

**POLITECNICO DI TORINO**

Master of Science in Engineering and Management

Master Thesis

**Impact investing: Impact Investing and  
Syndication strategies**



**STUDENT NAME: EDOARDO VERGNANO**

**TUTOR'S NAME: Prof. Elisa Ughetto**

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## **Premise and Purpose of the Work**

Sustainable and social impact investments are among the most debated topics in recent years within the world of finance. The aforementioned topic is at the center of various studies that aim to analyze the market and its trend.

Specifically, the following thesis work aims to analyze the characteristics of this market and through an empirical analysis, investigate what are the main trends that have developed in recent years, to understand their future possibilities.

In the first chapter, an overview of venture capital and its characteristics will be presented.

The second chapter dealt with the topic of Impact Finance, with a particular focus on its financial instruments.

In the third chapter, impact investing will be analyzed, especially taking into account the target markets and sectors.

Finally, in the fourth and last chapter, an empirical study will be conducted through the analysis of a database, thanks to the use of the STATA software, with the aim of interpreting the trends of how social impact investment funds are evolving in the last few years and what it is probable to expect from the future.

# Chapter 1: Venture Capital

## 1.1. The Venture Capital (VC): General Introduction

Venture Capital (VC) is an investment made in Share Capital (or Capital Stock) in the early phases of the start-up and development of new businesses with great potential for future growth and profitability.

Investee companies (start-ups) are businesses with strong uncertainties over their ability to generate sustainable profit over time in the future and are thus reluctant to enter more conventional funding networks, such as the banking channel.

The Venture capital operator is also an expert investor who sustains start-ups in the early phases of the business: the high risk involved with the initial life of the company is reduced by the assumption that the investment will produce high returns over the long term.

The growth direction of start-ups typically needs more spending from operators over time. The various investments made, growing in size the more the start-up advances towards a full and substantial validation of its business model, they are called "Financing Rounds" and are distinguished by:

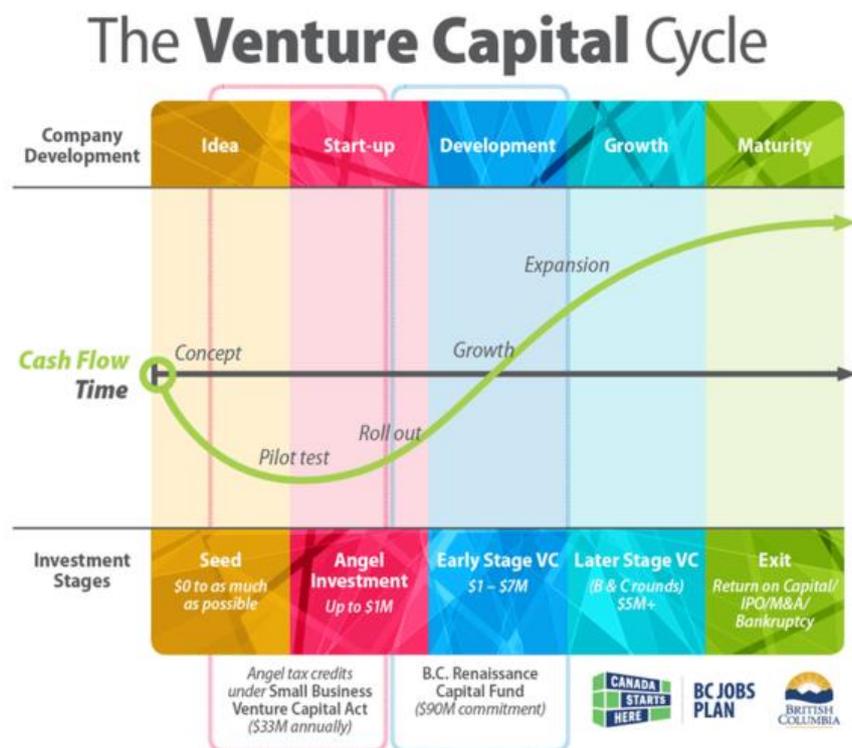
- Types of Venture Capital operators involved;
- Purpose of the investment;
- Amount of the investment.

In general, rounds are called as follows:

- 1) *Angel/Seed*: contributions made by angel investors (usually private investors), incubators/accelerators, early-stage VC operators. They are all intended to fund the first step of the start-up growth, which consists of the validation of the concept, the procurement of the first core human capital and the acquisition of the first essential metrics. These transactions are coordinated in a standardized time (usually shorter than 6 months) which follows highly defined steps in the maturation calendar. This time is generally referred to as the acceleration process (or baking). It provides the option to filter the overwhelming number of proposals presented in order to pick only the most relevant and promising ones. In the United States, the mean amount spent in Angel/Seed is about \$660k-900k, while in Europe it is around \$150-450k.
- 2) *Series A*: Contributions made by Venture Capital investors with a higher capital allocation to fund the first phase of the start-up expansion. The start-up already has an established monetization plan at this point. In the U.S., the mean amount spent in Series A

investments is approximately \$2,5-6,5 mln, while in Europe it is approximately \$1,5-4,5 mln.

- 3) *Series B*: Investments carried on by big Venture Capital investors. These types of investments are defined to further improve market share, ensure sustainable sales generation, make strategic investments in human resources, bring pressure on rivals with more effective marketing campaigns and supply chain strategies. In the U.S., the mean amount spent in Series B investments is approximately \$6-9 millions, while in Europe it is around \$4-9 millions.
- 4) *Series C and later*: at this point, the business model is to be considered defined and profitable: the organization earns sales on a continuous basis while sustaining high growth rates. VC funding funds could also be used to drive foreign expansion across external lines such as the purchase of other promising businesses or start-ups. The next move may be an exit at this point: it applies to circumstances such as the takeover of a bigger business or group (M&A) or the entry on the stock exchange (IPO). The average mean investment in this form of round may range greatly from \$10-500 millions.



Le cycle du capital-risque. DG Gov Photos/Assual Hunt, CC BY-NC-ND

After highlighting the characteristics of the Venture Capital market, we will prosecute the discussion by seeking to add systematic significance to the joint statement that sees it as the perfect way to promote innovation (and so, following the thematic of the Venture capital

introduction chapter, increasing the process of economic growth). In this respect, the reports of a variety of experts who are seeking to check the real existence of the relationship between VC and innovation will be reviewed.

## 1.2. Venture Capital Cycle

**1) Fundraising:** The collection process can be divided into seven stages, based on the scheme of the European Private Equity and VC Association:

a) Target market identification: In the identification process of the target, the investor defines which sectors are strategically more suitable for its portfolio prior to contacting prospective buyers.

b) Pre-marketing: The preference of the first buyers to turn to, in particular, is mainly aimed to draw larger investors and thereby creating a virtuous circle. There are also special figures, the so-called gatekeepers, who are also the only way to enter those markets globally far from their own for limited closed funds. These people are, in effect, consultants, portfolio managers and partners of major institutional investors and, in exchange, represent a large number of investors.

Strong knowledge in some of these subjects provides a kind of "guarantee mark" to other prospective investors. This promise is due, in part, to the expertise acquired by the latter and, in part, to the stringent and systematic due diligence processes that, considering their scale, they have put in place.

c) Fund structuring: Planning for fund raising, if or not if a network of consultants is used, it is important for the investor to design his fund in the most accurate way, from a strategic, legal and financial perspective.

d) Preparation and delivery of marketing material: After the fund has been organized in compliance with all requirements, a presentation paper (placement memorandum) must be drafted, which, as a form of business strategy, constitutes the business card of the investor. In certain situations, the memoranda stand for not only the first but also the ultimate chance to draw new buyers: a marketing strategy, if it is not well presented (and therefore not understood), will cause investors to ignore a promising investment idea. In the paper, the management of the Fund have to outline what has been done previously, with its results, how it aims to behave to sustain or boost these outcomes, and which are the comparative advantages over competitors.

- e) Meetings with potential investors: what has been done to now is simply meant to meet with investors, when they decide whether to proceed or stop contacts, whether they are not pleased with what is being presented, or whether they do not fully appreciate it.
- f) Drafting of legal documentations: Ultimately, the legal paperwork, illustrated by all the actions and contracts required for the completion of the investment, must be prepared when the investor's decision is now almost made, and the fund-raising action signed can be described as completed.
- g) Closure

**2) Investment:** After a deal has been achieved in terms of price and amount of the shares to be taken and on other legal circumstances controlled by the contract, the deal shall take place by the sale of shares, the transfer of the agreed amount of cash, the release of assurances, the potential substitution of the management and the signing of any secondary agreements. Investors and entrepreneurs are part of the same project from this moment on and must continue collaborating to optimize the production of value.

The Venture Capital investor offers funding on the basis of a financial agreement made up of separate control and profitability needs to be fulfilled. The purchase of newly issued or transferred shares by existing owners is the most frequent method of investment. Otherwise, "intermediate" types of debt-to-equity lending can be seen in a number of ways.

In fact, the most widely used types of financing are:

- a) *Equity*: reflects the equity of the corporation, paid out, in total, by the subscription of shares. The return of capital invested depends, however, on the performance and progress of the company, with the consequence of dividend payments to shareholders and in terms of the rise in the value of the shares.
- b) *Preferred stock*: This sort of share is widespread in advanced economies, such as the United States, as it includes features that allow venture capitalists to shield themselves from opportunistic actions. Preferred stocks allow investors to be shielded from the opportunistic actions of the founder as follows:
  - They have a sales advantage over common shares; they assign priority to the buyer in the pay back of the principal. This encourages Venture Capital to sell its interest at any moment.

- The face value typically corresponds with the price charged by the Venture Capital and, as a conclusion, the Venture Capital may sell its share by getting back at least the amount paid for the transaction.

There are a range of types of preferred stock, in particular those that VC usually uses to determine an investment are the follows:

- Pure preferred*: Non-equity convertible stocks, whose value is intrinsic to face value added to potential dividends, are often used in conjunction with common stock.
- Convertible preferred*: Stocks which real worth is inherent to face value and can be changed into common shares at the investor's discretion. If the organization's worth exceeds the original suggested value, the owner has the option of transforming.
- Participatory convertible preferred*: a financial tool incorporating the features of both the pure preferred (when the organization is not publicly traded) and the convertible (when the organization is on the stock market). In the case of a public sale, the financial instrument is transformed immediately.

