Article

Sustainable Investments in Responsible SMEs: That's What's Distinguish Government VCs from Private VCs

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Abstract: Researchers question the impact of governmental venture capitalists (GVC) compared to private venture capitalists (PVC), but we know little about why this difference occurs and if this criticism is justified. We observed a group of GVCs and developed a new model that describes the way that GVCs process signals pre- and post-decisions. Certain macro level factors severely undermine micro level performance, causing GVCs to financially underperform with respect to PVCs. This helped us to understand that GVCs do not make investment decisions in the same way as PVCs, and what undermines the performance of GVCs' decision-making processes. The main goals of GVCs are to promote investments in responsible SMEs, mobilizing societal impact. We discuss that the criticism of GVC needs to be more nuanced, as they have a different role than PVC in the financial system as providers of sustainable investments in responsible SMEs.

1. Introduction

Our situation is different from private venture capitalists. We must not only think about venture potential, but we also need to manage a complex set of sustainability. (Quotation from study participant)

Numerous entrepreneurial finance policy initiatives seek to foster technological leadership, employment, and future growth in the regional, national, and international financial markets. A prime example is the European Union, where the venture capital market plays a prominent role in fostering high-risk investments in small and medium-sized enterprises (SMEs) (Gompers and Lerner 2001; Mina et al. 2020). Expressing an interest in private venture capital (PVC) whilst recognizing potential differences with government venture capital (GVC), researchers have recently begun to focus on better understanding the decision-making of these two groups of investors (Callagher et al. 2015). Much prior research has examined PVCs, typically organized as limited partnerships, where the investment process is kept separate from investors (i.e., the limited partners). However, less is known about GVCs, whose goal is to correct for market imperfections through a hands-on policy approach based on the allocation of tax money (Lerner 2000; Cumming et al. 2017; Luukkonen et al. 2013; Bertoni et al. 2019). Government VCs make up around 30% of new venture capital raised (Invest Europe (Formerly EVCA)). GVC investment logic differs from PVC. Government financiers play a critical role in providing sustainable investments in terms of social payoffs and encouraging positive social impact that transcends the role

of PVCs focused on financial maximizing efficiency and profit (Block et al. 2018). Furthermore, GVCs bridge the financial gap for innovative SMEs investing in development of new products and services, often based on limited historical data and high uncertainty in future financial performance (Malmström et al. 2015).

Accordingly, the goal of GVCs is to complement the traditional venture capital market (Bertoni et al. 2019; Grilli and Murtinu 2011; Leleux and Surlemont 2003; Cumming and MacIntosh 2006; Jääskeläinen et al. 2007; Luukkonen et al. 2013). Nevertheless, researchers question the impact of GVCs. Numerous studies show that GVCs financially perform worse than PVCs do, and some even question their value (Colombo et al. 2016; Cumming 2008; Cumming and Johan 2013; Cumming and MacIntosh 2006; Da Rin et al. 2013). Amongst others, Gompers and Lerner (2001, 2002) questions why GVCs and government officers should provide a source of finance and deal with highly uncertain or highly risky situations instead of allowing specialized financial intermediaries from PVC organizations to deal with these issues. In contrast, the study by Bertoni et al. (2019) shows that GVCs provide indirect effects not accounted for when purely looking into direct financial performance. The presence of GVCs makes PVCs more inclined to invest in high-risk companies that they otherwise would neglect. They state that both types of investors are needed in the investment ecosystem. More needs to be known for creating consensus about the investment logics ruling by GVCs.

Research on GVCs has typically focused on macro perspectives such as national policies and institutional factors, performance of European government venture capital programs, and GVCs' impact on the performance of SMEs in GVCs' portfolios (Block et al. 2018; Engberg et al. 2019; Lerner 2000, 2002; Callagher et al. 2015). Scholars know little about the specific conditions under which GVCs operate when they are on the cusp of making funding decisions (Laitinen 1992; Winthrop et al. 2002). A major shortcoming is that we understand very little about how and why GVCs process information when making decisions on sustainable investments in responsible SMEs (Johansson et al. 2020) Despite a growing literature that shows GVCs' limited impact and low effectiveness, little is known about GVC decision-making (Malmström et al. 2017). An obvious reason for this knowledge gap is the difficulty in accessing data on GVCs, a difficulty that we were able to overcome in this study.

We take a deeper look into the political responsibilities governed in the GVCs decision-making and address the following question: How does the political boundary of sustainability impact the governmental venture capitalist's decision making? We examine GVCs' decision-making, particularly GVCs' reliance on signals when making investment decisions and when publicly justifying such decisions (Hall 2002; Pettit and Singer 1985).

Given the dearth of prior research on understanding the GVCs' decision-making performance, we followed an inductive approach and established procedures influenced by grounded theory (Glaser and Strauss 1967; Eisenhardt 1989a, 1989b; Strauss and Corbin 1998). We collected data by attending closed-room decision-making meetings of a group of Swedish GVCs and by studying the written statements used to communicate decisions. We thus respond to calls to examine social influences in GVCs' final investment decision making (Block et al. 2018).

Over a two-year period, we observed meetings in which a group of GVCs approved or rejected 88 investment proposals. We also analyzed their written statements. We observed differences in the signals that GVCs considered before deciding (pre-decision) and the signals used after decision (post-decision) to justify decisions when publicly communicating unchallenged decisions. Non-financial signals were important. Indeed, these signals were used by GVCs to perform their role as investors of responsible SMEs and to cope with information asymmetries.

Our research makes several contributions. Most notably, we provide a model of information processing and use of signals that we hope will encourage scholars to focus on sustainability aspects that differentiate GVC decision making from PVC decision making. The model draws upon disparate literatures on information signaling, economic theories

of bureaucracy, and political legitimacy (Niskanen 1975). In the model, we illustrate an alternative decision-making process. We hope this model can lead to advances in knowledge and provide novel insights into GVC decision-making processes and the ways in which these processes differ from those applied by PVCs. We contribute to an understanding of financiers' investments in responsible SMEs. Complementing studies that have shown the limited impact of GVCs, our findings reveal why GVCs are less financial effective than PVCs. We highlight factors that undermine GVCs' financial performance as well as factors enforcing the GVCs' goals of sustainable investments. As our model about how GVCs process information for decision-making and justification is embedded in information asymmetry and signaling theory, economic theories of bureaucracy, and institutional legitimacy, we next review these literatures.

2. Theoretical Background

2.1. Information Signals and Information Asymmetry

To understand the GVC and PVC decision-making processes, and hence the investment impact made on SMEs, it is first necessary to examine the underlying mechanisms that govern the use of information signals. GVCs and PVCs use information signals to predict future outcomes and thereby either invest or not invest in SMEs (Busenitz et al. 2005). The purpose of signaling theory is to explore how VCs use signals to cope with information asymmetry in their decision making (Hall 2002). They often assess the future acting and performance of SMEs based on scarce signals, which are both uncertain and volatile (Hall 2002; Van Osnabrugge 2000). The primary message derived from this perspective is that GVCs and PVCs evaluate SMEs' signals to reduce information asymmetry when deciding how to invest.

