UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Venture Capital firms' role in the sustainable market transformation

A qualitative study on how Venture Capital firms' work with sustainable investments and what role they take in the sustainable market transformation

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Abstract

In order to change towards a sustainable future, there is a need for development and innovative solutions. Startups are of importance in this transition but are in need of capital and knowledge, which is provided by Venture Capital firms (VC). Hence, VCs will play a role in financing the sustainable market transformation as well as contributing with competence and new solutions. This study investigates how VCs work with sustainable investments, how to manage challenges that arise and what impact VCs consider themselves to have in the sustainable market transformation. The research approach was a qualitative method where semi-structured interviews were conducted with VCs in Sweden and one interview was conducted with the Sixth Swedish National Pension Fund (AP6), who invests in VCs.

The VCs and AP6 suggest that even if ESG-factors are integrated with the investment phase, VCs have the most significant influence once the company is in their portfolio and they have seats on the board. Challenges arising with sustainable investments are primarily the lack of standardization, comparability and the amount of in-house knowledge that is needed. It is concluded that some knowledge can be provided by governments through definition of the concept, development of standards and setting clear frameworks. However, it is also concluded that it is not a solution to regulate in detail as VCs primarily invest in early-stage firms. Further, the study concludes that VCs possess an essential role in accelerating the sustainable market transformation as they provide companies with finances and competence, which will stimulate innovation and development.

Keywords: Venture Capital firms, sustainable investments, ESG, sustainable market transformation

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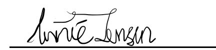

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Terminology and Abbreviations

Agency costs - costs associated with disparities between intentions of an agent and a principal, where the principal does not have a full control over the situation

Due diligence - an investigation where a systematic way is used to analyze a business or investment decision to diminish risk

ESG - environmental, social and governance aspects that are used to assess companies on how far they have advanced with sustainability

General Partners (GP) - owners of the Venture Capital firm and managing the venture funds

Impact investing- a strategy that aims to generate financial returns while simultaneously creating a positive social or environmental impact

Limited partners (LP) - provide capital to venture funds

Portfolio company - a company where investors own equity

Startups - a company that is in its first stage of operations

Sustainable investments - an investing strategy that takes environmental, social and corporate governance factors into consideration

Sustainable market transformation - a process of establishing a market with higher levels of sustainability than was previously achieved

VC- Venture Capital firms

PE- Private Equity firms

IPO- Initial Public Offering

Table of contents

Introduction **1**
1.2 Problem discussion 2
1.3 Purpose and research questions 4
1.4 Delimitations 4
1.5 Disposition 5

Theoretical framework **5**
2.1 Literature on sustainable investments 5
2.1.1 How ESG works 6
2.1.2 ESG-integration 7
2.2 Literature on challenges with sustainable investments and how these can be managed 9
2.2.1 Enablers for VCs to make sustainable investments 11
2.3 Literature on the sustainable market transformation and VCs' role 13
2.4 Key takeaways from the theoretical framework 14

Method **15**
3.1 Methodological approach 15
3.2 Justification of the chosen field of study 16
3.2.1 Choice of respondents 17
3.3 Data collection 19
3.3.1 Theoretical framework 19
3.3.2 Interview guide 19
3.3.3 Qualitative interviews 19
3.4 Data analysis 20
3.4.1 Reliability and validity 21
3.4.2 Ethical considerations 22

Empirical result **22**
4.1 How VCs work with sustainable investments 23
4.1.1 VCs' work with sustainability during their role as shareholders 24
4.2 Challenges with sustainable investments 26
4.2.1 How to manage challenges with sustainable investments 27
4.2.2 How to manage challenges - the role of the government 28
4.3 VCs and the sustainable market transformation 30

Analysis **31**
5.1 How do VCs work with sustainable investments in the initial investment phase and during their role as shareholders? 31
5.2 How do VCs perceive that challenges regarding sustainable investments can be managed? 33
5.3 What role do VCs take in the sustainable market transformation? 36

Conclusion **38**
6.1 Contributions 40

References 41

Appendix 48

Interview guide 48

1. Introduction

The market for global sustainable investments has increased substantially in recent years; in the beginning of 2018 sustainable investing stood for $30.7 trillion, an increase of 34 percent since 2016. A sustainable investment can be defined as an investment that takes environmental, social and governance (ESG) elements into consideration (Global Sustainable Investment Alliance, 2018). The increase in sustainable investments can be interpreted as a contribution to conquering the global sustainability challenges that the world is facing (Fogliano et al., 2019) and that has been paid attention to. For instance, the United Nations took action in 2015 and adopted the Sustainable Development Goals (SDGs) to ensure an end to poverty and establishment of peace and protection of the planet by 2030 (United Nations, 2015). The change needed for a sustainable future will require development and innovative solutions (Nijhof et al., 2014).

Horne and Fitcher (2022) argue that startups are of importance regarding the sustainability transition when it comes to introducing sustainable innovations. For startups to grow, they need financing and Venture Capital firms (VC) play a key role in the emergence of startups where they can help them grow faster and generate more innovation (Bocken, 2015). VC is a type of financing company where investors provide funding to startups and other early-stage firms that they believe have the potential to drive long-term growth (Hayes, 2022). VCs business idea in more detail consists of investing in a firm's balance sheet until a specific size is reached so it can be sold to for instance a Private Equity firm (PE) or undergo an Initial Public Offering (IPO) (Zider, 1998). In order for VCs to invest, they must go through a fundraising process and the ones deciding to invest in VCs are called Limited Partners (LP). LPs are not involved in the daily operations of the business, however that is the case for General Partners (GP), who are responsible for investing in high potential startups and providing support to their portfolio companies in order to make sure LPs receive their return (Rundit, 2021). VCs exist because entrepreneurs with new ideas often have no other institution to turn to, due to the high interest banks will charge on loans because of the high risks startups come with (Zider, 1998).

VCs do not only possess capital but can be expected to have an active impact on the financing of the sustainable market transformation. A sustainable transformation refers to essential changes in systems that will lead to new patterns of outcomes, which will explicitly

focus on the processes of transforming society towards a more sustainable future (Patterson et al., 2017). Further, a sustainable market transformation can be interpreted as a process of establishing a market with higher levels of sustainability than was previously achieved. (Holtslag et al., 2021). The transformation can be viewed as a transitional approach and will hence incorporate complex processes at numerous levels by numerous actors (Blythe et al., 2018). VCs can furthermore, besides contributing with capital and accelerating the sustainable market transformation, provide startups with knowledge, management skills as well as relationships within the firm's operating industry. VCs hence enable the firms to accomplish the innovation needed for sustainable development and the access to sustainable solutions that will contribute to both environmental and social benefits (Lin, 2022).

Recent studies have shown a major increase in capital flowing into funds containing sustainable investments, where ESG-factors are taken into consideration. VCs financing characteristics can be seen as ideal when it comes to sustainable investments since it offers unique investor protection. This protection often consists of a long lock-in period for the VC funds but also valuable knowledge within the industry, which is needed for the uncertainties that come along with sustainable investments (Lin, 2022). To be able to change to a more sustainable future, Bocken (2015) states that it will require significant investments in sustainable businesses.

1.2 Problem discussion

The global sustainability challenges are changing and as mentioned above, major sustainable investments are required to meet these challenges (Bocken, 2015). Talan and Sharma (2019) argue that it is crucial to continue the contribution to, and review the field of sustainable investments as these may be a solution to social and ecological challenges by transforming the financial markets to be held accountable for their impacts. Additionally, there is a gap in previous research focusing on the topic concerning sustainable investments and the integrating of ESG-factors (Friede, 2019). Furthermore, VCs are important because they are close to innovation and can accelerate the process of technological change by providing funds to startups and other early-stage firms, hence they have a crucial part in financing the sustainable market transformation by making sustainable investments (Agrawal, 2018).

The concept of sustainable investments are used interchangeably with ESG-investment, socially responsible investing (SRI) and impact investing in most articles on this subject.

ESG-investments take environmental, social and governance factors into consideration (Jacobs & Levy, 2022), while SRI takes financial and social performance into account (Hutton et al., 1998). Impact investors seek financial results and target companies to achieve social impact, where there is a declutching between the investment made and the intended aim of the investment (Cetindamar & Ozkazanc-Pan, 2017). According to a study by McKinsey (2018), it is possible for impact investors to achieve both a social impact and meet the financial requirements set by shareholders.

The number of companies that measure ESG-data have grown rapidly over the past 25 years and the interest in ESG-data among investors is growing at the same rate (Amel-Zadeh & Serafeim, 2018). The increased interest in ESG-investing has led to some conflicting views, where the approach is criticized for its absence of stable performance (Kuzmina & Lindemane, 2017) and its lack of a common framework for ESG-ratings, where the rating of a company might depend on the chosen ESG research firm. This complicates the comparison between companies, but also assesses if the ESG-ratings are at the level of the companies' ESG performance (Jacobs & Levy, 2022), which is especially challenging for VCs as the few frameworks that exist are not applicable to early-stage companies (TaylorWessing, 2022). The lack of frameworks and standardization makes ESG-ratings less reliable and investment decisions should not be made on ESG-ratings only, but the ratings should rather be seen as a complement to the ESG-factors (Goby, 2022). Furthermore, ESG is difficult to standardize and define (Friede, 2019), and there is a need for an updated performance analysis of sustainable investments to support decision making (Antonakakis et al., 2016). Despite the raised interest in ESG as a tool to make sustainable investments in the past years, there is a lack of research conducted in the area of sustainable investments (Talan & Sharma, 2019).

