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The Future of Venture Capital in Sweden

An optimist per definition

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THE VENTURE CAPITAL INDUSTRY IN SWEDEN– "An optimist per definition"

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Abstract

The dot-com crash and recession that followed had a giant effect on the Venture Capital industry in Sweden. Invested capital and the number of Venture Capital firms decreased drastically, but even more significant was the change of behavior, characterized by risk avoidance and unwillingness to invest in Venture[1]. We are now in the beginning of an economic recovery, and the forecasts presented by Sveriges Riksbank[2], present a further improvement of the economic conditions for the following years. When the economy picks up, it is generally easier to make exits through an IPO or an industrial sale[3], which create opportunities to make good returns[4] and attract new investors to the industry[5]. The economic outlook further increases risk appetite and creates a common optimism[6] for this risky[7], but exciting[8], industry. It is however hard to ignore that the risk-adjusted returns for early stage investments historically been low[9]. Generally, the uncertainty is higher the earlier phase the investment is made[10], which creates a risk / reward asymmetry favoring later phase investments i.e. Buy-out.

This study analyses and present a probable scenario for the Venture Capital industry in Sweden, based on an extensive literature review, interviews with professionals, statistics received from SVCA and available secondary data.

Keywords: Venture Capital, Scenario analysis, Financial Product Life Cycle

[1] Isaksson (2006)
[2] Sveriges Riksbank (2004)
[3] Interviewee H
[4] Interviewee C
[5] Interviewee A
[6] Interviewee J
[7] Isaksson (2006)
[8] Interviewee J
[9] SVCA (2014b)
[10] Isaksson (2006)

1. Introduction

1.1 Background

Venture Capital is form of financial capital invested by professional investors in small and medium-sized growth companies (SVCA, 2014a). Venture Capitalists also provide entrepreneurs and business owners with competence through an active ownership, and are accordingly more involved in the management and control of their portfolio companies than other types of debt providers (Isaksson, 2006). Further, the Venture Capital firm generally have considerable industry knowledge derived from management's own experiences to drive business (Isaksson, 2006), which facilitates a network for recruitment of key personnel, contacts with stakeholders and processing of potential customers (Haislip, 2011).

"Venture Capital is the fuel for high potential growth firms" – Cumming, 2010

Start-up companies in Sweden have been financed with Venture Capital in an early phase since 1980, and the industry has since then been though two major cycles of growth and contradiction. The second cycle started around 1993 and in the mid-90s, the industry started a rapid grow influenced by a booming stock market and governmental initiatives. In a couple of years, the Venture Capital industry had grown from only a few Venture Capital firms to about 200 firms managing more than 120 billion SEK in 2000, which lead to increased competition, higher valuations and investments in earlier phases than before. The dot-com crash and recession that followed had a giant effect on the Venture Capital industry. Invested capital and the number of Venture Capital firms decreased drastically, but even more significant was the change of behavior, characterized by risk avoidance and unwillingness to invest in Venture (Isaksson, 2006).

The negative trends within Venture Capital industry in Sweden have continued, according to data presented by Swedish Venture Capital Association (SVCA, 2013b). Between the last peak level in 2008 and the year of 2012, the investment volume decreased from 4.8 billion SEK, to just over 1.8 billion SEK, which implies a 60 % decline (Myndigheten för tillväxtpolitiska utvärderingar och analyser, 2013). At the same time, investments in later phases, so-called Buy-out, was almost 22 billion SEK in 2012 (SVCA, 2013a). In most cases, capital is needed to start a business and transform ideas to successful products or services. A capital market without financial products for companies en early phases could consequently imply that companies with growth potential get less opportunities to develop (Myndigheten för tillväxtpolitiska utvärderingar och analyser, 2013). Venture Capital is consequently an important part of our international economy, and an influential factor of innovation, job creation and entrepreneurship, and accordingly our future sustainable growth (Isaksson, 2006).

1.2 Problem formulation

The search for regularities and patterns of industry development has generated the so-called Life Cycle Theory, explaining an industry's growth and development over a lifetime. The last year's development of the Venture Capital industry has several similarities with an industry that, according to theory (Peltoniemi, 2011), is facing the end of its life cycle. However, a study made on financial product life cycles suggests that not all financial products proceed through all the different phases of its life cycle; some can also reverse direction. In particular, changed economic conditions can rejuvenate a financial product that is heading maturity (Finacle, 2011). Further, looking at a longer period in the U.S., where the Venture Capital industry was born, the industry has been volatile with several difficulties (Haislip, 2011). Consequently, the future of Venture Capital cannot be predicted with a single model or a predetermined pattern.

1.3 Objective and Research Question

The objective of this study is to build and analyze a probable, i.e. likely, future scenario for the Venture Capital Industry in Sweden, based on interviews with professionals, statistics received from SVCA and available secondary data. By using Scenario Analysis techniques, I will collect and analyze knowledge about the present and beliefs of the future, as well as to identify the limits and weaknesses of that knowledge. The overall objective is to present a probable future scenario for the Venture Capital industry for the following 5-7 years.

Research question: How will the Venture Capital industry develop during the next 5-7 years?

1.4 Delimitations

In this study, Venture Capital includes investments by professionals in early phases (Seed fund, Start-up and Early Growth/ Expansion), which in Sweden are referred to as simply "Venture Capital". The same definition is used by the Swedish Private Equity & Venture Capital Association (SVCA), applied in Swedish industry statistics, and therefore considered to be to most objective one.

Statistics and reports by SVCA only include members of the association. However, a large majority of the Swedish Venture Capital firms are members, including the big players, are statistical data highly representative of the industry as a whole. It is also important to note that foreign capital is invested in the Swedish Venture Capital firms, and vice versa, and that that only investments made particularly in Sweden are considered.

2. Theoretical Framework

The theoretical framework clarifies the concept of Venture Capital and the basics of scenario analysis. The purpose scenario analysis is to generate orientation regarding the future development, in this case the future of Venture Capital, in order to fulfil the objective of the study. In addition, a short review of the Financial Product Life cycle is included, since the development of a financial product (Finacle, 2011), e.g. Venture Capital, is influenced by other factors than traditional industries. The theoretical literature review includes academic articles, books, public reports, etc. collected from academic search engines and industry associations (SVCA).

2.1 Private Equity

Private equity includes all phases of investments in non-listed; from the first phase where an idea or invention is presented, to the mature company facing a restructuring or another demanding development (Metrick, 2007). Private Equity divided into Informal Venture Capital, Formal Venture Capital and other types of Private Equity (Isaksson, 2006).

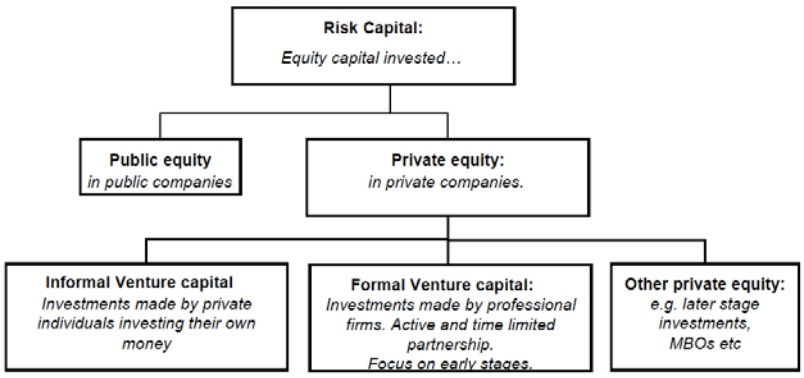


Figure 2.1. Classification of Private Equity (Source: Isaksson, 2006)

2.1.1 Formal Venture Capital

Formal Venture Capital, also referred to as "Classic Venture Capital" (Isaksson, 2006), is from now on referred to as simply "Venture Capital". Venture Capital includes investments by professional investors in small and medium-sized growth companies in Seed, Start-up or Expansion phase (SVCA, 2014a). More information about Venture Capital is presented in chapter 2.2.

2.1.2 Informal Venture Capital

Informal Venture Capital, frequently called Business Angels, is referring to private investors, typically active or former entrepreneurs, who invest privately in business Start-ups (SVCA, 2014b). Seen from a macroeconomic perspective, Informal Venture Capitalists provide valuable resources for the economy by offering their money and competences in order to develop new innovative businesses (Isaksson, 2006). This form of investment is however, unlike formal Venture Capital, not included in any statistics, which makes it hard to estimate its size and impact on the Swedish economy (Connect, 2014).

2.1.3 Other Private Equity

Other Private equity, generally referred to as simply Private Equity, includes investments in later phases, generally called Buyout, but also bridge financing, replacement capital, rescue/turnaround etc. (Isaksson, 2006).

2.2 Venture Capital

Venture Capital is, as mentioned, a form of Private Equity, investing in high potential, high risk, companies in early phases (Seed fund, Start-up and Expansion) (Isaksson, 2006). Venture Capitalists provide entrepreneurs and business owners with not only capital, but also competence through an active ownership, which is more than other types of owners and financiers normally provide (SVCA, 2014b). The Venture Capitalists primary goal is nevertheless the same as for other types of investors, to maximize financial return (Metrick, 2007). Since Venture capitalists not only provide money but also other value added resources to Start-ups, are Venture Capital often referred as "the money of invention" (Cumming, 2010).

2.2.1 Partnership structure

A Venture Capital firm invests capital through funds organized as limited partnerships, the Venture Capital firm being the General Partner (GP) (Isaksson, 2006). The Venture Capital firm set up an investment partnership with the Investor, also called Limited Partner (LP), to actively invest in Start-up companies while the Investors provides the capital, entrusting the Venture Capital firms to make profitable investments (Haislip, 2011). By raising capital from Investors and act as a supplier of capital to entrepreneurs, the Venture Capitalist serves as an intermediate between these two (Isaksson, 2006).

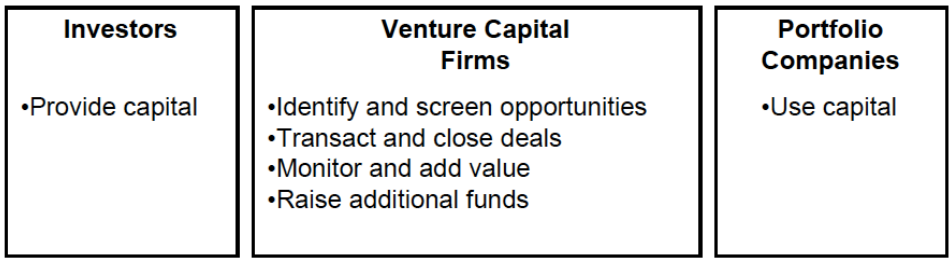


Figure 2.2.1. Flows of Venture Capital (Source: Isaksson, 2006)

2.2.2 Investment phases

Venture Capital investment can be divided into three different investment phases (Seed, Start-up and Expansion/Growth), based on the phase of development the company had when the investment was made (SVCA, 2011). The Seed and Start-up phases are often combines, and together referred to as early phase (Isaksson, 2006), while Expansion and Growth can be referred to Later Stage Venture (Appendix 2).

Seed

A Seed investment includes financing for research, assessment and development of an initial concept, before a company has reached the Start-up phase (SVCA, 2011). The risk of total loss is high, so control, ownership and value are in especially important to investors. The capital need is limited at this point, which implies smaller investments compared to in later phases (Isaksson, 2006).

Start up
A Start-up investment implies financing for product development and initial marketing. The company has just started, or has been active for a short period of time, and the product or service has usually not been tested commercially (SVCA, 2011). At this phase, cost starts to rise dramatically, which increase capital need and the size of investment (Isaksson, 2006).

Expansion and Growth
The financing for expansion of an active company, that have reached a break-even or generate profits, is called an Expansion or Growth phase investment (SVCA, 2011). Capital in this stage is used to for example finance increased production capacity, market or product development and/or provide additional working capital (Isaksson, 2006).

2.2.3 Investment process
The Venture Capital investment process can be divided into a number of steps. The steps differ in name and quantity across theories (e.g. Isaksson, 2006; Haislip, 2011; Gompers & Lerner, 2004; Metrick, 2007), but basically describe the same process; raise, invest, value adding and exit.

Raise
The first step of the Venture Capital investment process is to establish a Venture Capital fund structure and to secure capital from investors. The process of securing capital is called to "raise" a fund, and include partnerships with several investors, e.g. pension funds, funds of funds, insurance companies, banks etc. (Isaksson, 2006). Several studies examine the relationship between past performance and new investments for Venture Capital firms, concluding that the allocation of capital from investors across different sectors is at least partly influenced by recent relative performance. Superior performing funds generally have substantial new commitments to their funds also in the following year (Gompers & Lerner, 2004).

Invest
In the second step, the Venture Capital firm identify entrepreneurial opportunities and ideas, either by proactively attending industry fairs and other innovative environments, or reactively by "waiting" for business plans to be sent (Gompers & Lerner 2004). Further, the Venture Capital firm screen and evaluate deals as well as select, value and negotiate conditions, before investing (Gompers & Lerner, 2004).

Value adding
Once the financial investment is made, the Venture Capitalists continue to take an active role in the development of their portfolio firms (Isaksson, 2006). Venture Capitalist advice and assist the portfolio companies by providing financial, administrative, marketing and strategic advise as well as facilitating a network and access to the best potential executives, accountants, lawyers, investment bankers, customers and other relevant actors (Cumming, 2010). Generally the Venture Capitalist also sits on one or several boards of directors in the portfolio companies, and thereby takes an active role in the strategic planning through the whole process (Haislip, 2011). Venture Capital investments for early phases is often seen as critical for the success of later phases investments, since early phase funds provide critical financing to new firms in infancy (Gompers & Lerner, 2004).

Exit
Since companies in early phases does not have the possibility to pay dividends to its owners, is the potential profit realized when the investments are sold essential (Isaksson, 2006). There are three main types of exits; Initial public offering (IPO), Trade Sale and Secondary Sale. An IPO implies that the Start-up sell stocks to the general public, which then are available for trading on an exchange. A Trade sale instead implies that the company is sold as a whole, typically to a large Industrial player looking for technologies possessed by Start-ups (Haislip, 2011). A Secondary sale is similar to a Trade sale, but instead shares are sold to a third party, usually a financial institution or another Venture Capitalist (Isaksson, 2006).

The partnership agreement between the Investor and the Venture Capital firm includes one or more forms of compensation. A Base compensation, also called Management fee (Haislip, 2011), is a percentage based on the size of committed capital or value of funds asset (Gompers & Lerner, 2004). A percentage of profit, or carried interest (Haislip, 2011), is instead a percentage of the profit the Venture Capital firm potentially ears for its investors. Both forms of compensations can be calculated in different ways, but the total compensation is generally evaluated by calculating it into Net Present Value (NPV) back to the date of the partnerships foundation (Gompers & Lerner, 2004).

2.2.4 Demand and Supply
To understand the initial valuation of a Start-up, supply and demand need to be considered. The supply of Venture Capital is determined by the willingness of investors to provide capital to Venture Capital firms, which in turn is dependent on the expected rate of return. The higher expected return, the higher desire by Investors to supply capital. Accordingly, the price in theory is the expected rate of return on new investments. Further, the demand of Venture Capital is the quantity of entrepreneurial firms seeking for financing from Venture Capitalists, and can supply a particular expected return. Therefore, when the expected return increases, fewer entrepreneurial firms demand capital (Gompers & Lerner, 2004).

2.2.5 Macroeconomic factors
Macroeconomic factor also affect the supply and demand Venture Capital. When the economy is growing, conditions are generally more attractive for entrepreneurs, which increases the demand for Venture Capital. GDP growth, returns on the stock market and R&D expenditures, and are hence potential indicators for the demand of Venture Capital. Further, interest rates might affect the supply of Venture Capital, since increased interest rates makes alternative investments more attractive and hence decrease the willingness of investors invest in Venture Capital (Gompers & Lerner, 2004).

2.3 The Financial Product Life Cycle

The search for regularities in the aging pattern of industry development has result in a so-called Industry Life cycle theory, commonly illustrated with an S-curve. The theory aims to explain the changes in technological development and industry structure, in particular industry emergence and transition to maturity (Peltoniemi 2011). Infosys Finacle (2011) presented a report in 2011, describing the financial equivalent of the product life cycle. The article provides insight into the factors influencing the financial product lifecycle, e.g. risk and return, economic reforms, transparency and alternative products.

The most important driver of development for new financial products is risk diversity. In fact, all financial products available in a market can be differentiated based on the risk-reward ratio, since the rate of return is linked to inherent risk. Further, risk is linked to environmental factors arising, based on geopolitical and economic conditions. Accordingly, financial products continuously develop with changing risk characteristics and the development constantly provides opportunities new financial products to be developed. Other important driver of development is economic reforms, knowledge, channel proliferation and technology advancement (Finacle, 2011).

When a financial product has been introduced to the market, its growth depends upon multiple factors, return being the most important one. A financial product that provides consistent returns, in relation to risk, is likely to survive and grow. In addition, growth is affected by the accessibility and the ability to satisfy global market needs, which could explain why mutual funds have been successful historically. Further, transparency is important, since investors, when two funds has the same expected return, prefer a transparent, regulated and controlled fund (Finacle, 2011).

When new products can promise equal or higher returns to the same amount of risk as the old ones, the financial product are likely to decline. The evolution of new products will consequently force some old products into maturity. However, not all financial products progress through the different phases of its lifecycle, some can also reverse direction. Changed economic conditions can rejuvenate a financial product that is heading maturity. Nonetheless, the leading cause of death for financial products is economic regulations or simply the absence of new investors (Finacle, 2011).

2.4 Scenario analysis

A scenario is a description of a possible future situation, including the path of development leading to that situation (Kosow & Gabner, 2008). The purpose of building a scenario is consequently to generate orientation regarding future developments, often through observation of a number of relevant key factors. It is however important to emphasize that no scenarios can present the full description of a future. Instead a scenario is a way to highlight vital elements of a possible future and to observe what key factors that will drive future developments (Kosow & Gabner, 2008).

A number of different techniques can be used within a framework of a practical scenario process, since the different steps are determined by the selection scenario technique (Schoemaker, 1995; Van der Heijden, 2005; Shell, 2003; Schwartz, 1996; Phelps et al., 2001; Schwenker & Wulf, 2013; Kosow & Gabner, 2008; Börjeson et al., 2006; Bishop et al., 2007). Nevertheless, scenario process broadly evolves in a similar manner. Kosow and Gabner (2008) made a study based on national and international literature published to date, presenting the process of scenario analysis in five main steps; Scenario field identification, Key factor identification, Key factor analysis, Scenario generation and Scenario transfer. The following framework will build up on Kosow and Gabner's (2008) five steps, adding theories by Schoemaker (1995), Schwartz (1996), Phelps et al. (2001), Shell (2003), Lindgren & Bandhold (2003), Van der Heijden (2005), Börjeson et al. (2006), (2006), Bishop et al. (2007) and Schwenker and Wulf (2013).

2.4.1 Scenario field identification

Before a possible scenario can be developed for a company, industry or region, the study must be placed within a frame of reference to determine the purpose and scope of the scenario development process (Schwenker & Wulf, 2013). The first step in a scenario process is therefor to identify the scenario field (Kosow & Gabner, 2008), also called Definition of Scope (e.g. Schoemaker, 1995; Van der Heijden, 2005), Preparation (Phelps et al., 2001; Shell, 2003) or Framing (Bishop et al., 2007).

Step of Scenario process	**Author**
Define the scope	Schoemaker (1995)
Definition of scope	Van der Heijden (2005) Schwartz (1996) Schwenker & Wulf (2013)
Preparation	Phelps et al. (2001), Shell (2003)
Identification of scenario field	Kosow & Gabner (2008)
Framing	Bishop et al. (2007)

Table 2.4.1. Scenario field identification – literature review

To early define the goal for the scenario analysis is essential, since it sets the scope for the entire analysis (Schwenker & Wulf, 2013). Scenarios can differ widely in scope, which affects several aspects, e.g. selection of a chronological horizon, geographical scope and coverage of themes (Kosow & Gabner, 2008). Other important factors are strategic level of analysis, timeframe, participants and stakeholders (e.g. Schoemaker, 1995; Schwartz, 1996; Van der Heijden, 2005).

The Framing checklist model is a tool used to define the overall scope of the study. The checklist by Schwenker and Wulf (2013) includes four steps; project goal, stakeholders, strategic level, participants and time horizon. By adding geographic scope and limits (Kosow & Gabner, 2008), the following adjusted framing checklist is made.

1. Goal of Scenario project
Define the goal or objective by answering the question:" What should be the outcome of the scenario planning activity, and what should be accomplished by this outcome? (Schwenker & Wulf, 2013)"

2. Strategic level
Define the strategic level of analysis for the study; business unit, corporate, industry, macro etc., In an Industry scenario development process, external influences usually derive from outside the industry in question, which further makes it important to carefully choose the scope of the industry (Schwenker & Wulf, 2013).

3. Geographical scope
Define the countries, regions or markets that should be included in the study (Kosow & Gabner, 2008)

4. Participants
Define who will lead the scenario process, and who will take part (Schwenker & Wulf, 2013).

5. Stakeholder
Define stakeholders. It is important to define stakeholders in an early phase, since the success of the scenario process is dependent on appropriate external views, integrated into the scenario development process (Schwenker & Wulf, 2013).

6. Time horizon
Define the time horizon for the scenarios to be developed. Schwenker & Wulf (2013) generally recommend a horizon of five years from the present. However, uncertain and fast moving industries usually benefit from a shorter time horizon, while industries with a long payback time such as oil and gas is advised a longer.

8. Limits
Define the limits of the study, including what is to be left out of consideration (Kosow & Gabner, 2008).

2.4.2 Key factor identification

The second step involves identifying what key factors that have a strong influence over how the future will develop (Kosow & Gabner, 2008). This part of the scenario process is also referred to as Tracking (Lindgren & Bandhold, 2003), Generating (Börjeson et al., 2006), Scanning (Bishop et al., 2007) and Pioneering (Shell, 2003).

