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The Funding Gap

Contractual Drivers of Risk in Private Venture Capital

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Abstract

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The Swedish private venture capital sector is one of the key providers of funds and knowledge to emerging firms and thus crucial for these start-up firms success. However, due to a recent increase in perceived investment risk related to this segment, venture capitalists operating in the Swedish market are deserting the start-ups in favor of other segments. This has caused the overall private venture capital start-up investments and prospects made in the since 2011 to decrease severely, leaving the entrepreneurs with more unattractive funding options.

In cases of similar shifts in the market, fund managers who address the phenomenon suggest a potential coherence between the drivers of incomplete contractual obligations and the direct risks of the funds. The potential coherence is said to be more significant in the case of innovative firms, which would explain the shift to some extent. The idea of coherence has also been addressed by previous research, however, a real connection has yet to be proven. This thesis aims to examine the presence as well as the strength of this potential coherence, which in turn may offer explanatory value to what extent contractual agreements could aid managers of both venture capital funds as well as entrepreneurs in their efforts to negate risks.

In order to address the purpose of the study, we chose to conduct an inductive case study of a number of investments made in the Swedish start-up segment by private venture capital from 2010 to 2013. The case study resulted in eight primary arguments, three of which addressed contractual agreement and five related to the funds' investment risk. These arguments were structured and analyzed based on contractual- and agency theory. The analysis revealed that there was a strong coherence between the drivers of incomplete contracts and risks experienced by the funds post-investment. We argue that this coherency might offer explanatory value to events like the previously mentioned drop in investments on the Swedish market. Lending support to both venture capital managers and entrepreneurs in creating more viable contractual agreements, which will also reduce risk and increase the willingness to invest in this sector.

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1. Introduction

This chapter aims to acquaint the reader with the Swedish venture capital market and its relation to entrepreneurial ventures. In addition to this, identified problems and focus is presented in a comprehensive manner aimed at addressing the target audience.

1.1 Background

Due to the global financial crisis and the burst of the IT-bubble, the beginning of the twenty-first century may be referred to as a "troubled decade" for the Swedish private venture capital market. Venture capital funds have suddenly found themselves in a harsher environment with periods of declining returns and severe exposure to investment related risk (SVCA, 2014). The recent experiences has left the private venture capital sector with a severe risk-averse attitude towards investing in the higher-risk start-up segment. A report published by the Swedish business community, *Svenskt näringsliv*, strengthens this idea by indicating an increased reluctance towards investments targeting innovative start-ups (Svenskt näringsliv, 2013). In addition, the Swedish venture capital community's (2013) latest report indicates that there are signs of a deteriorating trend regarding investments made since 2010. Particularly subjected to this trend are the innovative start-ups. Rydlinger (interviewed 25 Mars 2014), venture capital fund manager and entrepreneur, argues that these companies has fallen out of favor due to the initial yield-assessment that venture capitalists conduct pre-investment.

1.1.1 Introduction to the Venture Capital Funds Yield Assessments

In general, venture capitalists use many different assessment-tools in order to determine if an investment opportunity is viable. According to Talborn (interviewed 8 April 2014), chief economist at SVCA, it comes down to one simple equation which provides the investor with a single figure to a complex question, whether or not to invest.

$$\sqrt[t(years)]{E(1-risk) \times E(return)} = expected\ yield$$

Where E(return) is the expected return of a successful investment, E(risk) is an assessment of the variables affecting the general security of investment made. This is often conducted on an arbitrary- or template basis and t(years) is the estimated time until exit. The following example illustrates the use of this equation; an IT-startup investment has a 200 % return potential and the risk level is estimated to 20 % (suggesting that the estimated chance of success is 80 % (100 % - 20 %)) the time span is set to 5 years.

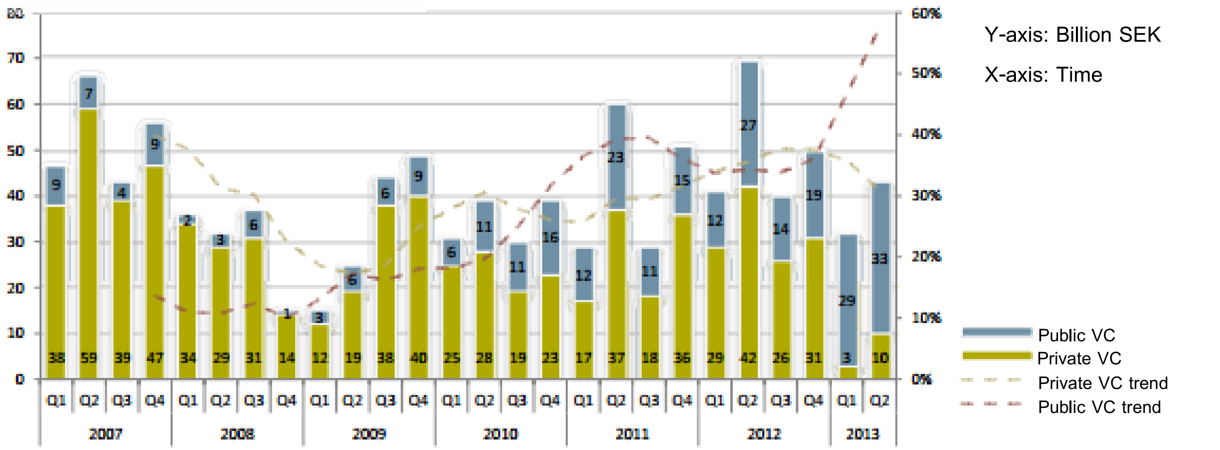
$$\sqrt[t(5)]{E(80\%) \times E(200\%)} \approx 10\%$$

In this particular example, a portfolio of several similar companies would have an expected return of 10 % a year. Which may be compared to other investment alternatives, indicating the particular opportunities relative viability. In order to derive the numbers from the equation, the investor must estimate the variables of which the risk-coefficient is deemed the most difficult variable to assess (Talborn, interviewed 8 April 2014). This makes investors keen to adopt a cautious approach when addressing the risk-variable and its underlying components. The impact of the risk variable is particularly evident in the case of venture capital demography.

1.1.2 The Shifting Demographics of Venture Capital

As the private venture capital is deserting the Swedish market, govermental intervention in the shape of public venture capital increases in order to fill the gap (Exhibit 1.1). Despite being subjected to the same market conditions as private venture capital, public venture capital is allowed to operate with differing yield expectations. This enables these actors to make investments with a higher degree of risk, which allows them to operate in the segments deserted by the private venture capital. Siewertz (interviewed 1 April 2014), CEO of Vestigum AB - funding venture capital, argues that public venture capital differs in several regards. These are primarely knowledge and business connections, traits of whom makes entrepreneurs more keen on acquiring private venture capital. Lööf and Bäckman (2014), both members of the Swedish parilment, state that public capital may only act as a temporary fix and should not be considered a long-term alternative. Hence, the Swedish market as well as the start-ups are dependent on private venture capital funds return.

Exhibit 1.1 Private- and Public Venture Capital Initial Investments



Source: SCVA report 2013.[1]

[1] Please note the one year lag in the chart; events occurred in Q4 2011 results in investments in Q4 2012

1.2 Problem Outline

As accounted for above, an increased reluctance by private venture capital to provide necessary funding to innovative start-ups is threatening to damage the sector, leaving entrepreneurs with other, less unattractive financing-options (Svensson, 2011). If permitted to continue, the trend threatens to further contribute to what Colombo & Grilli (2007) refers to as “the funding gap”, which may prevent business opportunities for these start-ups. This phenomenon of investment reluctance, experienced by the Swedish innovative start-ups is not unique. It has been scientifically addressed previously in cases regarding similar situations. In their thesis concerning this very subject, Young & Runhka (1991) argue that a general shift in the funds risk variables is the primary cause of this sort of trend. Suggesting that the situational state of low returns, partly due to external factors, gives rise to a risk-averse approach among investors. According to Reuer et al. (2006), contractual complexity in these often very high-tech companies makes binding agreements, as a mean of hedging the risks incurred, less viable. Hence, the ability to reduce risks using contractual means is not possible due to the problems associated with creating viable contractual agreements. The increased risk equals to a lower yield variable in the yield assessment-equation, making the fund unwilling to invest.

Strömsten & Waluszewskis (2012) further agree with the claim that contractual complexity might offer explanatory value in this regard. Suggesting that the implications of setting up contractual agreements with innovative start-ups in general may result in an elevated risk on the venture capitalists behalf. The elevated risk is said to be a result of an “incomplete contract” or a contract which is not able to regulate important post-investment events. Jeng & Wells (2000) thesis agrees with the previous rationale, specifically pointing towards the possible problems resulting from the presence of incomplete contracts. They argue that e.g. inability to practice necessary control as well as conflicting wills are contractually-preventable issues. Furthermore, Jeng & Wells (2000) questions whether the venture capital funds should stop focusing on addressing the direct risks head on. Instead, they propose the funds to reduce the contractual problems, which in turn may also decrease their direct risk exposure. Thus resulting in a higher expected yield, to the degree of which contractual- and direct risks correlate, which would in turn increase the attractiveness of these firms.

1.2.1 Problem Discussion

As accounted for above, the previous studies conducted within this field suggests a connection between the risk and drivers of incomplete contractual agreements, especially in the case of venture capital funds and their relation to the target firms. Also worth noticing is that the studies emphasize contractual agreements as one of the root causes of which gives rise to direct risks on the funds behalf. This would be a highly relevant concern within the industry. However, no study directly aims to or has yet to prove the actual connection between the two factors discussed, nor has this possible connections magnitude been assessed. Based on the question regarding contractual focus, raised by Jeng & Wells (2000), we argue that a study of which could prove or disprove a connection would offer significant explanatory value. Not only regarding the demographic shifts, but also in which ways venture capital fund managers may better understand the notion of investment related risks. It would also contribute to the previous studies conducted, partly unleashing their value by enhancing or weakening their claims. The potential findings of the study suggested will most likely also apply to the specifics in previous studies, especially concerning contractual implications and the specific direct risks and their individual relationships. Furthermore, bridging this gap in previous research may also lend aid to the actors involved, primarily the funds and the start-up firms. As they will be able to make better decisions and allocate resources to prevent investment-related risk based upon a higher degree of certainty of the outcome. That is, whether reducing contractual errors will reduce risk or not. To enable us to accurately address the problem at hand, the following purpose and research questions have been formulated.

1.3 Purpose of the Study

This thesis aims to explore the fundamental reasons for the private venture capital funds reluctance towards investments in innovative start-ups by addressing the underlying contractual agreements. It seeks to lend empirical support to the current scientific debate as well as increasing the general understanding of the contractual implications relation to direct risk. Offering guidance to whether contractual implications should be addressed by managers of funds and target-firms in order to reduce direct investment-related risk. From this purpose, the primary research question is derived;

To what extent do the implications of creating contractual agreements with entrepreneurs affect the direct risk of the venture capital funds?