A major challenge for VCs today is the ability to construct a sustainable portfolio to meet sustainable goals, but also to generate profits (Lin, 2022). There is no evidence of a correlation between financial advantages and sustainable investments, but there is no correlation between financial disadvantages and sustainable investments either (Auer, 2021). However, Botsari and Lang (2020) conclude that considering ESG-factors and investment performance are not mutually exclusive. The increasing demand for sustainable investments may cause a need to integrate sustainability into already established profitable investment strategies, as well as strengthen the knowledge of ESG issues (Auer, 2021; Botsari & Lang, 2020). According to Geobey et al. (2012), VCs will face challenges when setting boundaries like what benefits, costs and risks should be included or excluded in the valuation of potential

impact, as well as the phase of integrating different factors. These challenges will have to be managed in order to drive the sustainable market transformation, in which VCs play an important role (Holtslag et al., 2021).

1.3 Purpose and research questions

The purpose of this thesis is to investigate how VCs work with sustainable investments, how to manage challenges that arise and what impact VCs consider themselves to have in the sustainable market transformation. The investigation will therefore be concentrated on the VCs perspective and aims to develop a deeper understanding of how VCs develop methods to ensure the sustainability of investments. The following three questions were formulated to accomplish this purpose:

1. How do Venture Capital firms work with sustainable investments;

   i) in the initial investment phase?

   ii) during their role as shareholders?

2. How do Venture Capital firms perceive that challenges regarding sustainable investments can be managed?

3. What role do Venture Capital firms take in the sustainable market transformation?

1.4 Delimitations

The time aspect of this study should be brought up as a limitation as the data collection, analysis and conclusion have been conducted during the span of two months. The research is moreover limited to the literature framework being influenced by an American perspective as VCs traditionally have their inheritance in this geographical area. Another limitation that needs to be addressed is the hectic environment prevailing in the VC industry, resulting in the conclusion being based on only six interviews. The study is further limited to the Swedish perspective and the accuracy of the findings in this study may be affected if applied in other countries outside of Sweden, as the regulations and views on sustainable investments differ. This study is also limited to defining “sustainable investments” as an investment strategy that takes ESG-factors into consideration and will therefore focus a lot on ESG. This will result in excluding other definitions and strategies and hence excluding other perspectives.

1.5 Disposition

The theoretical framework is presented in section two, which aims to lay the foundation for this study as well as to give the reader a relevant insight in the area of study to understand the content of this thesis. The method is presented in section three where the methodological approach, how the data has been analyzed and justifications of the study is described. In section four is the empirical results presented, followed by section five where the collected data is analyzed in accordance with the theoretical framework. The conclusions are presented in section six, together with conclusions and recommendations for future research.

2. Theoretical framework

This section will present previous research and literature in the chosen field of study. The first section will describe the definition of sustainable investments as well as proposed strategies for making these types of investments. Further, the second section will present challenges with sustainable investments, how these can be managed as well as enablers for VCs to make sustainable investments. The third section will touch upon VCs' role in the sustainable market transformation and the last section will present key takeaways from the theoretical framework.

2.1 Literature on sustainable investments

In order to investigate how VCs work with sustainable investments, it is essential to understand the existing approaches to these types of investments. This first section will therefore present literature on sustainable investment approaches followed by a review on ESG. In this study, sustainable investments are equal to consider ESG-factors, hence a deeper focus on ESG, how it works as well as how it is integrated when investing.

Sustainable investments have long been equated with socially responsible investing (SRI) and the view that these investments would entail a sacrifice in financial returns. However, Eccles & Klimenko (2019) emphasizes that this view is now outdated. Sustainable investments are, according to the Global Sustainable Investment Alliance (2020), defined as an investment that considers ESG-factors. Sustainable investing has grown in the past years and Global Sustainable Investment Alliance presented seven strategies and activities in their report from

2020, that were initially published in 2012, and are today acting as a global standard of classification.

ESG-integration implies that ESG-factors are included in the financial analysis conducted ahead of an investment decision, i.e. the screening process, and will be further described below. Corporate engagement and shareholder action mean that shareholders' power is used to influence corporate behavior and make sure that ESG-guidelines are followed. If norm-based screening is used, investments are screened against standards based on international norms. Negative/exclusionary screening is a strategy where some investments are excluded due to some activities that are not investable based on norms and values, e.g. weapons and tobacco. In contrast, positive/best-in-class screening is investments in projects with positive ESG performance which yield a high rating compared to industry peers. Sustainability themed investing is investments that contribute to sustainable solutions in some form, such as sustainable agriculture or gender equity. Impact investing appears when investments are made to make a positive social and environmental impact. Community investing is broader than impact investing and are for instance investments in businesses with a clear social or environmental purpose (Global Sustainable Investment Alliance, 2020).

2.1.1 How ESG works

In order to present ESG-integration, as mentioned above, there is a need to first define and explain what ESG is and how ESG-investing works. ESG stands for environmental, social and governance. ESG-investing is built on independent ratings, where investors can assess companies on environmental performance, social impact as well as governance issues (Forbes, 2022). Some of the criterias that evaluate the environmental aspects are: what impact the company has on the environment, which can for instance include carbon footprint, the spill of toxic chemicals in the manufacturing process as well as sustainability attempts to make up for their supply chains impact. The social criteria consist of what social impact the company has on the community at large regarding equality, racial diversity, inclusion programs as well as hiring processes. The governance criteria touch upon how the company's board drives positive change with regard to issues concerning executive pay, diversity in leadership and how well they respond to shareholders. ESG-investing means that investments will be made in companies that score high on these ratings that are determined by third parties (Forbes, 2022).

The ESG-scores are produced by ESG research firms where they assess and score a range of different companies, providing useful metrics for comparison between investments. The scores usually follow a 100-point scale, however, the scores may differ among companies which might affect the metrics and weighting schemes being used. The ESG research firms generally use annual reports, board structure, corporate sustainability measures and financial management etc. in order to assign scores (Forbes, 2022). In more depth, the score is based on the individual company's most important issues, where these issues are weighted depending on their probable impact and when in time they are urgent. Issues containing the greatest potential for impact will have the highest weights and vice versa (Goby, 2022).

2.1.2 ESG-integration

An ESG-integration is mainly performed to achieve superior financial accomplishments, which will force the investment-analysts to work with a wider perspective. The ESG-integration does not only include screening and engagement but rather uses the ESG-information during the whole investment process, which will include the investment case as well as the valuation model (Schramade, 2016). By applying ESG-factors when investing, investors will gain a more holistic view of the invested company, which in turn may help them reduce risk to lower the chances for financial losses (Forbes, 2022).

Materiality

Schramade (2016) argues that the first focus when integrating ESG is to concentrate on materiality when investing. Materiality here implies that an issue can change the investment decision because it includes a probability of affecting the investing company's value drivers, which can have a financial impact. A company's sustainability work can be assessed from many different factors, however, only a few of them are of materialistic character, which depends on the firm's industry (Schramade, 2016). According to Edmans (2020), the principle of materiality asks “Are the stakeholders the activity benefits material to the enterprise?”. Edmans (2020) further states that materiality comes from two sources: business materiality and intrinsic materiality. *Business materiality* refers to how material a stakeholder is to the firm's business. It is important to prioritize the stakeholders that are the most material ones since it is more likely that an investment in materiality will increase profits. If the invested activity has a comparative advantage, its benefits exceed the costs and the activity's stakeholders have high business materiality, the activity will generate profit by creating value for the society. According to Eccles and Klimenko (2019), companies that try to address all

ESG-factors will most likely see their financial performance suffer and argue that companies instead should focus on the material issues concerning their business. *Intrinsic materiality* helps decision-makers distinguish when to choose lower profits where a potential trade-off exists. This may be the case when a firm's earnings go to stakeholders that the firm aims for and where the gains made for the stakeholders will outweigh a loss in profit. The intrinsic materiality can later on transform into business materiality since intrinsic materiality delivers value to stakeholders, something that may attract investors and customers to join the firm and subsequently enhance profits (Edmans, 2020).

ESG-framework

According to Schramade (2016), besides focusing on materiality, there should also be a focus on creating a thorough framework when integrating ESG, which will help to ensure that the material issues are considered. The framework can take various forms, the important part is that it provides the right questions and fits the firm's investment approach. If valuation is considered important, ESG containing the most material issues should be connected to the firm's value drivers. The most material issues are to be found in the nature of the firm's business and its stakeholders and the firm can through an analysis subsequently appraise how the firm performs on identified issues compared to for instance its policies and peers. From here, the firm has to decide if it can derive a competitive advantage from the most material issues that have been identified and how they will influence the value drivers, these connections can be difficult to prove statistically. However, if the connections can be proved, it should become noticeable in the value drivers, for instance, turn into higher margins, more efficient use of capital or lower the business risk (Schramade, 2016).

Germann (2020) states that there is inadequate literature and studies on how VCs integrate ESG-criteria into their investments, even though the sustainable investing approach is accelerating. The European Investment Fund did two pan-European surveys where they found that almost 7 in 10 of the asked VCs integrate ESG-criteria into their investment decisions. The ESG-criteria is mainly used as a screening tool, specifically on an exclusionary basis (negative screening) when performing due diligence. The degree of ESG-integration depends on the maturity of the investment stage, where a more mature stage has a higher integration than an early-stage investment. One possible explanation for this is that more information is available for later-staged firms that VCs invest in, which will facilitate the process of ESG integration (Botsari & Lang 2020).

2.2 Literature on challenges with sustainable investments and how these can be managed

To be able to investigate how VCs perceive that challenges with sustainable investments can be managed, this section will present literature on existing challenges and processes on how these can be managed. In order for the researchers to further deepen the knowledge of how these challenges can be faced, there is also a subsection containing findings on enablers for VCs to make sustainable investments.

