

POLITECNICO DI TORINO

Dipartimento di Ingegneria Gestionale e della Produzione

Corso di Laurea Magistrale
in Engineering and Management



Framing of International Social-Impact Venture Capital Funds and of Their Management Teams, Behind and Beyond Performances

Relatore

Prof.ssa Elisa Ughetto

Correlatori

Prof. Giuseppe Scellato

Prof.ssa Annalisa Croce

Candidato

Marina Berardi

April 2019

Contents

| | |
|--|-----------|
| I LIST OF ACRONYMS AND ABBREVIATIONS | 4 |
| II LIST OF FIGURES | 5 |
| CHAPTER 1 OVERVIEW..... | 7 |
| 1.1 ABSTRACT..... | 7 |
| 1.2 FRAMING LITERATURE | 8 |
| CHAPTER 2 SOCIAL INVESTMENT MARKET | 13 |
| 2.1 SOCIAL FINANCIAL INSTRUMENTS | 13 |
| 2.2 ACTORS IN SOCIAL INVESTMENT MARKET | 17 |
| 2.2.1 <i>The Demand</i> | 18 |
| 2.2.2 <i>The Supply</i> | 19 |
| 2.2.3 <i>The Beneficiary</i> | 20 |
| 2.2.4 <i>The Intermediary</i> | 20 |
| 2.3 BARRIERS AND RISKS | 21 |
| CHAPTER 3 INVESTMENT FUNDS | 23 |
| 3.1 DEFINITION..... | 23 |
| 3.2 VENTURE CAPITAL FUNDS | 23 |
| 3.2.1 <i>The Investment Supply Chain</i> | 24 |
| 3.2.2 <i>Hybrid Venture Capital Funds</i> | 26 |
| 3.2.3 <i>The Role of Government</i> | 28 |
| 3.4 ELIGIBLE CRITERIA..... | 29 |
| CHAPTER 4 DATA COLLECTION AND METHODOLOGY | 31 |
| CHAPTER 5 FUNDS ANALYSIS..... | 35 |
| 5.1 FUND’S STAGE..... | 35 |
| 5.2 INVESTORS..... | 38 |
| CHAPTER 6 MANAGEMENT ANALYSIS..... | 43 |
| 6.1 GENERALITIES | 44 |
| 6.2 EDUCATIONAL BACKGROUND | 50 |
| 6.3 WORKING BACKGROUND | 52 |
| 6.4 CAREER ACHIEVEMENTS AND QUALITY OF EDUCATION | 54 |
| 6.5 INTERNATIONAL AND VOLUNTEERING EXPERIENCE | 58 |
| CHAPTER 7 DIVERSITY OF MANAGEMENT | 61 |

| | |
|---|------------|
| 7.1 BACKGROUND DIVERSITY | 61 |
| 7.2 THE REGRESSION MODEL | 66 |
| 7.3 DIVERSITY INDEX | 67 |
| 7.4 CORRELATION WITH ATTRACTIVENESS INDICATORS | 68 |
| CHAPTER 8 CONCLUSION | 77 |
| III APPENDIXES | 81 |
| <i>Appendix A - Impact Investing Literature Review</i> | 81 |
| <i>Appendix B - Other Sources' Literature Review</i> | 86 |
| <i>Appendix C - Literature Review Venture Capital Funds</i> | 91 |
| <i>Appendix D - Data type</i> | 95 |
| <i>Appendix E - SI Funds</i> | 96 |
| <i>Appendix F - Sub-Sectors of Funds' Investment Fields</i> | 98 |
| <i>Appendix G - Diversity Index of Funds</i> | 99 |
| <i>Appendix H - Roles and Responsibilities</i> | 102 |
| II REFERENCES | 103 |

I List of Acronyms and Abbreviations

| | |
|---|---|
| BEP Break-Even Point | MBA Master in Business Administration |
| CB Community Bonds | MBO Management Buy-Out |
| CFA The Chartered Financial Analyst Institute | MIFID Markets In Financial Instruments Directive |
| CIC Community Interest Company | NAV Net Asset Value |
| CSR Corporate Social Responsibility | NPO Non-Profit Organization |
| EC Equity Capital | NPV Net Present Value |
| EIB European Investment Bank | PbR Pay-by-Results |
| ESG Environmental, Social and Governmental | PRM Public Relation Management |
| EU European Union | R&D Research and Development |
| GBC Green Bonds Community | ROI Return On Investment |
| GIIN Global Impact Investing Network | SDG Sustainable Development Goal |
| GIIRS Global Impact Investing Rating System | SE Social Enterprise |
| HVCF Hybrid Venture Capital Fund | SI Social Investment/Social Investing |
| IA Impact Assessment | SIB Social Impact bonds |
| IFRS International Financial Reporting Standards | SIF Social Impact Finance |
| II Impact Investment/Impact Investing | SII Social Impact Investment/Social Impact Investing |
| IP Intellectual Property | SIIT Social Impact Investment Taskforce |
| IPO Initial Public Offering | SIM Social Impact Market |
| IPP Independent Private Partnership | SRI Social Responsible Investment |
| IRIS Impact Reporting and Investment Standards | SROI Social Return on Investment |
| IRR Internal Rate of Return | SSA Sub-Saharan Africa |
| KSF Key Successful Factor | SSO Social Sector Organization |
| LAC Latin America and Caribbean | UN United Nations |
| LBO Leveraged Buy-Out | VC Venture Capitalist |
| MARR Minimum Acceptable Rate of Return | |

II List of Figures

Fig.1: Graphical and Sectorial Worldwide Investment Allocation

Fig. 2: AUM by Instrument in Impact Investing Market

Fig. 3: Actors in Social Investment Market

Fig. 4: Organizations' Spectrum: From Charities to Commercial Business

Fig. 5: Institutions' Spectrum: From SE to PE Investors

Fig. 6: Investments' Supply Chain

Fig. 7: Impact Theme, Funds in Crunchbase

Fig. 8: Asset Class, Instruments of Crunchbase's Funds

Fig. 9: Stage and Size of Funds

Fig. 10: Investor Types

Fig. 11: Composition of Investors

Fig. 12: Presence on Social Networks

Fig. 13: Gender Proportion by Age

Fig. 14: Top Management Geographical Distribution

Fig. 14.a: Top Management Geographical Distribution Table

Fig. 15: Global Initiatives

Fig. 16: Types of University Levels

Fig. 18: Specializations of Educational Levels

Fig. 19: Main Working Experiences

Fig. 20: Business Roles Distribution

Fig. 21: Roles and Working Experience

Fig. 22: Career Achievements and Quality of Education

Fig. 23: International Experiences

Fig. 24: Volunteering Experiences

Fig. 25: Investment Fields

Fig. 26: Background Diversity

Fig. 27: Background Diversity, Insight

Fig. 28: Diversity Index Composition

Fig. 29: Linear Regression Diversity-Management Fee

Fig. 30: Linear Regression Diversity-Carried Interest

Fig. 31: Linear Regression Diversity-Hurdle Rate

Fig. 31.a: Second Linear Regression Diversity-Hurdle Rate

Fig. 32: Linear Regression Diversity-Target IRR

Fig. 32.a: Second Linear Regression Diversity-Target IRR

Chapter 1 Overview

1.1 Abstract

The **Social-Impact Investing** (SII) is an innovative and promising approach for finding solutions to social challenges (Jackson, 2013). The Social Impact Finance (SIF) is able to combine the need of an inclusive finance with the need of financial sustainability of those initiatives. This approach allow attracting new type of investors and achieving social and environmental objectives.

The objective of this master thesis is to outline the investment trends of international Venture Capital Funds (VCFs) and profile General Managers (GMs) that are behind Social-Impact Investment.

This piece of work is important because it enriches the existing literature on Social Impact Investing - which still lacks of shared terminology, inclusion criteria and boundaries definitions (Daggers & Nicholls, 2016) -, and because it gives an overview of Social Impact Ventures (SIV) and managers working at global scale.

My research had started with a list of 92 social oriented investment funds, but the size of the sample reduced to 77 because I considered only the ones that were both present on two global datasets: Impact Base and Thomson ONE. Firms that are managing those funds' activities counted 638 managers of whom I have collected information about their education and working experiences by consulting LinkedIn and Crunchbase. The number of individuals found was 527 with a total number of data items collected equal to 22661. The collection of data took three months and it was demanding because some profiles were lacking of completeness, clarity and update, contrarily to what I was expecting.

This thesis is composed of eight Chapters structured in the following way: Chapter 1 and 2 give a framework of the current literature and of the social investing market with its financial instruments, actors, barriers and risks. Chapter 3 focuses more on features of hybrid investment funds and how they work. Chapter 4 is an introductory part for the analysis done in Chapter 5, 6 and 7. Chapter 5 is a qualitative analysis of our sample of funds, showing which are the main

investors, investees and stages of the funds. Chapter 6 considers the management by giving a qualitative analysis of its composition (gender, age, and location), educational background and their career achievements, working background and other relevant experiences. Chapter 7 wants to demonstrate, by using linear correlation model, whether there is any correlation between the diversification of management team, in terms of educational and working background, and fund's performance. Chapter 8 collects results obtained by analysis.

1.2 Framing Literature

The expression **impact investing** (II) was coined for the first time in 2007 at The Rockefeller Foundation's Bellagio Center¹, a pioneer foundation still working on building solid infrastructures for the impact investing fields. Nevertheless, the concept itself is not so young if we think that in the 70s there were investments for avoiding slave trade and supporting fair and ethical trades. The expression refers to investments carried on by enterprises, organizations, foundations, individuals and projects, committed in:

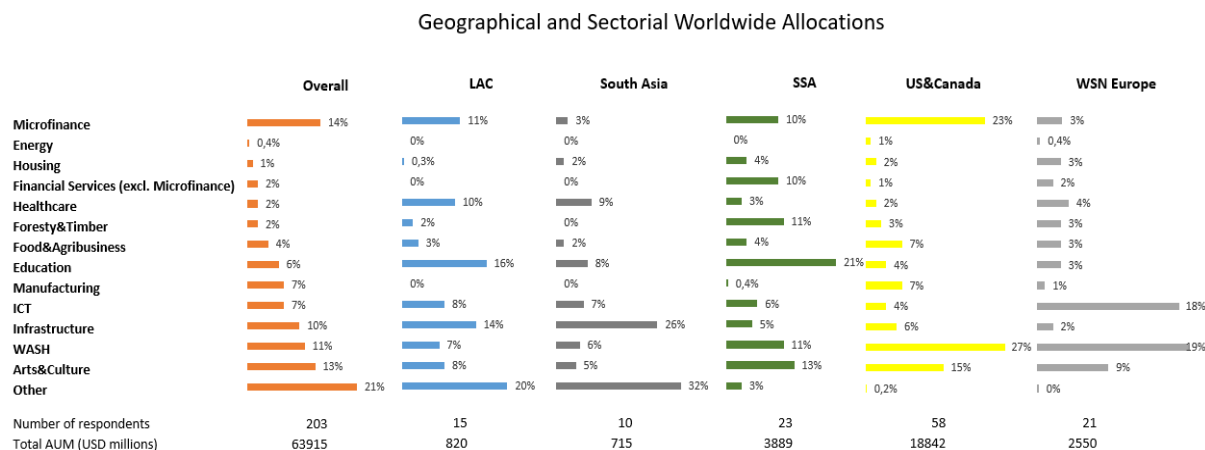
- Satisfying social needs – worsen consequentially to social welfare reduction - by creating value for the society and its environment, on one side;
- Creating profits to cover sustained costs and contribute to promising investments, on the other side.

The term is used for identifying all consequences << altering the ways which people live, work, play, relate to one another, organize to meet their needs and generally cope with other member of society >> (Burdge & Vanclay, 1996). Vanclay outlines changes in << people's way of life, culture, community, political systems, environment, health and wellbeing, personal and property rights, fears and aspirations >> (Vanclay & Frank, 2003). Colantonio and Dixon outlined potential areas covered by **social investing** (SI): education and skills, employment, health and safety, housing, identity, sense of place and culture, participation, empowerment and access, social capital, social mixing and cohesion, well-being, happiness and quality of life

¹ The Rockefeller Foundation is an American philanthropic organization founded in 1913 by John Davison Rockefeller and his son John Davison Rockefeller Jr. , owners of the oil company Standard Oil, with the aim of "promoting human wealth all over the world".

(Dixon & Colantonio, 2009). Following, there is an overview (Fig. 1) of geographical and sectorial social investment allocations (Mudaliar, Schiff, Bass, & Dithrich, 2017).

Fig.1: Graphical and Sectorial Worldwide Investment Allocation



Rows represent fields of investments; columns show the geographical area taken into consideration. Respondents were included in the analysis only if they allocated 75% of their investment or more to a given region. *Source: GIIN and elaboration of the author.*

As showed, development of a shared terminology is currently at an early stage and it has not been completed yet because the copious young initiatives undertaken thus far present political and social differences not allowing homogenization of concepts. Thus, this paper will consider **social impact investment** (SII) included into broader context of social financing where private capitals feed production of public goods and services with social and environmental impact. The expression SII is born from two concepts that many authors use and consider interchangeable, while others clearly distinguish them: Social Investment (SI) and Impact Investing (II). The latter takes the point of view of investors and refers to allocation of capital (direct allocation or indirect, through funds of investment) for specific environmental and social goals as well as financial. Instead, SI refers to Social Sector Organizations (SSOs) seeking for repayable capital. The former focuses more on the investee's prospective. (Daggers & Nicholls, 2016).

On the same line of Daggers, this paper will use the hybrid term SII drawing together the two sides of the same coin: the financial global market for and with the impact investing. Later on, I will also define it as bottom line double logic.

SII has been developing in several continents America, Europe, Asia and Africa and gained worldwide visibility when, in 2013, G8² created the Social Impact Investment Taskforce (SIIT)³, bringing together global leaders in finance, business and philanthropy, for accelerating growth of impact industry.

At the base of SII, there is the sustainability, in the long term, of alterations (Bryan, 2018) and of remedies for current financial failures in both still emerging markets and already developed ones.

The practice of impact investing is generally characterized by three factors (Tiresia, 2018):

Investor's **awareness** of generating social or environmental impacts through a series of investments *ad hoc* for a specific purpose. Anyway, the awareness and the intention do not guarantee that entrepreneurs follow a double bottom line logic, social and financial. The experiment conducted by Cetindamar and Ozkazanz-Pan plays up that, on 8 mission statements of different venture capitalists (VCs) officially committed into impact investing, only 3 put in action the double logic. Among the remaining 5 statements, 3 were purely for-profit and 2 entirely not-for-profit (Cetindamar & Ozkazanc-Pan, 2016). We could affirm that those closer to the for-profit meaning, were compliant with their company's corporate social responsibility (CSR). I'd like to underline that there SI and CSR are different since the latter envisages governance practices that taking into account environmental concerns too, even if they are beyond shareholders' duties. As Berry and Junkus (Berry & Junkus, 2012) explained, although CSR is strictly linked with social responsible investment (SRI), in particular for the environmental field, impact investing is still a different concept. It can be defined as a cohesion of environmental, social, corporate and financial goals integrated with financial investment practices (Reeder & Colantonio, 2013).

The **measurability** of activities' results and comparison with an *ex-ante* analysis⁴. In other words, firstly, an impact assessment (IA) has to be undergone to identify company scope, shareholders, strategies for reducing negative impacts and maximizing as much as possible the

² It refers to the 39th G8 meeting, held on 17th and 18th June in the Northern Ireland in 2013.

³ Social Impact Investment Task Force (SIIT) has been officially instituted on 6th July 2013 in London and it was composed by Canada, France, Germany, Japan, Italy, UK, US and Austria and European Union replacing Russia.

⁴ *Ex-ante* comes from Latin and means literally "before the event". In this context, it refers to future returns or company prospective.

positive ones (Reeder & Colantonio, 2013). Then, IA better is extended to an *ex-post* analysis⁵ for monitoring impacts by using specific metrics. Theoretically, tools for quantitative measurements already exist, but they do not take advantage of potential synergies to finally standardize social-financial performance indicators.

Three prominent SII methodologies have arisen in the social impact market (SIM): the social return on investment (SROI), the impact reporting and investment standards (IRIS) and its derivative called the global impact investing rating system (GIIRS) (Seddon, Hazenberg, & Denny, 2013). In practice, only a few managers and investors use them because some results are half-true as beyond quantification (Emerson, 2003). According to the Global Impact Investing Network survey (Mudaliar, Schiff, Bass, & Dithrich, 2017), 75% of respondents use proprietary metrics, while 57% use metrics in line with IRIS (Respondents could chose both of them in the survey).

Reaching a **financial return** constituted by, at least, the restitution of the capital and, eventually, a rate of return equal or lower than the market rate. Investment data collected in Italy in 2018 showed that the best performing investments (44%) had lower social impact effects then the less financially performing initiatives (33% with returns below average market rate and 23% without financial returns) which instead generated heavier social outcomes (Tiresia, 2018). The Global Impact Investing Network's (GIIN)⁶ annual survey (Mudaliar, Schiff, Bass, & Dithrich, 2017) reported that, when dealing with II, focusing solely on outcomes⁷ is reductive and may not bring to detect inefficiencies that an output⁸ analysis would do (Bryan, 2018). In this context, presence of trade-offs between financial returns and impact outcomes seem to be unavoidable. However, many researchers demonstrated that hybrid investments, better if backed by governmental support, have positive and promising effects on portfolio performance; as well as external factors such as synergy among investees and investors, stakeholders' social identity (Viviania & Maurelb, 2018) and business-related factors like management skill-sets, solidity of governance structure and detailed long-term financial projections (Seddon, Hazenberg, & Denny, 2013).

⁵ *Ex-post* opposed to *ex-ante*, meaning "after the event".

⁶ GIIN is a non-profit organization with the goal of scaling up impact investing and improving its effectiveness.

⁷ The author Bryan uses the term outcome when referring to social and environmental results, opposed to output.

⁸ The author Bryan uses the term output when referring to performances indicators (KPI, rations etc.)

Each investment should be submitted to an investment-by-investment analysis (deal-by-deal) where it is assessed individually, without expecting trade-offs, but letting the economic mechanism define the return (Idrissi & Saltuk, 2012).

A number of important pieces of work - framed into the following literature collection containing papers written between 2002 and 2018 (Appendixes A and B) - have been published about II industry. Items found are researches, journal papers, working papers and books' chapters. Although some authors has tried to provide vast literature reviews, there are still some problems of terminology, inclusion criteria and definition of boundaries (Daggers & Nicholls, 2016). My literature review (Appendix A) revealed the presence of recurrent theme topologies that I have represented in "Literature's Framing Tables": landscape (introduction to the concept and overview of the most common practise), market dynamics (boundaries, actors, barriers and opportunities), impact (as social innovation), measuring (attempt of providing metrics), portfolio management (new strategy and best practices), risk (possible negative externalities of SII), sociology (focus on actors' investment logics) and others (focus on other related topics).

In addition to my literature review, I'd like to include a collection of other analysis, performed by other authors (Appendix B), that I have discovered in my research path. This is a way for this paper to contribute to the categorization and the enrichment of the current literature by bringing together as many pieces of work as possible.

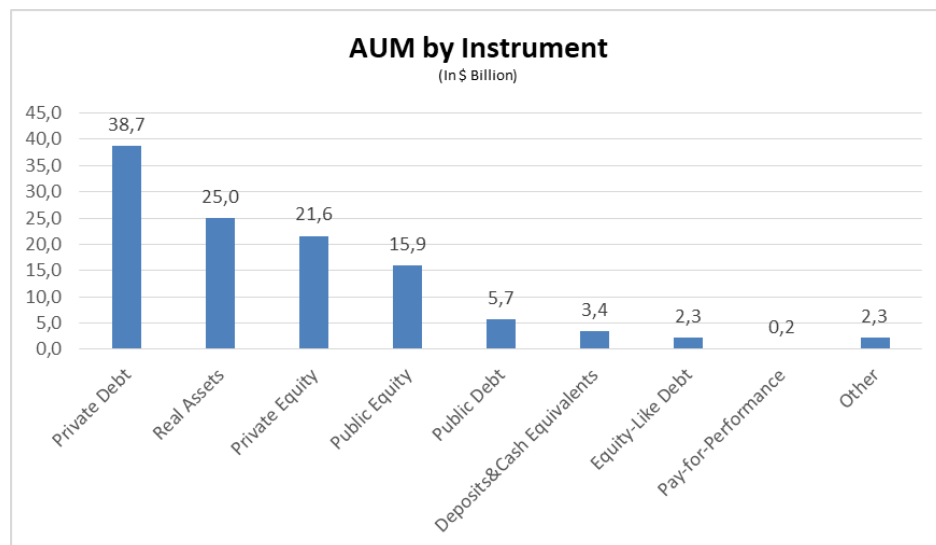
Chapter 2 Social Investment Market

2.1 Social Financial Instruments

Entrepreneurs have wide availability of commercial financial instruments and of customized financing forms born with impact investing. Spiess-Knafl and Achleitner give an overview on social financial instruments, classifying them according to form (external and internal), source (investor type) and type of instrument used (Spiess-Knafl & Achleitner, *Financing of Social Entrepreneurship*, 2011).

Company's revenues and public funds constitute the internal resources, while donations, equity capital, debt capital and hybrid resources are considered external. Below, each instrument is described and Fig. 2 gives an overview of the utilization of those instruments according to GIIN. Responses of impact investing organizations worldwide to GIIN's analysis were 208 with total AUM of \$114 Billion. That amount \$114 is considered the "floor" for sizing the II industry.

Fig. 2: AUM by Instrument in Impact Investing Market



The graph shows the total market value, in \$ Billion, of each category of financial instruments. GIIN interviewed 208 respondents worldwide whose total AUM = \$113, 7 Billion. *Source: GIIN and elaboration of the author.*

Revenues - They come from the sale of products/services to customers and are sometimes difficult to generate because of the intrinsic nature of some initiatives that have low potential to create profits, such as the human rights sector.

Public funds is an alternative internal source to revenues, accessible only for non-for-profit enterprises, unless public authorities decide to use their discretionary power to fund projects on a cost base.

External financing is provided to cover operating cash flows and long-term investments.

Donations – They are contributions (monetary and non-monetary) from individuals or organizations that do not require anything back as repayment. They are mainly employed in no income generator sectors, for example immigration, human rights, violence etc. The donor has not influence on the activity, leaving the recipient pursuing pure social activities. On the other hand, social enterprises cannot rely entirely upon donors, because they are not supposed to cover all costs.

Equity capital - form of financing with the highest risk where investors contribute with capital in exchange of shares, meaning that the investor is involved in profits and losses distribution. Equity capitals (ECs) can derive from informal sources such as “founders, friends, family and fools” (4F) and business angels. This type of investors are passionate entrepreneurs resolute in investing time, energy and their own money in initiatives they believe in. Formal source of equity capital is constituted by venture philanthropy; it works similarly to venture capital funds with the only difference that philanthropy addresses solely social and environmental concerns with implied financial trade-offs.

The use of equity is suggested when the enterprise has already established a solid corporate governance and could likely repay the capital in a few years. SMEs at their early stage might not satisfy those requirements, for that reason, in emerging sectors, a certain pre-agreed degree of investment flexibility is admitted. A new type of social company called community interest

company (CIC), established by the Companies Act 2004⁹, benefit from this flexibility. Common practices include:

- “Patient capital” with no distribution of earnings that are, instead, totally re-invest in the business;
- Dividends distribution is limited to a certain percentage and/or constrained by the paid-up value of the shares¹⁰.

Even though equity capital is risky, there is a restricted number of continuity plans in case of exiting the current investment: IPO (initial public offering) or trade sale; Buy-back (the social enterprises takes over the share of the investor); Liquidation (Sale of assets).

Debt capital – Debt capital provides regular cash flows to the debtor and allow the periodic payments of interests to capital provider (creditor) such as banks, as in commercial debt, or other types of investors, even social investor. According to the value of the interest rate, debt capitals are classified in:

- Interest-free loans, with no interest charged;
- Debt aligned with the market return rate.

The whole capital lent is returned at the end of an agreed period, except in case of financial distress when debt is converted into equity. Since this type of financing requires a short-term security for the interest payments that many organizations cannot guarantee because of their small size and their early business, they opt for long-term loans with advantageous terms of grant repayment.

Micro-loans (amount lower than 25000 € according to the European Commission) and social bonds follow under debt asset class and are designed to leverage private capital in order to address specific societal and environmental challenges. Social impact bonds (SIB) are worth of consideration: They are multi-years pay-by-results (PbR) agreements in which governments issue bonds while investors pay up-front and are paid back with interests only in case of a successful initiative – usual bonds have instead secure fixed returns - . The up-front payment

⁹ The Companies (Audit, Investigations and Community Enterprise) Act 2004 is an act of UK Parliament with the aim of spreading a new regulating regime for auditors.

¹⁰ The paid-up value of shares is the amount of money received from the shareholders in exchange of shares.

covers initial expenditures and contribute to the raise of public cost savings¹¹. SIBs are considered as the privatization of public services because of the presence multiple private actors. Nowadays, we should refer to welfare as plural and no more solely public. SIBs have the capacity of raising service quality provided by allocating resources where they are more effective and impactful. (Edmiston & Nicholls, 2017). When non-profit associations for debt financing issue securities, they are named community bonds (CB); if capital is invested in renewable energy infrastructure, they are called green bonds community (GBC) - green bonds are specific type of SIBs - . For instance, the European Investment Climate Bond¹² raised \$1.5 billion for renewable energy developments in the first quarter after its launch (Treurnicht, 2010).

Mezzanine capital or Quasi-equity - Mezzanine capital is an equity instrument with debt-based repayments. It expects periodic interests and premium's repayment at the end of the period, as in debt asset classes. From equity, mezzanine capital instrument takes the performance-related character, here applied to interest rates. In other words, the interests are paid back according to the success of the initiatives.

Hybrid capital – it is a mix of donations, equity and debt and it is characterized by highly flexible contract's terms. Instruments included in this category are:

- Recoverable grants – they work as commercial grants if the project is not successful, so they do not require neither interest nor principal return. On the contrary, in case of generation of current and sustainable profits, the grant works partially as a loan, with expected principal repayment and no interests charged;
- Convertible grants – They are like recoverable grants when social enterprise is unsuccessful, while they are converted into company's shares in the opposite scenario;
- Forgivable loans – Here, the capital borrowed is repaid only if the company does not reach certain pre-agreed social objectives. On the contrary, the loan is “forgiven” when social and environmental results have been obtained. This mechanism discourages mission drifting of social entrepreneurs.