**3) Investment management and valuation:** As previously said, firms that require funding of VC are typically new enterprises with relatively little physical assets and working in high-tech and highly unpredictable industries. Venture Capitalist is a specialized operator who usually has both the experience and the desire to expand certain firms in order to maximize their investment return. For these purposes, Venture capitalist is present not only into investing, but also in the business management with the intention of helping to its success through actions such as:

- Monitoring*: the activity of controlling the success of the organization through governance procedures and reporting processes
- Coaching*: action aimed at strengthening company's owner in order to close the skill shortage
- Signalling*: commenting on the quality of the business to other prospective investors
- Networking*: communications with other commercial, market and other collaborators for possible future cooperation.

**4) Exit:** The maturity period is the last step of the progression of the investing process, an incredibly critical step since it is at this level that a financial profit can be made, which is the primary objective of the venture capitalist. This investor, in reality, would not, by its essence, stay attached too long to the funded firms (if it did not become a holding

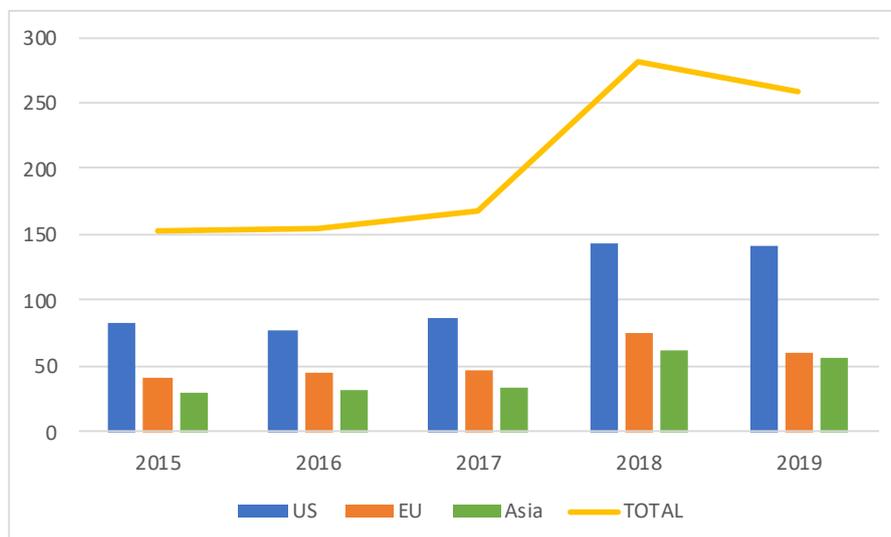
company), because it represents itself as a momentary partner and its final aim is to obtain a financial profit in the longer run. As stated above, divestiture strategies can be classified as follows:

- a) Selling of shares in the stock exchange (IPO)
- b) Sales of the stake to an industrial partner (trade sale)
- c) Sale of an interest to another private equity or venture capital operator (replacement and secondary buy out)
- d) The buy-back of the shareholding by the initial buyer (buy back)

### 1.3. Overview of VC investments for Macro-Region

Based on worldwide evidence of its role in supporting innovation by financing the formation and expansion of developing technology-based enterprises, the importance of venture capital in country's overall economic development constitutes a fundamental economic growth factor. The Money Tree Study (PWC, 2019) offers tangible information about the effect and growth of the Venture Capital movement on the global economy.

Worldwide, Venture capital investments have seen a 11% rise (as measured by CAGR) in total funding since 2014, from an original valuation of \$149 billion to \$248 billion, with substantial increase in the Asian Venture capital sector thanks to government regulations and Research and Development expenditures aimed at boosting innovation. Nevertheless, China confronts barriers in fostering technological growth and must maintain pace with emerging nations, especially in key technologies such as Artificial intelligence or 5G. China's innovative enterprises have earned certain competitive advantages through their unique goods, thanks to increasing Research and development expenditures and the quantity of patents.

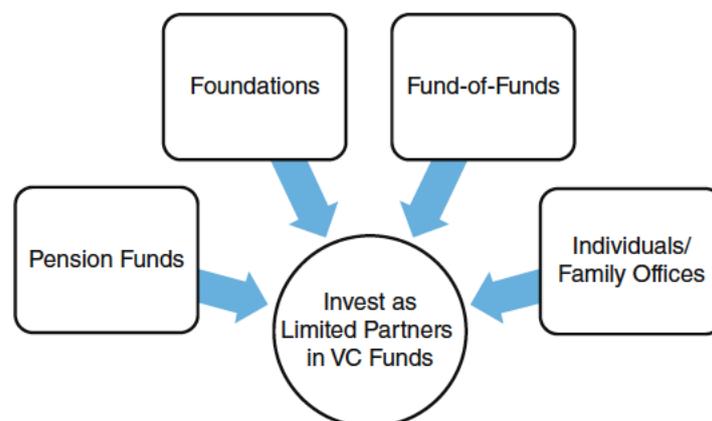


With a total of 3704 agreements and \$45,9 billion in investments during the final quarter of 2019, funding to early-stage businesses played a major part. The United States led the way with a \$23.8 billion commitment and 1396 acquisitions; Asia came in second with 1381 agreements. Nevertheless, the latter has a far lesser value than the Western one. Indeed, the average trade in Eastern countries is \$9,6 million, which is 40% less than the average sale in the United States. Lastly, Europe accounts for 22% of all Venture Capital operations (in terms of value).



#### 1.4. VC's structure and Generation of financial return

The General Partners of a venture capital are the owners of the fund who attract contributors to bring the Limited Partners as the main source of investment liquidity. The above can include high net worth entities, family offices, foundations, major corporations, mutual funds, or fund accounts. It is important to emphasise that General Partners are not just the venture capital partner of the management firm.



General Partners receive and administer venture funding, set up and make investment choices, and assist the exit of their portfolio businesses because they have a fiduciary obligation to their Limited Partners. The portfolio companies listed above – typically start-ups or early-stage firms – get capital from the investment fund in return for preferred stock. If a liquid situation happens (for example M&A, Equity Repurchases, or IPOs), the fund profits by converting its shares into liquidity. The Internal Return Rate (IRR) calculates the return on investment based on two factors: time and money. The earlier a portfolio company is sold, the higher is the IRR. It is also where things can get sticky at this point. Selling a company needs a fast exit, which can conflict with the realities of market conditions and strong entrepreneurial expectations.

However, VC's company has several unique characteristics:

- 1) Start-up investing is highly dangerous; it is reported that around 75% of all projects collapse mainly due to untested technologies, volatile demand, or unprepared management. As a result, considering the danger and potential sources of failure is important in order to understand the necessary return that the fund needs from the exit.
- 2) Time is an important component to be considered in the evaluation this is inherent in the IRR, the fundamental measure used by venture capitalists, which lowers dramatically over time.
- 3) Portfolio management is not limited to the purchase of shares in start-up companies; as previously said, Venture Capital includes the role of active investors in investment, decreasing the probability of loss of the company and increasing the potential and value of the return.
- 4) Venture Capitalists get profits after their Limited partners produce money: a VC receives money in two methods: a normal salary and a percentage of the profit (known as 'carrying' or 'carried interest'). Currently, the funds accounts for 20% of the returns made at each exit. Profit generation is critical to the fund's sustainability.

## **Chapter 2: Impact Finance**

### **2.1 Introduction and market**

The crisis of the traditional finance, which in the last 25-30 years has emphasized the desperate race to short-term financial return, regardless of the consequences and

unsustainability of the economic and social factors of its instruments, is one of the most important factors that is driving change (Jackson, 2012). In fact, it has aggravated the well-known global challenges such as development of the Bottom of the Pyramid (BOP) countries, the issue of climate change and sustainability as well as the most current welfare challenges.

The term "impact investment" was first coined in 2007 as part of a meeting held at the Rockefeller Foundation where a small group of investors, discuss the need to create an emerging industry for impact investment. In this context, the Global Impact was conceived, which was formally established a year later as an independent organization. According to the definition that gives the GIIN, the impact investments are investments "made into companies, organizations, and funds with the intention to generate social and environmental impact alongside a financial return".

According to the organization, and the now common opinion of the insiders, the impact investing has the potential to convey significant amounts of private capital that go to complement the public resources and those of philanthropic foundations engaged in the aforementioned global challenges.

Dealing with impact investment, it is in a continuum between philanthropy and sustainable investment, in which the pursuit of profit is linked in an indissoluble way to achieving the social objective.

Currently, impact investments are part of an emerging asset class and, in the complex, are still a niche phenomenon. However, there is data encouraging support for the development potential of this market that suggests a real possibility of evolution of the sector.

In this regard, according to a study conducted by J.P Morgan and GIIN (GIIN & J.P. Morgan, 2015), out of five sub-sectors (housing, provision of water in rural areas, maternal health, primary education and Financial Services ) for the portion of the global population earning less than \$3,000 a year, it has emerged that the estimate market growth potentially hovers, in terms of capital invested, from 400 to 1,000 billion U.S. dollars, with a profit range from 183 billion to 667 billion.

Whereas, in a survey published last year, out of 125 investors managing a total of \$46 billion in impact investment, J.P. Morgan and GIIN (GIIN & J.P. Morgan, 2015) state that most respondents recorded in their financial and impactful performance in line with expectations and with even some cases of outperformance.

In other words, it can be said that the market development is supported by good signals and reflects the typical transition from a conceptual phase to a phase of growth.

## **2.2 Key Barriers & Ecosystem**

While impact finance is evolving fast, there are still various barriers that investors have to face.

One of the main challenges impact investors face is that the global impact investment market is still at an early stage of development. Some authors even describe the market as being a “niche” market (Bugg-Levine & Goldstein , 2015). The nascent stage of the market is increasing risk and may allow institutional investors to be wary of investment prospects because of their fiduciary duty to make prudent investment decisions in the best interests of their clients.

