helsinki, Finland. The company invests primarily in the industrials industry, more specifically in industrial logistics services. It owns 4 subsidiaries active in Northern Europe and selected growing markets. The company is listed on NASDAQ Helsinki since 1999.

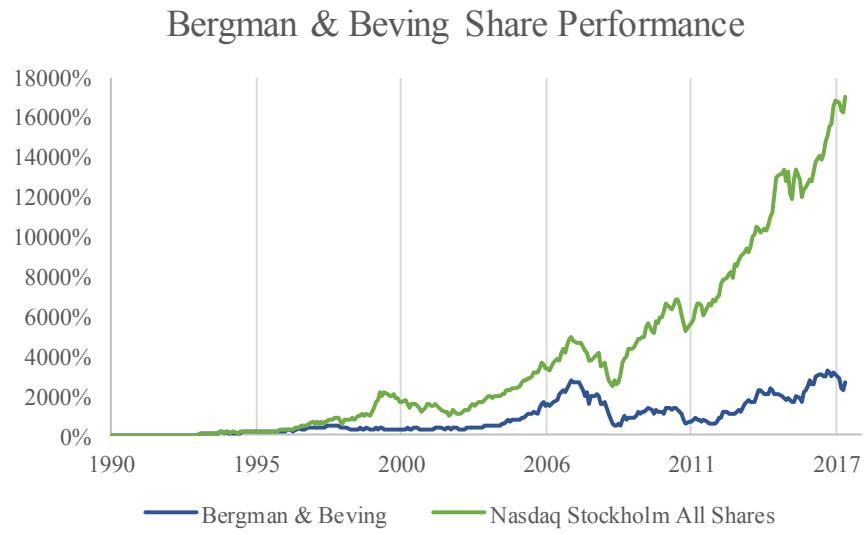


Company: **Bergman & Beving**

Market Cap: SEK 2.9 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Anders Börjesson	4.2%	14.6%
	Tom Hedelius	1.7%	12.8%

BERGMAN & BEVING is a highly-acquisitive company founded in 1906 and headquartered in Stockholm, Sweden. The company invests primarily in the industrials industry, with focus on the manufacturing and construction sectors. It currently owns 15 subsidiaries in the Nordic countries. The company is listed on NASDAQ Stockholm since 1976.

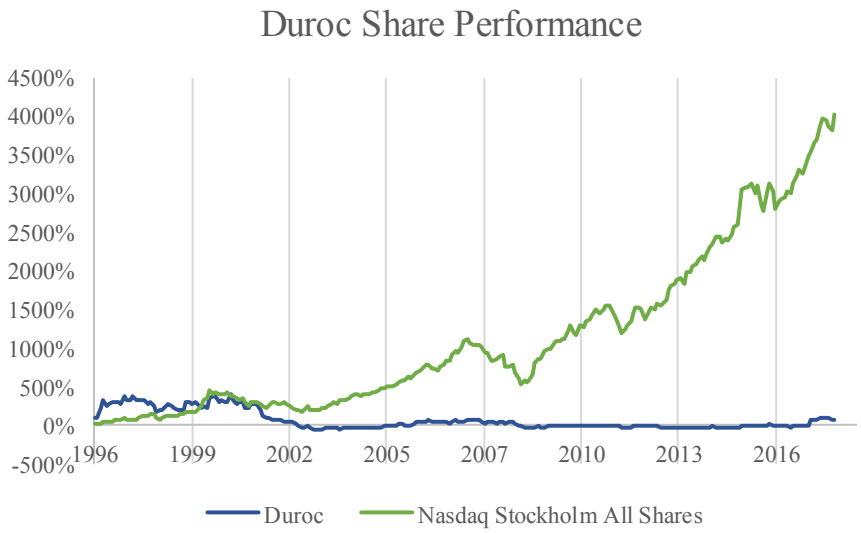


Company: **Duroc**

Market Cap: SEK 0.8 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Peter Gyllenhammar	79.5%	79.5%

DUROC is a highly-acquisitive company founded in 1987 and headquartered in Danderyd, Sweden. The company invests primarily in the industrials industry, specifically in fiber, industrial trade and other industries. It currently owns 4 subsidiaries operating in Europe and the United States. The company is listed on NASDAQ Stockholm since 1999.