Step	Author
Identification of key factors	Kosow & Gabner (2008)
Tracking	Lindgren & Bandhold (2003)
Generating	Börjeson et al (2006)
Scanning	Bishop et al (2007)
Identify basic trends	Schoemaker (1995)
Identify the major stakeholders	Schoemaker (1995)
Perception analysis	Schwenker & Wulf (2013)
Pioneering	Shell (2003)

Table 2.4.2. Key factor identification – literature review

The aim of key factor identification is to generate and collect ideas, knowledge and views regarding the history, context and future (Börjeson et al., 2006). The key factors, often referred to as descriptors, form a description of the scenario field and includes the variables, parameters, trends, development and events that will be the focus of the further scenario process (e.g. Kosow & Gabner, 2008; Schoemaker, 1995). Key factor identification could also include the stakeholders' perspectives on the future development (Schwenker & Wulf, 2013; Schoemaker, 1995). The perceptions of major stakeholders are generally an important and valuable base for key factor identification as well as for further analysis (Schwenker & Wulf, 2013). Besides the key factors within the company/industry, it is also important to consider political, economic, societal, technological and industry trends (Schoemaker, 1995). The process of identifying the key factors differs depending on the case, and may include everything from desk research to workshops and interviews (Kosow & Gabner, 2008). The purpose of key factor identification is to generate and review model structures, assumptions, input data, model calculations and model results as well as to generate additional information to quantitative models (Börjeson et al., 2006). The end product of this phase is a list of key factors, which forms the basis for further analyses, including the trend and uncertainty analysis in the next step (Schwenker & Wulf, 2013).

Users of scenario techniques usually face the challenge of reducing complexity sufficiently in order to permit a process of synthesis in order, i.e. to keep numerous different factors simultaneously in order and be able to observe their interactions, development and impact on future situations. The process of synthesis is limited by our cognitive abilities, which implies that a scenario cannot include too many key factors (Kosow & Gabner 2008). Further, our ingrained mental models and perceptions often hinder the identification of new key factors. Therefore, it is important to be aware of blinds spots and weak signals, which is developments intentionally or unintentionally ignored and initial indicators of future changes in the environment (Schwenker & Wulf, 2013).

2.4.3 Key factor analysis

Analysis of key factors, or simply "analyzing" (Lindgren & Bandhold 2003; Schwartz, 1998) or Trend analysis (Schoemaker, 1995; Schwartz, 1996; Van der Heijden, 2005), is especially typical for scenario techniques and different from other methods. By analyzing key factors, identified in the previous step, we can examine what range of outcomes these key factors potentially could produce (Kosow & Gabner, 2008).

Step	Author
Perception analysis	Schwenker & Wulf (2013)
Analysis of key Factors	Kosow & Gabner (2008)
Analyzing	Lindgren & Bandhold (2003) Schwartz (1998)
Identify key uncertainties	Schoemaker (1995)
Trend and uncertainty analysis	Schwartz, (1996) Van der Heijden (2005) Schwenker & Wulf (2013)
Map making	Shell (2003)

Table 2.4.3 Key factor analysis – literature review

By identifying drivers and effects, we can understand how the identified key factors and trends interact and analyze the consequences (Lindgren & Bandhold, 2003). This step can be carried out in numerous ways, but always contains intuitive and creative aspects, which are essential for visualizing the various future developments of any key factor (Kosow & Gabner, 2008). This qualitative and intuitive approach will generate a creative and intuitively produced scenario (Lindgren & Bandhold 2003).

This step can also include the identification of uncertainties (Schoemaker, 1995) and/or a so-called *Trend and uncertainty analysis* (Schwartz, 1996; Van der Heijden, 2005; Shell, 2003; Schwenker & Wulf, 2013). Even if we try to predict the future, trends are unreliable and future developments generally uncertain. Consequently, we need to deal with different kinds of uncertainties, e.g. macroeconomic, political, social, technological and environmental but also uncertainties in specific industries (Schwenker & Wulf, 2013). By ranking key factors identified in the previous step by their degree of uncertainty and impact, the most critical drivers can be identified (e.g. Schwartz, 1996; Van der Heijden, 2005).

2.4.4 Scenario generation

Scenario generation, or Scenario building, is the step where consistent bunches of factors are brought together, nominated and developed into scenario(s) (Schwenker & Wulf, 2013). The scenarios form a set of consistent stories, raising relevant issues and provide a convincing description of possible futures (Shell, 2003). In the process of Scenario Generation, further research can be needed in order to get a deeper understanding of some trends and/or uncertainties (Schoemaker, 1995). Literature in this area take many different approaches towards the scenario generation phase, and consequently multiple different names and steps that could be referred to scenario generation (e.g. Kosow & Gabner, 2008; Bishop et al., 2007; Van der Heijden, 2005).

Step	Author
Forecasting	Bishop et al. (2007)
Construct initial scenario themes	Schoemaker (1995)
Check for consistency and plausibility	Schoemaker (1995)
Develop learning scenarios	Schoemaker (1995)
Identify research needs	Schoemaker (1995)
Evolve toward decision scenarios	Schoemaker (1995)
Scenario generation	Kosow & Gabner (2008).
Scenario building	Van der Heijden (2005) Schwenker & Wulf (2013)
Scenario transfer	Kosow & Gabner (2008)

Table 2.4.4. Scenario generation – literature review

Schoemaker (1995) suggests starting this step by constructing an Initial scenario theme, either by identifying extreme worlds by placing all positive elements in one row and all negatives in another, or by cluster various strings of possible outcomes around high versus low continuity, degree of preparedness, turmoil, etc. Schwenker & Wulf (2013) instead build initial scenarios through a framework called the Scenario Matrix. By using two highly influential dimensions, a scenario matrix can describe scenarios also under uncertain situations. It is a deductive approach, regarded as one of the most analytical and exhaustive ways to build scenarios from an outside-in perspective (van der Heijden, 2005). In particular, two dimensions are projected with an extremely positive and an extremely negative outlook onto the x and y axes of the matrix. The result is four distinct scenarios (Schwenker & Wulf 2013).

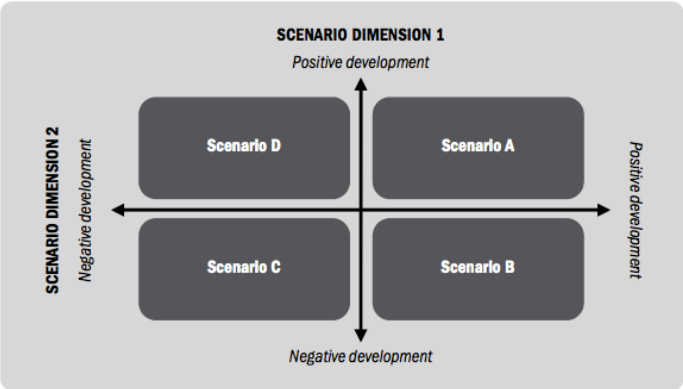


Figure The Scenario Matrix. Source: Van der Heijden, 2005

After the initial scenario theme is made, the path of each scenario is constructed by building a chain of causes and effects. Other driving forces are further added to create consistent and plausible stories about the future (Schwartz, 1996; Shell, 2003). Trends can further be included, and given more or less weight in different scenarios (Schoemaker, 1995). To develop a so-called influence diagram in particular, a list of forces and trends, including how they interrelate which each other, are made. By clearly distinguish between developments and events; it is easier to ensure that the different developments are authentic and consistent. It is further important that links between a trend and a critical uncertainty is unambiguous and to clearly display what is affecting what (Schwenker & Wulf, 2013).

Developed scenarios might have internal inconsistency or lack of credibility, and it is therefor important to check for consistency and plausibility already in the process of the Initial Scenario generation. First, check if trends are compatible within the chosen timeframe. Second, check if the scenarios combine outcomes of uncertainties that cannot be combined, e.g. full employment and zero inflation. Third, check if major stakeholders are placed in unwanted position they can change, i.e. the government can change the interest rates (Schoemaker, 1995). Scenarios also need to be communicable, so that people who have not been active in the scenario process can understand. A non-communicable scenario could indicate a problem of formulation, but also a formulation of logic (Shell, 2003).

The last step is to convert the previously analyzed trends into a distinct scenario. A scenario should be relatively simply described, so also people who are not experts within the specific in field can understand (Shell, 2003). The scenario should further be detailed and illustrative, beneficially by using tools as for example charts, graphs or pictures to communicate the main features (Lindgren and Bandhold, 2003). This step could also include a so-called Scenario transfer, which is a description of the further applications and/or improvements of the generated scenario(s). The finished scenarios have many opportunities and applications, e.g. in impact analyses, actor analyses and strategy assessment and development (Kosow & Gabner, 2008).

2.5 The 4 steps of Scenario analysis

A number of different techniques can be used within a framework of a practical scenario process, and the different steps are thus determined by the selection scenario technique. This study will include a number of different methods and techniques, presented in the previous chapters, combined to a framework suitable for the specific conditions of this study. The adjusted framework is summarized in four steps below.

1. Scenario field identification
The first step is to define goal, strategic level, geographical scope, participants, stakeholders, time horizon and limits for the scenario project (Schwenker & Wulf, 2013; Kosow & Gabner, 2008).

2. Key factor identification
The second step is to identify key factors that have a strong influence over how the future will develop, including variables, parameters, trends, development and events (Schoemaker, 1995; Kosow & Gabner, 2008), regarding the history, context and future (Börjeson et al., 2006) though desk research (Kosow & Gabner, 2008) and interviews with stakeholders' (Schwenker & Wulf, 2013; Schoemaker, 1995). Interviews are further transcribed, and form an important and valuable base for the key factor analysis (Schwenker & Wulf, 2013).

3. Key factor analysis
The third step is to analyze the key factors in order to examine what range of outcomes these key factors potentially could produce (Kosow & Gabner, 2008). By identifying drivers, we can understand how the key factors interact under different conditions, and analyze the potential consequences (Lindgren & Bandhold, 2003). The analysis is primary based on the conducted interviews and prior desk research, but can also include supplementary research if needed (Schoemaker, 1995).

4. Scenario generation
The last step is to bring the outcome of the prior steps together, and develop it into a distinct scenario (Schwenker & Wulf, 2013). First, an initial scenario is constructed by putting all positive elements in one row and all negatives in another. Next, the two most important dimensions are identified and put in a Scenario Matrix, in order to generate four different scenarios. The four initial scenarios are checked for consistency and plausibility (Schoemaker, 1995), and necessary adjustments are made. Other driving forces and trends are further added to create consistent and plausible stories about the future. Finally, a distinct scenario is constructed and formulated. This step also includes a description of the further applications and/or improvements of the generated scenario (Kosow & Gabner, 2008).

3. Method

3.1 Research strategy and Research design

Theory distinguishes two types of research strategy, quantitative and qualitative, which differs in both data collection and analysis (Bryman & Bell, 2011). The later, qualitative, mainly emphasizes an inductive approach to the relationship between theory and research, meaning data are collected to build theory rather than to test it (Bryman & Bell, 2011).

A qualitative research strategy will be applied in this study, and corresponding qualitative methods will be used in data collection and analysis in order to forecast the future of the Venture Capital industry (Bryman & Bell, 2011). A judgmental forecasting method will be applied, incorporating intuitive judgments, opinions and subjective probability estimates, and in more particular scenario analysis (Fildes & Allen, 2011). A scenario can be explained as a description of a possible future situation, including the paths of development leading to that situation. The purpose of building scenarios is consequently to generate orientation regarding future developments, often through an observation of a number of relevant Key Factors (Kosow & Gabner, 2008). A number of different techniques may be used within the framework of a practical scenario process and the different steps are thus determined by the selection scenario technique (Schoemaker, 1995; Van der Heijden, 2005; Shell, 2003; Schwartz, 1996; Phelps et al., 2001; Schwenker & Wulf, 2013; Kosow & Gabner, 2008; Börjeson et al., 2006; Bishop et al., 2007). The study is further exploratory which implies that I will identify possible developments regardless of their desirability. I rely on grounded theory, which implies that implies that I used an iterative approach where data collection and analysis can develop in tandem (Dunn & Nguyen, 2009).

3.2 Data collection

In order to develop scenarios and fulfill the objective of the study, a theoretical literature review was made and empirical data collected.

3.2.1 Theoretical literature review

A theoretical literature review was made to identify what has been published about Venture Capital and Scenario analysis. The most important findings of the theoretical literature review are presented in the theory section, and the *four Steps of Scenario Analysis* form the base of my research strategy. The theoretical literature review includes academic articles, books, public reports, etc., collected from academic search engines and industry associations (Swedish Private Equity & Venture Capital Association and European Private Equity & Venture Capital Association).

3.2.2 Empirical data Collection

The empirical data can be divided into primary and secondary data (Bryman & Bell, 2011).

3.2.2.1 Primary data

Primary data was collected through eight semi-structured interviews with Experts and Managers of Venture Capital firms as well as in companies investing in Venture funds (table 3.2.2.1a). The Interviewees were selected by their position within the organization (CEO, Investment Director or Investment manager) and by convenience (Interviewees were mainly conducted in Gothenburg). Access was given through mail or phone, received from company webpages and personal contacts. All interviews were made face to face, using an interview guide with a pre-set focus and questions to cover (Appendix 1). The interviews focused on the Interviewees' interpretation of the future development of the Venture Capital industry, primary in terms of size and profitability. All interviews are recorded, transcribed and coded. Primary data also include updated statistics, received in Excel, provided by SVCA.

	Title	Location	LP/GP	Type of Interview	Type of Recording
A	CEO, Venture Capital fund	Gothenburg	GP	Face-to- face	Audio recording
B	Investment Director	Gothenburg	GP	Face-to- face	Notes
C	CEO, Venture Capital fund	Gothenburg	GP	Face-to- face	Audio recording
D	Innovation expert, Advisor, Chairman, Board member.	Gothenburg	Former GP	Face-to- face	Audio Recording
E	Investment Director	Stockholm	GP	Face-to- face	Audio recording
F	Head of Fund Investments	Gothenburg	LP	Face-to- face	Audio recording
G	Investment Manager	Gothenburg	LP	Face-to- face	Audio recording
H	Investment Manager	Gothenburg	GP	Face-to- face	Audio recording

Table 3.2.2.1a Interviewees

A semi-structured interview method is a qualitative method of inquiry that combines a pre-determined set of open questions with the opportunity for the interviewer to explore particular themes or responses further. Our ingrained mental models and perceptions often hinder the identification of future developments (Schwenker & Wulf, 2013), but open questions could reduce the effect of my personal perceptions of what's important. In addition, I kept in mind that Blind spots and Weak signal could make me unintentionally ignore important factors (Schwenker & Wulf, 2013). I transcribed all interviews to reduce this risk, which made it easily double check information in a later phase. During the process of scenario generation, additional inputs were collected from the interviewees above (A-H) and additional stakeholders (I-K). Two questions were asked, alternatives given and the interviewees answered by ranking the three most influential factors for each question. These questions were asked by email.

	Title	Location	LP/GP
I	Research analyst	Stockholm	-
J	Director	Gothenburg	Former GP

Table 3.2.2.1b Complementing Interviewees

3.2.2.2 Secondary data

Empirical data has been complemented with secondary data, mainly conducted from industry reports published by SVCA and prior studies of the Swedish Venture Capital

Industry. Secondary data has primary been used to quantify key factors, since the qualitative approach through interviews did not include any quantitative data.

3.3 Data analysis

Data was analyzed using Scenario analysis techniques. A number of different techniques can be used within the framework of a practical scenario process and the different steps are thus determined by the selection scenario technique. In this study, Kosow and Gabner's (2008) five steps were used as the main framework, complemented by other theories of Scenario Analysis. In particular, the second to fourth step refers to data analysis, while the first step refers to empirical research.

After empirical data was collected, the data was coded, which according to Bryman & Bell (2011) is the most central step for qualitative study. In particular, Key Factors with a strong influence over the future development were identified and analyzed. Further, a number of different techniques within the framework of a practical scenario process were used to analyze data, and generate scenarios (e.g. Schoemaker, 1995; Van der Heijden, 2005; Shell, 2003; Schwartz, 1996; Phelps et al., 2001; Schwenker & Wulf, 2013; Kosow & Gabner, 2008; Börjeson et al., 2006; Bishop et al., 2007).

3.4 Research quality

3.4.1 External reliability

External reliability refers to the degree the study can be replicated. Qualitative studies are often impossible to replicate, since there are no standard procedures to be followed (Bryman & Bell, 2011). This study however includes both Interview guideline and a detailed way of analyzing data, which simplifies a replication and increases external reliability.

3.4.2 Internal reliability

Internal Reliability examine the consistency of results across tests i.e. if there is more than one observer, would they agree on what is said or done (Bryman & Bell, 2011). I have increased internal reliability by transcribing all interviews. However, when empirical data was summarized, a subjective view of what is important could affect choice of final content.

3.4.3 External validity

The degree to which findings can be generalized throughout all settings is referred to as external validity (Bryman & Bell, 2011). This study can only be generalized throughout the Venture Capital Industry in Sweden, since other forms of Private Equity and/or different market places has significantly different characteristics. The External Validity is accordingly considered low.

4. Empirical Data

This chapter is based on eight semi-structured interviews with experienced actors within the Venture Capital industry, primary and secondary data from The Swedish Private Equity & Venture Capital Association (SVCA) and other relevant industry reports. Six interviews are made with GPs, e.g. Investment Directors, Investment Managers and CEOs at Venture Capital firms, while two Interviews are made with LPs e.g. Investment Managers at Pension funds. Interviewees are presented below, and referred to as Interviewee A – H. An overview of the coded interviews can be found in Appendix 3. Secondary data is presented with sources in brackets.

Reference	Title	Partnership
A	CEO	General Partner
B	Investment Director	General Partner
C	CEO	General Partner
D	Innovation Expert	General Partner
E	Investment Director	General Partner
F	Head of fund investment	Limited Partner
G	Investment Manager	Limited Partner
H	Investment Manager	General Partner

Table 4. Interviewees

4.1 History

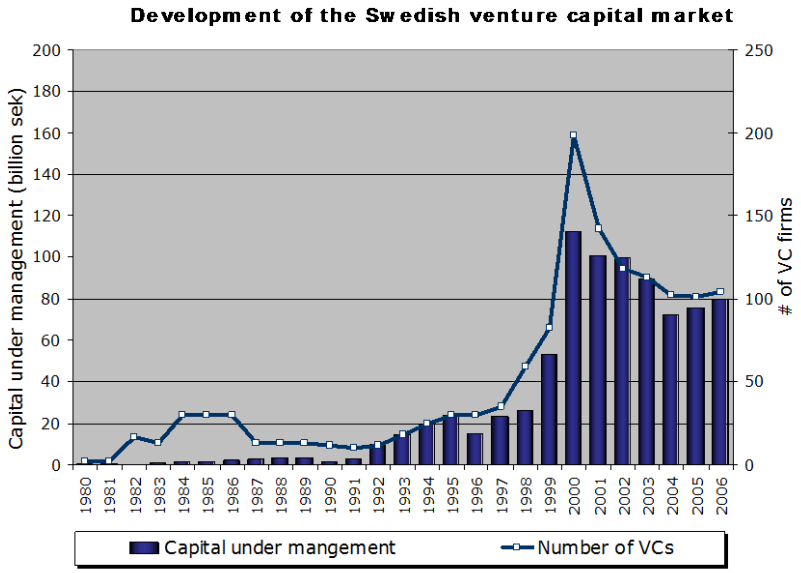


Diagram 4.1 Development of the Swedish Venture Capital market (Source: Isaksson 2006)

The Venture Capital industry in Sweden has been through two major cycles of growth and contradiction since its birth in the 80s (Isaksson, 2006). The diagram (4.1) displays the development of the Venture Industry between 1980 and 2006, and includes Capital under management and number of Venture Capital firms.

4.1.1 First cycle

The first Venture Capital cycle started in the early 1980ties and ended around 1988-89 (Isaksson, 2006). At the beginning, there was limited access to Venture Capital in Sweden made of small funds, mostly run by inexperienced people (Isaksson, 2006). In the mid-80s, a number of investments were made in Venture by industrial firms, financial institutions and the Swedish government through regional development funds. The number of Venture Capital firms as well as invested capital increased (Isaksson, 2006) but when the great crisis of 1990, the whole economy crashed and so did the Venture Capital Industry (Interviewee C). Apart from the economic crash, several other factors affected the decline of the Venture Industry. Many investors underestimated the time, capital, skills and competence needed to build up a working Venture Capital industry. Further, the managers often used a large business management style for the development of young and small firms, failing to understand the industry's needs (Isaksson, 2006). Interviewee C confirms the development; "In the 80s, Sweden had some Venture Capital, made of very small funds and small amounts of money. Since no one knew how to make successful investments in Venture, the result was not too impressive".

4.1.2 Second cycle

The second major cycle started around 1993 (Isaksson, 2006). At the beginning, Venture Capital wasn't available is Sweden and financing for early phases, especially Seed, was minimum but the booming stock market and large allocations from pension funds soon influenced a rapid growth. In the late '90s, the Venture Capital industry in Sweden peaked and started to get overheated. The Swedish Venture Capital industry had grown from only a few Venture Capital firms in the mid '90s to around 200 firms were managing more than 120 billion SEK (Isaksson, 2006). The competition had led to higher valuations as well as investments in earlier phases than before, and in 1999, the Swedish Venture Capitalists were investing more in Seed and Start-ups then in any other European country (Isaksson, 2006). Interviewee C confirms; "the development was huge, and that there was a peak almost impossible to understand. The first movers of the second cycle could do a number of exits, which turned out really profitable and further enhanced access to capital".

A bubble that was built up around IT and Life Science and when the access to capital increased, so did the initial valuations. At this time, Sweden still had a well-functioning exit market, which made it possible to get huge amount of money when realizing investments, which further boosted access to capital, as well as initial valuations. Because of the high valuations of Start-ups, entrepreneurs realized what a great opportunity they had to get financing as well as making money, and because of the high access to capital, all companies got funding. The number of profitable exits at this time, made it very attractive to invest money and it was very easy for Venture Capital firms to raise new funds. The industry had become infinitely too large in comparison to the number of deals that existed; there was an ocean of money and too few items, which implied astronomical initial valuations. The following crisis significantly affected the whole industry, and a lot of money was lost. Since then, the amount of invested capital has shown a declining curve (Interviewee C).

"People remember, and it has therefor taken some time for the 2000 crash to fade out. It's now considered as behind, however it's still important to have the historical perspective in memory in order to understand the business and what is to come"
- Interviewee C.

4.2 Access to Capital

"We see an increasing interest from Limited Partners, i.e. pension funds and others investing in private Equity for Venture Capital businesses" - Hans Otterling, partner at Northzone (DI, 2014b).

According to SVCA, the Swedish Venture Capital industry is undoubtedly under-established, expressed through low activity, low competition for investment objects and good access to attractive investment opportunities (SVCA, 2013a). The are some indicators that the industry will change a little bit to the better looking forward, since the Buyout market is starting to get saturated. In addition, the low interest rates might affect the development looking forward (Interviewee D). Funds raised during and after the bubble of 2000, will include some bad performance. However, funds raised during the latter part of the first decade, 2005 and later, have the potential to do better. "People who raise funds today, and not do ok, they should not raise funds anymore" (Interviewee C).