One of the main barriers to the growth of the impact investment market is the limited number of investment-ready deals where the investors can place significant amounts of capital (Burand, 2014). Researchers believe that there are still too few social enterprises or impact-oriented projects that are mature enough to warrant investment; Impact investors face the challenge of increasing their portfolios due to a lack of high-quality investment opportunities with a well-established track record.

A shared barrier for many impact investors is the difficulty of exiting their investments. This challenge was ranked as the third biggest barrier to hinder the growth of the investment impact market in the JP Morgan study (GIIN & J.P. Morgan, 2015). Given that the asset class used for many impact investments is private equity or private debt, the investment is found to be illiquid and poses a major challenge to exits.

The impact investment market does not have a universally agreed set of metrics to measure social and environmental impact; even if there are some metric system available such as the Reporting and investment standard and the GIR (Global impact Investing Rating System), they don't fully satisfy all the required measurements.

However, building a market for impact investment, as we have seen, is complex and there are still significant obstacles to its growth. Again, developing the impact industry means establishing a new financial paradigm involving a multiplicity of actors on a large scale, whose are linked to each other mainly by seeking a non-financial purpose.

## **2.3 The main instruments of impact finance**

The impact investment framework includes several instruments whose common denominator is to generate a measurable positive social and/or environmental impact, even before economic.

The tools that allow to invest with the aim of generating a high social and environmental impact are distinguished by:

- 1) type of financing disbursed (equity or bond or mixed)
- 2) type of subjects financed (listed or non-listed companies, investments in intermediaries or direct)

Here are some of the most popular tools on the European market:

- Investment funds (also alternative)
- Green Bond
- Social Bonds
- Social Impact Bond
- Crowdfunding

### **2.3.1. Investment funds**

The investments of the funds are divided into two macro-categories:

- 1) investments in organisations with a high socio-environmental impact (direct investments)
- 2) investments in funds or securities which in turn finance organisations with high socio-environmental impact (indirect investments).

In order to be defined as “impact”, funds must implement an investment strategy aimed at generating positive environmental and social effects, with a consistent and transparent analysis methodology. In addition, impact investing provides for a measurement of results, which must be properly reported to investors through the impact report tool.

Of course, the composition of the investment portfolio cannot disregard the analysis of traditional financial parameters such as risk, return and liquid assets.

The Impact Report is an annual report that illustrates the environmental and social results achieved thanks to the investments made by the Fund during the calendar year of reference. The Impact Report arises from the need to represent the overall performance of the fund since, given the peculiarity of the strategy, the financial data alone are not explanatory to the results achieved. In addition, the publication of the Report, offers tangible proof that the fund generates a competitive financial return and a positive, concrete and measurable environmental and social impact.

The results of impact are the result of an accurate process of collection, evaluation, calculation and finally aggregation of data.

The composition of the investment portfolio, however, while relying on criteria for the exclusion of financial instruments issued by companies that have a negative impact on the environment and society, as well as on inclusion criteria such as ESG analysis (environmental, social and governance) it cannot be ignored from the analysis of traditional financial parameters such as risk, return and liquid assets.

### **2.3.2. Green Bond**

Green bonds are considered nowadays one of the best financial instruments that can be used to finance projects that have a beneficial impact on the environment.

This financial tool is linked with the funding of initiatives that aim to have a good environmental impact: for example, energy saving, renewable energy, sustainable management of waste and of water resources.

These debt instruments offer a way to enhance the amount of funds that sustainable organizations can use to finance their initiatives with a positive impact on the environment, by at the same time lowering the cost of capital

Globally, the green bond market is developing strongly: according to Bloomberg New Energy Finance data, new green bonds were launched in 2019 for US\$95 billion, marking a 100% growth compared to the previous year, which had seen US\$48 billion of new issues (Bloomberg, 2019).

The first green bond, called the Climate Awareness Bond (CAB), was launched by the EIB (European Investment Bank) in 2007 to finance projects proposing solutions to climate change. As of December 31, 2019, the EIB is still one of the leading green bond issuers, raising more than €15 billion in eleven different currencies. Among the most recent green bond issues in the world are Apple's in June 2017 from US\$1 billion with a maturity of 10

years: this is one of the first green bond launched in the United States after Trump's statement to want to exit the Paris Agreement signed in December 2015 during COP21 (Bloomberg, 2019).

There is currently no international standard for categorizing a loan as "green," although the International Capital Market Association has produced criteria (ICMA, ICMA , s.d.).

There are four ICMA principles (ICMA, ICMA , s.d.):

- 1) The issuer of the financial instrument has to state where the earning will be sent.
- 2) It must follow some particular crin the evaluation and selection of projects, which must fit into a list of categories.
- 3) The chosen projects have to conform with a list of standards that classify it as environmental
- 4) The issuing company must communicate the management of the funds in the most transparent way.
- 5) Documentation must always be accessible to investors, in order to keep them informed about the initiative that has been financed.

### **2.3.3. Social Bonds**

Social bonds are bond instruments used to finance projects with positive social impact. The areas that can be financed may concern, for example, access to health and housing services, financial inclusion, food security and employment. Some authors include so-called grant-based bonds in the social bond category, where a percentage of the amount is donated to no profits. However, such interventions are philanthropic in nature and, therefore, do not fall within the definition of "impact investing".

The International Capital Market Association (ICMA) set out the guidelines for social bonds, called "Social Bond Principles" (ICMA, Voluntary Process Guidelines for Issuing Social Bonds, 2021). As in the case of the Principles aimed at the green bond market, in this case these are recommendations that aim to promote the development of the social bond market through the dissemination of transparency practices and reporting to investors.

#### *1) Use of Proceeds:*

A distinctive feature of social bonds is the use of the profits to finance projects with positive social impact (including related areas of intervention, e.g. research and development), which should be adequately described in the title documentation, evaluated and, if possible, quantified. "Social projects" means initiatives with the explicit aim of contributing to the to

address or mitigate specific social issues and/or try to achieve positive social outcomes, especially (but not only) for disadvantaged people.

*2) Evaluation and selection of projects:*

The issuer of a social bond should notify investors:

- social objectives
- the process by which the issuer selects projects consistent with the objectives the social partners mentioned
- the selection criteria and, where appropriate, the exclusion criteria.

*3) Managing Income:*

Profits from Social Bond has to be placed in a separate bank account, with the issuer keeping track of it. The issuer has also the duty to manage, in agreement with the investor, the profit not used in the projects

*4) Monitoring:*

Issuer has to regularly report information about the use of income, such information include the list of initiatives financed, their characteristics, and an overview of the results in terms of return and environmental impact expected.

Social bonds can also have positive effects from an environmental point of view and, conversely, Green Bonds can fund solutions to both environmental and social problems: according to ICMA, it is the issuers who have to identify the area of impact.

### **2.3.4. Social Impact Bond**

Social Impact Bonds (SIB) are financial instruments that can be classified as an agreement between the investor and the issuer, that has the objective to collect private capital in order to finance projects of public interest. The characteristics of the instrument are the following:

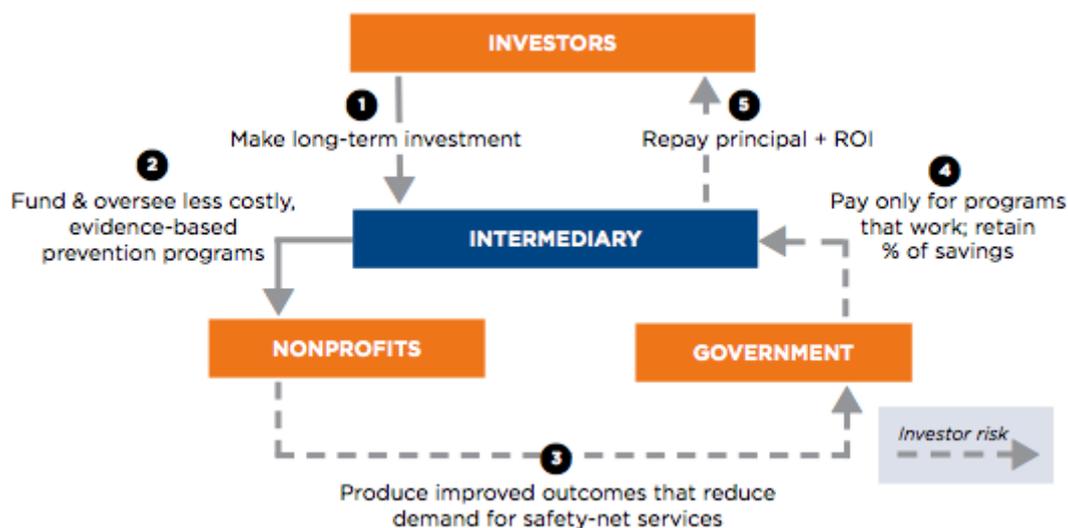
- A program of interventions that can contribute to create a social impact and a saving in spending by the government.
- An impartial evaluator completes the assessment of the project's success based on the predefined measures at the conclusion of the specified term. The government pays the project manager if the initiative fits the criteria, and the project manager then distributes the funds to the social impact bond investors (istitute, corporate finance istitute , s.d.).

The Social Impact bond, like other contractual forms such as "payment against results" (Pay for Results PFR or Pay for Success - PFS), is a type of financing in which the investor's return is defined by the good effects that a particular social activity produces. Therefore, this financial instrument cannot be strictly classified as bond as soon as its model is not the one of a classic bond, with annual or semiannual coupon and a predetermined nominal rate of return on the capital borrowed at maturity. The yield of this financial instrument is variable, and it changes according to the performance achieved by the company (Galitopoulou, 2018). Within this bond, reimbursement is connected to the outcomes of the funded activity in terms of societal wealth generated. The Social Impact Bond was developed to stimulate social innovation rather than speculation.

The SIB structure envisages five stakeholders:

- Public Administration (municipal, regional or national)
- The no-profit organization
- A social investor
- An Intermediary, that evaluate in which social organization make the investment
- An objective assessor who assesses the impact and efficacy of the outcomes acquired.

