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Social Impact Venture Capital Investing: an explorative study

Annalisa Croce, Francesco Fontana, Giuseppe Scellato, Elisa Ughetto

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Abstract

In this paper, we look at venture capital funds that invest in enterprises striving to achieve a positive societal impact (SIVCs). Building on a novel dataset of 65 SIVCs, investing in 322 funded firms, we aim at shedding light on how these funds operate and the principal characteristics of the social enterprises in which they invest. We first provide a detailed description of SIVCs, in terms of their geographical location, target investment areas, investment size, target industries, investment stages and impact objectives. Then, we present a first evidence about the economic and financial status of the companies invested by SIVCs. Data reveal that SIVCs invest in companies that are on the market since long time and that show non trivial annual growth rates of sales, profits, fixed assets and total assets in the years before the investment. We observe that these funds are likely to pursue two different investment strategies. On the one hand, they select companies with negative profitability results but interesting growth patterns. This happens especially when funds indicate Basic Services and Employment as the impact themes they intend to address. On the other hand, SIVCs do not disregard more established companies with profits but a reduced prospective of growth at the time of the investment. We then assess the impact that these SIVCs have generated on invested firms: while we do not observe significant improvements in the sales figures, all the models show that total assets have been positively affected by the new equity raised. However, when we disentangle between short- and long-term effects, our analysis reveals that the effect of SIVCs on total assets is concentrated in the first years after the receipt of capital, while it disappears in the following years. A positive and significant effect of SIVCs on sales is instead found in the long run. The overall evidence seems to support the view that SIVCs favor the growth and transformation of target firms towards more capital intensive and scalable businesses.

1 Introduction

In recent years, social impact (henceforth, SI) investing has gained an exponentially increasing attention from many different actors across the globe. Financial institutions, private and public companies and shareholders have started to look at financial investments also through the lenses of the SI they generate (Fink 2018, 2020; Hart and Zingales 2017; Zingales 2018).

SI investments can be conceptualized as investments that strive to achieve a measurable social impact (i.e., social, economic, cultural or environmental) alongside a financial return, which can range from the repayment of the capital to a risk-adjusted market rate of return (Arena et al. 2018)[1]. The market for SI investments is progressively growing: in its most recent survey, the Global Impact Investing Network (GIIN) has reported that in 2019 about 279 SI investors (mostly located in North America and Europe) financed 9,807 SI investments, worth a total of more than 46.8 billion dollars (GIIN 2020). In the next decades, it is reasonable to presume that a consistent amount of capital will be allocated to social enterprises (Lyons and Kickul 2013).

Among the heterogeneous pool of actors that constitute the SI investing realm, Social impact venture capitalists (henceforth, SIVCs) are a new organizational form for which the tension between financial logic and social impact is most prominent. SIVCs operate with a hybrid logic (Battilana et al. 2017; Miller and Wesley II 2010), by combining financial sustainability with the generation of social value. They act as "pragmatic idealists" (Bocken 2015): on the one side, they evoke traditional VCs in their governance structures and general investment practices, but, on the other side, they look beyond a traditional 'quick-win investment format'. In fact, they deliberately invest in businesses that are economically viable, but also that are expected to generate economic, environmental and social value.

SIVCs apply principles and practices borrowed from the VC industry (Cetindamar and Banu Ozkazanc-Pan 2017), but they differ from traditional VCs in that they aim at catalysing funding to tackle persistent domestic or global social problems. The creation of social value goes hand in hand with a more patient attitude and the generation of varying levels of financial returns, reflecting their different expectations regarding risk, return and impact. While many SIVCs are guided by a strong financial logic and target market-competitive financial returns from their SI

[1] The concept of SI investment is not new. The decision to avoid the so-called 'sin' stocks (i.e., arms, tobacco, alcohol and sometimes oil) from investors' portfolios is somehow mainstream for a consistent number of financial operators (Nicholls and Daggers 2016).

investments (often named financial-first investors), others seek to maximize social or environmental returns, also at the potential detriment of financial returns (often named impact-first investors) (Ormiston et al. 2015).

Given the scenario in which SIVCs operate, where rules and practices are not well-established or known and because they are relatively new subjects in the venture capital (VC) market, research in this field has received very little attention. Thus far, a few works have focused on the blended value strategies that SIVCs adopt (Barber, Morse, and Yasuda 2021; Block, Hirschmann, and Fisch 2021; Boni, Toschi, and Fini 2021; Geczy et al. 2021; Toschi, Ughetto, and Fronzetti Colladon, 2021). No research we are aware of has attempted to provide a systematic overview of the SIVC market. Hence, the main aim of this research is to fill this gap and provide an analysis of the trends and the main characteristics of the SIVC industry at international level. The paucity of academic work on SIVCs is in contrast with the early momentum that SI investment is witnessing. SI investments are receiving much attention from the financial press (Fink 2018, 2020; The Economist 2017; Zingales 2018), and this makes envisage a growing relevance of this form of VC financing in the near future.

In this paper, we aim at analysing the players within the VC landscape that are driven by impact generation. By definition, VC funds do not only select promising investments but provide strategic guidance to the invested companies as well. From this perspective, these impact-driven VC players have a double opportunity to achieve positive externalities: from one side, they can allocate capital to the most deserving companies, but, afterwards, they can provide operational and strategic competences to ensure that impact objectives are successfully achieved and maximized alongside financial returns.

We provide a detailed description of SIVCs in terms of their geographical location, target investment areas, investment size, target industries, investment stages and impact objectives. In doing so, we map the current global landscape of SIVCs. Additionally, we present a first evidence about the economic and financial status of the companies invested by SIVCs. We also assess the short-term and long-term impact of SIVCs on the performance of funded companies. Based on data retrieved from ImpactBase, an online database managed by the GIIN, we aim at describing the peculiarities of the SIVC phenomenon. Additionally, in order to better understand SIVCs' investment criteria, we complement the ImpactBase dataset with additional information on the invested companies, deriving data from Thomson One Banker dataset. Finally, in order to examine the characteristics of the ventures funded by SIVCs, we enrich the analysis with accounting data on the invested companies drawn from ORBIS dataset.

We believe that the picture we offer on the role played by SIVCs paves the way to better understand and structure the complex, multi-faced and evolving SI landscape, which could lead to the creation of a new segment of financial operators with consistent capital under management looking for double bottom line returns, i.e., financial and not-pecuniary ones. By illustrating the peculiarities and main features of the SIVC market, this work enlarges the information set available to policymakers, at both national and supranational levels, to improve entrepreneurial finance policies.

The rest of the paper is organized as follows. Section 2 provides a discussion on how to define SI investing and a review of the current literature. Section 3 describes the dataset and introduces some insightful descriptive statistics about SIVCs and their funded companies. In section 4, we measure the short-term and long-term impacts of SIVCs on the performance of funded companies. Section 5 concludes the work.