Looking back at the last year's development, the financial year of 2008 was a turbulent and dramatic year. The U.S. mortgage crisis was the starting point of the financial crisis that rapidly spread throughout the world and countless Venture Capital firms seek out to later phases to avoid the major risks, which lead to massive difficulties for companies in early phases to find capital (SVCA, 2009). In very early phases, e.g. Start-ups, the risk is very high and it has been extra hard during the last 15 years to receive a decent return, which has made it difficult to raise new funds. Poor returns in combination with better returns for investments in later phases have made it attractive to choose other types of investments than Venture (Interviewee G). Nevertheless, a number of funds have been raised during the last years in Sweden. Northzone, for example, has managed to raise a fund with private and international LPs while Creandum has taken another route, investing public capital (Interviewee C).

It is hard to ignore that the risk-adjusted returns for early stage investments historically been low. Generally, the uncertainty is bigger the earlier phase the investment is made. The risk / reward asymmetry consequently encourage investment in the later stages, making the private Venture Capital firms to stay away from the riskiest and earliest stages. Unless reforms that alter the conditions and reduces the risk / reward asymmetry of investment in the early stages, will also future investments by private investors be few (SVCA, 2014b). Accordingly, the LP's approach towards the Venture Industry can explain the few number of Venture Capital funds raised at the moment. Some invest continuously in Venture, but more actors tries to time only good funds or nor invest in venture at all, according to Interviewee C. Further, LPs has gone towards smaller numbers of investment, often only including a core portfolio and a close dialogue with a team believed in (Interviewee F).

The aspect of total available capital at the financial market in total also needs to be considered, according to Interviewee D. "Historically, if the market is bad on one side, the capital will move to the other. However, the Buyout market has been incredibly profitable for a number of years now and the early Venture can't compete with that".

According to Interview E, there now is plenty of capital available and good companies in early phases will therefor receive capital. Provided that there will be capital in the system, the early phases will find their money as. However, it will not be as easy as before since there are fewer Venture Capital actors today (Interviewee B). Historically, entrepreneurs could use the SVCA member list and call from A – Z, but today it is more difficult. New actors like Connect and different incubators therefor play an important role, by helping young companies to find financing for their ideas as well as offering other types of support (Interviewee E).

According to Interviewee G, the access to capital for early phases is low, and will further likely remain limited in the early phases. "It will probably not get worse, neither improved, since it's reached a steady state". Interviewee D confirms, stating that the availability of capital for early phases is low, mainly because of the track record in early phases. Interviewee B does not see the availability of capital as the main problem, but that too many companies do not continue through the system and to the next phase. A company that seeks capital too many times with the same business plan will fatigue potential investors, and draw them towards later phases where verifications and breakthroughs already are made. In addition, fewer Venture Capital actors make it more obvious that Seed companies are seeking multiple times on the same business plane.

Sweden has further received some critics for being bad at commercializing. We have many patent applications, and many small companies, but have not been able historically to manage the growth companies. An improvement in commercialization could eventually increase profit and in turn access to capital. When, or if, the return on investment is going up for whatever reason, money will return. Consequently, we might see a small increase if this happens. Still, it is likely to be a limited access to capital through private financing in the early phases also in the future (Interviewee H).

4.2.1 Public Capital

Public Venture Capital includes organizations financed and controlled by government institutions, from completely owned to partly financed or supported by the government. They differ from private forms of Venture Capital by generally operating under statutory constrains such as promote small firm growth and only invest in certain regions. Sweden has had a long tradition of creating public sector Venture Capital organizations; in fact, the very first Venture Capital corporation in Sweden was partly funded by public capital (Isaksson, 2006).

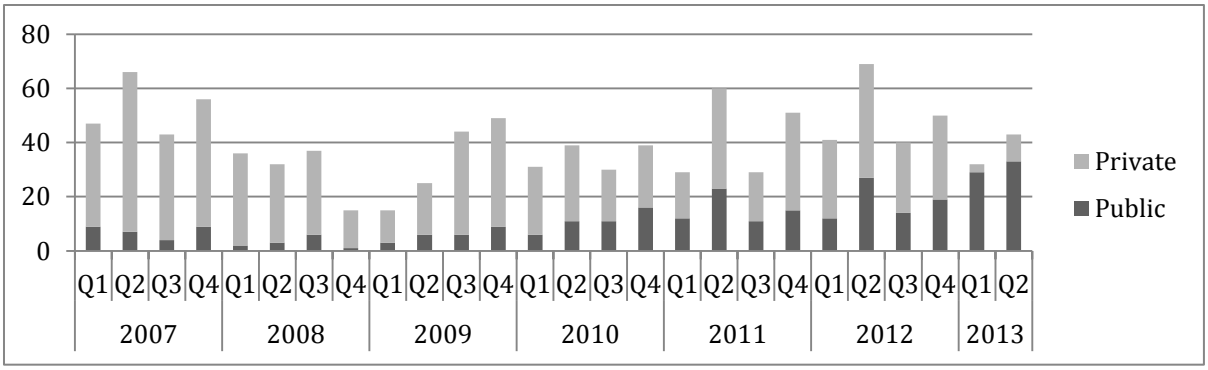


Diagram 4.2.1 Public and private financing of initial investments in Venture (Source: SVCA, 2013a)

Public financing has increased during the last years, starting from a very low level ten years ago (diagram 4.2.1). Recently, Public Financing has grown in terms of both size and number of investments. Today, there are very few pure Venture Capital funds (Interviewee C) since the majority of the initial investments are now founded by public capital. The rolling average for a 12-month period now equals 58 % public funded investments (SVCA, 2013b), e.g. through Industrifonden, Fouriertransform, Almi (Interviewee C). Interviewee H confirms the development stating that Public capital has increased significantly during the recent years, from being minor ten years ago it has grown larger in volume as well as in number of investments. Looking forward, the contribution of public capital is likely to increase through different types of Start-up financing, even if the industry as a whole will not grow bigger, according to Interviewee G. E.g. Start-up funds and innovation funds that emerge at universities are founded primary by public capital. Further, a politically driven environmental engineering fund is planned for the near future (Interviewee G).

In the very early phases, the public funding has a greater purpose and a greater responsibility; since it is in everyone's interest to bring forward talented youth companies (Interviewee H). Sweden needs a new Elekta and a new Gambro. We need the types of technologies that can create a whole new industry. However, Venture Capital firms cannot invest in these technologies anymore since the risk is too high. Consequently, starting a new Venture Capital firm does not solve this problem; instead, money that does not require a return is needed, e.g. research support. There is a company in Linköping, for example, which is developing Graphene, which is a new material. By keeping projects like this one within the university for a longer time, they could develop, and test to see if this works or not. Likewise, a new cancer drug could be kept within the Karolinska Institutet, tested and driven foreword, before beginning in external capital. "These types of investments are too risky, and should not be done by Venture Capital actors" (Interviewee E).

4.2.2 Foreign Capital

A majority of the capital invested in both the Northzone and Creandum, derives from outside Sweden. This implies that liquidity received from returns also end up abroad, and not into new investments in Sweden. We can build great companies on foreign capital, but the returns will consequently also be foreign and not necessary reinvested into our system. The 3rd and 6th AP fund 's is examples of companies that do invest Swedish money (Interviewee B).

4.3 Invested Capital

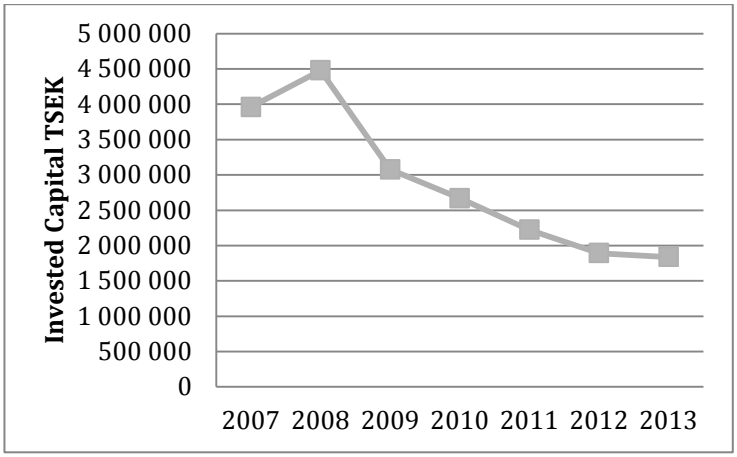


Diagram 4.3. Invested capital in Venture (Appendix 2)

Invested capital in Venture has continued to decrease during the last years (diagram 4.3). Primary data received from SVCA show that the Venture industry has decreased, from 3 959 million SEK in Invested Capital in 2007 to 1 837 million SEK in 2013, a decline of 54 % (Appendix 2).

The activity within Venture Capital is primary dependent on factors affecting the probable levels of return (table 4.3). If the probable levels of return are low, the access to capital will be low (Interviewee A; B; C; D; E). Access to capital is also considered to be dependent on e.g. Public Capital (Interviewees A; B), economic cycles (Interviewee B) and total capital within Private Equity (Interviewee B; D).

	Invested capital	**Key factors**
A	- Increase	- Public capital - Expected levels of return
B	- Slightly increase	- Public capital - Expected returns - Money in the system - Investors to take over in the next step - Trust - Foreign capital - Companies not continuing to the next phase
C	- Will start to increase - Public capital will increase	- Successful exits, attracting new investors - The LP Investment strategy - Public capital
D	- Slightly increase	- Track record - The capital market - Alternative investment
E	- though other types of players.	- Return
F	- Good conditions - A number of initiatives looking forward	- Funds cycles - Returns and Exit market
G	- Has reached a steady state. - Public capital will increase	- Returns and Exit market - Public Market
H	- Slightly increase, if exit conditions improve - Still limited access to private capital	- High risk - Financial climate - Exit conditions

Table 4.3 Invested capital

"We believe in an upswing next year. Among others, Creandum and Northzone raised a total of 2.5 billion SEK in one fund each during 2013" - Isabella de Feudis, Managing director at SVCA (DI, 2014a).

"A Venture Capitalist is an optimist per definition" according to interviewee C, who further believes that Invested capital in Venture has reached the bottom and will start to increase during the next years. There is room for an increase (Interviewee D) and because of the downward trend and the last years with a tired economic climate; an increase would be beneficial for the industry (Interviewee H). The industry will grow through public capital, according to Interviewee G, but increase in total Invested capital will be limited, since the public investments are limited to about 100 million now and then.

The Venture Capital industry in Sweden had a dramatic growth during the turn of the century, and reached about 200 active firms in 2000 (Isaksson, 2006). Today, there are less than 10 active Venture Capital firms in Sweden. According to Interviewee A, there are only three active firms in reality;

Industrifonden
Industrifonden, founded 1979, invests in small and medium-sized Swedish growth companies, working on a commercial basis in partnership with entrepreneurs and other investors to generate a return. Industrifonden is an evergreen fund; imply that they can take a long time approach and that all returns are reinvested in new projects. Industrifonden manages a total of SEK 3.6 billion, of which SEK 1.5 billion currently is invested in companies (Industrifonden, 2014).

Northzone
Northzone, founded 1996, is a technology investment partnership, working with entrepreneurs as a long-term partner for growth as well as in early phases. Over the past 17 years, they have invested in over 75 companies, including Price Runner, Step Stone and Trust Pilot (Northzone, 2014).

Creandum
Creandum, founded 2003, invest in innovative and fast-growing companies, primary within software and hardware. They make various sizes of investments, from a couple of hundred thousand euros and can go up to 10 million euros over the life cycle of a company (Creandum, 2014)

Funds are raised in cycles. Last year, several Venture Capital funds were raising capital and today, only a few are looking for money (Interviewee G). Creandum and Northzone have just raised two new large funds, and are now ready to invest in exciting technology companies. Northzone, who earlier has invested and developed companies like Spotify, iZettle and Widespace, has raised almost two billions SEK. According to Hans Otterling, Partner at Northzone, are three technology areas especially interesting at the moment; Game development, Financial services and technology related to e-commerce. Within financial services, apps consolidating with various banking products such as savings and loans look promising and within e-commerce, he looks for techniques simplifying the purchase and stimulating sales. Creandum, with investments in companies like Spotify, Wrapp, iZettle and Video Plaza, has raised a fund worth € 135 million, equivalent to 1.2

billion SEK. Creandum plans to make investments in 25-30 companies in early phases (Malmqvist, 2014). Several Swedish investors have invested in Northzone's fund, e.g. SEB pension fund and the sixth national pension fund (DI, 2014b).

4.3.1 Number of Investments

Even if Investments in terms of amount has more than halved since 2008, the number of investments has remained remarkably stable (diagram 4.3.1). This can be explained by sector rotation. Over time, fewer investments have been made in capital-intensive industries such as Cleantech, semiconductor and pharmaceutical and more investment has been made in the less capital-intensive industries such as IT and media (SVCA, 2014a). This implies that from a societal perspective, the picture tends to be positive since new jobs and value may be created despite a decrease in accumulated invested capital. Statistics further show us that the negative trend is dominant in the decline of second investments and that the initial investments in venture factual since Q2 2009 has a slightly positive trend (SVCA, 2012). Interviewee A, G and E believe the number of investments will increase during the next years, but only slightly.

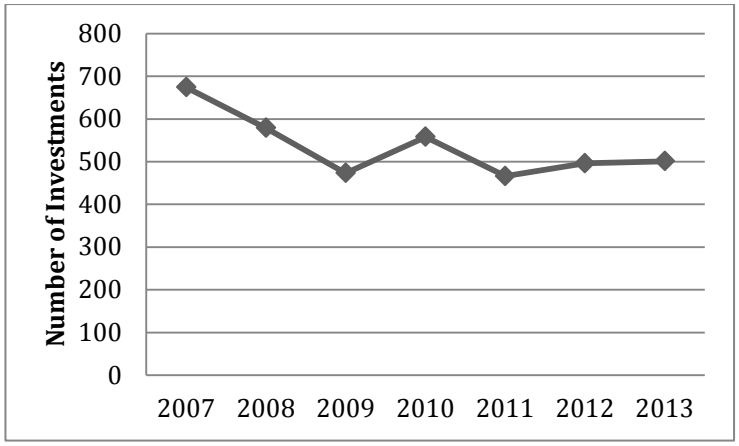


Diagram 4.3.1. Number of investments in Venture (Appendix 2)

4.3.2 Size of investment

The average size of each investment has decreased during the last years (diagram 4.3.2). The shift from investing in traditional companies to invest in areas with smaller capital need, e.g. media, is one explanation, which also can explain a part of the decrease in total Invested Capital. Further, New actors, e.g. Game developers, require less money, which might cause a further decrease of size of investment (Interviewee A).

Interviewee D believes that we have learned from history. The smart way of working is to make the initial investment smaller, but saving money for follow up investments. To invest in far more Cases than in the past, but also shut down quickly and efficiently when it is not working. According to Interviewee D, this might be the recipe to increased profitability and therefor, the ones who can understand and imply this approach will be able to succeed quite well. According to Interviewee H, the amount of money for each investment is likely to further decrease during the following years. Contrary, the size of each fund is getting bigger and bigger. A couple of years ago, a Seed fund would start to invest when securing 100 million, today no one generally starts before securing at least 300 million, if working with commercial terms, according to Interviewee D.

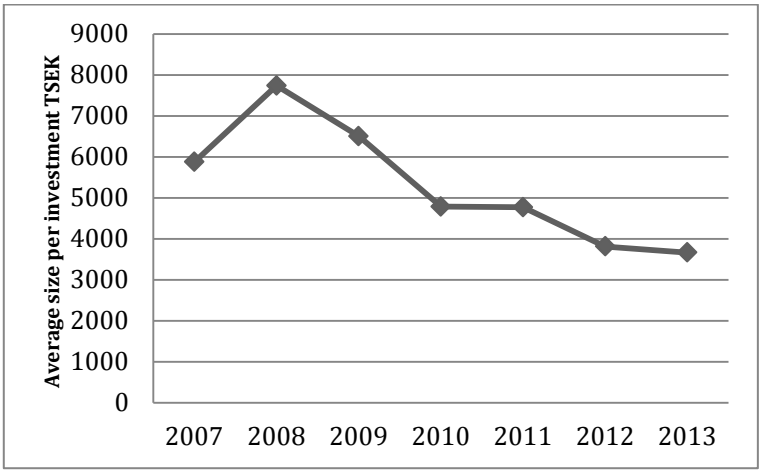


Diagram 4.3.2. Average size per investment in Venture (Appendix 2)

4.4 Return

Return on invested capital is primary dependent on the timing of exit (table 4.4)

	Return on Investment	**Key factors**
A	- Slightly increase	- Market conditions - Cycles - Timing - Industry slides
B	- Not better than before	- Timing
C	- Slightly increase - Improved exit conditions	- Exit conditions - Exit timing - Initial Valuations - Experience
D	- Slightly increase	- Exit timing - Economic climate
E	-	- Initial Valuations
F	- Good conditions	- Exit market - Strategy - Phase - Industry/Sector
G	- Early phase and Seed will always generate poor returns. Expansion has better conditions.	- Initial Valuations
H	- Hopefully, it gets even better	- Exit market - Investment strategy - Economic climate - Capital contribution in an early Phase - Good entrepreneurs

Table 4.4 Return

"The activity within Venture is, besides the Public capital, dependent on expected returns. If they are low, a little capital will be available, if returns go up, capital will show up" - Interviewee A

Historically, people without experience went into Venture, craving to make fast money. When they later realized that the industry was doing worse and that return on invested capital was dropping, they dropped off. Meanwhile, the industry has been through a tough process and sort out those who do not deliver good returns. However, also todays Venture Capital firms has made losses in the past; Volvo Venture Capital, Industrifonden, Incap, SEB etc. (Interviewee E).

From a societal perspective, the supply of capital for investment in early phases is very important in order to create new jobs and new companies. However, we cannot ignore that the risk adjusted return for early phase investment has been low historically, which creates a risk/reward asymmetry that favors investments in later phases (SVCA, 2014a). It is hard to match the return on investment required by private companies when investing in the earliest phases. The risk is very high, and sometimes it turns out very well, but sometimes does not work at all (Interviewee H). Counting IRR on a fund, and a portfolio, and especially when investing someone else's money, it's more attractive to invest in later phases where it's easier to get a return as well as lower risks (Interviewee H).

Looking at the cash flow curve for a Start-up, there is a negative cash flow in the beginning of the period and then, hopefully, a positive curve. Companies need financing to cover the shortfall in the start and when it comes to big technical investments such as a new material or medical drug, the shortfall is bigger. Today, we face the problem of finding financing for the bigger technical investments. 10 years ago, Venture Capital firms finances these types of projects and lost incredible amounts of money. In order to develop a new battery or a new technology, a lot of time and capital is needed and the risk is high. It takes an extremely long time and at the same time implies a great risk and a chance of losing everything (Interviewee E).

When there is a large supply of capital, the initial valuations go up. When there is less capital, valuations go down. During the turn of the century, it was an extremely large supply of capital. A lot of money was invested in early phases, and because of the large supply as well as not to dilute the founder's part of ownership, the valuations were set extremely high. Some entrepreneurs were given one million per Power Point page, even if he projects implied a high technical and commercial risk. Consequently, the exit value has to be high as well. The lesson learned the hard way, is to invest less capital in early phases to be able to invest more when the idea has been confirmed further (Interviewee D).

Looking forward, returns will go up a bit among the active actors within the next couple of years (Interviewee A). Bigger companies should start to feel a bit safer, they are profitable; their stocks are rising and have many cash, which could imply that they are more likely to buy companies, which could result in a better exit market and the possibility to realize investments (Interviewee C). However, Profit, or return on investment, will not be better than before, according Interviewee B, since the Venture Capital funds usually only have one star, some good and some bad investments; and that will equal quite ok profit, but almost never a superior one.

4.5 Exits

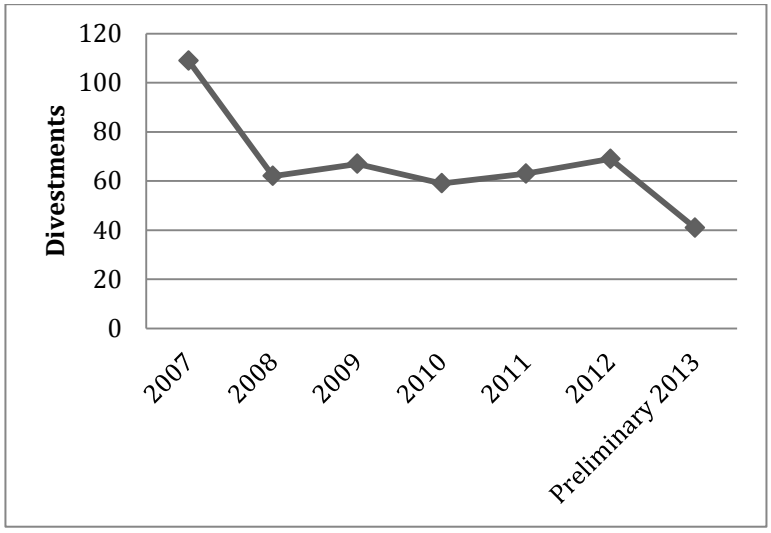


Diagram 4.5. Number of Divestments in Venture (Appendix 2)

"I'm an optimist of the stock climate and the possibilities to do exits, so hopefully access to capital will increase" - Interviewee H

During the turbulent year of 2008, the exit market did virtually not exist and less than half as many portfolio companies were sold compared to the previous year and not a single Private Equity owned company was sold through IPO (SVCA, 2009). The reason for the decline depends partly on the difficulties to do exits since 2008. When the stock climate is unbeneficial it is hard to do IPOs and sell current investments, which means capital is bound and it is hard to make new investments. As soon as the economy picks up, it is usually easier to list company or to make industrial sales (Interviewee, H).

We have had 6 years now with a tired economic climate. After the finance crisis in 2008, a lot of the capital disappeared and the stock market was highly affected. Then you have the U.S. crisis, and the Euro crisis. All this has made it difficult for investors to realize investments through sales, IPOs etc., and capital has remained within old investments (Interviewee H). The M & A market has been very weak for several years, but time-to-time it has been possible to make exits (Interviewee, C).

"So being optimists concerning the stock climate, and the possibilities to make exits, hopefully, the access to capital are likely to increase "- Interviewee C

The timing of exit is very important for the return. It is not possible to say that the industry will be much more profitable in general, since it depends on the timing of exits. The exit market was good in 2000/2001, 2006/2007 also had very good potential, and hopefully we will reach that state in the next two years. A good timing usually results in good money and good return of the fund. This applies to both IPO and Trade Sales (Interviewee, C).