¹¹ The saving ration is extremely important for the economic activity of a Country; in fact, higher are the public savings heavier the investment over the longer term.

¹² The European Investment Climate Bond is a green bond issued by the European Investment Bank (EIB) inside the initiative of the Sustainability Awareness Bond.

- Revenue share – Capital repayment is a percentage of enterprise’s revenue. This means that, in case of write-off or bankruptcy, investors do not expect an exit plan, as they were aware of losses and failure risk.

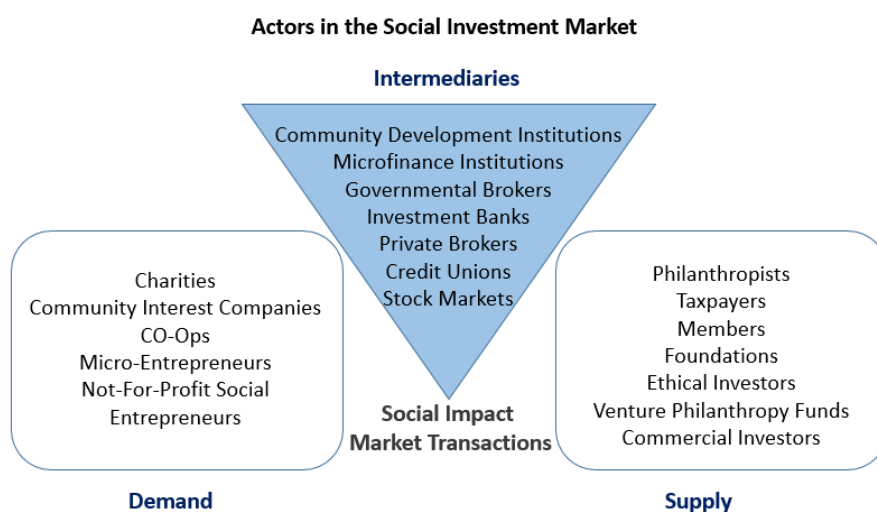
2.2 Actors in Social Investment Market

<<Our loan book has not kept pace with deposit growth. It is a characteristic of this emerging market that few community-banking proposals are waiting to be done. >>

(Charity Bank Ltd, 2005)

In this section of the work, an overview of key players of the social investment landscape is presented. SII market has four sides (Fig. 3) – investors, investees, beneficiaries and intermediaries –, which, according to an initial framing observation, would suffer from a mismatch between the satisfaction of demand from investees and investment proposals from investors (Nicholls & Pharoah, 2008). However, the real environment is more complex than that and it is broadly explored in this work, so we cannot limit our considerations to a shortage of capital invested.

Fig. 3: Actors in Social Investment Market



The figure shows the actors involved into social impact investing. As every market, it has a demand of capitals and a supply side. The intermediaries make the interactions between supply and demand easier.
Source: Nicholls&Pharoah and elaboration of the author.

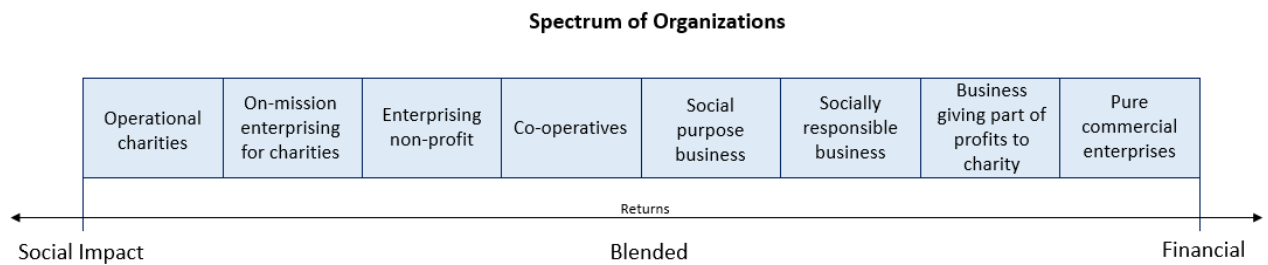
2.2.1 The Demand

They are the investees, also called impact creators: social entrepreneurs, social enterprises (SEs), charities, co-ops, not-for-profit entrepreneurs. They are hybrids characterised not by a unique legal entity, but by a form between philanthropic and commercial organisations. Some examples are B-corporations, benefit corporations and low profit limited liability companies (L3Cs) in US and community interest companies CICs (Rago & Venturi, 2014) in UK. They use market-oriented practices (in production field and service delivery) to reach public benefits.

According to GIIN, they operate in following sectors: housing, energy, microfinance, financial services, food and agriculture and healthcare. Their access to various types of investment depends on lifecycle stage in which the investee is: seed and proof of concept stage (grants, donations and peer-to-peer lending), start-ups (equity funding and crowdfunding), early growth stage (VC, debt, commercial equity and important partnerships), and growth phase (commercial debt and equity) (Arena, Bengo, Calderini, & Chiodo, 2018). Estimating the exact number of social enterprises is complex, because the count would inevitably include only organizations that are officially registered and legally recognized, excluding thus the real number of *de facto* SEs. For instance, in the UK (284000 SEs), in Italy (1600 Italian organisations registered as SEs according to Italian laws, but they raise up to 40000 if considering compliance with EU laws), France (315 *société coopérative d'intérêt collectif*). (Arena, Bengo, Calderini, & Chiodo, 2018). If we order investees according to impact created, from left to right of the spectrum in Fig. 4, we find: pure philanthropic charities, where social and environmental needs are the only priorities; businesses aiming at profits with a consideration of CSR and environmental, social and governmental (ESG)¹³ policies at the same time; pure commercial enterprises with maximization of returns as unique goal. (Lai, Morgan, Newman, & Pomares, 2013).

¹³ Environmental, Social and Governmental (ESG) refers to three factors for qualitatively assessing the ethic and the sustainability of an investment made into a business.

Fig. 4: Organizations' Spectrum: From Charities to Commercial Business

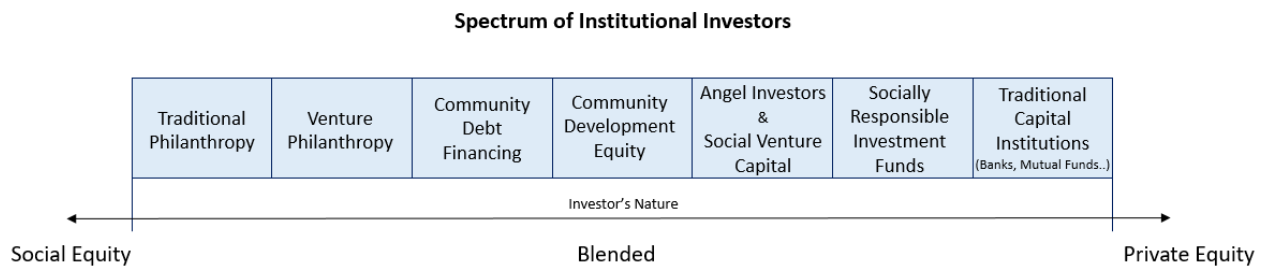


Below, there is an axis representing the types of returns sought by main types of organization, described above, looking for capitals. For instance, on the left, charities aims at pure social returns, nothing related with monetary returns; on the right, instead, there is the pure enterprises seeking for financial returns; the middle is balanced, called also blended return, demanded by social enterprises. *Source : Lai, Morgan, Newman, & Pomares and elaboration of the author.*

2.2.2 The Supply

The supply side is the impact investor: philanthropists, ethical investors, governments, statutory agencies, venture philanthropy funds (VPFs), commercial investors, high net worth individuals (HNWIs), public and private institutions and foundations. The investment options proposed depend on the expected results - which side of the bottom line double logic -, risk appetite as willingness of taking risk and perceived risk of new vehicles, sometimes seen as riskier. An obvious solution to reduce perceived risk could be << conforming assets whose vehicles look like, perform like and have the same risk profile as other investments in the same category >> (Emerson, 2011). Emerson affirms that investors see impact investing either an “asset class” or, as he calls it, a “board”. The former expects maximization of portfolio’s double-performance, in other words of outcomes (non-financial) and outputs (financial). For example, in UK, only 39% of investors would accept a rate of return below the market average. On the contrary, considering the investment as a commercial asset class, portfolio is managed for financial performance purposes, independently from the presence of social impacts (Emerson, 2011). In Fig. 5 the spectrum of institutional investors.

Fig. 5: Institutions' Spectrum: From SE to PE Investors



This figure recalls the Fig. 4 with the only difference that the organizations described here belong to the supply side. Below, the axis represents their nature, social, financial or blended with a bottom line double logic. *Source: Shari Barenbach, Timothy Freundlich (Calvert Foundation) and elaboration of the author.*

2.2.3 The Beneficiary

They are the recipients of services and products supplied and do not match neither with investors or investees, even if they indirectly take advantage of life condition improvements. There are three types of beneficiaries: private, public and mixed (Spiess-Knafl & Aschari-Lincoln, 2015).

- Private –identifiable individuals that could be charged for the service used
- Public – they use freely the product/service because they are undistinguishable
- Mixed – individuals and groups of people that can still be obliged to pay fees

2.2.4 The Intermediary

The individuals and/or organizations matching together investors and investees' needs are called social investment financial intermediaries (SIFIs). They could be venture capitalists, social banks, brokers, advisors and charitable foundations (ClearlySo, 2011) investing on behalf of socially motivated third party, individuals or bodies (Reeder & Colantonio, 2013).

SIFIs are high skilled management teams working with enthusiasm and expertise in social sectors. In terms of business knowledge, they should perfectly know markets' complexity and

opportunities. Those intermediaries should be sector-specialized in order to take appropriate decisions (Brown & Swersky, 2012) e.g. choices about financial instruments and targeted markets.

2.3 Barriers and Risks

Portfolio diversification in asset classes, geography and sectors of investments is a strategy to level risk. Intermediaries have to carry on research of new opportunities, trying to satisfy the increase demand of diversification. Balancing the use of investment instruments is another way to minimize risk's levels. Moreover, the SE requires good management team (conformity, low risk-taking propensity and professionalism) and solid organizational structure and governance. Below, a list of factors that discourage investors in entering SII market.

Early stage of the market – small markets lack of management experience, of past performance tracks, so important evidence may not have been reported yet, and lack of considerable capital invested for a change of the current situation. In 2017, it sized nearly \$114 billion of AUM¹⁴. Numbers are still relatively smaller then global financial stock being worth more than \$118 trillion at the end of 2016. When the scale of an organization is reduced, costs are higher, as well as transaction and due diligence costs¹⁵. The problem is that scaling up outputs for levelling costs at the early stage of an innovation (Puttick & Ludlow, 2012) is complicated and challenging for social entrepreneurs. The investor is challenged in recognizing good-quality projects. New start-ups, with no defined governance and structure, sometimes make investors suspicious.

Investment readiness – Social investees are still not ready for handling those capitals due to a combination of several factors: financial sustainability, robust governance structures, complimentary management team skillsets, clear social missions, scalable impacts and willingness to seek investment. All of them make investees investment ready (Hazenbergh, Seddon, & Denny, 2014).

¹⁴ Asset Under Management (AUM) is also defined as Fund Under Management (FUM).

¹⁵ Economic theory of economies of scale.

Mission drift – It occurs when the investee does not complete the mission he was intended to fulfil and changes his mission drivers without the consensus of the investors. In general, 50% of cases with mission statements for impact, experimented mission drift (Cetindamar & Ozkazanc-Pan, 2016). This is more likely if investment logics are more financial-oriented.

Moral hazard – it occurs when entrepreneurs does not behave in good faith and use external funds opportunistically. One of the principal cause of moral hazard is information asymmetry. The problem could be addressed by building a social identity in the enterprise (called also the agent) that identifies with principal's values (the investor) (Viviania & Maurelb, 2018). Given the plurality of actors, setting *ex-ante* contractual agreements and compensation structure would strongly discourage self-interested behaviours (Jääskeläinen, Maulaa, & Murrayb, 2007).

Moral hazard, mission drift and similar events undermine the capability of the entrepreneurs of attracting broader customers (reputational risk). As regards investor's attraction, SEs should be able to propose a sustainable business that capital suppliers will integrate with their business planning, managerial, financial and HR management skills (building capacity) (Arena, Bengo, Calderini, & Chiodo, 2018). Moreover, the environment plays a key role: policy makers should make available explicit incentives and enabler regulatory policies to support the growth of SEs. The role of governments and other public actors is not limited to support and will be discussed better later on.

Chapter 3 Investment Funds

3.1 Definition

Following the line of Russel (Russell, 2007), when we talk about investment funds (IFs), we refer to vehicles that pool together capitals from many investors with the aim of challenging selected investee enterprises. In accordance with the National Commercial Bank (NCB)¹⁶ statistical analysis, IFs are classified in six categories: hedge funds, equity funds, bond funds, real estate funds, mixed funds and other residual funds. Funds contributing in other existing funds (funds of funds or FoFs) are classified according to the type of fund in which they mainly have invested. However, this classification is subjected to regulatory local norms, internal fund's rules ("upper limits" and "lower limits") and constraints on number of contract's subscriptions.

Under US law, IFs break down also in open-end, close-end and unit investment trust (UIT) funds.

- In open end funds, there is a continuous sale of shares, repurchased or redeemed by the fund itself, directly or indirectly;
- Close-end funds have fix number of shares that shareholders purchase or sell via IPO and then trade on the secondary market. New shares could be issued in exceptional circumstances;
- UITs consist in a one-time public offering of fixed amount of shares, limited in time at the date specified by the fund.

3.2 Venture Capital Funds

¹⁶ National Commercial Bank. Called also *AlAhli Bank*, is one of the largest bank by asset in the Arab world.

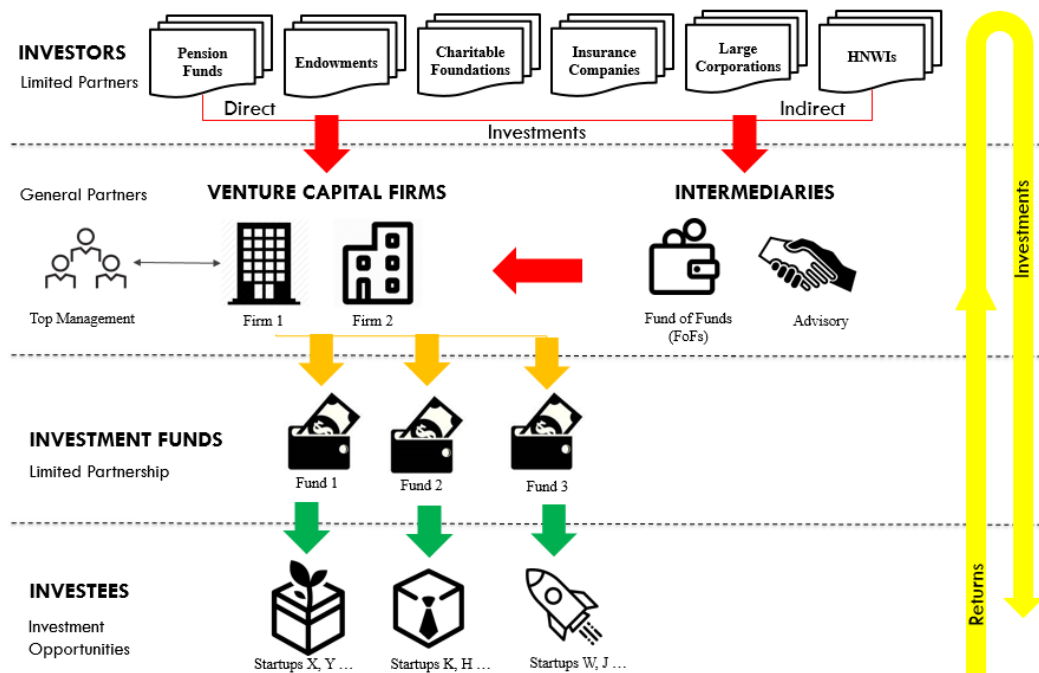
In general, funds differ from their sector of investment, shareholders (SHs), management structure and source of financing. When third parties constitute the main source of capitals and nobody own the majority of shares, the fund is defined independent (IVC). When there is one main shareholder, funds are captive (CVC). Specific captive funds see, as investors, non-profit corporations (corporate VCs), banks (bank-controlled VCs) and public authorities (governmental VCs).

Venture capital funds (VCFs), generally closed-end funds or LP under the management of a private equity company (PEC), are a sub-category of the more general private equity funds (PEFs). They represent an important financial source for high-tech entrepreneurial ventures. Those funds are capitalized by limited partners (LPs) such as institutional investors, corporations and HNWI, differently from mutual funds whose investors are individuals, of any income level, that invest in publicly traded companies. VCs seek capital returns on behalf of their LPs. However, recently, in some countries such as USA, Canada and Japan, hybrid mutual funds are born, capitalized by individual investors and retailers investing in private equity. VC managers aims at returns that are typically above the public equity markets, for that reason they attract particular business investors (mainly hedge funds, banks, pension funds, HNWI), and when the fund has been started up, they put in place a selective screening to choose the best investee among all candidates. Once bought a stake of the selected young company, VC firms can either bring the portfolio company to an IPO or sell it to other companies.

3.2.1 The Investment Supply Chain

The fund's investment could be made directly at firms' level (seed fund), in small and medium start-ups, or indirectly (FoF) by supplying capitals to investment vehicles and alternative mechanisms that, in turn, invest at firms' level (Fig. 6). While the seed fund reflects the typical VC fund model, FoFs are superior funds provided with mixed or not (public and private) capitals.

Fig. 6: Investments' Supply Chain



Above there are the investors, the supply side. The investment can occur directly into VC firms managing social impact funds, or intermediaries can leverage it. The intermediaries convey anyway capitals supplied into VC firms and their funds. The agreement between investors and firms is the Limited Partnership with limited and general partners (LPs and GPs). The final goal of the partnership is to finance double logic initiatives with social and financial returns (e.g. start-ups and not only). *Source: elaboration of the author.*

Both FoFs and the direct co-investment funds are managed as the commercial VC funds. There could be both public and private investors as limited partners (LPs), which rely upon general managers (GMs or GPs as general partners) of the fund's managing firm.

Since those funds must consider both social and financial returns, the SEs should maximize one of the two and ensure at least a minimum given result for the other. For instance, in case of profit maximization, the presence of financing in unserved areas must be guaranteed (social constraint); on the contrary, when the social outcomes is preferred, a minimum return is preserved (financial constraint). The first type of investment funds are preferred by financial-first investors, while impact-first ones would opt for the second option.

It is obvious indeed that the more important is the investment activity, the higher the pressure on decision-makers. Fund managers can be compensated in two ways: the management fee and the variable compensation. The first is a fixed percentage (usually 2%) of the total capital

committed in the fund - to cover the operational costs of fund - for which the more expert is the fund manager, the more well-known and established is the fund, the higher is the fixed return provided to the managers. In private venture capital, these fees are between 1% and 2.5%. The second type of incentive is called carried and aligns LPs and GPs interests since it is the key element for the creation of long-term value in firm's portfolio. Carried corresponds to a share of profits generated by the fund, so as variable as earnings (usually 20%). In this particular case, in order to incentivize fund managers, LPs could provide an up-front fee (ranging usually from 0% to 10%).

3.2.2 Hybrid Venture Capital Funds

Hybrid venture capital funds (HVCFs) are investment vehicles with a significant public participation in the fund. In other words, hybrid funds are VC funds that receives public funding. Thus, the government helps the general fund managers (GMs) in avoiding crucial penal costs due to insufficient funds and in leveraging limited partners' returns. In fact, governments would cover the totality, or just a part, of possible losses of VCFs; in addition, a minimum return to private investors is guaranteed.

The hybrid funds have positive impact on innovation, economic growth and valorisation of underserved sectors with the result of decreasing unemployment. It is not casual that targeted firms operate mostly in computer-related, biotechnology, communications, electronics-related and medical/health-related fields (Buzzacchi, Scellato, & Ughetto, 2012) . Governmental venture capitalists intervene also in segments and sectors that, although their high potential of creating positive externalities, lack of financing (education, health, human rights etc.).

Advantages in using "mixed" VCs are: reduction of information asymmetries; exploitation of a wider pool of resources (skills, expertise, and networking); reduction of perceived investment risk; minor agency problem; guarantee of VC firms and fund quality. (Grilli & Murtinu, 2014)

HVCFs can be founded by private entities, where public authorities have the role of LPs as the other investors; or it can be created through a direct public-private partnerships. They break down into two categories according to the degree of commitment of governmental entities: government-owned venture capitalists (GOVCs), when founded, owned and managed by

governmental entities; government-supported venture capitalists (GSVCs) when governments control is limited or when the owner is a private individual that receives subsidies or tax credits from public entities. The difference lies in the governance.

VC markets have seen series of regulatory initiatives to complement the small supply of independent venture capital (IVC), such as GIMV (Belgium), SITRA (Finland), BPI France (France), Piemontech (Italy), Scottish Enterprise (UK), Axis Participaciones Empresariales (Spain) (Guerini & Quas, 2016) and Venture Capital Catalyst Initiative (Canada). This type of financial model, with public authorities' contributions, is quite different from the Silicon Valley approach.

Cumming affirms that public regulatory and policies boost VC funds growth ((Cumming & Johan, 2013), (J. Cumming & Walz, 2004)). Guerini M. and Quas A. show that the implication of governments increase the likelihood that companies receive more PV capitals and, if the firm received already a first round of PV funding, then it has the same possibility of a PV company to receive additional financing. (Guerini & Quas, 2016). Other authors built up a decision making model for start-ups' selection considering characteristics of extra-European funds (Afful-Dadzie & Afful-Dadzie, 2016), e.g., the African Technology Venture Capital Fund run by local government. Data captured from 209 impact investors and published on GIIN annual survey (2017) , show that, extra-European public VC funds ((J. Cumming & MacIntosh, 2006), (Brander, Du, & Hellmann, 2014), (J. Cumming & MacIntosh, 2007)), invest mainly in US & Canada (40%), Western Europe (14%) and South Asia, Southeast Asia (10%), regardless the geographical location of the headquarters. Cumming (J. Cumming, Grilli, & Murtinu, 2014) showed that IVC-backed are more likely to reach a positive exit (IPO/trade sale) and have better portfolio performance than GVC-backed ones. Same positive impact on growth of high-tech start-ups has also a co-investment between IVCs and GVGs as well as syndicated investment.

This stream of literature has been divided into macro topologies in Appendix C, as done with impact investing literature earlier, according to authors' aims and methodologies. Topologies cover the ones in II, with the addition of specific theme related to investments fund: performance (best practices and factors affecting fund performance) and public policy (in terms of public authorities' interventions). The latter enriches the topology impact with effects, not only on communities, but also on investee firms in terms of growth of sales, employees and size.

3.2.3 The Role of Government

The importance of government is widely discussed in the current literature so much that it is possible to identify some governments' key roles.

Seeding – public intervention in underdeveloped VC market attracts capital inflows and guarantees the quality of the fund. One of the risk is the crowding out effect resulted by modifications to VC market mechanism (e.g., keeping alive social companies that are out-performing).

Herding – There are two sides of herding: the non-rational and rationale. The former states that investors mimic other managers' actions so that, in case of an unsuccessful investment, a general failure will not lead the single reputation (Devenow & Welch, 1996). The latter focuses on the effect of externalities (information availability and incentive mechanism) in decision-making. In general, herding has negative imprinting, but, in terms of governmental interventions, it can be seen under a positive light. In fact, thanks to reduced informational asymmetries, investors can weight their decisions and undertake the best actions. Since those practices are observable from the outside, they trigger the “cascade effect” of actions where other investors follow the same path and gain the same returns.

Spillover – Governments know, for reasons that are not visible to econometricians, which are the unserved social and environmental sectors with potential high long-term positive externalities (higher innovation, wider technology diffusion at local and national level). Differently, for-profit investors seeking short term profits. Some authors called this phenomena << the classic endogeneity problem of the reverse causality type >> (Brander, Du, & Hellmann, 2014).

Crowding in– Many studies have found mixed evidences on the effect of public investments in VC industry: positive (crowding in) thanks to the “stamp of approval” of governments (Guerini & Quas, 2016) and negative (crowding out), for example in Europe and Canada ((Armour & Cummingy, 2006), (J. Cumming & MacIntosh, 2006), (Brander, Du, & Hellmann, 2014)).

Positive exit - Many studies observed a positive correlation between hybrid (GVC-PVC) financing and performance, which is lower when only pure PVC or pure GVC financing is present. Some critics argued on whether the positive exit is the result of a “treatment effect” or a “selection effect” (Brander, Du, & Hellmann, 2014). The latter is what we called spillover, explained above; the former is the effect of using mixed capital on enterprises’ performance (GVC financing is an exogenous factor). Since, at the early stage, it is hard to distinguish good enterprises from bad ones, the “treatment” would be randomly supplied to both, increasing inevitably the probability of a successful exit. Nevertheless, some critics do not see in governments the ability of improving VC markets due to political interests and bureaucratic inefficiency ((Cohen & Noll, 1991), (Lerner, 2009)).

3.4 Eligible Criteria

As we already remarked, impact-oriented funds finance delivery organizations (directly or through an intermediary), with the aim of achieving social and environmental goals. Then, those investee organizations supply goods and services to beneficiaries. How could we identify the best possible candidate?

Existing literature proposes qualitative and quantitative approaches for the selection process. Rago and Venturi proposed the analysis of firms’ business model in terms of level of mission orientation, integration of commercial and social activities and customers/users targeted (Rago & Venturi, 2014) . Fund managers know also that future sustainability of a hybrid organization is strongly affected by the degree of common social vision shared by the stakeholders. Presence of different logics, in fact, increases the risk of mission drift and moral hazard.

Another key successful factor (KSF) for social enterprises is the value of the management that should be able to provide social imprinting in the every-day activities. In fact, according to John R., (John, 2006) SIFs are highly engaged, non-financial supported (non-financial components are strategy, marketing and operations and are sometimes worth more than grants) and provide tailored financing, multi-year support, organisational capacity building and performance measurement. Cameron, Mora, Leutscher and Calarcotalk about the concept of positive

leadership as key component for building trust and cooperation, useful to overcome issues deriving from different SHs' visions. (Cameron, Mora, Leutscher, & Calarco, 2009).

