Effects of Venture Capital in Sweden

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Abstract

Venture Capital is said to be a particularly important form of financing in terms of inducing innovation and creating jobs (Sahlman, 1990). It is a well-developed and highly profitable industry in the United States, with a vast body of research for us to study. Groh et al (2010) argues that Sweden is one of the most attractive countries to invest in, and Venture Capital plays a significant role in this judgment. Despite this, we know very little of the Swedish Venture Capital industry.

Data regarding performance and effects on their portfolio companies of the Venture Capital industry is scarce and hard to come by, thus we aim to contribute to this particular area of research. We examine the effects of Venture Capital in Sweden with a focus on the Venture Capital-firm’s portfolio companies. The study is based on a sample of 339 portfolio companies that received Venture Capital financing more than 10 years ago. The analysis is threefold with 1) an exit analysis where we have examined approximately 3000 annual reports in order to, for the first time in Sweden, present how Venture Capital firms exit from their investments. The data collection for the exit analysis was performed manually by going through each portfolio company’s annual reports over a 10 year period. This required vast amount of labor and consequent guidelines for how to evaluate each annual report properly and identifying signs of exit in a scientific manner. 2) A performance analysis where the annual growth in employment, revenues and assets is calculated. The data for the performance analysis was gathered through Ratsit, Affärsdata and Retriever Business so that we could cross reference the data between them to ensure reliability. Each of these sources had different methods of structuring the data, which required us to adjust and re-form the spreadsheets completely. 3) A survey which was sent out to 493 people, representing primarily the entrepreneurs, CEO’s and Chairmen behind these portfolio companies. For the survey, we aimed to identify the CEO and Chairman for each portfolio company in our survey, approximately 700 people. This was ordered from Ratsit, but needed significant complementations through manual investigations of who the entrepreneur was for a large portion of these companies. Ultimately we managed to identify and send out the survey to 493 people, of which resulted in 233 viable responses i.e. a response rate of 43%. In total the data collection process took place from March 2012 to April 2013, in total of 13 months.

By emphasizing the data collection process, we were able to produce results that have yet to be seen for the Swedish Venture Capital industry. Despite the fact that more than half of the portfolio companies went bankrupt or was liquidated during the period, more than 70% of the entrepreneurs exhibited positive attitudes towards Venture Capital involvement. We found that Venture Capital firms appear to follow the same patterns as their counterparts in more established industries with regards to their general value adding activities and processes. We are also able to provide, for the first time in Sweden, an illustrative presentation of the exit patterns in Sweden where approximately 20% of the portfolio companies were exited from in a successful manner.
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Chapter 1: Introduction

1.1 Problem background

In 1984 the hard disk drive industry in United States crashed. A year later, the researchers Sahlman and Stevenson wrote a paper highlighting the Venture capital-industry’s role as financiers to many of the hard disk drive companies. They concluded that an excess availability of capital allocated to this seemingly booming industry caused over valuation and hubris. Simply put there were too many Venture capitalist’s competing over to few deals, subsequently causing early stage valuations to skyrocket. Sahlman and Stevenson argued that this turned an opportunity into a disaster for the hard drive industry. As a result of the crash some technologies developed during the hype would be prematurely abandoned, some of which might had otherwise benefited the development of the economy, a consequence that Sahlman and Stevenson to great extent blamed on an overconfident Venture Capital Industry. 15 years later Bygrave et al (2000) revisited the work of Sahlman and Stevenson, and by enjoying the advantages of hindsight they could examine what really happened after 1985. It is shown that the hard drive disk industry consolidated as a result of falling margins. However, during this period the industry developed immensely and went on to lay the foundation to incredible technological advancements such as the personal computer and internet. Furthermore they draw parallels to the vast allocation of funds into the IT-industry, predicting a consolidation of the market during the years following 2000. (Bygrave et al, 2000)

So what are we to learn from this? It is safe to say that Venture capitalists’ tend to be involved where the forefront of technology is taking place. They also appear to enter an industry before a proper demand for the products has been created. Given what is said above, it might be possible to apply some of these findings to today’s fad-sector; CleanTech. The fact of the matter is that Venture Capitalists’ provide funding in areas which could benefit the society and economy significantly; hence a relevant issue is how Venture capitalists’ affect their portfolio companies. This paper will elaborate on this particular subject.

Venture Capital (from here on called VC) is a sub-group to the Private Equity Industry which consists of firms that invest in early stage development of new ventures and ideas. The business is funded by institutions and wealthy individuals for the purpose of high risk and high return on their investments (Jain & Kini, 2000). The Venture Capital firm (from here on mentioned VC-firm) is a professionally managed pool of capital. VC-firms invest equity into private ventures, small and newly started firms by entrepreneurs, in various stages in the development process. Most VC-firms are organized as a Limited partnership. This means that the investors (limited partners) provide the funds and the VC-managers (general partners) manage them. The idea is that the VC-managers use their skills and knowledge to invest in small entrepreneurial ventures helping them to build a viable and growing business.

The concept of VC developed in the United States in the late 1950’s when a partnership between various businessmen and MIT started to invest in ventures that commercialized military inventions following the Second World War (Lerner & Tåg, 2013). Not surprisingly, the US host the single largest VC-industry in the world amounting to a total capital held under management of approximately $177 billion among circa 800 VC-firms as of 2010 (NVCA, 2011). The total amount of VC investments are insignificant in relation to GDP, a mere 0,2%. However, according to the National Venture Capital Association the revenues from those companies backed by VC-firms represented a staggering 21% of GDP in 2008 (NVCA, 2010). Consequently, the VC-industry in the US should be viewed as a highly efficient investment area and a significant wealth creator.
Up until the early 1990s, private VC-markets were mainly a US phenomenon, but as internationalization increased VC outflows started to affect other parts of the world. A relatively large portion of these capital outflows found their way to Sweden, a country which up to this point had, with very few exceptions, only seen government initiated venture capital, such as Företagskapital (Söderblom, 2011; Isaksson, 2006). The Swedish Venture Capital industry only accounts for a little less than 1% of the GDP, as opposed to the US VC counterparts which make up about 21%. Total investment into VC was € 234 million in 2011, a fairly modest investment size for an entire industry. (EVCA, 2011)

Table 1: Venture Capital in US and Sweden

<table>
<thead>
<tr>
<th></th>
<th>$/€ invested</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>22 billion</td>
<td>21%</td>
</tr>
<tr>
<td>Sweden</td>
<td>234 million</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

(nvca.org; SVCA, 2011)

To further illustrate the vast difference between the US and Swedish VC-industries we can look at the average fund size in US, which amount to $ 149 million. This means that the average individual VC-firm in the US is almost 65% of the total investments in Sweden during 2010 (nvca.org). From this brief overview and comparison between the Swedish and American VC industries, we can observe a few differences. Naturally the American industry is mature, large and in general appears profitable. In Sweden we see a younger and smaller industry with questionable profitability. Does this mean that the Swedish VC industry have less of a contribution to the Swedish economy?

Isaksson (1999) finds in his study that the performance and growth of companies which has received funding from VCs appear to grow, not only slightly but show significantly higher growth rates than a sampled reference group as well as the stock market.

Table 2: Growth in Swedish VC-backed portfolio companies

<table>
<thead>
<tr>
<th>Growth in Swedish VC-backed portfolio companies</th>
<th>Total</th>
<th>Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td>77%</td>
<td>26%</td>
</tr>
<tr>
<td>Revenues</td>
<td>80%</td>
<td>18%</td>
</tr>
<tr>
<td>Employees</td>
<td>65%</td>
<td>18%</td>
</tr>
</tbody>
</table>

(Isaksson, 1999)

The period which is being studied here is fairly short, and the numbers should be affected by that. Nevertheless these figures highlight a Swedish VC-industry which is doing more than well, especially in comparison to the reference group that has not received VC-backing. This sample experienced during the same period a total growth of 30%, 38% and 6% in Assets, Revenues and Employees respectively. Can the VC-industry in Sweden in fact create this sort of value, and are there any effects on the economy from VC contributions?

In the US, significant value is shown to be created from the VC-industry. It is said to be responsible for the creation of close to 12 million jobs and generation of $ 3 trillion in taxable revenues for the government (nvca.org). The Swedish VC-industry employs almost 18000 people, far less in the US which show the difference in size, but still a significant amount of people are directly affected by the performance of VC in Sweden (SVCA, 2011)

A question that must be considered and that have been discussed among researchers on the subject is the following: Are VC’s innovation creators, or are they skilled investment pickers? If the latter would prove to be the case, we could argue that VCs primarily create value for their investors and
not for the entrepreneurial ventures seeing that the VC essentially invests in companies that would succeed anyway. Gompers & Lerner (2006) argue in their book “The Venture Capital Cycle” that VC’s are highly skilled in creating successful innovation. This is a notion that is criticized by others with the argument that VC’s do not create innovation; they simply show up where innovation is already taking place. Caselli et al. (2009) finds that innovation is only important during the selection process. Ones the investment is made, activities are focusing on improving economic and managerial aspects. Thus some value adding should be taking place during the investment period.

In a Business Week article from September 2008 Vivek Wadhwa, an entrepreneur and researcher on the subject, says that money follows innovation. He emphasizes the VC’s skills of developing business concepts and making products commercially viable rather than improve innovation within the venture. This is supported by many researchers, some of which are Hirukawa & Ueda (2011), Josh Lerner, Luigi Zingales etc. Here we can see that VC’s are primarily developing existing innovation into successful businesses. The question is; are they doing this with more efficiency and are the results more effective than would the VC not have funded a given venture?

Another aspect recognized by researchers is the fact that VC financing fills the financing gap for companies heading towards “Death Valley”. Ventures in this stage could have a hard time receiving bank loans due to uncertain cash flows, high risk etc. In these situations VC-funding might not just be preferred but the only option available (Wright & Robbie, 1998). Thus without VC’s, a large portion of those 18000 people employed within the VC-industry in Sweden would not have had a business to work in (SVCA, 2011a). Whether this is true or not is worth investigating. According to SVCA (2011b) 9 out of 10 entrepreneurs are positive to VC as financiers of their ventures, further 7 out of 10 entrepreneur’s state that they wouldn’t exist without it as an option and that the performance would have been significantly lower.

The Swedish VC-market derives largely from government initiatives in the 1980’s. Government involvement was at its highest in 1986-87 when they provided roughly 40% of the funds being managed by approximately 20 VC-firms (Herzog 1990; Isaksson & Cornelius1998; Isaksson 2006). Similarly to United States, the Swedish VC-firms had a rough time during the financial crisis in the early 1990’s. With the successful economic recovery and subsequent IT-boom had huge impacts on the VC-market which grew rapidly only to halve in size during the IT-crash (Isaksson, 2006). However, it is said that this is the decade in which the private VC-market established itself as a viable market (Isaksson 2006; SVCA, 2011a). Much of this growth is thanks to a better economy as a whole, but one factor that stands out is the allocation of some of the pension funds into venture capital. This procedure, when allowed, played a central role in the early development of the US VC-industry and as we can see this de-regulation also coincided with the growth of the Swedish VC-industry (Lerner & Tåg, 2013). This apparent causality is supported by Gompers & Lerner (2001) in that the relationship between the performance of the VC-industry and regulations imposed are closely related. This points towards a notion that the environment in which VC-firms act is extremely important.

In summary we observe huge differences between the US and Swedish VC-industries with regards to size and total capital investments. However, that is an obvious observation given the sheer size of the US as well as its much older and developed VC-industry. What is interesting though is the fact that usually we observe much higher returns in the US than in Europe, and American VC’s that are trying to establish themselves overseas never really succeeds. With all this in mind, and the results provided by Isakssonson (1999) we can start to wonder; Are Sweden in fact outperforming the rest of Europe? Many questions arise, many of which focus on the question whether the performance that we observe can be derived from VC contributions i.e. does the VC’s have significant positive effects on their portfolio companies, and what are these effects?
1.2 Choice of topic

A little more than 10 years ago every third entrepreneur backed by VC perceived that particular source of financing as their last resort, and it is probable that these companies would not have grown or survived without significant VC-backing (Isaksson, 1999). From a brief review of the research on VC we observe that the general process of how VC-firms invest, how they are organized, function as well as the supposed provided value is to a great deal known and recognized in academia. Sahlman (1990) summarize what is known up until that point, Wright and Robbie (1998) presents a complementing review while Lerner and Tåg (2013) provides us with a fresh and up to date summary on VC’s in US and Sweden. Thus, if we assume that the process of value creation is known and aligned with reality and people involved in this process stress the vital characteristics VC’s hold, we arrive at a question; is value actually created? Do the entrepreneurs themselves agree with the proposed views by academics on the subject?

Existing statistics, studies and surveys on the effects of Venture capital in Sweden are not only scarce but are in many ways subject to significant limitations. Most of the reports that can be found on the performance, profitability, and development etc. of the VC-industry are published by the Swedish Venture Capital Association (SVCA, 2010; 2011a). This creates a natural bias in that SVCA has incentives in presenting a healthy and well-functioning industry. Our second major contributor on Swedish VC is Anders Isaksson (1999; 2004; 2006). The study from 1999 examines the VC’s effects on portfolio companies in Sweden during the late 90s. One problem is that it examines companies that have recently received financing from VC, which mean that most of these VC-firms are in the midst of their investment process. From the entrepreneur’s perspective, we identify a bias towards overconfidence as they have recently received major financing from VC-firms while the results are yet to come. Consequently we observe a need for a similar study which can revisit the results generated by Isaksson (1999) but with a longer time perspective, i.e. preferably by time the VC’s have exited and everybody involved can look back at the complete investment process in hindsight. The reason for scarce studies in this area is because reliable data is very hard to come by. There is no database which gathers and categories these types of entrepreneurial ventures. Basically one has to manually investigate which companies have received VC-financing, if this can be considered VC per definition and which people who are involved i.e. who are the entrepreneurs behind the respective ventures.

As we have mentioned earlier, there are a lot of people employed in companies that are backed by VC-firms. But these people are not the only stakeholders of VC’s performing well; the government is heavily involved in the industry, both as an owner of VC firms trough “6:e AP-fonden” and as proponent of small business financing as a means to create wealth through new jobs. So not only those who invest in VC-firms are affected by the results, all Swedish tax-payers are affected as a portion of our pension is invested into VC. Consequently, there are several major Swedish institutions acting as stakeholders to the VC industry. Thus, a vast number of stakeholders combined with scarce empirical and objective statistical data, measuring how well the VC-industry in Sweden function appears to be appropriate.

1.3 Research Gap

Research within VC has developed immensely the past 20 years and a wide array of articles have been written on how value is created, how the investment process is undertaken, how they organize, how they solve information and agency issues etc. Hence, the organizational and operational structure and activity which VC’s normally undertake appears to be fairly well studied (Sahlman, 1990; Wright & Robbie, 1998; Wang & Sim, 2001; Cumming & Macintosh, 2002 etc.). Basically, VC’s are experts in solving problems regarding information asymmetry and acting as bridges between entrepreneurs and creditors. They also monitor and screen potential portfolio ventures with
scrutiny, as well as taking key positions within the firm and actively influence their investments (Lerner & Tåg, 2013). However, if we move from how activities are being carried out, to focus on the results of these activities, the information available is a lot more scarce.

Barry (1994) reviews the directions of which the research has taken up to that date, including the works and findings by Sahlman (1990). He suggests that future researchers should put an emphasis on the question whether VC’s actually create value within their portfolio firms. So what has happened since 1994?

It has been shown that the Miller & Modigliani theory on the financial structure of a company and its subsequent effect on performance should be discarded, and an emphasis on who actually owns the equity of a company has far greater influence (Wright & Robbie, 1998). Further we can see that the lack of qualitative data, collected through surveys is often biased as most countries have relatively small VC-industries (Wright & Robbie, 1998). When we look at the reports from the Swedish VC Association, we can argue that the industry in Sweden should by now host a large enough industry for us to conduct a quantitative analysis in Sweden, something that has yet to be undertaken by academics (SVCA, 2011).

VC’s are more prone to invest in companies which push technology and innovation forward, and it has been shown that innovators will attract funding from VC with ease, as opposed to followers or imitators. Thus we see a positive correlation between VC’s and innovation (Lerner & Tåg, 2013). Further Lerner and Tåg (2013) reviews what researchers have found up to this point, and despite the vast scale of articles being produced we would argue that the majority of these are confirmations of previous theories and truths regarding the venture capital process. Hence, new research might show in what type of business, legal or geographical environment VC’s thrive i.e. the correlation of various macro level factors and VC performance. But we can’t identify any major progresses which deals with the relationships between the entrepreneurs and their investors i.e. the VCs, especially regarding the Swedish industry. Our view is that it doesn’t matter how well of an ecosystem you can create for these type of investors, if VC’s don’t have significantly positive effects on their portfolio companies. Further we are unable to single out studies, among the noise that is the vast body of research on VC, that explicitly investigate the actual effects they have on their portfolio companies in terms of industry performance with the entrepreneurs perspective accounted for.

1.4 Research question and research objective

Our aim is to investigate companies that have received funding from a VC-firm. We want to determine how these companies performed over a longer period of time. If we can measure the performance of these portfolio companies during a complete investment cycle i.e. from point of investment to exit, it would provide us with a few clues to whether the Swedish VC industry is healthy.

This includes analysis of official reported data (annual reports), such as growth in revenues, employment and profitability. Complementing this “objective” data, we will ask the entrepreneurs to give their own perspective on the process during which they received financing. Seeing that exits from investments is a central aspect in the business model of VC and that this process should therefore greatly affect the entrepreneur, we will look at exit patterns and identify how this part of the VC process functions in Sweden. Consequently, we arrive at the following two research questions on which this study is based;
1) **What effects do Venture Capitalists have on the performance of their portfolio companies?**

2) **How are these effects perceived by the entrepreneurs themselves?**

Isaksson (1999) found that VC-backed portfolio companies grew significantly. More specifically, growth in employment, revenues and assets were 65%, 80% and 77% respectively. As we discussed earlier, this growth is calculated during a limited time period, with a bias towards very young companies (less than 5 years old). We plan to complement this study with a longer period of investment as our scope. This aims at mitigating these short period biases as we have discussed, as well as opens up for an additional area of focus; exit patterns. There are several studies on distributions regarding different exit vehicles, but none that explicitly touch upon the Swedish market for exits. As our study will solve the time scope problem, we will experience limitations that Isaksson (1999) did not; namely that of reference groups. It is certainly desirable to include a reference group which we can benchmark our data set against, but for us the methodological issues combined with the enormous and time consuming manual labor this would require are simply too vast. Consequently, our results will be put in relation to other studies on similar areas i.e. the reports from the Swedish, European and American VC associations, as well as the results provided by Isaksson (1999). Furthermore, our findings will be compared to internationally regarded “truths” in terms of exit patterns, success rates, time horizons and value adding activities deriving from VC involvement.