During the last years, a number of IPO's of smaller companies have been made. However, It's considered risky and time consuming to sell a company through IPO, so instead it is instead often preferable to sell the company a whole (Interviewee, C). If

conditions for exits will improve compared to the previous years, the returns on investment and the access to capital are expected to increase (H). “It looks like its getting better and a couple of more sales and IPOs are made at the moment”, says Interviewee C. According to SVCA (2013a), the reported number of exits is already increasing. This is in line with the expectations presented in previous reports. SVCA’s assessment is further that the exit activity will continue to increase due to the reclaimed investment and exit need to the funds (SVCA, 2014a).

4.6 Phases

The available capital, primary the private capital, has moved towards later phases and the early Seed capital has almost disappeared after the finance crises in 2008 (SVCA, 2014a). The largest numbers of investments are made in Start-ups (diagram 4.6.2), while the largest number of capital is invested in later stage Venture (diagram 4.6.1). This can be explained by the different demand of capital in the different phases (Interviewee B). The largest amount of money consequently ends up in Later phase Venture when the largest number of investments ends up in Seed and Start-up (Appendix 2).

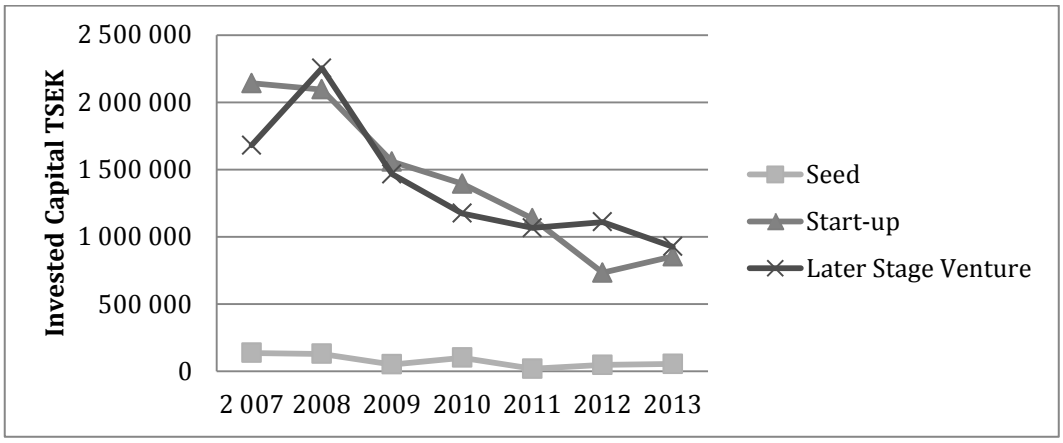


Diagram 4.6.1 Invested Capital per phase (Appendix 2)

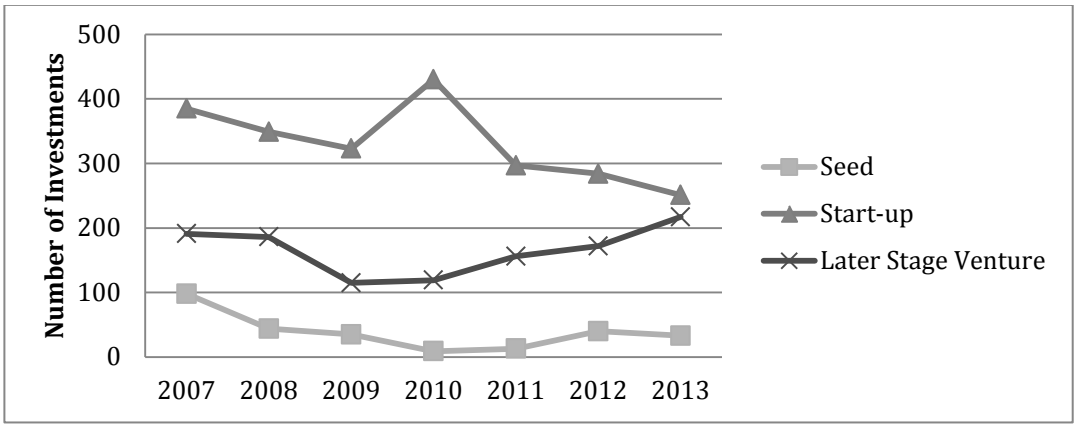


Diagram 4.6.2 Number of Investments per phase (Appendix 2)

According to Interviewee B, companies in the Seed phase can normally find capital, since they require relatively small amounts of money. In addition, the Start-up phase can relatively easy find capital, nevertheless with help from the innovation system, e.g. Chalmers invest. Companies between the Start-up and Expansions phase, however, generally have a harder time finding financing and usually need access to bigger amounts of capital. Going from Start-up to Expansion, the organization must pass a number of critical steps and challenges, which requires heavy investments (Interviewee B).

The trend is now going towards earlier phases, i.e. towards Venture phases, according to interview E. Too much capital, in relation to the number of attractive deals, in later phases has made it difficult to find good companies. Together with a gap in earlier phases, the move is self-generated. Also Interviewee A and E believe that capital will be pushed towards earlier phases during the following years. According to Interviewee D, the move is dependent on the total amount of invested capital. If Capital increases, investments in the earliest phases will increase. It is however important to keep in mind that the earliest phases has received almost nothing lately (Interviewee D).

4.7 Industries

Returns	Industries
A	- New materials - Battery technology - IT - Communication - Hardware - Software - Cleantech - Life Science
B	- IT - Cleantech (in 5-7 years)
C	- Industries with limited capital need, short to market and with strategic buyers - Consumer oriented, IT based companies.
D	- Fast moving industries - IT - Apps. - Grafen
E	- Software
F	- No clear statement
G	- Internet related - Internet solutions for Industrial players - B2B Concepts
H	- ITC (Including Hardware, Software and commercial applications to consumer market) - Med Tech - Energy savings - Advanced industry products

Table 4.7 Industries

Historically, people in Sweden have had very high expectations on certain sectors, which later fall flat. One example is the pharmaceutical industry and the belief that it was to be transformed, which would make it easier and faster to develop new drugs. A number of companies worked with techniques to meet the new expectations, and a lot of money went into expensive technical research. However, the pharmaceutical industry was not

too interested in transforming so the expectations turned out to be wrong, and lot of money was lost (Interviewee C).

"There are Venture opportunities in all industries" – Interviewee G

What is suitable for Venture investments, and what have always been, are things with limited capital need, relatively short time to market and with a unique feature that attracts strategic buyers. A company with a unique technology, that could create a threat or hurt a bigger company in some way, will imply other calculations that the financial ones and a higher price. They will pay no matter what the cost is, and in some extreme cases billions for companies that have not even reached sales phase. However, these kinds of companies are hard to find (Interviewee C). When GPs look for companies to invest in, they further look for scalability, which is hard to reach in industries require a lot of manpower, such as consulting and retail where it because of logical reasons is very difficult to increase sales without increasing the number of employees (Interviewee H).

In general, shift in industries have a tendency to create new businesses, e.g. when the mechanical calculator was overtaken by the electronic. In these types of shifts in industry or technology, established companies often find it hard to catch up which creates opportunities for new companies. Therefore, when this happens, there are always companies with money wanting to buy new companies with new ideas in order to join the ride. That is what is happening in the US right now when companies like Google, Facebook, and Apple and to some extent Microsoft pay a lot of money in order to buy new techniques. The last known acquisition is "What's up", which was bought this year by Facebook. It is the fear of not catching up that makes the big actors pay enormous amount of money for techniques like this (Interviewee A).

4.7.1 ICT

The Information Technology and Communication industry (ICT) is considered attractive, partly because of the fast development within that area. The industry includes everything from hardware, software and systems to commercial applications of software and the consumer market for computer games. Further, looking at the universities and entrepreneurs educations, many new initiatives and investments are planned within this field (Interviewee G).

The fast and easy moving industries further imply less risk in relation to the size of investment. History has shown that big hypothesis-driven investments, ideas based on hypothesis and with no proof of possible business opportunities, are very difficult and risky to manage. Conversely, investments in IT solutions or Apps it is relatively less costly to test, and if it does not work, liquidate. "One must not invest 100 million just to straighten out the question mark and that makes it possible to recoup the risk", says Interviewee D. According to Hans Otterling, Partner at Northzone, are three technology areas especially interesting now; Game development, financial services and technology related to e-commerce. Within financial services; apps consolidating with various banking products such as savings and loans look promising, and within e-commerce; techniques simplifying the purchase and stimulating sales (Malmqvist, 2014).

Software is further attractive due to scalability. When developing software, a platform, an app or similar, additional sale do not cost extra compared to if you would manufacture physical thing. Accordingly, getting your second customer is not more expensive than getting your first, which makes it possible to get a huge leverage in sales. Consequently, scalability is attractive from a Venture Capital perspective (Interviewee E). Hardware cases are usually more difficult to fund and develop. It costs hundreds of millions to develop a new chip, and when you are there its almost obsolete already because of the fast technical development (Interviewee, C).

Venture Capitalists have previously earned a lot of money on consumer-related Internet -based ideas, and according to Interviewee F, the next big wave could be industrial customers, B2B concepts, with information and communication flows over the Internet. Today, we see a mass consumption of private services and mass consumption of industrial services is now the next step, scattered in all kinds of applications. Further, investments in advanced industrial products to traditional industries are increasing. Often, technologies are combined, e.g. from ICT or metrology, with an existing industry in order to find new and more advanced applications (Interviewee H).

4.7.2 Cleantech

Clean technology, so called Cleantech, was very attractive for a period, but the hype has past by since they faced major difficulties in meeting required returns of investment. Cleantech includes areas like recycle, renewable energy and electric motors, and thereby meets a greater value in a global level for many people. When investing, or being a customer, the greater value is however generally not the main factor considered (Interviewee H). Cleantech is further hard to fit into the Venture Capital concept since it require a lot of research, is highly regulated with authority requirements, needs to be protected by patents and require very big steps. According to Interviewee G, technological development in these areas should not be finance by Venture Capital (Interviewee G). Interviewee B has a slightly different opinion, saying that Cleantech could be attractive to Venture again in about 5-7 years.

4.7.3 Life science

Life Science is very difficult to make money in but they have nevertheless done reasonably given the conditions, and also been able to raise funds recently (Interviewee C), partly though specially dedicated funds (Interviewee H). It might be considered as odd because it costs a lot of money and it takes a long time to develop, which requires long holding periods by investors, but on the other side a success can create a lot of money (Interviewee A). Biotech, a part of Life Science, is one of the typical industries that requires a lot of money but almost never reaches its destination but when someone succeeds, the market still becomes overheated for a shorter period before going back to normal (Interviewee D). Interviewee F does not believe in Venture Capital as financing for Life Science. Heavy investments with long lead times are not suitable for a Venture Capital fund concept (Interviewee F). The behavior has changed among the buyers, and the large pharmaceutical companies are no longer willing to buy phase 1 and 2 projects. Phase 3 projects costs billions to develop, and it is very rarely that these kinds of project meet the required return. In addition, the regulatory requirements have changed within Medical devices, which require even more testing and consequently a lot of capital (Interviewee C).

4.8 Macroeconomic conditions

In a study of the Venture Capital industry made by SVCA (2012a), the Venture Capital firms themselves stresses the macroeconomic situation and the economy as the greatest causes for concern going forward. Looking at the statistics over many years, the industry has been very volatile with several ups and downs. There are very few Venture Capital firms that survive in the long run, and the ones who do are the ones who have the ability to innovate and keep up as well as bringing in new people who can carry on (Interviewee C). The cyclical pattern is also a problem. In peaks, the industry becomes overheated, and too much capital are looking for too few prospects, which results in poor performance, a decline and difficulty to raise money eventually (Interviewee D).

We are now in the beginnings of an economic recovery, and we are starting to get better opportunities at the stock market, which makes it possible to do IPOs. In a few years, perhaps, the rate of return for Venture Capital goes up again. Moreover, that could lead to new actors entering the industry (Interviewee A).

4.9 Experience and Strategy

4.9.1 GP Strategy

"Looking at the U.S. Venture Capital industry, there are always some people who are really good at finding the right companies and that's not luck, it's skills, expertise and a feeling for business" – CEO, Venture Capital firm (Interviewee A).

Most Venture Capital firms has been through a tough development during the last couple of years, and those who have managed the industry over several years, are now quite seasoned and experienced. They know what it takes to make business in early phases and have finds ways to survive, regardless if investing in Life Science, Healthcare or something else. Irrespective of what kind of sector you are in, the lesson learned from history is the importance of everything from what phases not to invest in to what forms of investment that suits the conditions of a funding concept, including the life span of a fund (Interviewee F). *"It would not surprise me if returns are going up now as a consequence of this", says* Interviewee A.

Venture Capitalists have been forced to refine their models; they have had to learn in order to survive (Interviewee F). They have learned how do to better, and more structured, investments in later phases, which hopefully imply that returns will increase, or at least not get worse, (Interview G). However, it is hard to generate returns in the early phases. Some analysts argue that that running Venture business isn't hard and that you actually don't need to know anything about the prospects since it's all about timing (Interviewee D).

Historically, most Venture Capital funds invested broadly in terms of geography, size, phase, industry etc. During the crisis, people realized that what was not "Core" was usually what went bad, and the Venture Capitalists who remained were the ones that were niched in various industries. Today most funds, especially the private financed, are specialized, working in certain geographic, sizes, industries etc., and thereby defining choice of investment (Interviewee G). Many actors previously entering the industry did not have the skills to manage these kinds of organization in a decent way, since they did

not take the time to learn the industry. Some were more financial oriented, which is not bad for other kinds of investments but not enough to understand investments in early phases (Interviewee C). Investment in early phases further requires that somebody is willing to continue to invest in the next step. We are in short of actors that are willing to continue to invest and therefore there is a risk that many companies do not reach their final goal. The companies that follow the process of Seed, Start-up and Growth within the intended timeframe rarely have problems. However, many companies secure financing several times on the same business plan, without going forward in the process (Interviewee B). Nevertheless, there are some fund structures that are very good at managing the early phases and take them to the next, where another actor takes over, but then again, it is crucial to understand the dynamics of this type of investment (Interviewee F).

Today, Venture Capitalists know that many investments made wont develop as planned, but historically, a lot of money was invested in early phases and consequently, many Venture Capital firms crashed when the portfolio did not developed as planned. The solutions could be, which seems easy in theory but it's harder in practice, to invest heavily in those developing well in order to get a decent return, but also make sure to not invest too heavily in early phases, i.e. too much money, too soon. Maybe it is not what is preferred, but multiples prove that it is difficult to receive a return later in those types of investments. If X time's money is required, you may calculate backwards, and find out what kind of price you need in the future (Interviewee H). The most common mistake made by Venture Capital actors historically is accordingly to invest too much money in too early phases, often not even knowing if the plan will get through the first customer meeting (Interviewee D). The market changes all the time, and what seams good today might be useless in only two years. It is consequently important to keep up with the market, to be in the market, and to understand not only what works today, but also what has the potential to be good in a few years (Interviewee C). In addition, if you used all money in the beginning, and phase a decline, your share could be so diluted that almost no value is left. In the early phases, you need to be Street Smart and efficient, and focusing on modeling the business model to test if it works. Then, when you find a team with a verified business model that show they can deliver, you can invest a lot of money. If doing so, it is possible to make money, a lot of money, in the earliest phases, according to Interviewee D. A number of active actors are now working in this way, and in 10-15 years, we will see the results (Interviewee D).

To invest smaller amounts in the Seed phase, and when they can verify the product invest some more, and furthermore, when further progress is made, could be the salvation for the industry. In this way, you could also stay in later phases and even if you cannot defend your share, you can join further investments (Interviewee H). Interview H illustrates this strategy with a funnel; the funnel is wider in the beginning, but the investment small i.e. the size of investment increases when the idea is verified and has market confirmation

In addition, it is usually hard find good entrepreneurs since it is hard to learn from an education, or from having a completely different job. Generally, it is a special kind of individuals working and succeeding within this field (Interviewee H). Today, several Venture Capital companies ask for references from customers instead of a business plan when evaluating entrepreneurs, which likely affect entrepreneurs' way of working. This

could further increase the likelihood reach the market and is a good development relative the obsolete way of sitting at the office, theorizing and make plans with hockey sticks. It is by natural reasons very hard to determine in advance whether an offer to the client will work or not by sitting down thinking. We have to go outside and test (Interviewee D). Erik Ries, who wrote the book Lean Start-up, describes the version of a commercial viable product that can reach the market. It's, according to Ries, all about finding confirmation from customer and market, not just to run as fast as possible, and secure that one is on the right path.

4.9.2 LP Strategy

The LPs carefully analyze the structure of their funds, including exposure to different geographies, industries, phases etc. that implies that even if a Venture Capital fund independently seam perfect, it might not be suited for the portfolio. The next step is a Due Diligence of the fund, which implies an evaluation of historical returns, returns during the last difficult years, how value has been created in portfolio companies etc. It is a general opinion that value is created through active owners, but one must also understand how value is created. By using models, companies can more effectively investigate where value comes from (Interviewee G).

Today Investors are more selective and only invest in the ones who stand out. Venture itself has through its challenges probably figured out what teams who has the potential to create value while some teams have had to shut down, which depends on their history and Track Record (Interviewee F). Further, sustainability issues in integrated processes needs to be considered, which is especially important to pension funds and investments made by public capital. Sustainability should be integrated in their investment and ownership process and shall be reported to the owners in a functional way. The LPs also consider legal factors as well as the level of management fees and profit split. A carefully made evaluation is crucial for the LPs, especially since they after deciding to invest are stuck with their decision for 10-15 years (Interviewee G).

Some LP's are investing in Venture funds continuously because they believe it is possible to make money in the long run, while other has stopped to invest in Venture or try to invest in only the profitable funds. One could however argue that it's impossible to pinpoint because of the long lifetime of a fund and that the best way is to find a team you believe in, and who are transparent, and to stick with them for a longer period investing in all their funds (Interviewee C).

4.10 Business angels etc.

Several interviewees also mention other types of constellation, targeting the same Start-ups as the Venture Industry. These types of actors are often referred to as Business angels but also include Family offices, generally family owned companies with a lot of excess liquidity (Interviewee C; Interviewee E).

Large amounts of capital are further invested by so called " high-net -worth individual", usually old entrepreneurs and/or investors who have made a lot of money in earlier investments and are now willing to invest their own money in Venture. Wealthy private families, with large private fortunes, also help and invest in different configurations (Interviewee C). Some estimation show that above-mentioned constellations are now

investing more money than traditional Venture Capital firms are, but this cannot be proved due to the lack of statistics. Some" high-net -worth individuals" have a firm and a structure, but several investors are just loose networks, like network of friends. A "Networks of friends" could for example be an investment managed by two people, surrounded by a network of people with access to a billion. The managers find a case, informally present it to their network and let those who want invest. Besides Venture Capital and Business angels, an entrepreneur can receive financing through Crowd funding (i.e. Crowd financing) which is a new and increasing type of financing in Sweden, where many small investors together invest a bigger amount of money together in a Start-up project (Interviewee E). The difficulties of raising capital in traditional ways has developed the market for crowd financing, and the access to internet and social media makes has made it possible for entrepreneurs to reach out to the whole world in a fast and inexpensive way (Social innovation 2014). Neither of mentioned investors has been visible in any statistics, and we can therefor only estimate the total amount invested by these types of players (Interviewee E).

Connect (2014) recently published one of the first studies on Business Angels in Sweden. According to the study, are business angels most interested in investing in IT and communication, followed by Cleantech and healthcare. Further, the most interesting phase to invest in is Start-up followed by Seed. The total size of the "industry" is however not estimated by Connect since there is no reliable list, of all business angels, available in Sweden (Connect 2014).

5. Analysis

A Qualitative research strategy is applied in this study, and corresponding qualitative methods used throughout data collection and analysis, in order to forecast the future of the Venture Capital industry. I rely on grounded theory, which implies that I use an iterative approach where data collection and analysis can be developed in tandem. Further, a judgmental forecasting methods is applied, incorporating intuitive judgments, opinions and subjective probability estimates, and in more particular scenario building. The analysis follows the process of scenario analysis presented in the theory chapter, and further includes collected empirical data (including Appendix 2-4) and additional theories.

5.1 Scenario field identification

The first step in a scenario process is to identify the scenario field (Kosow & Gabner, 2008), also called definition of scope (e.g. Schoemaker, 1995; Van der Heijden, 2005), Preparation (Shell, 2003; Phelps et al., 2001) or Framing (Bishop et al., 2007). Through an extensive literature review, several relevant theories were identified for this study, and hence the items below belong to multiple theories (e.g. Schwenker & Wulf, 2013; Kosow & Gabner, 2008; Schoemaker, 1995).

1 Goal of Scenario project
The objective of this study is to build and analyze possible future scenarios for the Venture Capital Industry in Sweden based on interviews with professionals and available secondary data.

2. Method
In order to develop scenarios and fulfill the objective of the study, a theoretical literature review was made and empirical data collected. The literature review was made to identify what has been published within Venture Capital and theories of Scenario analysis, which then could be used to fulfill the objective of the study. Further, primary data was collected through Semi-structured interviews with Experts and Managers of Venture Capital firms, as well as in companies investing in Venture funds. Empirical data were further complemented with secondary data, mainly conducted from reports presented by SVCA and prior studies of the Swedish Venture Capital industry.

3. Strategic level
The strategic level of the analysis is the Industry level. In an Industry scenario development project, external influences usually derive from outside the industry in question, and I therefor need to consider the Buyout industry, the exit market and the financial climate.

4. Geographic scope
This study includes the Swedish Venture industry, but since foreign Capital is invested in Sweden and vice versa, some further limitations are set. Foreign capital invested though Swedish GP´s are included in the study, since it is included in statistics provided by SVCA. Swedish capital invested abroad is not included.

5. Participants
Participants include eight interviewees; all active players within the Venture Capital industry, as LP's or GP's, chosen because of their expertise and long experience of venture. Additional input was further collected in the end of the scenario process.

6. Stakeholders
This step is combined with the previous one, since stakeholders will be identified and interviewed, and are thereby considered as participants of the study. By starting early with interviews, I could integrate external views throughout the scenario development process, which according to Schwenker & Wulf (2013) is essential for a successful outcome.

7. Time horizon
The time horizon for the scenarios is set to 5-7 years, based on general recommendations in several theories, e.g. Schwenker & Wulf (2013).

8. Limits
Statistics received from SVCA are considered representative of the industry, since a large majority of the Venture Capital firms are members of the association.
SVCA's definition of Venture Capital is further used when referring to the Venture Capital industry. Interviewee were told that my definition of Venture Capital includes Seed, Start-up and Later Venture stage, but it's however important to note that different interviewees may have diverse interpretations of what's included in these phases, which could affect the outcome of this study.