Although the literature acknowledges the importance of signals when estimating SME potentials, government venture capital research has paid little, if any, attention to signals. Whereas GVC research provides limited guidance on information processing, the PVC literature suggests that a wide range of signals are available, primarily for assessing the potentials of future financial performance (Lerner 2000, 2002; Petty and Gruber 2011; Zacharakis and Meyer 2000). Financial signals, including accounting information from e.g., balance sheet, income statements, notes, and cash flow statements, are crucial. These signals cover aspects such as risk levels, returns on investments, collateral financial conditions, and risk exposure. The PVCs complement this information with non-financial signals to evaluate an SME's financial status (Alattar and Al-Khater 2007; Knockaert et al. 2010; Mason and Stark 2004). Examples are information on market conditions and competition position, product/service attractiveness, production, and human capital (Lerner 2000, 2002; Muzyka et al. 1996; Zacharakis and Meyer 2000). Although these signals may also be used by GVCs, few studies have explored use of signals in GVC decision making and whether any additional signals may be used in the processes due to requirements of sustainable investments.

2.2. Bureaucracy and Institutional Legitimacy in Decision Making

It is in the very nature of GVCs and PVCs to expect to influence their decision-making processes. GVCs do not solely pursue return on investment. Instead, they work in the public's best interests and serve the government and the people (Davis 2009) by providing sustainable and responsible investments. In contrast, the primary interest of PVCs is to foster SME performance and provide their investors with a financial return on investment (Block et al. 2018). GVCs are guided by political motivations to make consistent decisions that maximize social utility (Johansson et al. 2019). The GVCs and PVCs therefore also typically target different types of SMEs. GVCs often invest in companies situated in less adventurous regions with higher information asymmetries than PVCs. GVCs often invest in smaller companies, companies in earlier development phases and in companies that are more distant from the market. (Bertoni and Tykvová 2015; Kovner and Lerner 2015; Mason and Harrison 2003). Their investments are required to foster innovation and growth and

should consequently contribute to sustainability beyond the mere economic values e.g., providing social benefits such as higher employment rates and better welfare (Niskanen 1975; Shepherd et al. 2020). In contrast, the social goal of fostering innovation and growth and contributing to society is typically of secondary importance for PVCs, who act as 'money makers' and 'SME builders' (Lerner 2002).

When compared with PVCs, GVCs are often criticized for inefficiencies due to agency problems in management, low returns on investments, and poor financial performance. Creation through political and regulatory processes rather than through negotiation between limited partners is considered problematic (Lerner 2002; Mendy et al. 2020; Rahman et al. 2020). PVCs can decide where to invest based on performance criteria, whereas GVCs might be required to invest in mediocre SMEs or SMEs in geographically remote areas (Lerner 2002). GVCs are guided by non-financial goals promoting investments in SMEs aiming at social sustainability. e.g., through employment maximization or environmental sustainability by investing in low carbon emission (Cumming 2008; Cumming and Johan 2013; Johansson et al. 2019). Few GVCs are financially successful (Brander et al. 2008; Colombo et al. 2016; Lerner 2009), studies even found that growth patterns for GVC-backed companies would have been the same without GVC investment (Cumming and MacIntosh 2006).

Government venture capital is sourced from taxes and is distributed by the government to individual SMEs. When this type of financing works, it helps develop successful SMEs that benefit society by allowing new technologies and innovations to emerge. However, if GVCs fail, portions of society might suffer. This potentially costly consequence for the public is consistent with discussions on the costs of government bureaucracy when public and government interests are misaligned (Niskanen 1975, 2012). The literature on economic and government bureaucracy shows that this situation creates significant stress for professionals in government institutions. In this context, financial failure is an obvious risk because GVCs face significant challenges to make informed and justifiable decisions about which SMEs to invest in and not invest in (Niskanen 2012). PVCs face pressure from investees, although they are supposed to make independent decisions and are not required to inform investees about the process. The focus during communication is on the output (i.e., the return on investment) rather than on the individual investments themselves (Cumming and MacIntosh 2006; Lerner 2002). Drawbacks stemming from misaligned interests between government bureaucrats and the public may cause an oversupply of public goods, with costly consequences for the public (Mendy et al. 2020; Niskanen 1975, 2012; Pettersson-Lidbom 2012). Such behavioral differences are also cited to explain differences in the impact of GVCs and PVCs, although few studies have examined such behavior (Cumming and MacIntosh 2006; Lerner 2002).

According to the economic and government bureaucracy literature, individuals in government institutions may alter their decision making to assuage political elites. Despite assuming that this is the case, the literature has largely failed to study exactly how such behavior manifests itself. This study provides insight into how decision-making is altered in practice (Johansson 2007). This knowledge is used to understand the potential differences between GVCs' and PVCs' decision-making in financing of SMEs.

In the remainder of the paper, we present evidence from our empirical study that shows how GVC decision-making was implicated in the political pressure on sustainable investments and attempted normalization of practice through GVC activity.

3. Materials and Methods

3.1. Data and Study Context

To better understand the potential differences between GVCs and PVCs in SME financing, we explored GVCs' decision-making processes. This study used data on direct public funding aimed at regional development and local job creation. This funding was distributed by a Swedish government organization of GVCs with national responsibilities (Block et al. 2018). This group of GVCs differs from PVCs. Whilst still providing funding to for-profit SMEs and seeking a reasonable financial return on their high-risk investments,

these GVCs primarily seek to benefit society, creating social impact through work opportunities and regional growth. These GVCs provide finance to high-risk SMEs without the requirements of securities and positive cash flow (Block et al. 2018; Lerner 2002).

We conducted a case study using a mix of qualitative and quantitative methods. Our study consisted of observing a group of seven GVCs (two women and five men). This group of GVCs can be considered representative of a typical group of GVCs. It was selected by consulting the national government organization. The GVCs are generalists, financing SMEs from different industries and with different degrees of innovation. The mean age of the GVCs was 53 years. They had an average occupational experience of 17 years. All GVCs had university degrees, primarily in business. Some had worked in banks, and some had been entrepreneurs themselves. None had worked at a PVC. The average annual amount of financing distributed by this group of GVCs was €10 million and the amount distributed nationwide by all GVCs during the observed period was approximately €190 million. The group with extensive expertise in decision-making was representative in terms of size, experience, composition, and budget.

We observed the final decision meetings during which decisions were made. We were also granted access to the official statements explaining why each decision had been made. The way that the GVCs operated tallied with our experience and was consistent with the way the literature suggests that people operate in decision committees. The government venture capitalists met twice a month to reach their final decisions. One financier oversaw each SME proposal and conducted research, including screening and due diligence, to prepare for the final decision meeting. Due diligence was carried out in house. There was no department for due diligence, and no external consultants were used for this purpose. The person in charge of the investment case collected facts, met the SMEs on several occasions and presented the case to the other committee members. The committee members together discussed the pros and cons of the SME and made a joint decision on whether to invest or not invest. Decisions on the conditions for the investments were also made. A standardized contract was drawn up by the GVCs following investment. Unlike with PVCs, there was no negotiation process. The decisions were then communicated to the SMEs. The GVCs also communicated general information to the public to ensure transparency, in accordance with the Swedish principle of openness of government authorities. However, the GVCs did not publicly communicate sensitive information about the SMEs. The communication process differed from that of PVCs, who primarily communicate their decisions to their legitimate partners and the SMEs themselves.

This approach was particularly useful for our goal of understanding the final decision process and the information used in the process. Scholars have repeatedly argued that research should rely more on in situ methods such as participant observations to mitigate retrospective bias in post hoc, self-report data (Gorman et al. 2005; Mason and Stark 2004; Petty and Gruber 2011). Few venture capital studies have used in situ observations based on real-time work processes (Silva 2004) such as the observations used in this study.