### 1.5 Contribution of the study

We expect to produce a study that delivers results which contributes to the existing theories. Our aim is to provide updated figures on how the Swedish VC-industry performs, and if this performance can be derived from the involvement of venture capitalists. This will favor both academics and practitioners in the sense that clear, objective and updated statistics will exist on the performance of portfolio companies, information which today is scarce in Sweden. More specifically we will be able to complement the study undertaken by Isaksson (1999) with a complete analysis of the entire investment period. We will also be able to verify whether the “truths” of the VC-process are applicable to the Swedish industry as described by Sahlman (1990), Isaksson (1999;2006), Jain & Kini (2000), Cumming & Macintosh (2002) among others. Further we aim to provide an illustrative exit analysis through which we can compare the Swedish market for exit with the existing body of information (Amit et al, 1998). As an example, it is said that an investment period for a VC in any given portfolio company is 7-10 years, and only about 2-3 out 10 investments succeeds (nvca.org, svca, 2011b). A comprehensive exit analysis would depict whether this is the case in Sweden.

One of the reasons to why this type of study has yet to be undertaken in Sweden is because of the methodological issues when acquiring data. There are no databases that gather relevant information and researchers are therefore forced to rely on voluntary acquisitions from the VC-firms. We have been granted access to a dataset of portfolio companies that was gather during a short period of time when such a database existed. Thus we are able to fill in the gaps on VC performance and exit patterns in Sweden.

### 1.6 Disposition of the paper

Following the introductory chapter we have divided our theoretical part in three different chapters. We did this in order for the reader to first gain a threshold level knowledge in the concept of VC and how it functions. Following this explanatory theoretical chapter we highlight distinct parts of
VC related to the research question of this study, thus the chapters containing information of previous literature, theories and historical performance are Chapters 2, 3 and 4. The disposition of the paper is as follows:

**Chapter 2 – Introducing Venture Capital**
In this chapter we will provide a comprehensive walkthrough of VC, how professionals within the industry work, how their companies are organized and how the investment process is generally undertaken. The term venture capital can be easily misinterpreted, especially in Sweden, and we therefore argue that there is a need for a chapter devoted to providing a basic description of venture capital and its processes.

**Chapter 3 – Exits**
This chapter emphasizes VC-exits; how are they performed, what options are there and how well does this function in various markets. We provide a detailed description of the processes and activities for this stage in the investment process. We review previous studies and reports with the aim of providing a comprehensive understanding of VC-exits. Hence, we discuss how exit patterns appear in different markets; with a strong focus on the American VC industry given that it is the role model for all VC industries.

**Chapter 4 – Performance**
In this chapter we review previous studies on the performance of VC. Following this, we aim to provide an overview of how the VC-industry has performed and what problem can occur when studying performance in this particular industry. There are different ways of measuring performance which accounts for the profitability of different actors i.e. VCs or entrepreneurs.

**Chapter 5 – Methodology, Data & Statistical methods**
In this chapter we present our choices of methodology and discuss what research philosophy, approach and strategy we have chosen for this study. After this we will pick up the questions of how the data was collected, our sources and following this, a critical review of the quality of the data set. We will discuss the sample selection and what assumptions that are made. As an illustration we have included a few cases towards the end of the methodology chapter, so that the reader can be put in our shoes when it comes to difficulties in evaluating different companies.

**Chapter 6 – Results & Discussions**
In this chapter we present the results from our study. First we present our findings regarding the performance of the portfolio companies. Secondly we present the exit distributions which we observe and how that might be linked to performance. Lastly we provide the entrepreneurs perspective on VC involvement.

**Chapter 7 – Conclusions & Recommendations**
In this chapter we interpret our results and provide a more in debt discussion regarding what we can conclude from this study i.e. how are our results related to the research questions. Essentially this chapter answers the question to what effects VC’s have on their portfolio companies. Our conclusions will be conceptualized in the form of propositions in order to highlight our suggestions to further research. Subsequently, our results will be put in relation to other studies on similar areas i.e. the reports from the Swedish, European and American VC associations, as well as the results provided by Isaksson (1999).
Chapter 2: Introducing Venture Capital

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2.1 Defining Venture Capital

The European Private Equity and Venture Capital Association provides the following definition of venture capital; “Professional equity co-invested with the entrepreneur to fund an early-stage (seed and start-up) or expansion venture. Offsetting the high risk the investor takes is the expectation of higher than average return on the investment...” (EVCA.com)

An investor can choose to invest money for equity in either public or private companies, hence the term Private Equity. As we have mentioned before, VC is a subset of private equity. The following chart is a reworked illustration provided by Isaksson (2006, p.16)

Figure 1: Defining Venture Capital

As illustrated above, private equity as an asset class includes Business angels (Informal VC), Venture Capital (Formal VC) and Buyout (Other PE). Business angels are wealthy individuals investing their own money in the early stages of the development of a company; they are generally highly experienced and contribute with business and/or industry expertise. The main characteristic that differ business angels from Venture Capital is that the latter are professional investors working as agents for third party investors i.e. limited partners. The third and final subset is Buyout investing, where investors normally take a majority position of a company’s equity. Main characteristics are; later stage investing, larger transaction sums and occasionally the use of leverage to finance the investments. (SVCA, EVCA, NVCA, Wright & Robbie, 1998)

In contrast, some argue that Buyout funds, due to high innovation characteristics, should be a part of the VC-definition (Wright & Robbie, 1998). We believe that this view goes against what is said by above referred to interest groups, thus the definition (and variations of it) provided by the EVCA appears the most up to date, accurate and widely used. For a more descriptive and illustrative presentation of VC and its role in the economy we recommend Zider (1998).
2.2 The VC business model

When VC is mentioned and discussed it is important to remember that there are two types of VC’s, which normally have different organizational structures. The first one is **Corporate VC**, which can be seen as those VC-firms who are incorporated in a company as a subsidiary or separate entity within the organization. An example of a corporate VC would be SEB Venture Capital. The second form is **Institutional VC**, which is the type that is usually referred to in academic research. These VC’s typically rely on funding from investors, often pension funds and/or institutional investors with exceptions from wealthy individuals. (Barnes & Menzies, 2005)

![Figure 2: The organizational structure of Venture Capital](image)

Limited partners (LP) are those who invest in a VC fund. The term derives from the fact that these investors do not have any authority in the investment decisions taken by VC managers. How to invest and in what types of companies to invest in are set before a fund is created, by the managers. VC managers are often referred to as the General partners (GP). These manage the fund by investing in ventures, developing and adding value to them and finally exiting from the ventures, thus realizing the values created (Barnes & Menzies, 2005).

GP’s are compensated in two ways; management fees and carried interest. The fees are preset percentages of the invested capital and could range from about 1-3%. The carried interest is a preset percentage of the proceeds generated by the investments. A typical covenant is that 20% of the profits and proceeds generated are distributed to the GP’s and the rest goes to the LP’s. (Sahlman 1990)

2.3 The VC Process

The main actors in the venture capital process are the entrepreneur (innovator), the venture capitalist (VC firm) and the investor (financier). The venture capitalist serves as an intermediary of capital from the investor to the entrepreneur. Trust is a key factor for a successful investment process. In order to avoid conflicts the VC must be trusted both from the investor and entrepreneur and have a good track record, otherwise severe damage on the process occur. (Isaksson, 2006, p.42) As you will see, our description of the VC-process is predominantly referred to Isaksson (2006). He follows the same process as previous and prestigious researchers like Sahlman (1990) and
Cumming & Macintosh for instance, and provide the same relevant information but with a Swedish perspective. Other references could potentially be utilized, but Isaksson (2006) includes all previous perspectives and is as good as any other sources on the VC-process.

The relationship between the investor and VC is based on that the investor thinks the VC is better at allocating capital and evaluating new ideas, theorized as their abilities to better solve information asymmetry issues (Sahlman, 1990). To the entrepreneur the VC has an advantage of access to financial capital, sound network, business contacts and costumers. The entrepreneurs who need this access and are willing to share his/her ownership and control of the idea or innovation are able to receive funding (Isaksson, 2006, p.43). The concept of information asymmetry was first launched in a now world-famous article from 1970 referred to as “the market for lemons” (Akerlof, 1970). With the used car industry as context, he illustrates how the owner/seller of a used car has private information regarding its quality which the potential buyer does not. This same concept plays a major role in the VC industry as well, seeing that they are believed to be better at mitigating and reducing asymmetries of information between the investors and the entrepreneurs (Amit et al., 1998).

The life cycle of a fund is normally referred to as the Venture Capital process. This process contains according to most researchers five sections, each representing a period of time in the life cycle of a fund. Usually a VC firm has multiple funds in various stages of their life cycles, thus mitigating liquidity issues which are predominant in the early stages of the fund (Isaksson 2006; Bygrave & Timmons, 1997). The following figure illustrates this process; it is based on the initial works of Tyebjee and Bruno (1984) and complemented and rephrased with the help of material provided by Sahlman (1990), Bygrave & Timmons (1997) and Isaksson (2006).

**Figure 3: The Venture Capital Process**

**The Venture Capital Process:**

1. **Establishing a fund** - Prior to raising capital, VC’s must set up objectives for the fund. Typically this is by determining the time horizon, what type of industries to invest in, the risk profile and what type of structure that is optimal among other factors.
Setting the desired risk level in a fund is a dominant factor that has great influence in how other objectives are decided. For instance how risk will be managed. An investment will be more risky the earlier the investment is made, but simultaneously hold a chance of greater return. The risk profile of the fund controls how, when and if an investment should be made and the VC take an active role and often require a seat on the board of the portfolio firm. The later in the stages the investment is made the less interference is made in the daily routines (Isaksson, 2006, p.47-48).

A means to manage risk for VC’s is by specializing in certain areas, i.e. early stage investing in one specific industry with the hope of one’s knowledge and expertise in those areas mitigates the risk associated with investing there (Norton & Tenenbaum, 1993). Needless to say, the objectives and strategy of a fund is of great importance. After the objectives are set, VC’s will start to raise capital for the fund. Basically any type of investor you can think of fit the profile as a potential investor (Isaksson, 2006, p.45).

According to Isaksson (2006) the most common structure, around 77%, for Swedish VC’s is by setting up a private independent fund. Of the total amount of investments into VC 95% went into these types of VC funds (EVCA, 2004). The most popular investment segment in Sweden is the biotech and computer industries.

2. Deal Flow - Deal flow is referred to as the number of potential investment opportunities available to the VC. In markets with many entrepreneurs seeking capital with only a few VC’s, the deal flow is considered high. As competition among VC’s increase, the deal flow available to each VC becomes lower (Isaksson, 2006, p.48).

There are two different approaches to finding new ventures; proactive and reactive. In a proactive approach, the fund manager is searching for possible investment objects in certain industry segments and hopes to find an entrepreneurial spirited person with a good idea. With a reactive approach, the VC simply sits down and wait for a business plan from an entrepreneur that needs funding to get started (Isaksson, 2006, p.48). Some investors want to spread the risk even more, consequently syndicated investment or co-investment is common. This is carried out to generate more but smaller investments and thereby increase the exposure to more opportunities and create a bigger base of knowledge to lower the risks. (Isaksson, 2006, p.49)

3. Investment decision - When the deal flow have generated enough viable opportunities it is now time to invest. Decisions regarding the investment process can be separated into four segments; evaluation, valuation, contracting and financial structuring.

1) Evaluation - It has been shown that most of the projects are rejected from the VC firm. This stage is time consuming as a complete investigation and due diligence is usually made. The estimation of invested capital is complex because of the difficulties of making good estimations of future potential earnings. There is often lack of information about product/service and an estimation of the potential market and consumers have to be made. This makes this stage highly uncertain and information asymmetry between the investor and entrepreneur is a common phenomenon. The checklist of criteria is long but the most important of this is often trust and a personal evaluation of the entrepreneur’s capabilities. (Isaksson, 2006, p.49-50)

2) Valuation - After the VC has chosen the venture to invest in he needs to calculate the fair value of the venture. The valuation step is not complex but it is extremely hard to make precise estimations of the future value of a venture in its early development stage. Normally valuations are based on future revenues and profitability, forecasted on market
capitalization or expected exit from the investment. The investment should appreciate and should yield a hurdle rate of return, valued by the discounted cash flow method. Of course this is not made in the same way every time and the use of hedonics is predominant. Another aspect of valuation is the negotiations with the entrepreneur as he/she is giving up a part of the company and factors other than economic are often exhibited. (Isaksson, 2006, p.50) All these uncertainties with private ventures affect the discount rate that will be used and thus the value of the firm. The simplest valuation formulas can be used on future estimated values but also a “common sense or kick the tire” valuation is at least as important. Here the managers personal experience level, knowledge about the area and intuition are key ingredients to a qualified valuation. It is not unheard of for VC’s to value the abilities of the entrepreneur rather than the business itself. (Isaksson, 2006, p.52)

3) **Contracting** - In the negotiation between the investor and the entrepreneur they have to define the role of each party in a contract depicting what is expected in the future (Landström, 1998). The contract is a transparent tool and provides mutual understanding between the involved parties. The goal of the negotiation period is also to reduce information asymmetry (Isaksson, 2006, p.53-54).

4) **Financial structuring** - In the venture capital process the transfer to the entrepreneurial firm of competence is made in the value adding phase. The capital transfer is the last stage in the investment process. To keep control over the venture, the venture capitalist have well-formed stages of investment that is connected to milestones and has the ability to provide capital by stages. By this the capitalist has control over the venture in the sense that if a step is not completed as desired the funding can be canceled. (Sahlman, 1990; Isaksson, 2006, p.54)

4. **Business development / Value adding** - After the investment is made it is time to add value. The venture capitalist often has an active role in the venture and a seat on the board of directors and has a considerable amount of shares. They help the ventures in all stages of development with experience, skills, network and reputation to get as much as possible out of their investment. (Isaksson, 2006, p.57-58)

5. **Craft and executing exit strategies** - This last part of the process is when the VC exits from the portfolio company i.e. sell its shares. Exit procedures vary immensely and there are various vehicles a VC can utilize in order to liquidate its holdings in a portfolio company. Given the large and important characteristics of VC-exits, we will come back to this stage later in Chapter 3 and discuss it in more detail.

### 2.4 Investment stages

The investments made by a VC can occur in many different stages in the development of a new venture. The stages of financing are normally tied to a significant goal or objective in the development of the portfolio company in order to get to next stage i.e. completion of product design, pilot production or reaching break-even depending on where in process you are and what types of services/products the company provide. (Isaksson, 2006)

**Seed investment** – A small amount of capital is transferred to determine if the innovation or idea deserves future investment. **Startup** – Often goes to companies less than one year old. The capital is invested in product development and a prototype is made. **Early development** – Investment comes if the prototype is recognized to be good enough and the technical risk is low. **Expansion** – Investment is possible if the company has received a good enough response on the product from its first
costumers. Profitable but cash poor – the company revenues are probably growing fast and there is a positive profit margin that offset some of the investment risks. Rapid growth – capital is needed for keeping up the high growth rate but a more stable structure will offset some risks for outside investors. Bridge stage – or mezzanine investment, is when the exit strategy is being planned. The timeline and type of exit starting to become clear but capital is needed to sustain growth. Liquidity stage – is when there are possibilities to trade shares for cash and make an exit. (Isaksson, 2006; Sahlman 1990)
Chapter 3: Exits

This chapter emphasizes VC-exits; how are they performed, what options are there and how well does this function in various markets. We provide a detailed description of the processes and activities for this stage in the investment process. We review previous studies and reports with the aim of providing a comprehensive understanding of VC-exits. Exiting via an IPO is considered as “hitting the jackpot” among VC’s, but in smaller markets due to scarce opportunities this form of exiting from a portfolio companies might not always be the optimal vehicle. Hence, we discuss how exit patterns appear in different markets, with a strong focus on the American VC industry given that it is the role model for all VC industries.

“The activities of venture capitalists can be described as a process with the exit phase as the last and perhaps the most critical step. Venture capitalists play an active role in directing investees towards the exit since this provides a means to cash-out their gains to earn a return on their investments.” (Bygrave & Timmons, 1992)

3.1 Exit possibilities

This stage is at least as important as the preceding investment stages because the VC-firms need cash for new investments and to repay its own investors, preferably with a significant return as well. The importance of exits is based on that this is the only way to generate liquidity because early stage companies rarely are in a position of being able to pay any dividends. Thus, before an exit has been carried out, the only capital that is realized is the profits from the operations which are rarely high in young ventures. In fact, in the aftermath of the IT-bubble bursting, the VC-industry almost completely collapsed in the UK. This near total collapse was to a large degree explained by the complete drying up of the market for exits, making it impossible for VCs to liquidate their holdings and generating positive cash flows (Burns, 2003). Similar characteristics can be observed on the Swedish market today, following the financial crisis (SVCA, 2011).

There are different ways of liquidating the holdings for a VC-firm. They often have a time limit before they enter a new venture of 3-4 years and up to 10 years based on the strategy of the fund. The exit is an important part of the process and there is usually a plan for this before they enter. At least in theory but reality might throw unexpected rocks on the windows and investigating whether there is always an exit strategy in place could potentially generate interesting results. VC-investments are risky and a majority of the investment underperforms. This is forcing a few companies in the portfolio to compensate for those that don’t succeed i.e. only 2-3 out 10 ten portfolio companies are in general considered successes. (Isaksson, 2006, p.59-60)

The linkage between type of exit and performance of the venture is in many cases very strong. Furthermore the involvement of VC is in this process highly relevant, for instance firms that have gone public without the help of VC’s show significantly worse performance going forward. High valued venture usually prefers IPO´s while lowered valued ventures are generally written off, i.e. liquidated (Cumming & Macintosh, 2002). Thus we see a relationship between exit vehicles and performance, as well as a relationship between VC involvement during the exit and future performance of that venture. Consequently we can argue that how, when and why exits are undertaken by the VC’s is crucial for the success of an entrepreneurial venture. Hence, we need to describe what exit vehicles VCs have to their disposal.