To further isolate the different aspects affecting the main question and support the structure of the thesis, the following four sub-questions have been prepared:

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1) Which factors affect the quality of the contractual obligations with innovative start-ups?

2) To what extent are these factors causing issues in the contracts created by venture capital funds?

3) Which implications may originate from a lack of contractual prevention?

4) How impactful are these implications in relation to the direct risks of the venture capital funds?

1.4 Target Audience

Despite the focus being on the perspective of the venture capital funds targeting start-up firms, the target audience of this study can be broadened to include the managers of start-ups as well as venture capital funds with similar investment strategies. Supporting their understanding of contractual implications indirect impact regarding investment risk and the risk assessment process.

2. Theoretical Framework

Opening the chapter is an account of the previous research, upon which the study is grounded. Thereafter, detailed accounts on contractual theory and agent theory as well as their relation to and possible implication for the firm follows. Summed up by a theoretical discussion, tying back to the purpose of the thesis.

2.1 Previous Research

Although venture capital funds have long since operated in high-risk segments, research regarding contracts and their connection to the funds risk-variable is quite limited. Partly complementing the previous studies discussed in our problem outline above, this chapter address a total of four studies, of which claims with somewhat contradictory results. Strömsten & Waluszewskis (2012) thesis, concerning the relationship between the venture capital funds and bio-tech companies, suggests that incomplete contractual agreements may reflect on the direct risk of the fund to a large extent. Proposing that only a minority of the ventures undertaken could be regarded as entirely successful, or free from risk-increasing implications arising from pre-investment activities. In addition to this, the authors point towards certain implications occurring more often, such as objective differentials, in the process of interaction between the venture capital fund and the bio-tech company post-investment. Jeng & Wells (2000) study, surveying venture capital conditions in 21 countries, lends support to this idea by claiming that implications post-investment are likely to occur, if there are insufficient preventive actions pre-investment. Interestingly enough, they also debate whether standardized contracts in particular might be one of the prime causes of risk-increasing implications in general.

Hellmann & Puri's (2000) thesis, regarding start-ups in Silicon Valley, further elaborates on this by revealing a number of implications arising from pre-investment mistakes. The more extensive ones being replacement of senior management and quarrels regarding objectives of the firm. However, their findings are not uncontested as Triantis (2001) explores the contractual aspects of venture capital funds relation to start-ups in his article "Financial Contract Design in the World of Venture Capital". Supporting the thesis that contractual or pre-investment mistakes might affect the business relationship but seemingly disagreeing on the specific implications. Triantis (2001) argues that parties are willing and very capable of solving issues arising from contractual shortcomings, which would indicate that the contractual implications effect on the venture capital funds risk-variable are minor.

The research presented above is primarily based upon examining either the contractual- or the risk implications experienced by venture capital funds. In order to extend their findings while directly addressing our own specific research question, there was a need to incorporate both of the previous aspects. Hence, the theoretical base includes specific theory covering each of the two areas. That is contractual theory and principal-agent theory, aimed at explaining both the contractual implications and the post-investment risks experienced by the funds.

2.2 Contractual Theory

Contractual theory is closely tied to organizational theory and theories regarding interactions between parties, often investors (principals) and entrepreneurs (agents). It is argued that contract theory offers explanatory value regarding the reduction of problems arising from the interactions within business relationships (Cestone, 2001). However, writing contracts may also be afflicted by issues. In an article published by Kaplan & Strömberg (2001), the authors address contractual implications and primary the limitations of using contracts in a principal-agent relationship in the case of venture capital funds and entrepreneurs. They put forth three main obstacles which are preventing complete contracts between parties, these are *transaction costs*, *bounded rationality* and *asymmetric information*. They argue that an extensive presence of these factors may cause the contractual obligations to become too standardized. Therefore lacking the necessary detail and adaptation needed to prevent the problems which Cestone (2001) addresses, such as misunderstandings and disagreements between parties.

2.2.1 Transaction Costs

Costs that arise from economical exchange, such as conducting business with other actors are transaction costs (Williamson, 1979). The phenomenon may be divided into two smaller components, which characterizes a certain timespan within the process of doing business; namely before- and during contracting. These are labeled; *information costs* and *bargaining costs* (Williamson, 1979).

2.2.1.1 Information Costs

When striking a business deal, the contract will often be preceded by extensive examination of the different components involved (Bajari & Tadelis, 2001). In the case of venture capital, this would be the due diligence process.[2] The costs resulting from such an investigation often involves a substantial commitment of time and money, costs of which may not be recoverable (Bajari & Tadelis, 2001). Fama (1980) debates this in his paper "Agency Problems and the Theory of the Firm" in which he argues that information is crucial to success in the early stages

[2] The due diligence process is a full review of the target firm, including legal, financial and operational aspects.

of a principal-agent relationship. However, the information required is often expensive to obtain, which discourages investors, which may even be tempted to disregard the necessity of making an informed decision. Instead basing it on standardized- or template grounds or reducing other costs significantly (Fama, 1980).

2.2.1.2 Bargaining Costs

The most critical element in creating a complete contractual agreement is the negotiation between the investor and agent (Lowry, 1976). However, the costs incurred as a result of this phase might be extensive, especially regarding time-commitment. These costs vary depending on the extent of the deal, whether it concerns investments or purchases and which industry the parties operate within (Lowry, 1976). Argyres & Liebeskind (1999) addresses this phenomenon, in which they define the costs as reaching the middle ground between the initial *bid* and *ask*. They argue that investors often run a standardized form of bargaining, holding substantial bargaining power in contrast to the entrepreneur, this minimizes costs as well as the time committed. However, the standardized deal might suffer from lack of coherence and adaptation, which forces an increased monitoring presence post-contracting (Argyres & Liebesking, 1999).

2.2.2 Bounded Rationality

This potential obstacle suggests that the rationality of humans are limited by the information they possess. Hence, making an optimal decision is not always possible due to e.g. limitations concerning the parties' knowledge of future development, limited time and intellect (Radner, 1996). Therefore, according to Radner (1996), overweighing uncertainty will reduce parties' willingness to enter into binding agreements due to perceived risk being too great in comparison to the potential gain. Furthermore, in order to make a decision, a manager might risk simplifying the decision to an extent which displaces the information basis of the decision, leading to the manager making a choice based on chance instead of facts (Radner, 1996). Hence, complexity – both perceived and real – might cause the parties to ignore including important paragraphs in their binding contracts. Radner (1996) illustrates this by comparing it to the legal dispute settlement body, which often deals with interpretation of contractual agreements. As shown, in the cases where the parties disagree on the contractual obligations the causes are often disagreements originating from a lack of information pre-contract. Due to this *risk of generality* in contracts, parties might be tempted to create too detailed contracts or disregard them altogether (Radner, 1996).

2.2.3 Asymmetric Information

Information asymmetry occurs when one of the contracting parties has an information advantage in relation to her counterpart (Chiappori & Salanié, 2000). This enables the informed actor to deceive the other part and thereby attain more favorable contractual terms. Chiappori & Salanié (2000) argues that this advantage may arise on both sides of the principal-agent relationship, however, principals are perceived as more keen to avoid being deceived. This reluctance may result in unnecessary investigations of the agent's available information or contracts containing too detailed paragraphs, threatening to harm the relationship in the long run (Chiappori & Salanié, 2000).

Sharpe (1990) illustrates the asymmetric information phenomenon by observing lenders' interaction with their target segments. In which the lenders obtain an information advantage on their counterparts, in turn enabling them to negotiate more favorable terms and establish a *lenders market.* This forces the borrowers into a *race to the bottom*, knowingly agreeing to unfavorable terms to beat their competitors. This phenomenon is due to the other party's inability to make an informed decision to the same extent as the lender (Sharpe, 1990). Contrasting this, Trester (1998) illustrates the agent's information advantage in his article "venture contracting under asymmetrical information", demonstrating the phenomenon applied to the principal-agent relationship. He proposes that one party - often the agent - possesses more information regarding e.g. the company of interest and its possible faults. In denying to provide the principal (venture capital fund) with sufficient information, agents might acquire funds and benefits which they would not have received if the principal had a similar degree of information. Therefore, venture capitalists must be cautious in agreeing to specific terms pre-investment (Trester, 1998).

2.3 Principal-Agent Theory

Complementing contractual theory, which focuses on the pre-investment phase, the principal-agent theory elaborates on the commercial relationship between the principal (investor) and the agent (entrepreneur) post-investment. It aims to explain how the agent's actions and choices affect the principal. The theory lends support to the notion that entrepreneurs will not always act in the best interest of their investors, thereby giving rise to risks and problems on the principal's behalf (Jensen & Meckling, 1976). The model has been further developed to include several different aspects, which are suggested to affect the agent's behavior and its consequences. These aspects are presented below.

2.3.1 Adverse Selection

Akerlof (1970) launched the idea of "qualitative uncertainty" or *adverse selection* in his article "the market for "lemons": quality uncertainty and the market mechanisms". He argues that a business relationship between e.g. investor and investee is afflicted by unfair information. Whereas one actor possesses more information regarding a specific set of transaction objectives (Akerlof, 1970). This gives rise to contractual advantages both pre-contracting in the form of information asymmetries but also post-contracting, which is Akerlof's (1970) primary focus. He argues that the information advantages makes the lesser informed part unable to detect whether their better informed business partner is deceiving them. This notion is especially present in knowledge-based industries, where sharing information with external parties may be fatal. Levin (2001) elaborates on Akerlofs argument, claiming that the presence of adverse selection in the market will inevitably result in a general reluctance to conduct business within the segments afflicted by the phenomenon. The reasoning which is underlining the argument is that the lesser informed part's potential risk of a venture increases proportionally to the information gap between the parties (Levin, 2001).

Adverse selection might be present in any business relationship, but has a very strong presence in the principal-agent relation (Cumming, 2006). He argues that managers of smaller firms often have the opportunity of tricking their investors since the nature of the small firm gives rise to a secretive approach with little or no published information regarding its business activities. Hence, managers of small companies has a greater information advantage in comparison to larger firms, as they are obligated to notify external share and stakeholders to a greater extent (Cumming, 2006). In addressing the venture capital fund relations towards entrepreneurs in the principal-agent context, he suggests that the venture capitalists themselves may prevent the adverse selection by conducting a thorough examination of the target firm. However, this review might prove ineffective due to the agent's incentives to shirk or hide essential information in order to maintain the information disadvantages (Cumming, 2006). The adverse selection phenomenon might therefore result in the investor venturing into a relationship without proper backing. Being unable to base the expected return and general contractual agreements on an accurate risk-variable might prove to be fatal (Akerlof 1970, Cumming, 2006).