As mentioned in the problem discussion, the number of companies that measure ESG-data have grown substantially over the past 25 years (Amel-Zadeh & Serafeim, 2018) and are according to EY (2021) no longer optional. The increased attention and usage of the ESG-investing approach has also led to criticism. The approach is criticized for its absence of stable performance (Kuzmina & Lindemane, 2017) and its lack of common frameworks for ESG-ratings, as set ratings may depend on the ESG research firm executing the scores. This may lead to complications with comparisons between companies (Jacobs & Levy, 2022) and in particular for VCs as the few frameworks that exist are not applicable to early-stage companies (TaylorWessing, 2022). Furthermore, ESG is difficult to standardize and define (Friede, 2019) as well as slowed down by conflicting ESG taxonomies and insufficient disclosure of ESG risks (EY, 2021).

According to the European Commission (2020), the EU taxonomy is defined as a "classification system, establishing a list of environmentally sustainable economic activities". The EU taxonomy will provide investors with definitions on economic activities that can be classified as environmentally sustainable (European Commission, 2020). However, the ESG taxonomies come with several weaknesses: classification, comparison and lack of indicators measuring sustainability performance (Ehlers et al., 2021). There is also no consensus on what the taxonomy should include and different versions in for instance China, Japan and Canada are therefore under development. Moreover, ESG-reporting does not yet have a globally recognized standard and transparency is not to be found (EY, 2021). Even though ESG-investing has increased immensely, there is still no evidence of a correlation between financial advantages and sustainable investments (Auer, 2021).

Yield and sustainability

When making a sustainable investment decision, VCs are facing the challenge of finding businesses that have the ability to generate financial growth and returns, while at the same time creating a sustainable impact (Bocken, 2015). It is no longer a question of maximizing yield, but acknowledging the triple bottom line (Elkington, 1999), which may create challenges for investors such as VCs (Bocken, 2015). The triple bottom line theory induces that the focus should not fully be on profits, but equally focused on social and environmental concerns as well. The theory explains three bottom lines that should be addressed: profit, people and the planet. The concept is to encourage businesses to not only focus on making money but at the same time improve peoples' life and the planet (Elkington, 1999).

Strategies for managing challenges

Lin (2022) proposes a contractarian strategy that creates a role for governments that favor the availability of several factors in a sustainable VC fund cycle and ease the development of sustainable VC funds. The strategy contains three stages that cover the entire VC cycle in sustainable investments and face the challenges that arise with sustainable investments. The first stage is the fund-raising stage, the second stage is the investment phase and the last stage is the exit stage (Lin, 2022). Since this study focuses on the VCs' perspective, the first stage is not relevant for this study and will consequently not be explained further. The second and third stage is presented below:

The second stage is the investment phase, and the VC fund managers are in this stage facing the challenges of creating a lucrative sustainable portfolio (Lin, 2022). One of the most important strategies of sustainable investments is shareholders' ability to use their power to prepare the portfolio companies towards a more sustainable business model (Global Sustainable Investment Alliance, 2018). VCs obtain the ability to set up objectives for the portfolio companies that need to be met if more financing will be materialized. This type of objectives can be used to assure that the portfolio companies deliver according to their sustainable promises. VCs are used to the operations of a startup and recognize whether they deliver on their sustainable promises with ease. This gives sustainable startups who are serious with their business an incentive to keep working hard to avoid the risk of losing their finances (Lin, 2022).

The final stage is the exit stage and describes the challenges for VC fund managers that arise in connection with the exit process. There is a lack of exit mechanisms, e.g. sale to a PE or

undergo an IPO, that are applicable at sustainable VC funds and the need for reforms as institutional designs are therefore needed (Lin, 2022; Zider, 1998). It is also suggested that the listing requirements, such as profitability, for startups with a strong sustainable impact should be lowered. One way to heighten the liability of sustainable investments is the suggested sustainability board that would focus on sustainable investments. The sustainability board can act as an assurance for investors interested in sustainable investing and clarify the exit venue for sustainable VC investments (Lin, 2022). One remaining issue is the lack of standardization and comparability of sustainability information (Gregory et al, 2020), which will be needed to make the board more liable and attractive and pave the way for exits of sustainable venture capital funds (Lin, 2022). It is argued that this might be solved with the EU's detailed regulations, the EU Taxonomy Regulation and the EU Regulation on Sustainability-related disclosure (Lin, 2022).

The challenges for VCs to create a profitable and sustainable portfolio is mentioned (Lin, 2022), but in a research conducted by Unruh et al (2016) it was found that investors find sustainability performance as a source of for instance increased potential for long-term value creation, improved revenue potential and lower risk. To be able to see the financial impact of sustainability strategies, the UN Global Compact and the Principles for Responsible Investment Initiative have developed a tool that can be used. By adding sustainability to growth, yield, and productivity calculations, the model provides the opportunity to estimate return on invested capital.

2.2.1 Enablers for VCs to make sustainable investments

For VCs to face challenges arising with sustainable investments, both internal and external enablers have been identified in studies focusing on investments in the areas of Europe and the USA (Antarciuc et al., 2018).

The first enabler, identified as internal, is that when VCs decide to make a sustainable investment, they must have the right set of human resources that are qualified to support and favor the sustainable outcome of the investment (Bjornali & Ellingsen, 2014). Secondly, it is crucial that the VC have a deep understanding of the sustainable business model that the invested firm operates with (Seelos & Mair, 2005). The business models may require substantial funding and the better the VCs apprehend this, the better chance for a good and profitable investment (Bocken, 2015; Baum & Silverman, 2004; De Carolis et al., 2009).

Thirdly, the support from top management is essential for VCs to make sustainable investments since it indicates that the company's investors are free to select their portfolios and include sustainable investments (Marcus et al., 2013; Bürer & Wüstenhagen, 2009). Fourthly, it is of importance that VCs have a moral commitment to sustainability (Bocken, 2015). Fifthly, VCs may deliberately make sustainable investments if the firm invested in has an innovative business model (Bocken, 2015). Sixthly, investing in sustainable investments can diminish the financial risks since they can outweigh these risks with the environmental and social benefits that come with the investment (Bocken, 2015; Jansson & Biel, 2011; Székely & Knirsch, 2005; Mill, 2006; Lützkendorf & Lorenz, 2005). Lastly, VCs' sustainable investments can engender new demand, mainly because sustainable startups require innovative solutions and hence creating new markets for new products (Petrick & Echols, 2004).

The first enabler, identified as external, is that VCs' reliability when it comes to networking and collaborations is of importance when sustainable investments are to be made (Bocken, 2015). This can be explained by entrepreneurs seeking help concerning the market as well as investor exit strategies. It is shown that many VCs networking with entrepreneurs focusing on sustainability, will end up investing in these types of firms (Bhatt & Altinay, 2013; Ghosh & Nanda, 2010; Petkova et al., 2014). Secondly, VCs' sustainable investments are affected by government policies, regulations as well as programs encouraging sustainable investments, where VCs need consistency when it comes to government policies (Bürer & Wüstenhagen, 2009; Lerner, 1999; Lerner, 2002; Lee et al., 2001). Lastly, governments should use international standards to increase the transparency in sustainable investments made by VCs in order to diminish the risks of intellectual propriety breach (Richardson, 2009; Brown et al., 2009; Waelde & Kolo, 2001). Some governmental interference is to be found as VC's operating in the EU constituting collective investment schemes, that go under the definition of “alternative investment funds” (AIF), are subject to disclosure requirements regarding sustainability known as “Sustainable Finance Disclosure Regulation”. The requirements concern, for instance, obligation for fund managers to disclose information on how sustainability risks are integrated when investing. Additionally, they are in need to prepare a policy on how they account “Principal Adverse Impacts” (PAIs) into their due diligence, which considers sustainability indicators (TaylorWessing, 2022).

2.3 Literature on the sustainable market transformation and VCs' role

To investigate what role VCs take in the sustainable market transformation, this section will present the definition of a sustainable market transformation and literature on how VCs can have an impact on this transformation.

A *sustainable market transformation* is defined as “the elevation of a market to higher levels of sustainability” (Holtslag et al., 2021). Moreover, a *sustainable transformation* refers to crucial changes in systems that will lead to new patterns of outcomes, such as “structural, functional, relational and cognitive aspects of socio-technical-ecological” ones. These outcomes will explicitly focus on the processes of transforming society towards a more sustainable future (Patterson et al., 2017). The *transformation* can further be viewed as a transitional approach and will hence incorporate complex processes at numerous levels by various actors (Blythe et al., 2018). Within a transitional approach, there is a focus on how social structures develop through interactions amid different levels, for instance globalization (macro-level), collective thinking, organizing and working both with well-established patterns (meso-level) as well as with newly developed patterns (micro-level) (Loorbach, 2009).

To emphasize market dynamics that come with interactions between various actors, Simons (2015) described four phases that take place in the sustainable market transformation. The first phase begins with *inception*, where innovations are developed due to pressure for change that will challenge the already established equilibrium. The change will begin to appear at micro-level from individuals, companies and local governments. The inception phase is followed by *first movers*, a phase that is commenced by the existing change, but where it begins to have a greater effect at meso-level. In this phase, sustainability issues will persist but many businesses will address these issues to become “first movers” and use sustainability as a product differentiation strategy, thus gaining a competitive advantage. The third phase, *critical mass,* contains the stage where businesses can no longer compete on sustainability issues because it has become an integrated part of every business in the market. The fourth and last phase, *institutionalization*, refers to when micro-level pressures for change are constrained and a new equilibrium has been reached (Simons, 2015).