Initial public offering (IPO) - is often the most preferable way for liquidation (Cummings and Macintosh, 2002). The shares are then offered to the public for the first time by noted on an
exchange. The VC often waits to sell their shares until later and over a period of some months. (Isaksson, 2006, p.60-61)

*Acquisition or trade sale* - is when the venture is sold completely to a third part. This is made by a transaction of all shares in the firm in return of cash, shares of the buyers company or other assets. The buyer is often a bigger company that wants to use the new technology in an industrial process or get foothold of new technology. (Cummings & Macintosh, 2002)

*Secondary sale* - is an exit where only the VCs shares are sold to a third party. This buyer will often be another VC or a financial institution. The problem that occurred earlier with information asymmetry will come back to life for the new investors. In that case the VC is responsible for collecting information about their venture/portfolio company to lower the uncertainties for the buyer. (Cummings & Macintosh, 2002)

*Buyback or MBO* - is an exit for the VC that is the entrepreneur buying back shares. This will often involve borrowing to retrieve the shares from the VC and the portfolio usually becomes fairly levered. (Isaksson, 2006, p.62)

*Reconstruction, liquidity or bankruptcy* - is the least preferred way to exit and occurs with no success. The goal is to minimize the losses and the most preferable of write-off, liquidation or bankruptcy is chosen. A reconstruction is often a little bit better because it can involve a complete take-over by the VC that will replace with a new management that maybe can recover some part of the business such as assets, technology or patents (Isaksson, 2006, p.62).

A major issue in the VC-process is that of information asymmetry. It is described in terms of contracting as one party having more information than its counterparty. Depending on how much knowledge that differs among two parties the power of balance lies more or less on one side. Too much asymmetry can cause failures in reaching fair agreements (Akerlof, 1970; Cumming & Macintosh, 2002). Moral hazard and adverse selection are two concrete examples of problems that can occur when information asymmetry is present. For a VC this issue can present itself in various forms, most visibly in the relationships which a VC-manager must maintain; between the VC and the investor, the entrepreneur, potential buyer, other stakeholders (creditors, banks) etc. (Sahlman, 1990)

Cumming and MacIntosh (2002) recognize the relationship between the VC and potential buyer as central when deciding on an exit strategy. They argue that VCs are prone to prefer exit vehicles that reduce the information asymmetry during the divestment process. They conclude by ranking the different exit possibilities in the following order (1 being the most desired vehicle):

**Exit through:**
1. IPO (Initial Public Offering)
2. Trade Sale
3. Acquisition
4. Buy-back
5. Write-off

Mixed results were shown as to the ranking of trade sale and acquisition, in reality we might not separate these two and rather observe them as equals as far as a successful exit goes. These observed differences might just derive from the reasons and context in the environment as to why a certain vehicle is carried out i.e. a hostile takeover (acquisition) is certainly not preferable over a regular sale to an independent party. It is important to note that Cumming and MacIntosh (2002) examined the US and Canadian markets, which in contrast to Sweden have significantly larger
target markets when deciding on an exit vehicle.

Wang and Sim (2001) on the other hand, examine exit strategies in Singapore which is considered a fairly young and less sizeable market for VCs. They conclude that even though exiting through an IPO is preferable, this might not always be optimal if the public market can’t deliver sufficient amount of new investors. This could lead to a higher degree of VCs adapting their exit strategies according to the opportunities provided in their respective marketplace or country. This might imply that we will observe exit patterns in Sweden which are not aligned with the preferred rankings which we can identify in US and Canada. One suggestion of such a misalignment between theory and reality might be that most of the successful exits that we will find are some sort of Sale, rather than IPOs. Due to these uncertainties and lacking empirical supports for how to rank different exit vehicles in regards to various forms of sales we have chosen to categorize the exit possibilities and its distributions according to the following order (1 being the most desired):

Exit through;
   1. Initial public offering (IPO)
   2. Trade sale
   3. Buyback
   4. Liquidation
   5. Bankruptcy

Two things are different from the categorizations provided by Cumming & Macintosh (2002) and Wang & Sim (2001); firstly, we combined all the different ways in which a VC can sell its shares into one category. We did this because there is no definitive empirical support as to whether Acquisitions should be ranked higher or lower than Trade sale and that a quantitative study might result in too few observations in each of these categories when on their own. Secondly, we have separated the category write-off into two, Liquidation and Bankruptcy. This was done due to the fact that bankruptcy is the only category where we can definitively conclude that a venture have failed whereas a liquidation sometimes generate significant values when the assets are sold.

3.2 Exit patterns
As we have described continually, exiting from a venture is the single most important part of the venture capital process for one particular reason; this is where the money is made. It doesn’t matter how much value the VC have created previous to this stage, due to the structure of the fund; VC’s must exit in order to pay its investors (Bygrave & Timmons, 1992). We want to highlight those areas in which information gaps might be present and to which our study will complement existing research.

According to Jain and Kini (2000) VC’s increase the possibilities of a successful exit thanks to its close contacts with banks, investment bankers, underwriters and their ability to create a “buzz” surrounding the venture seeking to go public. But if the macroeconomic environment is in a decline, the VC-industry is one that is affected harshly. An important indicator to the health of the industry is how well the market for exits functions. As we can see from the table below, from being extremely low during the height of the crisis, IPO’s appears to have recovered or at least reached levels where there actually is a market in place.
Note that despite the magnitude and size of the US VC-industry, we can only observe 50 portfolio companies going public in 2011 according to the American National Venture Capital Association. Hence among those 2749 portfolio companies under VC-financing in 2010 only 1.8% went public in 2011 (nvca.org). Consequently, succeeding in bringing an entrepreneurial venture to the public market is a rare occurrence and should not be considered, although profitable, as the main vehicle for exit that make up the market for exits.

As we have discussed and more visible below, IPOs are a rare occurrence with various forms of Sales to third parties occupying the first place for most common exit vehicle among more or less successful ventures.

Trade sale as a category include many various forms of sales, such as a sale to an industrial competitor of the portfolio company or a sale to another financial institution (Sahlman, 1990; Isaksson, 2006; Cumming & Macintosh, 2002). Given this it is quite difficult to evaluate how successful these sales were without knowing the amount of the purchase. Hence, it would be fruitful to link the performance of a portfolio company and the exit undertaken by the VC involved.

For VC’s reputation is a key aspect as a determinant of the perception of their competence. In order for VC’s to raise sufficient funds they must have a reputation of being excellent value creators and resource allocators. Barnes and Menzies (2005) show that investors carefully screen the VC market in order to find competent and experienced VC’s from those with less ability to generate positive returns. This creates an enormous pressure on VC’s to have a good track record, especially in markets where funds are harder to come by such as Europe in relation to US. Given these factors, a phenomenon called Grandstanding has evolved. This is a behavior where younger and more
inexperienced VC firms tend to take their portfolio companies to the stock market prematurely (Gompers, 1995). The sole purpose of this is to generate a good track record to attract future potential investors. This phenomenon was empirically proved by Gompers (1996) where he showed that younger VC firms took their investment public sooner, accepted lower IPO prices and that the fundraising abilities following their first fund was closely related to the number of financed IPO’s.

Amit et al. (1998) argues that the time and money needed for a venture to reach a maturity level suitable for VC-exit is often underrated. They also state moral hazard and adverse selection as reasons of underfunding in ventures, especially visible during exits. They argue that this is the main reason for why VC’s exit, they are simply better at it than unspecialized investors. The exit distribution they present differs slightly from what we observed on the European market seeing that it is a more or less equal distribution among exit vehicles.

Figure 6: Venture Capital exit distributions in Canada

(reworked pie-chart deriving from Amit et al., 1998 – Distribution of VC exits)

In contrast to the grandstanding hypothesis provided by Gompers (1995), later research show that the young VCs don’t take more portfolio companies public than their older counterparts (Wang & Sim, 2001). However this doesn’t prove that they are not looking to do so, it might in fact prove that younger VCs don’t have the same skills and are unable to develop companies mature and successful enough to be taken public.

Smith (2005) examines in his article, the exit structure of venture capital, how contracts between the entrepreneur and the VC are created and structured. According to Smith (2005) contracting and provisions in early stages of development serves to keep the VC locked in its investment. This means that the control of the company initially is at the hands of the entrepreneur. However, this power structure changes as the VC over time acquires more influence (additional funding) by securing additional seats on the board. “The result is a sophisticated transfer of control from the entrepreneur to the venture capitalists as financial investments increase.” (Smith, 2005) Could this behavior be a method of securing control over the exit process for VC’s? If they can control what type of exit will be made, the possibility of higher profits should be the case. But it should also generate more dissatisfaction among the entrepreneurs if the returns don’t meet expectations seeing that it is the VC essentially controls what is happening close to the time of exit. Pagano et al. (1998) mention two reasons for going public; recapitalizing the company after period of aggressive growth and maximizing the dominant owners profit from an eventual sale. In essence, the VC is looking to capitalize on its investment. Seeing that they are fairly dominant towards the end of the investment cycle, the result of this exit process should be closely linked to the overall satisfaction the entrepreneur would experience towards the VC and its actions.

One interesting factor to consider is whether the survival rate of ventures going public survives longer if they were backed by VC’s during the IPO. Jain & Kini (2000) finds that VC’s during the
IPO process provide significant value, aligned with results provided by Amit et al (1998). As approximately one third of companies going public experience dire straits within five years, improving your survival chances is crucial. VC’s attract prestigious investors, stronger analysts which “cover” the portfolio company, create more “successful road shows” while allocating more resources towards R&D. The results are significant in the sense that VC involvement during the IPO process improves the chance of surviving longer (Jain & Kini, 1999b). Furthermore, Jain & Kini (2000) shows that the time required to reach the market is decreased as VC’s are involved. Despite that the research mainly cover IPOs with regards to exits, we should be able to generalize these positive effects on other exit vehicles as well. If VCs are able to attract better “coverage” of their portfolio companies than would otherwise be the case during IPOs, why should this not apply when looking for potential buyers during a trade sale?

VCs face a few incentives which pose some hazards to mainly the entrepreneur and the success of his/her venture regarding exits. A phenomenon where VC’s tend to rush a project taking it public prematurely is called grandstanding (Gompers, 1996). This type of behavior is mostly found among new and inexperienced VC’s and derives from the willingness to create a sound reputation and track record. Cumming & MacIntosh (2001) show this behavior to exist at a greater extent in newer markets when comparing the duration of the investments between the US and Canadian VC-market. The phenomenon can be observed as undeveloped exit strategies. Can we generalize these results to other “new” VC-markets, such as that of Europe and Sweden? If this were the case, we could potentially explain lower returns on these markets as a result of grandstanding causing the “total-market-average” to be lower than in the US. Furthermore, we could argue that the consolidation of these markets has yet to happen. So when should a VC exit?

Cumming and MacIntosh (2003) hypothesize in their article A Cross-Country Comparison of Full and Partial Venture Capital Exit Strategies the following, in theory, optimal point of exit: “A VC will exit from an investment when the projected marginal value added as a result of the VC’s efforts, at any given measurement interval, is less than the projected cost of these efforts.” In reality this would not be the case due to a vast number of reasons, one of which is the above mentioned grandstanding-phenomenon. As Cumming and MacIntosh (2003) summarize their comparison between US and Canada they conclude that exit occur more randomly in less developed VC-markets and that rules and regulations play a large role in exit behavior. This is explained by a lower skill level among VC-managers. Thus, a generalized optimal point and process of exit remains only theoretical. However, from assessing these results we could argue that as VC-markets matures exit behaviors are rationalized, moving closer to a theoretical and optimal structure.

**Figure 7: Venture Capital exit distributions in United States, Canada and Europe**

![Pie charts showing Venture Capital exit distributions in US, Canada, and Europe.](Schwienbacher, 2002; Amit et al., 1998; EVCA, 2011)

When put side by side and by removing the “other” categories from Canada and Europe, we can see from the graphs above that the exit distribution in the US is quite similar to that of the Canadian one. This does not surprise us, seeing that Cumming & Macintosh (2002) argued that these countries were similar with the exception of different sale categories (acquisition and trade sale).
Further what we observe might be a sign of VC-industries maturing towards a more evenly distributed exit pattern as illustrated in the graph for US exits to the left, as argued by Schwienbacher (2002) and Cumming & Macintosh (2002) among others. Thus if we were to look at Swedish exit distribution, we should expect large quantities of trade sales and minimal numbers of IPO’s.

If we look at the process of exits and the fundamental reasoning behind it, we must account for the differences in perspective between entrepreneurs and VCs. Aligned with portfolio theories, VCs are often well diversified in various aspects. Hence, the average VC is not as dependent on each individual portfolio company’s performance as is the entrepreneur. Kerins et al (2004) highlights this issue and argue that the opportunity cost of capital for an entrepreneur is approximately two to four times higher than for a VC. Basically this is a case of having all eggs in one basket with a partner that don’t. Consequently entrepreneurs are more prone to riding out storms and maintaining commitment towards the venture, whereas a VC doesn’t experience the same risk exposure financially and will therefore abandon the project earlier.

We argue that this difference in opportunity cost of capital could lead to different requirements of threshold returns before perceived level satisfactory objectives are met. Essentially we mean that higher opportunity costs, as characterized for entrepreneurs, leads to higher required returns (thus a need to experience more severe problems) before an entrepreneur is willing to divest and look to allocate resources elsewhere. The natural response to this is by having higher expectations than a diversified investor and the risk of becoming overconfident is in our opinions plausible. In fact Isaksson (1999) show that among entrepreneurs who have recently received financing, a staggering 75% believe they will go public (IPO) within the next five years.

Summarizing the concept of VC-exits and its characteristics we argue for the importance and emphasis on this particular part of the VC-process. Much of the performance of the industry as a whole can be derived from the market for exits and the maturity of the industry itself. We observe differences in exit distributions among younger and more mature industries and expect to find results in Sweden which should point to a younger and smaller industry, such as limited amounts of IPOs and large degrees of Trade sales. Furthermore, we have found some questions that needs answering in terms of differing characteristics and perspectives among entrepreneurs and VCs.
Chapter 4: Venture Capital Performance

In this chapter we review previous studies on the performance of VC. As we mentioned in the previous chapter, the exit process appears to be closely linked to the performance of the industry. Following this, we aim to provide an overview of how the VC-industry has performed and what problem can occur when studying performance in this particular industry. There are different ways of measuring performance which accounts for the profitability of different actors i.e. VCs or entrepreneurs. The overall performance of VC industries appears to be worse in most countries outside of the US. Can this be a sign of less competent VC managers in Europe and Sweden compared to United States?

4.1 Performance of Venture Capital

As we discussed earlier, the VC-industry in United States is more mature with seemingly higher competition and greater returns than its counterparts in Europe and Sweden (NVCA, SVCA 2011a). The way we calculate returns of the industry differ depending on what it is we are examining. If we approach the individual VC firm, or the perceived performance from an entrepreneur's perspective the desired and optimal methods will change. The following sections discusses different ways to approach these measurements, what methods previous researchers have applied and a detailed description of how different VC industries have performed, with an emphasis on the Swedish industry.

Georg Rindermann (2003) finds in his article on VC performance in France, Germany and UK that VC-backed IPO-firms do not outperform non-VC-backed companies. What he does find is that some internationally operating VC-firms do better than the rest, which he interprets as proof of the heterogeneity of the VC-market. As this study was done with data covering the years -96 to -99, the results are to some degree explained by the (at the time) relatively young VC-market. By now the market in Europe and Sweden should have experienced some consolidation and maturity which would increase the competence in the industry and with that, its profitability (Bygrave et al, 2000). The need for a study measuring the effects and profitability of VC-backed companies is therefore exhibited.

When measuring performance, there are different approaches available to us. One of the most common measures used to depict the performance of an individual VC-firm is the Internal Rate of Return (IRR). This is calculated by accounting for the net assets being distributed to the investors. Positive flows includes both cash (proceeds from exit, dividends etc.) and non-cash (assets held by the fund). Negative cash flows include funds being transferred into the investment project and management fees to the general partners (Mason & Harrison, 2002). However, the calculations are subject to potential manipulation as well as differing methods of presenting the returns (Phalippou, 2008). Further, it focuses on the performance of the individual VC-firm which makes it very hard to apply on an industry-wide analysis, such as ours. Lastly, it misses to account for other measures of performance that benefits the economy as a whole, such as employment or survival rates.

Rosa & Raade (2006) wrote a paper for the Directorate-General for Economic and Financial Affairs called Profitability of venture capital investment in Europe and the United States. Through IRR (Internal Rate of Return) and Investment multiples they examine the average rate of return the investor in a VC-fund obtains during a 5- and 10-year investment horizon. They differentiate investments into two different stages, as opposed to those discussed in chapter 2 of this thesis; early stage and development stage to be more precise. Two issues arise from this approach; firstly, the time horizon will affect the average numbers, in this case a financial crisis that occurred during the time period in question. Secondly, the returns are calculated with the limited partners (LP) in mind.
This results in a narrow performance measurement that disregards job creation, growth in the portfolio companies and overall survival rates of these newly started ventures. Although this performance measurement is not suitable for our study, the results are relevant.

Rosa & Raade (2006) found that on average European early stage VC’s returned -1.8% with a 5-year investment horizon. As most VC-funds have a horizon of seven to ten years it could be argued that it is more relevant looking at the 10-year results (Sahlman, 1990; Isaksson, 2006). The returns do improve with a longer perspective, but the results are not impressive. On a 10-year investment period the average annual return is 1.3%, which is far less than the risk free Swedish 10-year rate which were around 4.5% at the time (di.se). Investing is a process where one has to weigh risk versus returns, the less risk averse an investor is the higher return he seeks. By looking at the average returns created by venture capitalists in Europe two conclusions can be drawn; investing in VC is about as risky as buying Swedish government bonds, alternatively VC underperform dramatically, thus the opportunity cost is too high relative other investment alternatives (Kerins et al, 2004). Given the fact that VC is synonymous with high risk, the latter is more probable. As we mentioned one has to account for the “negative bias” provided by the 2001 crash, which assumedly affect the numbers. Given the time period during which the data is recorded we believe it is important to address these seemingly meager results with some caution. Thus similar research with more diverse time horizons could prove useful.

To shed some further light on the issue, a comparison to the US market could prove useful. Rosa & Raade (2006) calculates the respective 5 and 10 year average returns generated by American venture capital and show returns of 54.9% and 37% respectively. Numbers that far exceeds their European counterparts and in addition to this difference, Murray (1996) argues that a VC shouldn’t consider its investments successful until it generates a yearly 30% internal rate of return.

Similarly to IRR, using p/e multiples is another way of measuring performance. This method is commonly used on larger companies with existing cash flows and annual reports. However, corresponding hazards exist, such as manager manipulation and could affect the credibility and validity of these values (Barry, 1994). Söderblom (2006) provide in a literature review different incentives from an investor’s perspective, regarding the purpose of investing in VC. Compared to the US, European investors have to a greater extent other goals of their investments beyond generating profits, such as supporting job- and innovation creation in specific geographical areas. Investors with more altruistically aligned incentives are typically government supported; hence profit generation might be a secondary objective, putting less pressure on performance with lower profits as a consequence. Both of these articles points to a need for a more comprehensive approach to measure performance which includes employment, revenues and assets which we argue would provide a more complete picture of the industry as presented by Isaksson (1999).