*Figura 1 Social Impact Bonds schema*



The SIB is an instrument with high potential, as it can guarantee the financing of programs innovative that are not currently implemented by public administrations due to lack of funds or for risk aversion. The transfer of the risk of failure to the private investor allows the public sector not to expose themselves and not to compromise the relationship with taxpayers for inefficient public spending

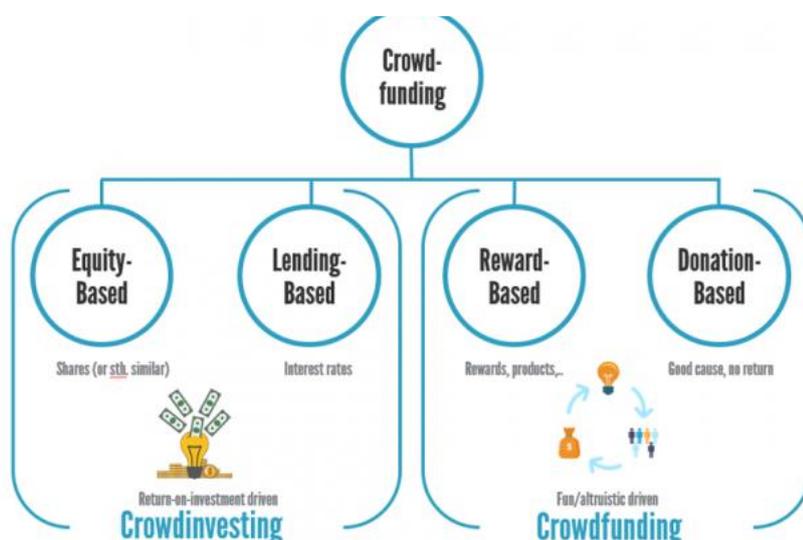
### 2.3.5. Crowdfunding

Crowdfunding is a form of innovative financing that allows a project or a company to raise financial resources through web platforms. It emerged at the end of years 2000, partly as a response to the growing difficulty of projects and businesses that receive credit through traditional funding channels and has been growing rapidly ever since.

Crowdfunding is declined in different forms that can be grouped into two main categories:

- 1) *Non-financial models*, which do not provide for any form of economic return against the provision of money (donation model) or, otherwise, the provision of small non-monetary rewards (reward model)
- 2) *Financial models*, which provide for an economic return on investment and, in turn, are divided into:
  - a. *Lending*, that takes place by subscribing to a loan with which it is associated an interest rate. Lending can be declined in various forms: peer-to-peer lending, where lenders can decide directly in which projects invest, through loans to individuals (P2P) or businesses (P2B)
  - b. *Equity crowdfunding* aimed at raising corporate risk capital; the investor therefore, participates in and supports the start-up or growth of an entrepreneurial initiative benefiting from potential future dividends or capital gains.

Figura 2 Crowdfunding schema



Crowdfunding platforms make it possible to make public and share information about the project to be financed and to collect funding shares, even small, from many subjects. An intrinsic feature of crowdfunding is transparency, as investors can choose directly and without an intermediate which projects support and where to invest their money.

## **2.4 Sustainable investments: measurement system & reference framework**

The different declinations of the social impact and the consequent absence of a definition have in fact prevented the adoption of a single system of shared measurement, leading instead to the elaboration of a multitude of measuring instruments for which current methodologies do not seem to find a shared understanding of what a social effect is, why it exists, who it affects, and how it is measured. An overview of existing methodologies, is provided focusing on different phases of the measurement process, grouping them into four macros categories according to the type of approach adopted:

- Process methods
- Impact methods
- Monetization method
- ESG standard

### **2.4.1. Process methods**

Process methods monitor the efficiency and cost-effectiveness of ongoing operational processes. As such, they do not provide an absolute measure of social returns. However, outputs can be evaluated by the extent to which they correlate or cause desired social outcomes.

Impact methods measure operational outputs and their impact, so the incremental outcome beyond and above what would have happened if the organisation did not exist.

Some process methods are:

- Global Reporting Initiative (GRI).
- Impact Reporting and Investment Standards (IRIS).
- Global Impact Investing Rating System (GIIRS)

### **2.4.1.1. Global Reporting Initiative (GRI)**

One of the main international standards for information reporting is the one drawn up by the Global Reporting Initiative, known as G.R.I., an independent organization that supports governments and organizations to the understanding and communication of their impact on issues such as climate change, human rights and corruption.

The GRI-4 standard is structured through specific guidelines that make up the basic principles of reporting (Reporting principles and standard disclosures) and then from a general area and a specific area (Implementation manual and GRI Faq); both to be accounted through the use of specific quantitative indicators both of an economic nature (EC indicators) and of the environmental indicators (EN) and social indicators (LA, HR, SO and PR indicators).

The GRI Standards create a common language for organizations – large or small, private or public – to report their sustainability impacts in a consistent and credible way. This enhances global compatibility and enables organizations to be transparent and accountable. The Standards help organizations understand and disclose their impacts in a way that meets the needs of multiple stakeholders. In addition to reporting companies, the Standards are highly relevant to many other groups, including investors, policymakers, capital markets, and civil society.

The GRI presents in its "Implementation Manual" two complementary fundamental principles that are divided into a series of guidelines aimed at help organizations develop their sustainable reports:

- 1) The first principle aims to make the content of the report complete and exhaustive
- 2) The second principle aims to ensure a high quality of informations. The definition of content, its boundaries and implementation of the principles

The starting point is GRI 101 (Foundation), which introduces the 10 principles and explains how to prepare a coherent report, this standard it therefore allows to:

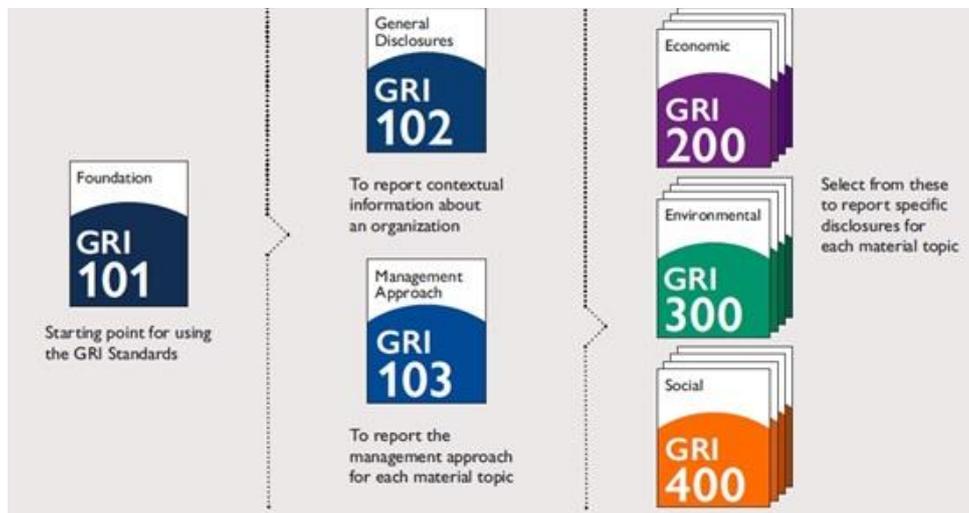
- identify aspects of the business that have a significant impact, negative or positive, on stakeholders (local communities, employees, environment, consumers, etc.)
- identify and apply ad hoc standards, choosing them from those listed industry-specific sets of standards.

At the same time, the other two universal standards must also be applied:

- 1) GRI 102 (General Disclosures), which serves to report context information related to the organization and its reporting practices

- 2) GRI 103 (Management Approach), which is useful for explaining the management of those aspects of the business that have a more important impact on stakeholders

Figura 3 GRI division



#### **2.4.1.2. Impact Reporting and Investment Standards (IRIS)**

The Impact Reporting & Investment Standard (IRIS) is one of the standards that is most used in impact investing. It consists of a catalogue of performance that aims to "leading impact investors to measure social, environmental, and financial success, evaluate deals, and grow the credibility of the impact investing industry" (GIIN t. , s.d.)

IRIS was created at GIIN's request to respond to the performance of a portfolio of SRIs. It is the catalog of generally accepted performance metrics that leading impact investors use to measure and manage their social, environmental, and financial performance. The metrics are intended for both invested institutions and investors to use in evaluating and analyzing the benefits made by Financing initiatives.

IRIS is a free collection of indicators recognized and used by impact investing businesses to assess a project's social, environmental, and financial performance. To make it easier to place the performance of a particular statistic in the correct perspective, the IRIS system incorporates both quantitative aspects and particular qualitative attributes.

#### **2.4.1.3. Global investing Rating System (GIIRS)**

Global Impact Investing Rating System (GIIRS) is a rating instrument that assigns values to organisations and funds in terms of impact, with an approach similar to Morningstar's ratings; in order to facilitate comparability, which in itself is difficult with IRIS metrics. GIIRS was

developed by B-Lab (Certified B Corporation, s.d.), a non-profit organization which operate in the impact investing market with the participation of GIIN.

The system for evaluating companies engaged in impactful activities is based on two ratings: the first type of assessment concerns the Impact Business Model with which the specific model developed to generate social or environmental impact is assessed, while the second type of evaluation the Impact Operation Rating through which the way in which the company operates is evaluated.

As far as investment funds are concerned, the rating system is based on three types of evaluation:

- The fund manager's valuation rating assesses the intent of the social impact fund with the inclusion of investment criteria and the management of the portfolio
- The rating of the Global Impact Business Model analyses the model of business used in order to achieve a social or environmental impact with regard to products and beneficiaries
- Finally, the Overall Operation Rating measures practices, policies and company-related impact achievements in terms of governance, living conditions of employees, community and environmental impact.

#### **2.4.2. Impact Methods**

These are the methods that identify and measure both the operating results (output) of an intervention and the resulting social benefit (outcome). The measurement, through these methods, therefore, leads to the identification of impacts produced by an initiative. These tools are essential to seize the social or environmental returns of a project or investment, which are difficult to describe in economic indicators.

Some impact methods are:

- Measuring Impact Framework
- Theory of change

##### **2.4.2.1 *Measuring Impact Framework***

In recent years, several companies in the profit sector have adopted the Measuring Impact Framework, impact measurement methodology implemented in 2008 by the World Business Council for Sustainable Development (WBCSD, s.d.) in order to help companies to understand the dimension of their social contribution. The methodology is divided into 4 phases:

- 1) defining the boundaries of the analysis
- 2) measurement of direct and indirect impacts
- 3) evaluation of the actual contribution
- 4) implementation of response and mitigation actions

Since the framework is a reference model, but not a standard measurement, enterprises are encouraged to make the valuation as much participatory as possible, by consulting internal and external parties to the company, in order to adapt this methodology to the specific business of the company.