Eric and Anthony Afful-Dadzie proposed a fuzzy model for the evaluation and selection of start-ups' businesses, including as variables both qualitative (entrepreneur/team personality, entrepreneur/team experience, product/service potential) and quantitative criteria (financial characteristics, market characteristics and social contribution model) (Afful-Dadzie & Afful-Dadzie, 2016). The model is not exhaustive because, although the accurate forecasts, some variables will always be uncertain due to their intrinsic nature (e.g. market trends). However, this model tries to overcome selection inefficiencies resulting from political interests, lack of qualitative and quantitative data available to the decision makers.

Chapter 4 Data Collection and Methodology

In this work, we have used Impact Base¹⁷, Thomson ONE Banker¹⁸, Crunchbase¹⁹ and LinkedIn databases for the collection of all data.

The most commercial datasets is Thomson ONE since it provides a huge amount of data on markets conditions, industries, and financial overview of more than 55,000 companies worldwide. The database is divided into four sections: company views, market views, screening&analysis and tools&tips. In the screening&analysis section, it is possible to find the share ownership and the institutional investors of researched companies. Moreover, starting from an investor, you could also check if it invested in other companies or in other funds. Thanks to its architecture, we could expand our network of funds and top personnel, whose members are listed in the company overview division. From Thompson ONE we could classified the VC funds according to the governance of the fund.

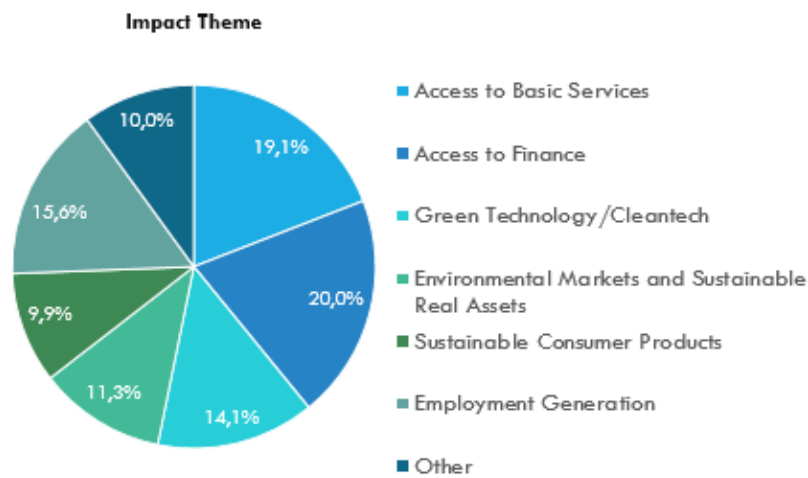
Impact Base is born in 2009 from a collaboration among groups of investors, general partners and GIIN, with the aim of bridging and fixing fragmentations in knowledge about the social impact market. By gathering and connecting impact funds, firms, investors and managers in a unique platform, Impact Base creates a strong network of communication among opportunities in the impact-investing field. Now the database counts 443 active funds, and 4255 active subscribers all over the world (Fig. 7 and 8).

¹⁷ Impact Base website: <https://www.impactbase.org/>

¹⁸ Thomson ONE Banker website: <http://banker.thomsonib.com/>

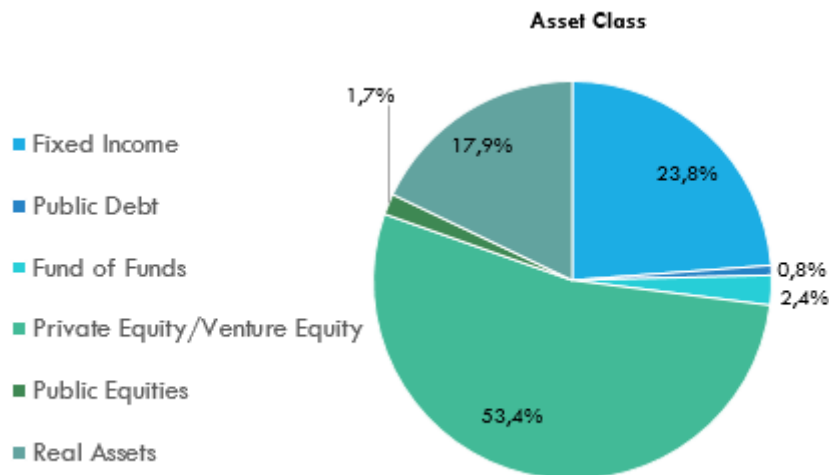
¹⁹ Crunchbase website: <https://www.crunchbase.com/>

Fig. 7: Impact Theme, Funds in Crunchbase



The cake graph is an overview of service/sector targeted by funds (443) registered on Crunchbase. The highest concern is access to financial sources (20%). *Source: Crunchbase website.*

Fig. 8: Asset Class, Instruments of Crunchbase's Funds



Considering the 443 funds on Crunchbase, above the composition of instruments used is showed. Private and Venture equity are the most used channels of investment (53,4%). Public debt is less preferred (0,8%). *Source: Crunchbase website.*

As I have already underlined in Chapter 1, framing literature, the boundaries of SII market have not been clearly defined yet due to the scarcity of literature and globally shared terminology. I

would like to recall that some authors (Daggers & Nicholls, 2016) distinguished the concepts of social investing (SI) and impact investing (II). Moreover, it is hard to state to which extent a fund fits into the definition of social-impact investing because of weak performance measuring systems deployed. For that reason, in order to avoid inaccuracy by including or excluding funds that should not be considered or left apart, we decided to match the two datasets.

My research started with a list of 92 funds (43 are now finally closed, while 49 are still raising capitals) but only 77 were present in both Impact Base and Thomson ONE. Their managing firms count 638 employees in total involved in funds' activities. The size of the sample reduced to $N = 77$ funds and $P = 638$ members of personnel, whose sources for data collection were Crunchbase and LinkedIn.

Crunchbase is a database counting more than 600000 executives, entrepreneurs and investors with over 100000 companies, start-ups and incubators. The managing company, TechCrunch, states that the platform has more than 50000 active contributors whose information supply is constantly reviewed to guarantee quality and reliability of data.

LinkedIn is a web service focused on development of professional network and sharing of job markets information. LinkedIn network has almost triplicate its number of users in a few years, from 200 million (2013) to 530 million (2017) of users.

Number of types of data to be collected from LinkedIn and Crunchbase were 43 (including name, age location, size of their network, education, career, volunteering experiences) (See Appendix D for the type of data searched.) over 638 employees. The activity would have resulted into a collection of 27434 data if all people were actually registered into those platforms: 17 % of 638 (111) was not present either on Crunchbase or on LinkedIn. This event reduced the number of people to 527, with a dataset of 22661 data.

The aim of this job is to present a descriptive analysis of funds' management team using data gathered from the datasets previously presented. The result entailed drawing an average profile of teams' members by graphically analysing the 43 data recorded for each person. The proposed graphical representations allowed me to link data with ideas and concepts agreeing or challenging my results.

Data collection took place in November and December 2018, while the current analysis has been performed right after the dataset was completed and reviewed.

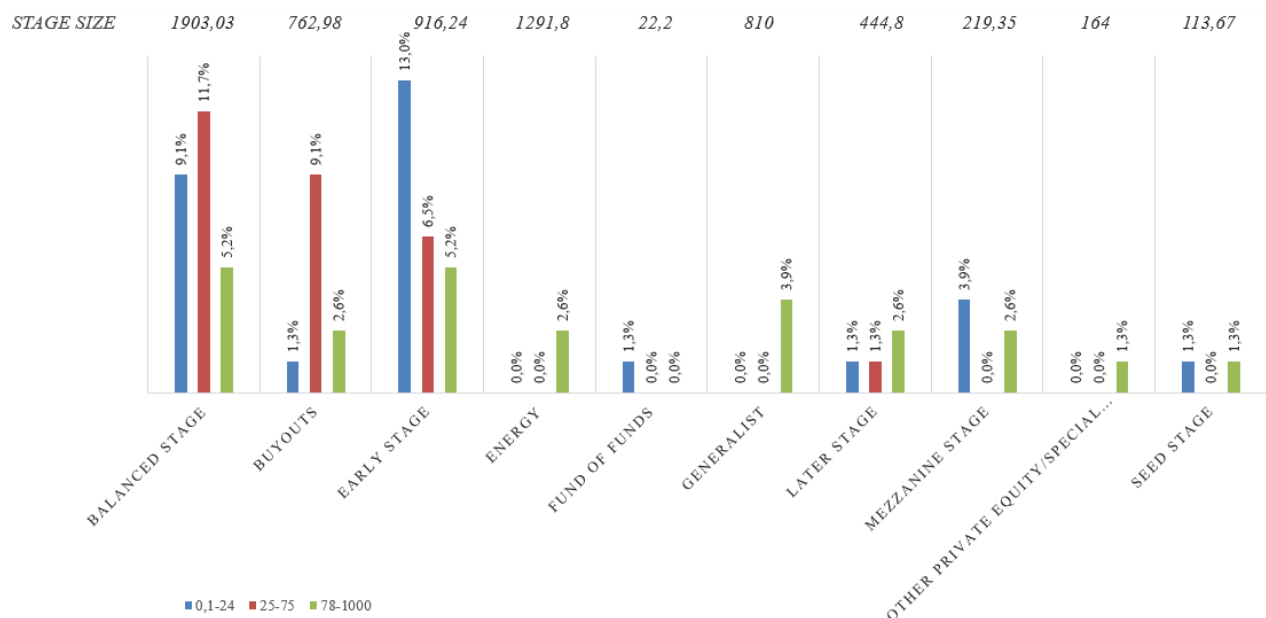
I have structured the analysis in two parts: the first one includes an overview of funds and types of investors involved, while the second part shows generalities, background and other experiences of management teams.

Chapter 5 Funds Analysis

5.1 Fund's Stage

Funds are often classified in different stage according to lifecycle stage in which the targeted organization/field for the investment is. In Chapter 2, I have talked about investees' stages (and financial instruments used): seed and proof of concept stage (grants, donations and peer to peer lending), start-ups (equity funding and crowdfunding), early growth stage (VC, debit, commercial equity and important partnerships), and growth phase (commercial debt and equity). As previously explained, Impact Base and Thomson ONE match only partially, the following description of investees' stages (Fig. 9) refer only to 77 funds on 92. However, the number of funds with information on investee's stage is n=67. Besides the total size of all funds with reliable information is V= \$ 6648,07 Million (\$6,65 Billion).

Fig. 9: Stage and Size of Funds



The picture shows the composition of stages of our fund sample (77). Above, for each stage, it is showed the total size of stages in \$ Million. For simplicity, I have divided funds in 3 groups according their size whether ranging between \$ 0, 1-24, \$25-75 and \$ 78-1000 Million. Therefore, you could see which is the funds' size composition for a given stage. For instance, the group of funds categorized as balanced

stage are composed by 9, 1%, 11,7% and 5,2% of funds whose sizes range respectively between \$ 0, 1-24, \$25-75 and \$ 78-1000 Million. Percentage are computed on the number of the sample N = 77.
Source: Analysis results.

Seed stage – Funds make the majority of their investments in newborn companies during their R&D and designing phase. Amounts of capital involved are limited since risk of the investment is quite high. This type of fund invests in pre-marketing activities that try to identify in advance KSFs of the initiatives. Our sample contains 2 seed stage funds whose size range between \$ 0,1-24 and 78-1000 Million.

Early stage – Funds financing the launch of a business. The product or service has already been tested and developed but its value and potential market allocation are often underrated. Those companies may not be generating profits even though they have been in the business for two or three years in average. Due to lack of profit, investments are made to stimulate the answer of the market to the offer of that product/service. On 22 early stage funds, 3 had no information related with stage of investments.

Later stage – Funds whose interventions touch organizations with established products/services that may or not may generate profits. The investments are made in order to support further development of the initiatives by increasing capacity, exploring new markets and opportunities. Later stage funds were 4 at the beginning, but 2 of them were impossible to categorize.

Balanced stage – Those funds invest in multiple stages with no particular focus on anyone, resulting in a balanced investment portfolio with medium-low risk. Funds targeting balanced stages are the most numerous (23 with 3 not defined) in our sample, followed by early stage funds (22 with 3 not defined).

Buyouts – The term buyout refers to any acquisition initiative financed by a combination of debt and equity to increase the investment size and the ROI. Buyouts differ from each other basing on future owner of the initiative. For instance, buyers could be investors in the leveraged buy-out (LBO), management team in management buy-out (MBO) and members of family units in family buy-out. On 12 buyouts, 10 were definable according to the investees' maturity.

Generalist – Funds investing in all stages of buyouts and venture capitals. The half of them are presented in fig. 9, but the other 3 remain not defined.

Mezzanine stage – They are funds using the debt-based equity instrument of the same name. In terms of repayment priority, mezzanine debt is in between the senior debt and the equity. Mezzanine funds are 5 as reported in the table.

Other Private Equity/Special Situations – Funds aiming to restructure critical situations of debt of organizations, which are failing or already bankrupt. Those funds buy their liabilities, usually at discount, and managers take active and influent roles in the board of the company in order to make concrete changes in organization profitability and debt repayment. This category was not present in our results. Our sample contains only one example of Other Private Equity/Special Situations.

Funds of Funds - As already anticipated earlier, FoFs are funds contributing in other existing funds and are classified, in this case, according to the type of fund in which they mainly have invested; in other words, they take the stage of the main final investee. Our sample has only one FoF.

Energy funds – Due to urgency of action to address environmental issues, it is worth to include energy-related investments in the categorization. In fact, the two pure energy funds of our research reach an investment size equal to \$1291, 8 Millions, only second to the balanced stage funds. Besides, the environmental category, coupled with social-related funds, represents the highest percentage of funds examined (28%), followed by financial inclusion (21%) and technology&innovation (29%) fields (Fig. Q).

On a total of 77 funds analysed, as expected, the majority of funds under examinations are early stage funds (22 samples) and balanced stage (23 samples) since targeted firms are young , usually small and medium start-ups, and since differentiating the investments portfolio, as happened in balanced stage funds, is safer than focusing on only one field. This aspect is important when we talk about social investments that are more likely to reach lower financial returns (or not to have any) than the average financial market. The biggest pool of capitals belongs to balanced stage funds (Fig. 9), with a size of \$1, 9 Billion (1, 6% of GIIN's estimated basic size of the SII market in 2017).

Firms managing the top-three funds with the highest value of assets and un-invested capital are Climate Change Capital Ltd (Climate Change Capital Carbon Fund as energy fund), Inerjys Ventures Inc (Inerjys Ventures I as energy fund) and LeapFrog Investments (LeapFrog Investments Fund II as generalist fund)²⁰.

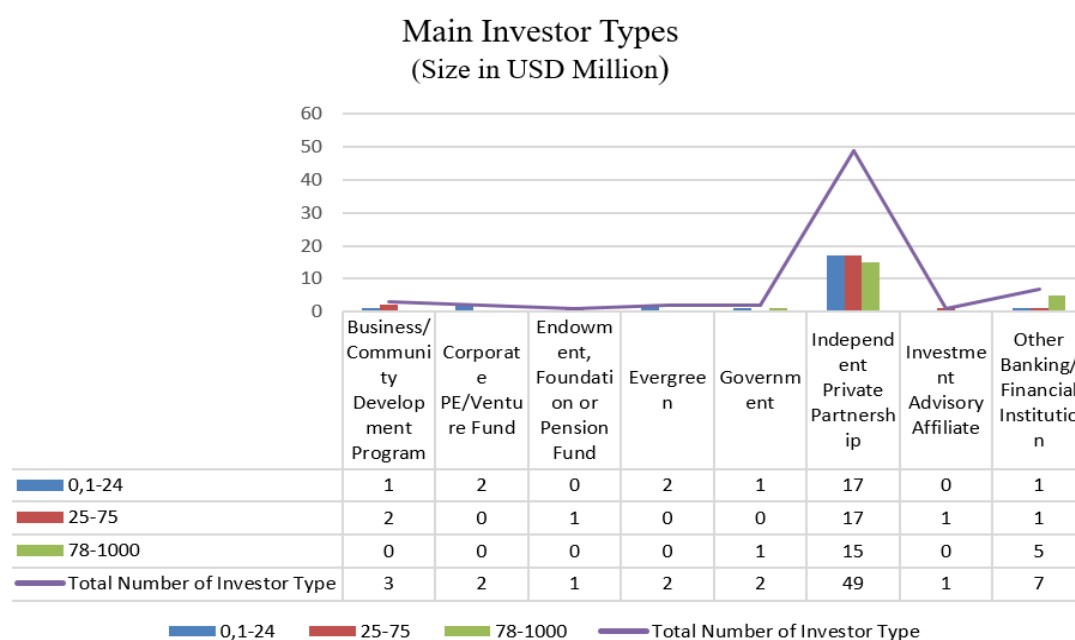
Apart from the stages above described, the analysis shows the presence of just one FoF, called Sarona Frontier Markets Fund, that supplies capitals to its diversified portfolio of funds.

5.2 Investors

Most of capital pooled into VCFs come from external limited partners; while general partners are responsible of investment decisions for the best interest of LPs (See again Fig. 6). The nature of LP investors varies widely, but the majority of them, in terms of contribution, are big foundations, corporations and other funds. We can define those funds captive due to the presence of one main source of capital for each of them. Below, there is an insight into the main types of investors (Fig. 10 for details and Fig. 11 for overall percentage composition) financing our sample funds, which, considering only the information that were available, are $m=67$:

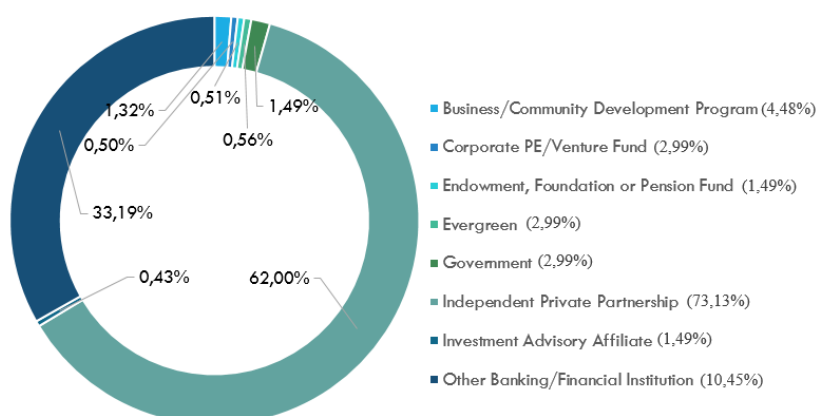
²⁰ The whole list of funds under examination is present in Appendix E.

Fig. 10: Investor Types



The picture shows the main types of investor supplying capitals to funds of our analysis. On the left, the size range of funds (in \$ Million) in which they invest. Data in the tables are the number of funds included in a given range size and target by a given investor. The number of funds with investor type specified was $m=67$. Total size of all funds with reliable information $V= \$ 6648, 07$ Million (\$6,65 Billion). *Source: Analysis results.*

Fig. 11: Composition of Investors



The picture shows the investors' presence in terms of the funds value. For instance, given the total size of all funds with reliable information $V= \$ 6648, 07$ Million (\$6, 65 Billion), Independent Private Partnerships (that are the 73% of the total investors) invest in funds that constitute the 62% of total value V . On the right, between brackets, there is the presence of those investors in percentage computed on $m=67$. *Source: Analysis results.*

Business/Community Development Program – They are initiatives where communities’ members and individuals are gathered together to find solutions to common local problems, such as agriculture improvement as well education and health. From the current analysis, it emerged that they invest particularly in Africa and India where agricultural productivity remains far from world average standards. Almost 60% of African people and 75% of India’s families depend on rural incomes (The World Bank, 2012). In fig. 11, it is showed that Business/Community Development Program, which constitutes the 4, 48% of investors, invest in funds whose size sum is 1, 32% of the total (\$6,65 Billion).

Corporate PE/Venture Fund – As broadly discussed in Chapter 3, VCFs, generally closed-end funds or LP under the management of a PEC, represent an important financial source for high-tech entrepreneurial ventures. For instance, the fund Safer Made LLC, supporting development of technology for manufacturing sustainable packing and chemicals, is highly targeted by PE corporates.

Endowment, Foundation or Pension Fund – Endowments can be structured as private foundations, charities or into fiduciary relationships²¹ and provide capitals in form of money, properties or investible assets, whose returns are used for social purposes. Instead, pension funds are plans providing retirement income to who contributed to pension plans. According to “The Economist”²², worldwide assets value of pension funds are worth \$6 trillion.

Evergreen – Evergreen is a term used to describe a scheduled supply of capital to a business, based on stage and needs in which the activity is. The injections are given in different tranches along the development phase of the investee.

Government - Government intervention is reasonable and necessary due to presence of market failures in innovation and entrepreneurial financing. The State intervenes usually in segments and sectors that, although their high potential of creating positive externalities, lack of financing (education, health, human rights etc.). An example of governmental VC fund is DICCI Venture

²¹ A fiduciary relationship occurs when a person (the fiduciary) manages assets belonging to one or more third parties. A legal relation link the two parties.

²² The Economist website: <https://www.economist.com/>

Capital Fund: it has reached assets and un-invested capital's value being worth only 0, 10 Million USD since the rising date in 2011. Although having a large fund is not always better due to complexity in its management, small size funds produce in general smaller returns.

I would like to focus a little bit more on analysing the roots of hybridization. Rago and Venture sustain that there are two types of innovation boosting the hybridization process (Rago & Venturi, 2014):

- Evolutionary innovation –At a certain point of organization life cycle, the growth slows down because of different components (change of paradigms, enter of new competitors in the market, etc.); thus, in order to survive in the market, organizations need to re-think their business model or find innovative solution to regain market share.
- Total Innovation – The total innovation addresses broader risks, not only the ones of the specific market in which companies operates. This challenges present now than ever and are unemployment, inclusion, discrimination, environmental issues etc.

Independent Private Partnership (IPP) – In many cases, independent private companies look only at their own interests, giving less importance at the social and environmental outcomes of the investment. This is because Independent Venture Funds (IVFs) have usually many investors, making difficult align social-impact goals with personal goals. In other words, they commit to projects as long as there are returns and an increase in reputation. This is the reason why, in our analysis, private partnerships' investments resulted quite diversified in terms of amounts of budget and fund's stage; in fact, in our sample $m=67$ funds, 73,13 % of them fall under this category targeting funds that are worth 4121,96 Million \$ in total (62% of the total value V of our funds' sample). In other words, IPPs seek for every type of profitable opportunity.

Investment Advisory Affiliate – This type of investors is an entity capable of managing funds and other investment activities, by giving investment advices.

Other Banking/Financial Institution – In a world always more competitive, banking industry should not be just a provider of capitals, but it should put the customer at the centre of its business strategy (customer centricity) and affirm its role in the society. Sustainability of investments will be perceived by clients as sign of transparency and integrity. Since the financial crisis in 2008, the global banking system has experienced a recover – even if it was not

uniform around the globe – so that, according to The Banker²³'s Top 1000 World Banks Ranking for 2018 (Caplen, 2018), banking industry is total assets value is around \$124 trillion. This is why we found out that banking and financial institutions of our funds' sample targeted the biggest funds, whose sizes range from \$78 Million to \$1000 Million. In this case, the 10,45% of investors (Bank-controlled VCs) invest in 33,19% of total value V of the sample.

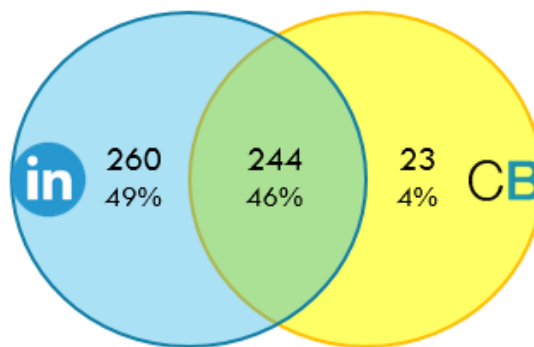
As showed by our results (Fig. 11), the most common LP investors in our sample are Independent Private Partnerships, Other Banking/Financial Institutions and Business/Community Development Programs.

²³ “The Banker, Global Financial Intelligence Since 1926” is a monthly trade magazine with recurrent and updated publications about finance and international affairs. Financial Times ltd owns the magazine.

Chapter 6 Management Analysis

On $p=527$ people found on internet - remembering that the initial sample P was 638 - with an existing profile, I doubt the reliability of 26 of them (4%) due to the lack of completeness of information. For simplicity, starting from now, I will be considering as my sample $P=638$ instead of $p=527$, unless clearly specified. LinkedIn reports the highest number of subscriptions among the management teams, with a total of 504 profiles, split in ones having only a LinkedIn profile (49% of 527) and the others present also on Crunchbase (46% of 527). On the other side, Crunchbase holds information of only 23 team members (Fig. 12).

Fig. 12: Presence on Social Networks



Presence of top management members on LinkedIn and Crunchbase. 49% of them are only on LinkedIn, 4% only on Crunchbase, 46% have both. Sample considered $p=527=638-111=P$ - number of missing profiles. *Source: Analysis results.*

Building the dataset by matching data was not an easy job since information were sometimes not consistent between the two websites. For that reason, every time I was facing discrepancies, I always went for the platform that, in my opinion, could have been more reliable and updated. I used to reach that decision simply comparing the information about the current role and the previous working experiences on both platforms, identifying and discarding the one who reported the most dated information. Against my expectations, and as showed by the low percentage of profile found on it, Crunchbase resulted in being less updated than LinkedIn even

though Crunchbase is a professional global platform specifically built for tracking start-ups and incubators. The reason could lie on two factors: the first is that the SI market has started being officially recorded quite recently (2007 with the coining of the expression impact investing from The Rockefeller Foundation); the second is the fact that LinkedIn profiles are revised more often than Crunchbase ones, since it is in the direct interest of the private individual having reliable and updated information on their profile.