Hege et al. (2009) shows in a working paper that US VC-firms acting on the European market generate the same modest returns on their investments as do the rest of the VC-market in Europe. As American VC-managers are perceived to be more skilled and experienced, the low returns of the European market could thus be a consequence of macro factors. It might not be the managers that underperform but the culprit might lie in major issues concerning the environment in which the market functions. Söderblom (2006) finds that in order for VC’s to flourish, they need to gain access to a functioning venture capital ecosystem. This system should be characterized by a consolidated market with high specialization, well capitalized funds, persistent availability of deal-flows and some degree of cooperation among VC’s such as syndicated investments. Furthermore she singles out and emphasizes the importance of experience. All of these factors can be clearly observed in the US VC-industry. Only 14% of the entrepreneurs behind newly started companies in Sweden perceived lack of funding/external capital as an obstacle to growth, while taxes/fees and cost of personnel were considered the biggest threat to growth (SCB, 2005). This highlights the
importance of a sound ecosystem for VCs and entrepreneurs to act within, but it also question whether VCs are that important for the growth of newly started ventures.

Achleitner and Klöckner (2005) finds in a research paper conducted on behalf of the European Private Equity and Venture Capital association that 630 000 new jobs were created by companies backed by VCs between the years 1997-2004. This adds up to an annual growth rate of just over 30%, which is significantly higher than the 0.7% total growth in employment in the EU during 2000-2004 (Eurostat, 2005).

The European VC industry experienced patterns of growth and decline during the latest economic boom and respective bust. We can see below that investments are starting to recover, while the fundraising has leveled out on a new low. (EVCA yearbook, 2011)

Figure 8: Venture Capital investments in Europe

![Figure 8: Venture Capital investments in Europe](image)

(EVCA, 2011)

The American VC-industry appear to be in the same situation as Europe if we observe the investment into VC from 2007-2011. The effects of the financial crisis are apparent and whether the observed start of recovery in both Europe and US will continue is uncertain, although pointing in the right direction.

Figure 9: Venture Capital investments in US

![Figure 9: Venture Capital investments in US](image)

(NVCA, 2011)

The Swedish venture capital industry employs close to 18000 people within 600 VC-backed companies, which provides us with an average company of 30 employees (SVCA, 2011, p.1). Despite a financial crisis in 2008 with subsequently falling investments we observe a steady growth in employment.
Similar statements can be shown for turnovers, which apart from a minor stagnation in 2008 grew significantly during 2007-2010. With a total of SEK 32 billion in revenues, the average VC-backed portfolio company turned over approximately SEK 53 million. Note that this a fairly high number, especially as we are dealing with small and newly started ventures. However, some of these companies have probably grown to become quite large without the VC exiting which should affect the average numbers. Hence, it would be interesting to observe the median value for both employment and revenues.

We are able to locate the average and median numbers with regards to the growth rates which are presented below. However we were not able to find any median values for the aggregate numbers of employment and revenues.

<table>
<thead>
<tr>
<th>Annual growth</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover</td>
<td>15.9%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Employees</td>
<td>3.6%</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

In contrast to these figures, according to the Swedish Private Equity and Venture Capital Association, activities in the VC-industry appear very low and dropping. The effects from the financial crisis are making its mark all across Europe. The situation is depicted as critical due to the low amounts of capital being allocated into VC (SVCA, 2010).

Investing in venture capital is risky by definition. Because of this we believe it is important to briefly present how VC’s manage this risk. A widely accepted method of the management of risk for an investor is the Portfolio Theory. The idea is that an investor can reduce its un-systematic risk...
by diversifying the portfolio. There are countless different methods in doing this, but the basics include spreading your assets into different companies, in different industries and sometimes in different countries, with different types of securities. (Markowitz, 1952) For a VC this would mean investing in different industries and in different stages (early and later). According to Norton & Tenenbaum (1993) this could serve the purpose of reducing your exposure to “cold IPO climates” as different industries are “hot” at different times. However, their findings suggested that the opposite of diversifying is the actual method of managing risk. Basically, VC’s utilize their expertise in specific industries and specific investment stages. By having superior knowledge in one specific area your risk is reduced, findings which are aligned with even earlier research performed by Bygrave (1987, 1988, referred to in Norton & Tenenbaum, 1993).

The risky nature of VC is illustrated by the state of hubris in which the VC-industry was characterized by during the IT-bubble. It further shows that diversifying in different stages might not be a bullet proof course of action. According to Söderblom (2011) the amount of VC’s tripled in Sweden during the short period of 1998-2000, reaching a peak of about 160 VC-firms in in the year 2000. This increased competition not only drove up the price, but it drove VC’s to invest at earlier stages than before. The earlier an investment is made, the more risky it is. Thus, we observe market with skyrocketing prices on highly risky “assets”. A measurement that clearly shows the overheating and state of hubris during the period is “burn rate” (Rovenpor, 2003). This ratio showed how fast a company spent its funds, the idea being higher burn rates indicated higher growth due to vast amount of money spent on R&D for instance. Needless to say the market was overheating and when the crash came, many of the less experienced VC-firms ran into dire straits. In fact, the market halved in size and as of 2006 only 80 VC-firms still existed in Sweden (Isaksson, 2006). Despite this Groh et al. (2010) ranks Sweden as the 4th most attractive country in Europe for institutional investments, including VC. This is however primarily based upon legislative tax-based factors which make up the VC ecosystem.

In summary, we argue that much of what has been presented with regards to VC performance have applied different methods of measuring performance than what we are looking for. Further, due to these differences among researchers and institutions it becomes difficult to provide clear comparisons between them. We do however argue that the American VC-industry is much healthier than the European and Swedish counterparts with basis on the findings provided by Hege et al (2009) and Rosa & Raade (2006). Despite this, Achleitner & Klöckner (2005) highlight significant contributions towards growth in employment in Europe and Isaksson (1999) shows the same for Sweden with complementing figures in revenues and assets. Thus we are expecting mixed results with difficult to explain patterns.
Chapter 5: Methodology, Data & Statistical methods

In this chapter we present our choices of methodology and discuss what research philosophy, approach and strategy we have chosen for this study. After this we will pick up the questions of how the data was collected, our sources and following this, a critical review of the quality of the data set. We will discuss the sample selection and what assumptions that are made. It will be highlighted that we experienced a complicated data collection process which took much longer than expected. As an illustration we have included a few cases towards the end of the methodology chapter, so that the reader can be put in our shoes when it comes to difficulties in evaluating different companies.

5.1. Research methodology

When doing the final and most important paper of our education it is preferable to choose a topic that uses previous knowledge in an optimal way and is relevant towards previous knowledge and interest. We feel that some extra relevancy is added to our study as the data used is very hard to come by. Furthermore, in our opinions it heightens the interest and motivation one have towards a study in this area of research.

We have chosen this topic because we think this is a very interesting research area and that not enough research has been made. We have both studied finance and entrepreneurship and we believe that combining these two will shape the future economics and growth. This 20-year-old research area has mostly focused on the value shaping and how VC companies do when investing and how they create value. Most of the research has been made in the context of United States and to less degree in Europe. We have yet to find any time series research of the effects of the VC industry and as we got access to data that made it possible to study VC over a period of 10 years from Anders Isaksson at USBE, we thought that this was the optimal research area for us. We see it as very interesting when we observe possibilities to finding some information of real significance to this research area. We would not until later understand the complications associated with the primary data collection process, and in hindsight we have identified easier ways of approaching this subject. Some of which are pure decision based, but others are out of our control in the sense of new sources of data that became available after we initiated our collection process.

Previous studies on value creation and the process of a VC company has help to understand how it works and what it creates, this has been tested on our data set to see what actually happens in the reality.

5.1.1. Research philosophy

The research process we hope will create new knowledge and communicate it to other people through this research paper. We want our research to be applicable to the real world and provide new information to investors, entrepreneurs, banks and governments. We see it as important for us to not only generate new information to the world of academia, but to the world that actually produce innovation, growth and wealth. Previous research has predominantly been focused towards the understanding of VC-processes and how they function and are organized (Lerner & Tåg, 2013; Sahlman, 1990). We want to complement this research with new quantifiable data on the Swedish VC-industry and how it performs. In order for us to generate viable answers towards this subject we need a relevant view of what type of knowledge we want to find i.e. what epistemological stand point is most relevant for our research? (Bryman & Bell, p.27).

In our opinions, the results of a study within this field are easiest to apply for both academics and
practitioners if it follows a standard view of natural science i.e. a positivistic stance. Essentially we want to identify patterns from a fixed entity (i.e. our sample) and we want to explain the effects on that sample with the perspective from previous studies on VC-processes and activities. The goal is to generate results that will follow an analytical pattern that explains how the VC-industry functions. In order for us to understand how it functions, we cannot mix subjective opinions with objective facts, thus it is crucial for us to approach our research question in a way that we can explain our findings from an objective standpoint and relate it to knowledge based research. This epistemological view is much aligned with a positivistic stance. (Bryman & Bell, p.26-27)

According to this we have a positivist stance and we will confront our problems from this perspective as we are studying a fixed entity. There are issues, due to the subjective nature of the responses from the entrepreneurs themselves in this study, which might be better explained through other views on knowledge. Further, the data collection process will highlight issues that might undermine our objective stance and point to a need for additional perspectives on what type of knowledge that is acceptable. For instance, when asking the entrepreneur a question on their perspectives on the process we will receive an answer that is highly subjective. Hence, one might argue that an interpretative stance, where the humans are considered fundamentally different from natural science, is better suited (Bryman & Bell, p.29). This view tries to understand the acting of humans and how feelings can have influence on complex problems, and could potentially prove fruitful in a study with a more in depth and detailed focus. However, we are not looking for an understanding of the reasoning of human activities. We want to identify patterns that can be generalized and understood separate from human interaction. Although alternative stances towards knowledge such as interpretivism could provide relevant results, it is not optimal for the research question in our study. Hence we will study the effects of VC in Sweden with a positivistic epistemology.

The relationship between an entrepreneur and a VC is quite dynamic. There are many concepts in place to describe this relationship some of which are information asymmetry, levels and emphasis of trust among the two parties and grandstanding to name a few (Sahlman, 1990; Isaksson, 2006; Smith 2005; Gompers & Lerner, 1996 etc.) Seeing that the nature of the relationship constantly changes, and some even argue that it directly affects the performance of the portfolio company, we could argue that a constructionist standpoint of reality and organizations is optimal (Isaksson, 2006; Bryman & Bell, p.33-34). Hence, it is the people and their activities and processes that make up an organizational and cultural entity. However, we must not forget that the processes of VC-firms and how they act have not changed significantly in the last 30 years (Sahlman, 1990; Lerner & Tåg, 2013). In essence, according to the literature they follow the same organizational structure and undertake in similar value adding activities as they have “always” done. Thus, we strongly believe that an objective ontological standpoint is better suited for our research and that it is better aligned with our epistemological beliefs. In essence we believe that the organizations are more or less fixed entities, and the social interplay within them is of less importance seeing that we want to examine patterns in performance and processes with the aim of identifying external facts that are not dependent on the social actor (Bryman & Bell, p.34).

In this paper we will have an objective stance. This is the case because we use natural science methods. It is important to note that much of previous research which investigates VC contributions is qualitative, with conclusions deriving on, in our opinions, from a constructivist philosophy. Thus our fundamental view of the world of science and ontological stance would complement existing studies by providing a quantitative study with an objective reasoning.

5.1.2. Research approach

This study derives from a strong personal interest in the field among both of the authors. Our
interest for the topic arose during seminars and forums with American VC’s visiting Umeå University. During these discussions, it became apparent that literature on VC is vast, and much is known. The problem is, very little of this is focused on the Swedish VC industry. As our theoretical chapters show (Chapter 2, 3, 4), we can argue that how VC’s function and how well the industry performs is well studied for the American industry and to some degree the European. Hence we know very little of the Swedish VC industry. In essence, we base what we know from previous literature and we want to see if the Swedish VC industry follows those same patterns and processes. This procedure is aligned with a deductive research approach where we go from theory to empirical findings and subsequently conclusions (Bryman & Bell, p.23-25). The classical deductive approach is used to test theories or facts we know from a certain area on the reality through a hypothesis development or similar. We do not formulate specific hypotheses, but we do follow the same process in the sense that we go from theory to practice. We can see how the VC acts in the US for instance, and we examine if these activities are similarly undertaken in Sweden.

There are traits in this study which point to an inductive approach as we, apart from comparing Sweden to other markets, aim to present new information that has yet to be done in Sweden (Bryman & Bell, p.23-25). For instance we aim to illustrate how the VC’s exit from their investments, something that has never been done in Sweden. There are opportunities to develop new models within this, aligned with inductive approaches; however that is not the purpose of this study. The purpose is to highlight and identify patterns through which academics can advance the research in Sweden and practitioners can better understand their own industry.

There is a possibility for us to combine a deductive approach with an inductive, where we could potentially from theory create a conceptual mapping which is consequently developed into a theoretical model following the empirical analysis (Bryman & Bell, p.25). This approach was considered but ultimately discarded due to the vast amount of information we planned to collect. We argue that the data collection itself and putting it in relation to what we already know from other countries and previous literature is well beyond the threshold level of requirements for this type of study. Further we also want to stay aligned with our epistemological and ontological stances regarding objectivity, which is closely related to a deductive research approach.

Since we are using theories that will be tested on the real world data we are using a deductive approach in our research. We have discussed the market and laid out an explanatory part in Chapter 2, 3 and 4 to describe the market and their development problems. We have taken the important research to describe at what stage the Swedish VC industry is working on and how it has developed. When taking a deductive approach on these theories we use a dataset of 339 companies to try to show how they, through these processes, have effects in their environment.

5.1.3. Research strategy

When doing research there are two distinctly different strategies that can be used to investigate the reality, quantitative and qualitative strategies. The quantitative strategy is collecting numerical data that often uses the deductive approach between research and theory and uses a natural science and objective view on the reality (Bryman & Bell, p.85). Apart from being the normative strategy for a study with our epistemological and ontological stances we have chosen a quantitative study because we want to present clear and illustrative results on how the Swedish VC-industry operates and performs. We are not looking to answer the question “why” behind patterns, seeing that there is no objective literature on what these patterns appear like in Sweden. Thus identifying the functionality and performance of the VC-industry in Sweden is the main purpose and a quantitative strategy is optimal for such a study.

There are issues that definitely would prove useful to study with a qualitative strategy, such as the
reasoning behind activities and relationships between entrepreneurs and VC’s within the context of information asymmetry as one example (Amit et al., 1998). However, we argue that before investigating the driving factors behind certain activities and performance measurements, we first need to understand the big picture. Essentially, we aim to ask the question “what” and propose some suggestion for future researchers to go deeper and ask “why”.

5.2. Data and sample construction

The dataset that is our foundation in this research paper comes from Anders Isaksson at Umeå University. He collected information from 353 companies during the years 2000-2002 in a previous study about VC’s investments. Gaining access to this type of data is a golden opportunity as studies with perfect hindsight are scarce in Sweden. Our research period will approximately be 2000-2010 since the latest and most up to date annual reports are from 2010, activities that took place after 2010 are not considered in this paper due to lack of data from that year forward. We will get other inputs of data from SVCA, EVCA, and NVCA, which is general data for the industry, their latest annual reports are from 2011 and also only have data up to 2011. Where it is possible we will compare our results with general data that can be found through SCB (Statistiska Centralbyråen), but the main point of reference are other studies in our area, and similar data from other countries.

The dataset derives from a study which Isaksson (2006) collected, which include 353 companies which received financing from VCs during 1999-2002. This dataset include, among other variables which are of less importance to us, time of investment and which VC-firm who was behind that investment. From this original data, we removed 5 companies who said in their survey by Isaksson (2006) that they were not VCs. An additional 9 companies were removed from the dataset due to various reasons. One example which lead to a disqualification from our part is a “VC” which was family owned and only had one portfolio company; the family business. Hence, we could not regard this as an act of VC financing per definition. After these two rounds of screening, we ended up with a dataset that contained 339 portfolio companies, which all had received financing from VCs.

5.2.1. Data collection process

The primary data used in our analysis was collected in three different ways; 1) A manual investigation, from reading annual reports of all our companies in the dataset 2) Ordered data from Ratsit containing performance statistics (employees, revenues etc.) and address information to the entrepreneurs behind the portfolio companies 3) A survey that was sent out to the entrepreneurs. Beyond these three different sources of data we constructed a survey which we tried to send to the VCs which were behind the investments in our dataset. Unfortunately, the response rate was too low and we were forced to remove this part from our study.

To illustrate and increase the understanding of our results for the reader, we will explain in detail the processes of data collection for each source of data. Note, that the emphasis of all our decisions during these processes was to remain as objective as possible, and when the levels of subjective judgments became too high we removed that particular aspect from the analysis.

*The manual exit analysis*

Our first data collection was aiming at generating a list of exit distributions for our sample. This process included us manually looking at each portfolio company’s annual reports from the year of entry, which was stated in our original dataset, and identify when the VC left the portfolio company. We used the database Affärsdata, which collects all annual reports for every company in Sweden. In total, we examined approximately 3000 annual reports i.e. 339 portfolio companies and the VCs investing into them, with about 5-6 years’ worth of reports respectively. In certain cases it was clearly stated in either the portfolio company’s or VC’s annual reports that the VC left the portfolio...
company during the year. In other cases we were able to observe changes in ownership in the annual reports, which could be cross referenced with news articles and/or information from the VCs webpage to confirm that an exit had occurred. In situations like these, we can with great certainty establish what happened and how. In more vague situations, we might observe an issuance of shares in the portfolio company while observing stated changes in the VCs portfolio, but not explicitly mentioning what happened. In these cases we had to put many different pieces of a puzzle together, and sometimes this lead to a fairly valid judgment. When we evaluated that the risk of us being wrong in regards to the actions being undertaken was significant, we removed that particular company from our study.

Practically collecting this data was the most challenging task of this analysis. The 339 companies that is said to be in the sample have developed very differently during the last decade. Our first observation of the data described how many active and inactive companies there are today in this sample i.e. 181 active and 167 inactive previous to the final screening which resulted in the disqualification of 9 companies. Meaning, which companies are registered as still active today according to Affärsdata. Further we understood severity of us having to individually evaluate each company. Some active companies have gone into a fusion with other companies, and some liquidations or write-offs were actually a sale of the business but the production had moved to another company name. The bankrupted companies were quite easy to detect but the biggest challenge was the active ones. We made a deeper investigation of these companies and looked through the annual reports, “googled” and visited websites to get deeper understanding of the investment and how it should be classified, write-off or a success. One of the biggest challenges in this process was to separate a portfolio companies status i.e. active/inactive or sold/liquidated, from how the VC exited from that company. In essence, we could always identify a portfolio company that had gone bankrupt for instance, but whether the VC was involved in that bankruptcy or if they exited previous to that was a major undertaking from our side and vastly time consuming. In total, this process took approximately two weeks and 150 working hours. In order for us to objectively classify companies as active or inactive as well as the characteristics of the VC’s exit, if there even was one, we had to set up our own guidelines and rules as how to value the investment and exit made by the VC. These guidelines will be presented and discussed under the separate data evaluation.