2 Theoretical Background

2.1 Defining SI investing

As previously highlighted, the scientific literature related to SI investing appears to be still underdeveloped. While the practitioner world runs fast, from an academic perspective, the research is still very much in its infancy (Nicholls and Daggers 2016). This paucity of studies is also linked to the confusion on the proper definition and the related boundaries of the SI investing phenomenon (Klingler-Vidra 2020)[2]. Thus, it appears of primary importance to provide a comprehensive definition of what is meant by SI investing. As highlighted by Berry and Junkus (2013), and found by studies run by JP Morgan and GIIN, many investors do not agree upon a shared vision of what the term actually means and which kind of financial activities it includes. Given the ambiguity and uncertainty surrounding the term "impact", an investment can easily be considered impactful (even if it is not), allowing financial actors to use the label of impact investor merely to exploit the momentum without generating concrete impact for the society (Findlay et al. 2019; Freireich et al. 2009). Thus, most of the available studies have tried to give precise boundaries to the phenomenon, coming up with different definitions.

According to a broader definition, SI investing is an investment process that integrates social, environmental, and ethical considerations into investment decision making. Indeed, what

[2] The SI finance umbrella includes different financial tools such as alternative currencies, community investment, crowdfunding, ethical banking, microfinance, social impact bonds, social impact investing, social responsible investing and venture philanthropy (Allison et al. 2015; Périlleux 2015; Rizzi, Pellegrini, and Battaglia 2018).

differentiates a SI investment from standard investments is the introduction of SI factors into the investment process. This means that whatever investment seeking to achieve a positive impact on society should be considered as SI investment, e.g. running from philanthropic to responsible and sustainable investments (Berry and Junkus 2013; Scarlata, Walske, and Zacharakis 2017; Schueth 2003; Shank, Manullang, and Hill 2005; Statman 2006), with the inherent risk of diluting the concept (the so-called "impact washing" (Harji and Jackson 2012)).

Recently, more stringent characteristics have been proposed to classify investments as SI ones. SI investing occurs any time there is a deliberate decision to achieve both a financial return and an ancillary social and/or environmental benefit from the investment opportunity (Barber, Morse, and Yasuda 2021; Hebb 2013). Accordingly, GIIN defines impact investing as "*investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return*"[3]. This definition implies two other fundamental components: first, the intent of the investor to achieve such impacts, and, second, tangible evidence of the impacts themselves (Jackson 2013). As highlighted by Weber (2006) and Buttle (2007), the final goal for SI investors is in fact to allocate capital in businesses that have the intention to produce socially and environmentally sustainable impacts but that, at the same time, offer an economic and financial return as well. In contrast to this approach, conventional financial investment activity only seeks financial returns (Geobey, Westley, and Weber 2012).

To date, there is still an open debate in the literature regarding the magnitude of the financial returns that could be allowed for SI investments. Some works do not foresee boundaries on financial returns, while others are favourable to consider as SI investments only the ones which are available to sacrifice financial returns in favour of social returns (e.g. when below risk-adjusted market return rates are to be expected) (Arena et al. 2018). Höchstädter and Scheck (2015) argue that impact has to be measurable and intentional to differentiate it from unintentional positive externalities that could be generated by any investment. Another qualifying element to define impact investing, in addition to intentionality and measurability, is additionality (Bugg-Levine and Emerson 2011; Hebb 2013; O'Donohoe et al. 2010; So and Staskevicius 2015).

2.2 The literature

The proliferation of investors pursuing blended value strategies (i.e., targeting both economic and social returns) has recently led to the explosion of works on socially responsible

[3] https://thegiin.org/impact-investing/need-to-know/#what-is-impact-investing

investments (SRI). This broad literature has discussed the increasing awareness of investors to social, environmental and ethical issues (Barreda-Tarrazona, Matallín-Sáez, and Balaguer-Franch 2011; Berry and Junkus 2013; Erhemjamts, Li, and Venkateswaran 2013; Nilsson 2008; Sandberg et al. 2009). However, according to the review by Renneboog, Ter Horst, and Zhang (2008), existing studies have not univocally demonstrated that SRI investors may be willing to accept suboptimal financial returns in order to pursue social or moral goals. SIVCs, which are emerging in this new and evolving landscape as new actors, have received very little attention from the literature. A few scientific contributions are provided in the area of sustainable VCs (De Lange and Valliere 2020), for example those funds operating in the cleantech field (Bocken 2015; Marcus, Malen, and Ellis 2013; Wüstenhagen and Teppo 2006). Other works have examined the market and performance of community development VCs in the US, finding that these funds tend to invest in lagging regions, in earlier-stage investments and in industries that are not usually covered by traditional VCs and are less likely to result in successful exits (Kovner and Lerner 2015).

Only recently, a scientific debate on this new organizational form has emerged (Barber, Morse, and Yasuda 2021; Block, Hirschmann, and Fisch 2021; Boni, Toschi, and Fini 2021; Geczy et al. 2021; Toschi, Ughetto, and Fronzetti Colladon, 2021). The first one is the study by Barber, Morse, and Yasuda (2021), which examines whether investors knowingly accept lower expected financial returns in exchange for nonpecuniary benefits from investing in SIVCs. They find that investors are willing to pay for impact by sacrificing returns, being this result robust to fund access rationing and investor heterogeneity. Block, Hirschmann, and Fisch (2021) apply an experimental conjoint analysis to examine the impact investor criteria when screening social enterprises. They find that equity investors convey a greater value on the large-scale implementation of the social project compared to other social impact investors (such as donors or debt investors). Boni, Toschi, and Fini (2021) examine the relationship between investors' aspirations toward social impact and portfolio firms' pursue of social goals. Results reveal the existence of an investor–portfolio alignment effect in blended value strategies and this effect is influenced by contingencies at both investor and portfolio levels. Geczy et al. (2021) analyse legal documents from SIVCs and show that these contracts assign rights and duties on the basis of impact (what is termed "operational impact") and provide specific impact goals, indicating the intention that investors have to seek and deliver impact (what is termed "aspirational impact"). Similar to the field of social entrepreneurship, where the emphasis on generating rents or promoting a social mission may vary (Dees and Elias, 1998), also in the SIVC context investors' focus on the social dimension-rather than on the financial one- may vary. This issue is examined by Toschi, Ughetto and Fronzetti Colladon, (2021) who explore how SIVCs communicate their identities and actions to their external

stakeholders. Through the use of text mining techniques they find differences among SIVCs in terms of the intensity they communicate the social impact theme and the distinctiveness of the language used.

3 Dataset and descriptive statistics

3.1 Dataset description

This section describes how data were collected to build the database of SIVCs. The primary source of data is ImpactBase, an online database owned by GIIN, which is dedicated to the SI investment industry[4].

The dataset includes information on 443 active funds till December 2018. Out of these 443 active funds, we filtered only the ones belonging to the "venture capital" asset class, which constitute the body of our research, leading to an initial sample of 275 SIVCs. The database provides descriptive information of the funds – such as location, target geographical investment area and corporate governance. However, only for 92 SIVCs (out of 275) the set of information was complete. In Section 3.2 we provide a first set of descriptive statistics on these 92 SIVCs.

In order to enrich the dataset with quantitative data, we complemented the information drawn from ImpactBase with a second database, namely Thomson One Banker, owned by the Thomson Reuters group. This database is one of the largest and most complete sources of financial information in the world, with a coverage comparable to Bloomberg LP and FactSet Research Systems Inc. From this second dataset, we derived information about the companies invested by SIVCs and the characteristics of the funding rounds. We found information in Thomson One Banker for 65 SIVCs (out of the original 92), 322 funded firms and 455 deals. A second set of descriptive statistics is carried out in Section 3.2 on this enriched dataset.