6.1 Generalities

Even though 17% of 638 people were not on social network, I could identify the gender basing on names when univocally feminine or masculine. In our sample $P=638$ people, leaving aside the 3% of genders that were impossible to identify because not expressed in the description and because of lack of pictures, only 30% of them are women, with a predominance of men with 67% (Fig. 13). Since those managers and employees come from every country in the world, we cannot blame the country they work in for the unbalances of genders. What makes the difference is probably the field they work in. The Chartered Financial Analyst Institute (CFA)²⁴ performed an analysis on gender gap in banking and finance fields, recognizing some factors affecting the low presence of women. One of them could be related to the so called “math gender gap theory”, which describes that, on average, in a competitive male environment, men perform better in mathematics than women. The sensitivity of working team composition is also pointed out by a research of Stanford University (Niederle & Vesterlund, 2011) and by Huguet and Régner (Huguet & Régner, 2007) in his analysis: he found out that girls underperform in mixed group, while they reach excellent results in all-female teams. The second reason why banking field lacks of female presence is the role that women usually have as mothers and wives in society. In general, they are less willing to scarify family for career since it would entail long hours spent at work and, sometimes, business travelling. This is why the majority of women in our sample are (9,6%+9,1=18,7 % in total) less young than 45 years old, while men’s age ranges particularly from 35 to 60 years old (20,4%+19,0%=39,4%). Both LinkedIn and Crunchbase do not report the age of the person. For that reason, values about the ages approximate their real

²⁴ “The Chartered Financial Analyst Institute” (CFA) is a global institution, established in 1947, providing for educational and professional training in the field of investment management. CFA’s official website follows: <https://www.cfainstitute.org/research/future-finance>

age. I calculated them by summing the average age at which a person usually enrolls in a bachelor degree (18/17 years old), the total number of university's years of and the total years of working experience.

Fig. 13: Gender Proportion by Age

| Gender Proportion by Age | | 25-35 | 36-45 | 46-60 | 61-79 | Age Not Available |
|--------------------------|---|-------------|--------------|--------------|------------|-------------------|
| 67,4% |  | 65 10,2% | 130 20,4% | 121 19,0% | 29 4,5% | 85 13,3% |
| 29,9% |  | 61 9,6% | 58 9,1% | 31 4,9% | 1 0,2% | 40 6,3% |
| 2,7% |  | 2 0,3% | 0 0,0% | 0 0,0% | 0 0,0% | 15 2,4% |

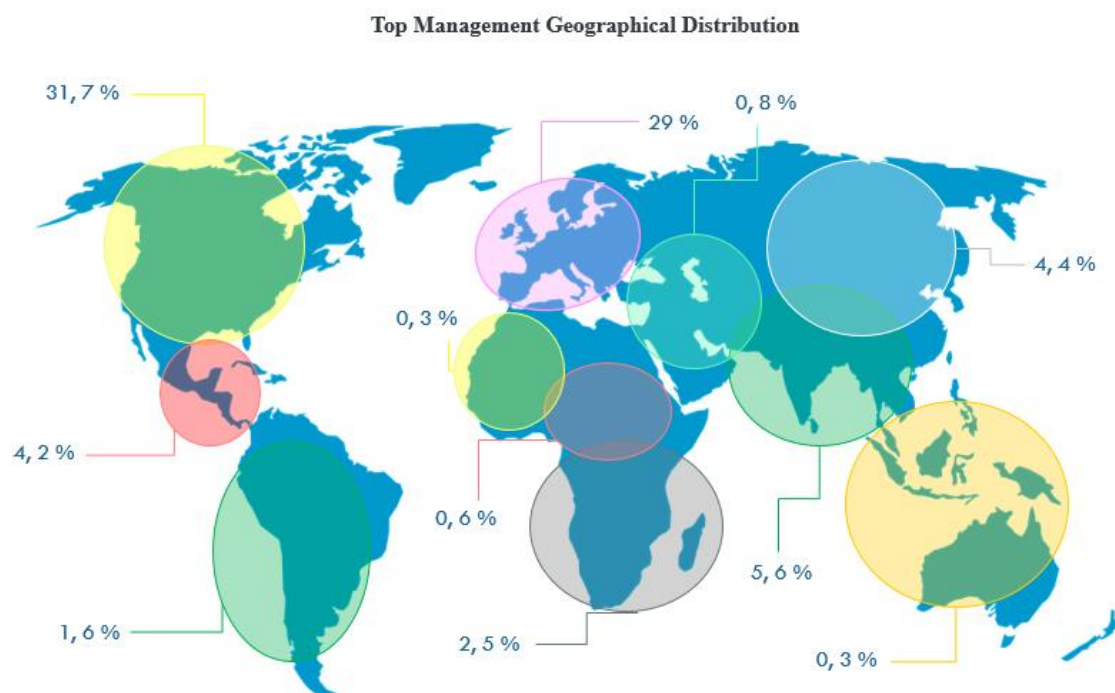
Subdivision of genders and age phases. For each gender type, you could see the composition of their age range. For instance, among the 67, 4 % of men, there are 61 individuals (10, 2% of 638) that are the youngest, while only 1 individual (4,5 %) is the oldest, with age between 61 and 70 year old. The same reasoning applies to female gender. It was impossible to determine the gender of 2, 7% of individuals even if it was possible to calculate their age. Percentages are computed on sample size P=638. *Source: Analysis results.*

The SII market is relatively young, with a pool of start-ups and SMEs looking for achieving social positive impacts and profits growth. For that reason, I strongly think that networking is crucial for the business. The majority of people (59, 6% of P=638) we could find on LinkedIn have a large professional network with over 500 connections and it seems that “who you know”, inside and outside the organizational chain of command, has more weight than “what you know” - 18, 8% of P has lower than 500 LinkedIn contacts, while in the remaining 21, 6% cases, the information was not available - . In fact, there are plenty of websites (as LinkedIn) and networking events bringing together entrepreneurs who are pioneering the impact-investing wave. Wolff and Moser defined networking as << behaviours that are aimed at building, maintaining, and using informal relationships that possess the (potential) benefit of facilitating work-related activities of individual by voluntarily granting access to resources and maximizing common advantages. >> (Wolff & Moser, 2009).

The reason why it is necessary to recur to social networks and national and international events is the global spread of impact initiatives. Most of top-management of those firms, managing

our sample of funds, currently work in America (37, 5 % in total) and in Europe (29%), thus, it is extremely important to keep and feed long-distance business relationships in order to take advantage from them (Fig. 14 and Table 14.a).

Fig. 14: Top Management Geographical Distribution



This map shows the presence (in percentage) of general managers of our funds worldwide. *Source: Analysis results.*

Fig. 14.a: Top Management Geographical Distribution Table

| Country | N of Individuals | Distribution |
|-----------------|------------------|--------------|
| North America | 202 | 31,7% |
| Europe | 185 | 29,0% |
| South Asia | 36 | 5,6% |
| East Asia | 28 | 4,4% |
| Central America | 27 | 4,2% |
| South Africa | 16 | 2,5% |
| South America | 10 | 1,6% |
| Western Asia | 5 | 0,8% |
| Central Africa | 4 | 0,6% |
| West Africa | 2 | 0,3% |
| Pacific Area | 2 | 0,3% |
| n/a | 121 | 19,0% |
| Total | 638 | 100% |

The table above gives the exact number of individuals living in a given Country. It is a detail of Fig. 14. *Source: Analysis results.*

The real question now is “how do people decide where to work for carrying SII initiatives?”. Some countries are making their incentives for research and sustainability more and more generous and are adapting their policies in order to catch up with social and environmental changes. The Global Survey of Innovation and Investment Incentives (Deloitte, 2018) pictured a framework of the most important government incentives, in addition to European Union funding, and found out commonalities among those countries (Fig. 15).

Fig. 15: Global Initiatives

| Global Incentives | Environment and Sustainability | Employment | Investment | Patent Box | Grants | R&D Tax | Others |
|--------------------------|--------------------------------|------------|------------|------------|--------|---------|--------|
| Angola | | | X | | | | |
| Australia | X | | X | | X | X | X |
| Austria | | X | X | | X | X | X |
| Belgium | X | | X | X | X | X | |
| Brazil | | | X | | | X | X |
| Canada | X | X | X | X | X | X | X |
| China | X | X | X | X | X | X | |
| Colombia | X | X | X | | | X | |
| Croatia | | X | X | | | | |
| Czech Republic | | X | X | | X | X | |
| Denmark | | X | | | X | X | X |
| Finland | X | | | | X | X | |
| France | | X | X | X | X | X | X |
| Germany | X | X | X | | X | | |
| Greece | | X | X | X | X | X | |
| Hungary | X | X | X | X | X | X | |
| Iceland | | | X | | X | X | |
| India | | X | X | X | X | X | X |
| Ireland | X | X | X | X | X | X | |
| Israel | | X | X | X | X | X | |
| Italy | | X | X | X | X | X | |
| Japan | | X | X | | X | X | |
| Latvia | X | X | X | | X | X | X |
| Lithuania | | | X | | X | X | |
| Malaysia | X | X | X | | | X | X |
| Mexico | X | X | | | X | X | X |
| Netherlands | X | X | X | X | X | X | X |
| Norway | X | | | | X | X | |
| Philippines | | | X | | | X | X |
| Poland | X | X | X | | X | X | |
| Portugal | | | X | X | X | X | X |
| Romania | | X | X | | X | X | |
| Russia | X | X | X | | X | X | X |
| Singapore | | | X | X | X | X | |
| Slovakia | | X | X | | X | X | |
| South Africa | X | X | X | | X | X | X |
| South Korea | X | X | X | X | | X | X |
| Spain | X | X | X | X | X | X | |
| Sweden | | X | | | X | X | |
| Switzerland | X | X | | X | X | | |
| Turkey | X | X | X | X | X | X | X |
| UK | X | X | X | X | X | X | |
| USA | X | X | X | | X | X | X |

The picture shows the list of Countries considered in Deloitte's survey (Rows) and governmental initiatives to support social impact market (Columns). The cross indicates that a particular initiative is deployed in a given Country. *Source: Deloitte and elaboration of the author.*

Apart from grants donation and tax reductions, common characteristics include:

Incentives and tax reduction for intellectual property – Given that companies take the financial risk of new products/services' development, they always incur in monetary losses before reaching the breakeven point²⁵ (BEP). Moreover, they could find themselves in IP infringement lawsuits whose defence for their IP rights results into an expensive cost that start-ups, especially high-tech, cannot afford. Those countries use also a patent box regime where more flexible tax regime is applied to patents' income, differently from other types of income.

Centralization of R&D - Majority of Research&Development activities is performed within the country, even though there are no particular regulatory restrictions on undertaking research abroad. On one side, it is true that the co-location of a company's R&D, could improve access to resources and knowledge lacking in one single country and could open the firm to new business opportunities and partnerships (networking theme is a constant). According to researchers Kafouros M., Wang C., Mavroudi E., Hong J. and Katsikeas C., the geographical dispersion of R&D may result in a loss of marginal value generated by its activities (Kafouros, Wang, Mavroudi, Hong, & Katsikeas, 2018). However, they are not saying that firms would not perform at all if co-located. In fact, R&D spread on multiple units do not take advantage of economies of scale because of technology redundancy that increase costs, leaving less money for investments. It is not surprising that most SII supportive countries have co-located R&D activities.

The Global Survey of Deloitte (Deloitte, 2018) listed the most popular incentives used in 43 countries all over the world, going into detail for each of them. As showed in our results and confirmed by The Global Survey, thanks to their supportive initiatives, European and North American states incentivized the development of social impact initiatives. In addition to governmental and national supports provided by European countries, the European Union has

²⁵ Break-Even Point (BEP) is that point in which total costs equal total revenues. Increasing the business (e.g. number of units produced and sold) means starting making profits. Decreasing it means incurring in negative profits/losses.

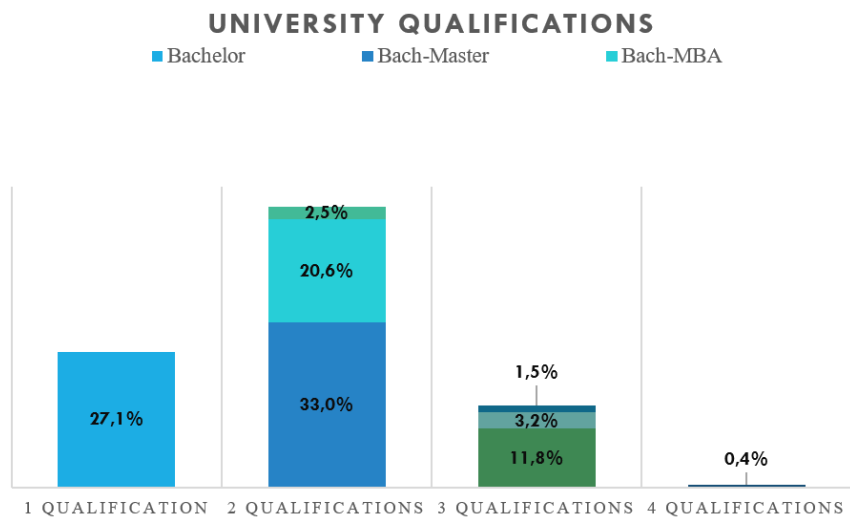
a portfolio of initiatives targeting innovation, inclusion, economic growth and education (Deloitte, 2018): Horizon Programs²⁶, Erasmus+, CEF²⁷, LIFE²⁸, Eureka²⁹, and INTERREG³⁰.

6.2 Educational Background

On P=638 individuals working for SII funds, only q=476 profiles have reliable information on their education. Data on educational background refer to bachelor degrees, master/post graduate degrees, MBAs and PhDs. For each level of education, I collected, one by one, universities’ names, fields of study and universities ranking³¹.

Our analysis showed that, on 476 records, 129 individuals (27, 1%) have only one-degree level, 267 (56, 1%) achieved two qualifications, 78 (16, 4%) got three levels of education, while only 2 (0, 4%) individuals have all four qualifications (bachelor, master/post graduate, MBA and PhD). See Fig. 16.

Fig. 16: Types of University Levels



²⁶ Horizon Programs are financing programs for research and innovation.
²⁷ Connecting Europe Facility (CEF) is a financing program to support growth and employability in the field of telecommunication, transportation and energy.
²⁸ LIFE is an EU financing instrument for the safeguard of climate and environment.
²⁹ Eureka targets international R&D projects facilitating access to capitals.
³⁰ INTERREG is a European fund with the objective of facilitate cooperation among European Countries.
³¹ All data about universities’ ranking were taken from the website QS World University Ranking 2018. The official website follows: <https://www.topuniversities.com/qs-world-university-rankings>

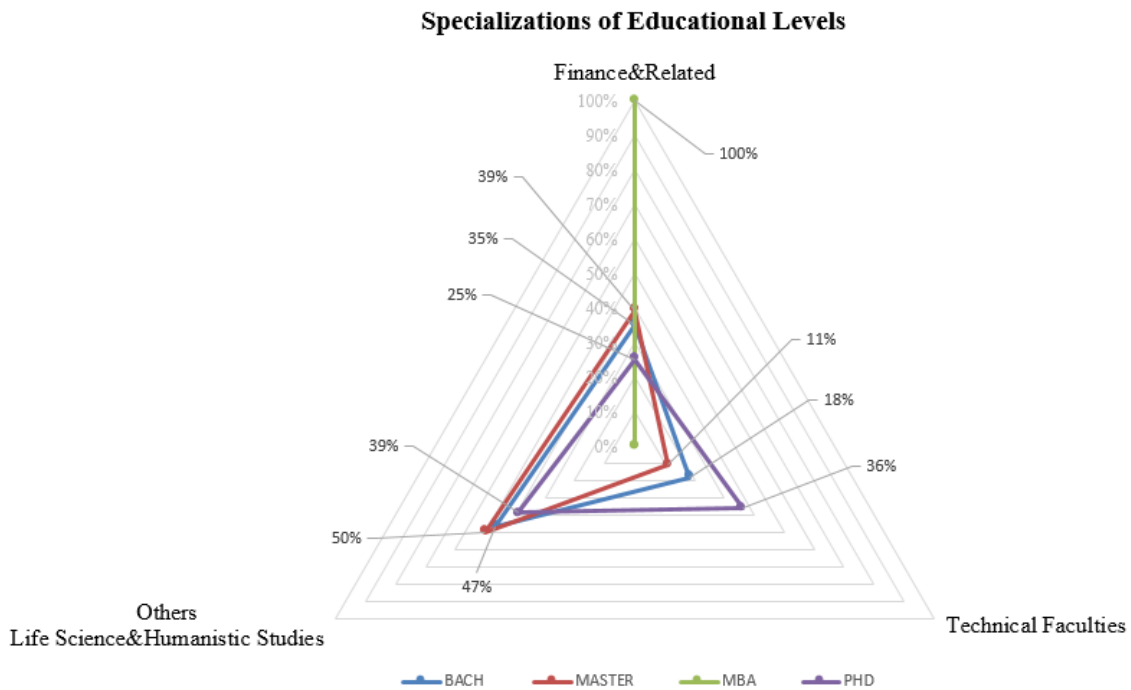
The picture shows, in percentage, the number of educational qualifications earned by team members. Only a small percentage (0, 4%) has all types of educational level. Qualification types are bachelor, master/post-graduate, MBA and PhD. Sample size $n=476$. Source: *Analysis results*.

It is not surprising that the majority of two-level degrees (33%) were composed by bachelor and master/post graduate degrees. It seemed to be rooted in people's mind that a bachelor has little value if a more specialized program, like a master, does not follow it. Others have wisely chosen an MBA, instead of a common master degree, due to the high recognition that this qualification earns worldwide, the excellent theoretical and practical training and, of course, the focus that it has in finance, banking and accounting. In fact, limited partnerships investing in SII funds prefer hiring expert capital fund managers (GMs) that know well investment tools and financial markets in order to make the best strategic investment decisions, gaining both social and financial returns. I underline that one of the compensation methods for GMs is the carried interest, which corresponds to a share of profits generated by the fund (usually 20%). The more capable and skilful is the manager, the higher is his/her compensation.

I have also found out that 56 people have more than one qualification of the same type. For instance, 14 individuals decided to obtain 2 bachelors and 33 opted for two postgraduate degrees. There are also two samples who earned 4 masters. It has emerged that the management teams have 476 bachelors, 230 masters, 163 MBAs and 36 PhDs in total, counting also that multiplicity of qualifications. The total number of titles earned is $n=905$.

The most prevalent educational background (47%) is related with finance or similar field (Taxation, accounting, business, economics, entrepreneurship and commerce mostly). The remaining individuals' background (53%) are split into technical faculties (14%), including engineering, mathematics, physics and chemistry, and other educational fields (39%) that have nothing in common with finance, such as communication, medicine, biology, languages, law and literature (See Fig. 18). The spider diagram breaks down data reported above giving higher details on the main subjects for each educational level. It is obvious that MBA is 100% focused on Finance&Related subjects; while, even though bachelors, masters and PhD look enough balanced among the domains, it is surprising that they all slightly tend to humanistic or scientific fields, instead of financial ones.

Fig. 18: Specializations of Educational Levels



The figure gives an insight into the main subjects of degrees of management teams. Majors of their degrees are finance related (47%), technical (14%) and others (39%). Sample size $q=476$, number of qualifications $y=905$. *Source: Analysis results.*

6.3 Working Background

The results showed above on diversification of educational backgrounds reflect the current employability of our managers, whose majority is actually working in the financial sector. It is surprising that the technical faculties rank third in the list of the most common backgrounds. It means that people, who had completed a financial (Investment, banking etc.) university career, have also managed to find their following jobs in the same working sector.

Data analysis performed in by Jaison Abel and Richard Dietz of the Federal Reserve Bank of New York (Abel & Deitz, 2014) showed that, in US, in 2010, only 27% (Plumer, 2013) of college graduates had a job that was strictly related with their major in school. The match between field of study and job is higher in bigger cities because large labour markets offer high density of labour demand brings up wages and increase the probability of finding a quality job matching the educational background. The real question is: is a financial stamp strictly

necessary in the SII industry? Reasoning by putting financial return first the answer is yes. Entrepreneurs must be aware of availability and riskiness of both commercial financial instruments and customized financing forms born with and for impact investing. The knowledge of mathematics in this case is fundamental since in the finance field everything revolves around numbers and calculations of interest rates, returns, investment profitability in the long term etc.). However, some non-finance related skills actually fit perfectly for an investment-banking job. For example, law students are highly requested due to complex regulations that nowadays regulate and control funds and firms' operations. Some examples of European regulations are IFRS 9&17³², MIFID II³³ and Solvency II³⁴. The departure of United Kingdom from European Union makes the regulatory environment even more complicated since UK is the largest capital market in the EU. Compliance's activities have become more and more intense in the last 10 years.

In other words, financial educational background is not the only element to consider, even though they should present a natural interest for financial news and global trends in that market.

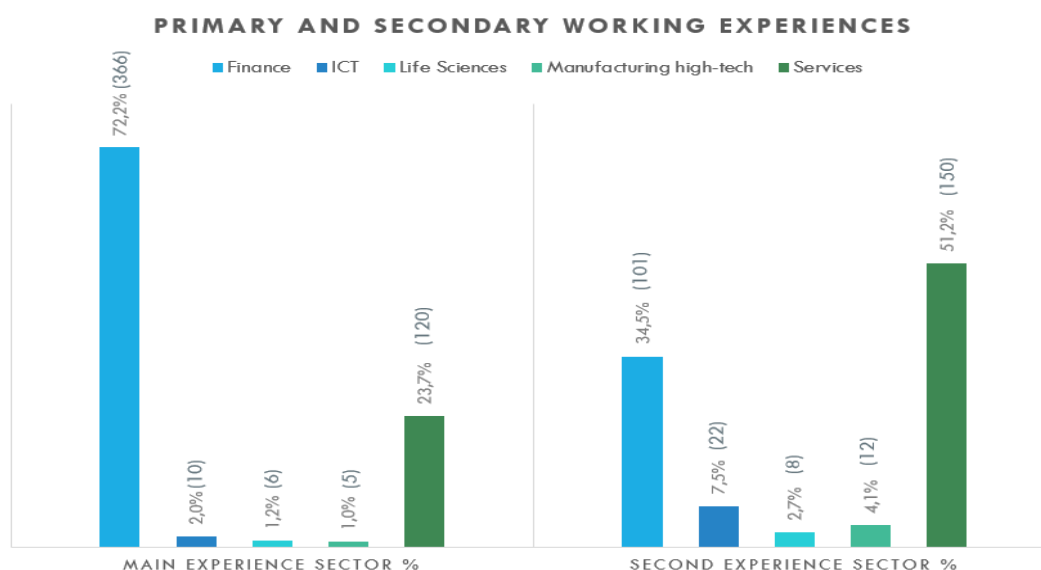
Going back to our analysis, it is interesting to talk about the career path of managers and if their working experience sectors reflect their university careers. Among our sample $n=527$, 507 of them has a recognizable expertise in one primary sector, while 293 of those 507 worked also in other fields which gave them enough knowledge to be included in the analysis of the second main experience. As you can see from Fig. 18, the majority of individuals had the financial sector as their main sector of experience, with 317 individuals having worked specifically in VC/PE field. The result is perfectly in line with results on education. Service sector is the second main experience sector and the first preferred as second experience sector. For each team member, the main sector of expertise has been identified simply considering the longest working experience (in years) in a specific sector. The secondary working experience comes right after the main one in terms of time length.

³² International Financial Reporting Standards 9 and 17 (IFRS) regulate the evaluation of liabilities and assets of financial institutions.

³³ Markets In Financial Instruments Directive (MIFID) is a European regulation strengthening investors' protection and improving financial markets dynamics.

³⁴ Solvency II is a European directive concerning the amount of capital an insurance company must hold in order to reduce solvency risk.

Fig. 19: Main Working Experiences



The figure is divided in two: on the left, sector in which managers have more experience and, on the right, the second most opted sectors for working. Finance and Services are the sectors in which our managers spent most of their working lives. The same happens for the second main experience. The data are showed in percentage (and in number of people in brackets). *Source: Analysis results.*

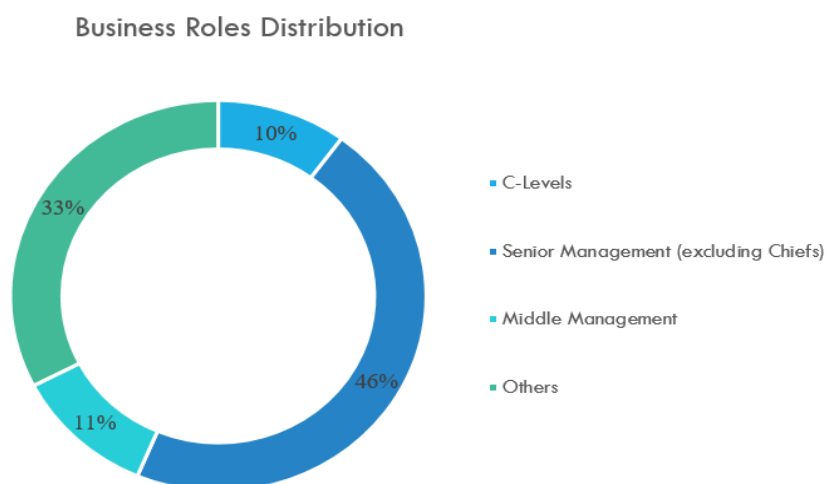
I am going to explain why services are taking place in all industries and why, despite of the educational background, a high number of individuals have chosen that sector to work in. With the introduction of internet, the transfer of any type of information has become viral, making customers evolve from informed buyers of a product/service into extremely exigent clients sensible to both quality and price. This shift caused a chain of effects: increase of the number of product varieties and decrease of the lead-time at a factory level; while, at global level, higher volatility of markets and more competition. Consequentially, companies are responding these changes by offering not only their products, but also adding services to their value proposition. This strategy, called *servitization*, nowadays is applied at global scale, in all industrial sectors. Since services became a huge source of revenues (earlier coming only from the sales of physical products), it is obvious that, after the financial field, our managers prefer working in the service sector rather than ICT and life science (Biologist, chemist, natural scientist).

6.4 Career Achievements and Quality of Education

As you could imagine, people in our samples have a huge bag of experiences, both educational and working. The next step of our analysis is to look at roles they are currently in charge of and their career achievements. I considered four career levels (In the Appendix H the list of all job titles included into each categorization): C-levels, senior management, middle management and others. Even though the C-level roles are included in senior management positions, I preferred split them in two since the C-level role is the highest executive level in a specific function in a Company. It is also a way to earn prestige and reputation in particular for SMEs. In the categorization, “others” I included low-level management and roles that do not belong to management (e.g. researcher, secretary, lecturer, generic engineer, freelance, designer etc.). See Fig. 20.