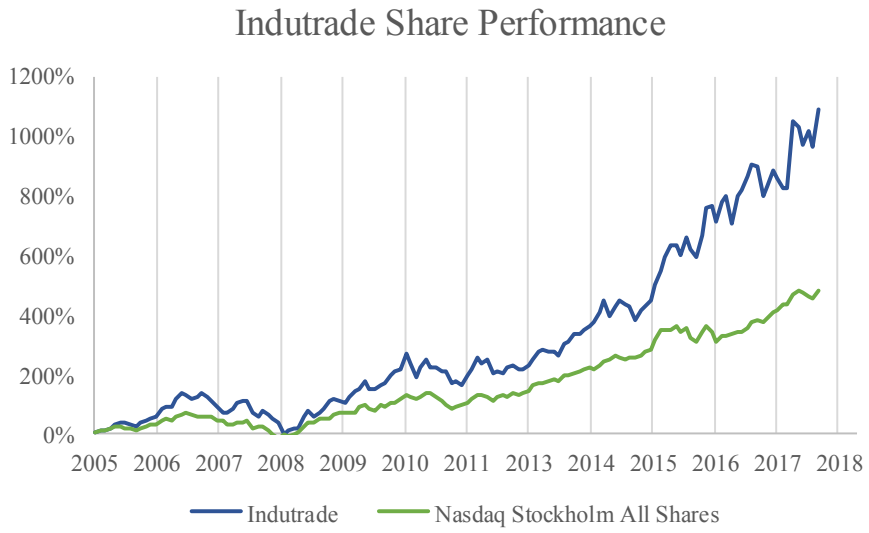


Company: **Indutrade**

Market Cap: SEK 25.9 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Lundbergföretagen	26.1%	26.1%

INDUTRADE is a highly-acquisitive company founded in 1978 and headquartered in Stockholm, Sweden. The company invests primarily in industrials, with focus on several sectors, namely Engineering & Equipment, Flow Technology, Fluids & Mechanical Solutions, Industrial Components, Measurement & Sensor Technology and Special Products. It currently owns 200+ subsidiaries in 31 countries. The company is listed on NASDAQ Stockholm since 2005.

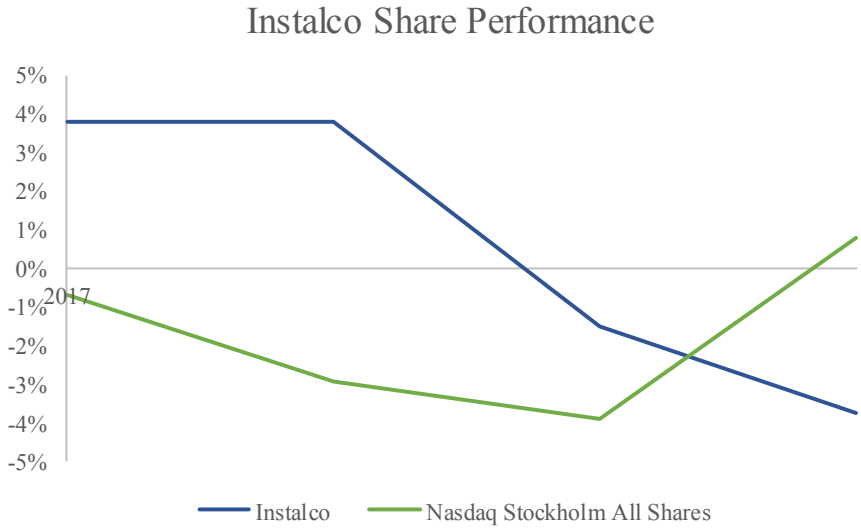


Company: **Instalco**

Market Cap: SEK 2.9 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	FSN Capital	10.8%	10.8%
	Per Sjöstrand	9.1%	9.1%

INSTALCO is a highly-acquisitive company founded in 2014 and headquartered in Stockholm, Sweden. The company invests primarily in the industrials industry, with focus on the heating and plumbing, electrical, ventilation, cooling and industrial solutions sectors. It currently owns 25+ subsidiaries in the Nordic countries. The company is listed on NASDAQ Stockholm since 2017.