Observation data collection took place over two years, yielding data on 36 h of observed decision-making meetings. We analyzed the data once the data collection was complete. Between 5 and 10 decisions were made at each four-hour meeting on investment cases. A total of 88 SME proposals were evaluated. The maximum amount of investment in each company for a three-year period was €150,000. The GVCs were not involved in the management or control of the SMEs. The decision meetings were highly structured. Each proposal was discussed for approximately 10–35 min. Our notes were transcribed into 105 pages of text (12-point single-spaced Times New Roman). We complemented our observations with the officially communicated decisions by analyzing official documents and information from the GVCs' websites.

3.2. Data Analysis

The data analysis had several steps. The goal was to identify how GVCs use information signals in discussions pre- and post-decisions. To do so, we observed and analyzed

discussions and studied the way the decisions were later communicated externally in written approvals and rejections. By analyzing the observation data and the data from the official documents that provided the rationale for the final decisions, we followed Strauss and Corbin's (1998) microanalysis recommendations to engage in a 'line-by-line' examination of transcribed text. During this process, we identified concepts that referred to different types of signals and statements that revealed why a certain type of signal was used. We analyzed and calculated percentages of text that captured the use of these different types of signals throughout the decision process.

All authors were involved in the process of coding and analyzing to interpret the data (Eisenhardt 1989a, 1989b; Eisenhardt and Graebner 2007; Miles and Huberman 1994). We achieved high consistency, which we believe strengthened internal validity (Gibbert et al. 2008). Consistent with recommendations for analyzing observational data (Denzin and Lincoln 1994; Eisenhardt 1989a, 1989b), the coding of signals was also compared to the GVCs' internal documentation such as the written checklists that were applied in the assessments. We found a natural compliance between the coded material and the checklists.

In addition to presenting frequencies of use, we also considered time-relevant information in the data and the way that the coded signals were associated by observing and analyzing both positive and negative tones in the GVCs' dialogues. This was useful for analyzing how approvals and rejections were determined during the decision-making process. We created a timeline for all decisions to develop a process model that related to how the GVCs used information throughout the decision process and throughout the discussions that they held to justify decisions. Ultimately, we developed a process model based on analytical generalizations of the 88 decision processes. This allowed us to compare how the GVCs used the identified groups of signals in their decision-making. The outline also allowed us to explore sustainable investments and the research question: Do GVCs make investment decisions in the same way as PVCs?

4. Results

4.1. Overview

The team of GVCs held regular decision meetings to discuss the SME proposals and take decisions on these proposals. The GVCs' primary goal is to foster regional growth and sustainability by financing responsible SMEs that may enable the GVCs to reach their goals. This finding aligns well with those reported in the literature comparing GVC and PVC performance (Engberg et al. 2019). This literature reveals differences in the goals of GVCs and PVCs (Lerner 2002). GVCs' investments focused e.g., on SMEs entering new markets and investment in critical production processes for scaling up. The GVCs had a large portfolio of investments and many SMEs gained access to finance. All investments are high risk investments. In line with previous studies, sustainability goals appear to be particular critical for this this type of financier when deciding on where to invest while financial goals and financial performance are of secondary interest (Lerner 2002; Cumming and MacIntosh 2006). In contrast to these findings, the literature highlights PVCs' continuous evaluation of financial performance for reaching financial goals (Petty and Gruber 2011). The ability by the GVCs to achieve maximum financial performance was constrained by certain criteria. For example, they were restricted by not being allowed to invest in companies that may out-rule other companies, causing unequal market conditions. They were expected to act as responsible investors. PVCs operate in accordance with market forces and can invest in all types of high-performance SMEs, unconstrained by such criteria. Investments were based on criteria such as the extent of the GVCs investment, the scope of the SMEs forthcoming investment, and expected societal impact on job opportunity creation or retention. The criterion of financial SME growth in terms of sales and profit was overlooked.

In the next two sections, we describe the information signals that the GVCs used to make decisions during the meetings and the signals that the GVCs used to justify their decisions to the public. We then present our process model, which describes signal use according to the results of the present study.

Table 1 displays five core groups of signals that were prominent in the GVCs' decision-making: (1) financial signals; (2) market, production and product signals; (3) political signals, which GVCs seek to align with national dialogues by political elites; (4) regional signals for ensuring local legitimacy; and (5) human capital signals. Two of these groups of signals (political and regional) seem to be applied only by GVCs but not by PVCs (Zacharakis and Meyer 2000). We found that the GVCs used these five groups of signals as inputs in their investment debates and decisions. The decision process was very much about weighting the above signals and all groups of signals were used to reach a positive or negative decision.

Table 1. Adopted information signals.

Information Signals (a)	Concepts (b)	Frequency of Discussion Pre-Decision (c)	Frequency of Discussion Post-Decision (d)
Group 1 *Finance and investment*	Assets, Financial sources, Capital structure, Ownership structure, Performance, Growth, Risks & uncertainties, Bankruptcy/concern, Business plan information	87 (5%)	349 (47%)
Group 2 *Market, production, and product*	Market, Customer, Competitors, Production, Sales characteristics, Products, Environmental effects	970 (56%)	334 (45%)
Group 3 *Political*	Diversity effects, Equality effects	87 (5%)	0 (0%)
Group 4 *Regional*	Geographical considerations (rural areas, regional production), Prioritized regional industries, Current and potential regional employment effects	121 (7%)	22 (3%)
Group 5 *Human capital*	Owner/entrepreneur, Employees, Adjective describing people characteristics, Competence, Track record	468 (27%)	37 (5%)
Total		**1733 (100%)**	**742 (100%)**

The use of the above groups of signals differed throughout the decision process. We observed interesting differences in the discussions pre- and post-decisions. For example, financial and market signals were frequently used post-decision when arguing for an investment to be in the public's best interests. Other groups of signals such as political signals were only used pre-decision.

First, we offer examples of how each of the five groups of signals was weighted. We then provide examples of the arguments used when justifying decisions. The signals used pre-decision and signals used post-decision for justifying decisions are presented in Table 1. Finally, our process model summarizes the role of different groups of signals in when making and when justifying decisions. The model shows that the primary signals used in GVCs' decision-making processes are non-financial. The political and regional signals are unique to the GVCs and have never been discussed in the PVC literature. PVCs typically emphasize the use of financial information such as predictions of future return on investment and the risk associated with this return while complementing with use of extensive non-financial information (Zacharakis and Meyer 2000; Petty and Gruber 2011).

4.2. Information Signals and Their Role in Approvals and Rejections

4.2.1. Financial Signal Search Process

The first core group of information signals consisted of financial signals, generally related to financial statements, financial performance, and capital structure. The GVCs

started with the examination of financial signals to help them situate themselves and decide whether to invest in the SME. Despite the focus on investing, however, as Table 1 shows, only a small part (5%) of the discussions centered on financial signals pre-decision.

When discussing the pre-decision financial signals, the GVCs focused on financial relationships and the directions of expected effects rather than calculations, financial ratios, and financial effects. Only a small portion of the financial signals referred to financial data from balance sheets, income statements, and cash flow statements. Information on revenue, costs, and net income were scarcely discussed in reference to investment potential and risk. Notably, accounting principles were not discussed at all, and auditor's reports were mentioned on only three occasions. This finding suggests that the sampled GVCs attach little importance to financial signals. This finding contradicts findings for PVCs, for which financial signals are crucial for estimating return on investment and the risk of a specific return (Petty and Gruber 2011).