Apart from a mere descriptive approach to what was happening in these companies, we needed a way of valuing them according the different exit vehicles. If the VC sold their shares and it was clearly explained in the annual report that the investment was a fail we gave the valuation a ranking of 1 - bankruptcy. If the exit was just a sale of shares and they got the money back we put the value 2 - liquidation. If the company was still running and they still are owners they got a 3 - still running/living dead. If they changed name and the whole company was sold to another company they got a 4 – trade sale/acquisition. The best grading we had was 5 - IPO and was for the companies that had great success and went public. There are often a chapter written by the CEO where he describe the business and how they look at the future, this is usually viable information and reflects the risks that they face. It is easy to follow up what the CEO’s say when looking at later reports to see if the result was as expected. There were quite many problems when we valued the firms because the amount that was paid for the shares was never mentioned. This makes the valuation between a 2 (Liquidation) and a 4 (Trade sale) very hard to make. Thus, we had to go through the annual reports and all other information to get as much information as possible. When no information was given in the reports we have gone through the announcement that the companies has made, changes in name and management, news that have been linked to the company through Affärsdata. Additionally the VC-firms own annual reports and homepages have been a great help to find solid information, the problem is that they never write about bad investments, consequently a bias towards successful ventures. The companies that still are active often have some information in their homepage, which have been great help to get as good of a picture to what happened as possible. Towards the end of this chapter we have devoted a section to
illustrate the difficulties and the major undertaking this analysis required. We present a series of four cases which we stumbled upon during the process so that the reader can gain full understanding of the uncertainties and how we dealt with those, apart from that which has been discussed above.

Seeing that this analysis became subject to various methodological issues, we couldn’t rely solely on it for our analysis of exit patterns in Sweden. Consequently we had to ask the entrepreneurs themselves what had actually happened; hence this analysis resulted as guidance towards the questions we wanted to ask the entrepreneurs in the following survey as well as a complement to gaps in that data.

The survey
In order for us to reach out to the entrepreneurs, we needed relevant people’s addresses. The first decision to make was how to evaluate who was the entrepreneur(s) behind each portfolio company. The most practical and relevant solution was decided to be an identification the CEOs and Chairmen active in the portfolio companies during the investment period. Here our manual exit analysis worked as a guidance regarding the time period in which each company had a VC actively invested. After we established an investment period for each respective portfolio company and a decision that we wanted the addresses to every CEO and Chairman we ordered this data from Ratsit in March of 2012. The delivery was delayed and we didn’t receive the desired information until May the same year i.e. two months later. When the data was retrieved, we needed to fill in the gaps for a significant part of the data, as we had not received the two addresses for each company. Thus, a manual search was in order where we tried to get information to as many companies as possible. In some cases we included addresses to lawyers and/or direct addresses to the companies, but none of these addresses resulted relevant responses hence not an issue regarding the quality of data acquired.

The above activities resulted in a survey which was sent out to 492 people via mail i.e. circa 72% of our total theoretical population of 678. A complete version of our survey and the responses to it can be found in Appendices. The survey was first mailed in August 2012, and during the course of three weeks we gathered 184 responses. Following a reminder and second mailing round, we finally ended up with 233 total responses. This provides us with a response rate of 43%, which must be and is by us considered highly successful.

A friend of order would point to the fact that we in some cases must have received two answers for one company, which is correct. However given that we will analyze the average opinions among entrepreneurs and not the individual company, this is not an issue. The one area in which this would have a significant impact is in the exit analysis and more specifically the distribution of exit vehicles utilized by VCs for each respective portfolio company. Consequently, for that particular analysis we have adjusted the data and removing duplicates so that each company is only represented once.

Performance data
In order for us to evaluate the performance the VC backed portfolio companies during the investment period we aimed at following the same procedures and measurements undertaken by Isaksson (1999). This essentially includes calculations of the growth in employees, revenues and assets. Given the limited scope of data collected by Affärsdata, we needed to look elsewhere for this data. The decision was made to order this from Ratsit simultaneously to ordering of addresses discussed above. As we have mentioned earlier, changes in our portfolio companies is more a rule than an exception and in many cases, thus we needed a method for evaluating companies that had merged with other companies. We decided to do what is customary in these types of investigations, meaning if a company had merged or otherwise experienced a shift from its original organizational number into a new one we wanted Ratsit to use the new number. As an example, the original
venture could in case of a sale be consumed by the new one, or acted as a part of a concern. In these cases, we therefore received the data from the concern, and not the daughter company. As this in a few cases resulted in massive growth numbers, we manually adjusted for such outliers. Consequently, we aimed at retrieving a list of companies with various key variables for each year from 2000-2010.

Due to delays in the delivery of this data, we were not able to retrieve the final version provided by Ratsit until late in the fall of 2012 i.e. almost six months after our initial placement of the order. In addition to this, there were massive alterations and manipulations required of this data due to less than optimal formatting and layouts of the excel-files we received. As an example, we wanted one row for each company, with the growth measurements for each year running in the columns to the right. This was not the case during retrieval, and each year was presented in a new row, instead of columns. Needless to say, this was a time consuming effort to adjust for.

By the time this data started to take form a new database had emerged, Retriever Business. This database holds annual reports as far as 10 years back, and proved to be an excellent source for us to cross reference outliers and perform random quality checks to verify the data we had already gathered. Consequently, we relied on Ratsit for the initial composing of accounted closing data but we were able to go beyond that with the cross referencing against two additional data bases, Affärsdata and Retriever Business. Hence, we can argue that the data on which we base our calculations is to be considered relevant and of high quality.

In summary, our data collection process was paved with significant difficulties and long periods of waiting for third party delivery. In addition we combined our work on this thesis with full time studies on master level, resulting in limited time that could be allocated towards the progress of our data collection process.

5.2.2. Secondary data and sources

The most significant secondary data in this study derives from the data generated by Isaksson (1999) during the period of November -98 to January -99. The data used in his study was gathered from Förvärv & Fusioner’s own database which tracked VC-investments in Sweden at that time. Unfortunately this database no longer exists and there are no new actors with a similar service, hence our decision to base our study on the sample provided by Isaksson (1999). The sample generated contains all companies in the database for which it was known what year the VC invested into the portfolio companies. On a methodologically sensitive note, it is worth mentioning that the database was fed by voluntary submissions which could have had an effect on the representativeness of the sample as a whole. Despite this we have trusted this information and assume the reliance of the data. As we mentioned before, the survey asked the entrepreneurs whether they had actually received VC-financing and we adjusted for these answers before we could regard our own original dataset as valid and relevant.

Other sources of secondary data were gathered from, as previously mentioned, Affärsdata and Retriever Business. The former is highly regarded and is accessible through the University Library at Umeå University, the latter although as well accessible through the University is new to us and quite as rigorously tested from our side. However, as we performed countless cross references between Retriever Business and Affärsdata we could observe close to identical results. Thus we can argue that we have two databases with tremendous track records accessible to us.
5.2.3. Criticism of data quality

Many things happen to a company in 10 years. The majority of the information is only known to the owners and very little of that is available to the public. This became apparent when we initiated our manual exit analysis and resulted in a big problem for us. For example, information about who owns a company; “Bolagsverket” don’t keep track of things like this even though they take the registrations for new companies. “Skatteverket” which is the tax record authority in Sweden has the information but don’t share it with the public. When we were not able to generate this data from official government bodies, we had to investigate all companies manually and this makes the probability for error greater because not all companies write in their annual report when changes have been made in the owner structure. This is also the reason why we complemented the study by sending a survey to the VC companies to investigate the reliance of our results and give us a clearer picture of how successful the investments really was. Essentially, there were too many uncertainties and methodologically sensitive aspects for us to derive arguments and conclusions from this data alone. Given the detailed description of how we did this above and despite the apparent issues, we argue that when we actually found signs of an exit and what type of exit it was, the results are fairly solid or at least on a descriptive level sufficient.

Given solid secondary data provided by Isaksson (1999) and a careful construction of the survey itself, we argue that the responses received from it is to be considered viable. The respondents were active and in decision making positions during the period which the VC was involved. Only a few respondents answered that our information was not correct, of which all was removed from the study. There is of course always a risk of errors during the data collection process, as well as questions which might have been victims of weak reliability and validity.

With regards to our response rate and the number of respondents, we would like to highlight two other studies on VC as an illustration and comparison. Achleitner and Klöckner (2005) sent out a survey investigating employment contributions of the VC industry across Europe. Out of a population of about 1000 VC-funds, only 77 venture backed companies replied and provided sufficient data. Another study which the Swedish VC association did in 2010 on performance among other variables, only 24 VC-firms provided sufficient data (SVCA, 2010). The former study lacks in the aggregate number of respondents, while the latter evaluates VC from the VCs own perspective. In contrast our study has 233 respondents, with 21% of them being the actual founders as well as the rest in leading position in the portfolio company. One issue that could potentially affect the credibility of our results negatively is the fact that there is a chance that the entrepreneurs are more prone to answer the survey if they were happy with the overall process and VC-involvement. If we look at the following graph, it could potentially be a sign of positive biased towards VC-investment in relation to who actually replied to our survey.

*Figure 12: Was VC involvement positive for the portfolio company? (n=176)*

(Q24 on the survey)
If we evaluate the performance data which was gathered from Ratsit, Affärsdata and Retriever Business, there are some issues worth mentioning. Firstly, we have no doubt that we received what we requested i.e. in terms of closing data for employment, revenues, assets etc. However, the list of companies for which we wanted this data contained many companies which merged or was brought into a concern structure. In these cases, we gave the instructions to provide the figures for the concern or parent company. Here we have an apparent issue emerging; these companies might provide us with too optimistic figures. For instance, one company went from circa SEK 40 million in revenue to about SEK 40 Billion in one year. Outliers like these are easy to detect and adjust for, but we cannot guarantee that more sensible growth figures are in fact due to mergers or inclusions to parent companies. We can’t however completely remove these companies seeing that a merging of companies is normal following a trade sale and this would probably over-compensate and make our sample biased toward the negative side. Thus, on average our growth figures that we are presenting might be slightly overoptimistic and will be accounted for in our conclusions.

5.2.4. Sample selection criteria

The sample selection is based on Isaksson’s (2006) study, which are the only companies we investigate. There is no other alternative as far as sampling goes, we simply have to rely on Isaksson and trust that he managed to gather a representative sample of Swedish portfolio companies.

5.3. Cases of Venture development

Here we show the complications of how a company develops and the difficulties that could arise for us when examining them. Some companies provide significant information in the annual report and some don’t. There are many sources of information and time constraint is the main limitation hindering us to go deeper. Naturally we could call all people involved in each respective company that went bankrupt eight years ago to get an exact development of what happened, but when we got enough information to value the investment we have gone to the next one because of the great amount of companies and the fact that we do a quantitative study. Note; The names of the companies and VCs have been altered because we don’t have expressed permission to publish this information.

5.3.1 Case 1: Quotations AB

Quotations AB were established in 2000. Their main business is service and sales of information and news on the financial market. Investo, which is a Swedish VC company made an investment the same year. After one year it says in the annual report that they started a sale of assets and a write-down of liabilities which seems to not be very good. The shares were bought by the entrepreneur and after that the company did not have any liabilities; consequently the VC made an exit. The company survived and today has 5 employees and SEK 5 million in turnover and SEK 0.5 million in profit. Even though they were close to bankruptcy and the investment was classed as a 2 – liquidation, the company turned out quite well. This is a typical example when the possibilities were not as great as expected but the entrepreneur turned out quite well. From his perspective it also can be seen as a MBO or a Buy back.

5.3.2 Case 2: Tech AB

Tech AB is a company from Kalix that was started in 1990 with production starting in 1995. The main business is to sell alarm system for the healthcare industry. IndustrialVentures made a VC investment in the year 2000 together with SmallCap AB, VentureDeveloper AB and two private
investors. The total amount of shareholder was then nine. The company has a wide portfolio of products and an expansion program started at 2000 to get the company as the leader in the market. Sales have started in Scandinavia and an expansion to Europe started in 2002. They had 9 employees in 2000 and SEK 14 million in turnover. 2005 a big part of the company is sold and 90.52% of shares is held by Voorsicht Capital AB. They then have a turnover of SEK 31 million and 28 employees. The profit is still negative of about SEK 2.3 million. The hard thing here is to know why they sold. The information in the annual report show a positive outlook (as always though) when they sold their shares. After 2005 the turnover had risen to SEK 56 million and employees to 38, still negative profit of a record SEK -11 million in 2007. We see this as a good exit and easy to evaluate and mark it as a 4 – Trade sale because of the good outlooks and the raising turnover at the time of exit.

5.3.3 Case 3: DiumCarpe AB

DiumCarpe AB is a typical IT company that was started in 2000 and develop Internet based mobile services for the general public. We know from Isaksson’s (1999) data that IndustrialVentures enters in 2001 but nothing about ownership is said in the annual report. 2003 IndustrialVentures makes an exit based on the fact that objectives are not fulfilled, thus we think this is liquidation. The company is not bankrupt but the maximum turnover is SEK 60 000 and the accrued negative profit is SEK 1.6 million. Probably the VC didn’t get back all of their investment but this can’t be classed as a bankruptcy because the company is still active and the exit was made free of choice. This is a good example of investment stages which we have discussed earlier. Essentially, when goals are not fulfilled the VC is diversified enough so it can choose to minimize losses and not provide additional funding.

5.3.4 Case 4: BioVisionary AB

BioVisionary AB was created in 1994 and operates in the medical IT business and creates software applications for the medical market. It’s based in Lund and TechInvest AB made an investment in the company in 1999, during the bull market of the IT era. Not much information is provided by the annual report and it looked like a dead end. However, we managed to find information that IndustrialVentures was co-financing the venture by somehow. On IndustrialVentures homepage it happens to be possible to read about their investments into life science. Apparently this was a joint venture with additional active investors and by now it’s been traded on Nasdaq OMX Stockholm since 2007. The company got the highest grade of 5 - IPO even though the VC still hasn’t yet fully exited, however an IPO is always considered to be at least a partial exit and that is good enough for us seeing that it generates significant returns for the VC. They have gone from SEK 54 million in turnover from 2006 with negative profit to SEK 131 million in 2010 with a profit of SEK 38 million. Indeed an ultimately successful venture.

5.4. Interpretation of findings

As we have explained from our data collection process, the interpretation of our manual exit analysis was an issue. We solved this by adding a formalized table of criteria and a scale from which to grade the exits that we found. The performance analysis as based on aggregate “entry” values versus aggregate “exit” values. From this we can observe a total growth, and derive an average annual growth among employment, revenues and assets.

When calculating employment, we sometimes could not find number of employees at the time of
entry, while we observed that jobs had been created up until the point of exit. However, we did not include these companies in the analysis for the sake of being consequent and objective. These companies would skew the data to the better but not add to the scientific result. So in reality the slight growth rate that we observe might be a slightly higher, but not more than 0.5-1%. As an example, a company that has 10 employees in 2000 and by the time of exit it has 20. This would in reality be doubling of the employees, but in our case the point of entry was 1999 and we have no numbers for that year. Seeing as we don’t know if the numbers that year was 0, 10 or 50 we simply remove this company from the analysis. We only used companies where we had a value for both entry and exit. In some cases information was missing; in those cases we used the data base “Retriever Business” to manually add the numbers. If no information was available on this database, we simply removed that particular company from the calculations in that area.

The exit distribution is simply calculated from total numbers of observations in each exit vehicle. Primarily we used the information provided by the entrepreneurs but for those companies that did not reply to the survey we complemented with our manual exit analysis. The following criteria was considered when evaluating exits:

- Entry year was based on the original data set and manually confirmed through annual reports
- Exit year was defined as the first sign of exit i.e. both partial and full exits included
  - Signs of exits include (but are not limited to):
    - Announcement in the CEO letter to shareholders
    - Announcement in the “summary of the year” in the annual report
    - Issuance of new shares (needed confirmation for it to be valid, such as an announcement in the VC’s annual report)
    - Announcement on portfolio company or VC webpage
    - Announcement of IPO
    - Change in CEO or Chairman (needed further confirmation to be valid, such as newspapers, third party announcements, information on webpage etc.)
    - Bankruptcy, Liquidation, Write-off was considered as such for the VC if no signs of previous exit could be verified
    - Mergers were very difficult to assess and often case specific, sometimes exit occurred during merger sometimes not. If no signs can be identified we assume no exit.
  - Companies stated as “resting or alive but not active” are defined as liquidated
  - In cases we don’t know what happened, we defined them as uncertain and removed them

5.5. Criticism of practical research method

An obvious limitation to our study is the fact that we do not have a reference group to which we can
compare our growth rates. Hence, we are forced to comparisons with other general growth measures and previous literature on the subject in other regions. The focus with this study is on the data collection process, given that we wanted to generate a viable sample through which VC in Sweden can be studied. Consequently, we have created opportunities for additional research on the subject.

5.6. Research quality criteria

There are many criteria’s that must be fulfilled to generate sufficient quality of a research. Often much reliance in quantitative studies is based on only one variable, which often can be enough but sometimes you need more variables to be satisfied. The important thing is to be aware of the reliability and validity of the study and how well the variables explain the answer of your question. Seeing that our study is comprised of three parts (manual exit analysis, performance data and a survey) there are different aspects to consider in the different analyses respectively (Bryman & Bell, p.93). For instance, the manual exit analysis is subject to researcher manipulation or human error in the way the researcher interprets the yearly reports and the subsequent stated type of exit from that. Same risks of errors are apparent in the performance analysis, where we were forced to adjust the gathered information for outliers and other anomalies. Such adjustments, though aimed at improving the scientific results, could have adverse effects on the validity of the data if errors occur during the data collection process. The survey on the other hand, is subject to issues regarding how the questions are formulated, if they are understood properly by the research subject and if the measurements generated from these questions are actually measuring what researcher states or believe (Bryman & Bell, p.95).

5.6.1. Reliability

Reliability is the questions about the reliance and consistency; will the research subject answer the same question regarding perceived performance over time? Will we as researcher generate similar results in future studies on exit patterns in Sweden? In our opinions, the results of this study could be viewed as a test of the reliability in the conclusions made by Isaksson (1999). Seeing that we measure somewhat similar variables, but with a significantly longer time horizon, we believe that this study informally tests the consistency of the results in Isaksson (1999) (Bryman & Bell, p.94).