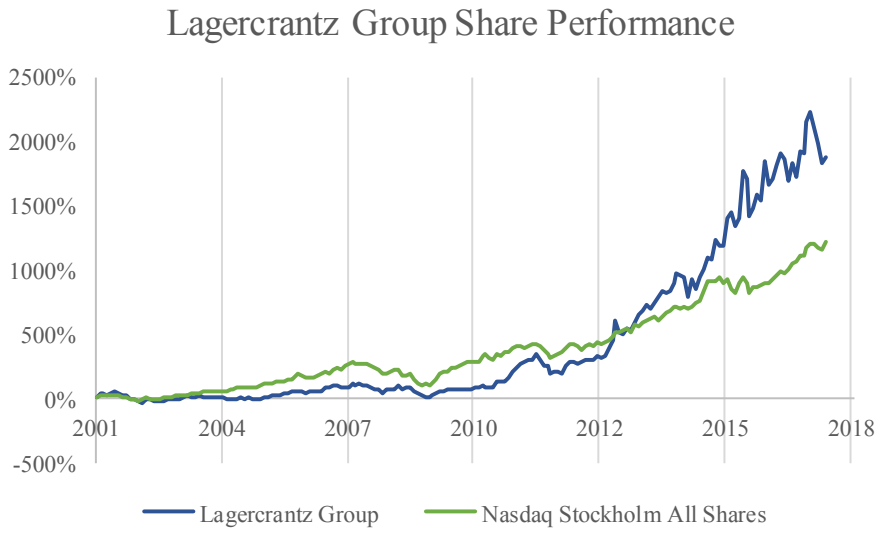


Company: **Lagercrantz Group**

Market Cap: SEK 5.9 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Anders Börjesson	3.8%	16.1%
	Tom Hedelius	2.1%	14.5%

LAGERCRANTZ is a highly-acquisitive company founded in 2001 as a spin-off of Bergman & Beving and is headquartered in Stockholm, Sweden. The company invests primarily in information technology, with focus on electronics, mechatronics, communications and niche products. It currently owns about 50 subsidiaries in 9 countries in Europe, China, India and in the United States. The company is listed on NASDAQ Stockholm since 2001.

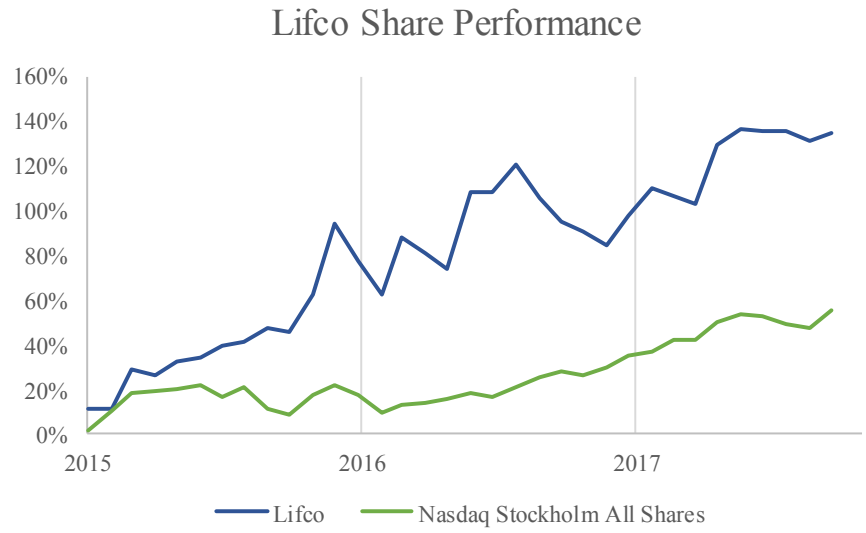


Company: **Lifco**

Market Cap: SEK 24.2 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Carl Bennett	50.1%	68.9%

LIFCO is a highly-acquisitive company founded in 1993 and headquartered in Enköping, Sweden. The company invests primarily in the health care industry, yet invests generally in the Dental, Demolition & Tools and System Solutions sectors. It owns 132 subsidiaries in the 26 countries. The company is listed on NASDAQ Stockholm since 2014.