2.3.2 Moral Hazard

Mirrlees (1999) states that investments aimed at the agent firm increases the chance of the agent adopting a more risk-affine approach. This issue arises due to the relatively lesser stake that the agent carries in comparison to before the investment has been made. Due to risk-diversification, losses will also have lesser impact on the actors' individual wealth (Mirrlees, 1999). To illustrate the issue, he points towards a strong correlation between insured individuals risk-affine behavior in contrast the risk-averse behavior of the uninsured. Jensen & Meckling (1976) suggest that a lack of monitorial capabilities gives rise to the moral hazard situation. Claiming that possibilities to fully monitor the agent will offer full prevention of the issue. However, due to the practical difficulties involved, the principal must instead rely upon contractual agreements and reasonable monitoring, which do not completely prevent the phenomenon (Jensen & Meckling, 1976). Besides increasing the agent's willingness to gamble with the available funds, he or she might also be inclined to spend more on activities that have a weak correlation with corporate success (Mirrlees, 1999). Expenditure involving managerial benefits and prestige purchases are more likely to increase in relation to available funds and financier (Mirrlees, 1999).

2.3.3 Conflicts of Interest

Conflicting wills give rise to an underlying conflict-risk that may result in disagreements between the principal and the agent (Eisenhart, 1989). These conflicts of interest may give rise to serious problems regarding corporate activities, e.g. by halting production, R&D or sales. Eisenhart (1989) claims that the "conflict state" in the principal-agent relationship is to be considered the natural state due to the principal's direct interest seldom corresponds with the agents. She argues that the most troublesome aspect of these conflicts occur when the principal is investing funds into the agent's business. In which the principal becomes influential and not just monitoring, shifting the balance of power. The situation described illustrates the most basic of conflicts, the one between long-term and short-term yield. The investor allocates funds based on an investment horizon that is severely shorter than the agent's. Hence, paying dividends to shareholders or selling the venture might be short-term profitable but hurt the firm in the long term, which motivates the agent to oppose such a proposal, risking conflicts of interest as a result (Eisenhart, 1989).

Kaplan & Strömberg (2001) elaborates on the thesis that conflicts in investor-entrepreneur relations is exposed to conflict-risk. They suggest that venture capitalists may use contractual obligations as safeguards to ensure that these conflicts can be prevented (Kaplan & Strömberg, 2001). However, there are severe difficulties involved in creating a contractual obligation that offers full protection on both parties' behalf. In addition, Kaplan & Strömberg (2001) argue that conflicts may also arise from sources other than monetary ones, in the shape of personal disagreements or conflicting values and beliefs, which are also supported by Eisenhart (1989). Hence, venture capital funds should also consider the agents personal attributes before entering into a business relationship (Kaplan & Strömberg, 2001).

2.3.4 The "hold up" Phenomenon

Goldberg (1976) identified how the parties in the principal-agent relationship would avoid to cooperate, even though this would lead to the optimal outcome for both parties. Goldberg (1976) argues that this "hold up" phenomenon was due to the parties' reluctance to increase their partners influence and thereby reducing their own. In the principal-agent relation, every commitment is to be considered as a "sunk cost", without any possible way of recovering the money or time spent. Therefore, investments made by either the principal (money) or the agent (work-effort) in the firm makes it possible for the other part to refuse to match the investment made (Goldberg, 1976). If the principal were to invest funds to find that the agent was not willing to commit his time. The agent would "hold up" the venture, having increased bargaining power due to the principal's inability to regain the investment made (Goldberg, 1976).

Bolton & Dewatripont (2005) addresses the "hold up" phenomenon in relation to capital investments and contractual mitigation efforts, suggesting that contracts offer substantial protection if constructed pre-phenomenon. The major implication in this regard is that one might be unable to consider the issue before it is too late. Making any contractual means useless (Bolton & Dewatripont, 2005).

2.4 Theoretical Discussion

The theoretical framework presented will be used as a base for carrying out our segmented analysis. Contractual theory addresses the first set of sub-research questions (1-2) and provides a broad base for analysis of the initial contractual reluctance presented by fund managers (chapter 4.1). Succeeding this initial framework, aimed at extending the analysis by applying the principal-agent theory to the second sub-set of research questions (3-4). The results derived from each part of the analysis will be used to identify possible linkages between them. Enabling us to evaluate the two sub-set of research questions explanatory value on our primary research question and purpose.

However, one must also recognize the potential weaknesses in the theoretical framework presented. We realize that the theories applied will not serve to explain all the possible pre-contractual implications or post-contractual problems that may exist. Therefore, the reader should be mindful of other potential factors than the ones addressed in this thesis, factors which might impact the actual outcomes of the sub-research questions. Despite this, we argue that the issue is minor due to the lack of other significant issues identified in previous research, and the fact that the pre-study, carried out in order roughly map the issues, showed no signs of other implications or problems. Furthermore, the theories presented in this thesis offer high value but limited range. Therefore, specifics may be analyzed in depth, yet it also requires our empirical data to be precise. Although, we argue that this very specific theoretical methodology must be applied in order to accurately address our primary research question and the purpose of the thesis. This conviction is based on that these demand specific accounts regarding exact implications and problems and their presence in each case. If we were to disregard this, a comparison of implications and factors affecting risk in the cases examined will not be possible.

3. Method

This chapter elaborates on the methodological approach of the thesis and introduces the various aspects of the study, including literature- and respondent specifics. The rationale underlying the analysis and methodological criticism concludes the chapter.

3.1 Type of Study

In order to address the purpose of the study we required detailed accounts on specific events, such as data regarding the implications related to contracts and investments. Hence, we chose to conduct our thesis on the basis of *the case study*. A case study is a viable method when uncovering specifics, in addition, the methods explanatory value increases with the number of cases investigated (Jacobsen 2002). Due to the investments of private venture capital being the target of this study, and the fact that prospective investment have declined substantially during the past years, the case study was conducted on retrospective grounds.

3.2 Methodical Choice

As our study aimed to uncover the reasoning which gives rise to the venture capital companies' reluctance regarding investments in particular start-ups, we aimed to obtain specific and detailed data. This resulted in adopting a more explorative and inductive perspective. An inductive approach enables the researcher to draw conclusions from data which has been collected without conditional restrictions (Wallén, 1996). Hence, an inductive method does not limit the researcher to a certain set of theories when collecting the empirical data. In addition to this, our inductive methodology enabled us to present more general conclusions on the basis of separate pieces of data, which is the very core of a case study (Andersen, 1998).

A subject or phenomenon may, in theory, be studied in two ways: through qualitative research or quantitative research. The qualitative method aims to obtain a more in depth understanding of a certain phenomenon by asking how- and why- type questions aimed at intangible values (Andersen, 1998). Because our study required us to understand the behavior and thought processes of venture capital managers' and analysts, intangibles must be accounted for. The other approach, quantitative method, should be carried out to grasp general patterns but may also be used to underline and support the qualitative study to contrast the qualitative data (Wallén, 1996). Therefore, our study addresses the purpose of the thesis through qualitative methodology underlined and summarized by means of quantitative and numerical data. This method adds to the depth of the study, enabling us to examine the phenomenon from additional perspectives (Wallén, 1996). The main reasoning behind selecting this combined approach was that our theoretical framework encouraged us to view the problems of the study from multiple angles in order to determine the presence and magnitude of each problem area.

3.3 Background Study

The base of this thesis was first mapped by conducting a pre-study. In which we carried out interviews with faculty members as well as six venture capital managers (Annex 3) to narrow our scope towards a specific subject. This initial stage is necessary in order to assess the scale and suitability of the project (Jacobsen 2002). By asking about their experiences with contractual- and risk-driving implications, we were able to derive eight arguments which supported us in determining the specifics of the questionnaire presented to procure our empirical data. Parallel to this, we conducted a directed review of the literature in order to increase our understanding of the field in general as well as the previous research more in depth. In addition, a general literature review aimed at revealing the area of interest was carried out. The purpose of these two reviews were to broaden our knowledge to include several different perspectives and therefore minimize the risk of bias, which might in turn undermine the study (Yin, 2007). Hence, a wide range of literature was browsed, including consulting reports, venture capital managers' statements, and publications by members of the faculty.

3.4 Literature Study and Choice of Theory

Our background study was then further developed into a full literature study. Initially, previous research was reviewed in more detail. This was aimed at reducing errors in outlining the required empirical- and theoretical base that previous researchers might have encountered (Thurén, 2004). After this initial stage was carried out, we established a theoretical framework for our thesis. This was done by reviewing related literature and scientific articles of which were directed at the purpose and objective of the thesis. The theories were partly chosen based on the expected explanatory value they would offer regarding the eight implications identified in the pre-study, but mainly to which extent they matched the purpose of the study. In both stages, the primary platforms were scientifically oriented databases, such as GU-library and Google Scholar. A sample of the search words used follows; venture capital and contracts, funding start-ups, contractual implications, and investor relationships. The librarians at Ekonomiska biblioteket as well as Kurs- och tidningsbiblioteket were also consulted to provide us with additional literature on the subject.

3.5 Empirical Base and Data Collection

Our thesis is conducted on the basis of face-to-face interviews with analysts of private venture capital funds as well as telephone- and supplementary email correspondence. The interview procedure was semi-structured, conducted partly on the basis of pre-set questions and interview guide, Annex 2. The objective of this approach was to enable the interviewee to elaborate on events and practices in their field with an extensive degree of independence while at the same time following a pre-set path. These aspects were of great significance during our interview-stage, due to the risk of bias in qualitative interview answers put forth by Yin (2007).

Due to our specific target of innovative start-ups, we approached the venture capital funds operating in this segment. The respondents were chosen based on the case-profile, namely size-, stage of development- and degree of innovation, used to align empirical base with the research questions. The selection of cases was largely carried out in cooperation with fund-managers, which provided us with a random set of cases to consider. Therefore, the interviewed analysts as well as the innovative-start-ups were selected on an arbitrary basis which gave us a randomized sample. A randomized sample was considered essential due to Thurén's (2004) claims regarding the increased applicability of randomized samples. Hence, we were keen to avoid just addressing a specific fund or size of target-firm, as it might have distorted the data. Leading us to present a niched and less general picture of the innovative start-up segment, which would not have been acceptable based on the thesis underlying purpose. The data collected from these interviews were processed through an initial categorization in which we segmented the entire body of data under the initial arguments derived from the pre-study. This, more complete, semi-segmented structure then enabled us to conduct a selective screening of the data, in which a compressed version was produced. The process of screening was deemed necessary due to the large quantity of data assembled but also enabled us to better adjust it to our theoretical base.

3.6 Applied Analysis

Based on the segmented data derived from the interviews, we used our theoretical base to identify the root causes of our initial sub-questions and further divide the data into smaller fragments. This made it possible for us to derive the specifics of the empirical base and match them with our theoretical framework to assess whether they fulfilled the criteria of contractual- or risk-driving implications. The data was first processed individually by each author, in which we concluded whether each case was afflicted by the implications targeted by the study. This was followed by a discussion in which we established the specifics in each case. The style of execution applied in our analysis was largely based on the pre-set structure of the theoretical base, emphasizing its relation to the sub-research questions of the study, addressing a sub-set of questions at a time. This approach is advocated by Jacobsen (2002) because it secures the analysis consistency in relation to our overall objective, preventing any unnecessary aspects from being addressed to the extent possible. The joint analysis discussion comprised of two separate parts, each one addressing a sub-set of research questions in numerical order. In the first segment part we established the current contractual practices within the industry. Hence, the analysis focused on the reports from the venture capital funds analysts. Whereas the second segment part focused on deriving the actual outcome of the relationship between the capital fund and the entrepreneur. Which in turn forced us to partly look beyond the analysts' view and instead consider the actual events presented by them. The analysis was then concluded by deriving the general contractual-direct risk connections of the analyzed data, upon which an assessment regarding whether our findings could be deemed as plausible followed. In this regard we first discussed the findings with selected members of the faculty (Björn Sandén) and compared and discussed the findings in relation to the previous research.