#### **2.4.2.1. Theory of change**

Sometimes also called "program theory", it refers to the construction of a model that specifies the logic, hypotheses, influences, causal links and the expected results of a development programme or of a project.

This model can be evaluated against the actual process observed and outcomes obtained by the intervention through the compilation and review of performance data.

This exercise involves the interrogation of the theory of change: Is the program theory valid, appropriate, relevant, and accurate? Does change occur in the ways the intervention proponents have expected?

This method, characterized by good flexibility, turns out to be one versatile tool that can serve multiple purposes and from the ease of understanding. It is mainly used by foundations and funds of non-profit investment to clarify the respective social objectives, determine the most appropriate metrics to be used when selecting investments, highlight the results achieved in the reporting phase and finally, allows investors to identify the underlying impact assumptions for any review as well as overlapping the dimensions deemed important for the objectives endings.

#### **2.4.4. Monetization Method**

These are the methods that foresee a final phase of monetization of the impacts generated, assigning a monetary value to the benefits generated. they are among the most accredited for their easy application in business and financial contexts. These methodologies quantify the social benefits and relate them to measures economic such as operating costs and investments incurred. If the advantage of these methods is the high comparability of the results of the analysis with other traditional financial indicators, on the other hand, the

selection of financial proxies, which is used to approximate the financial value of a good or service without monetary value is a very complex operation.

Some monetization methods are:

- Cost benefit analysis, (CBA)
- Social Return on Investment (SROI)

### ***Cost benefit analysis (CBA)***

Cost-benefit analysis is a type of economic analysis in which the costs and impacts of an investment are expressed in monetary terms and therefore assessed on the basis to one or more of the three measures:

- *Net present value*: the aggregate value of all costs, revenues and social impacts, discounted to reflect the same accounting period
- *cost-benefit ratio*: the discounted value of revenues and impacts divided by the discounted value of negative costs and impacts
- *internal rate of return*: represented by the net value of revenues plus impacts expressed as an annual percentage return on the total cost investment.

The tool, widely used and well known, is also applied in the impact assessment of significant public projects that have as an objective to stem a socially relevant problem, however, it can also be used as in the case of the widest range of impact investments to estimate returns in favour of stakeholders benefiting from the Investments.

### ***Social return on Investment***

SROI is a methodology developed by the Roberts Enterprise Development Fund, also known as REDF (Accelerating the social enterprise movement , s.d.), initially in order to assess the impact generated by the non-profits in terms of improving living conditions of society. Today it aims to explain the change created by an activity, quantifying not only social outcomes, but also environmental and economic outcomes representing them with monetary values, to be able to calculate the benefits and costs of social impact. The method in question makes it possible to calculate a ratio between benefits and costs, for example, a ratio of 3:1 indicates that an investment €1 generates €3.

#### **2.4.4. The Standard ESG**

The acronym ESG stands for "Environmental, Social and Governance" and is a generic term that, is generally used in capital markets by consultancy organizations and investors to evaluate the behaviour of a company based on the aspects that concern sustainability, ethic and governance. The ESG standard has become significantly important in the evaluation of business and investment opportunities especially when it refers to long-term performance and risk assessment.

In general, ESG factors consist of a series of indicators of a non-financial nature, not static, but responding to the trends and problems of a social or environmental nature moment. In particular, the environmental indicators concern performance of the organization in reference to the surrounding natural environment or the environment which, more generally, it is influenced by business actions or decisions.

Examples of such measures can be greenhouse gas emissions (carbon footprint), efficiency energy or waste management. Instead, the indicators that refer to the sphere social concern the ability of an organization to relate to its own stakeholders, such as: customers, staff, suppliers and the local community. Examples of indicators in this area can be the quality of the internal working environment, the worker safety, staff turnover rates, supplier quality in reference to the ethical and environmental principles of the organization or support interventions of the local community.

Finally, the ESG evaluation criteria take into account the governance component which deals with aspects related to leadership, audits and internal controls and, lastly, shareholder rights. Basically, when the investors evaluate an organization based on the governance aspects, they seek information regarding the use of transparent and accurate reporting methods, the involvement of common shareholders on important decisions or, again, the involvement of the organization in any illegal behaviour or opportunistic as can be the funding of political campaigns in exchange of preferential treatments.

Although the ESG standard offers a kind of benchmark for investors who want to evaluate the performance of organizations, however, it has many limits on the measurement of the impact.

First, the ESG indicators, precisely because of their non-financial nature, they have the intrinsic and typical limits of non-financial measures and, secondly, their use mainly restricted to the judgment on the appropriateness of investment that the organization under examination represents, highlights their being exclusively investor centred.

## 2.5 Social Banks

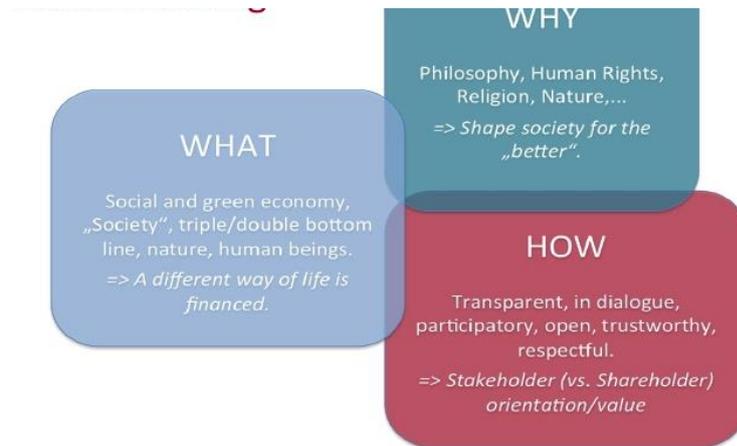
Social banking is a practice considered still relatively new in the banking landscape and in the modern international finance, even if the first forms of sustainable banking activity go back to the 16th century in Italy with the Monte di Pietà, a bank founded with religious intentions to finance the many local social activities (Weber, 2012). In the 19th century, in the middle of the industrial revolution, instead, the first credit unions and cooperative banks began to form, mainly aimed at financial services for the new middle class, an emerging class that at the time needed to raise capital in order to give life to their modern entrepreneurial initiatives. This outlines an alternative bank, capable of implementing ethics and morals within the financial sector.

Social banks differ from ordinary banks in several characteristics such as status, size and objectives. Social banks are also commonly referred to as “banks with a conscience”. They are focused on investing for the community, providing a range of opportunities for the disadvantaged, and supporting social, environmental and ethical purposes.

While traditional banks are more focused on principle of maximizing profits, social banks implement the principle of Triple P: Profit-People-Planet (Fisk, 2014). It is important to point out that their intervention is not limited only to additional missions compared to the traditional ones, but how this is viscerally incorporated into the principles of their culture and in their strategies.

The degree of dedication to alternative issues varies, however, from bank to bank; you can appreciate the different sensitivity from the analysis of their missions and visions. For example, the Norwegian Cultura Bank has as its main objective to finance projects from which the community can benefit and which create an improvement in the environment. Then there are more "radical" social banks such as the Swiss ABS, which quotes in a lapidary manner as in its mission "there is no maximizing profits" but as "researching ethical principles in all its business activities" (GABV- Alternative Bank Switzerland)

Figura 4 Social Banking



There is no clear and recognized definition of a social bank; we report one of the most exhaustive, that of by Dr. Roland Benedikter, according to which social banks enjoy three characteristics that unite them and that make them unique in the finance landscape (Benedikter, 2011). They are:

- 1) *Responsibility*: Social banks know their clients personally and are strongly in the purposes that encourage the individual to turn to the bank.
- 2) *Transparency*: both on the investor side, as already seen, and on the depositors' side.
- 3) *Sustainability*: While traditional banks focus more on creating a short-term profit, social banks look at the long-term impact of money.

## Chapter 3: Impact Investing

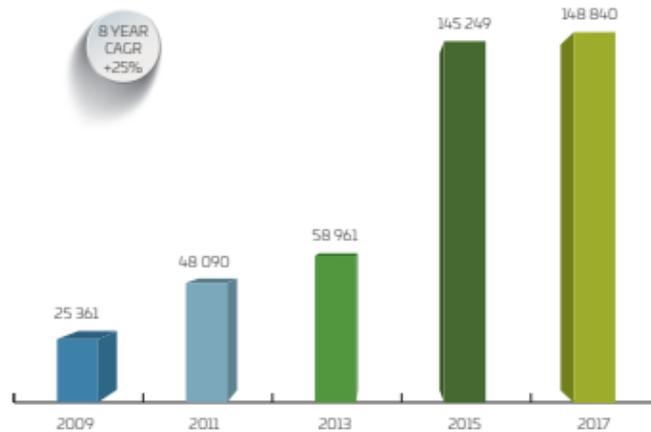
### 3.1. Market and Sector of destination

Every year, the GIIN release a survey on impact investing that allows to obtain the performance, trends, news and challenges of impact investing in the world. The analysis of different vintages, in particular, the three-year period from 2016 to 2018 allows to easily identify some trends and have confirmation of how impact investing is growing and now covering an important role.