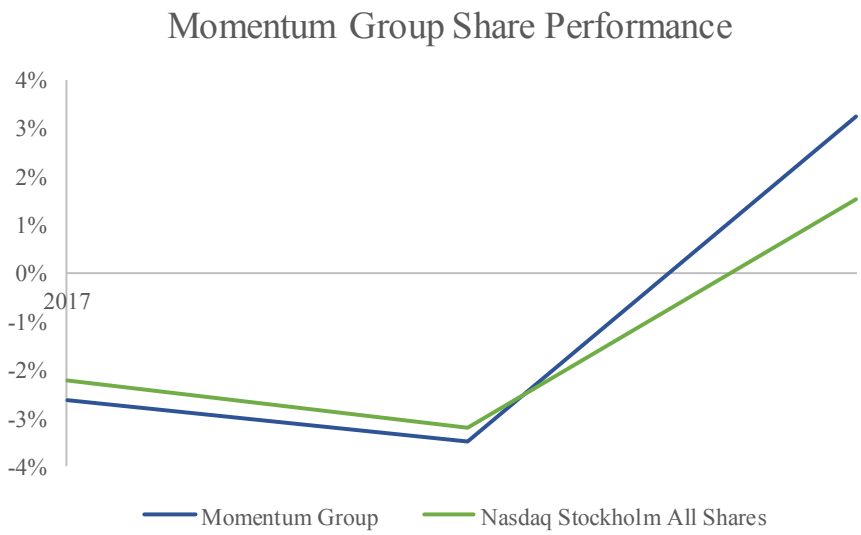


Company: **Momentum Group**

Market Cap: SEK 2.5 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Anders Börjesson	4.2%	14.7%
	Tom Hedelius	1.7%	12.8%

MOMENTUM GROUP is a highly-acquisitive company founded in 2016 as a spin-off of Bergman & Beving and is headquartered in Stockholm, Sweden. The company invests primarily in the industrials industry, with focus on industrial Tools & Consumables and industrial Components & Services. It currently manages 4 subsidiaries in the Nordic countries. The company is listed on NASDAQ Stockholm since 2017.

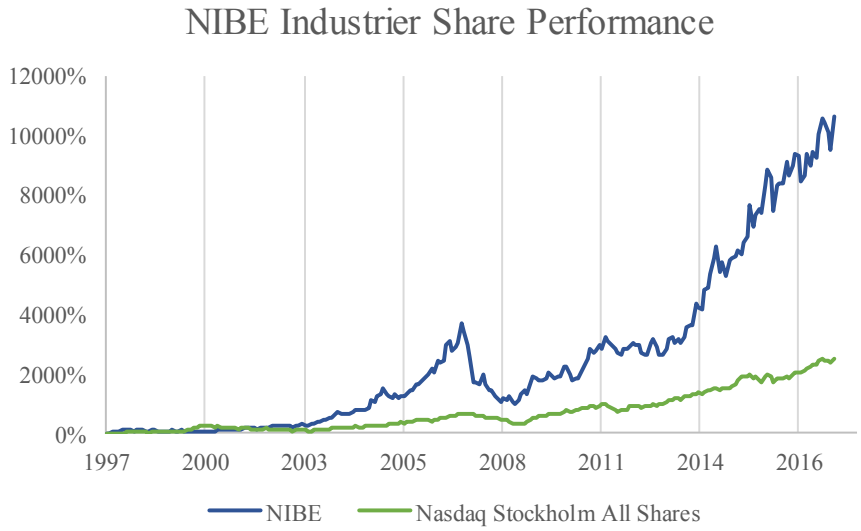


Company: **NIBE Industrier**

Market Cap: SEK 35.7 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Melker Schörling	10.9%	20.3%
	Gert-Erik Lindquist	4.6%	8.3%
	Bengt Hjelm	4.0%	8.0%
	Harry Andersson	2.0%	4.0%
	Stig Svensson	1.5%	3.7%

NIBE is a highly-acquisitive company founded in 1989 and headquartered in Markaryd, Sweden. The company invests primarily in the industrials industry, with focus on sustainable energy solutions. It currently owns 70+ brands operating in 18 countries. The company is listed on NASDAQ Stockholm since 1997.