3.7 Evaluation of Method

Because our study is conducted primarily upon qualitative basis, with quantitative method used only to segment and present components to a lesser degree, we have chosen to primarily address the qualitative aspect of evaluation, namely *trustworthiness* (Eriksson & Kovalainen, 2008). The notion of trustworthiness contains four core components which the researcher must consider in order to ensure a qualitative thesis; (A) *Credibility*, (B) *Transferability*, (C) *Dependability* and (D) *Confirmability* (Lincoln & Guba, 1985). The main implications of these components are evaluated and discussed below.

The notion of credibility concerns the degree of truthfulness of the findings. To ensure the thesis truthfulness we chose to contrast our empirical findings in several stages. Therefore, comparisons with previous research as well as between the cases themselves have been carried out in order to ensure consistency and minimize the risk of overlooking essentials. According to Eriksson & Kovalainen (2008), a combination of comparisons to both previous studies as well as between the cases themselves is advocated as a mean of ensuring truthfulness, which strengthens the credibility. However, we must also recognize the fact that a study's credibility is rarely complete, thus it would be naïve to argue that our thesis is a complete reflection of truth. Despite this, credibility should be deemed significant due to the active comparisons and the number of cases examined, as advocated by Yin (2007). In the case of transferability, the findings general applicability to other contexts, we established a clear purpose which was aimed at supplementing the current body of research as well as contributing to entrepreneurs- and funds to ability to negate risk, which directly seeks to increase the applicability of the findings presented by the thesis. Furthermore, we have strived to increase transferability by discussing findings and ideas presented in direct relation to each chapter, which also enables the reader to draw or apply partial results from the thesis. Eriksson & Kovalainen (2008) advocates partial conclusions as a mean of making the findings more accessible to the target audience. Therefore, we consider the transferability to be significant, especially for the thesis target audience.

The third component, dependability, concerns the repeatability of the study. In this regard the main issue lies in replicating the empirical base. We understand the severe difficulties in replicating qualitative data mainly due to Jacobsen's (2002) claims regarding respondents' inability to reproduce their wording in the exact same way. This issue was considered in developing the questionnaire, keeping the scope of the questions narrow while maintaining the respondents' ability to speak freely. According to Wallén (1996), one will most likely be able to achieve results with acceptable similarities if this type of questions were used. Hence, dependability must be considered more than sufficient of what is demanded from qualitative studies. Lastly, confirmability is the reduction of bias and the accuracy of the study. An important realization in this regard is that the width of the data collected were partly limited to the extent of the questions asked. However, respondents were allowed to elaborate freely on all the aspects related to the topic, which would have served to somewhat prevent this issue according to Eriksson & Kovalainen (2008). Despite this, we realize that premade questions may restrict the answers to some degree. Therefore, respondents have also been offered the opportunity to reread and comment the interview base resulting from the qualitative interviews, which would increase our chances of getting accurate data (Yin, 2007). Furthermore, when using a qualitative methodology, the data might become afflicted by bias which gives rise to differing statements (Yin, 2007). We have strived to decrease this bias by presenting the questions in a neutral manner and by not revealing the purpose of the study to the respondent, actions which serve to reduce bias according to Wallen (1996). However, we argue that bias is quite difficult to remove entirely, therefore, we have taken it into account when segmenting the data as well as in conducting our analysis. (Yin, 2007) holds this to be the preferred way of reducing bias. Hence, the method of collecting data, both regarding bias and accuracy, should be considered sufficient. Concluding the methodological trustworthiness, we argue that several aspects must be considered but also that they have been mitigated to a large extent. Therefore, the methodological- and overall trustworthiness must be considered high.

4. Empirical Findings

This chapter aims to acquaint the reader with the case study's respondents and present the empirical base derived from the interviews and data collected. Initially, the pre-study is presented followed by an account of the respondents. Hereafter, a detailed presentation of the data obtained from interviews with venture capital funds' analysts follows.

4.1 Pre-Study

The pre-study was conducted in order to narrow the scope of the study and enable us to pinpoint the theoretical base. It was carried out by interviewing managers of venture capital funds, asking them about their experiences regarding contractual- and risk-implications. Based on the pre-study, eight primary arguments were developed, regarding contractual and risk-impacting problems.[3] These also served as keystones in our interview process and will be used as headlines for the empirical base. Hence, the empirical data derived (presented in chapter 4.3-4) is structured in accordance with these arguments, which are presented below.[4]

4.1.1 Perceived Contractual Implications

A majority of the managers from the private venture capital sector held a *lack of information* as the primary problem area when creating contractual agreements with target-firms. This problem was claimed to be present to a larger extent in the case of innovative start-ups due to that the situational- and target-firm specifics are held to be more complex. Five out of six representatives also mentioned extensive *costs* when establishing a relationship with the target firm as driving reluctance. Lastly, a more implicit factor, *risk of deception*, was addressed by four respondents. They argued that firm-managers might know more about their company than the fund does. This isn't considered acceptable from the funds perspective since investors are keen on having the information advantage, partly due to the risk of being misled into unfavorable investments.

4.1.2 Perceived Factors Impacting Risk

When assessing risk in relation to the yield assessment equation presented in the introduction (Chapter 1.1.1), five post-investment problems were held by the private venture funds to be the reasons for investment reluctance. First and foremost, representatives from the capital funds argued that entrepreneurs, inexperienced in fund-management, would act *careless when using the resources* provided by the fund. Hence, investments would not provide the impact to firm viability that was initially estimated. Several representatives also doubted the entrepreneur's

[3] A summary of the arguments addressed may be found in appendix (Annex 4)

[4] A list of the pre-study respondents, the pre-study process and questionnaire may be found in Annex 3 and 2.

competency as to manage a growing company as well as the manager's *commitment* to the project. These, among other factors, was claimed to sometimes also result in *disagreements* regarding e.g. objectives which may impair the investment. Lastly, funds *understanding of the target firms product or concept* was addressed as the most pressing risk. This is due to the innovative nature of these firms which often means exploring new areas of business and science, preventing general estimations to a large extent.

4.2 Cases and Respondents

During the spring of 2014, a number of interviews were carried out with analysts of venture capital funds, addressing their experiences regarding start-up investments undertaken from 2010 to 2013. The interviewees are all analysts on private funds operating partly within the innovative segment in Sweden. A summary of the interview-objects are presented below.

Exhibit 4.1 – List of Respondents - Private Venture Capital Funds.

Case	Industry	Turnover prior investment	Venture fund
1	IT	0	Via ventures
2	IT	3	Via ventures
3	IT	2	Via ventures
4	Industry	27	CapMan
5	IT	0	Coeli
6	IT	1	SEB Venture Captial
7	IT	14	SEB Venture Captial
8	IT	0	SEB Venture Captial
9	Industry	22	EQT
10	Bio-tech	7	EQT
11	IT	4	Sting
12	IT	0,5	Sting
13	Med-tech	0	Sting
14	IT	12	Sting
15	IT	9	Sting
16	IT	0	Winngefors Invest
17	IT	0	Winngefors Invest
18	IT	5	Winngefors Invest
19	IT	0	Winngefors Invest
20	Services	0,5	Nordic Capital
21	IT	15	Nordic Capital
22	Industry	7	Nordic Capital

The cases span over eight different private venture capital funds and a total of 22 analysts.[5] Despite the differing turnovers, the firms are all in the same phase of development, namely the "start-up" phase. Please note that the cases have been anonymized due to capital fund requests.

[5] A complete table and a brief summary of the funds listed may be found in the appendix (Annex 1 and 5)

4.3 Experienced Contractual Implications

Below follows an account of the respondents' answers regarding the study's questionnaire and the first four arguments derived from the pre-study, which are used as headlines, addressing contractual issues prior- and post investment.

4.3.1 Expensive Undertaking

Several cases showed that the process of creating contractual obligations may often be more costly than first perceived. The extensiveness of negotiations and may be quite difficult to predict. Therefore, analysts asserts that they often add a cost-margin in this regard. Despite this, respondents argue that extensive negotiations are not the main driver of high costs, this is due to the marginal cost of time and effort in the negotiation-phase being minor. A majority of the analysts claimed that costs derived from investigations of the target firm, often at early stages, were the most extensive ones in the recent undertakings.

"The project I was entrusted with resulted in broken cost-estimates after merely a couple of weeks. Information is expensive."

-Analyst, Sting

Some analysts held these issues to be a struggle of two general obligations. First, analysts were expected to keep the costs to a minimum due to the direct impact on the fund. However, they were also expected to minimize the risks involved by conducting a thorough examination of the target-firm. The latter would have a greater negative impact on the fund if realized. Hence, a majority of analysts argued that an extensive examination-process was of crucial importance, and it was therefore also allowed to be the main driver of costs. Due to the unpredictability of the investigation conducted on the target firm, costs had risen to double of initial estimations in several cases. According to the respondents, this also led them to reduce other costs such as; creating the actual contracts, costs associated with relations towards the entrepreneur and expenses resulting from pre-contractual negotiations and proceedings.

4.3.2 Deceptive Counterpart

None of the respondents claimed to have been deceived by target-firm entrepreneurs in the cases examined, nor had they felt as if the entrepreneurs were trying mislead them. They argued that most entrepreneurs were grateful for the help and cooperation and recognized the competence of the analysts and the venture capital fund. Despite this, several analysts felt as if they were in an information disadvantage in relation to their counterpart. The entrepreneur would possess a substantial amount of product and concept-specific knowledge of which the fund could not procure without an extensive process of examination. An analyst expressed his experience with information disadvantages as follows.

"Only fifteen minutes into our first session regarding investment-terms, I realized that I was unable to grasp what my counterpart proposed. I chose to terminate the session immediately."

-Analyst, Via Ventures

Due to similar situations arising frequently, analysts argued that the best way to bridge this knowledge-gap was to be careful in creating contractual agreements. They would therefore often suggest broad paragraphs, which covered large portions of conceptual- or technological specifics.

4.3.3 Insufficient Information

According to the respondents, the lack of information when creating contractual agreements was always present in the cases. All of the analysts argued that additional information would have helped them to further understand all the aspects of the specific venture. Analysts claimed that this lack of information was particularly present in the case of the target-firms conceptual characteristics. e.g. not knowing whether the market potential of the concept estimated was to be considered correct, or if technological progress would decrease costs sufficiently to enable viable margins. Several analysts expressed this issue in similar terms.