First the reliability is a measurement of trust and must lead to stability, validity assumes reliability of the research and is therefore a requirement for the results to be considered scientifically viable (Bryman & Bell, p.99). If something is stable it has the same value over time when measuring a sample and should not fluctuate much depending on by who and when it’s done. Our sample is stable in the sense that we study a set of companies that received VC financing about 10(+) years ago, which at the time accounted for most of the VC-investments in Sweden that was known. Much has happened and some companies do not exist anymore, but that it was we are trying to identify; how that happened and how the VC’s acted during. Thus we want the answers to differ from the ones found by Isaksson (1999), because the entrepreneurs are in different places and have the advantages of perfect hindsight, rather than being in the middle of the process.

The manual exit analysis is, as we have mentioned, not perfect in the sense that there are some risks of errors in the evaluation and decision making from our side in terms of what actually happened to a company when studying the annual reports. We have illustrated a few cases of such evaluations and discussed how we went about creating consequent guidelines for ourselves of how to evaluate companies (Bryman & Bell, p.94). But beyond this, we cannot show exactly how we did in each case. Thus we have consciously toned down and emphasized the risks of the findings from this analysis and tried to use it as a complement to the exit analysis brought forth from the survey. For the performance analysis there are some risks of human errors, but the methodology behind it is much more straight forward. Further, we have the possibility to present documentation of all the
data used and which adjustments were made, hence increasing the reliability. The survey followed standard procedures when created, in terms of how the questions were formulated and scales used for them etc. The process took about two months to complete, and the survey was tested on multiple subjects with varying levels of knowledge on VC so that we can ensure reliability, both internally and externally (Bryman & Bell, p.94).

5.6.2. Validity

All three analyses derive from our research question and subsequent scientific literature relevant to it. The question is whether our analyses measure what we set out to measure. For the manual exit analysis, we wanted to identify if, when and how an exit had occurred. Aspects such as face validity, concurrent validity and construct validity are not directly affecting the manual exit analysis given that they usually refer to third party understanding of a survey question for instance (Bryman & Bell, p.96). The same applies for the performance analysis, with the exception of construct validity. Essentially we are measuring performance, and whether the measurements we use actually explains the performance could potentially be an issue, especially due to the ambiguous meaning of the word performance. These differences are dealt with in Chapter 4, and as mentioned we focus on growth in employment, revenues and assets. Measurements we believe are well suited for explaining the health of the industry on an aggregate level with a broader perspective and practical applicability as opposed to Internal Rate of Returns for the VC’s. Thus, given that it is clearly stated what type of measurements are being used and how we define performance, this should not be an issue in this study. Further, the guidelines and measurements of valuing the performance are based on previous research and are similar to Isaksson (1999) in the sense that we want to capture a broader perspective.

The survey is subject to issues regarding the respondents understanding of the questions and whether the results on certain question actually illustrate that which we argue. The respondent is introduced to the survey through a letter explaining the goal of the study, followed by control questions so that we can ensure that the survey has reached the relevant person at hand. An example of such a question is; “Q1: Is the information above correct that your company has been financed by a VC-firm?” We have previous to this question stated the name of the entrepreneurs company and the name of the VC-firm. Bear in mind that the questions were asked in Swedish and minor errors or loss of meaning in English might occur, but would not have been an issue for the research subjects (entrepreneurs).

Another way of increasing validity of the survey was to as the question in an “opposite” manner i.e. similar to mitigating issues on construct validity (Bryman & Bell, p.96). For instance, when we wanted to ask how big portion of the equity in a company that the VC took on we could not ask this directly given that syndicated investments is a common phenomenon. Thus, we divided the question into two parts; “Q9: What were the founders share in the company after the VCs initial investment?” and “Q11: How many external investors were involved?”. According to previous literature VC managers are unwilling to take on a majority position in a portfolio company so that the entrepreneur’s motivation is maintained (Sahlman, 1990). Thus by asking for the entrepreneurs portion of the equity and later how many VC’s that were involved in the investment we could verify this academic statement in a viable manner.

Another issue, related to the perceived performance of the entrepreneurs, is how to evaluate this perception. Simply asking how they perceived the performance during the investment period will not provide any viable answers seeing that it is subject to personal interpretation of the meaning performance. Thus the question is asked in different ways;

- “Q20: How do you evaluate the performance of the company in relation to the
expectations?”

- “Q21: How did the company perform in relation to similar companies in the industry?”
- “Q22: How do you believe that the VC perceives the company’s performance during this period?”

By asking the same question with three different perspectives, we have better grounds for evaluating the entrepreneur’s actual perception of the performance. The *construct validity* is when the researcher use deduction from theory to what is relevant for the question. It refers to the correlation between the scale and the scientific construct and the importance of measure what was actually intended to measure. (Bryman & Bell, p. 95-96). When asking the entrepreneurs to evaluate the performance, we divide the question into three separate questions. This was done in order to reduce the risk of biased answers and potentially highlight potential discrepancies. A complete list of the questions for our survey can be seen in Appendix 2.
Chapter 6: Results

In this chapter we present the results from our study. First we present our findings regarding the performance of the portfolio companies. Secondly we present the exit distributions which we observe and how that might be linked to performance. Lastly we provide the entrepreneurs perspective on VC involvement.

6.1 Performance

First of all we need to clarify that our study is examining a data set which originates from the height of the IT bubble. Subsequently, during this period we have gone from peak to trough to peak and back to trough with the financial crisis of 2008. Hence, two crises should have had a negative impact on our dataset with regards to average performance numbers.

When studying the reported data from annual reports we had a dataset consisting of 339 VC backed portfolio companies. The number of companies with reliable information varied slightly among the different measurements we calculated, but on average we included 291 companies into our analysis. The calculations are based on the period in which the VC firm was involved with and invested into the portfolio company, thus capturing the entire value creation process. In practice this mean that we have an entry value for each measurement i.e. the year in which the VC invested and an exit year i.e. the year in which the VC exited from its position in the portfolio company. Our calculations are thus based on an exit vs entry value examination during an average time horizon.

The average time period during which the VC’s were active in their respective portfolio companies was according to our survey 4.7 years. It is within this context our calculations are presented i.e. annual growth during the average time horizon of VC involvement. This is significantly shorter than what is argued to be the standard time horizon for a VC firm, which states somewhere between 7-10 years as a norm (Sahlman, 1990; Isaksson, 2006). One explanation for this shorter investment horizon could be that our dataset starts during the height of the IT-bubble, thus should include substantial amounts of bankruptcies and liquidations following the crisis in 2001 and 2002. The average year of investment in our dataset was in fact sometime during 1999/2000 and exit occurred on average sometime during 2004. We will return to this subject later on when we examine the exit patterns.

6.1.1 Growth in employment

Employment growth is a central and key figure when evaluating the health of an economy. Consequently, we retrieved employment figures for our dataset from annual reports, Ratsit, Affärsdata and Retriever Business. Note that our figures are representing the entry and exit year with an annual growth calculated from that, i.e. exit divided by entry divided by 4.7. The following chart illustrates what we found;

<table>
<thead>
<tr>
<th>Employment</th>
<th>Total</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nr of employees at entry</td>
<td>7313</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>Nr of employees at exit</td>
<td>7938</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>Annual growth</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At the time of investment, our data set of VC-backed companies employed 7313 people or 25 people per portfolio company. When the VC exited we had a total employment of 7938 people or 26 people per company. Consequently this is a 2% annual growth in employment for our dataset as...
opposed to 18% found by Isaksson (1999). Although the numbers are less than fantastic, it shows an industry that is growing slow and steady. Furthermore, put in relation to the fact that the majority of Swedish entrepreneurs said they wouldn’t survive without the backing of VC’s we should perceive this result as fairly well (Isaksson, 1999). Another statistic speaking in favor of these results are that of the apparent unwillingness among entrepreneurs in general to employ additional workers (SCB, 2010). In fact, many state that growth in revenues is only desirable if additional personnel can be avoided. Our view is that an annual growth of 2% should be considered positive especially if we take what we just discussed into account, as well as the IT-crash which had a significant impact on the macro environment. Further, as we stated earlier the average annual growth in Employment for the Eurozone was 0.7%, hence in relation to this a fairly viable growth rate for the portfolio companies (Eurostat, 2005)

Since we are studying VC backed portfolio companies, it is interesting to look at the size of the companies. As we mentioned in previous chapters, VCs generally invest in smaller entrepreneurial ventures sometimes only an entrepreneur and his idea. However, is there any truth to this picture? By observing an average size 25/26 people it doesn’t align with common perception, however those that do succeed can grow fantastically in size which in our case has a significant weight on the average company. Thus, the median sized company should better reflect reality. In fact the median company has between 7-9 employees during the time in which VCs are actively involved and add value. This is certainly aligned with what researchers and observers of VC is the norm for the venture capital business model.

6.1.2 Growth in revenues

The calculations follow the same procedure as with employment i.e. total revenue growth divided by the average value creation period.

<table>
<thead>
<tr>
<th>Revenues (SEK)</th>
<th>Total</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues at entry</td>
<td>5 690 527</td>
<td>19 967</td>
<td>2 267</td>
</tr>
<tr>
<td>Revenues at exit</td>
<td>16 000 175</td>
<td>54 608</td>
<td>6 445</td>
</tr>
<tr>
<td>Annual growth</td>
<td>32%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At the time of investments, our portfolio companies had a total revenue stream of approximately SEK 5.7 billion or close to SEK 20 million per company. At the time of exit, this number had grown to approximately SEK 16 billion or close to SEK. This amounts to a yearly growth in revenues of about 32%. As opposed to the employment figures, we observe a significant annual growth in revenues much higher than the results found by Isaksson (1999) of 18%. A general perception is that growth in revenues precedes growth in employment; hence our dataset should reveal larger growth rates in employment as it matures with time.

Again we observe a “larger-than-should-be” average portfolio company, especially as the general perception depicts that an entrepreneur seeking VC financing is often in the product development phase and little to no revenues are generated. Those few larger and more successful companies skews the average value upwards, but median values of SEK 2.2 million at the time of investment is quite possibly closer to reality.

6.1.3 Growth in assets

As opposed to larger and more mature companies, young entrepreneurial ventures are harder to
value as they don’t have a very long financial history to evaluate, such as cash flows or profits. Thus a good complement in regards to performance, we can observe the development of the assets in the portfolio companies.

Table 6: Resulting growth for assets (n, entry=282 n, exit=294)

<table>
<thead>
<tr>
<th>Assets (SEK)</th>
<th>Total</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets at entry</td>
<td>22 573 702</td>
<td>80 049</td>
<td>11 456</td>
</tr>
<tr>
<td>Assets at exit</td>
<td>21 477 620</td>
<td>73 053</td>
<td>10 940</td>
</tr>
<tr>
<td>Annual growth</td>
<td>-1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The total amount of assets declined during the investment period by 1% annually, decreasing from SEK 22.6 billion to SEK 21.5 billion. In contrast to Isaksson (1999) who observed a growth rate of 26%, this was much lower than expected. Assets per company are quite large, around SEK 70-80 million. The best representation of the individual firm’s assets is given by the median which is around SEK 11 million. This is the only statistical measure this far that shows a decline during the VCs investment process. It is impossible to provide a generic answer to this, seeing that every company is unique and act in different industries with diverse capital and asset requirements. We believe that one explanation could be that the needed assets to run the ventures are acquired initially, consequently utilized during the VCs investment period combined with scarce retained earnings. Could it be so that we can apply the general critique of private equity firms here; which argues that profits are paid out as dividends to owners rather than reinvested in the companies, thus increasing short term profits on the expense of long term opportunities?

Table 7: Comparison of Isaksson (1999) and our findings

<table>
<thead>
<tr>
<th>Growth in portfolio companies: then and now</th>
<th>Entry - 1999</th>
<th>1999 - Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>18%</td>
<td>2%</td>
</tr>
<tr>
<td>Revenues</td>
<td>18%</td>
<td>32%</td>
</tr>
<tr>
<td>Assets</td>
<td>26%</td>
<td>-1%</td>
</tr>
</tbody>
</table>

6.2 Exits

6.2.1 Data and sample discussion

Our exit analysis derives from two sources of data, which in different ways examines our sample of 339 portfolio companies. The first source is from the annual reports of the companies, gone through manually. This process included investigating each individual company manually, identifying what happened in terms of the VCs investment and following exit. This process included significant methodological issues, which are elaborated on in the methodology chapter. The second source is from our quantitative survey, in which the entrepreneurs themselves provide their personal insights to the process. From the survey we received a little less than 200 reliable responses; in order to increase the validity of the results we complement the survey with our own manual analysis of the annual reports. In total we were able to include 256 companies into the exit analysis, while we could not verify objectively what happened in 83 companies. Nevertheless, 76% of our total dataset is in fact included in the analysis.
6.2.2 Investment duration

By looking at the average duration of investment period we can try and establish a generic investment period for Swedish VC. The following entry and exit years are found in our study:

Table 8: Investment period duration (n=184)

<table>
<thead>
<tr>
<th>Investment duration</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average exit</td>
<td>2005.4</td>
</tr>
<tr>
<td>Average entry</td>
<td>1999.3</td>
</tr>
<tr>
<td>Average duration</td>
<td>6.1</td>
</tr>
</tbody>
</table>

The vigilant reader quickly notice that the investment duration, i.e. time from entry to exit, is longer than what we used in our calculations for growth in employment, revenues, assets etc. This has two reasons; firstly the previous calculations were solely based on exit statistics from the survey we sent out with a few exceptions with complementation’s from Business retriever. The exit analysis on the other hand, is primarily based on the survey as well, but is to a significant extent complemented with our own manual examination of the exit patterns. Secondly, the data shows a longer period because a large portion of the companies that did not respond to our survey are still active today. In many of these cases we have been able to identify an exit by the VC from these companies, but not in all, thus classified as “uncertain”. Consequently, we are not able to establish a perfect average time period for the investment process. The former figure, of 4.7 years, could be considered slightly pessimistic as we have the financial crisis affecting the numbers negatively. Meanwhile 6.1 years average might be too optimistic in the sense that we have companies still being active that in some cases should have been labeled as exited from a few years back. However, we can say with quite some certainty that the average VC in our dataset remains as owners in their portfolio companies somewhere between 5 and 6 years.

6.2.3 Exit patterns

As opposed to the duration of the investment process, the validity increases when we look at the exit patterns, or distribution of exit vehicles. The following graph shows how the VCs in our dataset exited from their investments. The analysis is based on 256 companies from the survey and our manual investigation. 83 companies were excluded from this graph and following analysis due to uncertainty regarding the VCs actions, consequently no reliable information was retrievable in our opinions.
IPOs – Only 2 percent meaning 4 companies went public during this period. Seeing that going public with your portfolio company is the ultimate goal and considered as “hitting the jackpot”, very few succeeded in this aspect. To some extent, this was an expected result due to the limited size of the Swedish market for exits.

Trade sales – 21 percent meaning 55 companies were sold to a third party. This vehicle of exit is generally considered a successful one and generates considerable returns for both the entrepreneur and VC. There are of course variations within this category and a trade sale does not guarantee the same pay off as an IPO might do.

Buyback – 10 percent meaning 25 of the companies were sold back to the entrepreneurs. It is hard to evaluate this exit vehicle, but in general it must be considered a failure if the VC can’t find any external buyers or are forced to sell the company back to the entrepreneur. Still a form of sale takes place, and sometimes the VC might receive some money back on its investment but we have to remember that the entrepreneurs themselves are seldom wealthy individuals. Consequently, buybacks predominantly occurs if the relationship between the actors breaks down or the VC loses faith in the future prosperity of the firm. Thus the valuation is much lower than a sale.

Liquidation – 31 percent meaning 80 of the companies was liquidated during the period. Liquidations is more often than not considered a failure and only better than bankruptcy because there are some assets worth liquidating thus not a 100% loss of your investment. An aspect that we encountered during our manual exit analysis was that liquidations are sometimes used as a method to sell patents and transferring them to a third party. Consequently some liquidations could be considered as successful as a trade sales, which somewhat negatively contributes to the usability of the graph above.

Other types – 14 percent meaning 35 companies answered that the VC exited in another form than those alternatives we provided. Many of the cases were specific to individual companies and thus we were not able to generate enough information for an additional category to be added other than those above.

6.2.4 Exit analysis

In order to illustrate the discrepancy and positive bias of our survey in terms of who actually
responded to it, we can look at the results regarding exit distribution when comparing what the entrepreneurs stated and what we have gathered in total. As we see, the levels of Liquidations and Bankruptcies provided from the entrepreneurs are far lower than our “complete” exit analysis. Seeing that the survey is positively biased and our manual exit analysis is negatively biased, we can argue that the analysis in total should reflect reality fairly well (illustrated below as the revised distributions, and above in the pie-chart on Swedish exit distributions).

Table 9: Exit distribution – survey (n=145) vs. survey (n=145) + manual analysis (n=111)

<table>
<thead>
<tr>
<th>Type of exit</th>
<th>Survey</th>
<th>Survey + manual analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPO</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Trade sale</td>
<td>46%</td>
<td>21%</td>
</tr>
<tr>
<td>Buyback</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>Liquidation</td>
<td>2%</td>
<td>31%</td>
</tr>
<tr>
<td>Bankruptcy</td>
<td>3%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Among those where an exit had not yet occurred, 63% of the entrepreneurs answered that there is a formal exit strategy in place with the most common vehicle being planned for was a buyback. However, very few entrepreneurs responded to this question due to the fact that the vast majority of companies had seen their VCs exit from the companies during this period. More specifically 161 entrepreneurs provided answers to what exit had occurred, while only 24 stated that an exit has yet to happen i.e. close to 13% of the respondents were still being backed by VCs according to the survey.

In general we can summarize by arguing that about 20% of the companies failed i.e. bankruptcy, while 20% succeeded i.e. IPO and Trade sale. The remaining 60% of the companies fell in categories that in general are mediocre or unsuccessful exit vehicles; however there are significant variations among them and within specific vehicles in terms of actual success. We will examine this issue closer when we put performance in relation to the exit distributions that we observe.
6.3 Survey

6.3.1 Data and sample discussion

Our aim was to send a survey to every CEO and chairman of each company in our data set. After a time consuming process of gathering address information to these people, we managed to locate and mail 492 individual surveys. Of these, we received 233 valid responses which give us an impressive 43% response rate. The typical entrepreneur in our data set is male, with only 8 women responding to our survey.