5.2 Key factor identification

The second step involves identifying what key factors that will have a strong influence over how the future will develop (e.g. Kosow & Gabner, 2008; Börjeson et al., 2006; Lindgren & Bandhold, 2003). The key factors form a description of the scenario field and a focus of the further scenario process (e.g. Kosow & Gabner, 2008; Schoemaker, 1995).

5.2.1 Desk research

The process of identifying key factors started by desk research of articles, books and reports. From desk research, the following key factors were defined, and further accordingly my focus for interviews and deeper data collection. To reduce complexity and manage limitations of cognitive ability, key factors need to be limited according to Kosow and Gabner (2008). I therefor considered a maximum of seven key factors at this stage.

- Invested capital
- Access to Capital
- Number of Investments
- Size of investments
- Profit/returns
- Industry
- Phase/segment

5.2.2 External trends

The step of key factor identification also includes identifying external trends, e.g. political, economic, societal and technological (Schoemaker, 1995). According to Gompers & Lerner (2004), can GDP growth, stock market returns and R&D expenditures be potential indicators of demand for Venture Capital. Further, interest rates might affect the supply of Venture Capital, since increased interest rates makes alternative investments more attractive and hence decrease the willingness of investors to supply Venture Capital (Gompers & Lerner, 2004)

- Economic climate

5.2.3 Stakeholder's perspective

The next step was to collect external views about the future by conducting interviews with Venture Capital Stakeholders. I chose to make qualitative interviews, which is a common used technique in order to generate and review theories, assumptions and input data as well as to generate additional information. In particular, eight Semi-structured face-to-face interviews were conducted with professionals working with Venture Capital, primary investment managers in Venture Capital firms. An Interview guide was made with a pre-set focus and questions to cover, focusing on the Interviewees' interpretation of the Venture Capital industry looking forward. The interviews also allowed for other discussions in order to discover new key factors.

After the theoretical literature review and empirical data collection, the following key factors were identified, which together form a description of the scenario field and the focus of the scenario process:

- Invested capital
- Access to Capital
- Number of Investments
- Size of investments
- Profit/returns
- Industry
- Phase/segment
- Economic climate
- Alternative Investments
- Exit market
- Public capital
- Informal Venture Capital

5.3 Key factor Analysis

Analysis of key factors, or simply "Analyzing" (Lindgren & Bandhold, 2003; Schwartz, 1998) or Trend analysis (Schoemaker, 1995; Schwartz, 1996; Van der Heijden, 2005) was made to examine what range of outcomes the identified key factors could produce (Kosow & Gabner, 2008). Invested capital defines the size of the industry, and is consequently my focus for the analysis. Further, I primary consider return on investment, which according to theory is the main determinate of access to capital (Gompers & Lerner, 2004). In the end, I will look into Industry and phase, as well as different types of informal Venture Capital.

5.3.1 Invested capital

The first stage of a Venture Capital process is to establish a Venture Capital firm, and to "raise" of a fund. Funds are normally raised from a variety of sources; pension funds, funds of funds, incurrence companies, banks etc. (Isaksson, 2006). Venture capital investments in Sweden show a clear downward trend, according to data by Swedish Venture Capital Association (SVCA, 2013b). Between the last peak level in 2008 and the year of 2012, the investment volume decreased from 4.8 billion SEK, to just over 1.8 billion SEK, which implies a 60 % decline (Myndigheten för tillväxtpolitiska utvärderingar och analyser, 2013).

However, all Interviewees believe in good conditions and/or in a slightly increase of Invested Capital in Venture during the next years, but uncertainty is expressed and the common belief is a very limited increase. The level of Invested capital is further, according to a majority of the Interviewees, primarily dependent on the levels of return, followed by exit market conditions, public capital contribution and the amount of money in the total capital market. Note that several key factors in the table below overlap e.g. is the level of return highly affected by the exit market, which in turn is highly affected by the financial climate (Table 5.3.1).

Dependent Factor	Interviewee(s)
Levels of return*	A, B, D, E, G
Exit market **	C, E, G, H
Public Capital	A, B, C, G
Capital market	B, D
Fund cycles	F
Foreign Capital	B
Trust	B
Alternative Investments	D
The LP Investment strategy	C
Financial Climate	H
Investors taking over	B
Risk	H
Companies not cont. to next step	B

*Include Expected levels of return and Track record
** Include Successful Exits

Table 5.3.1 Invested Capital

5.3.1.1 Venture Capital firms

Sweden had a dramatic growth of Venture Capital during the turn of the century, and SVCA reached about 100 active members in Venture Capital. Today, there are less than 10 active Venture Capital firms in Sweden today, but according to Interviewee A, only three of them are active in reality; Industrifonden, Northzone and Creandum. According to SVCA, the Swedish Venture capital industry is undoubtedly under-established, expressed through low activity, low competition for investment objects and good access to attractive investment opportunities (SVCA, 2013a). Accordingly, the number of GPs today compared to in 2000 is only a fraction, but they do exist and they do raise funds. Northzone, for example, has recently managed to raise a fund with private and international LPs while Creandum has taken another route, investing public capital (Interviewee C). Northzone, who earlier has invested and developed companies like Spotify, iZettle and Widespace, has raised almost two billions SEK. Creandum, with investments in companies like Spotify, Wrapp, iZettle and Video Plaza, has raised a fund worth € 135 million, equivalent to 1.2 billion SEK. Creandum plans to make investments

in 25-30 companies in early phases. Creandum and Northzone now ready to invest in, primarily, technology companies (Article: Malmqvist 2014), which imply that at least 3 billion SEK are likely to be invested in Venture during the next years.

5.3.1.2 Return

When a financial product has been introduced to the market, its growth depends upon multiple factors, return being the most important one (Finacle 2011). Several studies also examine the relationship between past performance and investments for Venture Capital firms in particular (Gompers & Lerner, 2004). Also financial products growth depends primary on return (Finacle, 2011). The activity in Venture Capital is consequently depending on the probable levels of return. If returns are low, less capital will be available, and if returns increase, capital will show up (Interviewee A). Poor returns consequently decrease people's willingness to invest, and thereby access to capital. The size of the Venture industry is accordingly a direct consequence of performance, which implies that the big Venture Capital funds have an important burden of proof presented forward in order to create a further interest for investing money in this industry.

5.3.1.3 Exit market

"I'm an optimist of the stock climate and the possibilities to do exits, so hopefully access to capital will increase" - Interviewee H

"Being an optimists concerning the stock climate, and the possibilities to make exits, hopefully, the access to capital are likely to increase "- Interviewee C

Access to capital is dependent on the exit market, and the amounts of successful exit that has been made lately (Interviewee H). A well-functioning exit market is crucial in order to sell portfolio companies, and hence in order to create opportunities of making a good return and allocate new capital. According to the latest statistics from SVCA (2013a), presenting the second quarter of 2013, the reported number of exits is already increasing. This is in line with the expectations presented in previous reports. SVCA's assessment is further that the exit activity will continue to increase due to the reclaimed investment and exit need to the funds (SVCA, 2014a). Accordingly, if conditions for exits improve, the returns on investment and the access to capital are likely to increase.

5.3.1.4 Public capital

Public financing has increased during the last years, starting from a very low level ten years ago. Recently, Public Financing has grown in terms of both size and number of investments. The rolling average for a 12-month period now equals 58 % public funded investments (SVCA, 2013b). Actors investing through public capital are e.g. Industrifonden, Fouriertransform and Almi (Interviewee C).

In the very early phases, the public funding has a greater purpose and a greater responsibility, since it is in everyone's interest to bring forward talented youth companies, and technologies that could create a completely new industry. These types of investments are however generally risky, and should not be financed by Venture Capital according to Interviewee E. Instead, it needs money that does not require a return, e.g. research support.

The industry will grow through public capital but the increase in total Invested capital will be limited. Neither the Start-up and innovation funds at universities will affect the size of the industry, since the sizes of investments are limited. Nevertheless, if political initiatives within the Venture Capital industry continue, public money will be provided also in the future (Interviewee G).

5.3.1.5 Capital market

Historically, if the market is bad on one side, the capital will move to the other. However, the Buyout market has been incredibly profitable for a number of years now, while the Venture has not (Interviewee D). According to Interview E, there now is plenty of capital available now, which makes it possible for good companies in early phases to receive capital. Interviewee B confirms; provided that there will be capital in the system, the early phases will find their money as well even if it won't be as easy as before since there are fewer Venture Capital actors today.

5.3.1.6 Fund cycles

Venture Capital funds are raised in cycles. Last year many Venture Capital funds were looking for money and this year, they start to invest (Interviewee G). The cycles of raising and investing consequently affects the size of the industry, i.e. invested capital, in short term.

5.3.1.7 Foreign Capital

A majority of the capital invested derives from outside Sweden, which implies that liquidity received from returns, also end up abroad. We can build great companies in a Venture Capital built on foreign capital, but the returns will consequently also be foreign and not necessary reinvested into our system and we will consequently be dependent on outside capital in order to continue to build our industries (Interviewee B). The underlying capital flow is accordingly dependent on who´s money that is invested.

5.3.1.8 Trust

The Venture Capital industry ones lost its trust, which has made it almost impossible to raise funds, and consequently less capital in Venture has been invested. The lack of trust can be referred to poor track records and high risk since 2000 (Interviewee C).

5.3.1.9 Alternative investments

When new products can promise equal or higher returns to the same amount of risk as the old ones, the financial product are likely to decline (Finacle, 2011). The Buyout market has been incredibly profitable for a number of years now and many LPs has as a consequence of this changed direction towards later phases or do not invest in Venture at all. This development supports the theory of financial product life cycle (Finacle, 2011). However, there are some indicators that the industry will change a little bit to the better looking forward, since the Buyout market is starting to get saturated (Interviewee D).

5.3.1.10 LP Strategy

Less Venture Capital funds are raised, resulting in fewer investments, and this can be explained by the LP's unwillingness to invest in Venture. Because of the poor track record and high risk, several LP's has move towards later phases where expected return is higher and risk lower. Further, Some LP's are investing in Venture funds continuously because they believe it's possible to make money in the long run, while other has stopped to invest in Venture or are trying invest in only the profitable funds. However,

according to Interviewee C (note that he is a GP), it is impossible to pinpoint because of the long lifetime of a fund. Instead, he thinks the best way is to find a team you believe in, and who are transparent, and to stick with them for a longer period investing in all their funds (Interviewee C).

5.3.1.11 Financial Climate

Macroeconomic factors are also important drivers of development for financial products and thus affect the activity of Venture Capital. In fact, changed economic conditions can rejuvenate a financial product that is heading maturity (Finacle 2011). Looking at the statistics over many years, the industry has been very volatile with several ups and downs. In the peaks, the Swedish Venture Capital industry generally becomes overheated, and we see too much capital and too few prospects which results in poor performance, a decline and difficulty to raise money eventually (Interviewee D).

When the economy is growing, conditions are generally more attractive for entrepreneurs, which increases the demand of Venture Capital. Therefore, GDP growth returns on the stock market, and R&D expenditures could all be potential indicators of demand for Venture Capital (Gompers & Lerner, 2004). Conversely, in a recession, it is hard generally hard to realize investments which consequently affects the access to capital for new investments negatively (Interviewee H. In addition, interest rates can affect the supply of Venture Capital, since increased interest rates makes alternative investments more attractive and hence decrease the willingness of investors to supply Venture Capital (Gompers & Lerner, 2004).

As mentioned, GDP growth can be a potential indicator for the demand of Venture Capital (Gompers & Lerner, 2004). In the process of scenario generation, further research may be needed in order to get a deeper understanding of an identified trend (Schoemaker, 1995). GDP, R&D expenditures and interest rates, which are considered as external trends, has been researched in this step of key factor analysis, and the following material, based on secondary data, is consequently not included in the chapter of empirical data.

In Sweden, the GDP growth was unexpectedly high in the fourth quarter of 2013 (Diagram 5.3.11a), according to Sveriges Riksbank (2014). The level could party be derived to temporary factors, but the increase in demand indicates that the upturn of the economic situation has begun. Consequently, the demand for Venture Capital may increase during the next couple of years (Sveriges Riksbank, 2014).

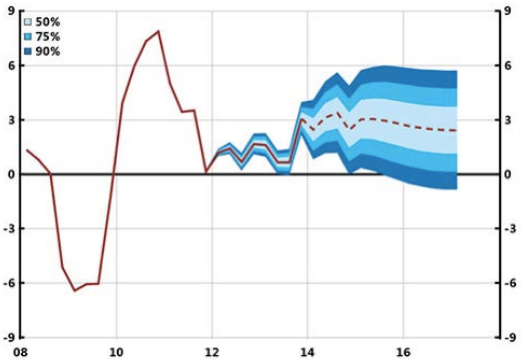


Diagram 5.3.11a GDP Growth with uncertainty range. Source: Sveriges Riksbank (2014)
(% - Change in volume per year)

Likewise can R&D expenditures be a potential indicator for demand of Venture Capital (Gompers & Lerner, 2004). The last year's development of R&D expenditures in Sweden (diagram 5.3.11b) (SCB, 2013), could indicate a growing demand for Venture Capital. However, entrepreneur's activities outside corporations are not included in R&D statistics, and I am therefor personally skeptic of R&D as an indicator of demand.

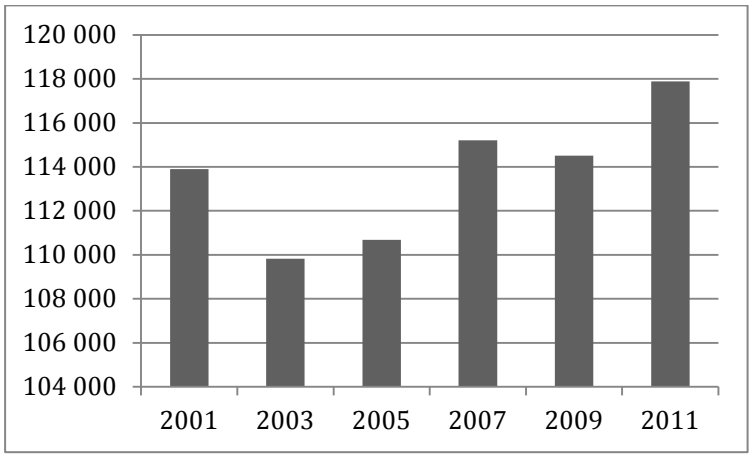


Diagram 5.3.11b R&D Expenditures. MSEK. Source: SCB (2013)
(Constant prices. Reference year 2011)

Further, interest rates might affect the supply of Venture Capital (Gompers & Lerner, 2004). The interest rates in Sweden are low now (Diagram 5.3.11c) and according to Sveriges Riksbank (2014); the inflation is expected to remain low also during the next year because of proactive monetary policies in order to increase inflation towards the target. According to the theory, the low interest rate should have a positive effect on the supply of Venture Capital and the expected increase the contrary effect. However, a low interest rate is generally a sign of recession, and the Venture Industry generally takes on a new lease of life in a boom. Accordingly, the Supply is not likely to be significantly affected negatively by the predicted increase in interest rates.

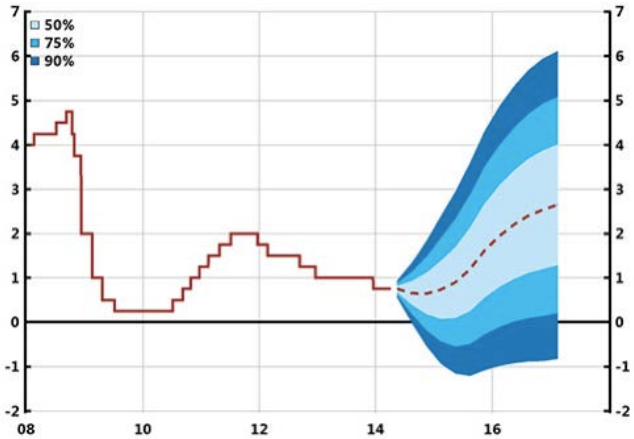


Diagram 5.3.11c Prime rate with uncertainty range. Source: Sveriges Riksbank (2014)
("Reporänta", %, quarterly averages)

We are now in the beginnings of an economic recovery. We are starting to get better opportunities on the stock market, which makes it possible to do IPOs. In a few years, perhaps, the rate of return for Venture Capital increases, resulting in to new actors

entering the industry (Interviewee A). Consequently, if the economy grows and the conditions for exits improve compared to the previous years, the return as well as the access to capital are likely to increase.

5.3.1.12 Investors taking over

Investment in early phases requires that somebody is willing to continue to invest in the next step. Sweden are in short of actors that are willing to continue to invest and it is therefore a risk that many companies do not reach their final goal (Interviewee B). There are however some fund structures that are very good at managing the early phases and take them to the next, where another actor takes over, and understands the dynamics of this type of investment (Interviewee F). The Venture Capital industry for early phases is often seen as critical for the success of later phase investments, since early phase funds provide critical financing to new firms in infancy (Gompers & Lerner, 2004).

5.3.1.13 Risk

Financial products can be differentiated based on the risk-reward ratio, since the rate of return is linked to inherent risk. Risk can be linked to several environmental factors based on geopolitical and economic conditions, which implies that financial products continuously develop with changing risk characteristics (Finacle 2011). The risk adjusted return for early phase investment has been low historically, which creates a risk/reward asymmetry that favors investments in later phases (SVCA, 2014a). It is safer to invest in later phases where market and product has been confirmed and verified (SVCA, 2009). The high risk that investing in early phases imply consequently doesn't respond to what many investors are looking for and accordingly, risk affects invested capital. Today, we especially face the problem of finding financing for the bigger technical investments since a lot of time and capital is needed and the risk is high (Interviewee E).

5.3.1.14 Companies not continuing to the next step

According to Interviewee B, the availability of capital is not the main problem, but that too many companies do not continue through the system and to the next phase. A company that seeks capital too many times with the same business plan will fatigue potential investors, and draw them towards later phases where verifications and breakthroughs already are made. Sweden has further received some critics for being bad at commercializing. We have many patent applications, and many small companies, but have not been able historically to manage the growth companies (Interviewee H). More companies continuing to the system and an improvement in commercialization could consequently eventually increase profit and in turn access to capital and vice versa.

5.3.2 Profit/return

Some Interviewees believe that returns will increase slightly within the next couple of years (Interviewees A, C & D) while for example Interviewee B believe that profit, or return on investment, won't be better than before. According to Interviewee B, Venture Capital funds usually have one star, some good and some bad investments, and that will equal quite ok profit, but almost never a superior one. Nevertheless, fewer actors and more reasonable input prices in combination with, hopefully, more experienced and realistic actors and an economic upswing could indicate a slightly better return on investment in the future.

Dependent factor	Interviewee
Exit timing	A, B, C, D
Exit conditions	C, F, H
Initial Valuations	C, E, G
Economic Climate/Market conditions	A, D, H
Investment Strategy	F, H
Experience	C
Phase	F
Industry	F
Good Entrepreneurs	H

Table 5.3.2 Profit/return

5.3.2.1 Exit timing

The timing of exit is more important than anything else for the return. It is consequently not possible to say that the industry will be much more profitable in general, according to Interviewee C, since it depends on the timing of exits. The exit market was good in 2000/2001, 2006/2007 also had very good potential, and hopefully we will reach that state in the next two years. A good timing usually results in good money and good return on investment. This applies to both IPO and Trade Sales (Interviewee C).

5.3.2.2 Exit conditions

The M & A market has been very weak for several years, but time to time, it has been possible to make exits. Bigger companies should start to feel a bit safer now, they are profitable, their stocks are rising and have a lot of cash, which could imply that they are more likely to buy companies, which could result in a better exit market (Interviewee C). According to the latest statistics from SVCA (2013a), presenting the second quarter of 2013, the reported number of exits is already increasing. This is in line with the expectations presented in previous reports. SVCA's assessment is further that the exit activity will continue to increase due to the reclaimed investment and exit need to the funds (SVCA, 2014a).

5.3.2.3 Initial valuations

To understand the base of Venture Capital investments, supply and demand also need to be discussed. Supply of Venture Capital is dependent on the expected rate of return. The higher expected return, the higher desire by Investors to supply. Accordingly, the price in theory is the expected rate of return on new investments in Venture (Gompers & Lerner, 2004). Further, more players in relation to the number of attractive deals increases initial valuations and vice versa (Interviewee C). Higher initial valuations require higher exit values to make a profit, a vice versa, so consequently do initial valuations affect the return on investment.

5.3.2.4 Economic Climate

When the economy picks up, it is usually easier to list company or to make industrial sales, which are essential in order to make a return on investment. In an Investigation of the Venture Capital Industry made by SVCA (2012a), the Venture Capital firms themselves stresses the macroeconomic situation and the economy as the greatest causes for concern going forward. This concern further confirms the economic climates influence on the Venture Capital industry. Sweden are now in the beginnings of an economic recovery, and are starting to get better opportunities on the stock market, which makes it possible to do IPOs (Interviewee A), which could imply that the rate of return for Venture Capital investments increases in a few years.

Funds raised during and just after the bubble of 2000 will nevertheless include some bad performance. Funds raised during the latter part of the first decade, 2005 and later, however have the potential to do better and therefor, according to Interview C, should people who raise funds today, and not do ok, not raise funds anymore.

5.3.2.5 Investment Strategy

Venture itself has through has over the past turbulent years figured out what teams who has the potential to create value. At the same time, many teams have been forced to shut down due their history and Track Record. It is crucial, for a Venture Capitalist, to understand the dynamics of this type of investment, including what types of investments that suit the conditions of a funding concept. Accordingly, Venture Capitalists have been forced to refine their models; they have learned in order to survive (Interviewee F).

"Looking at the U.S. Venture Capital industry, there are always some people who are really good at finding the right companies and that's not luck, it's skills, expertise and a feeling for business" – CEO, VC fund (Interviewee A)

A common mistake made by Venture Capital actors is to invest too much money in too early phases, not even knowing if the plan will get through the first customer meeting (Interviewee D). In the early phases, according to Interviewee H, you need to be Street Smart and efficient and focus on modeling the business model to test if it works, before investing too much money. A Venture Capitalist needs to find confirmation from customer and market, not just run as fast as possible. The average size of each investment has decreased during the last years (Appendix 2), which confirms that the Venture Capitalists now make smaller investments, likely because of what they learned from history. According to Interviewee H, the amount of money for each investment is likely to further decrease during the following years.