"Granted venture capital is about taking risks, but it will be your neck on the line if your venture fails. Therefore you should do everything in your power to hedge what you don't know."

-Analyst, EQT

Hence, they argued that the "information gap" caused them to include general paragraphs in the contracts due to the risk of overlooking certain general aspects of the specific agreement. A number of the respondents claimed that the lack of information was not necessarily a deal-breaker and that it concerned details which only caused minor uncertainties. According to the analysts, a certain degree of uncertainty was to be expected from an investment of this kind, not giving rise to any distinct pre-contractual measures to be taken. Instead making them rely on a standardized process, which served to reduce risks by including a broad range of regulations.

4.4 Factors Impacting the Risk Variable

Our empirical account of the factors impacting the risk variable is also segmented based on the arguments drawn from the pre-study. To derive the qualitative data presented below, evaluative data was collected beforehand and discussed with the analysts in parallel to the more general questions found in the questionnaire. Hence, part of the data is comprised of statements regarding analysts direct experiences mixed with the actual numerical and empirical outcome in the cases reviewed.

4.4.1 Complexity of Target Firm Concept

Even post-contracting, cases showed that the analysts did not always have the information that they required in order to fully assess or understand the venture. An explanatory factor was claimed to be the careful nature of entrepreneurs in start-up firms. But also the need to avoid transparency in order to avoid "theft-of-concept" in the initial phases of corporate development. Hence, analysts weren't entirely sure to whether potential opportunities ran the risk of being overlooked by the entrepreneur. These uncertainty-factors also meant that the venture capital funds felt the need to safeguard its investment by demanding increased influence and detailed accounts on activities carried out.

"After investing, I quickly realized that my business-partner wasn't keen on sharing information. Therefore, I had to force him to provide me with the information that I considered necessary under the threat of divestment."

-Analyst, Via Ventures

Furthermore, several cases showed that there is an industry-wide fear of being deceived by the target-firm. This is due to a few, well known examples of such deceptions in which entrepreneurs had lied about their product or concept viability, leaving the funds with stakes in companies of which were without value. The idea of possible deception also affected the cases examined, in which analysts took safety-measures post-investment. Conducting expensive ongoing screening processes regarding the firm's viability or trying to diversify risk by agreeing to joint investments with other firms or public venture capital.

4.4.2 Competency of the Entrepreneur

Many analysts recognize the competence of the entrepreneur regarding his or her ability to manage the growing firm as an issue. They claim that many of the entrepreneurs governing these innovative start-ups come from a scientific background with little or no education in business. Hence, as the firms become larger, there might not be enough in-house competence in the target-firm. In all of the cases, entrepreneurs themselves wished to remain in senior management when discussing this pre-investment. They also strongly argued that they possessed the necessary competence to run the operation despite a changing organizational structure. The cases showed that the funds themselves had been forced to change or add external competence to the target-firm, often by entering the firm themselves as board-members. In some cases however, funds had asked managers to step down from their positions. Both kinds of the interventions discussed also caused disagreements which ultimately led to stronger measures or in a few cases, a part-divestment.

"The business-partner was very upset when we demanded a chair in the board. However, it was necessary to ensure that the firm met the target objective."

-Analyst, Sting

4.4.3 Inability to Administer Funds Obtained

Analysts argue that money invested in the target firm often has a predetermined purpose. In many cases, a discussion is held between the parties regarding the exact allocation of monetary means before the entrepreneur is allowed to allocate them. However, the data shows that funds are not always allocated in accordance with the agreed standards. Analysts recognize this fact and many argue that it would be too costly to pursue the entrepreneurs in this regard. The primary reasons put forth by the analysts concerns time, monetary expenses as well as putting pressure on the relationship between the entrepreneur and the fund. Therefore, analysts claimed that the indirect losses caused by disregarding the agreed strategy were less costly than actually confronting the target-firm in the cases discussed.

"Naturally, an improvement of fund-allocation would result in a higher yield, but the potential loss from disputes is ten times as impactful on results."

-Analyst, SEB Venture Capital

"I was advised by my executives to avoid disagreements due to fund allocation with the business-partner at all costs."

-Analyst, Nordic Capital

In three cases, analysts were forced to address the issue resulting in a severely stressed relationship, with the fund only granting minimal sums and demanding a more thorough auditing process. There were also "developing-discussions" with the entrepreneur in order to motivate a better allocation of funds, in which the entrepreneur had to explain the allocation of funds before the venture capitalist would release them.

4.4.4 Disagreements regarding Firm Objective

In about half the cases, respondents had been involved in disagreements regarding the objectives of the venture. In almost all the cases afflicted, analysts claimed that the disagreement concerned the long-term objectives of the firm. Whereas the entrepreneur often argued that the processes of launching products or limiting R&D should be allowed to take more time than the venture capital fund had estimated. Furthermore, some venture capital funds sought to sell their stake of the start-up when the firms' growth rate started to decline and reach the next stages of firm development.

"We have an exit-strategy in almost all of our ventures, this motivates us and the target firm to increase our efforts and achieve the yield-objective."

-Analyst, Sting

However, many entrepreneurs strongly opposed the strategies of the venture capital funds due to the long-term firm consequences they would incur. In these instances, entrepreneurs were worried that a short-sighted strategy would damage their firm long term.

4.4.5 Lacking Commitment

A few cases revealed a lacking commitment on the entrepreneurs' behalf. In this regard it concerned activities of which the entrepreneur might not possess the necessary competency to carry out, such as marketing or other activities related to product launch. Analysts were experiencing little or no assistance in their efforts to launch the product. In one case, the entrepreneur did not address questions relating to the launch-strategy presented by the board. However, the majority of cases examined showed no sign of issues regarding the entrepreneur's dedication both pre- and post-investment. Instead it revealed that entrepreneurs' efforts increased in most cases, as a result of shared competence and additional funds.

5. Analysis

The analysis has been conducted in two parts, each one addressing a particular set of sub-questions. First, we identify and elaborate on the factors affecting contractual obligations (sub-q 1-2). The second part is aimed at revealing the second tier of implications (sub-q 3-4), those which arises from incomplete contracts. Lastly we discuss the potential linkages between them, addressing the main research question.

5.1 Contractual Implications

Using our theoretical framework, we aim to match our empirical base with more precise implications in order to create a foundation on which deeper analysis and comparisons may be conducted. This will be carried out by filtering the empirical base through a more scientifically developed structure, presented by Kaplan & Strömberg (2001). This structure is made up of three factors of which gives rise to incomplete contracts, *transaction costs*, *bounded rationality* and *information asymmetries*. They will be used to analyze the empirical accounts on *expensive undertaking*, *insufficient information* and *deceptive counterpart* respectively. In order to identify the specific implications and assess their magnitude, discussions summarizing the extent of implications present in the cases analyzed may be found at the end of each subchapter.

5.1.1 Implications due to Transaction Costs

A majority of cases examined reveals higher costs resulting from creating contractual agreements then first expected by the parties. Bajari & Tadelis (2001) claims that the primary reasons of costs in these stages are factors relating to information gathering and examination of the target firm. In several cases, costs had risen to over 200 % of initial estimations in these areas. Hence, the claims made by Bajari & Tadelis (2001) are justified which means that the due diligence process and its underlying unpredictability is the direct cause of the costs being higher than estimated. Furthermore, several of the analysts recognizes that the increased costs in the process of due diligence led to reduced expenses in other regards, such as creating the actual contractual obligation. The reduction of costs was necessary in order to meet the overhead cost-objective of the venture. Fama (1980) suggests that an uneven distribution of monetary means often results in overlooking details and using bench-marks to compensate for unevenly distributed costs. Costs allocated to contractual creation was particularly small in several cases. Therefore, we maintain that standardized contractual agreements are used more extensively because it is the cheaper alternative in contrast to creating the contracts from scratch. Lowry (1976) claims that costs related to negotiations are often the most extensive when creating contractual agreements. The data derived from the cases examined does not support this as there are no accounts of extensive costs in this regard. Instead, analysts use a standardized form of bargaining, aligned with the thesis presented by Argyres & Liebeskinds (1999). Hence, we argue that costs of negotiations are minor due to a standardized process, instead unevenly distributed costs are more troublesome as they are causing standardization.

5.1.2 Implications due to Bounded Rationality

Despite perceived varying degrees of complexity, analysts did not have all the information that they desired in order to fully understand the investment, causing them to take contractual precautions. According to Radner (1996), this phenomenon may result in a simplification of reality, causing parties to disregard important paragraphs. However, the measures taken were not aimed directly at reducing the complexity of the target-firm specifics but rather at reducing the analysts own risk of failure. As revealed by the cases examined, a standardized process (or "bench-marked-process") was used frequently when encountering information shortages. Radner (1996) proposes that this generality of contracting will result in incomplete contracts. We argue that the latter notion offers substantially more explanatory value to the bounded-rationality issue than the individual simplification of reality. The generality of the means used may result in contracts with regulations which aren't applicable to the specific case. Hence, they become too simplistic to handle the problems which the parties face post-investment.

5.1.3 Implications due to Information Asymmetries

In the cases examined, the analysts had no or very little experience of entrepreneurs purposely misleading them when creating contractual agreements. This contradicts the claims made by Chiappori & Salanié (2000), which argues that deception is likely to complicate contracts. In spite of their claims, we argue that deception is a minor issue, mainly due to the target-firms dependency of the means granted by venture capital funds. However, a majority of analysts thought that entrepreneurs might have a large indirect advantage from their specific firm- and industry knowledge. Hence, representatives of the venture capital funds would act cautiously when contractual agreements were created. Trester's (1998) thesis agrees with this cautions approach, claiming that funds must be careful or be left with unfavorable terms. We consider this to be a significant problem, which also prevents precise paragraphs to be included in the contract. This is due to that precise paragraphing would negate any room for interpretation, leaving the better informed party with a significant advantage. In addition to this, cases showed that the adopted approach also led to an increase in pre-contractual costs such as due diligence and industry-analysis. This contradicts the idea presented by Sharpe (1990), claiming that the lesser-informed part will inevitably agree to unfavorable terms. In contrast to Sharpe's (1990) thesis, the additional investigations suggests efforts to reduce the information asymmetries rather than to surrender to them. Therefore, information asymmetries must be considered problematic, mainly because it promotes general paragraphs and increases costs of examination.

5.1.4 The Presence of Incomplete Contracts

The presence of contractual implications analyzed are summarized in table 5.1 below. The table displays to which extent the contracts of the cases were affected by implications originating from transaction costs (TC), bounded rationality (BR) or information asymmetries (IA). In which the gray sections indicate a presence of contractual issues. Out 22 contracts created with target-firms, one could be considered to be completely free from the implications examined. Leaving the vast majority of cases affected by contractual implications. This suggests that the venture capital industry may suffer from contractual difficulties in its relation with innovative start-up firms. As derived from the prior analysis, the primary factors driving these implications are the ones arising from high costs and information gaps linked to a lack of information. The latter also causing unnecessary or general paragraphs to be included in the agreement, paragraphs of which later may serve no purpose or even cause damage.