As for the total investment it can only be estimated because of the variability with which an investment can be defined as an impact investment: 2017 has marked the achievement of 148 billion dollars, fuelling the trend that had marked the achievement of 140 billion euro in

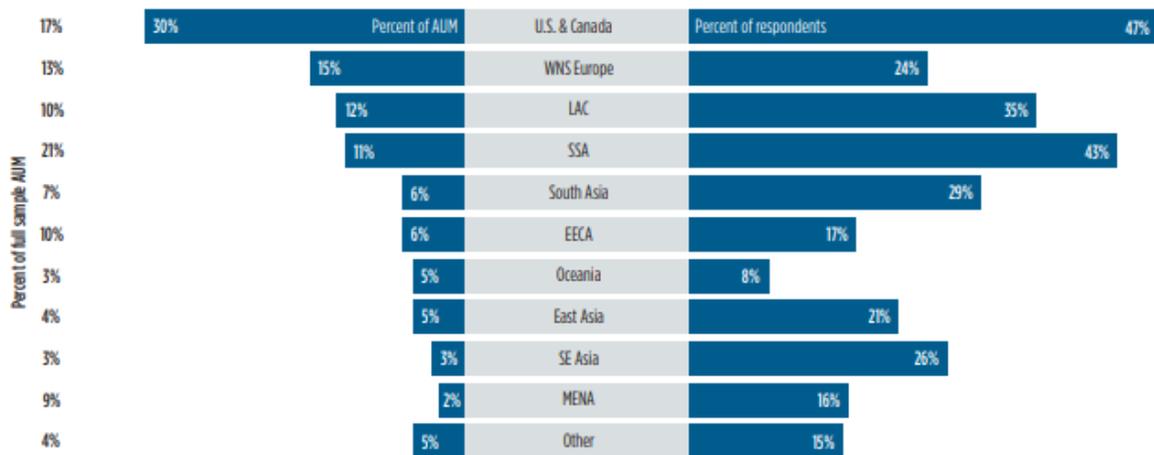
2015. The disaggregated data instead show investments of 22 billion in the last year confirming the growth trend. (GIIN, Annual Impact Investor survey, 2020)

Figura 5 Growth of sustainability themed investments in Europe



Where and how is the money available to investors invested? For as regards the geographical destination, the first distinction that can be made is between emerging markets and developed markets: data from recent years shows that 55% of AUM (Assets Under Management) are allocated to developed markets, and 40% are allocated to emerging markets. In particular the markets of destinations that are growing more are Sub-Saharan Africa, Latin America, East and Southeast Asia followed by slower markets such as Eastern Europe and Russia: in Europe the more active states are instead Holland and Denmark. Examining the number of respondents with some allocation to each geography, the U.S. & Canada and Sub-Saharan Africa (SSA) are the most prominent investment areas, with 47% of respondents getting at least some allocation to the U.S. & Canada, and 43% having some allocation to sub-Saharan Africa (GIIN, Annual Impact Investor survey, 2020).

Figura 6 Trend of Target Markets

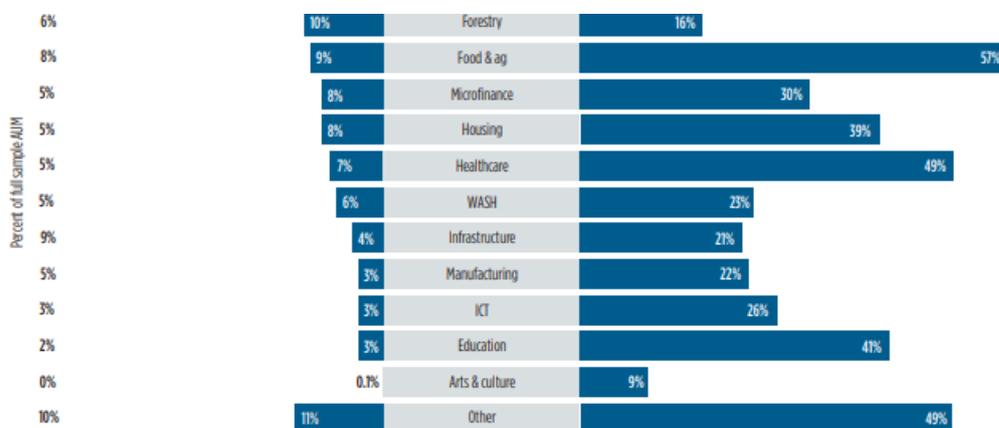


Note: 'Other' includes investments allocated globally.  
Source: GIIN, 2020 Annual Impact Investor Survey

Going into detail, it is interesting to see which the sectors and the type of activities are more widespread in impact investing according to the GIIN: the strategy chosen by the greater number of people to convey the impact of the investment is energy with 16% of AUM, followed by financial services (excluding microfinance) with 12% of AUM (GIIN, Annual Impact Investor survey, 2020).

Food & Agriculture, which accounts for 9% of the AUM sample (excluding outliers), is the most common market, with 57% of respondents receiving any allocation. Respondents also continue to show increasing interest in the food & agriculture sector; it is the top sector to which respondents are expecting to raise their allocation over the next five years. Healthcare is another common industry, with almost half of respondents having some allocation to healthcare (GIIN, Annual Impact Investor survey, 2020).

Figura 7 Trend Impact investing by sector



Note: 'Other' includes investments that did not align to these sector categories such as real estate, tourism, community development, retail, and sector agnostic investments.  
Source: GIIN, 2020 Annual Impact Investor Survey

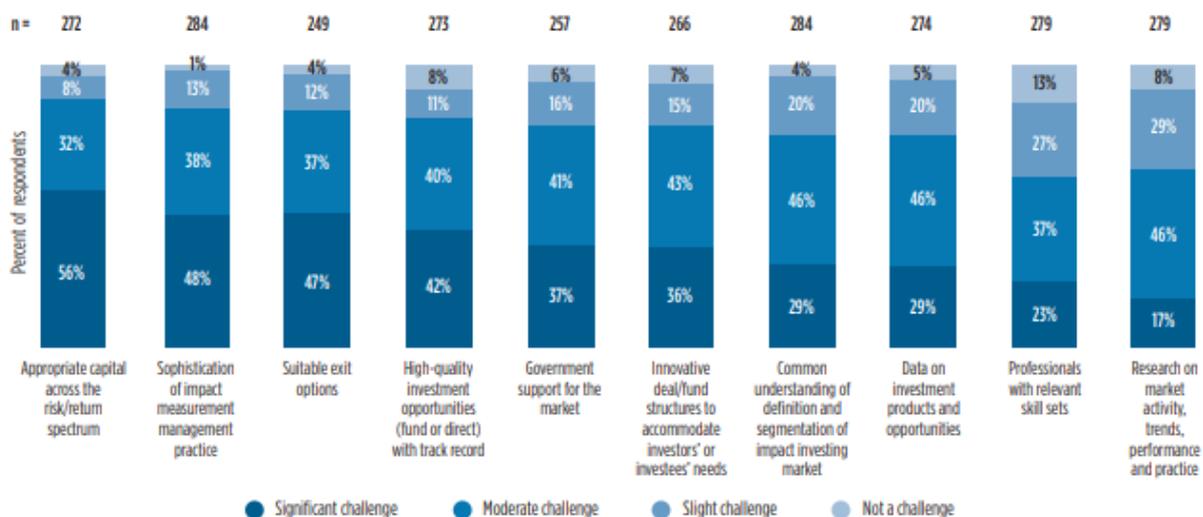
Not surprisingly if we cross the sector and geographic country data, we find that housing and local agriculture are more widespread in emerging markets while in developed ones the rising sectors are education, energy and medical assistance.

### 3.2. Market Risks & Challenges

The depth that the phenomenon of impact investing is assuming increases from year to year the challenges that investors and intermediaries face. In this sense it is useful to analyse what is perceived by these subjects and what is the level of maturity of the market.

The main challenges, according to the 2020 data also confirmed by the GIIN report (GIIN, Annual Impact Investor survey, 2020), were the lack of capital investors interested in the spectrum of risk / return values of the impact investing, the lack of investment opportunities with relevant historical data, the difficulty of obtain a good exit, the difficulty of making a qualitatively effective screening among the investments due to lack of data; at the bottom is the support of governments and tax breaks and the number of professionals with the required skills.

Figura 8 Remaining challenges for the market

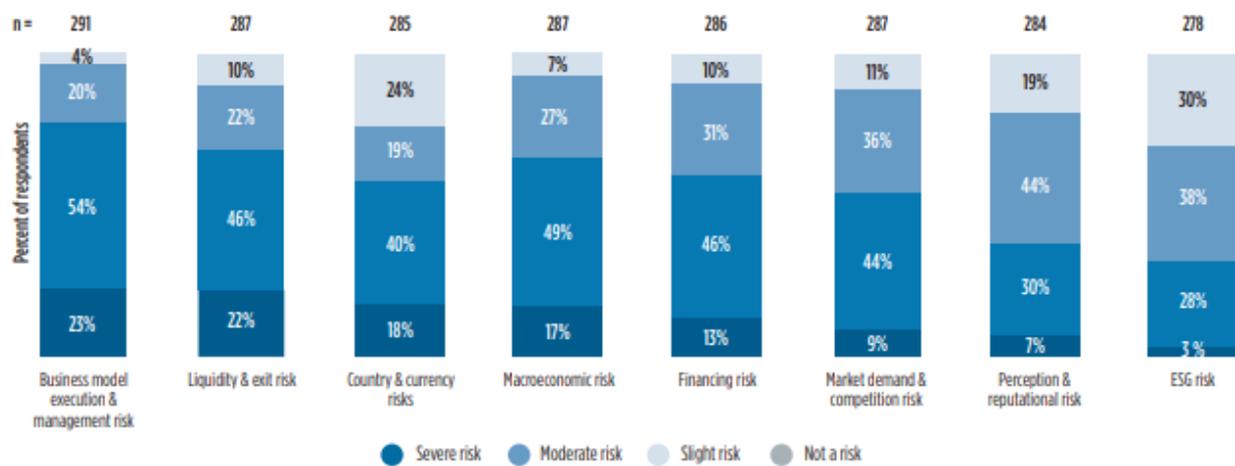


Finally, the GIIN survey analyses the risks encountered or perceived during the period of reference. The analysis that the report proposes goes beyond the normal financial risk that investors choose to face when investing capital: the risks taken into consideration are, so to speak, children of the nature of impact investing.