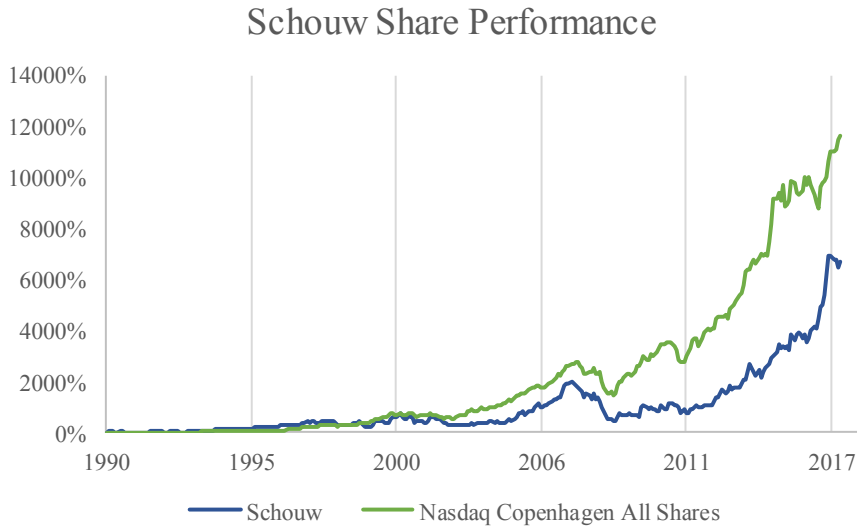


Company: **Schouw**

Market Cap: SEK 22.1 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Givesco	28.1%	28.1%
	Direktør Svend Hornsylds Legat	14.8%	14.8%

SCHOUW is a highly-acquisitive company founded in 1878 and headquartered in Aarhus, Denmark. The company invests primarily in the consumer staples industry. It currently owns 8 subsidiaries in Denmark. The company is listed on NASDAQ Copenhagen since 1954.



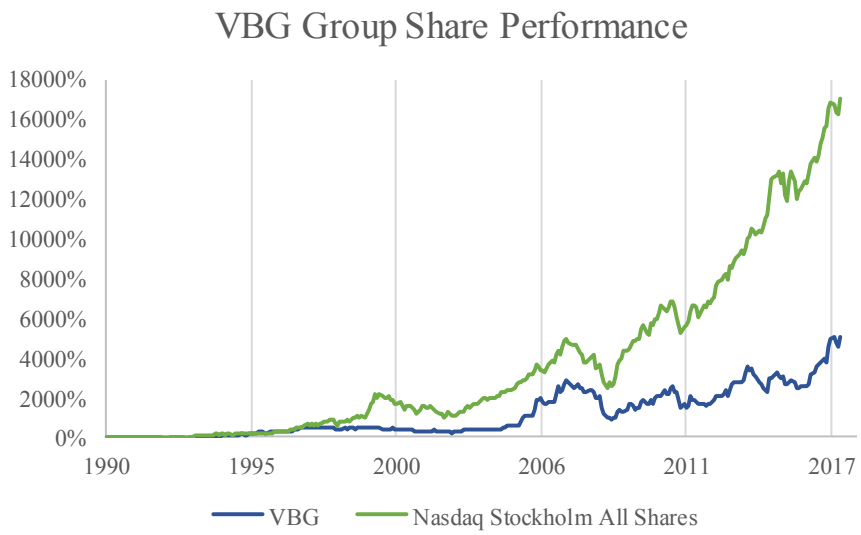
Company: **VBG Group**

Market Cap: SEK 3.6 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Herman Kreftings Stiftelse för Allergi & Astmaforskning	22.6%	27.6%
	Stiftelsen SLK-Anställda	4.3%	23.6%
	Stiftelsen VBG-SLK	1.9%	10.2%

Herman Krefting Foundation for Allergy and Asthma Research, SLK Employees' Foundation, Foundation VBG-SLK

VBG GROUP is a highly-acquisitive company founded in 1951 and headquartered in Trollhättan, Sweden. The company invests primarily in the industrials industry. It currently owns 4 subsidiaries operating in 18 countries. The company is listed on NASDAQ Stockholm since 1987.