Exhibit 5.1 Presence of Contractual Implications in Cases Examined

Case	Industry	Turnover prior investment	Venture fund	TC	BR	IA
1	IT	0	Via ventures			
2	IT	3	Via ventures			
3	IT	2	Via ventures			
4	Industry	27	CapMan			
5	IT	0	Coeli			
6	IT	1	SEB Venture Captial			
7	IT	14	SEB Venture Captial			
8	IT	0	SEB Venture Captial			
9	Industry	22	EQT			
10	Bio-tech	7	EQT			
11	IT	4	Sting			
12	IT	0,5	Sting			
13	Med-tech	0	Sting			
14	IT	12	Sting			
15	IT	9	Sting			
16	IT	0	Winngefors Invest			
17	IT	0	Winngefors Invest			
18	IT	5	Winngefors Invest			
19	IT	0	Winngefors Invest			
20	Services	0,5	Nordic Capital			
21	IT	15	Nordic Capital			
22	Industry	7	Nordic Capital			

All of the issues raised also encourages the use of general paragraphs or standardized contracts between parties, which appears to be the primary implications. Kaplan & Strömberg (2001) suggest that standardization of contracts is the fundamental cause of the majority of the implications happening post-investment. Therefore, we argue that the presence of such contractual complications presented above may also prove unable in preventing risk-increasing factors that may arise in the later stages of the business relationship.

5.2 Factors Increasing Direct Risk

The second subset of research questions aims to derive the primary implications of which are affecting the venture capital funds direct risk. The principal-agent theory presents a framework for analyzing conflicts and problems, which translates into risk, in the venture capitalist-entrepreneur relationship. Jensen & Meckling (1976) suggest considering *adverse selection*, *moral hazard*, *conflicts of interest* and *the hold-up phenomenon*. In accordance with the previous section, the analysis will be summarized and discussed at the end of the subchapter.

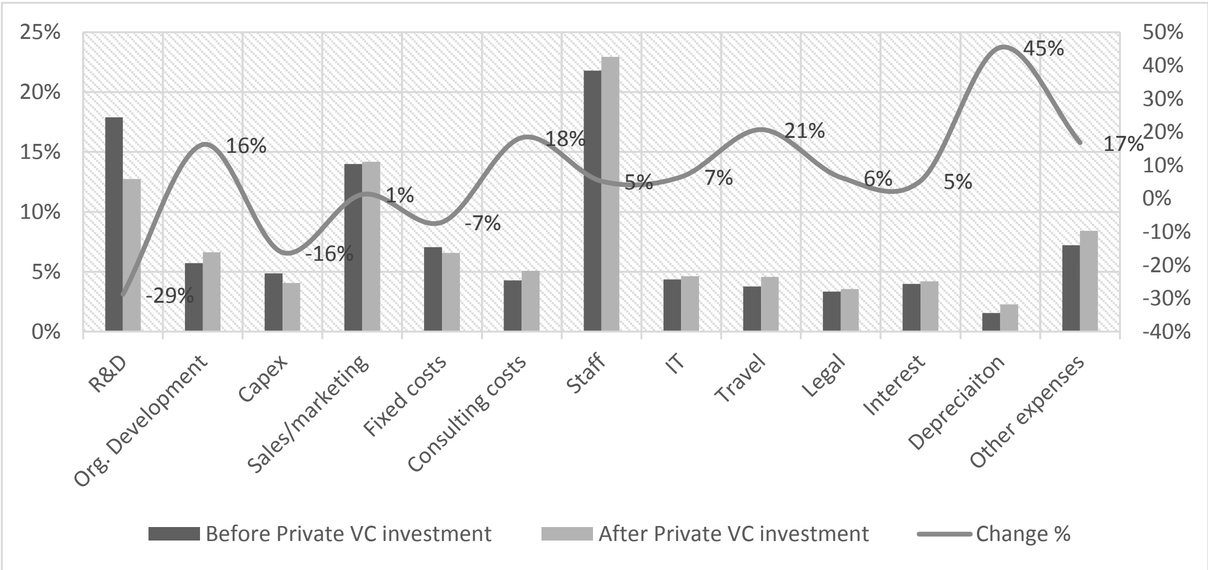
5.2.1 Adverse Selection

Several cases reveal that information disadvantages are a major concern, mainly because small firms are not obliged to be transparent by law as they are not listed on the stock-exchange. Cumming (2006) claims that a lack transparency will also result in a secretive approach against all external parties, including investors. We argue that Cumming's thesis is accurate in the sense that target-firms seems reluctant to share any information, however, it does not merely seem to be a problem of transparency. Many analysts argue that target-firms also have strong incitements not to reveal anything due to the main assets often being knowledge and pending patents. Akerlof (1970) proposes that high accumulation of intangible resources will prevent target-firms from sharing information with external parties. We agree with this notion rather than the one presented by Cumming (2006), the firms are all very high-tech which makes knowledge a key resource, therefore, sharing it could prove fatal. According to Levin (2001), the secretive approach indirectly translates into a fear of being deceived which causes the investors to act cautious when interacting with target-firms. Analysts maintain that well-known examples of deception, resulting from the funds tolerance of the target-firms secrecy, causes an industry-wide fear of deception. Therefore, we argue that Levin's (2001) claims are justified, as the fear does translate directly into the adverse selection phenomenon. Hence, this aspect of the adverse selection-phenomenon causes analysts to act carefully as well as adopting a more hostile attitude, demanding rather than asking for information, causing strains on the investor-entrepreneur relationship. According to Cumming (2006), the previously discussed issue also contributes to the extensive ongoing examining process and potentially that investors venture into partnerships without proper backing, being misled by the entrepreneur regarding firm characteristics. Analysts claim that they sometimes underestimate the managerial competence of the target-firm, causing them to replace board members with severe consequences. However, we argue that this is due to the entrepreneurs own inability to realize that managerial competence is lacking rather than trying to hide this fact from the investors. Therefore, the issue of adverse selection is present mainly due to the target-firms unwillingness to share core intelligence, which causes funds to adopt a more hostile approach.

5.2.2 Moral Hazard

Numerical data derived from the funds shows that there has been several shifts in allocation of monetary means post-investment (Exhibit 5.1). Expenditures such as; consulting costs, travel, depreciation and other expenses has increased with double digits. Meanwhile, R&D and CAPEX has severely reduced. Mirrlees (1999) claims that the reallocation is a direct consequence of more risk-affine behavior on the entrepreneur's behalf, caused by risk-diversification. We consider Mirrlees (1999) statement to be valid, the decrease in R&D and increases in deprecation should be considered quite normal due to the venture capital fund pressing the start-up closer to the commercialization phase. However, the remaining ones might cause problems for the venture capital fund in the form of a flat monetary loss. These allocations are not driven by profit-maximization and are rather illogical, which supports Mirrlees thesis.

Exhibit 5.2 Expenses in Target Firms Pre- and Post Investment[6]



Source – produced by authors and based on figures derived from case-outcomes.

Jensen & Meckling (1976) proposes that this issue arises from the inability to fully monitor the target-firm and not the inability to detect the faulty allocation of money itself. Most analysts

[6] Please note that these figures are scrambled due to firm confidentiality. Hence, this is an average of all the cases examined.

claim that they are aware of these changes in expenditure. However, they argue that pursuing the entrepreneur would be far too costly and risk putting a personal strain on the relationship between the parties. This notion supports Jensen & Meckling's (1976) thesis, therefore, we argue that this is a highly complex issue of which must be dealt with pre-investment. The alternative is either a monetary loss or a severe strain on the relationship between the parties.

5.2.3 Conflicts of Interest

According to the analysts, implications due to uncertainty regarding how to interpret the contracts, or general disagreements resulting from firm objective are common. Eisenhart (1989) suggest this to be a result of increased investor-influence over the target-firm. We consider her statement to be valid as cases further shows that independent entrepreneurs often become upset as a result of having to consult the fund before making firm specific decisions. Furthermore, analysts claim that entrepreneurs often have a close attachment to their firm, causing them to sometimes offset the yield objective of the venture capital fund, due to that this objective might conflict with their own goals or ambitions. Eisenhart (1989) argues that this is a matter of perspectives, whereas the investor operates with more short-term yield objectives. We argue that the different time-horizons offers immense explanatory value, as they forces two very different types of objectives on the target-firm, namely both short- and long term profitability. However, the notion presented by Kaplan & Strömberg (2001), suggesting that personal features impact the presence of conflicts, is not supported by the claims made by the analysts. We argue that these conflicts actually exists but that they may be perceived by analysts as conflicts based on objectives rather than personal due to that e.g. extrovert personalities might express their discontent regarding objectives and other topics in a more extensive manner. According to Eisenhart (1989), disagreements may halt the core activities of the firm, such as decisions in pressing matters, resulting in severe losses on both parties' behalf. The accounts presented by analysts partly supports this notion, claiming that entrepreneurs would oppose the decisions, affecting profitability. Hence, we consider conflicts of interest to be impactful regarding not only direct losses of production but also the venture funds overall yield objective.

5.2.4 Hold-up Phenomena

Goldberg (1976) claims that the relationship between the investor and target-firm is particularly afflicted by the hold-up phenomena. However, analysts argue that there are very few issues relating to entrepreneurial commitment or general hold-up of the business. We argue that this is due to the agreed overhead objective as well as the funds pre-determined capital injections, which cause *sunk costs* to only occur on the venture capital funds behalf. Therefore, the parties have prevented this issue by pre-investment agreements. Bolton & Dewatripont's (2005) thesis, claiming that regarding the viability of contracts in preventing the hold-up phenomena further strengthens our argument. However, in the few cases afflicted by the phenomena, analysts had experienced that the uncommitted entrepreneur's actions affected the performance of the firm and the cooperation with the fund to a great extent. Hence, the hold-up issue is to be considered highly impactful but quite rare.

5.2.5 The Presence of Factors Affecting Risk

Exhibit 5.3, summarizes the presence of factors affecting the venture capital funds direct risk, whereas dark sections represent a presence of risk-elevating implications. All of the factors discussed above were shown to affect the performance of the firms and therefore also the direct risk carried by the funds. However, the hold-up phenomena was only evident in five cases and therefore considered to be a minor implication in relation to the other factors.

Exhibit 5.3 Presence of Risk-Enhancing Factors in Cases Examined

Case	Industry	Turnover prior investment	Venture fund	Adverse	Moral	Conflicts	Hold-up
1	IT	0	Via ventures				
2	IT	3	Via ventures				
3	IT	2	Via ventures				
4	Industry	27	CapMan				
5	IT	0	Coeli				
6	IT	1	SEB Venture Captial				
7	IT	14	SEB Venture Captial				
8	IT	0	SEB Venture Captial				
9	Industry	22	EQT				
10	Bio-tech	7	EQT				
11	IT	4	Sting				
12	IT	0,5	Sting				
13	Med-tech	0	Sting				
14	IT	12	Sting				
15	IT	9	Sting				
16	IT	0	Winngefors Invest				
17	IT	0	Winngefors Invest				
18	IT	5	Winngefors Invest				
19	IT	0	Winngefors Invest				
20	Services	0,5	Nordic Capital				
21	IT	15	Nordic Capital				
22	Industry	7	Nordic Capital				

Moral hazard as well as adverse selection are highly impactful regarding the venture capital funds direct risk exposure. These factors proved to have a significant impact on the funds ability to predict outcomes, strains and conflicts resulting from hostile attitudes and disagreements between parties. Furthermore, flat loss of monetary funds were evident in the case of entrepreneur fund allocation, increasing expenses of which was deemed as unnecessary.