The comparative analysis of the three years confirms what emerges in the most recent data: the highest risks are the execution of the business model, the risk of fluctuation of the local currency and the problem related to the liquidity of the investment, therefore to the exit. The

fact that execution is perceived as the greatest risk derives from the fact that investors invest in something more than a company created to generate income: they invest in a company that generates value quantifiable with tools different from traditional ones; consequently the objectives, especially those in the short term, may be different from those commonly found in a company

Figura 9 Financial risk contributors that influence investment portfolios



Source: GIIN, 2020 Annual Impact Investor Survey

### 3.3. Impact results & Measurement of the Impact

In addition to financial performance, there is obviously social and environmental performance, true fulcrum of impact investing. This performance is measured in quite different ways depending on the sector and the investor: many investors rely on the IRIS system (GIIN, Annual Impact Investor survey, 2020), which it gives the advantage of facilitating comparisons between companies that use it, while others have developed internal tools that help them in measurements with the advantage of collect more precise data modelled on their needs; a third way is the combination of own tools and standardized systems such as IRIS: in this way it facilitates the comparisons thanks to standardization and also make use of internal tools but the timeframe for data collection and analysis is a little longer.

What are the measurements of the impact side of the investment? Depending on the type of investment and objective, the data before, during and after the investment are compared. The comparison shows, using adequate surveys, if the goal has been achieved and in which size. The use of measurements is, as anticipated, the fulcrum and the distinctive feature of impact investing. The reasons for these measurements are various: obligations assumed

towards the investors, need to analyse data in order to correct any errors, or use of data to create historical series to be used in the investment proposal.

The majority of respondents believe that measuring and managing impact is crucial for achieve their socio-environmental goals: 83% consider it essential to understand the effect investments and make them more efficient, 78% think it is useful to report that data in report for stakeholders and finally, most important of all, 63% of users believes that there is business value in measurements; in general we can conclude that the internal reasons for measuring the impact are deeper than external ones.

The most frequently used tools are IRIS metrics (discussed above), the Sustainable Development Goals (SDG) and B Analytics: in detail it is noted that those who invest in emerging markets uses more IRIS and SDGs than those investing in developed markets.

### **3.3.1. B-Analytics**

B - Analytics is a tool that can be used to measure the social and environmental impact of companies that are part of your investment portfolio or in the production chain in which you are located. Companies respond to surveys regarding employees, the environment and internal procedures through another free tool.

The user, on the other hand through the platform can see all the answers in the fields of interest he has selected and make comparisons between different companies in the same field. All information is automatically collected and shared in the cloud of the customer where it is possible to insert different types of priority preferences, order or frequency of update. The easy comparison between different businesses helps to create benchmark scores of industry, geographic area or other common characteristics that can be used easily from the first login.

The Inclusion of best practices allows to send feedback and input to companies that respond to questionnaires so that they can perform better from an impact perspective and create new quality standards. The system also features an integration with the IRIS catalog, which allows for the creation of very broad and detailed patterns of metrics to be monitored.

### **3.3.2. Sustainable Development Goals**

The United Nations has programmed 17 goals to transform the world by 2030 (GIIN, Achieving the Sustainable development goals: The role of impact Investing, 2020): 15 macro-goals that develop into multiple interrelated goals that greatly expand the areas of

effect of the desired changes. Measurements are made by comparing data related to each goal year by year to measure the actual achievement of the desired values. More than 40% of impact investors use UN targets to measure the impact of economic activities, placing them in second place among the most used tool, after the IRIS catalog.

- 1) End poverty everywhere and in all its forms (extreme poverty is defined as living on less than with less than 1.9\$ a day)
- 2) Ending hunger, achieving food security and promoting sustainable agriculture
- 3) Promote a healthy lifestyle for all ages: related goals are to reduce maternal mortality, implementing prevention for drug use and tobacco use tobacco.
- 4) Ensuring the quality of education: Ensuring equitable access to the education system for men and women is the fundamental objective.
- 5) Achieve gender equality and respect for all women in the world.
- 6) Ensure access to drinking water for all: in parallel, the goal is to have better quality of water through the reduction of chemical pollution.
- 7) Ensuring access to affordable, reliable and sustainable energy: The goal is to increase the share of renewable energy in the total energy mix.
- 8) Promote sustainable economic growth along with increased employment and acceptable working conditions.
- 9) Promote innovation and build infrastructure for industry: improve existing infrastructure to make it sustainable and reliable for new industries.
- 10) Reducing inequalities between nations: adopting fiscal and social policies to discourage extreme migration between countries.
- 11) Making cities inclusive, safe and sustainable: improving the cultural heritage of the world's cities, monitor and improve the quality of life in cities.
- 12) Achieve sustainable production and consumption systems: make more efficient use of natural resources, reducing waste production through recycling.
- 13) Make urgent decisions to combat climate change and its effects.
- 14) Conserve forests, combat desertification, preserve terrestrial biodiversity.
- 15) Sustainable use of resources from the oceans and seas: minimize the acidification of the seas, protecting the marine ecosystem.
- 16) Promote justice and peace.
- 17) Revitalize global alliances for sustainable development.

Figura 10 Sustainable development goals



### 3.4. Comparison between sustainable and traditional funds

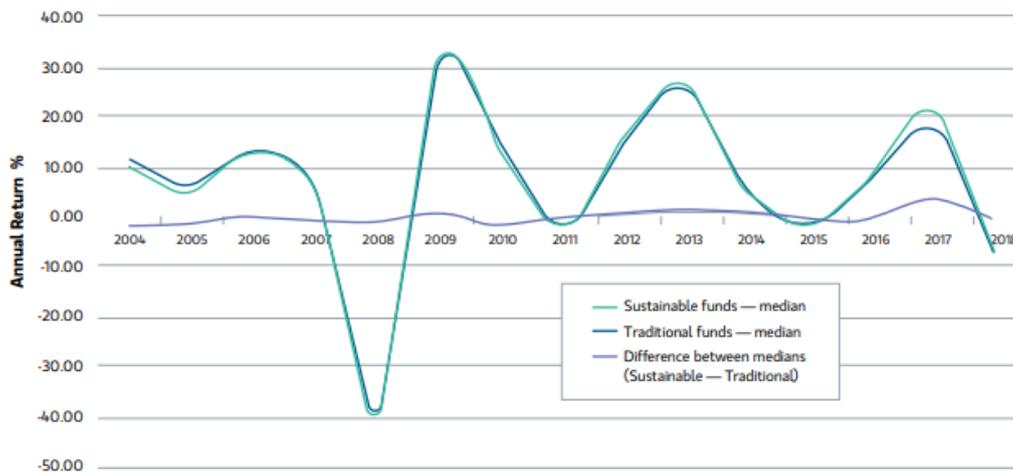
Compared to traditional funds, investing in sustainable funds makes it possible to achieve a further objective that goes beyond mere performance: it allows investors to make profits gained over the long term and at the same time respecting the planet. Despite the shape of investment mentioned above is highly versatile and ethically correct, not all investors are of the same opinion. A part of them in fact claims that the returns of sustainable funds are less than traditional investment funds. This common thought however, it is unfounded since according to a statistical analysis by the Morgan Stanley bank (Morgan Stanley, 2019), the securities listed on the stock exchange of companies that operate sustainably allow to achieve equal or even better results.

Research by Morgan Stanley (Morgan Stanley, 2019), who carried out this benchmarking taking into consideration the risks and returns of sustainable investment funds and funds of traditional investment, is based on a sample of 10,722 investment funds, over a period time between 2004 and 2018. The study analyses the performance, in relation to total return, taking into account transaction costs, management fees, and relative risks.

The survey showed that the returns of sustainable investment funds are in line with the returns generated by traditional funds and at the same time provide greater protection to investors. The integration of environmental, social and governance criteria into portfolios in fact, contribute to limiting market risk. Furthermore, in the periods of extreme volatility, it was found that sustainable funds suffer less market fluctuations, allowing greater stability to

investors seeking to reduce the risk of their portfolio. Below are the results of Morgan Stanley's surveys.

Figura 11 Median total returns of sustainable and traditional investments funds



As can be seen from the figure 11, the evolution of fund performance over the years of sustainable and traditional investment is similar. It can therefore be said that the trend of the two graphs is the same.

Figura 12 Percentage median annual total returns: sustainable and traditional funds by asset class

Asset Class		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
International Equity	Sustainable	16.09	14.29	23.16	14.97	-44.78	35.38	12.40	-13.92	17.42	20.52	-1.80	-1.47	4.58	26.19	-13.59
	Traditional	18.25	15.20	25.42	12.72	-44.97	36.99	13.86	-14.01	17.89	19.36	-3.08	-2.86	3.79	26.85	-14.42
	Sustainable - Traditional	-2.17	-0.91	-2.26	2.25	0.20	-1.60	-1.46	0.08	-0.48	1.16	1.28	1.38	0.78	-0.67	0.84
Sector Equity	Sustainable	37.19	17.67	47.49	-12.26	-44.93	41.07	17.62	-8.71	21.63	17.81	14.09	-2.12	3.42	19.14	-8.44
	Traditional	13.45	10.42	16.91	6.36	-41.42	33.97	19.10	-5.29	15.78	23.45	9.25	-1.94	11.15	13.83	-8.78
	Sustainable - Traditional	23.74	7.25	30.58	-18.62	-3.51	7.10	-1.48	-3.42	5.85	-5.64	4.84	-0.18	-7.74	5.31	0.34
Taxable Bond	Sustainable	3.80	2.14	4.50	5.67	-2.28	11.25	6.37	5.20	7.06	-1.64	3.74	-0.50	3.97	3.85	-0.44
	Traditional	4.09	2.17	4.40	5.42	-2.88	11.49	7.31	4.51	6.86	-0.32	2.38	-0.35	4.07	4.10	-0.66
	Sustainable - Traditional	-0.29	-0.03	0.10	0.25	0.60	-0.24	-0.94	0.69	0.19	-1.32	1.37	-0.15	-0.11	-0.25	0.22
U.S. Equity	Sustainable	10.00	5.60	13.28	4.03	-37.68	30.63	14.75	-1.03	15.20	33.20	10.92	-2.09	10.88	19.69	-5.83
	Traditional	12.33	6.72	13.57	5.43	-37.98	30.01	18.05	-1.63	15.25	34.42	9.14	-2.15	11.87	19.04	-7.27
	Sustainable - Traditional	-2.33	-1.12	-0.29	-1.40	0.30	0.62	-3.30	0.59	-0.05	-1.22	1.78	0.06	-0.99	0.65	1.44