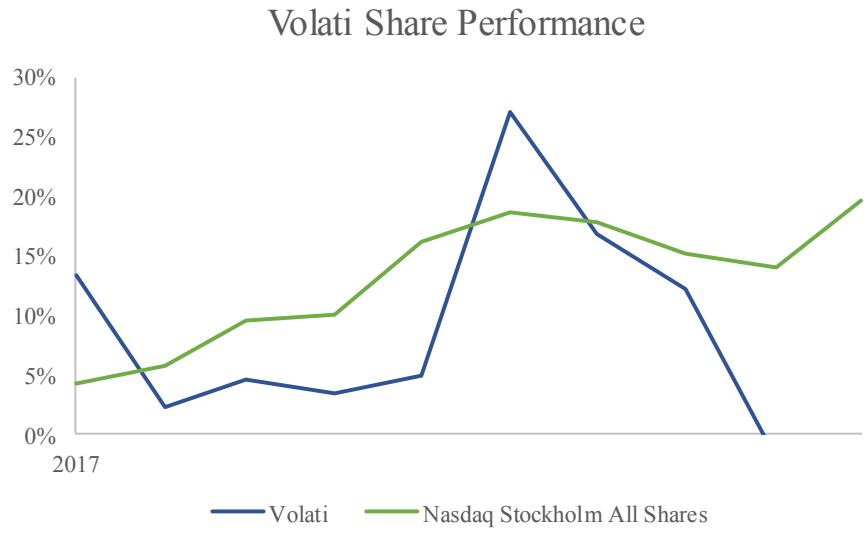


Company: **Volati**

Market Cap: SEK 6.1 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Karl Perlhagen	42.0%	42.8%
	Patrik Gunnarsson Wahlén	23.2%	23.6%

VOLATI is a highly-acquisitive company founded in 2003 and headquartered in Stockholm, Sweden. The company invests in a broad range of sectors with its current holding currently focused toward the consumer discretionary, industrial and trading sectors. It owns 14 subsidiaries held in 50 different operating units covering 16 countries. The company is listed on NASDAQ Stockholm since 2016.

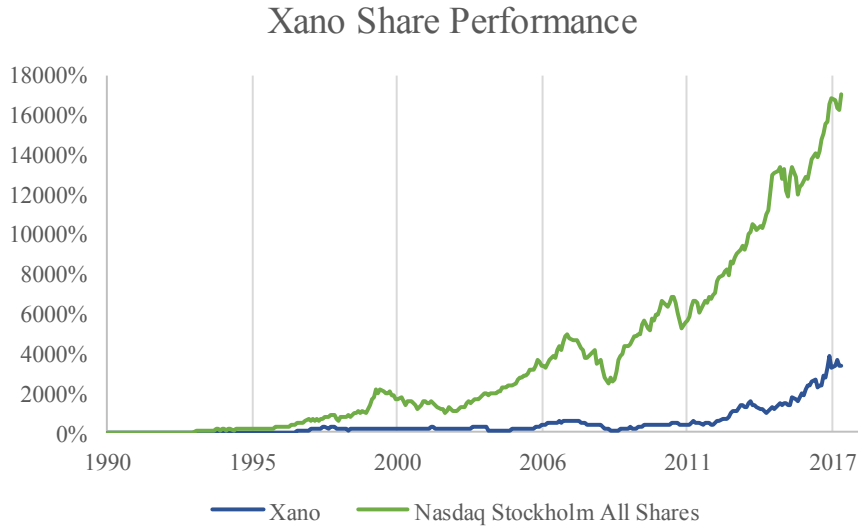


Company: **Xano**

Market Cap: SEK 1.5 bn

Ownership:	*Significant Owners*	*Capital Stake*	*Voting Stake*
	Anna Benjamin	28.7%	57.8%
	Pomona-Gruppen	29.9%	29.7%

XANO is a highly-acquisitive company founded in 1961 and headquartered in Jönköping, Sweden. The company invests primarily in the industrials industry, with focus on manufacturing and development services for industrial products and automation equipment. It currently owns 10 subsidiaries in 9 countries. The company is listed on NASDAQ Stockholm since 1988.



Appendix 2: Interview Questions

- START OF INTERVIEW -

Which company do you work for?
…

What is your role in the company?
…

M&A/Investment and Corporate Strategy

To what degree do you agree with the following statements on a 1-5 scale, with 1 = "Do not agree" and 5 = "Agree completely"?