Finally, we focus on the invested companies by SIVCs. To this aim, the database ORBIS, managed by Bureau van Dijk, has been merged with the one previously used. This dataset contains accounting data for the majority of the European companies, and for some companies located in other countries. After the merge, we have complete financial accounting data on 51 (out of the total 322) social enterprises funded by a subset of 22 SIVCs (out of the 65 previously mentioned). In particular, for these 51 companies, we have been able to observe accounting data (even though

[4] Please note that the impact agenda of listed funds is verified by ImpactBase managers. ImpactBase is not currently available online. In order to check for data reliability, we verified the presence of the funds listed in ImpactBase into other available datasets (ImpactAssets, ImpactSpace, Prequin).

not for all the variables included in the analysis) relative to the year in which they received the investment, as well as for some years before and some years after the round itself. The total number of observations is 302 (5.912 observation, on average, per company). Figure 1 illustrates the dataset construction process as described.

[Insert Figure 1 here]

3.2 A sketch on the SIVCs' market

The main aim of this work is to describe the phenomenon of SIVC investing. As said in the previous section, we first focus on the 92 SIVCs extracted from ImpactBase, for which we have been able to collect complete information. Out of these 92 funds, 17 (18.48%) are closed, while the others are still operating. We observe a heterogenous behaviour in terms of investment activity, measured as the number of investments made at the time of writing, as detailed in Table 1. As it can be noticed, and in line with the novelty of the phenomenon, 20 funds (21.74%) have not yet completed the first investment. The majority of the funds has successfully invested in less than 15 companies, while the 16.32% of the sample has made more than 15 investments.

[Insert Table 1 here]

In order to gain a better understanding of the geographic distribution of SIVCs worldwide, and of their target investment areas, we report, in Figure 2, two maps that visually show where SIVCs are headquartered and which are their target investment areas. We observe that, not surprisingly, and in line with the VC phenomenon, North America (US and Canada) is the most active region with 47 funds out of the total 92 (51.65%). Europe (23.08%) and Africa (16.48%) follow, thanks to the presence of fiscal paradises (e.g. Guernsey, Mauritius, Luxembourg, Cayman Islands). The remaining 5.49% and 3.3% are relative to Asian and South American funds, respectively.

Focusing on the continent of target investments, North America appears to be the most common target investment area with 37% of the funds indicating it as a target investment area, followed by Asia (30%), Africa (18%), Europe and South America (15%).

[Insert Figure 2 here]

It is also interesting to examine if and to what extent SIVCs aim to invest cross-border[5]. In Table 2, we show the target investment countries and the continent of incorporation of the funds. Results show that SIVCs prefer to invest locally (i.e., in the same continent in which the registered office of the fund is located). Asian SIVCs invest only in Asian companies, African SIVCs focus 53% of their investments in African companies, while 56% of North American investments are targeted in North America. Similarly, 60% of South American companies are invested by South American funds. Only European SIVCs show a more spread target investment activity, with a comparably lower 40% of their investments in European companies, while the remaining investments are uniformly distributed across Africa (20%), Asia (20%) and South America (16%). Moreover, there is no evidence of non-North American funds indicating North America as target investment area. This fact seems to indicate that being based in North America is the only way to access the start-up market in this area.

[Insert Table 2 here]

When we focus on the performance of SIVCs, interestingly, 85 out of 92 declare to have, as a goal, a return comparable to the market one, independently of being SIVCs. Only 7 funds appear to be willing to sacrifice financial success with impact. This consideration is particularly relevant as it clashes with the definition provided before. Indeed, the intentionality of sacrificing financial returns in favour of impact appears to be foundational for the SI investing phenomenon. Management fees are also in line with the traditional VC industry, with the majority of the funds (59.78%) requiring fees between 2% and 3%.

In Table 3 we compare the target internal rate of return (IRR)- that each fund strives to achieve- and the committed capital of SIVCs. We find out that globally, the mean value of the target IRR is 19% (median value 18.14%) and that the mean value of the committed capital is 60.73 M$ (median value 29.1M$).

[Insert Table 3 here]

Table 4 illustrates the different typologies of limited partners investing in SIVCs. Family Office (78%) and Institutional Investors (71%) represent the most used sources of capital for these

[5] Please note that SIVCs, when registering in Crunchbase, could indicate more than one country as target investment country.

socially responsible financial vehicles, followed by Pension Funds (41%) and Endowments/Foundations (40%).

[Insert Table 4 here]

As the recent literature has highlighted, SIVCs reflect their impact agenda in legal documents, by providing their intention to seek and deliver impact (Geczy et al 2021). The impact agenda of SIVCs may be broad, ranging from funds that seek to improve the access of poor people to microfinance, reduce the environmental impact of gas emissions, alleviate poverty or encourage the development of entrepreneurial firms by minority communities. The GIIN codified the impact agenda of SIVCs in different categories, reflecting societal areas potentially affected by SI investments. SIVCs indicated more than one impact theme that they intended to address by the allocation of their capital. Therefore, the impact theme reflects the area in which the recipients of the funds are operating. To clarify, a SIVC willing to have a positive impact on facilitating the access to water of underdeveloped countries will invest in companies whose mission is to develop technologies or services which eventually improve people's access to water. The same reasoning applies to the other impact themes that are presented in Table 5. We aggregated the categories provided by the GIIN into macro-level themes. We classified the impact themes as follows: "Basic Services", referring to companies improving people's access to food, water and education, "Employment" referring to companies which try to improve the life of job-seekers, "Energy and Environment", related to the striking global challenge for contrasting climate change, and "Finance", which mainly refers to companies improving people's access to microcredit.

We find out that most of examined SIVCs are interested in social enterprises striving to provide access to Basic Services (i.e., food, water, education), since 58.69% have indicated Basic Services as one of the impact themes driving their investment choices. Other priority impact themes are Employment (53.26%), Energy and Environment (53.26%) and Finance (51.08%).

[Insert Table 5 here]

As previously stated, to get additional insights on the phenomenon in terms of data on invested companies, we merged Thomson One Banker information with the initial database, leading to complete information for 65 funds investing into 322 companies in 455 deals. The distribution of the deals over time is reported in Table 6. Results highlight the novelty of the SIVC investing phenomenon: only 14.96% of the investments are made before 2005, 25.27% are made from 2006 to 2010, 42.19% from 2011 to 2015 and 17.58% after 2016.

[Insert Table 6 here]

Table 7 reports the distribution of the companies invested by SIVCs by country, industry, status and stage. We observe that, in line with the target investment geographical areas stated by the funds and described in Figure 2, North America appears to be the area receiving the majority of the investments. Indeed, 52.80% of 322 invested companies are from North America, 21.74% are from Asia and 14.60% are from Europe. African companies represent the 7.45% of the invested companies, while the remaining 3.42% come from South America.