A new way of working is to ask companies for references from customers instead of a business plan. This could increase the likelihood reach the market and a good development, regardless what kind of financing you are looking for, relative the more obsolete way of sitting at the office and theorizing (Interviewee D). Another way of working is to make the initial investment smaller, but saving money for follow up investments, and to invest in far more Cases than in the past but also shut down quickly and efficiently when it is not working. According to Interviewee D, this might be the recipe to increased profitability within the Venture Capital industry. To invest smaller amounts in the Seed phase, and when they can verify the product invest some more, and further more when further progress is made could hence be the salvation for the industry. By doing so, you can participate also in later phases, and even if you cannot

defend your share, you can join further investments (Interviewee H). Larger amount of capital should only be invested when you find a team with a verified business model that show they can deliver (Interviewee D). Interview H illustrates this strategy with a funnel. The funnel is wider in the beginning, but the investment small. Later, when verifying the technique and market, the size of investment increases.

Historically, most funds invested broadly in terms of geography, size, phase, industry etc. However, the Venture Capitalists who managed to survive the crisis were those who were niche in various industries and people then realized that what was not "Core" was usually what went bad. Today most funds, especially the private financed, are specialized, working in certain geographic, sizes, industries etc., and thereby defining choice of investment (Interviewee G). Today Investors are also more selective, and only invest in the companies who stand out (Interviewee F).

Once the financial investment is made, the Venture Capitalists continue to take an active role in the development of their portfolio firms (Isaksson 2006), which consequently make the time after an initial investment equally important. Venture Capitalist counsel the companies though the development, but also give access to relevant stakeholders and other actors though their network (Cumming, 2010). Generally, the Venture Capitalist also sits on one or several boards of directors in the portfolio companies (Haislip, 2011). According to Peltoniemi (2011) are actors who have access to a broad and diverse personal network, and thereby receiving support, more successful, which could imply that the network around the Venture Capitalists is of equal importance to the Start-ups as the advice given.

5.3.2.6 Experience

The Venture Capital industry has been through a tough development during the last decade, and the ones who have managed the industry over several years, are now quite seasoned and experienced. They know what it takes to make business in early phases and have finds ways to survive, regardless if investing in Life Science, Healthcare or something else. One of the main lessons learned from history is what forms of investment that suits the conditions of a funding concept, including the life span of a fund (Interviewee F). Meanwhile, the industry has been through a tough process also the Venture Capital firms remaining today has made their losses; Volvo Venture Capital, Industrifonden, Incap, SEB etc. (Interviewee E). The returns may soon increase as result of the experience received during the last years, according to Interviewee A, since the experience players now know what it takes to make business in early phases. In addition, actors who have access to a broad and diverse personal network, and thereby receiving support, are more successful according to Peltoniemi (2011), which confirms the relevance of experience.

5.3.2.7 Phase

The risk, and consequently the risk-adjusted return, is partly dependent on the phase invested in. Seed, which include financing for research, assessment and development of an initial concept (SVCA, 2011), have a high risk since the idea often is far from finished or verified by customers. However, the capital need is limited at this point, which implies a smaller investment, and a smaller possible loss, compared to later phases (Isaksson 2006). Start-up includes financing for product development and initial marketing (SVCA, 2011) and at this phase cost starts to rise dramatically, which increase

capital need and the size of investment (Isaksson, 2006). The risk is significantly lower, but in relation to possible loss still higher than what many investors are looking for.

Interviewee	Phases
A	- Start-up, but most money will always end up in Expansion. Hope for more in Seed
B	- No clear statement. Expansion financing has problems
C	- No clear statement. Escape is over.
D	- From mature to earlier phases. - Dependent on total capital and public players
E	- Trend towards earlier phases
F	- No clear statement
G	- Returns in later phase, Expansion phase, will increase.
H	- Largest amount are invested in early phases but more capital in later.

Table 5.3.2.7 Phase

Historically, the risk-adjusted returns for an early stage investment has been low and it has consequently been difficulties to meet required returns, which is reflected in the strong development towards later phases. Generally, the uncertainty is bigger the earlier phase the investment is made. The risk / reward asymmetry consequently encourage investment in the later stages, making especially the private Venture Capital players to stay away from the riskiest and earliest stages. Unless reforms that alter the conditions and reduces the risk / reward asymmetry of investment in the early stages, will also future investments by private investors be few (SVCA 2014a; SVCA, 2014b).

Several GP's, previously working with Venture Capital, has moved later phases or Buyout, which lately has presented higher returns as well as less risk (Interviewee D). However, the trend is now going towards earlier phases, according to interview E. Too much capital, in relation to the number of attractive deals, in later phases has made it difficult to find good companies. Together with a gap in earlier phases, the move is self-generated. Also Interviewee A and E think that capital will be pushed towards earlier phases during the following years. It is however important to keep in mind that the earliest phases has received almost nothing lately (Interviewee D).

A potential move towards earlier phases is dependent on the total amount of invested capital, according to Interviewee D. The possibility for a future trend from mature to earlier phases is consequently stronger if we face an increase in the Private Equity industry as a whole. Interviewee B confirms, saying that early phases will find money if there are capital in the system. According to Interviewee E, good companies in early phases will find capital since there is a lot of money available now.
The high risk of investing in early phases, however, still doesn't respond to what many investors are looking for and the access to capital in early phases is therefor likely to remain limited (Interviewee H). Nevertheless, has public funding a greater purpose and a greater responsibility in early phases, since it's in everyone's interest to bring forward talented youth companies (Interviewee H), and a continued increase in public contribution could therefor imply more investments in early phases.

5.3.2.8 Industry/Sector

The allocation of capital from investors across different sectors is at least partly influenced by recent relative performance according to Gompers & Lerner (2004).

Upcoming Industries	Interviewee
IT	A, B, C, D, H
Software	A, E, H
Consumer products	C, H
Communication	A, H
Cleantech	A, B
Hardware	A
Life Science	A
New Materials	A
Battery technology	A
Grafen	D
Apps	D
Internet related	G
Internet solutions for Industrial players	G
Med tech	H
Energy savings	H
Advanced Industry products	H

Table 5.3.2.8 Industry

According to empirical data, Venture Capital firms are likely to invest in IT, Software, Consumer products and communication during the next years. Together with other sectors included in the so-called ICT sector, it is considered an attractive industry because of the fast development (Interviewee G), scalability (Interviewee E), short time to market and limited capital need (Interviewee C). According to Hans Otterling, Partner at Northzone, three technology areas especially interesting now; Game development, financial services and technology related to e-commerce. Within financial services, apps consolidating with various banking products such as savings and loans look promising and within e-commerce, he looks for techniques simplifying the purchase and stimulating sales (Malmqvist, 2014). Further, Cleantech was very attractive for a period, but the hype has past by since they faced major difficulties in meeting required returns of investment (Interviewee H). A politically driven environmental engineering fund is, nevertheless, planned for the near future, according to Interviewee G.

Over time, fewer investments have been made in capital-intensive industries such as Cleantech, semiconductor and pharmaceutical and more investment has been made in the less capital-intensive industries such as IT and media (SVCA, 2014a). The rotation of sector can partly explain the decrease in invested capital and if this trend continues, it might cause a further decline of Invested capital (Interviewee A).

The market changes all the time, and what seams good today might be useless in only two years. It is consequently important to keep up with the market, to be in the market, and to understand not only what works today, but also what has the potential to be good in a few years (Interviewee C). The last couple of years the trend has gone from investing in traditional companies to invest in media related which in addition could explain a part of the decrease in total invested Venture Capital (Interviewee A).

5.3.2.9 Good Entrepreneurs

It is usually difficult find good entrepreneurs since entrepreneurial skills are hard to learn from an education, or from a completely different job and according to Interviewee H, it is a special kind of individuals working and succeeding within this field. Further, the companies that follow the process of Seed, Start-up and Growth within the intended timeframe rarely have problems; while companies secure financing several times on the same business plan, without going forward in the process definitely do (Interviewee B). This confirms the importance of a good entrepreneur, since the entrepreneur(s) and/or founder(s) of the companies most likely have an important role in the companies' development.

5.3.3 Informal Venture Capital

Informal Venture Capital, also referred to as Business Angels or Angel investor, is referring to private investors, typically active or former entrepreneurs, who invest private equity in business Start-ups (SVCA, 2014b). Seen from a macroeconomic perspective, Informal Venture Capitalists provide extremely valuable resources for the economy by offering their money and competences in order to develop new innovative businesses (Isaksson, 2006). Business angels also refer to as" high-net -worth individual". These actors are usually old entrepreneurs and/or investors who have made a lot of money in earlier investments and are now willing to invest their own money in Venture. Wealthy private families, with large private fortunes, also help and invest in different configurations (Interviewee C). There is no reliable statistics for this segment, since Investments made by private individuals, as Business angels, are not registered is Sweden. Some estimation however show that business angels now are investing more money than professional Venture Capitalists, but this cannot be proved due to the lack of statistics. However, it is obviously important to consider activity by these types of players since they are included in the total private capital funding of investments in early phases, even if not shown in statistics (Interviewee E).

To seek financing from Venture Capital firms and Business angels are no longer the only options for Start-ups. So called Crowd funding, when many small investors together invest a bigger amount of money together in a Start-up project, is increasing Interviewee E). Difficulties of raising capital in traditional ways has developed a market for crowd financing, and the access to internet and social media makes has made it possible for entrepreneurs to reach out to the whole world in a fast and inexpensive way. In addition, Crowd funding is often a great way for an entrepreneur to test the quality of the business idea (Social innovation, 2014).

5.3.4 Uncertainty

We can try to predict the future, but trends are unreliable and future developments generally uncertain. By ranking key factors identified in the previous step by their degree of uncertainty and impact, the most critical drivers can be identified (e.g. Schwartz, 1996; Van der Heijden, 2005). Uncertainty was not discussed during data collection, so it's my personal interpretation that we in this study face uncertainty in primary the macroeconomic environment. The choice is motivated by that the macroeconomic environment has a significant impact on Exit conditions (Interview H), which in turn is one of the primary drivers of return (Interviewee C). Moreover, return is, according to empirical data (e.g. Interviewee A, B & D) as well as theory (Gompers & Lerner, 2004), the most important driver of activity in the Venture industry.

5.4 Scenario generation

This study is based on an exploratory view, which implies that possible developments are identified regardless of their desirability. The final scenario presented in the end of this chapter is representing a probable, or likely, future of the Venture Capital Industry, based on the current known trends and events.

5.4.1 Initial scenario theme

An initial scenario theme (Schoemaker, 1995) is constructed by putting the positively influential elements in one row, and negatives in another. In particular, key factors and trends are identified and the effect on Invested capital and access to capital and return is considered (table 5.4.1).

Positive influence	**Negative influence**
• Economic recovery • Improved exit conditions • Profitable bigger companies → better conditions for trade sale • Stock market (better conditions) • Increasing exits • GDP growth → increased activity • New Creandum fund • New Northzone fund • Increased public contribution • New public initiatives • Many entrepreneurs • References instead of business plan • History has sort our less performing • Experience → lessons learned • Buyout market saturated • Industries with limited capital needs • Industries with short to market • Industries with unique features • Industries with scalability • Low demand → Low initial valuations • Refined investment strategies • Smaller initial investments • More but smaller investments in Seed • Investments that suit the fund concept • Invest "core" • Selective investments • Bigger funds • Not invest in hypothesis • Ask for references – customer verification • Trend towards earlier phases	• Alternative investments has higher returns and less risk • Funds raised around 2000 • Volatile industry • Interest rate development? • Poor returns • Big technical investments – not suited • Less investments in early Phases • LP's are risk avoidant • Bad track record → to create trust takes time • Few VC firms → limited investments • Dependence on foreign capital • Poor commercialization

Table 5.4.1 Initial scenario theme

5.4.2 Complementing data

In the process of Scenario generation, Interviewees were contacted again and asked to provide their subjective opinion on the three most influential key factors for Invested Capital and Return on Investment, ranked one to three. In addition, new stakeholders were contacted to collect additional input. The new answers received were remarkable similar to the ones identified in analysis, which confirms the validity of previous interviews including less specific questions.

5.4.1.1 Invested capital

	1	2	3
C	Return	Public capital	Trust from Investors
D	Capital market	Return	Trust from investors
E	Capital market	Public capital	Return
G	Return	Capital market	Trust from Investors
H	Good entrepreneurs and good ideas/companies	Return	Exit market
I	Return*	Capital market**	Trust from Investors
J	Risk adjusted Return (absolute)***	Robustness/Stability	Return (relative)

Table 5.4.1.1 Strongest influence on Invested capital

Comments:

* Difficulties to meet required returns are the primary causes for the difficulties to raise new capital, which has resulted in a significantly lower amount on Venture Capital firms (since 2000), and consequently less committed capital. To create a new trust takes time.

** A critical mass is needed to make worthwhile for LPs allocate the time it takes to make DD for Venture Capital funds. Too small investments in large pension funds has a limited effect on the total return, regardless how profitable the pension fund is.

*** The Venture Capital industry is exciting, foreword thinking and includes interesting industries (e.g. Biotech). The industry has not made returns in relation to risk historically, but people will forget that during the next boom. Therefore, money will come back. There are already some signs of this as small cap companies with "Sufficiently good potential of being successful" are doing pretty well. Success cases are extremely important, since they create optimism.

5.4.1.2 Return

	1	2	3
C	Exit timing/ conditions	Initial valuations	Good entrepreneurs
D	Exit timing/conditions	Phase	Good Entrepreneurs
E	Industry	Good Entrepreneurs	Exit timing/conditions
G	Good entrepreneurs	Strategy/experience	Exit timing/conditions
H	Good entrepreneurs	Initial Valuations	Exit timing/conditions
I	Phase*	Strategy**	Good entrepreneurs
J	Risk willingness***	Access to capital****	Strategy/experience *****

Table 5.4.1.2 Strongest influence on Return

Comments:

* Generally, the risk of investing in early phases is underestimated. It is a problem of "the unknown unknowns", but generally the return increase as a function of the phase.

** Strategy/experience also includes in the choice of industry and the ability to find good entrepreneurs.

*** Risk willingness, "risk appetite", is important since a proactive investment strategy though for example a fast expansion has the potential to generate a significantly higher profit than a reactive strategy.

**** Access to capital is important since follow up investment most generally are needed to develop a Start-up. E.g. If five Venture Capital funds have invested in a Start-up, but only one of them has the resources to provide additional funding when needed, the whole company affected negatively. A certain volume is needed to reach a critical mass.

*****Invest in companies with attractive business models, e.g. a model with Recurring revenues.

5.4.3 Trend analysis

Through previous analysis, complementing data and *intuitive judgments,* four underlying key factors are identified. The four key factors combined, represents all key factors presented in the previous chapter (5.4.2 Complementing data).

- Financial climate
- Public capital
- Current activity
- Strategy

The following table (5.4.3) presents the key four factors, as well the possible effects on return and invested capital.

	Trend	**Access to capital**	**Return**
Financial climate			
Exits	Increase		↗
Optimism	Increase	↗	
Trust (LP's)	Increase	↗	
Risk appetite (GP's)	Increase		↗
Risk appetite (LP's)	Increase	↗	
Capital market	Increase	↗	
Current activity			
Venture Capital firms	Few	↘	
Invested capital	Low	↘	
Competition	Low		↗
Initial valuation	Low		↗
Strategy/experience			
Strategy	Improved		↗
Phase	Later?		↘
Industries	Improved		↗
Entrepreneurs	Improved		↗
Public capital			
Public capital	Increase	↗	

Table 5.4.3 Trend analysis

5.4.3 Scenario Matrix

The Scenario Matrix is a deductive approach, regarded as one of the most analytical and exhaustive ways to build scenarios from an outside-in perspective (Van der Heijden, 2005). Two dimensions are included in the model, in this case return on investment (5.4.1.1) and financial climate (external factor). Each dimension is projected with an extremely positive and an extremely negative outlook, outlined by the x and y axes of the matrix (Schwenker & Wulf 2013).

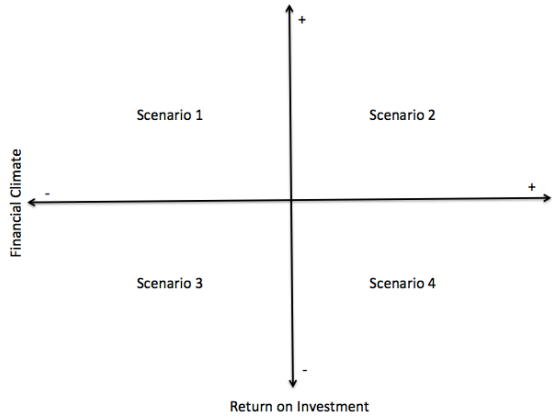


Figure 5.4.3a The Scenario Matrix (Van der Heijden, 2005)

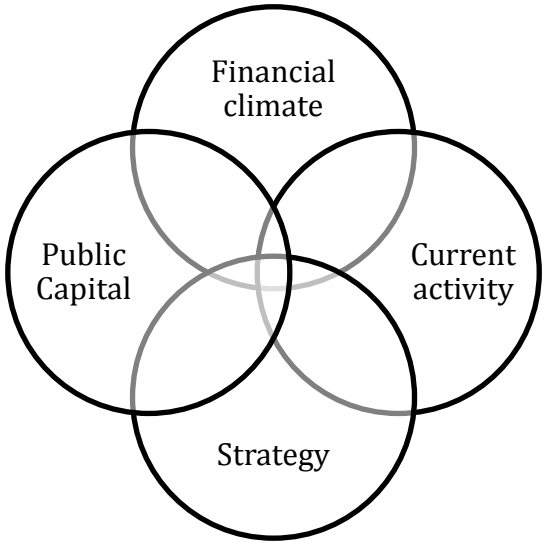
Scenario 1 assumes a negatively developed financial climate and an improved return on investment during the next couple of years. This scenario has internal inconsistency since return is at least partly dependent on a well-functioning exit market, which in turn is a function of a beneficial financial climate. Further, forecasts predict a growing GDP, which indicates an improved financial situation, the contrary of this scenario. Scenario 3 also simulates poor financial climate, but in relation to poor returns of investment. This scenario is internal consistent, but since the economic climate is expected to improve not relevant. Scenario 1 and 3 are due to lack of relevance and/or internal consistency excluded for further analysis.

Scenario 2 assumes improved return on investment and an improved financial situation. This scenario is internal consistent and relevant, since return on investment is dependent on the exit market, which in turn is influenced positively of a beneficial economic climate. However, this development is not certain since the Venture Capital Industry has presented poor returns also in good times. Scenario 4 simulates a good financial climate and poor returns on investments. This combination is, based on the same underlying principles, also internal consistent and relevant.

A majority of the interviewees considered a slightly improved, or unchanged, return on investment for the next years, which makes it highly unlikely that return on investment would reach an extremely positive or negative value. Therefore, I have decided to put the financial climate as the only predetermined factor for the final scenario generation. This solution will likely have the highest credibility and consistency based on the given conditions, and consequently present the most probable scenario.

5.4.4 A probable Scenario

The objective of this study is to build and analyze possible future scenarios for the Venture Capital Industry in Sweden based on interviews with professionals and available secondary data. The analysis followed a four-step Scenario analysis process, including a deeper analysis of certain key factors, in particular Invested Capitan and return on investment. The last step of scenario generation included multiple steps and techniques, which generated more knowledge, but also uncertainties, than could be included in a single scenario. I therefor choose economic growth as a predetermined condition (5.4.3 Scenario matrix), adding knowledge from previous analysis. The scenario includes intuitive judgments, opinions and subjective probability estimates, which according to Fildes and Allan (2011) are incorporated in the applied judgmental forecasting method. The scenario is further based on an exploratory view, which implies that I have identified possible developments regardless of their desirability.

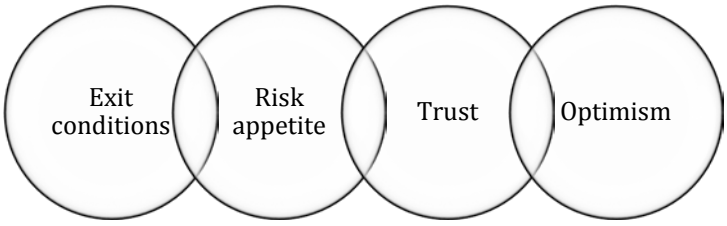


Difficulties to meet required returns are the primary causes for the difficulties to raise new capital, which has resulted in a significantly lower amount on Venture Capital firms since 2000, and less committed capital. It took time for the 2000 crash to fade out, but it is now considered to be behind. Macroeconomic factor affect the supply and demand of Venture Capital, and accordingly also the activity within Venture.

We are now in the beginning of an economic recovery and the forecast present a further improvement of the economic situation during the next couple of years. When the economy picks up, bigger companies will start to feel safer as they are more profitable, their stocks are rising and they have a lot of cash. The good conditions will make them more willing to buy smaller companies, especially with technological and innovate ideas, which accordingly will improve the conditions for trade sales. In addition, the stock market is now starting to open up for IPO's, which makes it easier to list companies. The number of exits is already increasing, and this trend will continue due to the reclaimed investment and exit need of the funds. The improved *exit conditions* will affect the Venture Capital Industry positive by creating opportunities to make good returns and attract new investors to the industry. The economic outlook will further create a

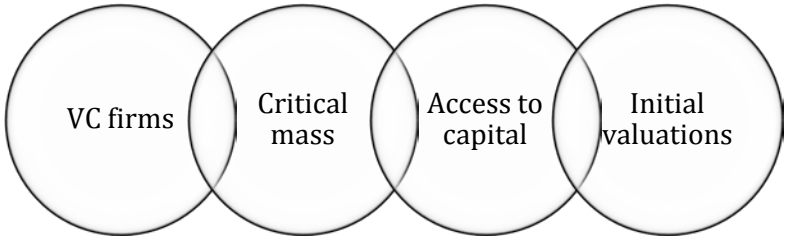
common *optimism,* and more convincing argument for GP's when approaching investors. Success cases are extremely important when trying to raise new capital, and after the "exit of the year" in a few years, people will be more willing to join the upcoming funds.

The last years poor track record and difficulties to meet required returns, has caused a lack of trust and risk avoidant behavior from investors (LPs). *Trust* is considered as one of the main key factors for invested capital, since it is necessary in order to raise new capital from investors. The 2000 crash strongly affected the whole industry for several years, but it will soon be considered as behind. In addition, the Venture Capital industry is exciting which will make people forget about the bad track record during the next boom. A good economic climate consequently increases the *risk appetite*, making investors more willing to invest in Venture and Venture Capitalists more willing to undertake a proactive investment strategy.