1. "Acquiring firms is an important part of our corporate strategy"
2. "Divesting is an important part of our corporate strategy"

3. Describe your acquisition/investment strategy:
   [FREE TEXT]

Investment/M&A Strategy

Assess the following aspects on a 1-5 scale based on the importance of the factor when making an acquisition, with 1 = "Not at all important" and 5 = "Very important":

1. Strategic fit
2. Industry
3. Price
4. Potential to improve corporate governance
5. Potential to improve capital structure
6. Potential to implement operational improvements

Other Questions:

7. How many acquisitions/investments did you make in the last year?
8. How many yearly acquisitions/investments did you make on average in the last five years?

Company Structure

1. To what extent do you integrate your acquisitions into the parent company, with 1 = "Do not integrate at all" and 5 = "Integrate completely"?
   [FREE TEXT]
2. If you do not integrate completely, which activities do you conduct across subsidiaries?
   - Purchasing
   - Distribution
   - Marketing

- Accounting
- Other: *specify*

To what extent do you agree with the following statements on a 1-5 scale, with 1 = "Do not agree at all" and 5 = "Agree completely"?

4. "When acquiring a company, we implement our own strategy and/or culture in the newly acquired firm".
5. "The companies we acquire operate independently".
6. "The companies we acquire take important operational decisions independently".
7. "Our companies' headquarter management/investment professional is not involved in the day to day business of our acquired companies/subsidiaries/divisions".
8. "We are a listed private equity firm".

Governance

To what extent do you agree with the following statements on a 1-5 scale, with 1 = "Do not agree at all" and 5 = "Agree completely"?

1. "We comply with the exchange recommended local governance code".
2. "A large portion of the executive/investment professional compensation is performance based".
3. "A large portion of the acquired company/subsidiary executives' compensation is performance based".
4. "Our acquired company/subsidiary executives' compensation is connected to operational metrics".
5. "The boards of our acquired companies/subsidiaries are active".

Further Questions:

6. What percentage of subsidiary compensation is performance based?
   - <10%
   - 10-30%
   - 30-50%
   - >50%

7. Which compensation instruments do you use? *(choose more than one if applicable)*
   - Base Salary
   - Cash based variable bonus
   - Stock based variable bonus
   - Options
   - Other: *specify*

8. What percentage of your subsidiaries' board members are external?
   - <10%
   - 10-30%
   - 30-50%
   - >50%

Value Creation

1. How do you create value in the companies you acquire?
   [FREE TEXT]

To what extent do you agree with the following statements on a 1-5 scale, with 1 = "Do not agree at all" and 5 = "Agree completely"?

2. "We create value through changing the capital structure".
3. "We create value through changing the operational strategy".
4. "We create value through changing the management".
5. "We create value through changing the governance structure".

Internal Capital Market

1. Describe how and to what extent you utilize an internal capital market:
   [FREE TEXT]

To what extent do you agree with the following statements on a 1-5 scale, with 1 = "Do not agree at all" and 5 = "Agree completely"?

2. "Owning several companies allows us to internally fund subsidiaries at a cheaper rate than what is available from external investors". *(if applicable)*
3. "We transfer cash funds to our subsidiaries/companies as a form of internal funding".
4. "We give loans to our subsidiaries/companies as a form of internal funding".
5. "We transfer more funds/give more loans to some companies and less to others".
6. "We transfer more funds/give more loans to companies that perform better".
7. "We transfer more funds/give more loans to companies that perform worse".

If you transfer funds/give loans to acquired companies/subsidiaries/divisions as a form of internal financing:

8. How do you determine which divisions/subsidiaries receive funding?
   [FREE TEXT]

Further Questions

To what extent do you agree with the following statements on a 1-5 scale, with 1 = "Do not agree at all" and 5 = "Agree completely"?

1. "Our investment/M&A activities are affected by short term earnings pressure from the stock market".
2. "We are sometimes competing with other investors (e.g. Private Equity funds) when acquiring companies".