Financial signals were discussed in both a positive and a negative tone in the decision-making processes. The going concern criterion, i.e., the SMEs remaining in business, is a critical criterion for sustainable investment. The following dialogue exemplifies a typical positive discussion pre-decision: One financier asked, 'They perform well; the net income looks good. But, what about the liquidity? Can they manage?' Another financier responded, 'They have had a high net income during the last years. The liquidity is, however, limited. They have such a large inventory'. They finally conclude; "The SME will survive". In the following example, the discussion had a more negative tone: One financier stated, 'The SME does not show a positive trend in turnover. The SME will continue to have a negative net income'. After hesitating, a second financier responded, 'A long time has passed, but there is still no significant change in the results'. A third financier added, 'The firm has a catastrophic level of equity. The question is if it will be possible to save this firm or if it will end up in economic failure, bankruptcy'.

In contrast to their limited use of financial signals pre-decision, the GVCs used financial signals extensively in post-decision when discussing how to justify their decisions. Table 1 illustrates this discrepancy. Whereas only 5% of pre-decision discussions centered on financial signals, 47% of justification discussions centered on financial signals. In a typical discussion on using financial information to justify decisions, one financier stated, 'It is crucial that the SME is financially solid'. A second financier asserted, 'We can clearly support this SME since they are doing financially well'. A third added, 'Our funding will help to minimize the risk exposure, and that is our role'. "That will help the SME to remain in business". The GVCs rationalized their investment decisions in financial terms, whereas use of these signals was minimal during the actual decision-making process. These findings indicate that the financial signals are crucial to assure for sustainable investments in responsible SMEs. SME survival is a key indicator of a responsible SME. The literature on PVCs shows that financial signals in terms of efficiency and performance are central both to decision-making and communication with investees (Zacharakis and Meyer 2000).

4.2.2. Market, Product and Production Signal Search Process

The second core group of signals, and also the most frequently used, captures the market, customers, competitors, geographical location, production, products, and sales. A host of questions in the pre-decision-making process addressed such non-financial information. Table 1 outlines questions posed to mitigate potentials and uncertainties in the market pre-decision.

A typical positive pre-decision discussion on market signals was as follows: 'The SME is about to enter a new market and has future plans for expansion, and it is a very clear and specific market'. Another financier asked, 'Where is their market? Is it only a local market?' A third replied, 'No, they are all over the country. This is also a rich geographical market. The company has potential; there is no limitation in the number of customers; it is only to sell and there are no competitors in this market'. In the following example, the discussion had a more negative tone: Whilst discussing market signals, one financier stated, 'There

is already tough competition in this market, and an approval would not generate growth from our perspective'. A second financier identified a market (and financial) problem by asking, 'How do they act when reaching customers? They have had problems with customers not paying the invoices to the firm'. A third financier concluded, 'The SME is focusing on a local market to a too high degree; we would only distort competition if we support them'. The GVCs act as sustainable investors and do not promote one company on the behalf of other companies.

A typical discussion on product signals was as follows: Adopting a positive tone, one financier stated, 'They have a product of their own that they sell to customers, and the firm is about to develop their product offering by leasing equipment for expanding the business'. A second added, 'The firm has intellectual property rights for their product, and that shows potential'. A third concluded, 'The firm has innovative products and has high potential to manage developing new ones'. In the following example, the discussion had a more negative tone: One financier stated, 'What do they actually sell? I don't get their product offering'. Also questioning the product, a second financer asked, 'Is this a niche product adjusted to a particular customer segment?' The GVCs concluded, 'This investment is doubtful since it is an innovation and in a very early phase of the innovation cycle. We cannot see how they will make money on this'. The GVCs provide sustainable investments where innovation is a critical part, this while too early innovations are not prioritized due to the risk of failure in accordance with the concept of going concern.

Table 1 also reveals the high use of market, product, and production signals. Here, 56% of the pre-decision discussions focused on market, production, and product signals. In contrast, only 45% of the justification discussions centered on signals from this group. In a typical discussion on market, product, and production signals to justify a decision, one financier stated, 'The market potential is pivotal, and this SME has found a high potential niche market. We need to support that'. Another financier reasoned, 'We won't disturb competition in the market by financing this SME since no one else has entered this market'. A third added, 'This product clearly has a market spot, and our funding will help the product to reach that market'. For GVCs, sustainable investments in responsible SMEs is a core when evaluating market, product, and production innovation signals. This group of signals is also central to PVCs' decision-making processes, thus primary from a financial efficiency and performance perspective (Zacharakis and Meyer 2000).

4.2.3. Political Signal Search Process

The third core group of signals consisted of political signals. These signals related to aligning national dialogues from political elites. Political signals enabled legitimization of GVC decision behavior. i.e., assuring for sustainable investments. Focus was also significant on assuring for investments in responsible SMEs responding to the established norms. GVCs respond to political signals to ensure external legitimacy and thus satisfy political elites and meet social performance requirements. These signals are used to assess four political criteria capturing the dimension of responsible SMEs, i.e., acting as environmentally friendly also promoting and assuring for equality, diversity, and integration. Such concepts are communicated clearly to the political elites. These four criteria are well defined and are explicitly communicated on a general level.

According to our observations, however, determining the extent to which a proposal met these criteria was challenging for the GVCs. This task called for subtle interpretations. Signals of political criteria entailed assessing factors such as whether financing the SME might cause environmental pollution or increase or decrease diversity in the industry. However, much emphasis was placed on interpreting signals that were uncertain in terms of cause and effect as well as in terms of measuring the potential sustainability impact of different factors. For example, how long is an immigrant considered an immigrant? Does financing a young man as an entrepreneur increase diversity or does financing a middle-aged, physically disabled man increase diversity?

The tone of such discussions was always positive when referring to political signals. No discussions with a negative tone were detected. We therefore conclude that this group of signals was heavily used to drive decisions to approve proposals of responsible SMEs. A typical discussion of political signals aligned with the national dialogue on carbon pollution and C2 emission and a company acting as a responsible SME was as follows: Adopting a positive tone, one financier argued, 'Our goals with the environment need to be considered, and therefore we shouldn't encourage investments in non-eco-friendly machinery'. A second financier stated, 'We should stimulate the investment in eco-friendly machinery with low CO2 emission'. A third investor says, "This SME want to invest in such machinery and develop their business in accordance". The GVCs in this case also considered the social criterion on diversity. Promoting young people into business is considered as central. One investor says, 'It's a social funding if we provide finance'. Another adds, 'It's a rather young guy who runs the business'. In another example of a discussion financiers focuses on gender equality. One financier states, 'It's good for statistics to approve this woman entrepreneur, because we have approved many men before'. The criterion on responsible SME was also assured for in this case. A second financier added, 'This business wants to invest in environmentally friendly production to decrease toxic pollution, and we should support this'.

Table 1 also shows how post-decisions were justified. The use of political signals in discussions differed from the use of other groups of signals. Political signals were only considered in pre-decisions and not considered in in post-justification decisions. In pre-decisions, 5% of the discussion was devoted to political signals. The GVCs reasoned that other signals were more suitable to communicate to the public. The political signals outlines core values in the GVCs identity of providing sustainable investments to responsible SMEs, "raison d'être". The GVCs reminded themselves of these core values as an input in the assessment work. The political agenda is often cited as a core reason for GVCs' limited impact compared to PVCs, although this assumption has not been rigorously elaborated upon in the previous literature (Lerner 2002).