The majority of our fund managers (56%) fulfil senior management duties, whose 10 % is composed by chiefs and the other 46% by directors, presidents and many other types of senior managers (marketing and communication, recruiter, fund accountant, equity and economist managers). Those people have gained their expertise throughout a long working path (Fig. 21), for that reason, they are often called by governments and private investors to join Limited Partnerships (LPs) as capital fund managers (GPs).

Fig. 20: Business Roles Distribution



The data show the distribution of business role levels among members of management. Those percentages do not have to be calculated on $p=527$, since some of those individuals have multiple jobs. The total number of roles is 534 indeed. . *Source: Analysis results.*

Fig. 21: Roles and Working Experience

| Business Role | C-Levels | Seniors | Middle Managers | Low Manager&Others |
|---------------------------------|----------|---------|-----------------|--------------------|
| Avg Years of Working Experience | 22 | 21 | 17 | 17 |

The table includes the average number of working years of our sample (527) for each level of management. *Source: Analysis results.*

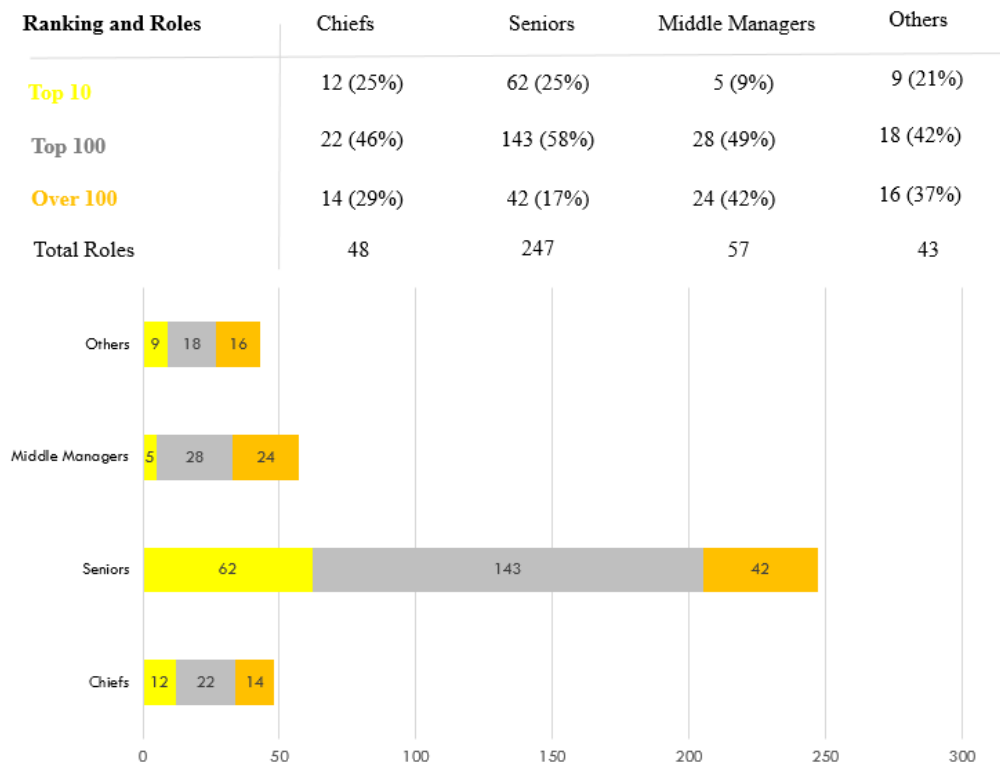
Middle managers constitute the 11 % of our management and have just 3-4 years less of working experience respect to seniors. Their role is essential because they are in charge of implementing and completing organizational strategy in the most efficient and effective way. As we know, they also report directly to the Top Management.

It is surprising that low management, together with other lower roles, results in having the same average years of training as the middle managers. This can be explained by the fact that career achievements are not only a matter of “how long you work” but it is also a matter of “how good you work”. In fact, people who scales the path of success are people with rare skills that less likely can be learnt just by studying, because they are built on challenging experiences. Botelho, Powell and Wong have conducted a 10-years study on 2600 C-level executives in order to identify the sprinters that allow managers to reach the role of chiefs faster than the average elapse time necessary (24 years). They called their research CEO Genome Project (Botelho, Powell, & Wong, 2018). Those CEOs experimented smaller roles at the early stage of their career (Go Small to Go Big), accepted roles that went beyond their real capabilities (Make a Big Leap) and found themselves in the middle of a crisis or big issue affecting the company they were working in (Inherit a Big Mess). Those listed are challenges that prepare middle managers to acquire leadership skills: dedication, curiosity despite the uncertainty of the environment, good instinct and ability to make decisions under pressure.

The importance of difficulties as catalysts to growth is not meant to discredit the role of education, which is widely considered a relevant key for success. However, Botelho, Powell and Wong arrived to a different conclusion: the pedigree (such as an MBA) does not fasten the escalation to success (Botelho, Powell, & Wong, 2018). In the article they have published on the Harvard Business Review, they showed that 97% of the sample had experimented at least one the sprinters, 50% of them at least two and only 24% had an MBA. For the purpose of verifying their findings through my analysis, I have classified managers and others according to the ranking of universities they attended (Fig. 22). On all chiefs (54), seniors (247), middle

managers (59) and low managers&others (174)³⁵, I could collect respectively 48, 247, 57 and 43 Universities' ranking records, for a total equal to 395.

Fig. 22: Career Achievements and Quality of Education



The graph provides an overview of ranking of universities attended by members of the management. The first table shows the percentage of people, divided according to the role, who studied in universities ranked up to 10, between 10 and 100 and over 100. Below, it is a graphical representation of data in tables. *Source: Analysis results.*

Ranking logics of our source (QS University Ranking) is based on six factors: academic reputation, employer reputation, faculty/student ratio, citations per faculty, international faculty ratio and international student ratio³⁶. Against my expectations, the majority of senior, including C-levels, and middle managers did not attend Top 10 Universities, but they ranged between 10 and 100. For instance, among those 100 ranked Universities, there are prestigious institutions

³⁵ I would like to underline again that the number of samples we are considering is 534 (54 + 59 + 247 + 174), and not 527, due to the ownership of multiple roles of some individuals.

³⁶ Source of metrics to assess Universities quality: <https://www.topuniversities.com/qs-world-university-rankings/methodology>

like Stanford University, Columbia University, Stockholm School of Economics and Georgia Institute of Technology. On 395, only 5 individuals, attended the 1th ranked, the Massachusetts Institute of Technology. As showed in Fig. 22, most of middle and low managers attended instead universities ranked over 100. Finally, we could say that chiefs and seniors did require a mix of high quality education and unconventional and risky working experiences in order to make career.

6.5 International and Volunteering Experience

In total, the number of people who experienced at least one international experience is 225, which is 35, 3% on 638 individuals and 42, 7% of the 527 found with a profile. Among those 225, 45, 3% (102 people) lived abroad only for business, 16, 4% (37 people) did it just for studying and 38, 2% (86 people) travelled for long periods for both reasons (Fig. 23).

Fig. 23: International Experiences

International Experiences



The cake diagram tells how many individuals lived abroad and for which reasons (Business, studying or both). *Source: Analysis results*

The study performed by the University of Luneburg, Germany, on 221 students (93 sojourning abroad and 120 non-sojourning students) (Petersdotter, Niehoff, & Freund, 2016), showed that sojourning students have a higher ability to achieve personal goals since they have different

perception of challenges, called by Albert Bandura³⁷ self-efficacy. The self-efficacy is the self-belief that someone can cope with problems and issues in various fields thanks to the individual's mental and physical strength. So, people that had international experiences resulted in being more extrovert, open and agreeable. Those characteristics are always required when working in team for the achievement of common goals.

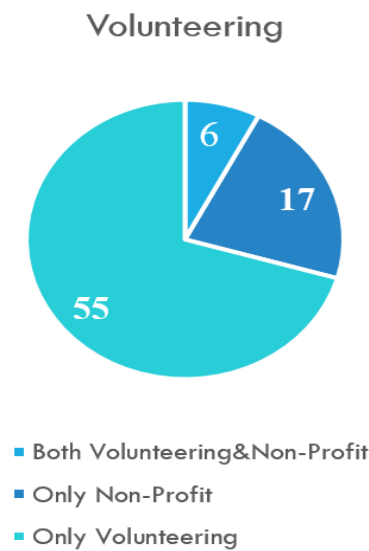
On p=527 profiles found on LinkedIn and Crunchbase, only 491 of them has reliable data about long international sojourns. During their studies, 123 individuals participated to (37 had only a studying sojourn abroad, 86 travelled in both cases, so, also because of their jobs) exchange programs, shifting from a known environment to a different one. Among those 123, 86 (Almost 70%) decided to challenge themselves, go further and move to other countries, while, the remaining 37 (30,1%) bet on national working careers.

On the other side, there are those team members who decided to challenge themselves with an experience abroad only during the working career (102 individuals). An international job represents an invaluable experience that allows entrepreneurs and firms to benefit from problem-solving skills, adaptability, diversities awareness and communication skills. Those characteristics cannot be acquired if people are limited in a homogenous, not motivating and static environment.

The top management of impact investing firms should have been always willing to contribute to stronger and more cohesive communities. However, our results show that, on 527 individuals present on social network and global DB, only 78 (14, 8%) people had volunteering or non-profit experiences. The Fig. 24 shows the type of experiences that the 78 people had. The remaining 85, 2% did not have any.

³⁷ Albert Bandura, born in 1925, is a Canadian psychologist known for his contributions to social cognitive and behavioural theories.

Fig. 24: Volunteering Experiences



The graph shows the number of individuals who demonstrate interests in working in volunteering and non-profit sectors. Percentages are computed on $p=527$ and are only Non-Profit 3,2%, Volunteering 10,4% and Both 1,1%. *Source: Analysis results.*

My expectation was instead to find a higher percentage of people who committed to social non-profit initiatives in the past. My opinion is that those managers falling into the remaining 85, 2% fit better into the definition of “Financial first” for which individuals aim at profit maximization, with the constraint of funding unserved sectors (Social constraint). On the other hand, the more socially motivated managers could be classified as “Impact first” since they would prefer social outcomes, with at least a minimum return (Financial constraint).

The low percentage of experiences in volunteering and NPOs could be explained by the absorption of skilled human resources (volunteering and not volunteering) into traditional venture philanthropies which seek to maximize social returns with the application of Venture Capital practices (KPI for measuring outcomes is SROI). In other words, who wanted to make an impact, started with volunteering and in the majority of cases remained in the non-profit field. In fact, according to the publishing “Knowledge management in non-profit organizations” (Lattieri, 2004), the knowledge required to be hired within a NPOs mainly entails accounting, managerial, PRM (public relation management) and operational skills.

Chapter 7 Diversity of Management

7.1 Background Diversity

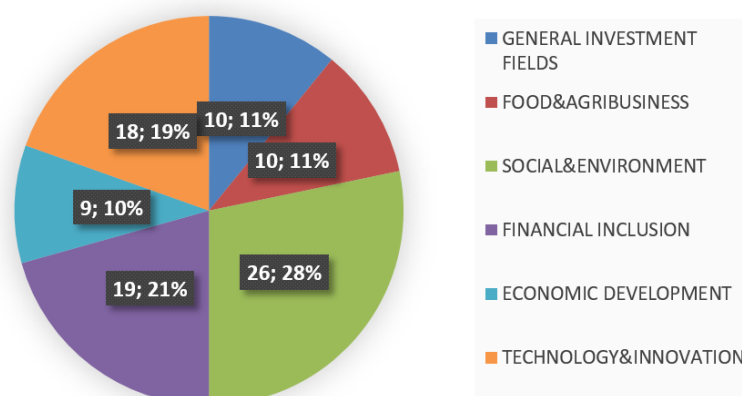
From our analysis, a particular theme has emerged even though we have not named it yet. I am talking about the diversity of management. The diversity management entails organizations' practices aimed at composing a diversified workforce. Due to globalization of markets, it is necessary to leverage on international individuals in order to take advantage of their work styles. Diversity has multiple dimensions (Puck & Dennerlein, 2011): informational diversity, in terms of knowledge and expertise, and social category diversity such as gender, age and ethnicity. According to Sippola A. and Smale A. in their "The global integration of diversity management: A longitudinal case study" (Sippola & Smale, 2007) and Benet in his "The Oxford handbook of multicultural identity " (Benet-Martinez & Hong, 2014), homogenous teams perform better than heterogeneous ones. This result can be explained saying that in a diverse group, everybody is challenged to put into question his/her own beliefs that have always worked perfectly so far. It is an opportunity for personal and career growths. In order to demonstrate a positive correlation between heterogeneity of management teams and success of the fund, it is necessary to perform a regression analysis which will be presented in paragraph 7.4.

I have grouped the 92³⁸ funds found into 6 categorizations according to their targeted macro-fields of investment (Fig. 25): General investment Field, Food and Agribusiness, Social and Environment, Financial Inclusion, Economic Development; Technology and Innovation. In Appendix F you could find listed the micro-fields of investments.

³⁸ In this chapter, I considered both matching (77) and not matching (15) funds since my aim is to give a broader overview on management composition, not necessary strictly related to Social Impact Funds.

Fig. 25: Investment Fields

Funds' Investment Field

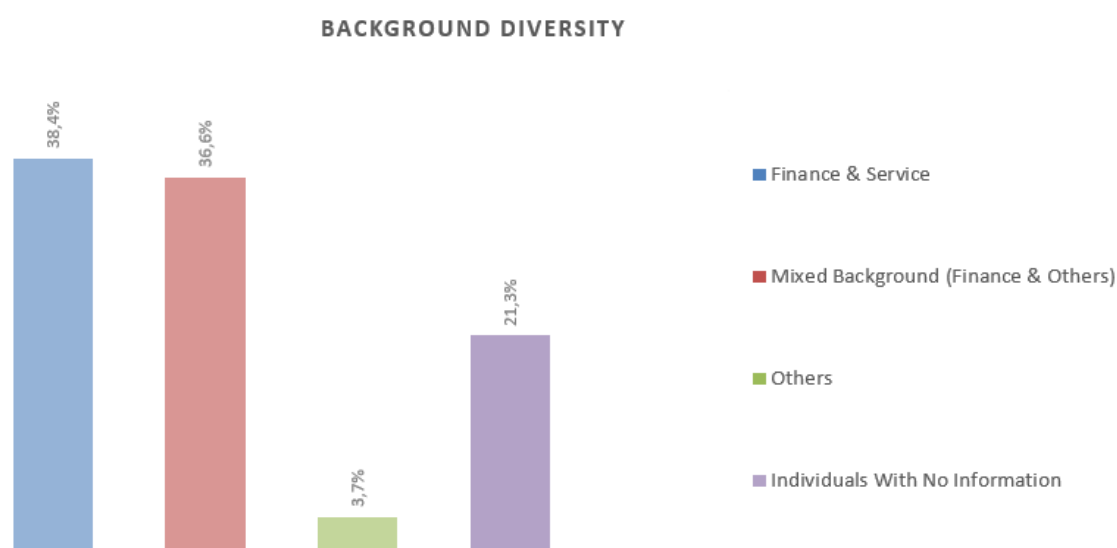


The cake graph shows which are the sectors targeted by the initial sample of funds. Thus, the percentages refer to 92 funds. *Source: Analysis results.*

I have decided to glue together the two categories social and environment since in many cases the same fund operate in both at the same time. For instance, the Phitrust Impact Investors Fund finance a large portfolio of projects that include sustainable buildings (Projects' names: Intent Technology, NEOLife, Stimergy etc.), environment safeguard (Projects's names: Suez, Zei, Envea etc.) and services to people with disability (Projects' names: Bluelinea, Whoog, Bmisystem). Another example is Adobe Mezzanine Fund, which supports both the development of sustainable and energy-efficient infrastructures in Central America, through their initiative, called GREENPYME, and provides technical assistance to small family business and initiatives thanks to FINPYME.

For all groups, I dived deep into people's background, both professional and educational, in order to demonstrate that our sample of managers presents high degree of diversity (Fig. 26).

Fig. 26: Background Diversity

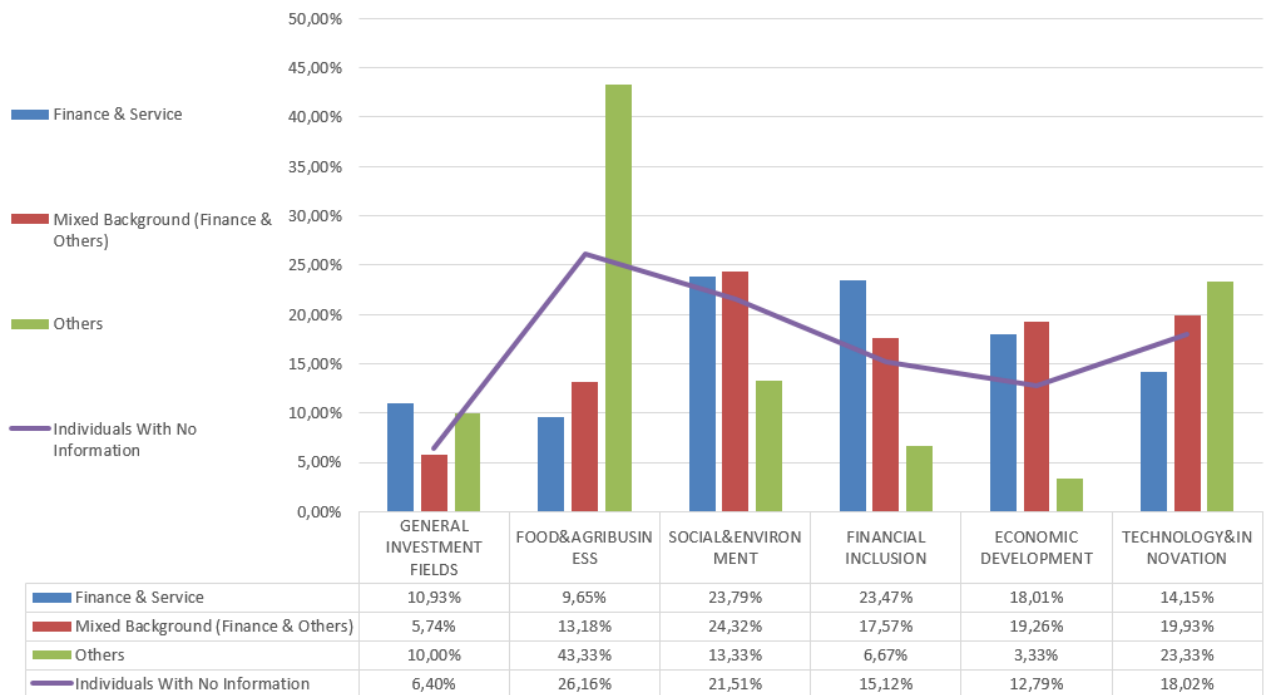


The bars graph provides a picture of background and knowledge of all funds' managers. Since some management teams were involved into more than one fund of investment, the total number of individuals in our 77 funds is 809 and not 638. In other words, they are counted multiple times. The percentages refer to 809 individuals indeed. *Source: Analysis results.*

Now, I am going to explain how I organized data in order to describe heterogeneity of teams. On 92 funds, I analysed in depth only the ones matching in both datasets (77), Impact Base and Thomson ONE banker, considering, as I have previously written, 638 individuals. Starting from the fields' of investment categorization in Fig. 25, I have analysed the background (Educational and working) of each team member of each fund in those groups. I have counted people whose past was purely in finance and general services (Finance and Services), people who were committed only to non-financial fields (Others) and the ones who experienced both (Mixed Background). In the list of other jobs and university faculties (Others), I found life science, architecture, I-tech, languages, political science, philosophy, classic literature, all types of engineering, social studies and plenty of other fields related neither with finance nor with services.

In Fig. 27, you can see more details about heterogeneity of those groups of funds, with the representation of the numbers of the number of individual the most expert in each category.

Fig. 27: Background Diversity, Insight



Insight in diversity of experience of management teams. In each target sector (Columns of table below), you could see the percentage of individuals that have a given background (Rows of table below). As I said earlier, some management teams were involved into more than one fund of investment, so, in our 77 funds, the total number of data collected from 638 people is 809. *Source: Analysis results.*

On one side, I considered together Finance&Service imprint³⁹ due to the important weight that services have in all sectors and consequentially in the current job analysis (Chapter 6.3, Fig. 18: 23,7% as main working experience and 51,2 % as second). I would like to recall that 99 individuals had a past in consulting companies. On the other side, I considered people involved into non-technical sectors. The outcomes showed that all people who had started with education in finance or related, resulted into a similar working career. In other words, once they had undertaken the financial path, they have never changed. On the contrary, almost an half of individuals (46, 5%) who started first with science, philosophy, design, journalism and law, changed their mind during their life jumping into financial markets. Their background is in fact mixed. It is also interesting to see to which extent the life (studying and working) experiences

³⁹ The grouping of financial-related jobs follow the same logic described in Paragraph 6.2 while describing educational background diversification.

of people reflect the investment fields of their firms. For instance, in Food and Agribusiness categorization, the majority of people have a mixed background entailing biology, chemistry and biophysics in addition to the others; while, funds investing to support financial inclusion (e.g. microfinance) see the highest specialization in Finance&Service sectors.

Many authors approached this theme by correlating the diversity of team members with company's performance. In "Should a Team be Homogeneous?" (Prat, 2000) Andrea Prat, by modelling team dynamics into its model called "The model of a Team", established that, on one hand, team homogeneity could lead to maximize coordination between associates thanks to the similarity in their workstyle and training; on the other hand, heterogeneous workforce is more likely to develop successful ideas and innovations. A less theoretical research had been conducted by Jonas Puck and Tobias Dennerlein (Puck & Dennerlein, 2011), using survey data from 27 groups in 10 different countries. <<The authors investigate the link between team diversity and intra-team conflicts>> highlighting that three types of team conflicts arise more often:

Relationship Conflict – it is a result of incompatibilities and frictions among individuals, resulting in disputes and inability of working in a hostile environment.

Task Conflict – In particular, in investment decisions, it is important that the team moves together towards a collectively shared decision. Task conflict is then a common phenomenon when members of the same team weight social priorities and financial risks differently.

Process Conflict – Even if the team reaches an arrangement on tasks to be performed, the assignment of duties and responsibilities could always cause slowing down of activities. This is because SMEs and start-ups' have organizational structure which is not as solid as well-established companies, that has low number or absence of middle management and a high degree of decentralization of decision-making process.

At the end of their analysis, Puck and Dennerlein underlined the key roles of the management firms themselves in order to limit the effect of those conflicts: openness, supportiveness and the establishment of a <<common set of values, attitudes, norms and behaviours>> in a diversified team. This is known as company culture.

7.2 The Regression Model

In this part of my thesis, I am going to show whether the hypothesis supposed in this Chapter 7 about diversity of management affecting performance of the fund is true for our sample of funds and managers. In order to demonstrate so, I have used the following linear regression model:

$$Y = A + BX + err$$

Where X is the independent variable (called also *regressor*), which is the diversity index D in this specific analysis; Y is the dependent variable, so the performance indicator. The coefficients A and B are respectively the intercept and the slope of the regression line. The regression model will always include an error due to external factors, apart from X , that affect Y . The regression line is the line that best describes the relation among data. In fact, there is a coefficient, called *correlation coefficient*, which quantifies the fit of the model with reality. You could find it both as r and as r^2 , but they have the same meaning. The correlation coefficient can be interpreted in the following ways (Kesian Calculator)⁴⁰:

| Correlation Coefficient (r) | Interpretation |
|---------------------------------|----------------------|
| $0,7 < r \leq 1$ | Strong correlation |
| $0,4 < r < 0,7$ | Moderate correlation |
| $0,2 < r < 0,4$ | Weak correlation |
| $0 \leq r < 0,2$ | No correlation |

The next two paragraphs 7.3 and 7.4 go into detail of the Diversity Index and the Performance Indicators that I have chosen for this analysis.

⁴⁰ All analysis have been conducted by using an online regression calculator called Kesian Calculator whose website is the following one: <https://keisan.casio.com/exec/system/14059929550941>.

7.3 Diversity Index

As describes previously, I have considered two variables to identify diversity in a management team of a fund: educational background and working experience sector. In order to identify diversity I have used a statistical index called Shannon-Wiener H' or entropic index.

$$D = \sum_{i=1}^N -P_i \times \ln(P_i)$$

This index uses the portion P_i of a group that presents a particular characteristic over the total number of samples in the group. In this particular case, you will have, for each management team, P_{fs} as the portion of team members that have a past in finance and services, P_o as individuals who had a past in informatics, industry, architecture, law, journalism, science, literature, geography and so on and finally P_m as the portion of people with hybrid background. The Shannon index for a fund j would be:

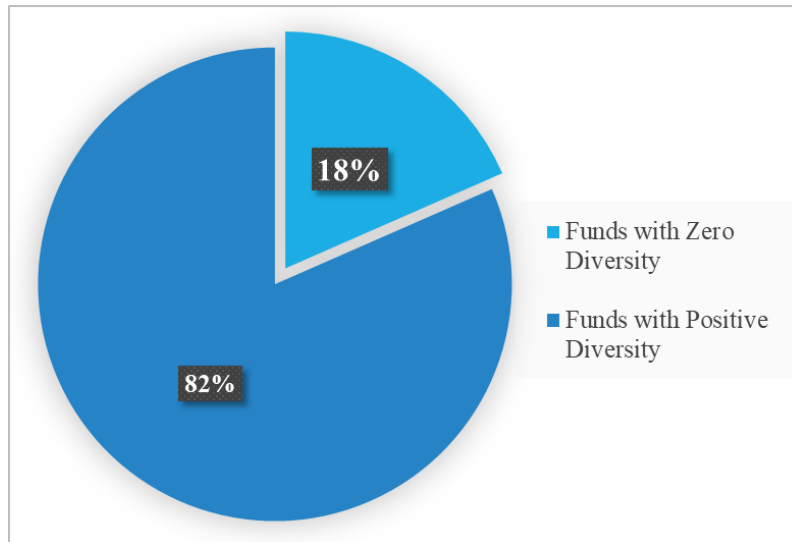
$$D_j = -[P_{fs} \times \ln(P_{fs}) + P_m \times \ln(P_m) + P_o \times \ln(P_o)]$$

$$P_{fs} = \frac{n_{fs}}{n}; P_m = \frac{n_m}{n}; P_o = \frac{n_o}{n};$$

Given n the total number of members with reliable information on background and n_{fs} , n_m and n_o the number of people with different characteristics.