Financial climate

Creandum and Northzone, two early phase Venture Capital firms, have just raised two new funds of approximately 3.2 billion SEK. Together with Industrifonden, they represent what is left of the Venture Capital industry in Sweden. The industry is currently undoubtedly under-established; expressed through low activity, low competition for investment objects and good access to attractive investment opportunities. The low competition and demand for investment objects implies low initial *valuations* but moreover that only the very good entrepreneurs get funding, which increases the likelihood of success. However, the under-established Venture Capital industry also implies a number of problems and limitations. Firstly, a *critical mass* is needed to make worthwhile for bigger investors to allocate time and personnel for Due Diligence of Venture Capital funds. Further, *access to capital* is important in order to be able to provide follow up investments, which is most generally needed to develop a Start-up. Accordingly, a certain volume of Venture Capital is needed to reach a critical mass and to attract new capital, which will limit the short-term growth of the Venture Capital industry.



Current activity

The trend is now going towards *earlier phases*, and the trend will continue as the total *capital market* grows. The risk-adjusted returns for early stage investments will slightly increase due macroeconomic factors and refined strategies, but alternative investments

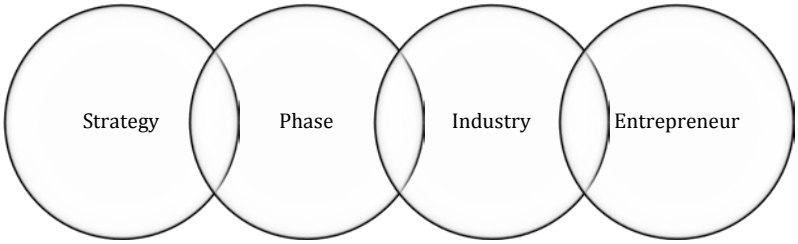
in later phases will present a higher risk-adjusted return on investment also in the future. Therefore, the increase of private capital invested in Venture will remain limited. The positive trend of *public capital* contribution will however continue, partly since public capital has other incentives than pure financial, and accordingly serve a greater purpose in the early stages. Sweden needs new types of technologies that can create completely new industries. Sweden needs a new Elekta and a new Gambro. It could be argued that these types of investment should not be financed with Venture Capital, since they usually never meet required returns. Nevertheless, it is an incentive for the government to provide financing to early stages investments also in the future.

Public Capital

Invested capital is further affected by the Venture Capitalists and entrepreneurs contribution to the return on investment. As mentioned, there are few active Venture Capital firms today, but they are also more experienced. The Venture Capital industry itself has through has over the past turbulent years figured out what kind of investments that suits the Venture Capital concept. Subsequently, investment *strategies* have been refined and less performing Venture Capital firms sort out.

A successful future Venture Capitalists will invest "Core" i.e. in a specific geography, size, industry and/or similar, and only invest in ideas and entrepreneurs with high potential and attractive business models. The future Venture Capitalist will further doesn't underestimate the risk of investing in early phases and therefor he will "Phase his investment" by make smaller initial investments, and second and/or bigger investments only when the idea is verified and confirmed by the market. Smaller investments will be made in the earliest phases, but also in larger amounts of cases and ideas that does not develop will be shut down develop quickly and efficient. The future Venture Capitalist chooses an *industry* that suits the Venture Capital concept; generally industries with limited capital, short time to market, scalability and unique features. ITC industry, including IT, Computer games, commercial applications of software, advanced industrial products/services, financial services, e-commerce etc. will be attractive also in five years, complemented by newer technologies. Clean tech has previously faced difficulties of meeting required returns, but also meet a greater value in a global level for many people. Cleantech will therefore be favored for Venture Capital investments in a couple of years, especially though public funding, since other parameters than pure financial are considered. Because of the Venture Capitalist way of working, he will present slightly better returns in the future. The refined strategies also imply less risk, which earlier has been one of the main concerns for the Venture Capital Industry. As mentioned, a good strategy includes the ability to find a good entrepreneur. A future good *entrepreneur* will understand the importance of market confirmation and therefor present references from customers instead of business plans when searching for financing. He also understands the importance of following the process of Seed, Start-up

and Growth within the intended timeframe, as time cost money, fatigue investors and decreases profit.



Strategy

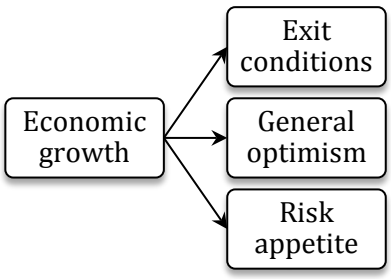
Accordingly, the return on invested capital will increase slightly during the next 5-7 years. The primary reason is the increased number of exits, stimulated by economic growth, and refined investment strategies. The activity within the Venture Capital Industry will also increase slightly during the next 5-7 years, based on increased returns, public contribution and positive influences from the economic growth (e.g. Risk appetite and optimism). The public capital will account for the full increase, while private contribution will remain limited since the high does not respond to what many private investors are looking for. Nevertheless, will the informal Venture Capital likely be an even more valuable resource for the economy, in the development of new innovative businesses.

6. Conclusion

The objective of this study was to build and analyze a possible future scenario for the Venture Capital Industry in Sweden based on interviews with professionals and available secondary data. The analysis had an exploratory view, which imply that I have identified possible developments regardless of their desirability. However, a majority of stakeholders interviewed is Venture Capitalists themselves, and several of them stated that Venture Capitalists generally are very optimistic regarding the future. It is accordingly highly probable that this scenario is influenced by their optimistic attitude, and that the positive influence of certain key factors are overestimated.

I will now conclude the outcome of my analysis regarding the next 5-7 years, excluding the limitations set for the final scenario generation, as well as suggest topics for further research.

The difficulties to meet required returns are the primary causes for the difficulties to raise new capital, which has resulted in a significantly lower amount on Venture Capital firms since 2000, and less committed capital (Interviewee I). We are now in the beginning of an economic recovery; GDP growth was unexpectedly high in the fourth quarter of 2013, and the forecast present a further improvement of the economic situation in the next couple of years (Sveriges Riksbank, 2014).



The impact of economic growth on the Venture Capital Industry

When the economy picks up, it is generally easier to make exits through an IPO or an industrial sale (Interviewee H), which create opportunities to make good returns and attract new investors to the industry. In Sweden, bigger companies should start to feel safer as they get more profitable, which makes them more willing to buy smaller companies with technological and innovate ideas. Accordingly, the conditions for trade sales are likely to improve in an economic growth. In addition, the stock market is starting to open up for IPO's, which makes it easier to list companies (Interviewee C). According to last year's statistics, the number of exits already shows a positive trend (SVCA 2013a). The exit activity is further likely to continue due to increase due to the reclaimed investment and exit need of the funds (SVCA, 2014a). The improved exit conditions will most probable affect the Venture Capital Industry positive though better returns, which attract new investors and improve access to capital.

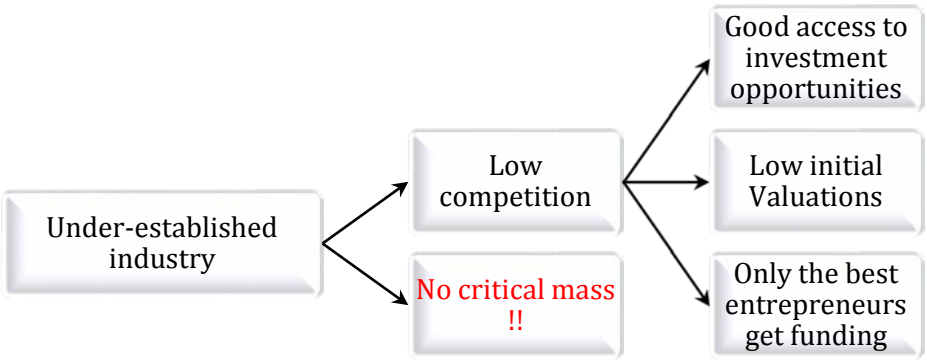
The economic outlook creates a common optimism as well as a convincing argument used by GP's when approaching investors. The economic recovery further creates opportunities for new success cases, which are extremely valuable when trying to raise

new capital. After a so-called "exit of the year", investors become significantly more willing to join an upcoming fund (Interviewee J), which accordingly increases the likeliness of better access to capital. There are some signs of improvements already as small cap companies that have so-called "Sufficiently good potential of being successful" are doing pretty good again (Interviewee J). Accordingly, macroeconomic factors have several direct and indirect consequences on the Venture Capital industry (Gompers & Lerner, 2004). In fact, macroeconomic factors can rejuvenate a financial product development (Finacle, 2011), which imply that the last years declining curve not necessarily will continue.

Regardless a lot of optimism, it is hard to ignore that the risk-adjusted returns for early stage investments historically been low (SVCA, 2014a). The volatile development pattern, in combination with a poor track record and difficulties to meet required returns, has caused a lack of trust from investors. Trust is considered as one of the main key factors for invested capital, since it is necessary in order to raise new capital from investors (Interviewee C). Investors tend to be more risk avoidant in a poor economic climate; in particular, the 2000 crash strongly affected the whole industry for several years. However, the Venture Capital industry is exciting and forward oriented, and even if the industry has not made returns in relation to risk historically are people likely to forget the bad track record during the next boom. In addition, a good economic climate increases the appetite for risk, making investors more willing to invest in Venture and Venture Capitalists more willing to undertake a proactive investment strategy (Interviewee J). Consequently, the poor track record, low trust and risk avoidant behavior will likely fade after a number of success cases, which in turn generates an increased activity in the Venture Capital industry.

Generally, the uncertainty is bigger the earlier phase the investment is made, which creates a risk / reward asymmetry favoring later phase investments (SVCA, 2014a). Accordingly, capital has moved towards later phases, i.e. Buy-out, since the finance crises in 2008 (SVCA, 2014a). The trend is now going towards earlier phases, and the trend is expected to continue, especially if the total activity within Venture Capital increases. It is however important to keep in mind that the earliest phases has received almost nothing lately (Interviewee D).

Creandum and Northzone, two early phase Venture Capital firms, have just raised two new funds of approximately 3.2 billion SEK in total (Malmqvist, 2014). Together with Industrifonden, they represent what is left of the industry (Interviewee A). The Swedish Venture Capital industry is undoubtedly under-established, expressed through low activity, low competition for investment objects and good access to attractive investment opportunities (SVCA, 2013a). A low competition and demand for investment objects implies lower initial prices but also only the very good entrepreneurs get funding, which increases the likelihood of success.



Consequences of the under-established industry

However, the under-established Venture Capital industry also implies a number of problems and limitations. Firstly, a critical mass is needed to make worthwhile for bigger investors to allocate time and personnel for Due Diligence of Venture Capital funds. Too small investments in Venture Capital by big investors have a small influence on their total return of a fund, regardless how good the Venture Capitalists perform (Interviewee I). Further, access to capital is important in order to be able to provide follow up investments, which is most generally needed to develop a Start-up. Without access to enough capital when needed, the whole start-up could end up worthless. Accordingly, a certain volume of Venture Capital is needed to reach a critical mass and to attract new capital. Few Venture Capital firms further limit the number of investments as well as the growth of the industry, especially in short term (Interviewee J). More Venture Capital funds are likely to reduce these negative effects, and further be positive for the Venture Capital firms despite increased competition.

When the economy is growing, conditions are generally more attractive for entrepreneurs (Gompers & Lerner, 2004) and the demand for Venture Capital may accordingly increase during the next couple of years. However, at the moment, demand is not an issue since the industry is, as previously mentioned, considered to be under-established characterized by low competition for investment objects and good access to attractive investment opportunities (SVCA, 2013a). The risk-adjusted return on investment required by many private investors is at a level that Venture Capitalists historically have not been able to provide (SVCA, 2014a). Consequently, there is a reason to believe that many entrepreneurs cannot supply this level of return, which imply that the real demand by entrepreneurs, and accordingly supply of attractive investment objects, is lower.

Approximately 60 % of last years invested capital in Venture was financed by public capital (SVCA, 2013b), and the significant increase in contribution of public capital, compared to earlier years, has accordingly counteracted an even stronger decline of invested capital. This trend is likely to continue (Interviewee H). Public capital often has other incentives than pure financial and a greater purpose in the early stages. Sweden needs new types of technologies that can create completely new industries. Sweden needs a new Elekta and a new Gambro. However, these types of investment are hard to

finance by any Venture Capital, since they usually require money that does not require a return is needed, e.g. research support (Interviewee E). Nevertheless, it is an incentive for the government to provide financing to early stages investments also in the future. The increase in total Invested capital will however be limited, since the contribution of private capital is predicted to decrease further (Interviewee H).

Invested capital is also affected by the Venture Capitalists and entrepreneurs contribution to the return on investment (e.g. Interviewee G). As mentioned, there are few active Venture Capital firms today, but they are also more experienced. The Venture Capital industry itself has through has over the past turbulent years figured out what kind of investments that suits the Venture Capital concept and further what teams who has the potential to create value (Interviewee F). Subsequently, investment strategies have been refined and less performing Venture Capital firms sort out (Interviewee E). So what is a good strategy?

- To invest "Core"; define your choice of investment by working in a specific geography, size, industry and/or similar (Interviewee G).
- To be more selective and only invest in the ones who stand out (Interviewee F).
- To "Phase your investment". Make smaller initial investments, and second and/or bigger investments only when the idea is verified (Interviewee H).
- To not invest in hypothesis. Ask for customer references instead of a business plan or test the idea early to fins confirmation from the market (Interviewee D).
- To not underestimate the risk of investing in early phases; generally the return increase as a function of the phase (Interviewee I).
- To look for companies/entrepreneurs with attractive business models, e.g. a model with recurring revenues (Interviewee J).
- To make smaller investments in a larger amount of cases, in the earliest phases, and shut the ones who does not develop quickly and efficient (Interviewee D).
- To choose an industry that suits the Venture Capital concept (Interviewee F).
- To look for ideas that could have potential in a few years. Realize that the market changes all the time so what looks very promising today could be useless in two years (Interviewee C).
- To look for good entrepreneurs, they are an important part of a Venture Capital firm's success (e.g. Interviewee H).
- To facilitate a network and access to relevant stakeholders (Cumming, 2010).

The ability to find good entrepreneurs is an especially important part of a good strategy, since entrepreneurs are considered as one of the most important factors for the return of investment (table 5.4.1.2). It is usually hard to find good entrepreneurs though general information presented in a CV, since entrepreneurship is hard to learn in school, as well as from having an ordinary job. However, the trend towards presenting references from customers instead of business plans is likely influence the entrepreneur's way of working positively (Interviewee D). In addition, Sweden has historically been bad at commercializing. We have a lot of patent applications and a many small companies, but have not been able to manage the growth companies all the way to the market (Interviewee H). Accordingly, a lot of the money spent on development is, from an economic perspective, a bad investment. By following the above mentioned advises, given by experienced Venture Capitalists, the Venture Capital Industry could potentially present better returns in the future. The refined strategies

also imply less risk, which earlier has been one of the main concerns for the industry.

The choice of industry is further an important part of a good strategy, since many industries' does not suit the Venture Capital fund concept (Interviewee F). Industries with limited capital need, short time to market, scalability and unique features are generally good choices (Interviewee C), while regulated industries that requires heavy investments are less suited. The ITC industry will likely remain attractive, including IT, Apps, Computer games, commercial applications of software, advanced industrial products/services, financial services, e-commerce etc. (Interviewee G; Interviewee A; Interviewee D etc.) Clean tech has faced difficulties of meeting required returns, but meets a greater value in a global level for many people (Interviewee H). The industry may hence be favored for Venture Capital investment, especially though public funding, since other parameters than pure financial are considered.

Nevertheless, the informal Venture Capital (e.g. Business Angels and Family Offices) will likely continue to provide a valuable resource for the economy and in the development of new innovative businesses. There is no reliable statistics for this segment today, since investments made by private individuals are not registered is Sweden but some estimation suggests that so-called Business Angels now are investing more money than professional Venture Capitalists. It is obviously important to mention their activity, since they likewise fund and provide support for companies in early phases (Interviewee C; Interviewee E; Social innovation, 2014).

The Interviewees believe in good conditions and/or in a slightly increase of Invested Capital in Venture during the next years, but uncertainty is expressed and the common belief is a very limited increase (chapter 5.3.2). The most common belief is that the activity within Venture Capital, i.e. invested capital, is primary an outcome of performance, i.e. return on investment (table 5.4.1a). Accordingly, the big Venture Capital funds have an important burden of proof presented forward in order to create a further interest for investing money in Venture Capital.

6.1 Further research

This thesis has an exploratory view, which imply that I have identified possible developments regardless of their desirability. However, a majority of stakeholders interviewed are Venture Capitalists themselves (table 2.2.2), and several of them stated that Venture Capitalists generally are very optimistic regarding the future. It is accordingly highly probable that this scenario is influenced by their optimistic attitude, and that the positive influence of certain key factors are overestimated. In the end of the day, the access to capital is dependent on the LP's willingness to invest in Venture. The analysis included several factors of LP's behavior; however, more interviews with LP's would likely provide a more accurate view. Therefore, I suggest that future research should focus more on the LP's behavior.

Public financing has increased during the last years, starting from a very low level ten years ago. Today, 60% of the invested capital is invested by Public contributions (SVCA, 2013b). Accordingly, the public contribution is highly relevant to include in future research to a greater extent than before. In particular, it would be valuable to look at the possible return on investment, including job creation and economic growth.

Further, the public funding has a greater purpose and a greater responsibility, since it is in everyone's interest to bring forward talented youth companies, especially the types of technologies that can create a completely new industry. These types of projects are however risky, and hard to fit into a fund concept. Further research could therefor investigate if it is possible, and if not, how these projects could be financed.

7. References

7.1 Published sources

Börjeson, L., Höjer, M., Dreborg, K-H., Ekvall. & T & Finnveden, G., 2006. Scenario Types and Techniques: Towards a user's guide. *Elsevier.* Futures 38 (2006) 723–739.

Bishop, P., Hines, A. & Collins, T., 2007. The Current State of Scenario Development: An Overview of Techniques. *Foresight.* VOL. 9 NO. 1 2007, pp. 5-25.

Bryman, A. & Bel, E. 2011. *Business Research Method.* 3rd ed. New York: Oxford University Press.

Cumming, D., 2010. *Venture Capital: Investment Strategies, Structures, and Policies.* New Jersey: John Wiley & Sons Ltd.

Dunn, M. & Nguyen, M.-T. 2009. *Some Methods for Scenario Analysis in Defence Strategic Planning.* Canberra: DSTO Defence Science and Technology Organisation.

Finacle, 2011. *Understanding the Financial Product life cycle.* India: Infosys limited.

Fildes, R, & Allen, P.G., 2011. *Forecasting*, SAGE benchmarks in social research methods, vol. 5, London: SAGE Publications Ltd.

Gompers, P. & Lerner, J., 2004. *The Venture Capital Cycle.* 2nd ed. Massachusetts: Massachusetts Institute of Technology Cambridge.

Haislip, A., 2011. *Essentials of Venture Capital*. New Jersey: John Wiley & Sons Ltd.

Isaksson, A., 2006. *Studies on the Venture Capital Process.* Umeå: Print & Media, Umeå University.

Kosow, H. & Gabner, R., 2008. *Methods of Future Scenario analysis*. Bon: German Development Institute.

Lindgren, M. & Bandhold, H., 2003. *Scenario Planning: The link between future and strategy.* New York: Palgrave Macmillan.

Metrick, A., 2007. *Venture Capital and the Finance of Innovation*. New Jersey: John Wiley & Sons Ltd.

Peltoniemi , M., 2011. Reviewing industry Life-Cycle Theory: Avenues for Future Research. *International Journal of Management Reviews.* Vol. 13, 349–375.

Phelps, R., C. Chan, C. & Kapsalis, S. C., 2001. Does scenario planning affect performance? Two exploratory studies. *Journal of Business Research.* 51, 223–232

Schoemaker, P. J. H., 1995. Scenario Planning: A Tool for Strategic Thinking. *Sloan*

Management Review. 37(2): 25-40.

Schwartz, P., 1996. *The Art of the Long View: Planning for the Future in an Uncertain World.* New York: Doubleday Publishing.

Schwenker, B. & Wulf, T., 2013. *Scenario-based Strategic Planning. Developing Strategies in an Uncertain World.* Wiesbaden: Springer Gabler.

Van der Heijden, K., 2005. *Scenarios: The Art of Strategic Conversation.* Chichester: John Wiley & Sons Ltd.

7.2 E-books and other electronic sources

Connect, 2014. *Affärsängelnätverk och Investeringar.* Elmoznino, L, M., Svensson, L., Wennberg, K., and Berglund, H. [pdf] Stockholm: Connect. Available at: <http://3teb2c1lwdxt239e7o8ayp21cy2.wpengine.netdna-cdn.com/wp-content/uploads/2014/04/Ratio-Affärsängelnätverk-och-investeringar.pdf> [Accessed: 2014-05-19].

Creandum, 2014. *Who we are* [online]. Stockholm: Creandum. Available at: <http://www.creandum.com/about-us/> [Accessed: 2014-04-19].

DI 2014a. De håvar in riskkapitalet. . [online]. Stockholm: Dagens Industri. Available at: <http://www.di.se/artiklar/2014/1/10/de-havar-in-riskkapitalet/> [Accessed: 2014-05-19].

DI, 2014b. Riskkapitalet rasar för femte året. [online]. Stockholm: Dagens Industri. Available at: <http://www.di.se/artiklar/2014/2/24/riskkapitalet-rasar-for-femte-aret/> [Accessed: 2014-05-19].

Industrifonden, 2011. *About Industrifonden* [online]. Stockholm: Industrifonden. Available at:< http://www.industrifonden.se/english/about-us/about> [Accessed: 2014-04-19].

Malmqvist, Mats, 2014. Vändning väntar för riskkapital. [online] Stockholm: Computer Sweden. Available at: <https://computersweden.idg.se/2.2683/1.553480/vandning-vantar-for-riskkapital> [Accessed: 2014-05-19].

Myndigheten för tillväxtpolitiska utvärderingar och analyser, 2013. *Riskkapitalmarknaden i Sverige 2013*. [pdf] Östersund: Tillväxtanalys. Available at: <http://www.tillvaxtanalys.se/download/18.320c7b5e142572b4109323/1384523790714/Statistik_2013_07.pdf> [Accessed: 2014-05-15].

Northzone, 2014. Learn [online] Stockholm: Northzone. Available at: <http://www.northzone.com/learn/about-us--2> [Accessed: 2014-04-15].

SCB, 2013. *FoU-utgifter i Sverige.* [online] Stockholm: SCB. Available at: <http://www.scb.se/sv_/Hitta-statistik/Statistik-efter-amne/Utbildning-och-forskning/Forskning/Forskning-och-utveckling-i-Sverige---oversikt-internationella-

jamforelser-mm/8719/2012A01P/FoU-utgifter-i-Sverige-fasta-priser/> [Accessed: 2014-05-19].