4.2.4. Regional Signal Search Process

The fourth core group of signals consisted of regional signals aimed at justifying the output of sustainable investments and assuring for the GVCs' local legitimacy. Regional signals were used to increase local legitimacy and social acceptance and to integrate a social performance perspective into the decision-making process. The regional signals also enabled the GVCs to marginalize the importance attached to SMEs' achievement of financial performance requirements. Thus, regional signals compensated for shortcomings in performance signals such as financial and market, product, and production signals. Regional signals were used to assess regional growth and regional sustainability effects but also the degree of SME responsibility. These effects are important to assuage local politicians. Regional signals are often subtle and may include signals as competencies required in certain parts of the region, the importance of a specific SME for local or regional industry, regional attractiveness, and quality of life in rural regions. Much emphasis was placed on interpreting ambiguity in cause and effect and uncertainty in measurement of SME potential impact on growth and rural survival.

Reflecting the prominent role of regional signals in deciding whether to approve or reject a proposal, the tone of voice differed for this category; a negative tone was rarely used. Financiers occasionally cited the risk of moral hazard and that a business might act opportunistic and irresponsible and move out of the region once invested in. Overall, however, the tone was positive. The following example illustrates a typical discussion with a positive tone: One financier asked, 'Where is this SME located? I'm not sure of the situation in this area'. Another responded, 'Maybe it's time to reconsider support in this geographical area. The area used to be weak, but now the raw material industries are thriving, so does our money make a difference?' The GVCs finally agreed on the need

of investment in the area in order to assure for a continuous progress towards regional sustainability.

The following discussion offers another example of a discussion with a positive tone: One financier stated, 'He's the only one in the region who does this, and they do their own thing'. Another financier added, 'They do their own thing, which can result in ripple-effects for the region'. A third financier noted, 'We can finance if we get a signal that they will start producing in the region'.

GVCs devoted 7% of their pre-decisions to regional signals and 3% of their post-decision justifications to regional signals, as shown in Table 1. In a typical discussion to justify decisions, the financiers emphasized their role as sustainable investors and their need to assure company survival in rural areas. One financier stated, 'It's important, however, to support this rural business to preserve the entrepreneurship in the area even though they are on the edge of bankruptcy'. A second financier reasoned, 'An approval will enable the SME to employ new personnel, and that is important for this area'. A third financier added, 'We have also agreed that this industry is a vital engine for keeping this area on its feet, so we need to support this investment'. Regional signals are critical for sustainability and reaching of political goals for the region. Regional values are also often considered a factor that limits GVCs' ability to achieve financial return on investments. The sustainable investments are expected to provide values to the specific region as "raison d'être" from an output perspective. The regional signals are often connected to the GVCs need to assure the avoidance of moral hazard problems and investing in responsible SMEs contributing to the specific region.

PVCs primarily invest in SMEs in high-potential geographical areas, whereas GVCs are forced to invest in less promising geographical areas to meet the goals of social and environmental sustainability (Lerner 2002; Zacharakis and Meyer 2000).

4.2.5. Human Capital Signal Search Process for Assessing Trustworthiness and Competence

The fifth core group of signals consisted of human capital signals. Some human capital signals were explicit, for instance education level and industry experience. However, much emphasis was placed on tacit human capital signals such as personal characteristics. These signals relate to trustworthiness, competence, and human capital potential (i.e., intangible characteristics that are important to the business). Such information was often expressed in terms of skills or lack thereof and the entrepreneurs' honesty or dishonesty.

For human capital signals, positive and negative tones were used in pre- decisions. A typical discussion was as follows: In a positive tone, one financier argued, 'The old owners are still there in the production process, but the young people are now in charge of the firm. So, the new generation is born into the industry and knows how to operate in it and has long experience in this particular market'. As such the SME was considered as a high reputational and highly responsible SME. Trusted people assured SME sustainability: heritage from generation to generation. In another case one investor noted, 'This is an incredibly skilled entrepreneur who succeeds at anything he does'. Another financier added, 'If you have such an entrepreneur, then it is not too difficult to approve. This is a powerful entrepreneur with a high reputation. The entrepreneur has also been in the US to learn more about this industry'. As such, a trustworthy entrepreneur assured for investment in a responsible SME.

In the following example, a more negative tone was used: In relation to human capital, one financier stated, 'The company does not yet have full production, since people in the company are not yet fully trained'. A second argued, 'It is impossible for the firm to survive based on the entrepreneur's inability to manage the situation, the potential is questionable'. A third admitted, 'This is a completely unknown entrepreneur to me'. A fourth responded, 'He seems very visionary but completely lacks knowledge of the market. He starts new projects all the time, but they never succeed, so new projects are started instead. This is a person who has been involved in several bankruptcies before'. The quote represents a situation where the GVCs question both the sustainability in their own investment and

whether the SME is responsible, based on the entrepreneur's track record. The positive (negative) tone reflected the high (low) trustworthiness, competence, and potential of the human capital that was used as a benchmark for investing in a responsible SME and for the GVCs to assure a sustainable investment.

Table 1 shows that 27% of the discussions in pre-decisions centers on human capital signals, whereas only 5% of post-justification discussions centered on human capital signals. In a typical discussion to justify decisions, one financier stated, 'The entrepreneur has worked for 10 years in the industry; at least this is what he writes in the proposal'. A second added, 'Why did he turn down the job offer when he was unemployed? That was crazy. It's important that the entrepreneur has a trustworthy character'. The following statement by one financier offers another example: '[He] has long experience in this industry; I believe in him. An approval will enable the SME to grow'. The reason for the clear divergence in the use of human capital signals pre- and post-decision was that the GVCs felt that this type of information might not be a convincing argument to communicate to the public once the decision had been made. Our findings show the importance of human capital signals for prognostication of sustainability in investment and for assuring investments in responsible SMEs. Findings in the venture capital literature indicate that human capital signals are critical for estimating and prognostication of companies' financial efficiency and performance (MacMillan et al. 1987; Zacharakis and Meyer 2000).

4.3. Transforming Information Signals

We now consider the way in which the GVCs transformed signals that they used in decision-making to signals that they used in communicating their decisions to the public. Publicly communicating decision outcomes is not part of PVCs' decision-making, which takes place independently from owners and stakeholders (Lerner 2002).

Outside their private meetings, GVCs must provide convincing justifications for their approvals and rejections. These justifications must be beyond reproach by external stakeholders such as SMEs, regional actors, and the media. The GVCs used only five of the six core groups of information signals to justify their approvals or rejections (Tables 2 and 3). The most common signals used were market, product, and production signals. This group of signals accounted for 55.1% of justifications. Human capital signals accounted for 21.5% of justifications. Financial signals accounted for 10.1% of justifications. Regional signals accounted for 6.7% of justifications. General signals accounted for 6.6% of justifications. Political signals were not used to justify decisions (0%).

Table 2. Official justification for approving applications.