- END OF INTERVIEW -

Appendix 3

Sample Descriptive Statistics of Key Performance Indicators

Sector (sample companies per sector) Company	EBITDA margin %, LFY	Revenue per Employee SEK, LFY	Revenue per Employee 10Y CAGR, %	Asset Turnover LFY	Cash Con-version LFY	Net Debt-to-EBITDA LFY	Debt-to-Total Assets LFY
Healthcare (2)							
AddLife	13.0	2,725,872	-6.4	1.04	0.08	1.58	0.20
Lifco	16.5	2,477,805	5.6	0.99	0.12	2.01	0.32
Median	**14.8**	**2,601,838**	**-0.4**	**1.01**	**0.10**	**1.80**	**0.26**
Diff. to industry median	4.6	34.8%	-7.4	0.26	0.02	0.84	0.14
Information Technology (2)							
Addnode	8.4	1,718,885	3.9	1.16	0.07	0.35	0.09
Lagercrantz Group	14.4	2,482,759	-0.6	1.13	0.12	1.27	0.24
Median	**11.4**	**2,100,822**	**1.7**	**1.15**	**0.10**	**0.81**	**0.16**
Diff. to industry median	2.2	21.5%	0.2	0.09	0.04	1.14	0.07
Industrials (10)							
Addtech	10.5	3,298,713	1.6	1.73	0.08	1.07	0.22
Aspo Plc	7.0	4,893,435	5.2	1.51	0.04	3.22	0.41
Bergman & Beving	4.4	3,135,709	2.2	1.56	0.05	0.95	0.06
Duroc	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indutrade	13.0	2,270,815	-1.2	1.27	0.09	1.99	0.33
Instalco	6.7	1,858,545	n.a.	n.a.	0.10	2.47	0.26
Momentum Group	1.6	3,205,569	n.a.	n.a.	0.03	2.96	0.13
NIBE Industrier	15.8	1,293,117	2.9	0.69	0.12	2.33	0.31
VBG Group	15.3	1,101,994	-9.2	1.23	0.16	-1.17	0.00
Xano	13.5	1,579,078	3.7	1.14	0.12	3.70	0.46
Median	**10.5**	**2,270,815**	**2.2**	**1.27**	**0.09**	**2.33**	**0.26**
Diff. to industry median	1.3	6.8%	0.2	0.12	0.03	1.00	0.05
Consumer Staples (1)							
Schouw	10.2	4,509,926	5.4	1.28	0.11	-0.65	0.06
Median	**10.2**	**4,509,926**	**5.4**	**1.28**	**0.11**	**-0.65**	**0.06**
Diff. to industry median	-4.2	36.7%	-0.7	0.26	0.00	-1.85	-0.13
Consumer Discretionary (1)							
Volati	12.0	2,754,725	10.7	0.99	0.09	-0.63	0.04
Median	**12.0**	**2,754,725**	**10.7**	**0.99**	**0.09**	**-0.63**	**0.04**
Diff. to industry median	1.9	21.8%	8.9	-0.10	0.01	-1.51	0.01
All hybrid firms							
Median	**11.2**	**2,480,282**	**2.2**	**1.15**	**0.09**	**1.58**	**0.22**
Diff. to median of all listed firms	1.4	14.7%	0.0	0.10	0.02	0.70	0.01

Note: GICS sector classifications except for Volati that is reclassified from Financials to Consumer Discretionary. Data acc. to Thomson Reuters as of 2017-11-16. Asset turnover = sales over average assets. Cash conversion = operating cash flow over sales. Duroc is excluded due to a recent major reorganization that makes its financials misleading. For the sectors, healthcare and consumer discretionary, the revenue per employee CAGR is calculated on 3Y and 6Y, respectively due to data limitations. Companies that lack data for calculating the 10Y CAGR for revenues per employee are excluded in the calculation of the median for all listed firms.

Appendix 4

Summary of the Estimated Four-Factor Statistics for the 11 Hybrid Firms 1990-2017

			Extreme Values	
Item	Mean Value	Median Value	Minimum	Maximum
α	1.461	1.612	-0.809	2.471
β_{Mkt}	0.388	0.170	0.051	1.398
β_{SMB}	0.596	0.368	0.157	1.933
β_{HML}	0.168	0.187	-0.226	0.623
β_{MOM}	0.191	0.113	-0.118	1.180
N	200	210	9	325

Note: Alpha values are measured in %, an alpha of 0.2 represents 0.2% of monthly return. Momentum, Instalco and Volati are excluded as they lack returns before 2017 (due to recent listing).