If the index D is equal to zero, there is no diversity in the management team: there is just one category that includes all the members, so $P_i = 1$ and $\ln(P_i) = 0$. Shannon index equal to zero happened in 18% of cases. When D is strictly higher than zero, it means that there are subgroups on the team that have different features, by having $0 < P_i < 1$ and $\ln(P_i) < 0$. Positive Shannon index happened in 82% of cases. We could say that high values of D show high diversity among team members. I suggest having a look at Fig. 28 below and consulting Appendix G for further details on indexes.

Fig. 28: Diversity Index Composition



This figure shows the composition of diversity in our funds' sample: on 77 funds, 76 (98, 70%) had enough information to compute the Shannon index, and, among those 76, 18% resulted not diversified because all members belong to only one specific category of background. The remaining 82 % presented at least two background types. *Source: Analysis results.*

On 77 funds, it was possible to compute the Shannon index of 76 funds (98, 70%) since one of them, the DICCI Venture Capital Fund, had no information on his team. The three funds with the highest Shannon index are Aavishkaar Goodwell India Microfinance Development Fund II (1,06), Aavishkaar India Micro Venture Capital Fund (1,05) and Adobe Mezzanine Fund II (0,91).

7.4 Correlation with Attractiveness Indicators

In Chapter 1.2, I have already talked about the complexity of finding a widely shared metrics for measuring performance. Three prominent SII metrics have arisen in the social impact market: the social return on investment (SROI), the impact reporting and investment standards

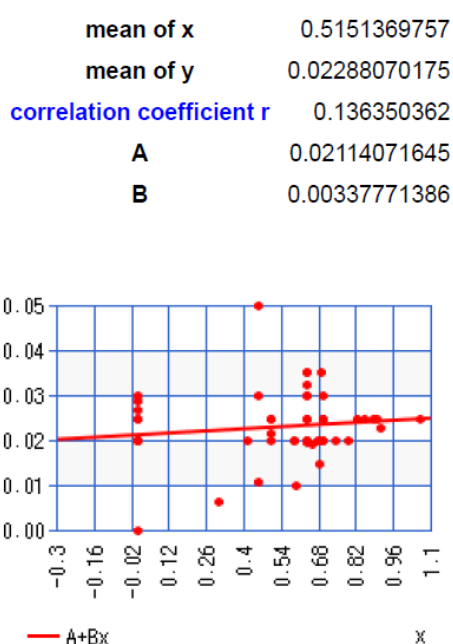
(IRIS) and its derivative called the global impact investing rating system (GIIRS) (Seddon, Hazenberg, & Denny, 2013). In practice, only a few managers and investors use them because some results are half-true as beyond quantification (Emerson, 2003). In 2016, “The 2030 Agenda for Sustainable Development” has entered into force: it is an action plan, signed by the 193 Countries of UN, containing 17 social Sustainable Development Goals (SDGs) that have to be reached within 2030 (e.g. end of poverty, affordable clean energy, reduction of inequalities etc.) (UN, 2016). Together with those goals, related metrics for tracking and measuring results of all goals have been published (Sustainable Development Solutions Network, 2015). In our specific case, due to lack of data, we could not find any reliable index such as ROR or SROR to assess funds or investments’ performance. However, I have decided to use other types of data that are somehow representative of funds’ success in terms of attractiveness: costs of funds (management and performance) and target internal rate of returns (Target IRR). I will first explain how they work, in order to understand why they could be use as attractiveness indicators, and then, I will estimate make a linear regression analysis to demonstrate the effect on performances caused by a change in diversity.

The **management fees** are periodic fees due to firms and managers that manage fund’s activities. They can range between 0.1 % and 2, 5% of AUM and, in general, are paid in advance bi-annually or annually. The fee can change along the fund’s life, in fact there are two key moments affecting the percentage:

- The investment phase: general managers make selection and deployment of investments during the time span. At this stage, General Partners put the majority of their efforts because they research investors and optimal investments that, in case of social-oriented funds, have to present the double logic of returns (financial and social). This is the reason why, at the beginning, the management fee is computed on the total size of the fund and sometimes results being higher that following years.
- The disinvestment phase: this is the final activity of the fund, which entail the definition of the best strategy for *exiting* the investment. At this point, managers receive a fee that is proportioned to the effort that will be put to realize the exit strategy and its activities. In this particular case, the management fee is calculated not on the committed capital, but on the adjusted value of the fund (Adjusted Net Asset Value). Losses and not-realized profits lower the adjusted NAV.

The more actively the fund is managed, the higher are the management fees. In other words, they depend on the management style and results. For instance, an “aggressive” fund management, always seeking for new opportunities, will pay higher fees than a “passive” fund management style. For that reason, I decided to include the data of management fee in the current regression analysis. Only funds that had information on management fees were included into the analysis (See Fig. 29): they were 57 on 77 funds, so 74% of all matching funds.

Fig. 29: Linear Regression Diversity-Management Fee



The picture above is the outcome of the linear regression analysis performed to demonstrate the influence that the independent variable X (Diversity of team management) has on the dependent variable Y (Management fee as performance of the fund). The model gives back the following regression line: $Y = 0.02114071645 + 0.00337771386X$. Source: *Analysis results using Kesian Calculator*.

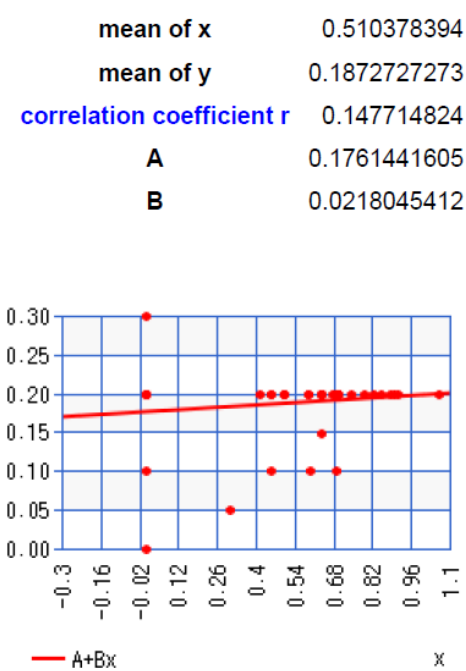
The results show that there is no correlation between Shannon index and management fees, in fact the correlation coefficient r is lower than 0,2 . The outcome can be attributed to different factors: low reliability of data collected due to the lack of common metrics for social-impact activities in the current literature; the restricted size of our sample; other types of performance fee better describe how the fund is going; there is actually no correlation between the two

variables. At this point, we would expect that the regression analysis conducted on the carried interest would give us positive results.

The **carried interest** is the other type of earning for General Partners and allows them to obtain a compensation that is a percentage of performances achieved by the fund. In general, it is the 20% of the gain produced above a certain pre-agreed performance rate (*hurdle rate*). The main objective of performance-related remuneration is to align interests of all participants in fund’s activities. This type of fee is more complex than management fee because it has to take into consideration multiple factors, such as the timing of the carried interest. For instance, if the fee is assigned too soon at the beginning of management activities, some managers could give up right after having received the remuneration. Apart from cases of moral hazard and mission drift, General Managers will be always willing to increase fund’s performance in order to earn higher remuneration thanks to the gain on the investments made.

The regression analysis conducted on diversity and carried interest (Fig. 30), even if gives a higher correlation coefficient than the one with management fees, it has a value lower than 0,2 meaning that there is no correlation between them. In this case, only 55 funds on 77 (71%) had data on this specific performance fee. The roots of the results obtained could be the same listed above for the management fee.

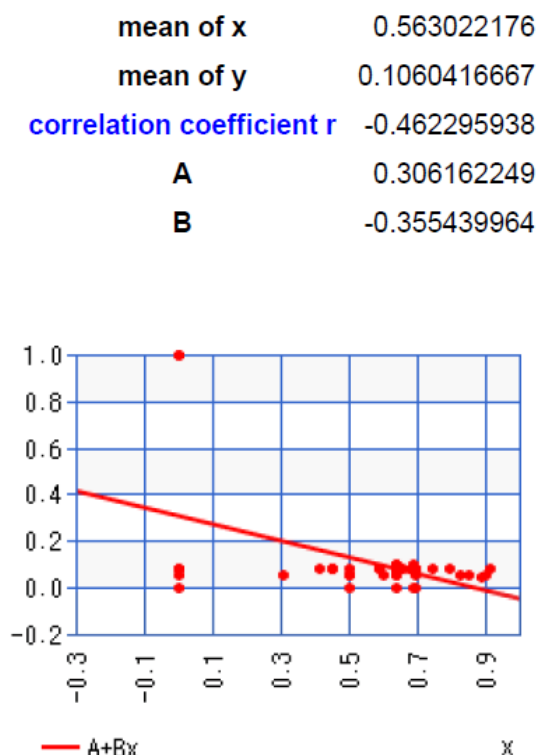
Fig. 30: Linear Regression Diversity-Carried Interest



The picture above is the outcome of the linear regression analysis performed to demonstrate the influence that the independent variable X (Diversity of team management) has on the dependent variable Y (Carried interest as performance of the fund). The model gives back the following regression line: $Y = 0.1761441605 + 0.0218045412X$. Source: Analysis results using Kesian Calculator.

The **hurdle rate** is the minimum acceptable rate of return (MARR) that has to be overcome to allow distribution of remuneration to team management. In Fig. 31, you could see the results of the regression analysis conducted on 48 funds on 77 (62%) that presented that data. Sometimes the hurdle rate is computed on the surplus between the hurdle rate and the ROR, other times it is a percentage of the overall gain achieved. The hurdle rate represents not only the risk taken by managers in making investments, but it is also a decisional factor when comparing multiple investment options. In fact, if it happens that the targeted IRR is higher than the hurdle rate, then that particular investment is likely to be chosen by investors because more promising than the other opportunities.

Fig. 31: Linear Regression Diversity-Hurdle Rate



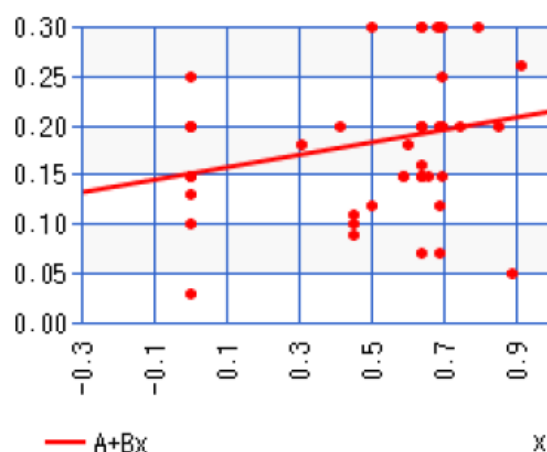
The picture above is the outcome of the linear regression analysis performed to demonstrate the influence that the independent variable X (Diversity of team management) has on the dependent variable Y (Hurdle rate as performance of the fund). The model gives back the following regression line: $Y = 0.306162249 - 0.355439964X$. Source: Analysis results using Kesian Calculator.

This time, outcomes showed a moderate correlation since $r = -0,46$ so $0,4 < |r| < 0,7$. Another interesting feature is the negative sign of the slope of the linear regression: it means that an increase in diversity index (X) will imply a decrease of the hurdle rate (Y). In other words, investments managed by a more diversified teams are less risky than the others are. Low levels of hurdle rate will also facilitate having the possibility to have a higher IRR.

The **Internal Rate of Return** (IRR) is a key index to measure the profitability of an investment that takes into consideration the initial investment faced and all cash flows discounted by a discount rate. The IRR is the rate at which the net present value (NPV) of cash flows of an initiative is equal to zero. This means that, above this IRR the NPV will be positive. Fig. 32 shows the regression line obtained from my analysis (62% of 77 funds had data on target IRR). Correlation coefficient resulted equal to 0,25 meaning that there is a weak correlation between the two variables.

Fig. 32: Linear Regression Diversity-Target IRR

| | |
|---------------------------|--------------|
| mean of x | 0.506407367 |
| mean of y | 0.1827083333 |
| correlation coefficient r | 0.249214891 |
| A | 0.1506781173 |
| B | 0.0632499014 |



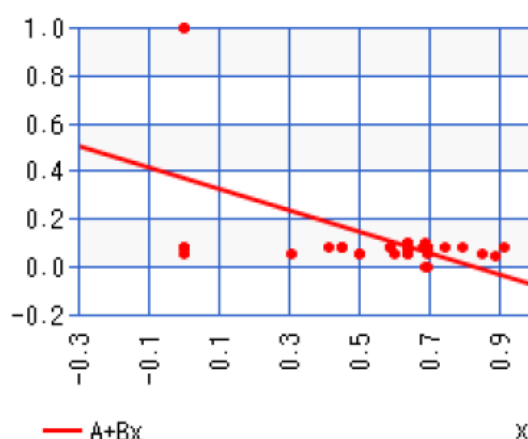
The picture above is the outcome of the linear regression analysis performed to demonstrate the influence that the independent variable X (Diversity of team management) has on the dependent variable

Y (Target Rate as performance of the fund). The model gives back the following regression line: $Y = 0.1506781173 + 0.0632499014X$. Source: *Analysis results using Kesian Calculator*.

As I said earlier, the IRR is compared with MARR in order to make investment decision: the project would go on if IRR exceeds targeted IRR. In our sample of 77 funds, only 40 (52%) had both information on IRR and hurdle rate; among this 52%, 37 funds (93% of 40) has a target internal return that is higher than the minimum required. The remaining 3 funds (8% of 40), according to this metrics, could entail initiatives that are not promising enough. In order to do a more accurate analysis I have considered only those funds who had both IRR and Hurdle rate data (40 funds) when applying the regression model. I have executed the regression method once again for demonstrating the correlation between Diversity Index-Hurdle Rate (Fig. 31.a) and Diversity Index-Target IRR (Fig. B.a). My goal is to prove correlation between highly diverse management team and promising funds.

Fig. 31.a: Second Linear Regression Diversity-Hurdle Rate

| | |
|---------------------------|---------------|
| mean of x | 0.5582149019 |
| mean of y | 0.11825 |
| correlation coefficient r | -0.53220826 |
| A | 0.3680183877 |
| B | -0.4474412754 |



The picture above is the outcome of the linear regression analysis performed to demonstrate the influence that the independent variable X (Diversity of team management) has on the dependent variable Y (Hurdle rate as performance of the fund). The difference between this analysis and the one in Fig. 31 is the sample of funds considered: here we are considering only those funds whose hurdle rate can be

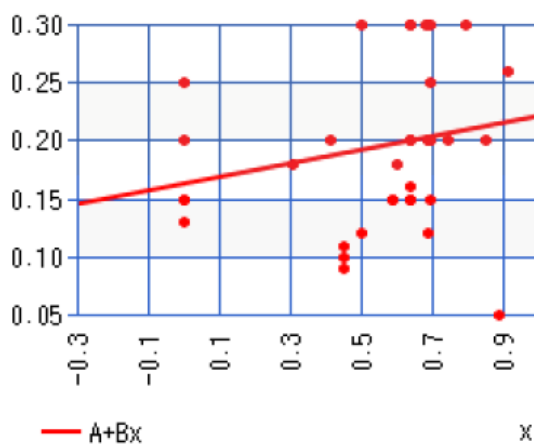
compared with IRR in order to make better decisions. The model gives back the following regression line: $Y = 0.3680183877 - 0.4474412754X$. Source: Analysis results using Kesian Calculator.

In Fig. 31.a, you could find again a moderate correlation ($r = -0,53$), even higher than before (Fig. 31 in which $r = -0,46$), and the negative slope which is due to the nature of the hurdle rate as explained earlier.

Running again the online software for the IRR, we have what is showed in Fig. 32.a.

Fig. 32.a: Second Linear Regression Diversity-Target IRR

| | |
|---------------------------|--------------|
| mean of x | 0.558214902 |
| mean of y | 0.195 |
| correlation coefficient r | 0.210135306 |
| A | 0.1624188839 |
| B | 0.058366618 |



The picture above is the outcome of the linear regression analysis performed to demonstrate the influence that the independent variable X (Diversity of team management) has on the dependent variable Y (Target rate as performance of the fund). The difference between this analysis and the one in Fig. 32 is the sample of funds considered: here we are considering only those funds whose hurdle rate can be compared with hurdle rate in order to make better decisions. The model gives back the following regression line: $Y = 0.1624188839 + 0.058366618X$. Source: Analysis results using Kesian Calculator.

Even in this case, there is a little trace of correlation ($r = 0,21 > 0,2$) even if it is slightly lower than the first analysis in Fig. 32.

Summing up what we have found, I could say that the higher the diversification of background among team members is and the more promising is the fund. The management fee was not a good indicator of performance since data we have are maybe related with fees computed during the initial investment phase of the fund, so based on the expected costs of research activities instead of the adjusted NAV of the disinvestment phase.

Chapter 8 Conclusion

Vanclay defined the impact investing as an approach for changing << people's way of life, culture, community, political systems, environment, health and wellbeing, personal and property rights, fears and aspirations >> (Vanclay & Frank, 2003). Investments, producing those positive outcomes, have in common three factors (Tiresia): managers' awareness of generating social impact results by sticking with their mission statements; globally shared metrics for measuring impacts, since nowadays more than half of funds are subjected to property and subjective metrics; financial returns allowing social initiatives to be financially sustainable and have enough resources for further investments and growth.

Instruments used in the social impact market are commercial financial instruments and customized forms entailing mixed structure. The first category includes donations, private debt, private equity - even if riskier than the others are-, public equity and public debt. In the second category, there are both commercial forms, adjusted in order to address better the initiative's needs (e.g. Patient capital, interest-free loans, micro loans), and hybrid forms, which try to take the best from different commercial instruments. Some examples are hybrid capitals (Mix of donations, equity and debt, characterized by highly flexible contract's terms) and mezzanine capitals (The interests payment feature is taken from equity, while premium repayment method is debt-based).

As any other market, the Social Impact market, which is worth more than \$114 Billion according to GIIN, has a supply side, the investors (Philanthropists, ethical investors, governments, statutory agencies, venture philanthropy funds, commercial investors, high net worth individuals, public and private institutions and foundations) and a demand side, the investees (social entrepreneurs, social enterprises, charities, co-ops, not-for-profit entrepreneurs). In between there are intermediaries (Venture capitalists, social banks, brokers, advisors and charitable foundations), which facilitate market transactions, trying to perfectly match the two sides of the market. All of them have follow a double bottom line logic, aiming at social and financial returns, which private and public beneficiaries will benefit from.

The growth of this market is somehow slowed down by its early stage and limited expertise of management, by the investment readiness of enterprises which need complimentary

management team skillsets and by opportunistic behaviours that managers could have along the investment lifecycle (mission drift and moral hazard).

In this thesis, we focused on Venture Capital Funds, which bind together, in a Limited Partnership (LP), investors as Limited Partners (LPs) and management teams as General Partners (GPs). Social Venture Capitalists should seek capital returns and social outcomes on behalf of their LPs, for that reason they put in place a selective screening to choose the most promising investee. In hybrid funds, the presence of Governments as one of investors is a key factor for reducing information asymmetries, exploiting wider pool of resources, reducing perceived investment risk and guaranteeing VC firms and fund's quality.

The investment process can occur directly into Venture Capital Firms managing funds that invest in social-impact projects, or it can happen indirectly by going through some intermediaries (FoFs and Advisory) before reaching the Venture Capital Firms.

My research had started with a list of 92 social oriented investment funds, whose AUM were ranging between \$0,1 and \$1000 Million, but size of the sample reduced to 77 because I considered only the ones that were both present on two global datasets: Impact Base and Thomson ONE. Firms managing funds' activities counted 638 managers of whom I have collected information about their education and working experiences by consulting LinkedIn and Crunchbase. The number of individuals found was 527 with a total number of data items collected equal to 22661. The collection of data took three months and it was demanding because some profiles were lacking of completeness, clarity and update, contrarily to what I was expecting.

Analysis on the 77 funds shows that the majority of them (64%) invest into small enterprises in their early stage, support acquisition initiatives financed by a combination of debt and equity and have a diversified investment portfolio with no particular focus. For that reason those funds are defined respectively early stage, buyouts and balanced stage funds. The nature of our investments funds were also defined by the type of investors contributing: Independent Private Partnerships (that are the 73% of the total investors) invest in funds constituting the 62% of the overall AUM of the 77 funds (\$6, 65 Billion). The 10, 45% of ventures are bank-controlled, while the remaining 16, 43% is composed by investors like evergreens, governments, pension funds, PE, community development programs and advisory affiliates.

The study on management teams' members brought the following results: 67,4 % of individuals are men, 29,9% are women while 2,7% were not identifiable. All of them are between 25 and

79 years old with picks between 36-45 years old for men (20,4%) and 25-35 years old for women (9,6%). Data show the predominance of men compared to women, maybe related with still present gender inequality, with role of women as mothers or with men's performance that are better in gender-mixed competitive environments.

Managers' current geographical distribution all over the World reflects Countries' policy supporting social and environmental goals. The majority of individuals currently work in Countries that provide R&D tax reductions, grants, patent box and employment initiatives: they are America (37, 5 %) and Europe (29%). Asia hosts only 10, 8% of managers, while Africa only 3,4 %.

More than half of the management (56, 1%) have two levels of education, of which bachelor is one of the two. The second qualification is in particular Master followed by MBA and PhD. Only 0, 4% of individuals have all 4 qualification (Bach, Master, MBA, PhD). Surprisingly, their educational background is not limited to finance or related majors, but it is highly diversified: majors of their degrees are finance related (47%), technical (14%) and humanistic/scientific (39%).

On the other hand, their working experience is less diversified. Managers' primary expertise has been acquired in financial (72, 2%) and service (23, 7%) sectors. Technical knowledge related with information communication technology, coming from past jobs, are ranked as third (2 %), followed by jobs in life science (1, 2%) and manufacturing (1%) sectors. I found a similar composition of working sectors even considering their main secondary job experiences.

The majority of our fund managers (56%) have worked in average 21, 5 years and fulfil senior management duties, whose 10 % is composed by chiefs; the 11 % forms the middle management, while the 33% is composed by low managers and other roles such as researcher, secretary, freelance and designer. It is surprising that low managers result in having the same average of working years of middle managers (17 years). This can be explained by the fact that career achievements are not only a matter of "how long you work" but it is also a matter of "how good you work". Moreover, data showed that all individuals, from top levels to lower levels, have attended good quality universities ranked globally between 10 and 100. A small number of individuals (35, 3%) travelled abroad, for studying or for working reasons.

You could have noticed that, in general, diversified people compose teams of our sample. Diversity has multiple dimensions (knowledge, expertise, gender, age and ethnicity) but, in this specific analysis, I considered only educational and working background: 38,4% of teams have

knowledge and expertise related purely to Finance and Service, while 36,6% have a mixed knowledge that include the category just mentioned earlier together with others such as languages, political science, philosophy, classic literature etc. According to some studies, team diversification can result, on one hand, into relationship, task and process conflicts, and, on the other hand, into development of successful ideas and innovations thanks to the challenging environment and thanks to the exploitation of different synergies.

Using the linear regression model available in econometrics, I have tested the correlation between diversity of teams, using the Shannon index as indicator, and funds' performance, considering four types of indicators: management fee, carried interest, target IRR and hurdle rate. It was impossible to collect data on SROR or ROR, which would have better described performances. However the choice of those four indicators was not casual, in fact, managers are paid according to efforts and results brought into funds' activities (management and performance fee). Besides, the comparison of IRR with hurdle rate, that is the minimum acceptable rate of return (MARR), is useful for investment decisions. The 82% of teams result positively diversified, while the remaining 18% has internally the same background for all managers. Results of the analysis showed that there is no correlation between management and performance fees. On the contrary, I found positive correlation between hurdle rates (moderate correlation) and target IRRs (weak correlation). In other words, the most diversified teams are managing the most promising and attractive funds.

This master thesis will help future researchers in bridging all terminology and literature gaps that are still present about social impact investment. Moreover, it gives an updated picture of investment trends and most urgent needs to be addressed. My study also provides a profile of the typical social-impact manager that is equipped with both technical and soft skills. Social impact investment does not mean creating social improvements with economic richness, on the contrary, it means creating economic richness thanks to social and environmental improvements.

III Appendixes

Appendix A - Impact Investing Literature Review

The following literature analysis has been conducted by myself, the author of this work, and it is presented in those tables by themes.