Key Assessment Indicators	Official Approval Justification	Percentage of Approvals
Financial	N/A	0
Market/product/production	-New or refined products/services	29.0
	-New markets, increased export	17.3
	-New technology solutions	5.1
	-Service industry	1.8
Sum of market/product/production		**53.2**
Political	N/A	0
Regional	-Prioritized industry	6.7
	-Service in rural regional areas	5.1
Sum of regional		**11.8**
Human capital	-Establishment of new entrepreneur	29.4
	-New entrepreneur in new industries	1.7
	-Education quality, environment, organizational development	3.9
Sum of human capital		**35.0**

Each core group of justification signals was broken down into subgroups. Market, product and production signals had eight subgroups: (1) new or refined product or services, (2) new markets, (3) new technology solutions, (4) service industry, (5) no clear business concept, (6) competitive distorted effect, (7) lack of market-related conditions and (8) not a supported industry. Financial signals had six subgroups: (1) other funding has been provided, (2) not financially viable, (3) investment can be made without support, (4) non-profitable business, (5) department-account at the enforcement authorities and (6) not a supported investment. Political signals were not used for justification. Regional signals had two subgroups: (1) prioritized industry for the region and (2) service in rural parts of the region. Human capital signals had five subgroups: (1) establishment of new entrepreneur, (2) new entrepreneur in new industry, (3) education quality, (4) environment or organizational development and (5) not a growth-generating investment. General signals refer to incomplete or withdrawn proposals.

Table 3. Official justifications for rejection applications.

Key Assessment Indicators	Official Rejection Justification	Percentage of Rejection Applications
Financial	-Other funding has been provided	1.6
	-Not financially viable	0.8
	-Investment can be done without support	4.1
	-Non-profitable business	0.8
	-Dept-account at the enforcement authorities	0.8
	-Not supported investment	13.9
Sum of financial		**22.0**
Market/product/production	-No clear business concepts	2.5
	-Competitive distorted effect	29.5
	-Lack of market-related conditions	6.5
	-Not a supported industry	23.0
Sum of market/product/production		**61.5**
Political	N/A	0
Regional	N/A	0
Human capital	N/A	0
General	-Incomplete application	0.8
	-Withdrawn application	15.7
Sum of General		**16.5**

Both approvals and rejections were dominated by market, product, and production signals. Notably, these signals were used much more to justify rejections than to justify approvals (approval: 53.2%; rejection: 61.5%). We identified other interesting differences in the use of justification signals for approvals and rejections. For example, financial signals were not used to justify approvals (0%) but were used frequently to justify rejections (22%). Regional signals and human capital signals were not used to justify rejections (0%) but were frequently used to justify approvals (human capital: 35%; regional: 11.8%). Political signals were used only in pre-decisions to help GVCs address requests by the political elite, hence not used to justify approvals or rejections. Political signals were considered a kind of hygiene factor, but interpretation of their content might be easily questioned by other parties. Therefore, political signals were not publicly communicated. The signals that were used for justification had to be unequivocal to allow no room for questioning.

The GVCs perceived that the reasons used to communicate rejections had to be more solid and convincing than the reasons used to communicate approvals. Rejections were dominated by market, product and production signals, and financial signals. All of these signals are easy to capture and measure and are not particularly sensitive. Such signals may therefore be communicated to external audiences without fear of criticism.

The GVCs considered it important to handle rejections professionally because rejections often have negative consequences for future relations. The GVCs reported that they were occasionally confronted by upset entrepreneurs. They had to be prepared to defend their decisions with irrefutable arguments. For example, on one occasion, the GVCs sent a rejection to an entrepreneur, who initially seemed to take the rejection well. The entrepreneur then reported the experience to the newspapers, complaining about the GVCs. The GVCs were unprepared for such criticism, especially in the media. This event influenced the way in which the GVCs communicated future rejections to entrepreneurs. The GVCs used the justification process to compare similar situations to cope with potential reactions when signals were communicated. They also carefully limited the content of information that they communicated to external stakeholders. They often posed the questions 'Would this end up in the media?' or 'What could the media write about this decision?' On another occasion, the GVCs received a letter from a rejected applicant soliciting more information. The GVCs stated that the letter had a 'threatening tone'. The situation made the GVCs uncomfortable. Moreover, the letter requested the names of the GVCs who had taken the decision. This was perceived as particularly threatening and intrusive. The GVCs dealt with the situation by allowing the applicant to submit a new financial proposal. Another potentially threatening situation was dealt with in a similar way. As one GVC noted, 'This is a rejection, but we let them write a new proposal. They came in with a better proposal directly when we communicated this . . . '.

The GVCs also discussed the reasons for rejection. They often chose not to use the primary reason for rejection to officially justify the decision because it might be deemed too sensitive. The use of sensitive decision criteria might lead to unwanted or unintended reactions from the entrepreneurs. The following example illustrates a typical discussion of the use of financial signals for justification: One financier stated, 'Let's find a reliable justification for the rejection such as the financial status. We know that they are not financially solid'. Another added, 'This is a rejection; we financed them earlier, and that did not lead to expected outcomes'. A third referred to a sensitive situation in communicating a rejection by stating, 'The entrepreneur has not managed the payments well and has a poor reputation with funding agencies, but we cannot mention this in the rejection motivation. Instead, we should refer to poor market conditions'. The financiers together decided which signals to communicate publicly to ensure the justifications for their decisions were unassailable. In this way they assured for investing in responsible SMEs while not revealing that they considered a SME to be potentially irresponsible.

In a typical discussion of market, product, and production signals to justify a decision, one financier reported, 'I could have written a rejection at once, but I wanted help with the arguments for poor market conditions through our group discussions'. Another financier responded, 'In a similar proposal, we rejected because of the competitive distortion effect. The entrepreneur understood and took it well. We can refer to that proposal when contacting this entrepreneur to communicate the rejection'. A third financier added, 'We need to be very specific, since it is a rejection based on the product. It is still an innovation, but we cannot support it'. A fourth explained, 'We need to be prepared for trouble. There are those strongly believing in this innovation'. A fifth stated, 'I'm not sorry if this turns out to be a rejection. I don't see how the product will ever reach the quality levels needed to succeed'. A sixth added, 'I believe this proposal is premature; the company's production is not there yet. They need to further build a reliable production process before we can believe in their potential to produce the needed quantities to reach break-even'.

In a typical discussion of regional signals to justify a decision, one financier explained, 'A rejection implies a risk for us; we will probably be blamed if such an important company moves from the region. We cannot take that risk'. A second financier added, 'This is a typical rural business which we want to support'. A third stated, 'There is a regional effect if they employ in the region'. A fourth responded, 'This countryside depends on this business and their shut down would lead to closing down the grocery shop and schools would be influenced'. A fifth added, 'We need to support this manufacturing firm so they

will continue to produce in the region; we won't risk that they move their business to another region. We need to approve; otherwise, we risk being blamed for such an important business moving from the region'.

In another discussion, one financier stated, 'This industry is important for the region and we need to support smaller suppliers for the large companies, even though the production efficiency of the investment is questionable. The region is important, and we need to support them, otherwise [the large company] may choose to engage other businesses from abroad'. Another financier noted, 'It is positive that the large company buys from local entrepreneurs for maintaining employment locally'.