As to the industrial distribution, the higher percentage of companies (30.43%) operates in the "Other" sectors category that includes "Agriculture related" (NACE Code 9510) and "Non-Bank Credit" (NACE Code 9235) sub-sectors. Similarly, 48 companies (14.91% of the sample) operate in the Industrial Energy sector. However, we also find "standard" sectors for VC investing such as "Internet Specific" (18.32%) and "Computer Software" (12.73%) sectors.

As to the status of the invested companies, the largest majority is still active (78.88%). Descriptive statistics reveal that 19.57% of the companies went into a successful exit trough an M&A (15.53%) or an IPO (4.04%). Only 1.55% of the invested companies failed. This result, even if it is influenced by the fact that most of the investments is recent, provides a first insight about the positive effect of SIVC investing.

Table 7 also reports the distribution of the invested companies by stage of development. The numbers suggest that SIVCs, in accordance with traditional VC funds, are mostly focused on the growth stage (45.03% of the companies), followed by the early and seed stages (28.88% and 2.8% of the companies respectively). The remaining 23.29% of the investments are in later stage companies.

[Insert Table 7 here]

In terms of syndication strategy, Table 8 shows that in 35.82% of the 455 deals in which SIVCs are involved, funds invest alone. In 47.88% of the deals, SIVCs invest with one or three other investors. Only 9 deals are coinvested by more than one SIVC fund. In the other cases, they invest with other investors that do not necessarily pursue an impact objective.

[Insert Table 8 here]

3.3 The economic and financial profile of SIVCs' portfolio companies

In this section, we provide a first evidence about the economic and financial status of the companies invested by SIVCs. We focus on the 51 companies for which we were able to collect accounting information relative to the year in which they received the investment, as well as for some years before and some years after the round itself (see Section 3.1 for a detailed description of the sample construction). As previously said, our sample is composed of a maximum of 302 observations relative to 51 companies invested by 22 SIVCs (5.912 years observed on average per company). Table 9 reports the geographical and industrial distribution of this sub-sample of invested firms. The majority of the companies is from Europe (64% of the sample). More specifically, 30% of the companies are from UK, while 10% are from France. In terms of industrial distribution, the sample is mainly composed of companies operating in the Financial (25.49%), Professional, Scientific and Technical activities (15.69%), Information and Communication (15.69%) and Manufacturing (13.73%) sectors.

[Insert Table 9 here]

In Table 10 we provide some descriptive statistics about sample companies at the time of the investment. They are, on average, 11.76 years old (median value 10 years) and this is in line with the observation that the percentage of early stage companies in the sample is very low (only 19.61% are less than 5 years old at the time of the investment). The difference between mean and median values of the variables Sales and Assets, as shown in Table 10, suggests that these companies present very skewed distributions in terms of size. In what follows, we focus on the median value, that is a more robust and sensible measure, thus better suited to derive a central tendency for skewed distributions. We observe, again, that invested companies are not startups: they show sales around 5 Mln euros and total capital invested of 8.5 Mln euros (1.6 Mln euros in terms of fixed assets) at the time of the investment. A similar reasoning may be applied when considering their leverage: looking at the ratio between financial debt and equity, results indicate a median value of 0.236 at the time of the investment versus a mean value of 0.755. As to their profitability, funded companies show a skewed distribution of profits as well, with a mean value of 8.8 Mln euros and a negative median value around 46 thousand euros.

[Insert Table 10 here]

We further examine the profitability status of invested companies by disentangling between companies with profit and with losses at the time of the investment in order to explore, in more

details, the investment strategy of SIVCs. At the time of the investment, 21 companies out of 51 (41.18%) show losses, while the remaining 30 companies (58.82%) have profits, as illustrated in the last row of Table 11. This evidence suggests that SIVCs seem to operate according to different investment strategies, without necessarily considering ex-ante profitability as an investment pre-condition.

We posit that a selection of invested companies that is rather irrespective of their profits at the moment of the investment might be associated with the social impact dimension that SIVCs intend to address. Accordingly, we explore the presence of potential differences in the selection of target companies depending on the impact theme declared by SIVCs, as described in Section 3.2. In 54.90% of the cases, sample companies are invested by SIVCs declaring Energy and Environment as their target impact theme. In the 33.33%, 45.10% and 47.06% of the cases, companies are invested by SIVCs focusing, respectively, on Employment, Finance and Basic Services. Table 11 shows the distribution of firms with profits or losses at the time of the investment, according to the impact theme declared by SIVCs. Results indicate that, when funds aim at targeting the Basic Services and Employment social impact dimensions, they have a higher probability than average to choose companies with losses (54.17% and 47.06% respectively for Basic services and Employment). The opposite is true for SIVCs declaring Energy and Environment and Finance as target investment areas (respectively the 39.29% and 39.13% of investments are in companies with negative profits). Hence, this preliminary evidence supports the view that when SIVCs decide to invest in social impact areas characterized by below-market performances (i.e., Basic Services and Employment), they necessarily have to allocate a proportion of their portfolio to investments showing losses.

[Insert Table 11 here]

In addition, we consider the growth of invested companies in the years before the entry of the SIVC fund. We estimate the average compounded annual growth rate (CAGR) in the years before the investment. Table 12 reports the CAGR of sales, profits, fixed assets and total assets of invested companies at the time of the investment. Again, we focus on median values given the skewed distribution of the growth rates, as it clearly appears in Table 12. Results indicate that invested companies show significant growth patterns before the investment date: they show, in the years before the investment, a growth of 38.79% in sales, of 11.39% in profits, of 17.8% in fixed assets and of 40.04% in total assets.

[Insert Table 12 here]

It is interesting to observe whether growth rates differ between companies with profits or losses at the time of the investment. Descriptive statistics on this issue are illustrated in Table 13. Interestingly, results indicate that companies with losses at the time of the investment have higher growth rates compared to companies with profits, in terms of all the considered dimensions: sales, profits and assets. Overall, this suggests that SIVCs seem not to act as traditional VCs, which cherry pick young ventures with high potential in order to sustain the consolidation of new entrepreneurial profiles. Instead, they seem to select companies that are already on the market, pursuing two different investment strategies. On the one hand, they may invest in companies with negative results but interesting growth patterns. On the other hand, they may prefer more established companies with profits supporting an accelerated growth path. The latter approach is coherent with a more "patient" financial approach and potentially linked to the transformation of traditional companies toward more impact-oriented business models.

[Insert Table 13 here]

We expect that some relevant differences may emerge when considering the impact themes declared by SIVCs, as shown in Table 14. When SIVCs target the Basic services and Employment impact themes, they seem to select companies that are heavily investing in technical infrastructures, i.e., showing high growth rates of fixed and total assets. Putting together the results on profit and growth patterns, it appears that the investment strategy for this category of SIVCs aims to sustain companies with low profitability in becoming more capital intensive, thus soliciting investments in technical infrastructures. Hence, in these social impact areas, SIVCs are expected to encourage invested firms engaged in social innovation projects to increase firms' capital intensiveness.

A different picture emerges for SIVCs investing in the Energy and Environment social impact theme: in this case, funded companies are already endowed with technological and fixed capital stock and the entry of a SIVC fund is less connected with the introduction of investment patterns in new technology. In case of funds targeting Finance as an impact theme, we interpret our evidence in the light of the microfinance domain: invested companies are not growing in terms of fixed assets but they show an increasing trend in current asset activities (such as account receivables).