According to Nijhof et al. (2014), for a sustainable market transformation to advance from one phase to another, capital is required. Here, VCs possess an important position since they can accelerate the procedure of technological change by providing funds to early-stage firms, hence they play an important role in financing the sustainable market transformation (Agrawal, 2018). A recent study shows that the role of impact VCs regarding sustainable market transformations are mostly relevant in the initial phases (Holtslag et al., 2021), therefore this investigation will only discuss the inception and first movers phase. During the first phase, inception, it is shown that VCs take two roles: forecasting and financing. Forecasting contributes to sustainable market transformations by identifying and including socially or environmentally trends that they believe will be "commercially viable in the future" when looking for investment opportunities. When these opportunities have been identified, VCs accomplish this by investing in, and thus funding the opportunity. By fulfilling these two roles in the initial phase, VCs affect the sustainable market transformation by bringing sustainable alternatives to the market (Holtslag et al., 2021).

In the first movers phase, non-financial roles, also called value-added roles, are taken and a few of them are *mandating*, *strategizing*, *mentoring* and *operating* roles in order for VCs to develop a competitive advantage (Holtslag et al., 2021). The mandating role contains that the VCs set up structures, financial and non-financial goals, contracting details as well as board control. The strategizing role implies that all the activities taken by the VCs are aligned with the long-term goals of the venture. The mentoring role refers to the coaching and mentoring activities that the VCs take on. Further, the operating role relates to the daily business activities, including monitoring and control. Moreover, the operating role is important for VCs to ensure that potential agency costs are minimized by for instance taking positions at board level. By VCs developing competitive advantage and proving that sustainable alternatives can be commercially viable, they will play a crucial role in shifting markets towards a more sustainable one because they will also develop sustainable value chains (Holtslag et al., 2021).

2.4 Key takeaways from the theoretical framework

To summarize the findings from the theoretical framework, a sustainable investment is defined as an investment that considers ESG-factors. ESG-investing is built on independent ratings, where assessments can be made from companies environmental performance, social impact and governance issues. When integrating ESG-factors, materiality is of importance

because it can affect the investing company's value drivers and subsequently also have a financial impact. Sustainable investments come with challenges for VCs, primarily because of the lack of standardization, comparability and the difficulties with defining the concept. Furthermore, the process of the sustainable market transformation can be divided into four phases, where VCs hold an important position. The first two phases: inception and first movers contain stages where sustainable innovations are developed and where these, later on, will gain competitive advantage by product differentiation. It is argued that VCs affect the sustainable market transformation by providing the market with sustainable alternatives and sustainable value chains.

3. Method

This section will present the method approach, justification of the chosen field of study, choice of selected respondents, data collection and data analysis containing reliability and validity as well as ethical considerations.

3.1 Methodological approach

For completeness of this study, a qualitative approach was used. As this study has deepened the research in a field that has a limited supply of previous research, it is an exploratory study. When performing an exploratory study, a qualitative approach is favorably used as it contributes with new ideas and focuses on small samples that can be analyzed in detail (Patel & Davidson, 2019). The choice of qualitative structure in this study is also based on the lack of qualitative studies that investigates VCs work with sustainable investments. Current studies are primarily focusing on the whole investment community when investigating sustainable investments.

The study relies on primary data collected from six deep interviews, where the collected data have been compiled and analyzed in accordance with the research questions. By asking open-ended questions, the respondents could formulate their own answers and enlighten points they considered most important (Bryman et al., 2017). The respondents were initially contacted by email, where after accepting to participate in this study, the interviews were held over Zoom where the respondents were asked to have their cameras on in order for the researchers to view the respondents' facial expressions. Denscombe (2010) argues that this is

important because it will make the interview more similar to a face-to-face interview. Further, by offering Zoom interviews, the researchers did not limit the study to Gothenburg but could reach respondents from all around Sweden, which was vital for the study's execution as the majority of VCs operating in Sweden are located in Stockholm.

Bryman et al. (2017) present six steps in a qualitative research process: general research questions, selection of relevant places and people, collection of relevant data, interpretation of data, conceptually and theoretically work including a more exact formulation of the research questions and further collection of data, and to write a report about the research and its result. In this study, three general research questions were formulated and paved the way for what data that were relevant to collect. The theory of this thesis was processed during the study as the researchers got new impressions from the data collection, which led to a need to revise the theory. This kind of evolution of the theoretical framework may be needed to clarify the researcher's choices throughout the study process (Dubois & Gadde, 2002).

To reach a conclusion there are primarily three different methods that can be applied, deductive, inductive and abductive methods. The deductive method focuses on verifying theories and trying theories, while the inductive theory rather builds new theories. The abductive method can be explained as a combination of deductive and inductive methods (Patel & Davidson, 2019). The limited supply of previous studies within this thesis' field of study made an inductive approach more appropriate than a deductive or abductive. The inductive approach provided a theoretical framework that was refined during the entire study process. The researchers discussed the data collected from the interviews and found similarities and differences between the respondents, which together with the analysis supported the drawn conclusions.

3.2 Justification of the chosen field of study

The focus on VCs is based on several factors. Primarily, the current global sustainability challenges must be faced and VCs play an important role in contributing to the sustainable market transformation. VCs can assist startups with financial funding, as well as knowledge and competence (Holtslag et al., 2021). Furthermore, VCs are funders of technological change and are positioned close to innovation (Holtslag et al., 2021), which can accelerate the expansion of sustainable solutions (Lin, 2022). The number of conducted studies within the chosen field of study is somewhat limited and this report may have contributed to filling that

gap and have deepened the knowledge of how VCs work with sustainable investments, how to manage challenges that arise with sustainable investments and what role they take in the sustainable market transformation.

As the study focused on VCs working with sustainable investments and how they contribute to the sustainable market transformation, it may be difficult to generalize the conclusions and apply them to other investors. VCs are primarily making investments in early-stage businesses, which results in their work with sustainability aspects in investments to differ compared to investors that invest in more mature businesses. Furthermore, the market is dynamic and circumstances are constantly changing which needs to be considered when reading this report. As the study focused on the Swedish perspective, some generalizations can be made about how VCs within the EU work with sustainability, as the EU has certain requirements for this.

This study will define sustainable investments as an investment that considers ESG-factors and ESG will therefore be the main focus. It was found from the theoretical framework that SRI equated with sustainable investments is outdated and will therefore not be focused on in this study. Moreover, impact investing is a relatively new area and the number of impact investors operating in Sweden is limited. The researchers also found value in further investigating VCs' work with ESG in investments as this is a complex area, even though it has been accurate for several years.

3.2.1 Choice of respondents

To identify relevant VCs, the website of the Swedish Private Equity & Venture Capital Association (SVCA) was used. The VCs were categorized depending on how much capital they invest with and how many portfolio companies they hold. The interview respondents were chosen depending on their current role within the VC. The researchers primarily targeted people with experience in the field of study and favorably possessed a role as Head of sustainable investments, Investment Manager, Fund Manager or General Partner.

When the qualitative interviews were conducted, the researchers saw a value in deepening the analysis by conducting an interview with a LP investor in VCs to gain a broader perspective. The decision was primarily based on the insights the researchers received from the interviews with VCs and gave a valuable insight into whether the LP agreed with the VC's statements or not. This led the researchers to interview two members of the sustainability team at the Sixth

Swedish National Pension Fund (AP6). AP6 is a state-owned pension fund and was mainly chosen because of its Private Equity centered investment approach with allocation towards buyout, venture and growth as well as their expressed consideration in integrating sustainability into its investments (AP6, 2019). As a state-owned pension fund, AP6 are working with a long-term horizon with their investments, which aligns with the sustainability aspect as it is considered key for delivering long-term returns with a balanced risk. To be able to compare the answers from the VCs, the same interview questions were used in the interview with the respondents, however, some small adjustments were made.

The interviewed VCs were Alfvén & Didrikson AB, Kinnevik, Neqst, Zenith Group and one that wants to be anonymous, note that these are not in order in table 2 below. All respondents will be referred to the letters A-E and be kept anonymous in the text. The sixth respondent is AP6 and will be referred to as AP6.

Below is a list of the VCs that were interviewed:

Reference	Investment range, SEK	No. of portfolio companies	Investment stage	Respondent's role
A	No specific	30-35	Late startups & small growth	Sustainability & Legal Manager
B	20-700 million	11	Growth	Partner
C	50-100 million	21	Different stages	Co-founder & Partner
D	3-50 million	16	Startups	Co-founder & Investment Director
E	Up to 1,5 million	~70	Startups, first investors	Business Development Sustainability

Table 1: The VC respondents categorized on investment range, number of portfolio companies and investment stage.

3.3 Data collection

This subsection will present the approach regarding how the theoretical framework was collected, how the interview guide was designed as well as how the qualitative interviews were conducted.

3.3.1 Theoretical framework

The secondary data collected in this study laid the foundation for the theoretical framework, as well as gave inspiration for the interview guide. The databases through the Gothenburg University library were initially used to collect the secondary data, where Scopus was primarily used. The Google Scholar search engine was also used later in the process. Keywords that were used were for example "venture capital", "sustainable investment", "venture capital sustainability", and "challenges venture capital sustainable investment". When a relevant article was found, its reference list was used to find more relevant articles. Academic articles were the foremost used literature in the theoretical framework, where articles that were peer-reviewed were primarily used, but some books and public reports were also used.

3.3.2 Interview guide

The interview guide (Appendix) was designed with regard to the already formulated research questions together with some desk research. The researchers wrote a draft of interview questions alongside formulating the background in order to commence with the theoretical framework. The draft was subsequently discussed with the supervisor, revised and discussed again in order for the researchers to write as good questions as possible. The main part of the interview questions consisted of open-ended questions, the ones that did not were followed up by elaborative questions.