Impact

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|--|------|---|--|-----------|-------------------|
| Daniel Edmiston, Alex Nicholls | 2017 | Social Impact Bonds: The Role of Private Capital in Outcome-Based Commissioning | The author talks about SIB (Social Impact Bonds) in UK as innovation generator and way for cost savings. | / | / |
| Mario Calderini, Veronica Chiodo, Fania Valeria Michelucci | 2018 | European Business Review The social impact investment race: toward an interpretative framework | There are two groups with different speeds in the evolution of SII: roadrunners (moved to a more systemic approach) and chaser (with low-risk appetite). | 75 papers | Thematic analysis |
| David Wood, Ben Thornley, Katie Grace | 2012 | Institutional impact investing: practice and policy | Public authorities play a key role in fostering II (distributor of social impact, investment market creator, regulator, provider and procurer of goods/services and assistance, etc.), in particular when in collaboration with institutional investors. | / | / |

Landscape

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|------------------------------------|------|--|--|----------------------|---------------------|
| Thomas S. Lyons and Jill R. Kickul | 2013 | The Social Enterprise Financing Landscape: The Lay of the Land and New Research on the Horizon | Listing authors' references and their methodology on social investment criteria. | 3 researchers' works | Literature analysis |
| Alex Nicholls | 2008 | The landscape of social investment: a holistic topology of opportunities and challenges | State of research and practice in social investment. | / | Literature analysis |

| | | | | | |
|---|------|---|---|--|-----------------------------------|
| JP Morgan | 2012 | A Portfolio Approach to Impact Investment | Description of portfolio management styles - separate team, hub and spoke, whole institution - and tools for measuring performance of impact, risk and return (e.g. scorecards method). | 23 institutions 15 case study | Interviews Cases study |
| Jess Daggers, Alex Nicholls | 2016 | The Landscape of Social Impact Investment Research:Trends and Opportunities | Extensive literature review based on data coming from key stakeholders across five continents and 13 countries. | 73 academic papers 261 practitioner reports(non-academic) 83 academics and practitioners | Interviews Literature analysis |
| Tessa Hebb | 2013 | Impact investing and responsible investing: what does it mean? | The author gives an overview on SRI in terms of investment logics(social and environmental), assets owners and managers' point of views and blanded value preposition. | / | / |
| Justina Lai, Will Morgan, Joshua Newman, Raúl Pomares | 2013 | Evolution of an impact portfolio: From Implementation to Results | The work touched different areas in order to explore impact investing: definition, levels of impact, importance of investing policy. | / | / |
| Wolfgang Spiess-Knafl, Ann-Kristin Achleitner | 2011 | Financing of Social Entrepreneurship | The work gives an overview on forms, sources and instruments of financing. | / | / |

Market Dynamics

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|---|------|---|---|---------------------------------------|---|
| Seddon, F. A., Hazenberg, R. and Denny, S | 2013 | What are the barriers to investing in social enterprises? An investigation into the attitudes and experiences of social entrepreneurs in the United Kingdom | They explore one of the limits in impact investing due to lack of readiness of the demand side (social enterprises) in terms management skill-sets and robustness of governance structures. | 16 social entrepreneurs | Semi-structural interviews |
| Adrian Brown, Adam Swersky | 2012 | The First Billion: A forecast of social investment demand | The main drivers of sectorial investment demand are total market size, market share and capital intensity of social organisations, social organisations' capital need. | 10 economic sectors 26 sub sectors | 40 interviews Public available data Cases study |

| | | | | | |
|--|------|---|---|----------------------|--|
| Mendell Marguerite, Barboa Erica | 2012 | Impact investing: a preliminary analysis of emergent primary and secondary exchange platforms | Barriers of impact investing are inadequate investment readiness, limiting policy, lack of exit strategies. | 5 platforms | Interviews Public available data |
| Bhagwan Chowdhry, Shaun William Davies, Brian Waters | 2016 | Incentivizing Impact Investing | Pay-for-success contract (or SIB) is optimal when: the public works opportunity relies on external financing; firm is owned by the social investor; socially responsible firm Social Impact Guarantee (or SIG) is optimal when impact investment is in the private sector. | / | / |
| Jason Lortie, Kevin C. Cox | 2018 | On the boundaries of social entrepreneurship: a review of relationships with related research domains | Boundaries of social entrepreneurship, distinguishing it from other fields, are social responsibility, pyramid base, non-profit management, social innovation and II. | / | / |
| Hazenberg, R., Seddon, F. A. and Denny, S. | 2015 | Intermediary Perceptions of Investment Readiness in the UK Social Investment Market | Readiness perceived by SIFIs in UK depends on financial sustainability; robust governance structures; broad and complimentary management team skillsets; clearly defined and scalable social missions and impacts; and a willingness and desire to seek investment and become investment ready. | 15 SIFIs | Semi-structured interviews Public available data Cases study |
| B. Bell, H. Haug | 2014 | Exploring institutional field emergence: Insights from social investment | What distinguishes boundaries SII field are differentiation and density; in terms of actor level, they are actor appropriation, actor innovation; relevant practices are mimesis and practice Innovation. | 5 reports Reviews | Qualitative analysis Cases study |

Measuring

| AUTHORS | YEAR | TITLE | FINDINGS | SAMPLES | METHOD |
|--------------|------|--|---|---------|--------|
| Bryan Dufour | / | Research in International Business and Finance | Comparison between social impact measurement (SIM) and program evaluation (PE) in France. | / | / |

| | | | | | |
|---|------|--|--|-----------|---------------------------------|
| Jed Emerson | 2003 | The Blended Value Proposition: Integrating Social and Financial Returns | Development of an “Interactive Social Capital” or “Transactive Social Capital” (narrative numeric) where there is a concurrent pursuit of value among social, financial, and environmental returns and no more trade offs. | / | / |
| Neil Reeder and Andrea Colantonio | 2013 | Measuring Impact and Non-financial Returns in Impact Investing: A Critical Overview of Concepts and Practice | Literature review of tables and tools used for impact measurement that is also affected by when the assessment is done, investment topology and cultural mind set. | / | Cases study Systematic study |
| Jean-Laurent Viviania, Carole Maurelb | 2018 | Performance of impact investing: A value creation approach | Mathematical model for measuring value created for SHs by multidimensional companies in impact investing. Value creation is affected by synergy(type of investee and SHs) and social identity among stakeholders. | / | / |
| Bengo Irene, Arena Marika, Azzone Giovanni, Calderini Mario | 2017 | Indicators and metrics for social business: a review of current approaches | 3 macro approaches for accounting social impact sector : synthetic measure, process based(without and with indicators sets), dashboards and scorecards(BSC adaptation, stakeholders prospective, guideline, integration with synthetic measure). | 19 papers | Scoping literature review |

Portfolio Management

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|---|------|---|---|---------|--------|
| Sean Geobey, Jennifer Callahan | 2018 | Managing impact portfolios: a conceptual view of scale | The paper presents barriers (poor resource allocation and cost of metrics) and drivers (transparency, dialogic accounting) of portfolio management at large scale. | / | / |
| Robin Cory, Tim Draimin, Allyson Hewitt, Adam Jagelewski, Joanna Reynolds | 2010 | Mobilizing Private Capital for Public Good | The Canadian task force proposes a strategy for impact investing at large scale in Canada. | / | / |
| Lisa Brandstetter, Othmar M. Lehner | 2015 | Opening the Market for Impact Investments: The Need for Adapted Portfolio Tools | Creation of mathematical model for building an optimized portfolio. It is based on the following variables: financial risk and return, S&E-impact, S&E-impact risk. | / | / |

| | | | | | |
|---|------|--|---|--------------------------|---|
| Thomas M. Idzorek | 2002 | A step-by-step guide to Black-Litterman model: incorporating user-specified confidence level | The author integrated the "investor views" to the allocation model of Black-Litterman for the forecast of expected returns. | / | / |
| Marika Arena, Irene Bengo, Mario Calderini, Veronica Chiodo | 2018 | Unlocking finance for social tech start-ups: Is there a new opportunity space? | Suitable financial instruments for i-tech enterprises during their life cycle: seed stage (Grants and crowdfunding); start-up stage (Equity); growth stage (VC, debt, equity and partnerships); growth phase (Debt and equity). | 2 hybrid social ventures | / |

Risk

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|---------------------------------|------|--|--|--|------------|
| Jed Emerson | 2011 | Risk, Return and Impact: Understanding Diversification and Performance Within and Impact Investing Portfolio | Risk return and impact that impact investors face when they undertake social investments. | / | / |
| Dilek Cetindamar, Banu Ozkazanc | 2016 | Assessing mission drift at venture capital impact investors | The paper assesses logics of mission drift among VCs self-defined impact investors - happening in the 50% of the cases - and their relation with their mission statements. Authors provide a measurement of hybridization level of hybrid VC through analysis of means (investments) and ends (goals). | 8 impact oriented investors 164 investees | Interviews |

Sociology

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|---|------|---|--|---------------------------------|------------------|
| Achleitner, Ann-Kristin; Lutz, Eva; Mayer, Judith; Spiess-Knafl, Wolfgang | 2011 | Assessing the integrity of social entrepreneurs | The integrity of a social investor can be measured mainly by voluntary accountability, efforts, experience and reputation; while minor importance is given to fellowships and professional background. | 40 students and 40 experts | Interviews |
| Thomas C. Berry, Joan C. Junkus | 2012 | Socially Responsible Investing: An Investor Perspective | SR investors screen and select investee according to environmental issues, business policy, company product, social activism (major category for SR investing), political activities (major category for non-SRI). | 5,000 SRI and non-SRI investors | Surveys Analysis |

| | | | | | |
|-----------------|------|--|---|---|---|
| Khrista Johnson | 2015 | The Charitable Deduction Games: Mimicking Impact Investing | The article screens the "efficiency of charitable market" in making informed decision. Before undertaking investments, charities better undergo the NPR review. On the other hand, metrics as IRIS,GPS and GIIRS should be more standardized. | / | / |
|-----------------|------|--|---|---|---|

Others - Miscellaneous

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|---|------|---|--|---------|-------------|
| M Scott Donald, Jarod Ormiston and Kylie Charlton | 2014 | The potential for superannuation funds to make investments with a social impact | In Australia, the use of pools of investible money of unprecedented size (superannuation funds) in impact investing is subjected only to trustees' care and due attention. | / | Cases study |

Appendix B - Other Sources' Literature Review

The following table is a collection of literature reviews coming from different sources and authors. Pieces of work are presented by theme.

Business and Management

| AUTHORS | YEAR | TITLE | FINDINGS |
|---|------|--|--|
| Lazzarini, S. G., Cabral, S., De, L. C., Ferreira, M., Pongeluppe, L. S., & Rotondaro, A. | 2014 | The Best of Both Worlds? Impact Investors and Their Role in the Financial versus Social Performance Debate | How much the "theory of change" is essential in assessment of II. |
| Mulgan, G. | 2015 | Social finance: does 'investment' add value? | Added value to products/serviced provided by social investing, in particular by Social Impact Bonds. |
| Addis, R. | 2015 | The roles of government and policy in social finance. | Role of governments, their approaches and practices, in the impact market. |
| Wells, P. | 2012 | Understanding social investment policy: evidence from the evaluation of Futurebuilders in England | Insight of policy for social investing by taking data from a government-driven initiative. |
| Wood, D., Thornley, B., & Grace, K. | 2013 | Institutional impact investing: practice and policy | Impact of US policy in social investment practices. |

| | | | |
|--------------------------------------|------|---|---|
| Anheier, H., & Archambault, E. | 2014 | Social Investment: Franco–German Experiences. | Public authorities in France and Germany should take into consideration social investing. |
| Spear, R., Paton, R., & Nicholls, A. | 2015 | Public policy for social finance in context. | Overview on policy that has allowed the birth and development of SIBs in US,UK and Canada. |
| Fox, C., & Albertson, K. | 2011 | Payment by results and social impact bonds in the criminal justice sector: new challenges for the concept of evidence-based policy? | Advantages and disadvantages of using Pay-by-Results incentive mechanism and its applicability in criminal justice. |
| Baliga, S. | 2011 | Shaping the Success of Social Impact Bonds in the United States: Lessons Learned from the Privatization of U.S. Prisons. | SIBs as possible better solution at the place of privatisation of prisons. |
| Warner, M. E. | 2013 | Private finance for public goods: Social impact bonds. | Overview on Social Impact Bonds: practices and critics. |

Finance and Economics

| AUTHORS | YEAR | TITLE | FINDINGS |
|---|------|--|--|
| Grabenwarter, U., & Liechtenstein, H. | 2011 | In search of gamma: an unconventional perspective on Impact Investing. | It underlines the duality of returns (social and financial) even in social impact investing, without trade-offs. |
| Chowdhry, B., Davies, S. W., & Waters, B. | 2015 | Incentivizing Impact Investing. | A mathematical model is conceived in order to align socially driven and financially driven investors. |
| Evans, M. | 2013 | Meeting the challenge of impact investing: how can contracting practices secure social impact without sacrificing performance? | Theoretical framing of best strategies to reach both financial results and social impact. |

Measuring

| AUTHORS | YEAR | TITLE | FINDINGS |
|---|------|---|--|
| Reeder, N., & Colantonio, A. | 2013 | Measuring Impact and Nonfinancial Returns in Impact Investing : A Critical Overview of Concepts and Practice. | Analytical study for understanding the impact that measurements have on investors. |
| Reeder, N., Jones, G. R., Loder, J., & Colantonio, A. | 2014 | Measuring Impact: Preliminary insights from interviews with impact investors. | Results, collected among impact investors, to understand the impact of measurements. |

| | | | |
|--|------|---|---|
| Reeder, N., Colantonio, A., Loder, J., & Rocyn, G. | 2015 | Measuring impact in impact investing: an analysis of the predominant strength that is also its greatest weakness. | Comparison of current Social Impact Measurements. |
| Nicholls, A., Nicholls, J., & Emerson, J. | 2015 | Measuring social impact. | Classification, through a "contingency model", of situations in which SIM could be and could not be useful. |

Overview on Social Impact Investing

| AUTHORS | YEAR | TITLE | FINDINGS |
|-----------------------------|------|---|---|
| Nicholls, A., & Emerson, J. | 2015 | Impact investing: a market in evolution. | Impact investing described as a subset of broader social financing. |
| Nicholls, A., & Emerson, J. | 2015 | Social finance: capitalising social impact. | Overview of the development of Social Finance thus far. |

Public and Social Policy

| AUTHORS | YEAR | TITLE | FINDINGS |
|----------------|------|--|---|
| Jackson, E. T. | 2013 | Interrogating the theory of change: evaluating impact investing where it matters most. | "Theory of change" as essential element for assessment of impact investing. |

Risk

| AUTHORS | YEAR | TITLE | FINDINGS |
|-----------------------------|------|---|---|
| Hornsby, A and Blumberg, G. | 2013 | The Good Investor: A Book of Best Impact Practice | Six elements for the evaluation of social risk are presented. |
| Puttick, R. and Ludlow, J. | 2012 | Standards of Evidence for Impact Investing | Description of different stages through which impact evidence is collected and at the end assessed. |
| Laing, N. et al. | 2012 | The U.K. Social Investment Market: The Current Landscape and a Framework for Investor Decision Making | 2-D model considering combined risk and combined returns. |

Sociology

| AUTHORS | YEAR | TITLE | FINDINGS |
|---------|------|-------|----------|
|---------|------|-------|----------|

| | | | |
|---------------------------|------|---|---|
| Minard, S., & Emerson, J. | | Doing Justice to Impact: Exploring the Interplay Between Wealth Creation, Impact Investing and Social Justice | Association of impact investing with idea of justice. |
| Morley, J. | 2015 | Networks of elites and the emergence of social impact reporting. | Measurements for SII is born by an elite of professionals ideological committed to that practice. |
| Nicholls, A. | 2010 | The Institutionalization of Social Investment: The Interplay of Investment Logics and Investor Rationalities | Analysis of investors logics and forecast of SI future achievement. |

Third Sector

| AUTHORS | YEAR | TITLE | FINDINGS |
|--|------|--|---|
| Steinberg, R. | 2015 | What should social finance invest in and with whom? | When social investment is necessary in the third sector and how it affects the provision of public goods and services |
| Young, D. R. | 2015 | Financing social innovation | It talks about the non-for-profit theory in the field of social investing across different sectors |
| Hebb, T | 2013 | Impact investing and responsible investing: what does it mean? | Overview of concept of impact investing |
| Cumming et al. | 2009 | Style drift in private equity | Style drift in private equity is an opportunity for portfolio diversification for its own VC fund. |
| Lyons, T. S., & Kickul, J. R. | 2013 | The Social Enterprise Financing Landscape: The Lay of the Land and New Research on the Horizon | Review of state of art of SI and its relation with impact investing |
| Salamon, L. | 2014 | The revolution on the frontiers of philanthropy: an introduction | It talks about SII as the new phenomena of philanthropy. |
| Richter, L. | 2014 | Capital aggregators | Description of capital pools invested in low-income sectors. |
| Erickson, D. J. | 2014 | Secondary markets | Overview on SII market dynamics: secondary market, impact investments, player and instruments. |
| Shahnaz, D., Kraybill, R., & Salamon, L. | 2014 | Social and environmental exchanges | Working mechanism of impact investing platform with respect to their size and goals. |
| Hagerman, L., & Wood, D. | 2014 | Enterprise brokers. | Initiatives that could foster SI market are presented. |

| | | | |
|---|------|--|---|
| Tuan, M. T. | 2014 | Capacity builders | Importance of cooperation among SMEs for building non-financial skills (e.g. capacity building) and investment readiness. |
| Balboni, E., & Berenbach, S. | 2014 | Fixed income securities. | Bonds and debt instruments in SII. |
| Jackson, E. T. | 2013 | Evaluating social impact bonds: questions, challenges, innovations, and possibilities in measuring outcomes in impact investing. | Social Impact Bonds as financing for communities. |
| Stoesz, D. | 2013 | Evidence-Based Policy: Reorganizing Social Services Through Accountable Care Organizations and Social Impact Bonds. | Social Impact Bonds as financing for communities considering evidence-based policy. |
| Mchugh, N., Sinclair, S., Roy, M., Huckfield, L., & Donaldson, C. | 2013 | Social impact bonds: a wolf in sheep's clothing? | The role of SIBs in UK third sector as ideological change. |
| Joy, M., & Shields, J. | 2013 | Social Impact Bonds: The Next Phase of Third Sector Marketization ? | The born of Social Impact Bonds in Canada and overview of Canadian third sector. |
| Brand, M., & Kohler, J. | 2014 | Private equity investments. | Operational conditions essential for the utilization of Social Impact Bonds. |
| Achleitner, A.-K., Mayer, J., Lutz, E., & Spiess-Knafl, W. | 2012 | Disentangling Gut Feeling: Assessing the Integrity of Social Entrepreneurs. | Integrity of social entrepreneurs as suitability criteria for selecting investee firms. |
| Seddon, F., Hazenberg, R., & Denny, S. | 2013 | What are the barriers to investing in social enterprises? An investigation into the attitudes and experiences of social entrepreneurs in the United Kingdom. | Entrepreneurs describe the main barriers for companies in the field of II in UK. |
| Lyon, F., & Baldock, R. | 2014 | Financing social ventures and the demand for social investment. | Social Organizations undertake the SEUK survey to understand which type of investment suits them better. |
| Hazenberg, R., Seddon, F., & Denny, S. | 2014 | Intermediary Perceptions of Investment Readiness in the UK Social Investment Market. | / |

Appendix C - Literature Review Venture Capital Funds

The following table is an analysis of existing literature about Social Impact Venture Funds performed by myself, the author of this work. It contains the state of art of SI and Hybrid funds, categorized by theme, as the other tables.

Impact

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|--|------|---|---|---|--|
| Luca Grilli, Samuele Murtinu | 2014 | Government, venture capital and the growth of European high-tech entrepreneurial firms | IVC investors have positive effect on firm sales growth and syndacate investment results. The authors doubt the capability of governments to support high-tech firms in VC markets. | 8370 firms (VC-backed, non VC-backed) VICO DB. | Descriptive statistic |
| SAMUELE MURTINU and MASSIMO G. COLOMBO | 2016 | Venture Capital Investments in Europe and Portfolio Firms' Economic Performance: Independent Versus Corporate Investors | In general, Independent Venture Capital (IVC) and Corporate Venture Capital (CVC) investments affect positively firm's portfolio; IVC prevails in the short-term, while in the long-term they have statistically the same impact. | European high-tech VC-backed and non VC-backed firms (1992-2010) | Regression Analysis |
| Yan Alperovych, Georges Hübner, Fabrice Lobet | 2014 | How does governmental versus private venture capital backing affect a firm's efficiency? Evidence from Belgium | VC-backed firms, financed by PVC investors, improve portfolio efficiency. While, receiving financial support from GVC fund, and in particular by sub-regional investment companies, results in productivity reduction. | 515 Belgian portfolio firms | / |
| Itxaso del-Palacio, Xiaotian Tina Zhang, Francesc Sole | 2009 | The capital gap for small technology companies: public venture capital to the rescue? | Public interventions, combined with experience of the investors and investment size, fostered growth of Spanish high-tech enterprises and in general PVC market in Spain. | 755 investments (83 Spanish public and private venture capitalists) (1997-2008) - VentureXpert db | Statistic analysis (descriptive, correlation, ANOVA) |

Landscape

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|---------|------|-------|----------|---------|--------|
|---------|------|-------|----------|---------|--------|

| | | | | | |
|---|------|---|---|--|-----------------------|
| Luigi Buzzacchi, Giuseppe Scellato, Elisa Ughetto | 2015 | Investment stage drifts and venture capital managerial incentives | The author found that: (i) the level of public ownership shows a weak negative correlation with the likelihood of observing a write-off; (ii) a higher public share is associated with a longer duration for the investment. | 179 funds 2482 European investee companies | / |
| Sara Rago, Paolo Venturi | 2015 | Hybridization as Systemic Innovation: Italian Social Enterprise on the Move | Hybrid organizations arise from: systematic innovation (innovative practices), community focus (answering to new diversified needs), multi-stakeholder structure and marketization of the social initiative. | 74 newcoops (16 Italian regions) | Cases study |
| Douglas Cumming, Sofia Johan | 2016 | Venture Capital Investments in Europe and Portfolio Firms' Economic Performance: Independent Versus Corporate Investors | The work shows the evidence on VC fund duration in US and Canada: the higher is the value of the fund, the longer the investment duration. The contrary when VCs have opposite interests of investees. Factors influencing the duration are market conditions, agency problems and policy implications. | 57 Canadian and 1,607 U.S. VC-backed firms (1991–2004) | Descriptive statistic |

| AUTHORS | YEAR | TITLE | FINDINGS | SAMPLES | METHOD |
|--|------|--|--|--------------------|---|
| Douglas J. Cumming, Jeffrey G. MacIntosh | 2007 | Mutual funds that invest in private equity? An analysis of labour-sponsored investment funds | Analysis of the structure, governance and performance of a Canadian mutual fund that receives capital only from individuals and reinvests in private companies, as opposed to traditional mutual funds. | 1 Canadian fund | Regression Analysis |
| Andrea Devenow, Ivo Welch | 1996 | Rational herding in financial economics | Perfect herding model arises from payoff externalities, principal-agent problems, informational learning. | | Comparative method of literature |
| Eric Afful-Dadzie and Anthony Afful-Dadzie | 2016 | A decision making model for selecting start-up businesses in a government venture capital scheme | Criteria influencing selection of start-ups are: qualitative attributes as entrepreneur/team personality, entrepreneur/team experience, product/service potential, model; quantitative criteria as financial characteristics, market characteristics and social impact/contribution model. | 1 African GVC fund | Fuzzy Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) |

Performance

| AUTHORS | YEAR | TITLE | FINDINGS | SAMPLES | METHOD |
|---------|------|-------|----------|---------|--------|
|---------|------|-------|----------|---------|--------|

| | | | | | |
|--|------|---|---|--|---|
| Douglas J. Cumming, Luca Grilli, Samuele Murtinu | 2013 | Governmental and independent venture capital investments in Europe: A firm-level performance analysis | IVC-backed companies have a higher likelihood to reach a positive exit than GVC-backed ones. More interestingly, mixed IVC–GVC syndicated investments lead to a higher likelihood of a positive exit than IVC-backing ones. | 8370 firms (VC-backed, non VC-backed) - | Descriptive statistic |
| Fabio Bertoni, Diego D'Adda, Luca Grilli | 2015 | Cherry-picking or frog-kissing? A theoretical analysis of how investors select entrepreneurial ventures in thin venture capital markets | VC investors invest in companies in need (frog-kissing) rather than in best performers (cherry-picking), and the best performing ventures will self-select out of the market for VC. | 535 European high-tech entrepreneurial firms | Online survey |
| James A. Brander, Quianquan Du, Thomas Hellmann | 2014 | The Effects of Government-Sponsored Venture Capital: International Evidence | The enterprises funded by both GVCs and PVCs obtain more investment than ones funded purely by PVCs and by GVCs. Moreover, GVC finance largely augments rather than displaces PVC finance. | 20,446 enterprises 5095 venture capitalists (406 GVCs, 4689 PVCs) | Regression analysis Descriptive statistics |
| Mark Grinblatt, Sheridan Titman, Russ Wermers | 1995 | Momentum Investment Strategies, Portfolio Performance, and Herding: A Study of Mutual Fund Behavior | 77 % of mutual funds, that bought winning stocks in the past, were better performance ("momentum investors"); however, many funds did not automatically sell past losers. | 155 funds (1974-1984) | |
| Anna Kovner, Josh Lerner | | Doing Well by Doing Good? Community Development Venture Capital | Community Development Venture Capital (CDVC) are mainly in non-metropolitan regions, typical of early-stage investment and generally have lower probability of successful exit than traditional VC. | N investments (1996 and 2009) - Thomson Reuters and VentureXpert dbs | Statistic analysis |

Portfolio Management

| AUTHORS | YEAR | TITLE | FINDINGS | SALPLES | METHOD |
|--|------|--|---|--------------------------|------------------------|
| Mikko J"askel"ainen a, Markku Maula, Gordon Murray | 2007 | Profit distribution and compensation structures in publicly and privately funded hybrid venture capital funds; | In an investment portfolio, public and private structured investments offer the highest returns for the private LP asymmetrically in time; when public participation is in the form of a loan, returns are smaller; the cost of increasing GPs' compensation reduces the positive effect of profit distribution structures. | 15 investment portfolios | Simulation methodology |

| | | | | | |
|--|------|--|--|---|---|
| Wolfgang Spiess-Knafl, Jessica Aschari-Lincoln | 2015 | Understanding mechanisms in the social investment market: what are venture philanthropy funds financing and how? | The findings of this study show that the beneficiary and organizational characteristics of investees are determining factors for their access to financial resources. Moreover, VPFs provide grant financing to established social organizations of five years of age and older rather than younger. | 342 social investments 30 venture philanthropy funds | / |
|--|------|--|--|---|---|

Public Policy

| AUTHORS | YEAR | TITLE | FINDINGS | SAMPLES | METHOD |
|--|------|---|---|---|--------------------------------|
| Elisa Ughetto | / | L'intervento pubblico a favore del capitale di rischio | Two typical interventions: funds of funds or direct investment (all of them through an intermediaries). Three typical approaches of government investments: pari passu; downside protection; upside leverage. | 8 international funds of funds and VCFs | Direct interviews |
| Massimo G. Colombo, Douglas J. Cumming, Silvio Vismara | 2014 | Governmental venture capital for innovative young firms | Some critics sustain that GVC programs boost VC industry growth, positive externalities and spillover effect. Others highlight the lack of skills of governments and crowding out risk. | / | Comparative literatures method |
| Massimiliano Guerini, Anita Quas | 2015 | Governmental venture capital in Europe: Screening and certification | The receipt of GVC increases the likelihood that a high-tech firm will receive the first and the second round of PVC and will have a successful exit than high-tech entrepreneurial companies not originally selected by GVC. | 183 companies | Matching-based analysis |

Others - Miscellaneous

| AUTHORS | YEAR | TITLE | FINDINGS | SAMPLES | METHOD |
|--|------|--|---|-----------------|----------------------------------|
| Douglas J. Cumming, Jeffrey G. MacIntosh | 2007 | Mutual funds that invest in private equity? An analysis of labour-sponsored investment funds | Analysis of the structure, governance and performance of a Canadian mutual fund that receives capital only from individuals and reinvests in private companies, as opposed to traditional mutual funds. | 1 Canadian fund | Regression Analysis |
| Andrea Devenow , Ivo Welch | 1996 | Rational herding in financial economics | Perfect herding model arises from payoff externalities, principal-agent problems, informational learning. | | Comparative method of literature |

| | | | | | |
|--|------|--|--|--------------------|---|
| Eric Afful-Dadzie and Anthony Afful-Dadzie | 2016 | A decision making model for selecting start-up businesses in a government venture capital scheme | Criteria influencing selection of start-ups are: qualitative attributes as entrepreneur/team personality, entrepreneur/team experience, product/service potential, model; quantitative criteria as financial characteristics, market characteristics and social impact/contribution model. | 1 African GVC fund | Fuzzy Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) |
|--|------|--|--|--------------------|---|

Appendix D - Data type

Below, there is the list of the 43 types of data that I have searched for on LinkedIn and Crunchbase for all 638 individuals. The letter D in brackets stands for dummy variable, which was 1 if the person experienced that activity (Bachelor, volunteering etc), 0 if not. Information were about 3 macro area: generalities, education, working and volunteering.