[Insert Table 14 here]

We finally provide some evidence about the impact of SIVCs on investee companies. Out of 51, a total of 41 companies (80.39%) are still active, while the remaining 10 are dissolved. As to

the growth of invested companies after the entry of a SIVC fund, Figure 3 reports the trend of sales and fixed assets over time (i.e., scaled values considering the variable fixed to a value of 100 in the year of the investment).

[Insert Figure 3 here]

Figures indicate that SIVCs seem to have a positive impact on invested companies in terms of both sales and investments in fixed assets. According to the numbers shown in Table 15, in the years following the investment by a SIVC fund, the average CAGR of sales and fixed assets is, respectively, 44.90% and 14.82%. Again, significant differences emerge between companies with losses or profits at the time of the investment: companies showing losses at the time of investment grow more in sales: on average, their growth is 63.03% in the years following the investment versus 18.94% for those with profits. Similarly, we observe a CAGR of fixed assets equal to 50.45% for companies with losses, while the same value is equal to 13.47% for firms with profits at the time of the investment.

This result is in line with the observation that SIVCs likely endorse different investment strategies: on the one hand, they seem to invest in companies with a poor profitability in order to sustain their investment growth (we verified that this happens especially for Basic Services and Employment social impact themes). On the other hand, especially when the prevalent impact theme is Energy and Environment or Finance, SIVCs invest in companies with profits, whose growth patterns, in terms of investment in fixed assets, is less pivotal in their corporate strategy. In any case, the impact of SIVCs seems to be positive in boosting both sales and fixed assets over time. It is interesting to observe that invested companies already show growing patterns before the investment and SIVC financing seems to amplify this growth in terms of both sales and fixed assets.

[Insert Table 15 here]

4 Econometric analysis

In addition to the abovementioned descriptive statistics, we further explore the characteristics associated to the performance of SIVCs, through an explorative multivariate analysis on the 48 companies for which we collected accounting data.

In particular, we estimate a series of regression models where the dependent variables are proxies of growth, in order to provide a preliminary evidence about the impact of SIVCs on the

performance of invested companies. More in details, we consider two dependent variables: the amount, in logarithms, of total assets and the amount, in logarithms, of total sales.

We estimate a series of augmented Gibrat law panel-data models (Evans 1987) derived from the model specification used by Croce, Martì, and Reverte (2019). This model is standard in the industrial organization literature on company growth (Sutton 1997) and allows us to test whether the growth rates of SIVC-backed companies increase after the investment. According to this growth model, our control variables include the logarithm of the dependent variable in the previous year and age in logarithm. Country, year and industry fixed effects are also included.

The impact of SIVCs is estimated, first, in Model I, by introducing a dummy $step_{it}$ taking value 1 from the year of the SIVC investment onwards. It represents an averaged effect of SIVCs over time. Secondly, in Model II, in order to explore whether there is a time effect in the impact of SIVCs, we disentangle the impact over time by introducing two dummy variables indicating the short and the long-term effects of the SIVC investment. The first dummy, $short_{it}$ is a dummy variable taking value 1 from the year of the investment until 2 years after the receipt of capital by a SIVC (e.g. from year 0 to 2). The second dummy, $long_{it}$ is a dummy variable taking value 1 starting from the third year after the receipt of capital from a SIVC (e.g. from year 3 onwards). Finally, in Model III, we estimate the impact of SIVCs as a shock effect by including only a dummy $shock_{it}$ taking value 1 only in the year of the receipt of the SIVC investment (e.g. in year 0).

Using OLS and fixed effects to estimate Gibrat law models may result in biased estimates of the parameters (Arellano and Bond 1991; Arellano and Bover 1995; Blundell and Bond 1998). Moreover, these methods either do not (in the case of OLS) or only partially (in the case of fixed effects) control for unobserved heterogeneity. We address these problems by using random effects (RE) and the system generalized method of moments (GMM-SYS) approach (Blundell and Bond 1998). Specifically, we implement the GMM-SYS estimation procedure with moment conditions for endogenous variables (i.e., lagged size and SIVC related variables). We also include the finite sample correction for the two-step covariance matrix developed by Windmeijer (2005). Age, year, industry and country dummies are used as external instrument. The GMM methodology on panel data allows us to estimate the effects of SIVCs on the growth of invested companies.

Results of Model I, Model II and Model III are reported in Table 16, Table 17 and Table 18, respectively. In particular, the first two columns of each Table refer to the model in which total assets is used as dependent variable, while in the last two columns, we report estimates about sales.

For each dependent variable, the first column reports RE estimates, while the second column refers to GMM estimates.

[Insert Tables 16-18 here]

Looking at the estimates in Table 16, our results indicate a positive and significant impact of SIVC investments on the size of the invested companies in terms of total assets. In fact, both RE and GMM estimates suggest that receiving SIVC funding determines an increase of total assets in the years following the receipt of capital. This result does not hold when we look at sales, this suggesting that, while the receipt of capital induces companies to invest money in assets, this is not associated to an improved route to market in terms of facilitating an increase in sales.

When we disentangle between short- and long-term effects, as reported in Table 17, our analysis produces more interesting insights: the effect of SIVCs on assets is concentrated in the first years after the receipt of capital. This is in not surprising, as, being cash part of the tangible assets, the resulting effect of the invested capital is a growth of total assets in the balance sheet. Conversely, this attitude does not continue in the following years as the long-term effect of SIVCs is not significant in the long run.

Looking at sales, estimates in Table 17 suggest that, even though the average effect of SIVCs after the investments is not significant, there is a positive and significant effect of SIVCs in the long run, this meaning that invested companies are able to grow, in terms of sales, after the entry of SIVC investors, but this requires time.

These different types of effects are confirmed when we look at estimates in Table 18, in which the impact of SIVCs is modelled as a shock. Estimates confirm a positive and significant shock effect on total assets and a not significant effect on sales involved by the entry of SIVCs in the equity capital of the invested companies.

5 Conclusions

SIVC financing represents a novel and important opportunity for entrepreneurs to raise capital for their social entrepreneurial ventures. Despite the recent turmoil in the global financial markets, SI finance seems to face a positive momentum. Given its recent nature, the phenomenon

has been largely understudied and this is, to our knowledge, one of the first papers offering exploratory insights into this domain.

In this study, we have mapped the SIVC landscape and assessed the impact of these investments on social enterprises. We have described how these newly born VC funds operate in terms of their investment dynamics, tapping into specific attributes peculiar to the social investment panorama, such as the different kind of societal impact that funds strive to achieve. We have presented a first evidence about the economic and financial status of the companies invested by SIVCs. Additionally, running multiple regression models, we have assessed the impact that SIVCs have generated on invested firms. Results indicate that SIVCs seem not to act as traditional VCs, which are oriented toward the selection of high growth young ventures. Instead, data reveal that they invest in companies that are on the market since long time and that show non trivial annual growth rates of sales, profits, fixed assets and total assets in the years before the investment. We observe that SIVCs are likely to pursue two different investment strategies. On the one hand, they select companies with negative profitability results but interesting growth patterns. This happens especially when funds indicate Basic Services and Employment as the impact themes they intend to address: they target companies that are heavily investing in technical infrastructures to sustain their capital intensiveness efforts. On the other hand, SIVCs do not disregard more established companies with profits but a reduced prospective of growth at the time of the investment.