Conflicts of interest also prevented core business activities and damaged the short-term production as well as the overhead yield objective. These three implications are therefore to be considered as the primary drivers of investment-related risk.

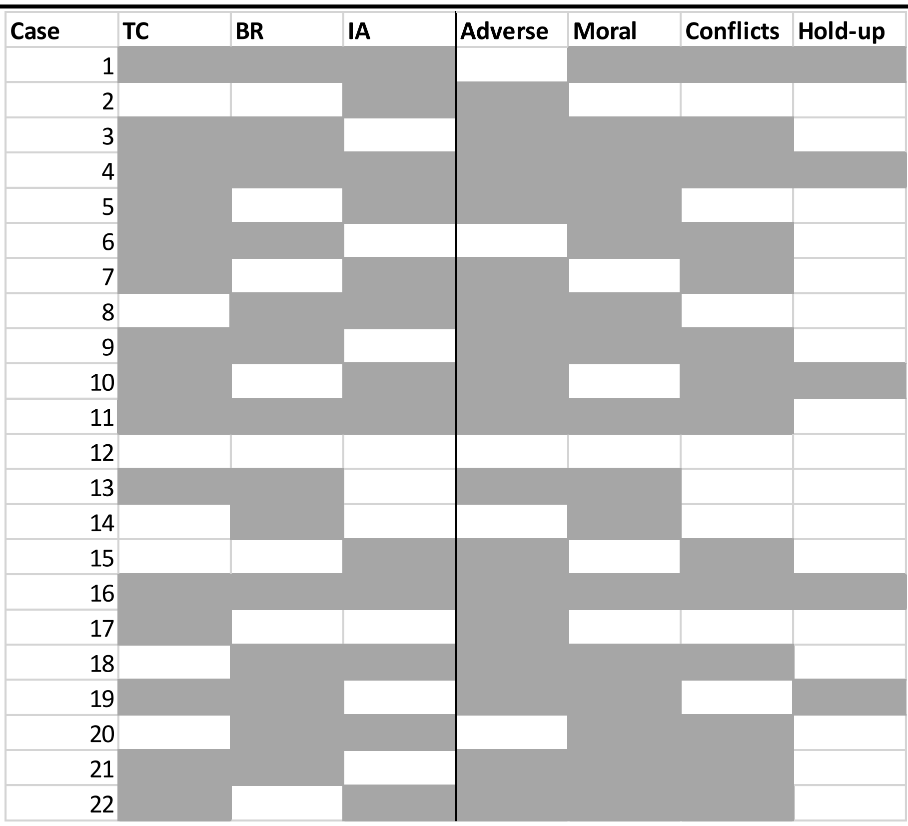
5.3 Coherency of Implications

In order to address the research question at hand, we must determine whether there is a coherency between incomplete contracts and risks. Hence, this part of the analysis aims to tie the two segment-parts (research-q subset 1-2 and 3-4) together in order to discuss and evaluate possible linkages between incomplete contracts and direct risks.

5.3.1 Factor-Coherence Analysis

The analysis has revealed that the cases are afflicted by numerous risk-increasing implications. In addition, it also showed that these implications caused contractual issues which led to a more extensive use of templates and standardized paragraphs and difficulties to interpret all the aspects of the agreement. Hence, this study shows that contractual implications have a substantial impact and presence, giving rise to incomplete contracts. Examining the tables presented above (summarized in Exhibit 5.4) reveals that cases afflicted by contractual implications also suffers from an increase in factors related to direct risk.

Exhibit 5.4 Coherence between Contractual Implications and Direct Risks



The cases afflicted by all of the possible contractual implications also have the highest degree of post-investment risk-factors present. Consistently, cases with all three pre-contractual implications present amounts to three, or in some cases four post-investment risk-factors. In addition to this, the cases which only has a minor presence of contractual implications have a lesser post-investment risk, amounting to zero or one risk-factor. The total deviations are at the most one factor, which should be considered as normal due to external influences and the presence of chance. Therefore, this study shows that a more extensive amount of contractual implications can be said to indirectly cause a more extensive amount of problems affecting direct risks. Hence, coherence between the factors examined should be considered significant.

5.4 Academic Review

In order to assess the general plausibility of the results derived before drawing any conclusions, it is beneficial to first discuss and compare the findings of the study with those of the faculty and previous research (Jacobsen, 2002). The primary reasons for this discussion is to broaden our understanding of the study's results, enabling us to properly address the findings of the study before actually claiming a particular conclusion.

5.4.1 Faculty Member Discussion

After conducting our analysis, we presented the results derived to Björn Sandén (interviewed 15 May 2014), assistant professor at Chalmers University of Technology. He has conducted research on innovative firms niched towards environmental technology and has a broad understanding of these firms complexity. He acknowledges the results presented by our thesis and further suggests that the firms, with a high degree of technical know-how, often suffers from the need to simplify their business enough in order for stakeholders to understand all the aspects of the business. Therefore, the practice of standardized or template tools are commonly used. This is a thought worth highlighting, due to our narrow scope of target-firms, the results may be less applicable to the general firm. Sandén emphasizes the firms' inability to address the factors which are underlining the direct risks but does not believe the firms themselves to be idle in this regard. He argues that both actors must be aware of the issue of incomplete contracting, however, they might not realize to what extent it affects the risks. Due to the spread in different drivers of risks (shown in exhibit 5.3), it might be hard to directly address which risks must be negated in each specific case. Hence, prevention of pre-investment might be much more difficult in practice then theory suggests. Sandén supports this logic, claiming that the unpredictability of the specific prevention-costs in time and money might cause the parties to disregard them altogether. Therefore, one must recognize that the results derived from our thesis are not directly applicable to the firms' strategy but rather to act as explanatories to what areas are worth examining pre-investment. However, the notion of coherence as such is not disputed by Sandén.

5.4.2 Previous Studies Comparison

Despite Sandén's acknowledgements of the results derived from our study, they do not stand uncontested. Previous research conducted by Triantis (2001) suggests that the effect on direct risk is minor in the case of contractual implications. And further that the parties are more than capable of managing these implications. The results in our study do not contradict the latter but rather suggests that they are not practicing their ability to the extent necessary. Furthermore, we suspect that the case of a weaker coherence, suggested by Triantis (2001), is due to the fact of differing firms of interest. Whereas our study concerns innovative start-ups, while his study concerns larger firms, which also explains the increase in coherence between the risks and contractual implications shown in our thesis. Yet, the deviations between the findings of the studies conducted should not be disregarded. In addition, our study's results regarding coherence is supported by a majority of the previous research conducted. As proposed, but not proven, by Jeng & Wells (2000), there is a connection between direct risks and contractual pre-investment implications, mainly due to the use of templates and standardized contractual agreements, which is aligned with our findings. Furthermore, our studies results regarding the core direct risks are also supported to some extent, whereas Hellman & Puri's (2000) thesis indicates that disagreements and insufficient information are common drivers. However, none of the previous research confirms our findings regarding moral hazard or any hold-up phenomena-presence, which would suggest that our findings in these regards should be deemed more uncertain. Contradicting this is that most of the previous researchers differing focus, whereas no start-up firms with similar characteristics were incorporated in the previous studies, with the exception of Strömsten & Waluszewskis (2012) thesis regarding bio-tech companies. However, their thesis did not incorporate the numerical aspects, which would explain the lack of moral hazard.

Hence, our study further strengthens the most recognized belief in previous research, that there is a coherence between contracts and risks. In addition, it also suggests an additional dimension to previous research, regarding the range of risks evident in the case of innovative start-ups, namely moral hazard and the hold-up phenomena.

6. Conclusions

In this section the introduction is revisited and conclusions addressing the initially posed questions are drawn from the results and analysis presented in chapter five. In addition, the results are discussed, criticized and suggestions regarding further research are presented.

6.1 Concluding the Research Questions

The aim of this study is to provide managers of start-up firms and venture capital funds with empirical support, primarily addressing direct investment-risk and its underlying causes. Increasing their understanding of the impact of contractual implications post-investment, as well as providing support regarding prevention of investment-related risks. In order to address these undertakings, the research questions will be revisited and answered in a concise manner, followed by a discussion regarding managerial applications.

1) Which factors affect the quality of the contractual obligations with innovative start-ups?

The principal factors which affects contractual obligations are; costs associated with target-firm examination which causes uneven allocation of costs and standardized contracts (transaction costs), information disadvantages resulting in simplistic regulations (bounded rationality) as well as asymmetries regarding firm-specific knowledge causing general contractual paragraphs (information asymmetries).

2) To what extent are these factors causing issues in the contracts created by venture capital funds?

The presence of the factors were extensive and resulted in incomplete contracts in a majority of cases examined. The factors were manifested in two main issues which complicated the content of contracts. First, they may give rise to unnecessary paragraphs, causing disagreements between parties. Second, the factors may also result in general standardization of contracts, which decreases their overall viability.

3) Which implications may originate from a lack of contractual prevention?

The implications caused by these incomplete contracts are primarily related to information advantages which strains the relationship (adverse selection), entrepreneurial disobedience resulting in flat monetary loss (moral hazard) and conflicting wills affecting overall profitability (conflicts of interest). Implications regarding lacking entrepreneurial commitment was also present but only to a lesser extent (hold-up phenomena).

4) How impactful are these implications in relation to the direct risks of the venture capital funds?

Due to the significant connection found between issued caused by incomplete contracts and direct risk carried by the funds, the implications had a strong impact on the direct risk. As adverse selection and moral hazard were present in most cases and conflicts of interest in roughly half the cases, resulting in an overall lower yield on the venture capital funds behalf.

Main Research Question and Final Conclusion

To what extent do the implications of creating contractual agreements with entrepreneurs affect the direct risk of the venture capital funds?

Based on the strong linkages amongst the presence of implications and risks analyzed, the study concludes that there is a significant coherence between the implications present when creating contracts and the direct risk experienced by the funds post-investment.