Shell, 2003. Scenarios: *An Explorer's Guide.* [e-book] London: Shell. Available through: Shell International website < http://s05.static-shell.com/content/dam/shell/static/public/downloads/brochures/corporate-pkg/scenarios/explorers-guide.pdf > [Accessed 2014-05-19].

Social Innovation, 2014. *Crowdfunding – en ny och innovativ finansieringsform?* [online] Malmö: Social Innovation. Available at: <http://www.socialinnovation.se/sv/crowdfunding-en-ny-och-innovativ-finansieringsform/> [Accessed: 2014-05-19].

SVCA, 2009, *Riskkapitalåret 2008*. [pdf] Stockholm: SVCA. Available at: <http://3teb2c1lwdxt239e7o8ayp21cy2.wpengine.netdna-cdn.com/wp-content/uploads/2014/04/Riskkapitalåret-2008_för-webb.pdf> [Accessed: 2014-05-19].

SVCA, 2011, *Riskkapitalåret 2010.* [pdf] Stockholm: SVCA. Available at: <http://3teb2c1lwdxt239e7o8ayp21cy2.wpengine.netdna-cdn.com/wp-content/uploads/2014/04/SVCA-Riskkapitalåret-2010.pdf> [Accessed: 2014-05-19].

SVCA, 2012. Private Equity Outlook Q3 2012. [pdf] Stockholm: SVCA. Available at: <http://3teb2c1lwdxt239e7o8ayp21cy2.wpengine.netdna-cdn.com/wp-content/uploads/2014/04/SVCA-Private-Equity-Macro-Outlook-Q3-2012.pdf> [Accessed: 2014-05-19].

SVCA, 2013a, Analys av riskkapitalmarknaden. Fjärde kvartalet. 2012. [pdf] Stockholm: SVCA. Available at: <http://3teb2c1lwdxt239e7o8ayp21cy2.wpengine.netdna-cdn.com/wp-content/uploads/2014/04/SVCA-Aktivitetsrapport-Q4-2012.pdf> [Accessed: 2014-05-19].

SVCA, 2013b Analys av riskkapitalmarknaden, Första kvartalet 2013 [pdf] Stockholm: SVCA. Available at: <http://3teb2c1lwdxt239e7o8ayp21cy2.wpengine.netdna-cdn.com/wp-content/uploads/2013/04/AT-Q1-2013_Final.pdf> [Accessed: 2014-05-19].

SVCA, 2014a. Riskkapital i siffror. [online] Available at: <http://www.svca.se/sv/Om-riskkapital/Om-riskkapital/Riskkapital-i-siffror/>[Accessed: 2014-03-02].

SVCA, 2014b. *Angels, Venture and Buy Out – Who is who?* [online] Available at: <http://www.svca.se/en/About-VC/About-VC/Angels-venture-and-buyout---who-is-who/> [Accessed: 2014-03-02].

Sveriges Riksbank, 2014. *Aktuell prognos för reporänta, inflation och BNP.* [online] Stockholm: Sveriges Riksbank. Available at: <http://www.riksbank.se/sv/Penningpolitik/Prognoser-och-rantebeslut/Aktuell-prognos-for-reporanta-inflation-och-BNP/> [Accessed: 2014-05-15].

Appendix 1. Interview Guideline

Original

- Berätta lite om dig själv och vad du sysslar med? (Främst VC relaterat)
- Vad, och hur, tror du främst kommer påverka utvecklingen för VC industrin och vad kommer bli mest attraktivt att investera i de kommande fem till sju åren ur ett VC perspektiv, och hur tror du det kommer påverka;
    - Tillgång till kapital?
    - Avkastning?
    - Vilka industrier?
    - Segment/Fas (Sådd? Start-up? Expansion?)
    - Storlek (totalt investerade kronor)
    - Antal Investeringar
- Varför tror du att storleken på VC industrin minskat de senaste åren?
- Tror du att nedgången i VC har påverkat det svenska innovationsklimatet och antal nya innovationer i Sverige?
- Hur tror du att VC de kommande fem till sju åren kommer påverka det svenska innovationsklimatet och antal nya innovationer?

English

- Please introduce yourself and tell me a bit about what you're doing? (Primary VC related)
- What do you think primary will affect the development of the VC industry (5-7 years ahead), and how will it affect;
    - Access to capital
    - Profitability
    - Industries invested in
    - Segment/Phase (Seed, Start-up? Expansion?)
    - Size (total invested SEK)
    - Number of Investments
- Why do you think the size of the VC industry has decreased in recent years?
- Do you think the downturn in the VC has affected the Swedish innovation climate and the number of new innovations?
- How do you think the VC industry during the next five to seven years will affect the Swedish innovation climate and the number of new innovations?

Appendix 2. SVCA Data

Sweden 2007-2012 Annual Results

Investments - Market Approach (by location of portfolio company)*

(in SEK x 1,000)		AS 2007			AS 2008			AS 2009			AS 2010			AS 2011			AS 2012			AS 2013	
PHASE DISTRIBUTION OF INVESTMENTS BY EQUITY VALUE* **	**Amount ('000SEK)**	**No. of INVs*** ***	**No. of Cos** ***	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**
Seed	150 035	98	87	165 464	44	35	67 514	38	35	43 823	8	8	23 294	15	14	72 075	44	36	32 413	31	27
Start-up	2 163 385	369	227	2 521 797	340	202	1 467 698	322	221	1 430 451	433	279	1 159 926	310	232	878 487	300	229	788 075	259	179
Later Phase Venture	1 603 295	184	117	2 097 183	167	87	1 522 666	120	67	1 222 142	123	64	1 176 926	177	78	1 000 536	168	110	965 404	212	132
Total Venture	**3 916 715**	**651**	**410**	**4 784 444**	**551**	**299**	**3 057 877**	**480**	**316**	**2 696 417**	**564**	**341**	**2 360 145**	**502**	**322**	**1 951 098**	**512**	**371**	**1 785 892**	**502**	**334**

Sweden 2007-2013 Annual Results

Investments - Industry Approach (by location of private equity firm)**

(in SEK x 1,000)		AS 2007			AS 2008			AS 2009			AS 2010			AS 2011			AS 2012			AS 2013	
PHASE DISTRIBUTION OF INVESTMENTS BY EQUITY VALUE* **	**Amount ('000SEK)**	**No. of INVs*** ***	**No. of Cos** ***	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**	**Amount ('000SEK)**	**No. of INVs**	**No. of COs**
Seed	137 519	98	87	130 079	44	36	51 828	35	33	101 059	9	9	20 011	13	12	47 698	40	35	55 125	33	30
Start-up	2 141 619	385	248	2 095 933	349	225	1 559 089	323	228	1 394 450	430	293	1 136 893	297	239	733 602	284	234	855 070	251	188
Later Phase Venture	1 679 927	191	133	2 253 264	186	103	1 466 209	115	70	1 174 147	119	70	1 066 133	156	87	1 110 626	172	118	926 907	217	140
Total Venture	**3 959 064**	**674**	**447**	**4 479 276**	**579**	**337**	**3 077 126**	**473**	**326**	**2 669 656**	**558**	**363**	**2 223 037**	**466**	**335**	**1 891 926**	**496**	**384**	**1 837 102**	**501**	**354**

Sweden 2007-2013 Annual Results

Divestments - Market Approach (by location of private portfolio company)*

	AS 2007		AS 2008		AS 2009		AS 2010		AS 2011		AS 2012		AS 2013	
VENTURE DEALS, DIVESTMENT BY EXIT ROUTES (in SEK x 1,000)	**No. of DIVs******	**No. of Cos*******	**No. of DIVs**	**No. of COs**	**No. of DIVs**	**No. of COs**	**No. of DIVs**	**No. of COs**	**No. of DIVs**	**No. of COs**	**No. of DIVs**	**No. of COs**	**No. of DIVs**	**No. of COs**
Divestment by Trade Sale	57	36	25	17	28	25	14	10	27	21	19	10	6	6
Divestment by Public Offering	10	9	1	1	10	6	14	7	11	7	5	5	4	4
Divestment by Flotation (IPO)	3	2	0	0	1	1	0	0	3	1	1	1	1	1
Sale of Quoted Equity	7	7	1	1	9	5	14	7	8	6	4	4	3	3
Divestment by Write-Off	9	6	5	3	14	9	9	9	13	11	23	19	13	13
Repayment of Silent Partnership	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Repayment of Preference Shares/Loans	1	1	4	3	1	1	0	0	0	0	4	4	4	4
Sale to Another Private Equity House	6	6	10	9	3	3	7	7	3	3	6	6	1	1
Sale to Financial Institution	3	3	4	4	1	1	6	3	0	0	2	2	2	2
Sale to Management (Buy-back)	14	13	10	9	8	7	2	2	6	5	6	6	4	4
Divestment by Other Means	0	0	3	3	1	1	7	5	2	2	4	4	0	0
Unknown	9	6	0	0	1	1	0	0	1	1	0	0	7	6
Total Venture Deals	**109**	**78**	**62**	**48**	**67**	**53**	**59**	**41**	**63**	**49**	**69**	**55**	**41**	**39**

*Market statistics are an aggregation of figures according to the location of the portfolio company.
**Industry statistics are an aggregation of figures according to the country of the private equity firm's office in charge of the investment.
***Equity value: The amount of capital invested to acquire shares in an enterprise. The equity value includes equity, quasi-equity, mezzanine, unsecured debt and secured debt provided by the PE firm.
****Number of investments/Number of divestments
*****Number of companies' invested/divested in. If a company receives two investments/divestments during the year, the number of companies will equal one.

Appendix 3. Literature review

Step of Scenario process	Description	Author
Definition of scope/Framing	Define the scope: - Time frame - Scope of analysis - Purpose - Objectives - Rationale - Work Environment - Team - Attitude audience	Schoemaker (1995) Van der Heijden (2005), Shell, (2003), Schwartz (1996), Phelps et al. (2001), Schwenker & Wulf (2013), Bishop et al (2007)
Preparation	- Purpose - System to be analyzed - Question - Timeframe - History and current situation	Lindgren & Bandhold (2003) Schwartz (1998).
Identification of Scenario field	- Purpose - Method - Scope - Limits	Kosow & Gabner (2008)
Identification of key factors/Tracking	Identify variables, parameters, trends, developments, drivers and events that affect the scenario field and may have an impact on the focal question	Kosow & Gabner (2008), Lindgren & Bandhold (2003)
Generating/Scanning	Generating and collecting ideas, knowledge and views regarding the history, context and future.	Börjeson et al (2006), Bishop et al (2007)
Identify basic trends	What political, economic, societal, technological, legal, and industry trends are sure to affect the issues defined in the beginning?	Schoemaker (1995)
Identify the major stakeholders (Perception analysis)	Identify the major stakeholders and analyze their perceptions.	Schoemaker (1995), Schwenker & Wulf (2013)
Analysis of Key factors	Using the widening scenario "funnel" in which individual key factors are subjected to analysis to find what possible future salient characteristics are conceivable in each case.	Kosow & Gabner (2008)
Analyzing	Identifying drivers and consequences in order to understand how the identified trends interact. Analyze consequences and generate scenarios. Orienting. Delving deeper into creative and intuitively produced scenarios models and visions. First analyze trends and driver and then ranking them by importance and uncertainty.	Lindgren & Bandhold (2003), Schwartz (1998)
Identify key uncertainties	What events, whose outcomes are uncertain, will significantly affect the issues you are concerned with? Also identify relationships among these uncertainties	Schoemaker (1995)
Trend and Uncertainty analysis	Analyze the most important driving forces that affect the company or industry. Rank these factors by their degree of uncertainty as well as their importance and potential impact for the company. Identify the most crucial environmental drivers.	Schwartz, (1996), Van der Heijden (2005), Shell (2003), Schwenker & Wulf (2013)
Forecasting	Describing baseline and alternative futures:	Bishop et al (2007)

	drivers and uncertainties, implications, and outcomes	
Construct Initial Scenario Themes	- Identify extreme worlds by putting all positive elements in one and all negatives in another. - Cluster various strings of possible outcomes around high versus low continuity, degree of preparedness, turmoil, etc. - Select the top two uncertainties and cross them	Schoemaker (1995)
Check for Consistency and Plausibility	- Are the trends compatible within the chosen time frame? If not, remove the trends that don't fit. - Do the scenarios combine outcomes of uncertainties that indeed go together? - Are the major stakeholders placed in positions they do not like and can change?	Schoemaker (1995)
Develop Learning Scenarios	Identify themes that are strategically relevant and then organize the possible outcomes and trends around them.	Schoemaker (1995)
Identify research needs	Make further research if needed to clear out understanding of uncertainties and trends.	Schoemaker (1995)
Evolve toward Decision Scenarios.	Criteria of a good scenario: - Relevance (connect directly with the mental maps and concerns of the users) - Internally consistent - Archetypal (describe generically different futures, not variations on one theme) - Describe an equilibrium or a state	Schoemaker (1995)
Scenario Building	Previously identified key uncertainties are converted into distinct scenarios that describe different future states. Complement with other driving forces to create consistent and plausible stories about the future as well as possible developments that link the present to the specific picture of the future	Shell (2003). Van der Heijden (2005), Schwenker & Wulf (2013)
Scenario transfer	Consistent bundles of factors are brought together, selected, and worked up into scenarios	Kosow & Gabner (2008)

Appendix 4. Empirical data (overview)

	Invested Capital /Access to capital	**Returns**	**Industries**	**Phases**
A	- Increase <u>Dependent on:</u> - Public capital - Expected levels of return *"The activity within venture is dependent on, besides public capital, the probable levels of return. Are they low, the access to capital will be low as well".* *"Being negative in this business doesn't work, cause you would only see risks and never make any investments"* Number of investments: Increase	- Slightly increase <u>Dependent on:</u> - Market conditions - Cycles - Timing *"It wouldn't surprise me if returns are going up a bit. We now face the start of an improved economic cycle, and the conditions on the stock market make it possible to note companies. I believe, that during the next couple of years, maybe this year, and the next, returns will go up. And that might lead to new actors entering the industry."*	- New materials - Battery technology - IT - Communication - Hardware - Software - Cleantech - Life Science - Industry shift tend to create new businesses, i.e. New Start-ups - Not the classical industrial industries	- Start-up, but most money will always end up in Expansion *"I hope for more in Seed. Most money will end up in Expansion because that is when you need money. Looking at number of investments; most in Seed, less in Start-up, and even fewer in Expansion."*
B	- Slightly increase - Access to Capital is volatile <u>Dependent on:</u> - Public capital (especially early phases) - Expected Returns - Money in the system - Investors to take over in the next step - Trust - Foreign capital - Companies not continue to the next phase *"There will be money again. Northzone and Creandum has just raised new funds"*	- Not better than before <u>Dependent on:</u> - Timing *"Venture Capital funds usually have one star, some good, and some bad investments. That never equals ten times investment, but ok returns."*	- IT - Cleantech (in 5-7 years) *"Healthcare requires a lot of money, but are at the same time included in the public health care system and are used to R&D and not require Venture Capital from the first day"*	- No clear statement - Expansion financing has problems *"Seed can usually find money, since the required amounts are relatively small. Start-up can also find money, partly with the contribution on the innovation system e.g. Chalmers Invest. It's harder between Start-up and Expansion. It usually requires more money, and its sometime better to reach towards an industrial player instead of Venture Capital financing."*
C	- Will start to increase - Public capital will increase <u>Dependent on:</u> - Successful exits - The LPs Investment	- Slightly increase - Improved exit conditions <u>Dependent on:</u> - Exit conditions	- Industries with limited capital need, short to market and with strategic buyers - Consumer	- No clear statement *"There has been an escape towards later phases, but the escape is over since the later phases are getting full,*

	strategy - Public capital *"It has reached the bottom, and will start to increase again."* *"Today, very have few pure VC funds. The market is instead meet in other ways, and 60 % of all investments are made with public capital. E.g. Industrifonden, Fouriertransform, Almi. "* *"I'm a Venture Capitalist, I'm an optimist per definition".* *"Today, a lot of money are also invested by "high-net-worth individuals"*	- Exit timing - Initial Valuations - Experience *"Fewer actors, more reasonable initial prices and that people have got more experience could imply that returns are rising. The most important factor is however the exit market."* *"Today, the stocks are rising, there is a need to sell of and the bigger companies are starting to feel a little safer having more cash receiving better results which could imply that the bigger companies are more willing to buy companies, which improves exit conditions"* *"Funds raised during and after the bubble include bad performance, while funs raised during the second half of the first decade, 2005 and forward, have the conditions to do better"* *"I believe that if those who raise funds today not do better, they shouldn't raise anymore funds".*	oriented, IT based companies. *"The market is changing all the time, what's attractive today may be completely useless in two years. It's important to stay updated. "*	*making it hard to find attractive deals"*
D	- Slightly increase (guess) - It's very hard to raise funds in the earliest phases - Some signs that it might get better - There is room for an increase. <u>Dependent on:</u> - Track record - The capital market - Alternative	- Slightly increase *"Bad right now, it won't get worse, maybe a little better, or at least that's the hope"* <u>Dependent on:</u> - Exit timing - Economic climate *"By making initial investments smaller, you will have more capital to fill up with. Invest in far more cases than before,*	- Fast moving industries - IT - Apps - Grafen *"Soon, Grafen will be the big thing"* *"The lesson learned is that hypothesis-driven investments are hard to make though."*	- From mature to earlier phases. - If Capital increases, more investments will go towards earlier phases. - A number of public players invest in the earliest phases; Northzone, Industrifonden. *" If investments are*

	investments *"Historically, the Venture market has been cyclical, which is a problem in itself.* *"When its overheated, to much capital is competing for few attractive deals, which results in poor performance and eventually more difficult to raise money"* Number if investments: Increased number of initial investments, but making them smaller. (Note that Interviewee is working with the very early phases)	*but also shut down them quickly if the doesn't work. That's the key to profitability I believe. Once identify this approach, I believe people are able to succeed quite well. "*	*"When investing in an IT solution or an App, it's relatively less costly to test if it work, and if it doesn't, close it down. You don't need to invest 100 million SEK just to straighten out the question mark."* *"The knowledge and wisdom within Venture has developed a lot during the last 10-15 years. Back then, you could get a million of funding per Power Point page, which was total ridiculous. People invested on crazy condition. I think we have learned a lot from history."*	*increasing, capital will be pushed towards the earlier phases, and when investments decreases, capital is drawn back."*
E	- A lot of capital available, but though other types of players. <u>Dependent on:</u> - Return *"There is a also lot of private persons and family offices investing in these phases. They are not shown in any statistics, but invest quite a lot of money."* Number of Investments: More likely increase a little than decrease. Size of investments: Smaller	- No clear statement <u>Depends on:</u> - Initial Valuations *"When there is good access to capital, the prices get very high, meaning that it's costly to buy a company since there is so much capital available. When less capital is available, valuations go down".*	- Software *"Software is attractive, since getting your second customer isn't more costly than getting your first."* *"Looking at big critical engineering solutions, Venture Capital firms have historically lost a lot of money. The capital required is usually hundreds of millions, and the risk is high. However, from a social perspective, Sweden needs a new Elekta, and a new Gambro. Therefor, we need alternative types of funding, that doesn't require a return."*	- Trend towards earlier phases *"The trend is now going towards earlier phases, I have proof for that, it's not a guess and it's already happening. Since 2007, everyone has escaped from early phases and invests in later ones, but now they come back. Consequently, capital will be available in early phases too."* *"There is now too much capital in later phases and it's difficult to find good companies. There are too much capital, and too few good companies to invest in as well as a gap in earlier phases. Thereby, a move is self-generated"*
F	- Good conditions	- Good conditions for	- No clear	- No clear statement

	- Funds are raised in cycles, last years a lot of money was raised, and this year they will start to invest. <u>Dependent on:</u> - Exit market - Return *"There are a number of initiatives looking forward, but access to capital in the longer run is dependent on returns"*	todays actors to survive and make good returns. <u>Dependent on:</u> - Exit market - Strategy - Phase - Sector - Segment *"I believe that Venture itself has understood what teams who have the ability to create value, and some teams has been forced to close down because of their history and track record. I therefor believe that the teams left has very good qualifications to succeed and deliver a return"*	statement	*"The challenge is long lead times, and it's essential to find the type of investments that is suitable for a fund concept. This implies that it's very difficult to enter in very early phases"* *"Some funds structures are very good in managing early phases before handing over to the next player. To manage this, it's important to stay sharp and understand the dynamics of early phases"*
G	- Has reached a steady state. - Public capital will increase <u>Dependent on:</u> - Public Capital - Return *"A politically driven environmental engineering fund is planned"* *"The industry will grow through public capital. The increase in total Invested capita will however be limited, since the public investments are limited to about 100 million now and then."* Dependent on: - Returns	- Early phase and Seed will always generate poor returns. Expansion has better conditions. <u>Depends on:</u> - Initial Valuations *"Actors have learned to not pay to much. Many pitfalls has occurred because initial values are too high, problem are overlooked and focus has exclusively been on market potential. Today, further capital is instead put aside to be able to build a company on the idea."*	- Internet related - Internet solutions for Industrial players - B2B Concepts *"There are venture possibilities in all industries".* *"An internet-based solution becomes really valuable from a venture perspective when it got a global presence. Even if IT development is less costly than hardware, a lot of money will be spent on marketing. So Software is costly too."*	- Returns in later phase, Expansion phase, will increase. *"Early phase and Seed will always generate poor returns. People are too positive, believes too much in technique and don't see any problems. They are wrong, it takes a lot of time and that affects the return negatively. In addition, time implies high capital needs. Without capital, the idea eventually die"*
H	- Slightly increase, if exit conditions improve - Still limited access to capital in early phases, especially the private capital Dependent on:	- The economical climate is starting to take off, which makes it easier to make exits. Hopefully it gets even better. Dependent on:	- ITC - Hardware - Software - Commercial applications to consumer market - Med Tech - Energy savings	- Largest amount are invested in early phases but more capital in later. *"Public funding a greater purpose in early phases, and*

	- High risk - Financial climate - Exit market *"I'm an optimist concerning the stock market, and the possibilities to make exits. So hopefully, the access to capital increases."* Number of investments: Increase	- Exit market - Investment strategy - Economical climate - Capital Contribution in an early Phase - Good Entrepreneurs *"The exit market looking forward is dependent on the general economy. As soon as the economy rise, it's usually easier to list companies, or make industrial sales. There has been an improvement during the last year as well as a number of notes of smaller companies. So it has got better, and hopefully it will get even better as soon as the economy take off".* *"Actors have learned to invest less in early Phases, and to make 2nd investments when the idea is verified."*	- Advanced industry products Dependent on: - Scalability	*greater responsibility, or maybe not responsibility but it is in everyone's interest bringing out these companies, even if the risk is high and it's difficult to get traditional yield requirements as calculated."*