3.3.3 Qualitative interviews

The sample size of this study was limited due to both time and availability of respondents, resulting in six interviews that lasted between 35-50 minutes. The chosen respondents received background information as to why this study was conducted as well as access to the interview guide (Appendix) in order for them to be prepared prior to the interviews. By informing the interview respondents about the purpose of the study and why their participation is important, they may be more motivated to assist with their knowledge of the

study (Patel & Davidson, 2019). The interview guide primarily consisted of open-ended questions and the interviews were semi-structured because it would allow the respondents to share their knowledge as well as expertise on what they acknowledge as relevant to the topic.

Semi-structured interviews are recognized by researchers using a list of certain topics that should be touched on, but still allow the respondents to answer the questions in their own way (Bryman et al., 2017). In order for the researchers to make reasonable comparisons among the interviews, there had to be some kind of structure so that the purpose of the thesis could be properly investigated. An identical approach was maintained during all interviews, which began with the researchers introducing themselves followed by the purpose of this study. The researchers then asked respondents for a short introduction of themselves and their roles as well as permission to record the interviews. If permission for recording the interviews was granted, the researchers used this to transcribe and then deleted the recording afterwards. The benefit of recording an interview is that the researchers register the respondent's exact answers. One limit that may appear when recording that should be brought up is that respondents tend to act differently and talk more openly and spontaneously when the recording advice is turned off (Patel & Davidson, 2019). The respondents were subsequently also informed about anonymization during the interviews. One researcher was mainly responsible for asking the questions and the other for taking notes during the interviews. The researcher responsible for asking the questions asked follow-up questions during the interviews in order to gain as much understanding of the respondent's work with sustainable investments as possible.

3.4 Data analysis

The method used for data analysis was grounded theory, which is the most commonly used method for qualitative research (Bryman et al., 2017). The grounded theory consists of four steps, namely: theoretical selection, coding, theoretical saturation and continuous comparisons (Glaser and Strauss, 1967). The theoretical selection is made with the aim to explore categories and their attributes in order to show how their mutual relations can be included in a theory (Glaser and Strauss, 1967). Coding is one of the most vital processes in the grounded theory and consists of the researchers decomposing and describing the collected data. The coding is followed by theoretical saturation that concerns two phases in the grounded theory. The first phase is the coding of data, which implies that further examination of the data will be of no use. The second phase implies the point where the data collection is

saturated. The last step, continuous comparisons, is the process where the researchers maintain a close relationship between data and conceptualisation. The focus will be held on constantly comparing the coded data in order to process the theoretical framework (Glaser and Strauss, 1967).

The researchers applied the theoretical selection with respect to the research questions and interview guide. The theoretical framework was reviewed and revised continuously during the writing process in order to maintain relevant information and facilitate the analysis. The coding process of the collected data was the most time consuming and also the most critical phase for this thesis. The coding consisted of the researchers having discussions after every interview in order to reflect on and evaluate the answers and performance. Further, the coding was conducted by the researchers by categorizing the interview respondents' answers to the research questions after carefully having reread, shortened, compiled and analyzed the material. In the first phase, coding of data in the theoretical saturation was reached at the end of the analysis, where the theoretical framework and the collected data were compared and discussed. The second phase was achieved when the empirical result was at the end. The fourth step that is included in the grounded theory was done during the whole thesis and was maintained by the researchers frequently discussing and evaluating the collected material and if it fulfilled coherence with the research questions.

3.4.1 Reliability and validity

When a qualitative approach is used in studies, it is vital for the researchers to ensure reliability. Reliability can be divided into internal- and external reliability, however only internal reliability is applicable in the qualitative approach (Bryman et al., 2017). Internal reliability is established when the researchers agree on how to interpret the interview respondents' answers and expressions. In this study, reliability was ensured by the fact that both researchers attended all the interviews. Additionally, all of the interviews were recorded if permitted to ensure that nothing of importance was missed. The researchers did also repeat and reask the respondents if something in their answers were unclear. Further, when the interviews were done, the material was discussed in order to ensure that both researchers had perceived the respondent's answers in the same way. Later on, the researchers conveyed the results to the interview respondents with the aim to have the findings confirmed as well as to reassure respondent validation.

Another vital part when doing a qualitative study according to Bryman et al. (2017), is to ensure validity. In resemblance to reliability, validity can also be divided into internal and external validity, however, only internal validity is relevant for this type of study. Internal validity means that there has to be good compliance between what the researchers observe and the theoretical ideas they evolve. Internal validity was ensured by the researchers connecting the observations, in this case, the interview respondent's answers, with already existing theoretical work in the analysis section, which ensured that there were no new theories involved in the study, only a discussion.

3.4.2 Ethical considerations

To ensure the ethical aspects of this thesis, the four ethical aspects presented by the Swedish Research Council (2002) have been taken into consideration. The four aspects are the following: the *information requirement,* the *consent requirement,* the *confidentiality requirement* and the *utilization requirement*. All interview respondents were informed of the purpose of this study and were given the interview questions ahead of the interview. Furthermore, the interview respondents were also informed of their role in this thesis in the initial contact by email. This ensured that the *information requirement* was met. To ensure that the *consent requirement* was met, the respondents were asked if the information given to them could be used in the research and did also get the opportunity to review citations if they were quoted. The *confidentiality requirement* was met by giving the interview respondents the option to be completely anonymous and ensure that all collected data was stored so no unauthorized person could access it. To ensure that the *utilization requirement* was met, the collected data was not shared with any third parties and the interview respondents were given the final thesis prior to publication.

4. Empirical result

This section will present the collected data from the interviews with VCs as well as AP6, who is referred to as LPs. The data is presented in the same way as the research questions are structured, where the statements from AP6 are presented lastly under each title.

4.1 How VCs work with sustainable investments

Respondent D does not use any specific models when making an investment, but they do undergo a solid investment process with due diligence focusing on ESG that is carried out by a third party. The ESG-factors are scored in the same way as any other areas are scored, but it is important to emphasize that a lot of businesses they invest in are early startups and have not yet had the time to develop a solid sustainability work. Furthermore, respondent D pursue benchmarks against the UN 17 Sustainable Development Goals (SDGs) as well as performing negative screenings and avoiding investments in sectors that are not sustainable, such as weapons and drugs.

Respondent A explains that as a way to understand what kind of risk that is taken, they have developed several standards across ESG that are used as benchmarks to track where a company is in its sustainability work. The respondent further explains that all their investments are scored against these standards and gives them an understanding of what kind of work is necessary to be carried out in these companies. A company is evaluated on their understanding and attitude towards working with ESG and not its actual performance at the moment. Respondent A describes that as some companies are at a certain stage where they cannot be expected to have accomplished a lot in this area, it is important that the founding team values and understands ESG. To evaluate one potential investment from another, they keep track of the market to understand where every company should be and benchmark it against their own portfolio.

Respondent B invests exclusively in the tech industry and sustainability is not at the center of their investments. The respondent further explains that they have a certain level of acceptable behavior that needs to be reached, but do not have any standardized principles. They are instead more focused on the feeling of the investment, if it is something they can take pride in holding in their portfolio and whether the company is making a difference in the industry. The respondent further says that they do not have any quantified measurements to evaluate whether their investment is making a difference and explains that this kind of tool would be a challenge to use as it would need to be adjusted to different investments.

When it comes to environmental footprint and diversity, respondent C tries to use standardized methods and works in detail with every goal of the UN 17 SDGs. The respondent describes that they work with three pillars when making investments; fun,

purpose and profitable, and these pillars are guiding the investors to make sustainable investments in the long run. Besides this, the respondent also has internal environmental policies, but points out that they work with industries where the carbon footprint is small. They are also constantly working with transparent corporate governance and the ownership in the portfolio companies. According to respondent E, they look at the most common criterias when making sustainable investments: the market, the team, the potential, the impact and the sustainability. If the case were to look at an impact fund instead, the respondent explains that more goals are set for the potential investment to reach. At the fund level, there are indicators in different areas where the potential portfolio company is chosen for the specific area.

4.1.1 VCs' work with sustainability during their role as shareholders

Respondent D explains that they make sure to involve the invested business in sustainability and ESG-work. By holding a workshop together with an ESG-counselor in the initial phase with all the new companies that they have invested in, a custom made ESG-agenda is set up as well as how the company will contribute to positive development. Respondent D emphasizes that it is important for them to make sure that they provide the portfolio companies with the right tools in order for them to work in line with the set requirements. Further on, by having seats on the board, they always have the ability to affect and follow up on their portfolio companies' work with sustainable investments. They require the companies to report to them quarterly and monthly as well as have some focus areas that are followed up. Moreover, the respondent describes that what should be included in the reports is mostly tailored depending on the company, but some factors are general and apply to all of them. Respondent B also uses their board position to influence their portfolio companies and creates a strong relationship with the management team. They do not have any formalized routines to control their portfolio companies' sustainability performance but make sure to listen to and understand the companies' focus areas. Respondent B further states that they think their portfolio companies are performing good enough in these matters and are therefore not working actively with these issues. There is a greater potential to work with social sustainability in the portfolio companies, but the respondent believes that there must be a driven spirit within the VC that drives these matters forward in order for this to happen.

Respondent A states that as investors, they can control what their companies are doing both by their ability to influence and drive sustainability issues as well as the companies' willingness to work with them on sustainable matters. They have developed standards and

collect data on how their portfolio companies are performing on different measures and in situations where the portfolio companies need more support, respondent A explains that they have several internal processes to keep track of these companies' performances. These processes are for instance annual assessments of the standards and ambitions set together with the investment team and the companies. The importance of their perspective is that the portfolio companies should work with these matters to drive their own business and create value, and not only to report back to their investors.