While we do not observe significant improvements in the sales figures in econometric analyses, all the models show that total assets have been positively affected by the new equity raised. However, when we disentangle between short- and long-term effects, our analysis reveals that the effect of SIVCs on total assets is concentrated in the first years after the receipt of capital, while it disappears in the following years. A positive and significant effect of SIVCs on sales is instead found in the long run.

While the picture is intriguing, it represents just a first foray into the state of the art and the trajectories affecting the development and implications of SIVC financing. Even if SIVC still makes up a small proportion of VC financing, we believe that our explorative analysis offers new insights that should be of interest to entrepreneurial finance and business scholars. As the phenomenon grows in size and the field moves from its infancy to a certain level of development, interesting avenues for future research may be opened up. The understanding of the processes and dynamics affecting the evolution of the SI ecosystem and the role played by SIVCs, as well as the degree of interaction with the other stakeholders, needs to be further elaborated. How does the level of

engagement of SIVCs with other players in the SI landscape (e.g. SI business angels, philanthropic investors, ...) influence the selection, evaluation and negotiation of the deals? Are these relationships characterized by complementarity or substitutability and is this affecting their decision-making process? Understanding to what extent the positioning of SIVCs in the SI ecosystem and their interactions with other players in the field affects their investment strategy is clearly left for future studies.

Alternatively, future research might examine the complex interplay between the financial and the SI logics in the investment strategies of SIVCs. What are the factors driving the prevailing dominance of one logic over the other? How do internal and external social and economic changes affect the configuration of SIVCs' investment logics and business models? What are the consequences on investees' performance and mission in case of SIVCs' style drifts (ex. social logic suppressed by the dominance of the financial logic)? The adoption and integration of different theoretical paradigms and perspectives to explain these issues is a ripe area for further exploration.

A final dimension of investigation that is rich in potential for future research concerns syndication patterns. How often do SIVCs syndicate? Which synergies may arise between SIVCs and traditional VC investors? What are the characteristics of VC funds they co-invest with (e.g. in terms of experience, investment strategy, stage focus)? All these areas of inquiry still remain to be investigated and figure high in our research agenda.

As always, our paper is not exempt from limitations that can, however, stimulate further research in the field. First, we derived our data on SIVCs and their invested ventures from privately managed databases, which are limited in the richness of the information they provide. Available data does not allow, for example, to account for a deeper analysis of the heterogeneity of SIVCs in terms of their reputation, stated objectives, value added provided to portfolio companies. This opens up the possibility to build up richer data sources by adding more in-depth and qualitative information on their characteristics and the way they operate. Second, an assessment of the impact SIVCs exert on investee ventures might be performed, by enlarging the number of invested companies for which accounting data are available and considering appropriate control groups of both ventures backed by non-SIVCs and non-invested ventures. The numbers of the sample considered in our analysis does not allow us, at the moment, to pursue this research direction. Third, future research may explore, for example, whether the effects of SIVC investing on the companies invested may change considering different stages of development of the SIVC industry or different economic cycles.

Our findings have implications for policy. Policy makers are today well aware that the flow of funds into SI ventures needs to grow in the future to tackle pressing social needs (Davies, Haugh and Chambers 2019; Royal Society 2012; WBCSD 2013). In order to stimulate SIVC financing, the basic investment infrastructure needs to be developed further, in order to ensure acceptable returns for SIVCs. The lack of standardized and universally recognized metrics to measure the social return of an investment is an obstacle to the growth of SI investments, because it makes the process of benchmarking social returns difficult and hence limits the evaluation of the extent of the impact generated. Given the potential for expansion of the SIVC market, government intervention is desired to provide an appropriate regulatory framework to sustain risk capital in this financial domain. For example, a legislation to unleash conservative legal and policy requirements for SIVC funds is fundamental to create a SIVC market. Policy makers should also be mobilized to incentivize the development of standardized and transparent industry-wide measures.

Our work also suggests implications for both entrepreneurs seeking SIVC funding and for SIVCs. From the perspective of the recipients of SIVC finance, we have shown that the economic benefits of being backed by a SIVC are significant, in terms of stimulus to their growth. However, in order to gain the most of advantage from the relationship with a SIVC, SI entrepreneurs should have a deeper and better understanding of this new type of VC, which is looking beyond the 'quick-win investment format" (Bocken 2015). Entrepreneurs should carefully consider how to develop their entrepreneurial ideas to properly target SIVCs. This might imply a reconsideration of their hybrid nature, which is reflected in the co-existence in their mission of the twofold aim of addressing social needs and growing their business. In other words, SI ventures should better balance the achievement of social impact with their commercial development if they want to be attractive for SIVCs.

An exploratory scenario of SIVC financing patterns is useful for VC investors too. VC investors need to deepen their understanding of how the market is evolving, in order to design and implement new investment structures and assessment metrics compatible with social impact constructs. One of the key constraints that today still limits VC investors' decisions to invest in SI ventures is linked to the shortage of "investment ready" deals, namely high-quality investment opportunities showing some track record (Oleksiak, Nicholls, and Emerson 2015; Saltuk et al. 2014). It is clear that SIVCs will likely not invest in those ventures where they cannot predict a clear financial return. In this arena, application of conventional portfolio tools used by traditional VCs to evaluate the risk and return spectrum of an investment opportunity should be revised and adapted to jointly evaluate financial and social returns. This framework should include other

paradigms, such as the social risk (Brandstetter and Lehner 2015), which are not aligned with the dictates of the traditional VC industry, in order to be able to fully assess the risks associated with the generation of impact. As our analysis reveals, SIVCs have a positive impact on both the investee's total assets (in the short term) and sales revenues (in the long term). As soon as it is clear that an increasing number of SIVCs is able to generate positive returns (to the investees in terms of economic impact and to their limited partners in terms of market-rate returns), the market is predicted to expand, with the attraction of new funds and the entry of new traditional VC players. We are confident that the insights presented in the work represent an important starting point to understand the whole SI investment phenomenon.