The desire was to have the entrepreneurs themselves providing their insights to the period in which they received financing. The following chart shows the composition among the respondents, the large number of observations for this graph is due to individuals having more than one position i.e. Founder and CEO;

*Figure 14: Role distribution among respondents (n=352)*

Slightly more than 20% of the respondents were the actual founders of the company in question, furthermore the founder, CEO and Chairman together add up to about 75% of our responses. This highlights the validity our results as these types of people would have had major insights into the companies during the period at hand. Furthermore, we found that among these people the average time they were involved in the companies was 9 years i.e. from 1998 to 2007. In relation to the VC involvement which was on average 6 years and from 1999 to 2005 we can argue that the respondent’s insights given in our study must be considered as highly valuable and valid given that they were present during the actual investment process.

6.3.2 Survey analysis

We are able to observe that VCs in general don’t take on majority positions in their portfolio companies as they initially enter. From the graph below we see that the entrepreneur(s) usually remained as majority shareholders, aligned with previously stated truths regarding the VC-process and control (Smith, 2005). Main reasons for not taking on a majority position is usually as a means to maintain the entrepreneurs motivation and sense that he/she is still the owner of the company. This is a way for VC’s to ensure a sound relationship among the parties a hand.
However, as the investment period progresses and the VC ultimately exits we can see below that this pattern changes. Although we have fewer observations, we see a pattern that points towards VCs gradually increasing their ownership in the companies. This is conceptualized by Smith (2005) as a transfer of control in the company. Essentially we could view this as a way for VCs to maximize their returns, come exit, by having larger portions of the company and by being able to control the type of exit. We can thus see signs of similar VC activities in Sweden such as in the more established US VC industry.

Söderblom (2006) argues that VCs need access to a functioning ecosystem, where one of the criteria’s was syndicated investments. If we look at the graph below we see that it is very common with multiple VCs investing in the same portfolio companies in Sweden. We can therefore argue that activities which are common in the US such as syndicated investments are also common in Sweden. Further it illustrates how investment risk is mitigated by diversification and sharing among competitors/partners.
We can confirm that a VC generally takes on an active role and a seat on the board of the portfolio company. In 91% of the companies, the VC was represented on the board and if we look at the graph below we can see an illustration of how active they were. Sahlman (1990) among many others argue that VC’s are actively involved in the daily operations or at least in strategy development. It is during these contacts with the entrepreneur or other representatives from the portfolio company where the VC has its opportunities of adding value. Thus, one view is that high levels of VC involvement should be linked with performance. In other words, the higher the activity the better the performance, due to VC contributions.

The trend is clear and skewedness towards VCs being highly active is evident. But what does “very active” mean? This subjective perception of activity is clarified in with the following illustration;
Here we see that skewedness in the opposite direction. Entrepreneurs perceive the VCs in general to be very active and the most common rate of contact between the VC and portfolio company is “ones a month” to “ones a week”. Consequently, we can argue that contact with your portfolio companies’ ones a month is considered an active type of ownership, from an entrepreneurs perspective. This is in some ways not aligned with theory where we would expect much more frequent contacts between the portfolio company and the VC. However, a contrary view to the nature of activity levels one might argue that the VC does not really get involved in its investment until it begins to fail or enter crisis mode. Thus, we might propose an argument that VC involvement in terms of frequency is negatively correlated with performance. This notion goes against what might be more common in US, where we have created a belief that they might be more active in general than their Swedish counterparts. This is an observation that we did not expect, and don’t have sufficient theoretical foundation to base potential further arguments. Essentially, most of the famous researchers of VC such as Sahlman (1990), Cumming & Macintosh (2002), Smith (2005) to name a few paints a picture of significantly higher levels of VC involvement and positive effects of such activities.

The question whether a VC provides value for its portfolio companies is a central aspect within the context of VC. If no substantial value is created or transferred from the VC to the entrepreneur and the portfolio company, one might ask why an entrepreneur would prefer financing from an active investor such as a VC. Especially as this investment type forces the entrepreneur to give up a large portion of the company in question, as we observed earlier. From the graph below we see that VCs in general provided valuable competence, but large numbers of observations are sadly in the low end of the scale. Given the fact that many of our portfolio companies was liquidated or went bankrupt during the period, it might help to explain these observations.
When asked what contributions the VC provided beyond financial injections, the results are less than joyful. The following chart provides a generic illustration on whether the contributions in each area were major or not. Each category was displayed on a scale of 1 (low contributions) to 6 (high levels of contribution), in this chart we have calculated the percentages of how many answered 3 or lower and 4 or higher respectively.

<table>
<thead>
<tr>
<th>Contributions beyond financing (1-6)</th>
<th>3 or less</th>
<th>4 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial advice</td>
<td>42%</td>
<td>58%</td>
</tr>
<tr>
<td>Strategic management of the company</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>Sounding board for ideas</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>International competence</td>
<td>79%</td>
<td>21%</td>
</tr>
<tr>
<td>Provided valuable contacts/networks</td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>Recruitment of key personnel</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>Market competence</td>
<td>85%</td>
<td>15%</td>
</tr>
<tr>
<td>Product competence</td>
<td>93%</td>
<td>7%</td>
</tr>
</tbody>
</table>

The only category in which more than 50% of the entrepreneurs felt that the VCs provided major value was in financial advice. This category is closely related to financing, and points to an overall lack of contributions from the VCs in general. The second most contributing factor was the VC acting as a Sounding board for ideas, where 38% of the respondents answered a 4 or higher. That particular category shows the following distribution;

Figure 21: VC contribution – sounding board for ideas (n=177)

(A complete list of graphs for each respective category is presented in appendix 1)

It’s difficult to identify a specific pattern within this graph; consequently valid conclusion from this statistic will be scarce. Again, larger numbers of liquidations and bankruptcies might explain these large quantities of “low contribution” observations. We can however make comparative investigations if we rank the different contribution categories in falling order. The following results are observed where 1 has the highest degree of respondents of 4 or higher;
Table 11: Ranking of Venture Capital contributions (n=175)

<table>
<thead>
<tr>
<th>Ranking of contributions beyond financing</th>
<th>3 or less</th>
<th>4 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Financial advice</td>
<td>42%</td>
<td>58%</td>
</tr>
<tr>
<td>2. Sounding board for ideas</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>3. Provided valuable contacts/networks</td>
<td>63%</td>
<td>37%</td>
</tr>
<tr>
<td>4. Strategic management of the company</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>5. International competence</td>
<td>79%</td>
<td>21%</td>
</tr>
<tr>
<td>6. Recruitment of key personnel</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>7. Market competence</td>
<td>85%</td>
<td>15%</td>
</tr>
<tr>
<td>8. Product competence</td>
<td>93%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Note that these numbers can be presented in many different ways; here we chose to highlight the lack of contributions that was perceived by the entrepreneurs. But remember that someone who answers a 3, on a 1-6 scale, still perceives that some value has been contributed by the VCs. In fact, 35% of the entrepreneurs answered a 4 or higher stating that the VC contributed significantly with the strategic management of the company. The contributions ranked 1-4 are aligned with general theories on value adding activities (Sahlman, 1990; Isaksson, 2006). The lack of contributions in market and product competence does also point to the fact that VCs follow innovation, and not vice versa (Gompers & Lerner, 2006; Caselli et al, 2009).

As we observed in both the exit and performance analysis and discussed in the theoretical chapters, the industry in general appears to be highly skewed. Meaning a few companies affects the averages, which leads us to believe that these numbers might be affected by the performance of the company and thus the perception entrepreneurs have i.e. the better the performance, the higher perceived contributions. So what was the entrepreneur’s perception of the company’s performance during the investment period?

Figure 22: Perceived performance vs. expectations (n=180)

As we see above, a major portion of the entrepreneurs had an opinion of worse performance than expected. From theory we know that entrepreneurs are often too optimistic when it comes to the feasibility and opportunities of their business ideas. Conceptualized by Kerins et al (2004) in the form of different opportunity costs for entrepreneurs and VCs respectively, but also highlighted in figures by Isaksson (1999). This often leads to a realization, during the process or in hindsight, of realistic outcomes and consequently disappointment. The following graph could potentially validate this argument;
As opposed to expectations, the entrepreneurs are asked of a benchmarking of performance relative to similar companies or competitors. The result is clear that here we have observations which are considerably more optimistic, thus aligned with the theory of entrepreneurs being initially overoptimistic regarding their own companies (Kerins et al, 2004). Theory blame entrepreneurs for this lack of realistic opportunity perception, but when asked how they believe the VC perceived performance during the period we observe a similar pattern as from the entrepreneurs;

We can neither confirm nor reject theories on entrepreneurial overconfidence; furthermore we can’t scientifically argue that VCs themselves are overconfident. However, we can argue that VCs display similar patterns of overconfidence as entrepreneurs and they are not necessarily the undoubted voice of reason within the context of performance expectations. When asked whether anything could have been done differently, only 2% say that nothing could have changed the outcome. A fairly natural answer seeing that you are always wiser in hindsight, nevertheless a question that could be investigated further. For instance, what contributions do the entrepreneurs primarily expect from a VC.

Figure 23: Perceived performance vs. industry (n=174)

Figure 24: Perceived performance vs. VC expectation (n=177)

Figure 25: Was VC involvement positive for the portfolio company? (n=176)
On generic terms, a vast majority of the entrepreneurs were satisfied or at least displayed a positive attitude towards VC-backing in their company. Only 14% are having negative attitudes towards VC-financing, which much be considered lower than the portion of companies that failed and in our belief these people’s perceptions are probably closely related to the performance of the company itself.

6.3.3 Exit vs. Performance

We have previously discussed the matter of a relationship between what exit vehicles are being utilized, and the performance of a company. Hence, if such a relationship exists we could argue that type of exit is a viable measurement of performance. In order to investigate this, we can compare exit type with perceived performance. The following chart illustrates the average perceived performance for each category of exit vehicles, with the performance measurement graded on a scale of 3-18. This scale is an aggregate from questions 20, 21 and 22 in our survey regarding performance with each question having a 1-6 scale where 1 is much worse than expected and 6 is much better than expected.

Table 12: Exit type vs. perceived performance (table)

<table>
<thead>
<tr>
<th>Exit Type</th>
<th>Perceived Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPO</td>
<td>11,5</td>
</tr>
<tr>
<td>Trade sale</td>
<td>10,0</td>
</tr>
<tr>
<td>Buyback</td>
<td>9,3</td>
</tr>
<tr>
<td>Liquidation</td>
<td>7,8</td>
</tr>
<tr>
<td>Bankruptcy</td>
<td>6,2</td>
</tr>
<tr>
<td>Other</td>
<td>6,5</td>
</tr>
</tbody>
</table>

The results are quite interesting in that we observe an almost linear relationship between exit type and perceived performance. This chart confirms our ranking of different exit vehicles in terms of which vehicles are preferred. It also confirms that the Swedish market for exits follow the same processes and exhibit similar characteristics as other more mature VC-industries (Cumming & Macintosh, 2002; Wang & Sim, 2001) The following graph illustrates this relationship more clearly.

Figure 26: Exit type vs. perceived performance (graph)

There is however an issue that needs attention regarding the causality of this relationship. Does this identify the type of exit as a viable measurement of performance or are there any other determinants driving the perceived performance? That question is beyond the scope of our study, but certainly raises an interesting point and can be considered in future research.

6.3.4 Performance expectations vs. VC contributions
If we look at the perceived performance from the entrepreneurs in comparison to the perceived contributions provided by the VC, we expect to find higher levels of contributions among those who experienced higher performance and vice versa for low performance. In table 13 we have a cross table for the perceived performance on a scale from worse than expected to better than expected compared to the levels of contributions from the VC’s on a scale of little contribution to much. The figures are expressed in percentages of the total amount of respondents to question 18c (contribution) who also responded to question 20 (performance). We chose to investigate question 18c as this particular category of contributions (sounding board for ideas) was the specific contribution that showed the highest values beyond financially related contributions, as demonstrated earlier in this chapter.

As we have very few observations stating high levels of performance, it becomes difficult to compare “high performing” companies with “low performing”. From the graph below, it is very difficult to point to a certain pattern or relationship between performance and contribution of new and innovative ideas.

Table 13: Performance expectation vs. VC contribution (in % of N)

<table>
<thead>
<tr>
<th></th>
<th>little 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>much 6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worse 1</td>
<td>11%</td>
<td>7%</td>
<td>6%</td>
<td>7%</td>
<td>3%</td>
<td>2%</td>
<td>36%</td>
</tr>
<tr>
<td>2</td>
<td>3%</td>
<td>6%</td>
<td>7%</td>
<td>4%</td>
<td>3%</td>
<td>0%</td>
<td>24%</td>
</tr>
<tr>
<td>3</td>
<td>5%</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
<td>3%</td>
<td>1%</td>
<td>19%</td>
</tr>
<tr>
<td>4</td>
<td>2%</td>
<td>0%</td>
<td>3%</td>
<td>6%</td>
<td>0%</td>
<td>0%</td>
<td>11%</td>
</tr>
<tr>
<td>5</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>better 6</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

(N= 175, total amount of respondents for question 18c, who also responded to question 20)

Given the the skewness in observations towards low performance, we calculated a cross table with percentages for each scale value on performance i.e. table 13 shows that of those who answered a 6 (high performance) 10% stated a 6 (high contribution). For entrepreneurs that experienced low performance we expected low levels of contributions, which appear to be the case i.e. an answer of 1 (worse than expected) results in a 1 for contributions (little contributions). In essence, for this relationship to hold we would like the highest percentages to be clustered towards the center (1;1, 2;2, 3;3 etc.). In the table, these “high” percentages are illustrated in green and the lowest in red. This appears to be the case, although we have few observations for higher performance scale values, where the green fields are generally closer to center as opposed to the red fields who are further out. Thus we could argue that acting as a sounding board for ideas is fruitful for a VC as it is related to the performance of their portfolio companies to some extent.

Table 14: Performance expectation vs. VC contribution (in % of n*)

<table>
<thead>
<tr>
<th></th>
<th>little 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>much 6</th>
<th>Total</th>
<th>n*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worse 1</td>
<td>31%</td>
<td>19%</td>
<td>17%</td>
<td>20%</td>
<td>8%</td>
<td>5%</td>
<td>100%</td>
<td>n1 = 64</td>
</tr>
<tr>
<td>2</td>
<td>14%</td>
<td>26%</td>
<td>29%</td>
<td>17%</td>
<td>14%</td>
<td>0%</td>
<td>100%</td>
<td>n2 = 42</td>
</tr>
<tr>
<td>3</td>
<td>24%</td>
<td>15%</td>
<td>21%</td>
<td>24%</td>
<td>15%</td>
<td>3%</td>
<td>100%</td>
<td>n3 = 34</td>
</tr>
<tr>
<td>4</td>
<td>16%</td>
<td>0%</td>
<td>32%</td>
<td>53%</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>n4 = 19</td>
</tr>
<tr>
<td>5</td>
<td>17%</td>
<td>0%</td>
<td>33%</td>
<td>33%</td>
<td>0%</td>
<td>17%</td>
<td>100%</td>
<td>n5 = 6</td>
</tr>
<tr>
<td>better 6</td>
<td>10%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>10%</td>
<td>100%</td>
<td>n6 = 10</td>
</tr>
</tbody>
</table>

(n* = amount of respondents who answered for each scale value on question 20)
There are opportunities to develop this type of comparison further where a closer look into the relationship between performance and different types of value adding activities from the VC is examined. Such a closer look falls outside the scope of our study due to time and space constraints. Seeing that we want to understand the effects of VC in Sweden we have numerous other aspects to account for, but this brief analysis of these two measurements highlights some interesting notions that could easily be studied in a future research paper.
Chapter 7 – Conclusions and recommendations

In this chapter we interpret our results and provide a more in-depth discussion regarding what we can conclude from this study i.e. how are our results related to the research questions. Essentially this chapter answers the question to what effects VC’s have on their portfolio companies. Our conclusions will be conceptualized in the form of propositions in order to highlight our suggestions to further research. Subsequently, our results will be put in relation to other studies on similar areas i.e. the reports from the Swedish, European and American VC associations, as well as the results provided by Isaksson (1999). In general we find that the Swedish VC industry is closely related to the US counterpart in terms of activities and processes while exhibiting characteristics of a smaller market with fewer opportunities.

7.1 Conclusions and proposition generation

This study enjoys the benefits of having a data set of VC-backed portfolio companies where we are able to evaluate an entire investment period i.e. from investment to exit. Other studies on the subject did not have that possibility, and were only able to draw conclusions from a few years of VC-involvement (Isaksson, 1999). The most comprehensive reports available today, regarding VC and the performance of its portfolio companies are generated by various VC-associations such as annual performance reports from NVCA, EVCA and SVCA. These reports however, are potentially exposed to biases towards more positive evaluations seeing that they benefit from a healthy industry. Our study on the other hand does not consider the entire VC-industry and their portfolio companies; hence we are subject to potential errors when generalizing our conclusion for the population. Further we are forced to rely on the sampling performed by Isaksson (2006) with its subsequent reliability and validity. With this in mind, we can focus on the results and subsequent conclusions of ours.

Given this we can return to our original question; What effects do Venture Capitalists have on the performance of their portfolio companies? But from solely evaluating how the portfolio companies performed we are not able to objectively verify that the performance would have been worse if the VC did not fund these portfolio companies without a relevant reference group. The performance, exit and survey analyses are individually not sufficient to answer our first question. Hence we need to combine them, consequently; What effects do Venture Capitalists have on the performance of their portfolio companies and how are these effects perceived by the entrepreneurs themselves? The reason for not being able to answer our research questions separately is due to high variations in the results from different measurements. One example of such a variation would be the high growth in returns compared to the decrease in assets. Another could be observable value adding contributions beyond capital injections in contrast to low involvement from VCs in terms of frequency. The vast majority of our sample exhibited a positive feeling towards VC involvement and valuable contributions in important areas in regards to business development were shown. Thus we can argue that VCs do have effects on their portfolio companies. But they are not positive across the board and a few exceptions are exhibited.

According to the entrepreneurs, VCs provide valuable competence in areas such as financial advice, new and innovative ideas, provide access to relevant networks and contacts as well as strategic management. These are all areas which have been previously stated by researchers as important value adding activities from VCs (Sahlman, 1990; Cumming & Macintosh, 2002; Lerner & Tåg, 2012; among others). Furthermore we can clearly show that VCs are active investors that more often than not occupy seats on the board; aligned with theories on the VC-process (Sahlman, 1990; Isaksson, 2006). We can therefore confirm that these characteristics are applicable for the Swedish VC-industry, as well as arguing that these activities are relevant throughout the investment period.
Further we argue that VCs do not induce innovation but rather invest in companies where innovation is already taking place based on our low scorings on contributions in product and market competence and aligned with Caselli et al (2009). Essentially we show that the Swedish VC-industry follow the same processes and activities as older and more mature industries does, such as in the United States.