Respondent C works together with their portfolio companies on the sustainability frameworks that are available. They focus on environmental impact, gender diversity, inclusion and a fourth goal that the specific company decides. The chosen goal is often something that will make the portfolio company a more attractive employer, which in turn will make them an attractive investment. Respondent E says that as they are a very early developer of companies and work operationally, they have the ability to influence their companies during the investment period, which is done by using different tools and external consultants. The respondent points out the difference between sustainable investments and impact investments, as it is easier to follow up on an impact investment because the investment is made with determined key ratios that can be followed up during the development of the company. What is important to bear in mind when making these investments, according to the respondent, is where the investment is made and where it has its impact.

LP's view - Important factors when investing in and evaluating VCs

As LPs, AP6 states that they have different touchpoints when evaluating VCs. Their due diligence is performed based on several aspects, where sustainability is weighted equally together with other aspects. They further describe that they look at how the VC works with sustainability, their intentions, their strategies on how to develop the sustainability work and how standardized their methods are. To measure these aspects, AP6 has developed their own scorecard where qualitative aspects of sustainability are assessed. AP6 further describes that their assessments are based on how the VCs' organization looks like, their processes and policies and are keen to receive examples of how it is implemented in practice as well as what consequences this will have on different companies. When it comes to sustainability, AP6 explains that they usually have known the invested VC for many years and have got to know their sustainability work as well as their potential to drive and develop these issues.

4.2 Challenges with sustainable investments

According to respondent D, investing sustainably is not harder than investing in anything else but emphasizes that as they are investing with external money, they must adjust to their shareholders' demands and can therefore not trade yield against sustainability. Respondent A agrees with the statement that sustainable investments are not difficult, as they apply a sustainability aspect in all of their investments just as any other factor. What can be brought up as a challenge with sustainable investments is the fact that it is never the same and you need to have a lot of in-house knowledge in order to be able to make these assessments. Respondent A emphasizes though that they do not see this as something that is hard to accomplish, but the hard thing is rather to drive the topic while being a shareholder. Another challenge is whether to trade yield against sustainability, which the respondent says depends on if the sustainability aspect is a core part of the business. However, the respondent means that yield and sustainability go hand in hand as they are long-term investors.

Respondent B highlights three main challenges with sustainable investments, where the first one is how sustainability is defined across different industries. The next challenge is the need to quantify data to be able to compare different companies with the same measurements. The last challenge consists of how to make the tradeoff between potential profitability, yield and sustainability. Respondent C says that the difficulties arise when sustainability is separated from the financial aspect. Some funds that are set up have an exclusive focus on sustainability and the risk is that the fund will not leave a return for those who invested in it. Another challenge that the respondent mentions is who should decide what is sustainable, and for whom. The respondent further implies the challenge with people setting up nice reports on the sustainability topic, but do not work with them. It is important that people work with these reports and that they are transparent and find easy ways to measure the most important aspects. Respondent C states that whether you can trade yield against sustainability is not applicable in the long-run, as sustainability will generate more value in the long-term compared to an investment with lower sustainability. As they do not sell businesses, they are almost only interested in the long-term and may therefore trade profitability against sustainability.

According to respondent E, the greatest challenge with sustainable investments is the mindset of the owners of the funds. The respondent states that there are resources to work with sustainable investments, but VCs need to set a focus on it and bring in the expertise to make

these investments. It should not be a complement, but a strategic matter within the VC. The respondent says that it is important for VCs to understand that there is no need to choose between sustainability and profitability, but that it is the same thing. The respondent further explains that there should not be a tradeoff between sustainability and profitability when making an investment. The respondent clarifies that there will have to be a sustainable aspect in investments today if they are going to be profitable in the long-run.

LP's view - Challenges with sustainable investments

AP6 states that it is important to understand the governance model in Venture where VCs invest in a minority together with other co-investors where there are yet only a few who incorporate sustainability clauses in their term sheets. Although sustainability is discussed in board meetings the majority of the conversations happen in more informal settings as the VCs are working with founders and management teams to scale and grow the company. The respondents explain that from a historical perspective, there has been little information within the industry on best practices as well as how other VCs work with sustainability issues. AP6 further believes that there is no disagreement on yield versus sustainability, they are convinced that long-term yield is created by taking sustainability into consideration. If sustainability is not considered, they argue that a lot of risks and value-adding opportunities will be missed out on. In the long-run, they believe that it is important to keep track of the sustainability trends and adjustments in society as well as “keeping your house in order”. It is important to work with ESG issues and to put structures in order when the company still is at an early-stage because, in the respondents' opinion, these questions will cohere with yield. The focus on sustainability when investing contributes to more robust companies that will generate long-term yield and will be seen as positive in a later valuation round.

4.2.1 How to manage challenges with sustainable investments

According to respondent E, to facilitate the process of sustainability in investments it is important to include the sustainability aspects at the beginning of the process. It is also important to think of how for instance a new product or technique is included in the life cycle perspective and how this should be developed to contribute to the greatest benefits. The respondent also implies that the change towards a more sustainable society is a long-term change and says that it is important to work on the issues from all fronts. They believe that young people will be a part of the change as they enter the companies and take roles as

decision-makers. Respondent E further points out the importance of private capital and that it is essential to get the desired change on our planet.

Similar to respondent E, respondent A points out the importance of including the sustainability aspect into the investment process just as any other aspect. Sustainability should be valued the same way as other factors and investors should spend just as much time on this aspect as on legal or financial due diligence. Respondent A further argues that by prioritizing sustainability as any other aspect, it will be on top of the agenda and the specific company will know what is important for them in terms of ESG. Further, they do not work with a "one-size fits all", it is rather important for them to understand the sustainability challenge for every individual company and work with something that is value-adding. The respondent says that if they invest in new solutions to solve global problems it is of great importance to understand the market, as it is for any sector. According to respondent D, as VCs invest in early-stage businesses and therefore early in the entire value chain, it is important that they relate to coming exits. The respondent says that the next actor in the value chain needs to make demands that VCs may adjust to, in order to build an attractive business for the next actor.

LP's view - How to manage challenges

According to AP6, VCs might invest in companies that are disrupting markets and scaling up fast while doing so, it is important to understand and consider the sustainability risks associated and how to manage them.

4.2.2 How to manage challenges - the role of the government

Most of the respondents do not see a need for additional regulations or pressure from the government or EU to facilitate the work with sustainable investments. Respondent D argues that as they invest in early-stage businesses, it would be difficult for them to handle requirements in that stage. The respondent emphasizes however that more knowledge is good and as the area with sustainable investments is maturing, the knowledge can be used by VCs to create processes, to improve the decision-making and finding the right focus. It is important with knowledge, focus and transparency in this matter. Respondent A encourages the reporting regulations and thinks they trigger people to acknowledge these types of issues. The respondent however mentions that it is unfortunate that the regulations are mainly focused on the new green investments, which loses the aspect that existing industries are also

adapting to the new reality. The narrow focus on green investments may result in an exclusion of existing industries that are not green now and the possibility to make these industries greener in the future. When it comes to involving the government to facilitate the sustainable investment decision-making process, the respondent points out the challenges with governments being too slow in the quick development that sustainability issues are. For some, it might be helpful with this type of forced support, but it is also limiting and the respondent further explains that it is not the solution to drive investors towards sustainable investments. Instead, the respondent thinks that the driver of sustainable investments is the market itself. There is also a need for global initiatives that will create consistency in the market. From a VC perspective, there is probably no need for a certain process, but rather an understanding of how sustainability is defined.

Respondent B implies that the expectations on them come from their shareholders, but the government coming with new requirements is not a solution the respondent believes in. However, the respondent highlights the benefits of clear frameworks that may support the implementation of processes for sustainable investments. It is important though that potential tools are not too complicated or frameworks too in-depth. Respondent C says that when working with sustainability, they are using existing frameworks and structures to ease the process. They are in favor of the initiatives from the UN and their co-investors as it creates a greater focus on the issues but do not see a need for further regulations. The respondent argues that the frameworks are a good complement, but the government should not legislate in detail. Respondent E implies that there is a need for impact from the government, for instance through regulations to accelerate the work with sustainable investments, but there is also a need to get more young people to pursue these issues further as well as companies to work with them.

LP's view - The role of the government

AP6 sees an increasing commitment regarding sustainability in the VC community and does not currently see a need for increased sustainability regulation in the VC market. In the respondent's opinion, regulations concerning sustainability are important but need to consider the resources and capacity of early stage companies.

4.3 VCs and the sustainable market transformation

The respondents agree that VCs possess the ability to accelerate the sustainable market transformation or have some kind of role in this transformation. Respondent D argues that everyone who sits on money and decides where the money should go has great power. The question is rather who possesses the most power and influence, is it VCs, PE firms, pension funds or someone else? The respondent explains that everyone is needed to create a positive change in favor of sustainability. VCs have the ability to contribute with knowledge and may drive the companies forward from their seats on the board. Respondent A implies that as VCs have a business model where high risks are taken and early bets are made, it is their responsibility to ensure that new trends are identified, and solutions are found.

Respondent B believes that there is a role for VCs to play in the sustainable market transformation, but argues that there is always a required rate of return. It is not possible for them to only focus on sustainability, but they have to see if the investment has the potential to become a commercial success and be profitable. Respondent C states that the definition of sustainability differs and in their meaning, they have a vision to drive towards a sustainable society with their investments. The respondent further explains that sustainability, from their perspective, is when you are doing something that will last. Even though their firms' sustainable investment strategy is not solely based on the UN 17 SDGs, they are trying to use them to drive the sustainable market transformation. According to respondent E, as VCs possess a great amount of money and capital, their choice of investments in startups today will result in big companies in the future. The respondent further states that "*VCs are not only able to accelerate the sustainable market transformation but necessary to achieve this"*- (Respondent E, May 2, 2022).