Generalities: Name, Country, State, Gender, Linkledin link, Crunchbase link, Age, N° LinkedIn Contacts.

Education: University Bachelor, Bachelor type, University Bachelor (D), University Bachelor ranking , University Master/Post-Graduate , Master/Post-Graduate type, University Master/Post-Graduate (D), University Master/Post-Graduate ranking, University MBA, MBA type, University MBA (D), University MBA ranking, University PHD, PHD type, University PHD (D), PHD type ranking.

Working: Current Role, Current Board and Advisor Roles, N° Past Board and Advisor Roles, Intern_experience_business (D), Intern_experience_studies(D), Main_Experience_sector, Second_Experience_sector, Past consultant (D), Past VC/PE(D), Past Finance (D), Past company(D), Past research(D), Entrepreneur(D), Serial_Entrepreneur(D), N°_start-ups founded, Number of Current Jobs, Number of worked years.

Volunteering: No Profit experience (D), Volounteering (D)

Appendix E - SI Funds

Below there is the list of all 77 funds (and their management firm) matching in Impact Base and Thomson ONE.

| Fund's Name | Management Firm | Fund's Name | Management Firm |
|--|---|--|--|
| Aavishkaar Goodwill India Microfinance Development Company | Aavishkaar Goodwill India Microfinance Development Co Ltd | Huntington Capital Fund III, L.P. | Huntington Capital I |
| Aavishkaar Goodwill India Microfinance Development Fund II | Aavishkaar Goodwill India Microfinance Development Co Ltd | IGNIA Fund I, L.P. | IGNIA Partners LLC |
| Aavishkaar India Micro Venture Capital Fund | Aavishkaar Venture Management Pvt Ltd | Impact Ventures UK | LGT Venture Philanthropy Foundation Switzerland |
| Adobe Mezzanine Fund II | Adobe Capital | Impax New Energy Investors II LP | Impax Asset Management Ltd |
| Adobe Social Mezzanine Fund I, L.P. | Adobe Capital | India Financial Inclusion Fund (AKA: IFIF) | Caspian Advisors Pvt Ltd |
| African Agricultural Capital Fund | African Agricultural Capital Ltd | Inerjys Ventures I | Inerjys Ventures Inc |
| African Rivers Fund | XSML Management BV | Investeco Sustainable Food Fund, L.P. | InvesteCo Capital Corp |
| Agri-Vie Fund, The | Sanlam Private Equity | Investeco Sustainable Food Fund II, L.P. | InvesteCo Capital Corp |
| Armstrong South East Asia Clean Energy Fund | Armstrong Asset Management Pte Ltd | LeapFrog Financial Inclusion Fund I | LeapFrog Investments |
| Badia Impact Fund | Silicon Badia | LeapFrog Investments Fund II | LeapFrog Investments |
| Bamboo Financial Inclusion Fund II | Bamboo Finance SA | Leopard Haiti Fund, L.P. | Asia Frontier Investments Ltd |
| Bridges Ventures U.S. Sustainable Growth Fund, L.P. | Bridges Fund Management Ltd | Lok Capital II LLC | Lok Capital |
| Capria Accelerator Fund, L.P. | Capria Ventures LLC | NESTA Fund | National Endowment for Science Technology and the Arts |

| | | | |
|---|---|---|---|
| Clean Growth Fund III, L.P. | North Sky Capital LLC | NewWorld Environmental Opportunities, L.P. | NewWorld Capital Group LLC |
| Clean Growth Fund IV, LP | North Sky Capital LLC | Next Wave Ventures Fund I LP | Next Wave Partners LLP |
| Climate Change Capital Carbon Fund | Climate Change Capital Ltd | Pacific Community Ventures II | Pacific Community Ventures LLC |
| Climate Change Capital Private Equity Fund | Climate Change Capital Ltd | Pacific Community Ventures III, LLC | Pacific Community Ventures LLC |
| Coastal Ventures III, L.P. | CEI Ventures Inc | Phitrust Impact Investors SA - Unspecified Fund | Phitrust Impact Investors SA |
| Coastal Ventures, L.P. | CEI Ventures Inc | Physic Ventures, L.P. | Physic Ventures LLC |
| Contrarian Opportunities Fund I | Contrarian Capital India Partners Pvt Ltd | Quadria Capital Fund, L.P. | Quadria Capital Investment Advisors Pvt Ltd |
| Core Innovation Capital I, L.P. | Core Innovation Capital I LP | Reach, L.P. | Reach Capital |
| Core Innovation Capital II, L.P. | Core Innovation Capital I LP | Renewal2 Investment Fund | Renewal Partners |
| CoreCo Central America Fund I, L.P. | CoreCo Holdings LLC | Rethink Education, L.P. | Rethink Education LP |
| Creation Investments Social Venture Fund I | Creation Investments Capital Management LLC | Sarona Frontier Markets Fund I, L.P. | Sarona Asset Management Inc |
| Creation Investments Social Ventures Fund II, L.P. | Creation Investments Capital Management LLC | Sarona Risk Capital | Sarona Asset Management Inc |
| Creation Investments Social Ventures Fund III, L.P. | Creation Investments Capital Management LLC | Sarona Risk Capital I, L.P. | Sarona Asset Management Inc |
| Cultivian Sandbox Food & Agriculture Fund II, L.P. | Sandbox Industries LLC | Satori Capital 2009, L.P. | Satori Capital LLC |
| DBL Equity Fund - BAEF II, L.P. | DBL Investors | SEAF Blue Waters Growth Fund | Small Enterprise Assistance Funds |
| Dev Equity, L.P. | Dev Equity LLC | SEAF India Agribusiness Fund | Small Enterprise Assistance Funds |

| | | | |
|---|---|---|--------------------------------|
| DICCI Venture Capital Fund | Dalit Indian Chamber of Commerce & Industry | SJF Ventures (AKA: Sustainable Jobs Fund, L.P.) | SJF Ventures |
| EcoEnterprises Fund - Unspecified Fund | EcoEnterprises Fund | SJF Ventures II, L.P. | SJF Ventures |
| Energy Access Ventures SAS- Unspecified Fund | Energy Access Ventures SAS | SJF Ventures III, L.P. | SJF Ventures |
| Environmental Technologies Fund | ETF Partners LLP | Social Venture Fund GmbH & Co. KG | Ananda Ventures GmbH |
| Environmental Technologies Fund II | ETF Partners LLP | Unitus Equity Fund | Elevar Equity Advisors Pvt Ltd |
| GAWA Microfinance Fund I | Ambers&Co Capital Microfinanzas | Unitus Seed Fund India | Capria Ventures LLC |
| Goodwell Microfinance Development Company III BV | Goodwell Investments BV | VilCap Investments LLC | Village Capital |
| Goodwell West Africa Microfinance Development Company I | Goodwell Investments BV | WHEB Ventures Private Equity 2, L.P. | Alpina Capital Partners LLP |
| Gray Ghost Emerging Markets Fund III | Gray Ghost Ventures | Wolfensohn Low Carbon Energy Fund | Wolfensohn & Company LLC |
| Huntington Capital Fund II, L.P. | Huntington Capital I | | |

Appendix F - Sub-Sectors of Funds' Investment Fields

The following list is an insight of categorizations of funds' investment fields discussed in Chapter 7 regarding Diversity of Management.

| GENERAL INVESTMENT FIELDS | FOOD and AGRIBUSINESS | SOCIAL and ENVIRONMENT | FINANCIAL INCLUSION | ECONOMIC DEVELOPMENT | TECHNOLOGY & INNOVATION |
|---|--|---------------------------------|----------------------------|-----------------------------|--|
| Education, health, consumption, and ageing population | Food and agribusiness | Social and Environmental Growth | Diversity in investing | Economic development | Environment and technology |
| Education, health, economic empowerment | Agribusiness | Education inclusion and quality | Financial inclusion | Emerging Market | Innovation |
| General | Local manufacturing, services and agricultural | Energy | Investment opportunities | Low income companies | Innovation and entrepreneurship |
| | Recycling, sustainable agriculture and food | Environment | | Sustainable economy | Technology |
| | Services and agribusiness | Health and sustainable product | | Sustainable | Technology for circular economy |
| | | Health and well-being | | Territorial development | Technology for agriculture, education and healthcare |
| | | Renewable energy | | | |
| | | Social and Environment | | | |

Appendix G - Diversity Index of Funds

The table below shows the diversity indexes computed for demonstrating the correlation between diversity of management team and fund's performance in paragraph 7.3. For one fund on 77 funds, it was impossible to find the index because of lack of information.

| Fund Name | Diversity Index | Fund Name | Diversity Index |
|--|------------------------|-----------------------------------|------------------------|
| Aavishkaar Goodwell India Microfinance Development Company | 0,682908105 | Huntington Capital Fund III, L.P. | 0,585952618 |
| Aavishkaar Goodwell India Microfinance Development Fund II | 0,682908105 | IGNIA Fund I, L.P. | 0,909925047 |
| Aavishkaar India Micro Venture Capital Fund | 0,636514168 | Impact Ventures UK | 0,686961577 |
| Adobe Mezzanine Fund II | 0,636514168 | Impax New Energy Investors II LP | 0,655481774 |

| | | | |
|---|-------------|---|-------------|
| Adobe Social Mezzanine Fund I, L.P. | 0,636514168 | India Financial Inclusion Fund (AKA: IFIF) | 0,686961577 |
| African Agricultural Capital Fund | 0 | Inerjys Ventures I | 0 |
| African Rivers Fund | 0,636514168 | Investeco Sustainable Food Fund II, L.P. | 0,636514168 |
| Agri-Vie Fund, The | 0,655481774 | Investeco Sustainable Food Fund, L.P. | 0,636514168 |
| Armstrong South East Asia Clean Energy Fund | 0,410116318 | LeapFrog Financial Inclusion Fund I | 0,682908105 |
| Badia Impact Fund | 0,693147181 | LeapFrog Investments Fund II | 0,682908105 |
| Bamboo Financial Inclusion Fund II | 0,746032665 | Leopard Haiti Fund, L.P. | 0,693147181 |
| Bridges Ventures U.S. Sustainable Growth Fund, L.P. | 0,901440494 | Lok Capital II LLC | 0,679193266 |
| Capria Accelerator Fund, L.P. | 0 | NESTA Fund | 0,887185177 |
| Clean Growth Fund III, L.P. | 0,304636097 | NewWorld Environmental Opportunities, L.P. | 0,679193266 |
| Clean Growth Fund IV, LP | 0,598269589 | Next Wave Ventures Fund I LP | 0,682908105 |
| Clean Growth Fund IV, LP | 0,304636097 | Pacific Community Ventures II | 0,562335145 |
| Climate Change Capital Carbon Fund | 0,598269589 | Pacific Community Ventures III, LLC | 0,562335145 |
| Climate Change Capital Private Equity Fund | 0,500402424 | Phitrust Impact Investors SA - Unspecified Fund | 0 |
| Coastal Ventures III, L.P. | 0,636514168 | Physic Ventures, L.P. | 1,054920168 |
| Coastal Ventures, L.P. | 0,636514168 | Quadria Capital Fund, L.P. | 0 |
| Contrarian Opportunities Fund I | 0,500402424 | Reach, L.P. | 0 |
| Core Innovation Capital I, L.P. | 0,693147181 | Renewal2 Investment Fund | 0,636514168 |

| | | | |
|---|-------------|---|-------------|
| Core Innovation Capital II, L.P. | 0,693147181 | Rethink Education, L.P. | 0,500402424 |
| CoreCo Central America Fund I, L.P. | 0,636514168 | Sarona Frontier Markets Fund I, L.P. | 0,450561209 |
| Creation Investments Social Venture Fund I | 0,686961577 | Sarona Risk Capital | 0,450561209 |
| Creation Investments Social Ventures Fund II, L.P. | 0,686961577 | Sarona Risk Capital I, L.P. | 0,450561209 |
| Creation Investments Social Ventures Fund III, L.P. | 0,686961577 | Satori Capital 2009, L.P. | 0,79098735 |
| Cultivian Sandbox Food & Agriculture Fund II, L.P. | 1,061153222 | SEAF Blue Waters Growth Fund | 0,686961577 |
| Dev Equity, L.P. | 0,636514168 | SEAF India Agribusiness Fund | 0,686961577 |
| Huntington Capital Fund II, L.P. | 0,585952618 | SJF Ventures (AKA: Sustainable Jobs Fund, L.P.) | 0 |
| EcoEnterprises Fund - Unspecified Fund | 0,693147181 | SJF Ventures II, L.P. | 0 |
| Energy Access Ventures SAS- Unspecified Fund | 0 | SJF Ventures III, L.P. | 0 |
| Environmental Technologies Fund | 0,686961577 | Social Venture Fund GmbH & Co. KG | 0,450561209 |
| Environmental Technologies Fund II | 0,686961577 | Unitus Equity Fund | 0,636514168 |
| GAWA Microfinance Fund I | 0,500402424 | Unitus Seed Fund India | 0 |
| Goodwell Microfinance Development Company III BV | 0 | VilCap Investments LLC | 0 |
| Goodwell West Africa Microfinance Development Company I | 0 | WHEB Ventures Private Equity 2, L.P. | 0,823033814 |
| Gray Ghost Emerging Markets Fund III | 0,848685558 | Wolfensohn Low Carbon Energy Fund | 0,693147181 |

Appendix H - Roles and Responsibilities

The tables below gives more details about the different high-level career achievements of our 638 individuals, explained in Chapter 6. All other lower roles are excluded from this picture due to their high variety.

| | | | |
|--------------------------|---------------------------|--------------------------|------------------------------|
| Senior Management | Chairman of board | C-Level Titles | Chief executive officer |
| | Executive chairman | | Chief financial officer |
| | Non-executive chairman | | Chief information officer |
| | Commissioner | | Chief marketing officer |
| | Financial control officer | | Chief executives Manager |
| | Director | | Chief engineering officer |
| | President | | Chief communications officer |
| | Company secretary | | Chief administrative officer |
| | Treasurer | | Chief business officer |
| | Superintendent | | Chief technology officer |
| | Proprietorship Owner | | Chief strategy officer |
| | Partner | Middle Management | Associate |
| | Principal | | Supervisor |
| | Vice chairman | | Foreman |
| | | | General manager |
| | | | Vice President |

II References

- Abel, J. R., & Deitz, R. (2014). Agglomeration and Job Matching among. In *Federal Reserve Bank of New York. Regional Science and Urban Economics*, 51 (C), 14-24.
- Afful-Dadzie, E., & Afful-Dadzie, A. (2016). A decision making model for selecting start-up businesses in a government venture capital scheme. *Emerald Group Publishing Limited*, 54 (3), 714-734.
- Arena, M., Bengo, I., Calderini, M., & Chiodo, V. (2018). *Unlocking finance for social tech start-ups: Is there a new opportunity space?* Elsevier, 127(C), 154-165.
- Armour, J., & Cummingy, D. (2006). The legislative road to Silicon Valley. *Oxford Economic Papers*, 58 (4), 596-635.
- Benet-Martinez, V., & Hong, Y. (2014). The Oxford handbook of multicultural identity. *Oxford University Press*.
- Berry, T. C., & Junkus, J. C. (2012). Socially Responsible Investing: An Investor Perspective. *Journal of Business Ethics*, 112 (4), 707-720.
- Botelho, E. L., Powell, K. R., & Wong, N. (2018). The Fastest Path to the CEO Job, According to a 10-Year Study. *Harvard Business Review*.
- Brander, J. A., Du, Q., & Hellmann, T. (2014). The Effects of Government-Sponsored Venture Capital: International Evidence. *Review of Finance*, 19 (2), 571–618.
- Brown, A., & Swersky, A. (2012). *The First Billion: A forecast of social investment demand*. Boston Consulting Groups (BCC) .
- Bryan, D. (2018). Social impact measurement: What can impact investment practices. Elsevier, 47(C), 18-30.
- Burdge, R., & Vanclay, F. (1996). Social Impact Assessment: a contribution to the state of art series. *Impact Assessment Journal*, 14 (1), 59-86.
- Buzzacchi, L., Scellato, G., & Ughetto, E. (2012). The investment strategies of publicly sponsored venture capital funds. Elsevier, 37 (3), 707-716.
- Cameron, K., Mora, C., Leutscher, T., & Calarco, M. (2009). *Effects of Positive Practices on Organizational Effectiveness*. *The Journal of Applied Behavioral Science*, 20, 1-43.
- Caplen, B. (2018). Summary of the Top 1000 World Banks. *The Banker, Global Intelligence Since 1926*.

- Cetindamar, D., & Ozkazanc-Pan, B. (2016). *Assessing mission drift at venture capital impact investors*. *Business Ethics: A European Review*, 26 (3), 257-270.
- ClearlySo. (2011). *Investor Perspectives on Social Enterprise Financing*. City of London.
- Cohen, L. R., & Noll, R. G. (1991). *The Technology Pork Barrel*. *American Political Science Review*, 86 (04), 1055-1056.
- Cumming, D., & Johan, S. (2013). *Venture Capital and Private Equity Contracting*.
- Daggers, J., & Nicholls, A. (2016). *The Landscape of Social Impact Investment Research: Trends and Opportunities*. University of Oxford.
- Daggers, J., & Nicholls, A. (2016). *The Landscape of Social Impact Investment Research: Trends and Opportunities*. Oxford: SAID Business School.
- Deloitte. (2018). Survey of Global Investment and Innovation Incentives. *Global Survey of Innovation and Investment Incentives*.
- Devenow, A., & Welch, I. (1996). *Rational herding in financial economics*. Elsevier, 40 (3–5), 603-615.
- Dixon, & Colantonio. (2009). *Measuring socially sustainable urban regeneration in Europe*. Oxford Brookes University.
- Economist, T. (2008).
- Edmiston, D., & Nicholls, A. (2017). *Social Impact Bonds: The Role of Private Capital in Outcome-Based Commissioning*. Cambridge University Press, *Journal of Social Policy*, 47 (1), 57-76.
- Emerson, J. (2003). *The Blended Value Proposition: Integrating Social and Financial Returns*. University of California, 45 (4), 35-51.
- Emerson, J. (2011). *Risk, Return and Impact: Understanding Diversification and Performance Within and Impact Investing Portfolio*. ImpactAssets, Brief n° 2.
- Gompers, P., & Lerner, J. (2004). *The Venture Capital Cycle*. 2nd Ed. Cambridge: MIT.
- Grilli, L., & Murtinu, S. (2014). *Government, venture capital and the growth of European high-tech entrepreneurial firms*. Elsevier, 43 (9), 1523-1543.
- Guerini, M., & Quas, A. (2016). *Governmental venture capital in Europe: Screening and certification*. Elsevier, 31 (2), 175-195.
- Hazenberg, R., Seddon, F., & Denny, S. (2014). *Intermediary Perceptions of Investment Readiness in the UK Social Investment Market*. *International Journal of Voluntary and Nonprofit Organizations*, 26 (3), 846–871.

- Huguet, P., & Régner, I. (2007). Stereotype Threat Among Schoolgirls in Quasi-Ordinary Classroom. *Journal of Educational Psychology*, 99(3), 545-560.
- Idrissi, A. E., & Saltuk, Y. (2012). *A Portfolio Approach to Impact Investment*. JP Morgan.
- J. Cumming, D., & MacIntosh, J. (2006). Crowding out private equity: Canadian evidence. *Journal of Business Venturing*, 21 (5), 569-609.
- J. Cumming, D., & MacIntosh, J. G. (2007). Mutual funds that invest in private equity? *Cambridge Journal of Economics*, 31 (3), 445-487.
- J. Cumming, D., & Walz, U. (2004). Private equity returns and disclosure around the world. *Journal of International Business Studies*, 41 (4), 727-754.
- J. Cumming, D., Grilli, L., & Murtinu, S. (2014). Governmental and Independent Venture Capital Investments in Europe: A Firm-Level Performance Analysis. *JCF*, 42, 439-459.
- Jääskeläinen, M., Maulaa, M., & Murrayb, G. (2007). Profit distribution and compensation structures in publicly and privately funded hybrid venture capital funds. *Elsevier*, 36 (7), 913-929.
- Jackson, E. T. (2013). Evaluating social impact bonds: questions, challenges, innovations and possibilities in measuring outcomes in impact investing. *Community Development*, 44 (5), 608-616.
- John, R. (2006). *Venture Philanthropy- the Evolution of High Engagement Philanthropy in Europe*. Said Business School Working Paper, University of Oxford.
- Kafouros, M., Wang, C., Mavroudi, E., Hong, J., & Katsikeas, C. S. (2018). Geographic dispersion and co-location in global R&D portfolios: Consequences for firm performance. *Elsevier*, 47 (7), 1243-1255.
- Kesian Calculator, C. (n.d.). Kesian Casio Calculator Online. <https://keisan.casio.com/exec/system/14059929550941>.
- Lai, J., Morgan, W., Newman, J., & Pomares, R. (2013). *Evolution of an Impact Portfolio: From Implementation to Results*. Sonen Capital, 106-138 .
- Lattieri, E. (2004). Knowledge management in non-profit organizations. *Journal of Knowledge Management* .
- Lerner, J. (2009). *Boulevard of Broken Dreams: Why Public Efforts to Boost Entrepreneurship and Venture Capital Have Failed – and What to Do About it*. Princeton University .
- Mudaliar, A., Schiff, H., Bass, R., & Dithrich, H. (2017). *Annual Impact Investor Survey*. GIIN.
- Nicholls, A., & Pharoah, C. (2008). *The landscape of social investment: a holistic topology of opportunities and challenges*. University of Oxford.

- Niederle, M., & Vesterlund, L. (2011, May 25). Gender and Competition. *Annual Review of Economics*, 3, 601-630.
- Petersdotter, L., Niehoff, E., & Freund, P. A. (2016, November 28). International experience makes a difference: Effects of studying abroad on students' self-efficacy. 107, 174-178.
- Plumer, B. (2013, May 20). Only 27 percent of college grads have a job related to their major. *The Washington Post*.
- Prat, A. (2000). Should a Team be Homogeneous? *European Economic Review*, 46 (7), 1187-1207.
- Puck, J., & Dennerlein, T. (2011, February). Diversity and Conflict in Teams: A Contingency Perspective. *European Journal of International Management*, 4 (4), 417-439.
- Puttick, & Ludlow. (2012). *Standards of evidence for impact investing*. NESTA Impact Investments.
- Rago, S., & Venturi, P. (2014). *Hybridization as Systemic Innovation: Italian Social Enterprise on the Move*. aiccon, cooperazione non profit.
- Reeder, N., & Colantonio, A. (2013). *Measuring Impact and Non-financial Returns in Impact Investing: A Critical Overview of Concepts and Practice*. EIBURS Working Paper 2013/01.
- Russell, R. (2007). *An introduction to mutual funds worldwide*. Wiley.
- Seddon, Hazenberg, & Denny. (2013). *What are the barriers to investing in social enterprises? An investigation into the attitudes and experiences of social entrepreneurs in the United Kingdom*. EMES 4th International Conference on Social Enterprise.
- Sippola, A., & Smale, A. (2007). The global integration of diversity management: A longitudinal case study. *The International Journal of Human Resource Management*, 18(11), 1895-1916.
- Spiess-Knafl, W., & Achleitner, A.-K. (2011). *Financing of Social Entrepreneurship*. Technische Universität München, Center for Entrepreneurial and Financial Studies (CEFS), 157-173.
- Spiess-Knafl, W., & Aschari-Lincoln, J. (2015). *Understanding mechanisms in the social investment market: what are venture philanthropy funds financing and how?* *Journal of Sustainable Finance & Investment*.
- Sustainable Development Solutions Network. (2015). Indicators and a Monitoring Framework for the Sustainable Development Goals: Launching a data revolution for the SDGs.
- The World Bank, G. (2012, May 17). India: Issues and Priorities for Agriculture. *The World Bank*.
- Tiresia. (2018). *Tiresia*. Retrieved from <http://www.tiresia.polimi.it>
- Treurnicht, I. (2010). Mobilizing Private Capital for Public Good.
- UN, N. U. (2016). The Sustainable Development Goals Report 2016. New York.

- Vancly, & Frank. (2003). International Principles For Social Impact Assessment. *Impact Assessment Journal*, 21 (1), 5-12.
- Viviania, J.-L., & Maurelb, C. (2018). Performance of impact investing: A value creation approach. Elsevier, 47 (C), 31-39.
- Wolff, H. &. (2009). Effects of networking on career success: a longitudinal study. *Journal of Applied Psychology*, 94 (1), 196-206.
- Wolff, H., & Moser, K. (2009). Effects of networking on career success: a longitudinal study. *Journal of Applied Psychology*, 94 (1), 196-206.