If we redirect our question and ask whether these effects have significant impacts on the performance of our sample, definitive conclusions are difficult to produce. The sample of portfolio companies did not exhibit substantial annual growth in employment, which becomes more evident when compared to Isaksson (1999) who could show a significantly higher annual growth for a similar sample but on a shorter time period. SVCA produced similar figures as we did, although slightly higher with 3.6% on average (SVCA, 2011). Assets declined, while revenues grew rapidly. There are many uncertainties with these numbers and we do not feel comfortable arguing for any definitive conclusions. Whether this is a failure from VCs to provide value and competence during the investment period is difficult to establish. We can however compare the numbers to the overall growth in Europe and show that our data set exhibits higher growth than the Eurozone at large in terms of employment (Achleitner and Klöckner, 2005). According to SCB the biggest obstacles to growth in general are taxes and cost of personnel, both of which are significant in Sweden, and maybe the culprit lies with macroeconomic factors rather than VCs inability to add value (SCB, 2010). This discussion leads us to our first proposition;

**Proposition 1:** Low growth rates among portfolio companies do not derive from an inability among Swedish VC-firms to positively affect their investments.

The exit analysis exhibited, at first glance, signs of a young and small VC-industry. Trade sales and buybacks were dominant among the exit distributions generated from the survey. When complemented with our manual analysis, the majority of the portfolio companies were exited from through liquidations and bankruptcies, with only 2% hitting the “jackpot” of an IPO. However, when compared to figures from NVCA regarding 2011 years exits of 1.8% we might reconsider this. In fact, we argue that circa 20% of the exits were successful. Choice of exit vehicle in relation to performance revealed that we can probably use type of exits as a performance measurement beyond only looking at IPO as a success, as argued by Cumming & Macintosh (2002). Moreover, we could not find definitive proof that the exit distribution occurred more randomly as argued by Cumming & Macintosh (2003) to be a sign of a young and immature industry. Another characteristic of a young industry is high levels of grandstanding and premature exits (Barnes & Menzies, 2005; Gompers, 1996). The average investment period according to our exit analysis was 6.1 years, which is quite close to the norm of 7-10 years (Sahlman, 1990; Isaksson, 2006; NVCA.org). Thus we are unable to detect clear signs of grandstanding and premature exit patterns. Following this discussion and the previous proposition in mind, we argue that the VC-industry in Sweden is mature in the way it functions but a small market for exits hurt the overall profitability and growth of the industry.

**Proposition 2:** The Swedish VC-industry should be considered mature but (too) small

An issue that was constantly present is regarding the entrepreneur’s perspective on the activities and value creating activities from the VC-firms. We were aware that there might be a negative bias among entrepreneurs who were involved in companies that did not perform well. Seeing that 53% of the companies in our data set went bankrupt, we expected a much more negative perception to the VC-firms involvement. Contrary to our beliefs we observed the opposite, with 70% of the entrepreneurs having positive attitudes towards VC involvement. Hence we argue the following;

**Proposition 3:** There is no major relationship between portfolio company performance and
entrepreneur’s perception of VC contributions.

The question whether VCs have an effect on their portfolio companies is arguably best answered by the entrepreneurs themselves. 61% answered a 3 or higher (on a scale of 1-6) to the question of what degree the VC provided valuable competence. We know from earlier that financial advice, new and innovative ideas, relevant networks and contacts as well as strategic management are the main contributions that the entrepreneurs experienced. Thus we can argue that VC-firms do have an effect on their portfolio companies and we know what these effects are. Consequently we propose the following proposition;

**Proposition 4:** Swedish VC-firms provide significant value and competence towards the development of their portfolio companies.

This proposition essentially argue that when a VC gets involved and actively engages in decision making and advising the entrepreneur, value is created with an increase in performance as a result. As an interesting contradiction to this, we observed fairly low levels in the frequency of VC involvement. Granted, the entrepreneurs perceived them of being highly active, but when asked how often they were actually in contact with the VC this measurement dropped significantly. The most common frequency of contact was “ones a month”. We argue that an active investor should monitor and actively engage in decision making much more often than that. This is an opinion we share with Sahlman (1990) and Jain & Kini (2000) among others, where at least weekly contacts is the norm. Given that value adding activities from Swedish VC appear to be positively related with performance one might wonder why VC-managers don’t get involved more often. This gap could be of high interest for practitioners in the field, we consequently suggest the following proposition;

**Proposition 5:** Swedish VC-firms can increase the performance of their portfolio companies by increasing the frequency of contacts with the entrepreneurs.

In general, the performance of the portfolio company did not quite reach the expectations from the entrepreneurs. When we put this observation in relation to the VC’s ability to act as a sounding board for ideas, we expected entrepreneurs that felt satisfied with the performance to also exhibit more value adding to have been provided from the VC. We can quite clearly show that for those who experienced worse performance, also felt that less value from VC’s were provided. For the companies with higher performance, we can see observe signs that more value was provided. If such a relationship holds it would confirm the theory of VC’s actively creating value during its involvement in entrepreneurial ventures, as argued by Gompers & Lerner (2006). Moreover it would undermine Caselli et al. (2009) who views VC as skillful investment pickers, rather than innovation creators. We do not want to pick a definitive side in this argument, but we do observe value adding activities that appear to be linked in a positive manner with performance. Hence, we suggest the following proposition;

**Proposition 6:** The value adding activities from Swedish VC-firms towards their portfolio companies have a positive effect on performance.

We can’t with great certainty argue that the VC’s effects have significant impacts on the growth in employment and assets from solely analyzing our performance analysis. It is quite peculiar that we observe significant growth in revenues but not in employment and assets. What we do observe are significant effects within the context of exits. Jain & Kini (2000) argues that the presence of VCs affect the exit process positively in terms of price among other factors. We cannot verify this particular argument, but we are able to support the arguments from Smith (2005) in that VCs like to increase its ownership and with that its control as the investment process progresses. Assuming Jain & Kini (2000) draw correct conclusion, and the fact that VCs are more involved towards the end we
could argue that the presence of VCs creates opportunities for the entrepreneurs to do an exit as well, and with greater returns. But on different note, this could just as well make the entrepreneur worse off with little control and less shares to sell. Either way, the VC-firms have huge impacts on what happens with the portfolio company during the exit process.

**Proposition 7:** VC-firms have significant, and in some cases ultimate, control over the exit process.

In summary this study has investigated the effects of VC in Sweden by examining portfolio company performance, VC exit patterns and added the entrepreneurs’ perspective to it. We have shown that the Swedish VC-industry functions in same manner as bigger and more mature VC-industries in terms of processes and activities. We have shown that VCs affect exit decisions, as well as provided a clear illustration to how the exit distribution is comprised in Sweden. We have shown that entrepreneurs are positive towards VC involvement in general and what types of contributions they generally provide. Further, these contributions appear to have positive effects on performance. In essence we have contributed with a descriptive paper that summarizes the VC-industry with regards to its functionality and underlying activities and processes. We have provided a fundamental base from which future research can investigate the drivers of performance and exit pattern more in depth.

Given that this paper is predominantly descriptive in the results presented and evaluated, we are consciously very cautious with our conclusions. Hence, we believe that our conclusions are best presented as propositions. Thus, the presented propositions are acting as the main conclusions from our analysis as well as a form of suggestions or potential hypotheses for future researchers. With fairly cautious conclusions (propositions), we want to emphasize the importance of the contributions that this study brings forth.

### 7.2 Contributions

#### 7.2.1 Practical contributions

*For the entrepreneur* this study is highly relevant and provides significant value. First, and maybe most importantly, we can show that a vast majority of entrepreneurs that have received financing from a VC exhibits positive attitudes towards this type of funding. It can be a difficult decision as a small business owner with growth ambitions to make the decision to give up a significant portion of the company. Thus, being able to see that most entrepreneurs that do make this decision is predominantly satisfied can only be viewed as positive. Further, this paper presents a VC industry that functions in a professional manner where the investment process follows that of the role model industry in the US. This provides the entrepreneurs with a sense of security and allows them to not feel run over by institutional investors. Moreover, *Chapter 2 – introducing VC* in combination with our conclusions on how VC’s function and what types of valuable contributions the entrepreneurs can expect serve a fruitful educational purpose. By increasing the entrepreneurs understanding of VC, it could create incentives for more entrepreneurs to seek VC financing. Greater understanding of the VC’s processes can also improve the relationship between the two parties as the entrepreneur can more easily identify the reasoning behind certain decisions a VC might want to make. By showing that VC’s often has positive effects on their investments and especially on performance, potential to-be-entrepreneurs might be more prone to seek financing. All in all, the Swedish VC industry is well developed, professional and has a great track record in terms of entrepreneurial satisfaction and is a form of financing that every new entrepreneur should take into account when growth ambitions are on the agenda.
For the VC-manager this study highlights certain discrepancies in how they work, and how they can improve. Our study shows that the VC’s are not at all as active as they could be. And in the light of the fact that their efforts generate significant positive effects, VC’s should consider to increase their activity levels if possible. Although we can’t directly link the efforts to an increase in revenues, employment and assets we do see signs of value being created. As we have mentioned, many companies failed during the crisis but maybe even more would have failed if the VC had not been present? In essence, this study shows a mature industry with professional functionality but the actual growth is hard to pin point. But we can argue that VC’s must increase their emphasis on non-financial value adding activities. Further, our illustration of exit patterns in Sweden could serve as a benchmarking tool for VC’s. By knowing how the industry in general exits, a potential market for exits could be calculated and subsequent future exit strategies can be formulated. To the very least, the exit illustration has increased the overall knowledge of the industry and how it functions in such an important aspect of the investment process.

For policy makers and government this study has contributed in two main aspects; firstly, we show that the VC industry as a whole do not create fantastic growth. Although employment and revenues among portfolio companies grew, we cannot directly link this to VC involvement. Hence, we can question the societal benefits and whether governments should invest in these companies in terms of efficient fund allocation and the economic viability of doing so. But as we can show signs of positive contributions towards the satisfaction among entrepreneurs and to some degree the actual performance, the VC industry should be considered as a possible inducer of innovation in Sweden. Consequently, policy makers need to recognize the Swedish VC-industry as a positive factor in the quest for growth and innovation of the Swedish economy, while accounting for aspects that could adversely affect its ecosystem. Relating to the external environment our second contribution for policy makers is that we can to some degree show that the Swedish market is small, and thus have an effect on the opportunities for VC’s. As Rosa & Raade (2006) highlighted, a healthy VC industry requires a functioning ecosystem with sufficient deal flows and a large enough market for exits. Policy makers should recognize this limitation for VC’s and work towards creating an environment in which VC’s can thrive. Seeing that more than half of the companies in our dataset went bankrupt or was liquidated, the sample still exhibited growth in employment there are more than likely room for improvement and this should be recognized by policy makers.

7.2.2 Theoretical contributions

This study has generated comprehensive scientific data on VC to a degree that has yet to be done in Sweden. It captures a complete investment process from entry to exit for an entire data set where we can observe the portfolio companies performance, VC exit patterns and the entrepreneur’s perspective of the process. We can contribute to the scientific community by including the Swedish VC-industry in the processes and general activities that are stated to be the norm among VC around the world, but especially the US industry. We can confirm that Swedish VC exhibit similar value adding activities as in the US as well as showing that the process follows the same time horizons and to a large degree similar exit patterns, as stated by Sahlman (1990), Isaksson (1999; 2006), Cumming & Macintosh (2002), Jain & Kini (2000), Smith (2005) and Amit et al. (1998) to name a few. Essentially this study has created a foundation on which future academic research can build on and develop. In more concrete terms we propose seven propositions, where each respective proposition can function as a hypothesis for future studies.

The data collection process is considered a theoretical contribution, not in the sense that it confirms or rejects any previous knowledge but to the extent that we have gathered such quantities of data that numerous additional studies could potentially be performed on it. Within the vast amount of information that we have gathered, there are much more opportunities with additional angles and perspective, cross tables, correlations etc. to be utilized. Thus one of the major theoretical
contributions with our study beyond our propositions is that it allows researchers to study areas that previously were extremely difficult.

7.3 Suggestions for further research

Due to this paper’s broad scope and descriptive nature we conclude that further research on the Swedish VC-industry is recommended. More specifically we argue that there is a need for a study that investigates whether entrepreneurial ventures exhibit higher performance when financed by VC compared to no VC-funding. We can from this study and previous literature argue that VC-backed portfolio companies perform better than similar un-funded ventures (Isaksson, 1999; Jain & Kini; etc). However, whether this difference derives specifically from value adding activities among VC-firms or the fact that they are excellent investment pickers is unclear. Furthermore we believe that a study on the viability of the Swedish macro-environment and the VC’s ability to thrive within that environment would prove fruitful and benefit both academics and practitioners immensely. Given that this study was based on a quantitative approach, we gained knowledge to patterns and signs of linkages between various measurements, such as a positive relationship between performance and value adding activities. A qualitative approach which goes deeper and asks “why” instead of “what” to some of the patterns we have identified should be able to find highly interesting results.
References


Massachusetts Institute of Technology


SVCA. (2010b). Företag som ägs av Riskkapitalbolag: Hur nöjda är de med sina ägare?. *Swedish Private Equity and Venture Capital Association*


Appendix 1 – Graphs on contributions

Q18 – Beyond capital injection, to what degree did the VC contribute to the development in the following areas?

Only 4% stated that other significant contributions were provided, beyond those categories above.
Appendix 2 – Survey questions

The following questions were written in Swedish, this is a rough translation of them:

**Q1: Is the information above correct that your company has been financed by a VC-firm?**
Yes: 198  
No: 8  
Respondents: 206

**Q2: Have you, during this period, been in a leading position within the firm?**
Yes: 196  
No: 14  
Respondents: 210

**Q3: Are you a man or woman?**
Man: 191  
Woman: 8  
Respondents: 199

**Q4: What was your position during the period?**
Founder 74  
CEO 114  
Chairman 79  
Board member 65  
Other senior position 17  
Other 3  
Respondents: 352

**Q5: Are you also active (i.e. employed, owner or partner) in the VC-firm**
Yes: 30  
No: 158  
Respondents: 188

**Q6: During which period were you involved in the company?**
Started (on average): 1998,8  
Left (on average): 2007,7  
Respondents: 184

**Q7: Is the VC still a shareholder of the company?**
Yes: 17  
No: 163  
Respondents: 180

**Q8: When did the VC exit?**
Exit year (on average): 2005  
Respondents: 141

**Q9: What was the founders share in the company after the VCs initial investment?**
Dont know (0) 42  
<10% 12  
10-19% 8  
20-29% 17  
30-39% 10  
40-49% 16  
50-59% 24  
60-69% 16  
70-79% 19  
80-89% 12  
>90% 4  
Respondents: 180
Q10: What was the founders share in the company after the VC exited?

<table>
<thead>
<tr>
<th>Share Range</th>
<th>Frequency</th>
<th>Respondents: 163</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't know (0)</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>&lt;10%</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>10-19%</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>20-29%</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>30-39%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>40-49%</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>50-59%</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>60-69%</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>70-79%</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>80-89%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>&gt;90%</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

Q11: How many external investors were involved?

<table>
<thead>
<tr>
<th>Number of Investors</th>
<th>Frequency</th>
<th>Respondents: 182</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>&gt;5</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Don't know</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

Q12a: How did the VC exit?

<table>
<thead>
<tr>
<th>Exit Type</th>
<th>Frequency</th>
<th>Respondents: 161</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPO</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Sale to an industrial actor</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Sale to a financial actor</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Buyback</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Liquidation</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Bankruptcy</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Other type</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Q12b: If no exit has occurred: Is there an exit strategy in place?

<table>
<thead>
<tr>
<th>Exit Status</th>
<th>Frequency</th>
<th>Respondents: 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

Q13: Was the VC represented on the board?

<table>
<thead>
<tr>
<th>Representation</th>
<th>Frequency</th>
<th>Respondents: 181</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>163</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

Q14: How active do you perceive the VC-firm was during the investment period?

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Frequency</th>
<th>Respondents: 182</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Very passive</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>(5) Very active</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>(0) Don’t know</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>
Q15: How often was the VC in contact with your company?
A few times a year 30  Respondents: 182
Ones a month 78
Ones a week 43
A few times a week 18
Basically every day 2
Dont know 11

Q16: To what degree do you perceive the VC provided valuable competence?
(1) Low degree 36  Respondents: 179
2 34
3 37
4 47
5 12
(6) High degree 13

Q17: To what degree did the presence of VC contributed positively to the development of your company?
Not at all (1) 24  Respondents: 177
2 30
3 43
4 44
5 18
To a large degree (6) 18

Q18: Beyond capital injections, to what degree has the VC contributed with with the following?
Financial advice
Very Little 27  Respondents: 177
2 26
3 21
4 51
5 32
Very much 20

Strategic management of the company
Very Little 48  Respondents: 176
2 36
3 31
4 33
5 21
Very much 7

Sounding board for ideas
Very Little 39  Respondents: 177
2 30
3 41
4 42
5 18
Very much 7
<table>
<thead>
<tr>
<th>International competence</th>
<th>Very Little</th>
<th>Respondents: 175</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Very much</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provided valuable contacts/networks</th>
<th>Very Little</th>
<th>Respondents: 177</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Very much</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recruitment of key personnel</th>
<th>Very Little</th>
<th>Respondents: 177</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Very much</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Market competence</th>
<th>Very Little</th>
<th>Respondents: 177</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Very much</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product competence</th>
<th>Very Little</th>
<th>Respondents: 176</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25</td>
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</tr>
<tr>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Very much</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Q20: How do you evaluate the performance of the company in relation to the expectations?**

<table>
<thead>
<tr>
<th>Worse than expected (1)</th>
<th>66</th>
<th>Respondents: 180</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Better than expected (6)</th>
<th>11</th>
</tr>
</thead>
</table>
Q21: How did the company perform in relation to similar companies in the industry?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much worse</td>
<td>13</td>
<td>33</td>
<td>63</td>
<td>30</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Much better</td>
<td>6</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Respondents: 174

Q22: How do you believe that the VC perceives the company’s performance during this period?

<table>
<thead>
<tr>
<th></th>
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<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>Worse than expected</td>
<td>1</td>
<td>46</td>
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<td>14</td>
<td>12</td>
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<tr>
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Respondents: 177

Q23: In hindsight, could anything different have been made for the better?

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</thead>
<tbody>
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<td>Alot could have been done differently</td>
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<td>46</td>
<td>31</td>
<td>24</td>
<td>25</td>
<td></td>
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<tr>
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Respondents: 178

Q24: In total, was it positive for the company that you received financing from VC?

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<tr>
<td>Uncertain</td>
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Respondents: 176