In a typical discussion of human capital signals to justify a decision, one financier reported, 'Communication of a rejection is always connected to potential quarrels when relying on the human capital for rejection. The entrepreneur is hopeless; he will never stop arguing when it is a rejection'. Another financier asked, 'Will the entrepreneur really bother about arguing if this turns into a rejection?' A third financier quipped, 'Have there ever been fights due to rejections?' At that point, all GVCs laughed, recalling several such cases. A fourth financier added, 'We need to gain some time in front of the entrepreneur, so we will wait until we communicate this rejection'. The search for reasons to justify decisions seems to be different for PVCs and GVCs. Unlike PVCs, GVCs must communicate the decision outcome to the public. The justifications for GVCs are polished in accordance with political and public expectations so that they cannot be questioned.

4.4. A Process Model for Information Search and Justification Cycles

Having analyzed the signals used by decision makers, we now discuss the information signal search process used to make and justify these decisions. Figure 1 shows that the decision process has two phases. The first phase consists of searching for information for assessment and decision-making. The second phase consists of rationalizing the decision through a justification process. These two phases correspond to two process cycles: (1) the search process and (2) the justification process.

The search process is internally oriented. The GVCs use signals of information asymmetry for internal decision-making within the group. The justification process is externally oriented. The GVCs must signal responsible decisions in their external communications. Legitimacy and reputational concerns are a central part of GVCs' signaling when communicating decision outcomes. The GVCs must carefully select the justifications used as decision motivations when externally communicating their decisions (Van Osnabrugge and Robinson 2001). Reputational concerns are also important for PVCs. These concerns are primarily linked to financial performance and the ability to provide expected returns on investments (Gompers et al. 2009).

We observed that the GVCs enter a search process that consists of four sequences, referred to here as Sequences 1 to 4. The GVCs adapt signals and act in accordance with these signals by assessing five types of signals: (1) financial signals; (2) market, production, and product signals; (3) political signals; (4) regional signals; and (5) human capital signals. More specifically, the GVCs first predict future entrepreneurial performance, risk, and return by familiarizing themselves with the situation and by making sense of the SME and the investment.

In Sequence 1, the GVCs use financial signals. Such information is considered basic, so it offers a starting point. The GVCs assess entrepreneurial performance using financial signals of firm growth, risk, and return. These signals include capital structure, net income and total assets. The GVCs perceive a lack of relevant and reliable financial signals. Financial signals are based on historical performance, yet uncertainty about future sustainability is high. The GVCs also find financial signals unreliable because of the SME's limited financial competence. The high uncertainty of future financial data and questionable data quality lead the GVCs to use non-financial signals to redress information asymmetries and if they may be considered as responsible. Furthermore, financial signals

are poorly aligned with GVCs' primary goal (i.e., fostering social value and regional growth), while they may assure sustainability.
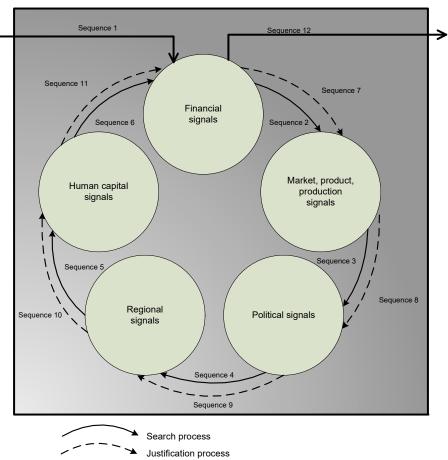

Figure 1. Process model of signal use and decision-making.

The GVCs then enter Sequence 2, assessing market, production, and product signals. The GVCs perceive these signals as more substantial than financial signals. Signals of products, current and potential customers, market constraints, and production capacity are assessed. For example, if the SME's products target a declining market or a small regional market, this may signal an obstacle for the SME to achieve its expected growth performance of job opportunities. These signals may also indicate low future net income and high risk, thus risk of not being sustainable and contributing to regional growth. These signals are thus riddled with uncertainty when used to assess whether the firm will meet its expectations. It may be difficult to assess if the SME is responsible due to uncertainty regarding the entrepreneur's ability or willingness to provide relevant and reliable information.

The search cycle continues with Sequence 3, where signals related to meeting political goals are assessed. The GVCs primarily consider environmental and social goals such as diversity goals in their assessment work to ensure that they finance responsible SMEs that are aligned with other political goals. In Sequence 4, the GVCs use regional signals to estimate the regional effects of financing SMEs. Signals of effects in rural areas and key regional industries are an important part of the GVCs' assessments. These signals are also linked to the political goals of regional growth and the creation of job opportunities or the preservation of jobs in distant geographical areas.

The firm's human capital is assessed in Sequence 5. The people in the firm are assessed as a way of predicting entrepreneurial performance, risks, and return in the market where the firm acts with the products that the firm offers to customers and through efficiency in

the firm's production processes. Human capital signals such as entrepreneurial capabilities are thus important for GVCs when assessing SME potential. Will the investment enable the entrepreneur to achieve the predicted increase in regional performance or growth, assuring for sustainable investments? The degree to which entrepreneurs are considered trustworthy and the SME reliable is a central part of GVCs' assessment work. GVCs must often cope with entrepreneurs' biases in predicting future outcomes.

Sequence 6 is the final phase of the search process. In Sequence 6, the assessment culminates with the financial signals (i.e., the amount of investment that is granted). The GVCs enter a pre-decision period and summarize the signals that were sought throughout the cycle. The non-financial signals—market, product and production signals, and human capital signals—are reconsidered in light of information gathered from the financial signals. Finally, the GVCs make a preliminary decision. This decision is based on predicting future financial outcomes of entrepreneurial performance in the region, the risk of regional disadvantages, and the impact on regional growth.

Following Sequences 1 to 6, the GVCs enter the justification process. The decision is reevaluated and discussed to determine the signals that must be sent when externally communicating the decision. A final decision is taken, and the signals that will be communicated are sought to rationalize and justify the decision. The justification process comprises Sequences 7 to 11.

In Sequence 7, the GVCs start by searching for and selecting potential financial signals to be used to communicate the decision (i.e., justifications in terms of advantages and disadvantages for achieving predicted performance). In Sequence 8, the GVCs then search for market, production, and product signals to be used to communicate the decision. Such signals provide substance when the GVCs communicate expectations. The GVCs perceive that this core group of signals is easy to communicate and is not particularly sensitive. In Sequence 9, regional effects are considered for communicating the decision. These signals are generally positive for approving financing. They are also easy to communicate. In Sequence 10, the GVCs search for human capital signals to communicate advantages and disadvantages for achieving future predicted performance. The GVCs perceive that human capital signals are sensitive and that they can be challenged if used to justify rejections. An example of a human capital signal is the entrepreneur's lack of entrepreneurial experience. Although human capital signals are central to the search process, these signals are considered too sensitive for use as justification when communicating decisions.

The last stage of the justification process is Sequence 11. Signals that were used for the decision are summarized and analyzed to assess the advantages and disadvantages of their use in external communication. A final decision is reached, and the justifications that will be used in external communications are determined to justify the decision to external stakeholders. The signals that will be communicated are chosen based on potential signaling effects on external stakeholders. For example, the GVCs assess the risk of being questioned. The decision process ends when the decision is communicated, and the justifications are sent to applicants. Justifications are also registered and are generally made official.

The two signal processes start and end with the core group of basic financial signals. However, the processes are also somewhat iterative. Throughout the processes, GVCs may move back and forth between the core groups of signals before ending with the financial signals. For example, discussions of human capital signals such as entrepreneurial capabilities may raise new questions over specific production conditions and the entrepreneur's ability to handle certain situations.