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Figures

Figure 1. Dataset construction process

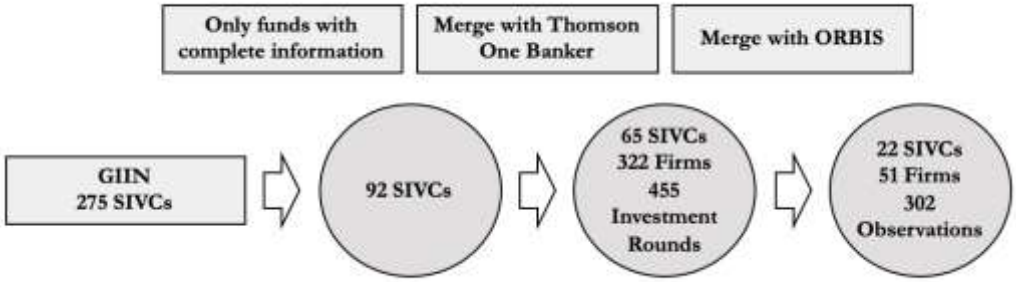
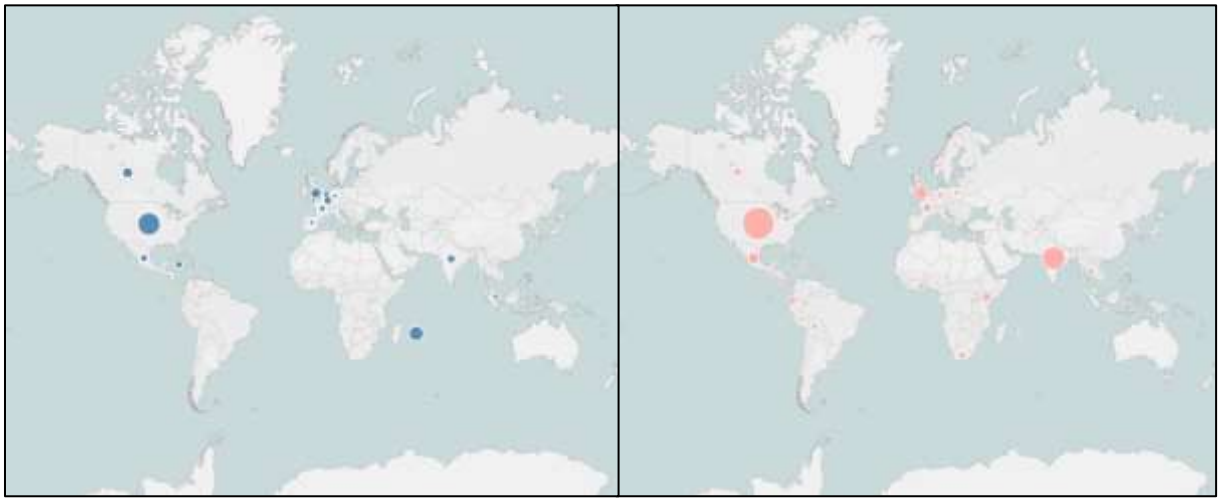
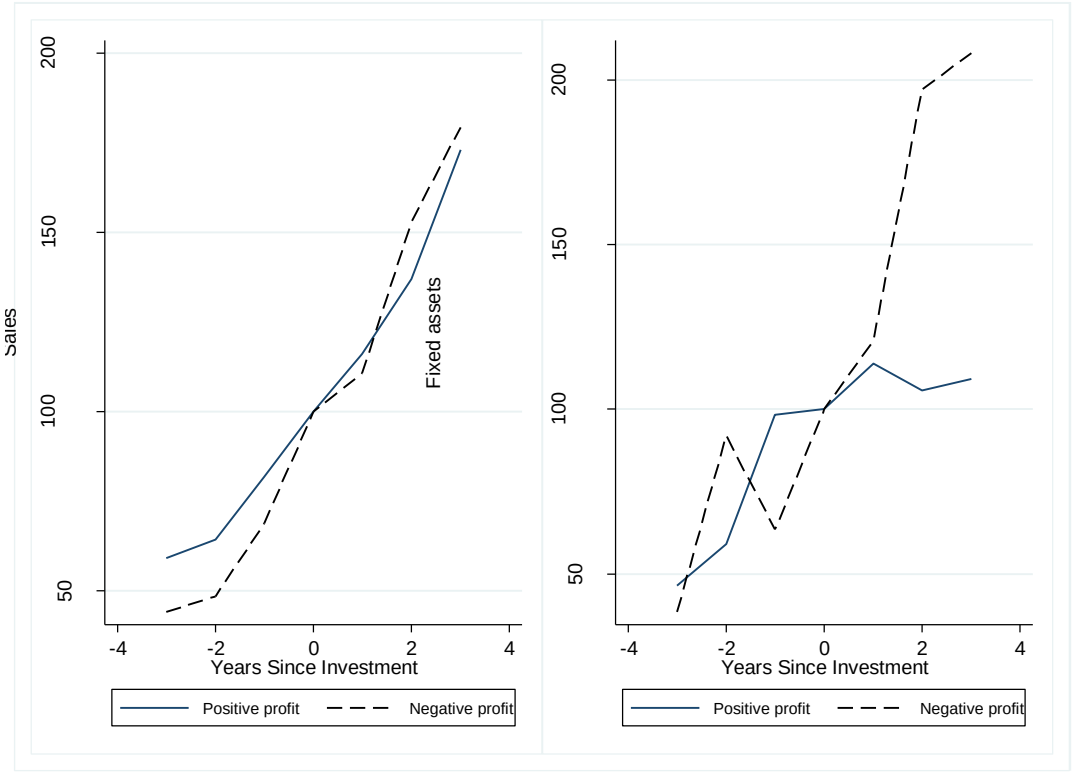


Figure 2. Geographic distribution of SIVCs and invested companies



Note: On the left, in blue, the distribution of SIVCs and on the right, in red, the distribution of their target investments. The size of the bubbles represents the relative percentage of funds and of the target investment areas.

Figure 3. Trend in sales and fixed assets of invested companies around the investment year.



Tables

Table 1 –SIVCs' investment activity

N. Investments	**N. SIVCs**	**%**
0	20	21.74%
1-5	22	23.91%
6-10	18	19.56%
11-15	17	18.48%
>15	15	16.32%
Total	*92*	*100,00%*

Table 2 – SIVCs' investment dynamics: cross continent investments

Continent of SIVCs	**Target Investment Area**						
	Africa	Asia	Europe	North America	Central America	South America	***Total***
Africa	47%	53%	0%	0%	0%	0%	100%
Asia	0%	100%	0%	0%	0%	0%	100%
Europe	20%	20%	40%	0%	4%	16%	100%
North America	7%	13%	7%	56%	8%	10%	100%
South America	0%	0%	0%	0%	40%	60%	100%

Table 3 – IRR and committed capital of SIVCs

	Committed Capital (M$)		Target IRR (%)	
	Mean	Median	Mean	Median
Total sample	*60.73*	29.1	19	18.14

Table 4 – Percentage distribution of Limited Partners of SIVCs

Limited Partner Type	**% of total sample**
Development Finance Institution	39%
Pension Fund	41%
Retail Investors	13%
Family Office	78%
Other Institutional Investors	71%
Endowments/Foundations	40%
Individual Accredited Investor	8%

Table 5 – Social Impact themes

	Social Impact Theme			
	Basic Services	Employment	Energy and Environment	Finance
% of funds	58.69 %	53.26%	53.26%	51.08%

Note: SIVCs could identify one or more than one impact theme as their investment target.

Table 6 – Distribution of SIVC investments over time

Years	**N. investments**	**%**
Before 2000	12	2.64%
2001-2005	56	12.32%
2006-2010	115	25.27%
2011-2015	192	42.19%
2016-2018	80	17.58%
Total	*455*	*100,00%*

Table 7 – Distribution of invested companies: country, industry, status and stage.