LP's view - VCs and the sustainable market transformation

AP6 says that VCs have the capacity to accelerate the sustainable market transformation as they play a key role in sourcing, backing and scaling innovative solutions to the market. In their opinion, VCs have the potential to play an important role mainly because they make investments in the early stages of a company rather than having to transform a legacy business model. They have the opportunity of implementing sustainability across all areas of business from day one.

5. Analysis

This section will present an analysis of the empirical result together with the theoretical framework.

5.1 How do VCs work with sustainable investments in the initial investment phase and during their role as shareholders?

The Global Sustainable Investing Alliance (2020) described that sustainable investments have increased in the past years and defined sustainable investments as an investment that considers ESG-factors. A majority of the respondents described sustainability as a central part of their investments and a vital part for investments to be profitable in the future. Of the seven strategies presented by the Global Sustainable Investing Alliance (2020), ESG-integration, corporate engagement and shareholder action as well as negative screening are primarily used by the respondents. The respondents remove companies that operate in industries that are not sustainable, such as weapons and tobacco manufacturers by performing negative screening in the investment decision-making process. Several respondents are working actively with ESG-factors through scoring, performing due diligence or workshops and some respondents also use the UN 17 SDGs to benchmark against when setting up methods and defining sustainable investments.

Eccels and Klimenko (2019) declared that addressing all possible ESG-factors will likely strike against the financial performance and it is therefore important that companies focus on the material issues concerning their business. By understanding the company's core business, the material issues can be identified and used to derive competitive advantage as well as influence the value drivers (Schramade, 2016). As Schramade (2016) pointed out, it is of great importance that a thorough framework is set up when integrating ESG-factors to ensure that the focus is on the material issues, which are dependent on the companies' industry. Several of the respondents' explanations are in line with this since they tailor the frameworks to make sure it suits the company. One respondent has for instance started conducting ESG-workshops together with an ESG-advisor after the investment has been made, where a tailored ESG-agenda on how the company should contribute to a positive development is evolved. Another respondent sets up four frameworks that the portfolio companies are expected to work with, where the company may choose the fourth to focus on. Furthermore,

applying ESG-factors when investing may also reduce the risk of the investment as investors gain a more holistic view of the invested company (Forbes, 2022) and one respondent has developed standards across ESG to understand the risk that is taken when making an investment. The investments are scored against these standards, and similar to the ESG-scores produced by ESG-researchers that Forbes (2022) presented, they can also be used to rank different companies and make comparisons.

The respondents however implied that it is not just about integrating ESG-factors in the investments but ensuring that sustainability is considered the same way as any other factor. Schramade (2016) emphasized that ESG-integration is not only included in the screening and engagement but should be an included part of the whole investment process. By building a relationship with the founders and working closely with them in these matters through their seats on the board, the respondents keep working with ESG after the investment has been made. As most investments made by the respondents are in early startups, the focus is not on what the companies are performing at the moment but rather on what goals, visions and potential they have in these matters. This is in line with Botsari and Lang's (2020) statement that the degree of ESG-integration is higher in more mature investment stages than in early-stage investments. It can be interpreted from both the theoretical framework and the empirical result that the maturity of the investment is deemed important. To ensure that the portfolio companies' performance is in line with what was promised prior to the investment, several respondents follow up on their companies through their seats on the board and by setting demands on the companies to make reports.

LP's perspective on the work with sustainable investments

AP6 agreed with the statements from the VC respondents that by weighting sustainability equal to other factors in the investment decision-making process, it will create value for their overall assessment in the long-term which aligns with Unruh's et al. (2016) statement. AP6 also pointed out the importance of working with sustainability issues and setting up structures when the invested company still is at an early stage, as this will have a positive effect on the company's long-term profitability.

5.2 How do VCs perceive that challenges regarding sustainable investments can be managed?

Bocken (2015) emphasized the challenge for VCs to find businesses that can both generate financial profits and create a positive sustainable impact. Two of the respondents however cleared that they do not think sustainable investments are harder than any other investment, mostly because they integrate a sustainability aspect in all their investments. One mentioned strategy that is important for sustainable investments is shareholders' ability to use their power to prepare the portfolio companies towards a more sustainable business (Global Sustainable Investment Alliance, 2018). The respondents implied that the challenge with this is the amount of in-house knowledge that is required, both to find methods to evaluate potential investments, but also in order to support their portfolio companies with the right competence. One respondent also highlighted the challenge of the lack of quantifiable data, which prevents comparison between different companies. This challenge is also brought up by Gregory et al (2020) which implies that the lack of standardization and comparability complicates the work with sustainable investments. However, one respondent argued that all tools that are necessary to make sustainable investments are available and explained that the challenge rather is the mindset of the owners of the funds. Sustainability must be a strategic matter and not a complement within VCs, according to the respondent.

Eccels and Klimenko (2019) argued that the view of sustainable investments and yield being mutually exclusive is outdated and the respondent's statements are in line with this conclusion, as they explained that it is uncommon to face a trade-off between high yield and high sustainability performance. However, the respondents emphasized that although sustainability is a vital factor that is considered when making investments, the yield is top prioritized as they have to generate return to their shareholders. To be able to make the right decisions when an investment is made, Edmans (2020) intrinsic materiality may be accurate for the respondents. One respondent implied that they always choose the investment with the highest yield as long as an investment has reached a certain level of sustainability. With intrinsic materiality, the decision could be eased as it helps distinguish when to choose lower profits, as the gains made for the VCs stakeholders will outweigh the loss in profit.

Antarciuc et al. (2018) described both internal-and external enablers for VCs to make sustainable investments. The first internal enabler according to Bjornali and Ellingsen (2014) concerns that VCs must have the right set of human resources in order to support the

sustainable outcome of the investments. Some respondents' answers aligned with this since they pointed out the importance of great knowledge within this topic to drive these issues forward, as well as mentioning that there is a need for more knowledge regarding sustainability. Some respondents also mentioned the dilemma with defining sustainable investments and working with them across different industries, which might be facilitated if an internal resource only were to focus on sustainability issues, setting up definitions and guidelines as to how the VC is supposed to work with sustainable investments.

The second enabler that is brought up in the theory is Seelos and Mair's (2005) statement that VCs must have a deep understanding of the sustainable business model that the company has. This aligned with some respondents' answers as they emphasized that it is vital for VCs to understand the invested company's focus areas and support them in their developments. One respondent also argued that it is crucial for them to understand every company's sustainability challenge so that they can help them work with value-adding activities. The third enabler described by Bocken (2015) emphasized the importance of VCs having a moral commitment to sustainability. Almost all of the respondents stated that they work with sustainability and have these aspects included in the investment decision making process. Furthermore, some of them also pointed out that they weight sustainability aspects equal with other aspects in the screening process because they believe that sustainability and profitability will align in the future. One respondent however, admitted to not having sustainability in the center of their investments but rather uses a feeling of whether the investment is something they believe in and is not unsustainable. The respondent further clarified that the interest for sustainable investments is growing but is not yet a main focus and might need a driven spirit in order for this work to develop. The respondent's answer may relate to Auer's (2021) statement that there is still no evidence of a correlation between sustainable investments and financial advantages, which can implicate an apprehensiveness regarding sustainable investments.

The external enablers presented were mainly about governmental influence on sustainable investments by them setting up policies, regulations and encouraging programs, where consistency is needed (Bürer & Wüstenhagen, 2009; Lerner, 1999; Lerner, 2002; Lee et al., 2001). Furthermore, it is also argued that governments should use international standards to increase transparency in sustainable investments made by VCs (Richardson, 2009; Brown et al., 2009; Waelde & Kolo, 2001). The answers among the respondents differ depending on what type of governmental engagement that is implied. Definitions and frameworks regarding reporting and transparency are appreciated because they can drive investors to acknowledge

these issues, whereas regulations in the sense of legislation are not as appreciated. It is explained by the respondents that they welcome initiatives on for instance frameworks, which can facilitate the process of making sustainable investments but not regulations of the actual process. Most of the respondents agree that they do not see a need for further regulations from the government, mainly because they invest in early-stage firms, which will struggle to meet harder requirements.

Some of the respondents further argue that they believe the market itself is the driver towards sustainable investments and pointed out the issue of governments being too slow in the development of sustainability matters. This goes in line with the report from EY (2021), who identified that ESG-investing is slowed down by conflicting ESG taxonomies containing weaknesses in comparisons and lack of indicators measuring sustainability performance. One respondent, however, stands out because of the statement that there is a need for more regulations to accelerate the frequency of sustainable investments. Several of the respondents use the UN 17 SDGs as a benchmark when investing and favor these global initiatives, but one respondent pointed out that there is a need for more consistency at a global level and a clear definition of the term "sustainable investments". The lack of global consistency is also an issue identified by EY (2021) since there is still no worldwide recognized standard or transparency regarding ESG-reporting or a global consensus on what the taxonomy should include.

LP's perspective on challenges and enablers

As VCs generally are minority investors, they need to get co-investors onboard when influencing their portfolio companies, which the respondents explained is the biggest challenge for VCs when making sustainable investments. Further, there is not a lot of information historically on how VCs work with sustainability matters which may be a challenge when for instance VCs need to formulate standards. These challenges sum up to Lin's (2022) argument of the lack of exit mechanisms that are applicable to sustainable VC funds. As VCs are minority investors it may be a challenge to get co-investors onboard when a clear exit mechanism is not existing. As some of the VC respondents also mentioned, and in line with Lin's (2022) statement, there is a need for new reforms in order to facilitate the sustainable investment process.