5. Discussion

The present study advances our understanding of GVCs' decision-making processes. We show how GVCs differ from PVCs in terms of their decision-making explained by their prominent role to act as sustainable investors in responsible SMEs.

5.1. Assuring for Sustainability and Responsible SMEs

We observe an advanced use of signals that resembles the use of signals by PVCs. Perhaps the most significant difference in information processing relates to the use of the two new types of signals—political and regional—that had not previously been identified in studies of PVCs nor discussed in the venture capital literature. These signals encapsulate the dimension of sustainable investments in responsible SMEs.

The political signals relate to securing investments that assure for environmental and social sustainability. The financiers should foster lower/decreased environmental impact e.g., in terms of carbon footprint. The regional signals aim to assure for regional sustainability, for rural areas to survive, provide job opportunities, and to provide for services needed for inhabitants. The political and regional signals aim to assure for the interests of the political elite. This finding is consistent with the ideas of Niskanen (2012), who cites the need for political legitimacy to influence decisions in political and social institutions.

SMEs invested in should be responsible companies, e.g., plan for or work for decreasing the footprint for instance through investment in infrastructure promoting lower impact. The tax paid financial means should not discriminate companies or people and they are legally forced to foster gender equality, diversity, and inclusion through their investments (Malmström et al. 2017). SMEs invested in should also work for increasing gender equality, diversity, and inclusion. They need to have plans for how to work with equality and inclusions and to take care of their employees. Further, responsible SMEs may. e.g., take care of inhabitants in the rural areas, attract other companies to the region, provide job opportunities, and provide services needed in the rural area making it attractive to live in the area. The GVCs goals stretches as such beyond the traditional goal of going concern to a goal of regional sustainability and well-being.

Assessment of political and regional signals appear ambiguous, specifically the definitions of sustainability and responsible SMEs. There are no clear limits or measures available guiding the GVCs. The potential moral hazard problem of opportunistic behavior in SMEs is often considered. The investors often end up securing that the SMEs are not irresponsible. For instance, that the SMEs do not discriminate, take advantage of people, or provide unethical products or services. The GVCs further try to secure that the entrepreneurs do not privately take advantage of the GVC investments. They also try to secure that the SMEs stay within their region post-investments. Human capital signals are often used to interpret the potential of being a responsible SME. Such signals are important because it allays the GVCs fears of failure and potential scandals. Indeed, it helps GVCs avoid the appearance of inefficiency in accordance with the primary goals, which may be a risk if GVCs grant public funds to questionable entrepreneurs from a social perspective.

5.2. Pre-Rationalization and Post-Justification

We further enrich the literature by presenting a model on GVCs information process in pre-rationalization and post-justification of decisions. The most significant contribution relates to the discrepancy between these two processes where justification outlines unquestionable signals aimed at aligning external communication with the politically legitimate objectives of the investment. Justifications enable GVCs to match expectations upon them, providing legitimacy as political and social institutions. Unequivocal signals such as market, product, production, and financial signals, are particularly emphasized when justifying negative decisions. Such decisions need to be even more watertight than they must be for positive decisions. Notably, political signals are used only for pre-rationalization of decisions. The reason for using political signals is to align the GVCs' decisions with the wishes of the political elite. In this phase, GVCs must be aware of political interests when rationalizing which SMEs to support. Consistent with Niskanen's (2012) perspective, it is important to sustain such information as an institution. Nevertheless, political signals are ambiguous and difficult to measure and therefore not used for justification of post-decisions. Neither are regional and human capital signals. The GVCs do not want to appear

doubtful, thriving to assure accurate and legitimate investments. These unique findings contribute to filling an empirical research gap and complement findings reported in the venture capital literature (Bertoni et al. 2019; Gorman et al. 2005).

5.3. Simpler Decision-Making Processes and Ambiguous Measures

This study contributes by providing some general insights into the way that GVCs' decision-making contrasts with that of PVCs in contexts of high information asymmetry and high risk. PVCs are professional users of financial information, employing financial signals and established models and measures extensively in their assessments. This study indicates that GVCs carry out more superficial analyses of the SME's potential than PVCs do. They apply simpler decision-making models and measures that are more ambiguous than PVCs do. Both GVCs and PVCs rely on non-financial signals to combat uncertainty (Wright and Robbie 1996). Whereas PVCs transform non-financial information to assess SME financial performance and growth, GVCs transform signals to the political and social agenda, overlooking the goals of financial performance and financial growth. SMEs addressing GVCs are required to convince the financiers that they promote a sustainable environment, diversity and gender equality in plans, execution, and monitoring. Responsible SMEs may, for instance, contribute to job creation and regional development. In line with previous studies GVCFs combines financial goals such as financial returns with non-financial sustainability goals that seek social, environmental, and political value (Block et al. 2018; Buzzacchi et al. 2013), this to assure accountability (La Torre et al. 2020).

Our findings indicate that the GVCs superficial micro routines shape the stability of the institutional macro foundations assuring for sustainable and responsible investments (Bertoni and Tykvová 2015; Kovner and Lerner 2015) Further, our signaling process model shows that whereas GVCs at a micro level seek to survive as a macro level institution by avoiding criticism by politicians or the public, PVCs seek to survive as an institution by making high-financial performance investments.

A study such as this inevitably has certain limitations. First, the results are based on a case study of Swedish GVCs. We encourage scholars to investigate the adoption and communication of signals for a wider group of GVCs, ideally from other countries. Second, larger samples could be used to test the concepts explored in this study. Doing so could yield more reliable results. Such results could extend our knowledge of how signals are adopted and communicated. Third, we suggest scholars to take a further look into SMEs invested in to better understand the concept of sustainable investments in responsible SMEs or even more to better understand the GVCs navigating to avoid moral hazard and opportunism by SMEs (Rodgers et al. 2020).

6. Conclusions

We can conclude that there are gaping differences between GVC and PVC decision-making. Our findings may reflect how GVCs are less able to back financially successful SMEs than PVCs are (Avnimelech and Teubal 2006; Gilson 2003; Lerner 2002; OECD 2004; Wessner 2003). These differences highlight the need to rethink the government's role in the capital market. The current study provides unique evidence of the factors that severely undermine GVCs' financial performance by shaping GVCs' decision-making processes. These factors may help explain the failure of GVCs to influence SME financial growth and growth in society and why they have limitations compared to PVCs, as suggested by prior studies (Lerner 2000, 2002; Cumming and MacIntosh 2006). There appears at a first glance to be a substantial risk for market inefficiencies because of GVCs' potential misallocation of capital. Nevertheless, GVCs' goal is to back SMEs that can drive regional sustainability rather than backing successful SMEs that in a short-term perspective provide high financial return on investment. (Guerini and Quas 2016). It may also help to further explain the complementary role of GVCs to the PVCs as also suggested by previous studies (Grilli and Murtinu 2011, 2014; Bertoni et al. 2019). Who should play the gap filling function, decreasing the capital market imperfection for high-risk companies if GVCs would take

the same role of PVCs? There are large potentials for improving GVCs decision processes and lessons to learn from PVCs' decision-making. In contrast, PVCs also have lessons to learn from GVCs by paying further attention to issues of social and environmental sustainability—reaching beyond the short-term economic agenda of financial performance and financial return on investments. Sustainable investments in responsible SMEs are what distinguish government VCs from private VCs.

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