Company Country	**Total**	**%**
Africa	24	7.45%
Asia	70	21.74%
Europe	47	14.60%
North America	170	52.80%
South America	11	3.42%
Total	*322*	*100%*
Company Industry	**Total**	**%**
Biotechnology	7	2.17%
Communications	11	3.42%
Computer Hardware	1	0.31%
Computer Software	41	12.73%
Consumer Related	33	10.25%
Industrial Energy	48	14.91%
Internet Specific	59	18.32%
Medical Health	16	4.97%
Other	98	30.43%
Semiconductor Electronics	8	2.48%
Total	*322*	*100%*
Company Status	**Total**	**%**
Active	254	78.88%
Failed	5	1.55%
M&A	50	15.53%
IPO	13	4.04%
Total	*322*	*100%*
Company Stage	**Total**	**%**
Seed stage	9	2.80%
Early stage	93	28.88%
Growth stage	145	45.03%
Later stage	75	23.29%
Total	*322*	*100%*

Table 8 – Co-investments

N. investors per round	**N. rounds**	**%**
1	163	35.82
2	93	20.44
3	65	14.29
4	58	12.75
5	22	4.84
6	19	4.18
7	14	3.08
8	4	0.88
9	7	1.54
10	3	0.66
11	1	0.22
12	2	0.44
13	2	0.44
15	1	0.22
16	1	0.22
Total	*455*	*100*

Table 9 – Geographical and industrial composition of the sample of invested companies.

Company Continent	**Company Country**	**N. companies**	**%**
Europe	Denmark	1	2.00%
	France	5	10.00%
	Finland	1	2.00%
	Germany	3	6.00%
	UK	15	30.00%
	Netherland	1	2.00%
	Norway	3	6.00%
	Poland	1	2.00%
	Sweden	2	4.00%
Rest of the world		18	36.00%
	Total	*50*	*100.00%*
NACE Rev. 2 main section		***N. companies***	***%***
A – Agriculture, forestry and fishing		1	1.96%
B - Mining and quarrying		1	1.96%
C - Manufacturing		7	13.73%
D - Electricity, gas, steam and air conditioning		2	3.92%
E - Water supply; sewerage, waste management		1	1.96%
F - Construction		2	3.92%
G - Wholesale and retail trade		1	1.96%
I - Accommodation and food service activities		1	1.96%
J - Information and communication		8	15.69%
K - Financial and insurance activities		13	25.49%
M - Professional, scientific and technical activities		8	15.69%
N - Administrative and support service		6	11.76%
Total		*51*	100.00%

Table 10 – Descriptive statistics about invested companies at the time of the investment

Variable	**N.Obs.**	**Mean**	**Median**	**St.dev.**	**Min**	**Max**
Age	50	11.760	10.000	9.997	0.000	63.000
Sales	40	974,465.800	5,064.651	6,010,257.000	0.000	38,000,000
Profit&Losses	42	8,815.954	-46.506	40,815.030	-15,352.760	237,090.500
Total Assets	51	600,246.800	8,516.407	3,310,653.000	50.453	23,600,000
Fixed Assets	44	371,812.900	1,646.830	2,361,587.000	0.000	15,700,000
Financial Debt/Equity	38	0.755	0.236	1.705	-1.643	6.749

Note: Accounting data (Sales, Profit&Losses, Total assets and Fixed Assets) are in thousand EUR.

Table 11 – Profits/losses of invested companies at the time of the investment by impact theme

	Profits/losses of companies at the time of investment		
Social Impact Theme	**Losses**	**Profits**	**Total**
Basic Services	13(54.17%)	11(45.83%)	24 (47.06%)
Employment	8(47.06%)	9(52.94%)	17 (33.33%)
Energy and Environment	11(39.29%)	17(60.71%)	28 (54.90%)
Finance	9(39.13%)	14(60.87%)	23 (45.10%)
Total	**21 (41.18%)**	**30 (58.82%)**	**51 (100%)**

Table 12 – Growth of invested companies at the time of the investment

Variable	**Median**	**Mean**	**St.dev**	**Min**	**Max**
Sales CAGR	0.388	2.197	6.203	-0.696	32.012
Profit CAGR	0.114	0.351	4.678	-12.388	16.951
Fixed Assets CAGR	0.178	0.901	1.833	-0.401	9.393
Total Assets CAGR	0.400	0.664	0.729	-0.314	2.968

Table 13 –Growth and profits/losses of invested companies at the time of the investment

	Median growth (CAGR) in the years before the investment			
Profits/losses at the time of investment	**Sales**	**Profits**	**Fixed Assets**	**Total Assets**
Losses	0.409	0.158	0.678	0.921
Profits	0.298	0.114	0.135	0.323
Total	0.388	0.114	0.178	0.400

Table 14 –Growth of invested companies by impact theme

	Median growth (CAGR) in the years before the investment			
Social Impact Theme	**Sales**	**Profits**	**Fixed Assets**	**Total assets**
Basic Services	0.406	0.572	0.677	0.887
Employment	0.409	0.396	0.458	0.737
Energy and Environment	0.319	0.065	0.137	0.202
Finance	0.449	0.216	0.458	0.720
Total	0.388	0.114	0.178	0.400

Table 15 – Invested company's growth (CAGR) after the investment by SIVCs.

Profits/losses at the time of investment	**Median Sales CAGR**	**Median Sales CAGR**
Losses	0.630	0.504
Profits	0.189	0.135
Total	0.449	0.148

Table 16 – Impact of SIVCs: estimates of Model I

	Total Assets		**Sales**	
	RE	GMM	RE	GMM
lag size	0.8060***	0.9116	0.7265***	-1.1834
	(0.051)	(0.905)	(0.067)	(0.880)
step	0.2978**	1.8499*	0.2933	-15.111
	(0.143)	(1.011)	(0.246)	(0.955)
Log Age	-0.0717	-2.3442	-0.0778	22.0977
	(0.143)	(2.791)	(0.275)	(14.708)
Const	1.9683***		2.5627***	
	(0.489)		(0.728)	
Country dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
N. obs	191	191	147	147
N companies	48	48	36	36

Table 17 – Impact of SIVCs: estimates of Model II

	Total Assets		**Sales**	
	RE	GMM	RE	GMM
lag size	0.7922***	1.1779	0.7362***	0.2284
	(0.052)	(0.801)	(0.065)	(0.388)
short effect	0.2887**	1.2435*	0.3188	0.9959
	(0.144)	(0.709)	(0.238)	(0.618)
long effect	0.0873	1.6848*	1.0265***	1.8082**
	(0.214)	(0.948)	(0.342)	(0.802)
Log Age	-0.0102	-8.6935	-0.1764	4.2728
	(0.150)	(8.063)	(0.268)	(5.105)
Const	2.0734***		2.2037***	
	(0.501)		(0.715)	
Country dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
N. obs	191	191	147	147
N companies	48	48	36	36

Table 18 – Impact of SIVCs: estimates of Model III

	Total Assets		**Sales**	
	RE	GMM	RE	GMM
lag size	0.8252***	0.8320	0.7347***	-0.6615
	(0.051)	(1.626)	(0.067)	(0.501)
shock	0.2624**	1.9512*	-0.0035	2.6780
	(0.128)	(1.094)	(0.219)	(2.034)
Log Age	-0.0270	-2.2314	-0.0758	12.6328
	(0.140)	(3.419)	(0.277)	(7.981)
Const	1.9973***		2.8619***	
	(0.482)		(0.692)	
Country dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
N. obs	191	191	147	147
N companies	48	48	36	36