6.1.1 Managerial Recommendation and Discussion

Based on the conclusion of this study, venture capital funds might be able to prevent direct risks by addressing its underlying causes in contrast to focusing on the risks themselves. Hence, in addressing the target audience, we strongly advise managers of the funds as well as entrepreneurs to focus their efforts on the core of the problem, namely the factors causing incomplete contracts. A successful mitigation of these factors will severely reduce the post-investment risk, in turn making the start-ups more attractive and increasing the yields of venture capital funds. Furthermore, the potential gain might be translatable into other industries and relationships, in which contractual agreements are a potential for risk-prevention. However, one must also be aware of the boundaries of the conclusions general applicability. As revealed by the discussion in the academic review, there were some delimitations present in the study. These delimitations indicates that addressing specific contractual- and risk driving implications are more difficult than first perceived. We argue that the conclusions presented by our study do not apply directly to other industries based on the contradictory results that previous studies have yielded in looking upon other sectors. In addition to this, one must consider the individual impact of the implications examined, due to our thesis focus on coherence and magnitude, the specific impact of individual factors and implications (derived from sub-research questions 1 and 3) has not been covered. Therefore, we cannot give specific recommendations regarding which entities to disregard and which to focus on but rather to take them all into account when seeking to mitigate post-investment risk.

In the sub-questions examined, issues were present to a larger extent than we first expected based on previous research. We argue that this is due to the complex nature of the specific firms examined. Although it may also suggest that there is actually a severe profitability-reduction in the venture capital funds overall investments, which would be catastrophic from a managerial standpoint. Relating to this, examining whether the coherence is applicable to other business-relationships, involving a similar degree of intimacy between the parties, such as start-up and supplier relationships would be very interesting. In these instances the direct risks would surely differ. However, the coherency between the contractual implications and direct risks of the entrepreneur and supplier might be even more significant. The potential gain of these parties are substantial, provided that they also experience an extensive coherency in the previously mentioned regard. Therefore, we strongly advocate further exploration of this uncharted field, as it may substantially increase managers understanding of how to their company may operate more efficiently.

6.2 Suggestions Regarding Further Research

As discussed previously, this study is subjected to a number of delimitations which must be addressed in order to provide the reader with an accurate understanding of the studies contribution to the academic and practical field of management theory. We consider these delimitations to be the most intriguing subjects to research further. Primarily, questioning the notion of coherence presented in this study by carrying out similar studies will fill important gaps regarding the extent of coherence between contractual implications and risk but also its presence in other industries. In addition to this, addressing differing relationships than the one examined by this study may offer even more explanatory value within the specific industry-boundaries. Secondly, this study pays little attention to the extent of the specific implications examined. Therefore, a major issue in e.g. transaction costs may cause more substantial problems regarding direct risk than a presence of the other two contractual implications combined. To broaden the study to include a more complete analysis regarding the specific impact of each implication would be beneficial due to a potentially huge improvement in accuracy and effect when addressing specific contractual implications. Lastly, to address the more practical potential of an extended thesis. We argue that examination of the funds ability to actually discover and prevent the contractual implications pre-investment will add a valuable dimension to this field of research. Therefore, further research aiming to explain the practical potential of the coherence presented is strongly advised.

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Appendix

Annex 1 – List of Case Study Respondents

Annex 2 – Questionnaire

Annex 3 – List of Pre-Study Respondents

Annex 4 – Arguments Derived Pre-Study

Annex 5 – Venture Capital Fund Overview

Annex 1

List of case study respondents date and type of interview

Case	Industry	Turnover prior investment	Venture fund	Date of interview	Type of interview	Compl. Correspond
1	IT	0	Via ventures	07-apr	Personal	Email
2	IT	3	Via ventures	07-apr	Personal	-
3	IT	2	Via ventures	08-apr	Skype/mobile	-
4	Industry	35	CapMan	16-apr	Skype/mobile	Email/Skype/mobile
5	IT	0	Coeli	17-apr	Personal	-
6	IT	1	SEB Venture Captia	18-apr	Skype/mobile	Email
7	IT	14	SEB Venture Captia	20-apr	Email	-
8	Med-tech	0	SEB Venture Captia	22-apr	Skype/mobile	Email
9	Industry	22	EQT	14-apr	Personal	Email
10	Bio-tech	7	EQT	14-apr	Personal	-
11	IT	4	Sting	21-apr	Skype/mobile	Email/Skype/mobile
12	IT	0,5	Sting	21-apr	Skype/mobile	-
13	Med-tech	0	Sting	21-apr	Skype/mobile	-
14	IT	12	Sting	22-apr	Skype/mobile	-
15	IT	9	Sting	25-apr	Email	Email
16	IT	0	Winngefors Invest	22-apr	Skype/mobile	Email
17	IT	0	Winngefors Invest	22-apr	Skype/mobile	Email
18	IT	5	Winngefors Invest	22-apr	Skype/mobile	-
19	IT	0	Winngefors Invest	26-apr	Email	Skype/mobile
20	Services	0,5	Nordic Capital	28-apr	Personal	Email
21	IT	15	Nordic Capital	28-apr	Personal	Email
22	Industry	7	Nordic Capital	28-apr	Personal	-

* Please note that Compl. Correspond stands for complementary correspondence.

Annex 2

Questionnaire

Section 1 – Contractual implications

- How do you usually go about decreasing the investment-related risks before the investment is made?
- Can you describe the contractual process?
    - What measures do you take before contracting? (Please exemplify)
    - How is the process of negotiation conducted, how do you ensure that you get the deal you want? (Please exemplify)
    - Based upon your experience related to this case, what are the main problems associated with erecting contractual agreements?
        - How does these manifest themselves? (Please exemplify)
- Which are the primary factors to consider when writing contractual agreements with the target-firm?
    - Did you consider these in the case concerned?
    - (SUPPLEMENT) Have you encountered any of the following issues; lack of information, time shortages, venture expenditures to high or deception? (Please elaborate on any points of which you have encountered, exemplify)

Section 2 – Risk-related implications

- Have you experienced any problems post-investment in the case concerned?
    - If so, which? (Please exemplify)
- Can you please elaborate on the number of which you sent us before this interview, why have the cost-structure changed/not changed in this case?
    - (SUPPLEMENT) Have you experienced any of the following problems post-investment: Inability to administer funds, lacking competency, entrepreneurial commitment faltering, objective-disagreements or problems with understanding all the aspects of the target-firm? (Please elaborate on any points of which you have encountered, exemplify).

Section 3 – Coherency

- Do you believe that any actions taken in the pre-investment process might change the number of problems experienced post-investment? (If any problems were present).
    - If so, in what way? (Please exemplify)

Annex 3

List of pre-study respondents date and type of interview

Name	Venture fund	Position	Date	Type of interview
Bengtsson, Jan	ALMI Invest	CEO	02-apr	Skype/mobile
Johan Bygge	EQT	COO	03-apr	Skype/mobile
Rydlinger, Bo	Sofama AB	CEO	25-mar	Personal
Hemsöezinck, John	Via venture	CEO	07-apr	Personal
Sundqvist, Jan	Coeli	CEO	03-apr	Skype/mobile
Talborn, Henrik	SVCA	Cheif Ec	08-apr	Skype/mobile

Brief account regarding the pre-study process

The pre-study was conducted on open discussion with managers of private venture capital funds. They were encouraged to elaborate on their view of contractual- and risk implication without being guided by precise questions. The discussions were started by the initial question:

- Please tell us about your experiences and thoughts regarding contractual problems and the risks which you encounter when investing in innovative start-ups.

Based on the accounts addressing this question, and more casual following questions, we were able to derive the most significant implications (arguments) by screening the emphasis and the number of managers addressing a particular issue. We then discussed these arguments and their individual explanatory value as well as feasibility in the context of our study. Based on these discussions, we were able to match the arguments with suitable theory and develop a questionnaire which was used to address the analysts in the case study.

Annex 4

Arguments derived from the pre-study.

Below follows a general account regarding the factors and implications derived from the pre-study.

Experienced contractual implications

Contractual process is expensive

Risk of deception by counterpart

Insufficient information to erect satisfying contractual agreement

Factors impacting the risk variable

Agent's potential carelessness when using acquired funds.

Competency of the companies CEO/board as to manage the company long term.

Agent's (un)willingness to make a full commitment.

Venture capital funds inability to understand the product/company- or concept potential.

Disagreement regarding target-firm objective between fund and entrepreneur.

Annex 5

Description of venture capital funds incorporated in the study

Below follows a brief summary of the private venture capital funds included in the study to provide the reader with additional insight to the specific preconditions of the firms.

Wingefors Invest is a private investment company founded in 2009 by Lars Wingefors. The Group's turnover in 2012 was SEK 469 million, and the equity was SEK 132 million. Their headquartered is located in Karlstad, Sweden. As a holding company, they have a long term investment horizon and they have no time frame for their investments or exit strategies. The portfolio contains a wide range of companies within a broad range of branches.

Via Venture Partners is a mayor player on the Nordic private equity market. They invest in companies of all sizes; their main focus is on smaller- to mid-sized companies (revenue from SEK 50 million to SEK 750 million). Founded 2006, Via Venture Partners is a privately owned and independent Nordic multi-stage private equity firm. Their Limited Partner in both their funds is ATP – Denmark's largest pension fund with SEK 650 billion under management.

STING Capital is a venture capital fund in Sweden that invests at the earliest stages of development most often before the companies have a finished product or paying customers. They are a commercial VC fund with investors both from the private and public sector. Sting itself is managing SEK 85 million but their business model enables partners to make co-investments. They are often the first external and they invest up to SEK 4 million per business. From 2012 STING Capital aims to invest in minimum 10 high-tech companies on a yearly basis.

CapMan Plc is one of the largest private equity firms in the Nordic region, focusing on the Nordic market and Russia. Capman Plc is listed on the Helsinki Stock Exchange. The company's main business is private equity fund management. CapMan's investment horizon is normally 3-6 years and they are mainly investing in well established companies and real-estate. The company manages more than SEK 30 billion in capital.

SEB Venture Capital was founded in 1995, and has invested over SEK 3 billion in approximately 100 companies in total. At the moment they are active owners in 32 portfolio companies with a total turnover of SEK 2.6 billion. As part of SEB, they have a capital base that sets them apart from many equity investors. They operate as an evergreen fund, which gives them the flexibility needed to focus on long-term value for their portfolio companies.

EQT invests in companies across the world; EQT has four investment strategies –Equity, Mid-Market, Infrastructure and Credit (which is excluded from the calculations). Nearly SEK 200 billion has been raised from over 300 global institutional and professional investors and more than SEK 120 billion has been invested in 110 companies. EQT owns today around 50 companies in a diversity of industries across the world. The most concrete result of the EQT business model is to increase portfolio companies' earnings with 15% annually during EQT Equity funds' ownership on an annual basis.

Coeli Private Equity's mission is to offer its shareholders an investment opportunity in a portfolio concept based on Buyout funds that are not typically available to smaller investors. Coeli Private Equity starts a new "VC-fund" each year that mainly invests in other unlisted stocks. Today there are about 10 "funds" with a total of MSEK 1000 under management.

Nordic Capital is a private equity investment firm focusing on leveraged buyout transactions mainly in the Nordic region. Nordic Capital invests across a broad array of industries and maturity. Nordic Capital is registered in Jersey but based in Stockholm, Sweden and was founded in 1989. The firm has approximately SEK 45 billion of capital under management. Since its establishment, Nordic Capital has acquired over 50 companies.