5.3 What role do VCs take in the sustainable market transformation?

Holtslag et al. (2021) argued that VCs have a crucial role in the sustainable market transformation because of their capability to accelerate the procedure of technological change by providing funds to early-stage firms. The respondents agreed with this statement and emphasized that they play an important role in ensuring new sustainable solutions to the market. Moreover, Simons (2015) pointed out four phases that come with the sustainable market transformation, which arise from interactions between various actors. The first two phases: *inception* and *first movers,* are applicable and are characterized by developments of innovation and competition among different market actors regarding new sustainable solutions. In depth, the inception phase consists of VCs taking on two roles: forecasting and financing. The forecasting role entails the identification and inclusion of social or environmental trends that VCs believe will be "commercially viable in the future". When this process has been worked through, VCs continue with financing the investment.

The forecasting role is applicable to the respondents' work with sustainable investments as they use negative screening, due diligence focusing on ESG-factors and benchmarks against the UN 17 SDGs. As one respondent pointed out, it is not possible to only consider sustainability factors but to also see the potential for the investment to become a commercial success, which aligns with the theory where it is emphasized that the sustainability trends must be believed to be commercially viable for the investment to become profitable in the future. The believed commercial success in the sense that the investment generates returns is crucial when discussing sustainability integration into the decision-making process since almost all the respondents stated that they must adjust to their shareholders' demands and cannot trade yield against sustainability. However, the forecasting role is very much fulfilled since all the respondents affirm that sustainability issues are a part of their decision-making process where some urge the importance of integrating these matters and weigh them equal with other aspects such as the legal and financial ones. By integrating the sustainability aspects in the decision-making process, the financing role comes naturally since the actual investment decision is based on the forecasting part.

The first movers phase contains different value-adding roles that VCs take on to create competitive advantage such as *mandating*, *strategizing*, *mentoring* and *operating* roles, where the mandating and operating roles are applicable. The mandating role takes place when VCs set up structures and goals as well as taking board control. Moreover, the operating role

implies that the daily business activities, including monitoring and control, are fulfilled. Holtslag et al. (2021) argued that by taking on these roles, VCs provide the market with sustainable alternatives and hence altering the sustainable market transformation. Most of the respondents mention that their role as investors comes with the ability to influence and control sustainability issues in their portfolio companies, mainly through having seats on the board. The mandating, as well as the operating role, is applicable as the majority use tools to drive sustainability issues, however, the extent to how much it is used varies. Some mention that they use measurements or requirements of reports containing the company's performance and developments in sustainability issues to control, while one mentions that they do not use these tools since their companies are performing good enough.

Most of the respondents agree that working with sustainability issues demands a great amount of knowledge, either internal or external. However as one respondent stated, it is the mindset of VCs that affects their sustainability work because there are tools available for these matters. Moreover, one respondent mentioned that it is required to have a driven spirit within the VC to drive these issues, which they do not have and are therefore not prioritizing these tools to measure sustainability performance. Some respondents point out that it is also important to set up goals together with the companies, listen to and understand their focus areas so that they care about these matters and not only report back to their investors because they must. A majority of the respondents implied that sustainability aspects are a natural part in their investment decisions, which indicates that Simons' (2015) third phase in the sustainable market transformation, critical mass, can be applied. There is still, however, one respondent who is not working actively with sustainability which implies that the third phase has not yet been fully reached.

LP's perspective on what role VCs take in the sustainable market transformation:

AP6 agrees with the other respondents that VCs play a role in the sustainable market transformation, mainly through their roles taken in the inception phase. From their point of view, VCs are assessed on their sustainability work and performance through a scorecard. AP6's investment decisions on which VCs will receive capital are thus based on VCs' inclusion of sustainability aspects and can therefore indirectly be related to the forecasting role that Simons (2015) has developed since VCs must invest and work with sustainability issues to acquire capital. The statement of Holtslag et al. (2021) that VCs provide the market with sustainable alternatives and thereby affect the sustainable market transformation is aligned with AP6's view as well. They said that VCs have the capacity to affect the

sustainable market transformation as they play a key role in sourcing, backing and scaling innovative solutions to the market. AP6 also mentions that VCs, by investing in the early stages of a company rather than having to transform a legacy business model. They have the opportunity of implementing sustainability across all areas of business from day one.

6. Conclusion

The purpose of this study was to investigate how VCs work with sustainable investments, how to manage the challenges that may arise and what role VCs have in the sustainable market transformation. The conclusions from this study will provide insights for VCs in how the work with sustainable investments may be improved and how they can accelerate the sustainable market transformation.

In accordance with the literature, VCs work with sustainability in the initial investment phase by performing negative screenings, benchmarks and integrating ESG-factors in the due diligence. VCs that are ahead in the work with sustainability aspects are primarily those who have integrated sustainability aspects in all of their investments and weigh sustainability equally to any other aspects in the screening process. However, the sustainability aspects are not as highly prioritized as yield during the actual investment phase. Even though previous research is primarily focused on the investment phase, the conclusion drawn from the analysis is that VCs have the most influence and ability to work with sustainability issues when holding the companies in their portfolios. This is mainly dependent on the fact that VCs primarily invest in early-stage firms, which do not have the ability to prioritize the integration of sustainability aspects at such an early stage and it is therefore important to value their potential rather than their actual performance. Their work as shareholders in practice entails influencing their portfolio companies by having seats on the board, where they continuously work with sustainability aspects, adapt standards and goals as well as have frequent follow-ups on the portfolio companies' performance in sustainability matters.

The most common challenges arising with sustainable investments are the lack of standardization, comparability, transparency and the great amount of in-house knowledge that is needed in these matters. These issues are complex, both as sustainability is defined differently across industries and as it is a lot of actors affecting the work with sustainable investments, such as shareholders, who have demands on a certain yield. A conclusion from

the analysis is that there is a need for VCs to gain more knowledge on how to tailor sustainability work depending on the portfolio companies' identified challenges to create value-adding activities. This knowledge can be provided by governments defining the concept, developing standards as well as setting up clear frameworks in order to increase transparency and facilitate comparability. However, it is not a solution to regulate in detail as VCs primarily invest in early-stage firms where it can be hard to meet these types of requirements. Moreover, regulations from governments may prevent developments in sustainable issues because governments usually act slower than the market itself. On the other hand, VCs are not able to manage these challenges alone as the market is still lagging behind and there might therefore be a need for governmental interference.

As early investors, VCs possess an important role in the sustainable market transformation by including ESG-factors in the investment phase, as well as providing their portfolio companies with the right competence in these matters. The main conclusion from the analysis is that VCs influence early-stage companies through capital and seats on the board and make an impact by setting structures that will form the company towards a sustainable mindset. It is important to emphasize that it is not solely about the investment phase, but about managing the company and characterizing it with sustainability work in order to contribute to the sustainable market transformation. However, VCs will not be able to drive this transformation alone, but will need to cooperate with the entire investment community in order to find a common agreement on how they are supposed to work with sustainable investments. Lastly, it is important to emphasize that all the tools and capital are available, it is more about the mindset and attitude towards sustainability that will decide whether an acceleration of the sustainable market transformation is possible for VCs.

It can be concluded that LPs agree with VCs' statements regarding how VCs work with sustainable investments and what challenges that may arise. Moreover, their statements on how much governments should interfere with regulations also aligns with the VCs' perception. The LP further believes that VCs have the ability to affect the sustainable market transformation, which LPs also can since they contribute to this transformation by providing funds to VCs that include sustainability aspects.

As this study focuses on VCs perspective, it is limited in generalizing the findings as they may not be applicable to other types of investors. It would therefore be interesting if future research would investigate how the whole investment community, e.g. the Private Equity

sector and public stock markets, are working with sustainable investments and how they together impact the sustainable market transformation.

6.1 Contributions

This thesis has contributed with a deeper knowledge of how VCs work with sustainable investments and how these approaches can be further developed. Furthermore, a contribution regarding suggestions on how to manage challenges arising with sustainable investments have been brought up. The most complex issue regarding standardization and comparability between sustainable investments has been touched upon, where the role of the government has been discussed. VCs' role in the sustainable market transformation has been identified as important and consists of providing the market with sustainable alternatives. The role primarily includes VCs to finance, set up structures and maintain as well as to develop the sustainability work in early-stage firms, which later on will be large influencing companies on the market. These areas can further contribute to developing hypotheses in the quantitative field that aims to investigate the work of sustainable investments for VCs.

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Appendix

Interview guide

How do Venture Capital firms work with sustainable investments in the initial investment phase and during their role as shareholders?

1. Can you define your company's view on sustainable investments?
2. What enablers/ prerequisites are the most vital for a Venture Capital firm to make sustainable investments, in your opinion?
3. Do you use standardized methods when making sustainable investment decisions?
4. What policies or guidelines are used to decide whether an investment can be viewed as sustainable?
    a. Measurements?
    b. If measurements are used, what are they based on?
    c. Methods for calculations?
5. Are benchmarks against other Venture Capital firms being used to establish policies or guidelines for sustainable investments?
    a. If so, in what way?
    b. How are these benchmarks used?
6. How is a low-yield investment with a high focus on sustainability weighed against a high yield investment with a lower focus on sustainability?
7. In your opinion, are sustainable investments a complement or a substitute to your shareholder value maximization?
8. How do you assure that your portfolio companies perform in accordance with your sustainability policy?

How do Venture Capital firms perceive that challenges regarding sustainable investments can be managed?

9. What are the difficulties with sustainable investments in your opinion?
10. In your opinion, how can the sustainable investment decision-making process be facilitated?
11. Do you believe that a third party, like a government agency, should be involved to facilitate the sustainable investment decision-making process?

What role do Venture Capital firms take in the sustainable market transformation?

12. Do you believe Venture Capital firms possess the capability to accelerate the sustainable market transformation through sustainable investments?
    a. If yes, in what way?
    b. If no, why not?

13. If you use measurements or/and guidelines, how do these change over time to reflect the sustainable transformation?