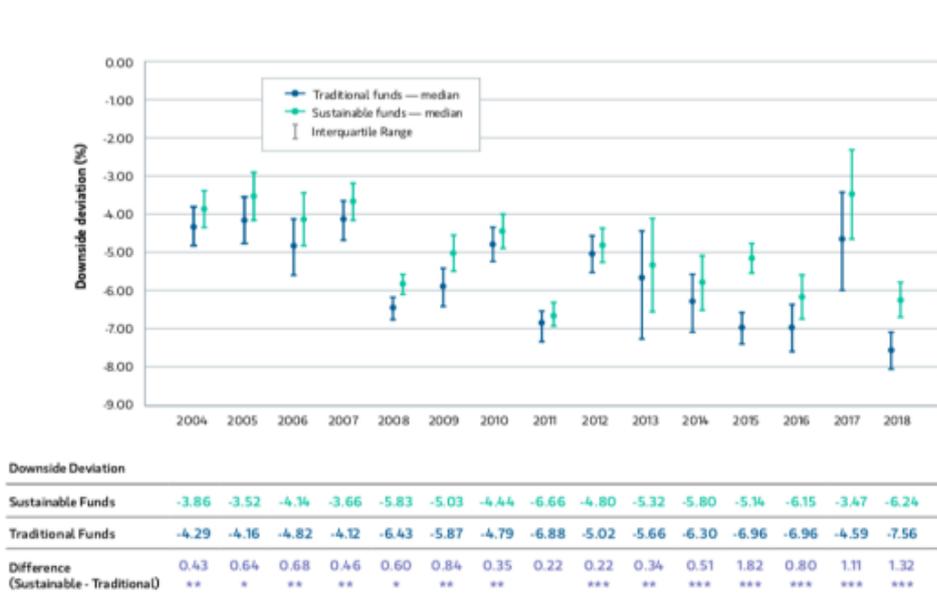
Shaded cells represent statistically significant differences at a 0.9 level.

The Figure 12 above shows the evolution of the performance of sustainable funds and traditional from 2004 to 2018. It can be noted that the performance trend it is not linear between the two types of investment. There are times when sustainable funds perform better

and others where they perform worse. Overall, especially after the financial crisis of 2008, however, it can be noted that the total returns between the two types of funds are similar, alternating with periods of higher and lower performance.

Many investors often wonder what the main differences in terms of risk are. Figure 13 shows that from 2004 to 2018, sustainable funds were less risky than traditional investment funds.

Figura 13 Average downward gap: sustainable and traditional investment funds



Contrary to the lack of difference in returns, the analysis on the risk shows a clear result: sustainable funds were less risky in the period taken into consideration. The median distribution of downside deviation for the market value of sustainable fund was smaller each year; on average 0.6% less in magnitude than the previous period and 20% less than the traditional fund in the same time period. Figure 13 illustrates that the downside deviation and the dispersion range of sustainable funds was significantly smaller than the one of traditional funds.

## Chapter 4: Database structure and statistical analysis

### 4.1 Database structure

The input database for investors and companies is retrieved from Crunchbase and it contains information about xxx investors and xxx companies, that receive investments from the firsts.

The investors are uniquely identified by the id "inv\_uid", while organizations are recognized by the id "org\_uid".

The Database contains both social investors than no social investors and in the same way social and no social organizations.

In order to perform analysis to identify how social investors invest in the different type of organizations, it has been necessary to create a boolean variable “d\_social” that is equal to zero if the investor is not social, while it is equal to one if the investor is social.

Equally has been created the variable “sustainability\_org” to identify which organizations can be labeled as social and which cannot be.

The main variables used during the analysis are listed in table below, further variables have been created, and will be explained in the next chapters, in order to perform a more complete analysis.

As suggested by their names, variables are used to describe the main characteristics of the investors and of the organizations.

<b>Variable Name</b>	<b>Comments</b>	<b>Example</b>
Investor_uuid	Unique ID that identifies investor	0bf88cb1-9aea-49fc-afb6-0e4f61e42970
Organization_uidd	Unique ID that identifies organization	ab4297e8-d9d7-99dc-6214-2bbb88bb7bcd
Investor_country_Code	Code that identifies investor country	USA
Org_country_Code	Code that identifies organization country	USA
Investment_type	Identifies the type of investment used to finance	series_c / seed
Raised_amount_usd	Tot amount of dollars raised for the round	15000000
Investor_type	Type of investor	hedge_fund / venture_capital
org_total_founding	Total amount of dollars raised by the company	33000000
Investor_founded_on	Date of investor foundation	01/01/1986

Originally the databased contained a number of informations that were not useful for the analysis, for this reason, as explained in the next chapter, as first step has been necessary to perform a cleaning to create a smaller and leaner database.

As second step, explained in the next chapter, has been useful to create new variables that could help to perform a deeper and clearer analysis.

## 4.2 Database Elaboration

As said before, has been necessary to work removing and adding variables, in order to have a smaller and easier to manage database, from which would have been possible to perform the analysis.

As first step we dropped all the variables that were not necessary for our study, like organization and investor Facebook, LinkedIn, Url, or similar.

Afterwards some variables were added to the database before starting the analysis.

As said before the first two variable created were useful to identify if an organization and an investor are social or not (d\_social; sustainability\_org).

Consequently, we generated the Boolean variable “social\_inv\_org” that will return one if a social investor invests in a social organization and zero in all the other possible combinations.

The next problem to face was to identify the number of investors and their year of foundation, because using the variable “investor\_uuid” could bring to count the same investor more than one time, since every investor could have participated to more than one round.

```
/* generation of a variable to evaluate unique investor and the foundation year*/
egen tag = tag(investor_uuid)
gen data_foundation_investor_unique = tag * investor_founded_year
```

Consequently, we defined a variable to refine the investor type, in order to have a set of conformed number of possible investor types on which make the analysis. In particular we used a function to take the first word of the original variable.

```
/* variable clean for investor type --> to refine the names */
gen investor_type_clean = regexs(0) if regexm(investor_types, "([a-zA-Z]+)[ ]*([a-zA-Z]+)")
```

Finally, we generated a variable to identify which is the percentage of the raised amount of the organization from the social investors on his total raised amount.

```
/* valuation of the number of investment per type per social investor & non social */
gen percentage_raised_amount_USD = raised_amount_usd / org_total_funding_usd
```

This database elaboration was needed to proceed with descriptive statistics that will be presented in the next paragraph.

## 4.3 Descriptive statistics

### 4.3.1. Investor type and Geographical location

After the database elaboration, statistical analysis has been performed to understand the dynamics of the investment by different type of investors in social organizations.

Thanks to this analysis has been possible to highlight some trends of the social investing and to have an overview of the market.

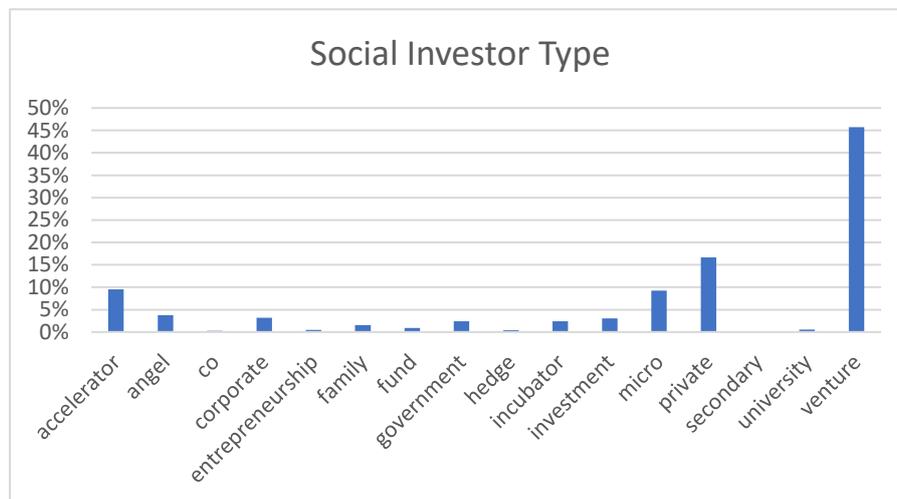
First of all was necessary to understand which are the main types of social investors and how they are subdivided.

```
tab investor_type_clean if (d_social*tag==1)
```

```
tab investor_types if d_social==0
```

The output of the analysis in graph 1 shows that the most common type of social investor is venture capital with more than 45% percent followed by private investor and accelerator, that all together account for around the 70% of all investment from social investor taken into account.

Graph 1: Social Investor Type



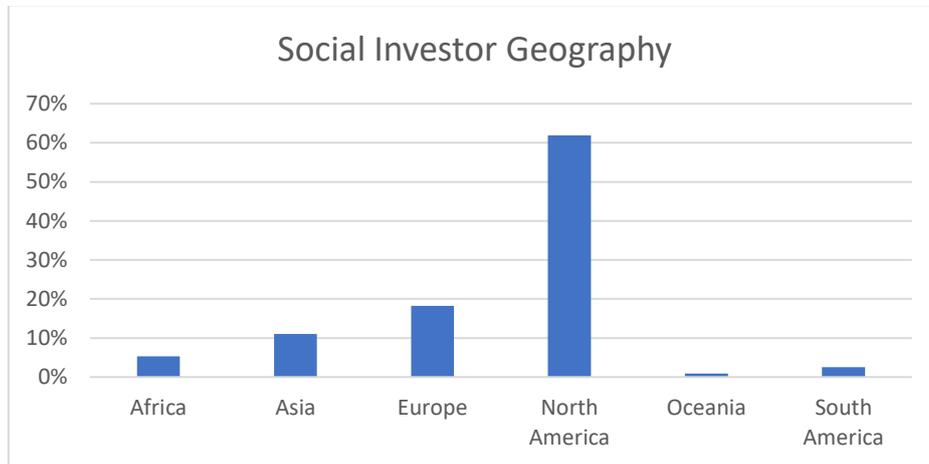
The next step was to understand the geographic distribution of both social investor and social organization, to understand which are the countries that are investing more in this market and to see if it fit with the previous theoretical research did in the first chapters of literature review.

```
tab investor_continent_code if (d_social*tag==1)

tab org_continent_code if (sustainability_org*tag2==1)

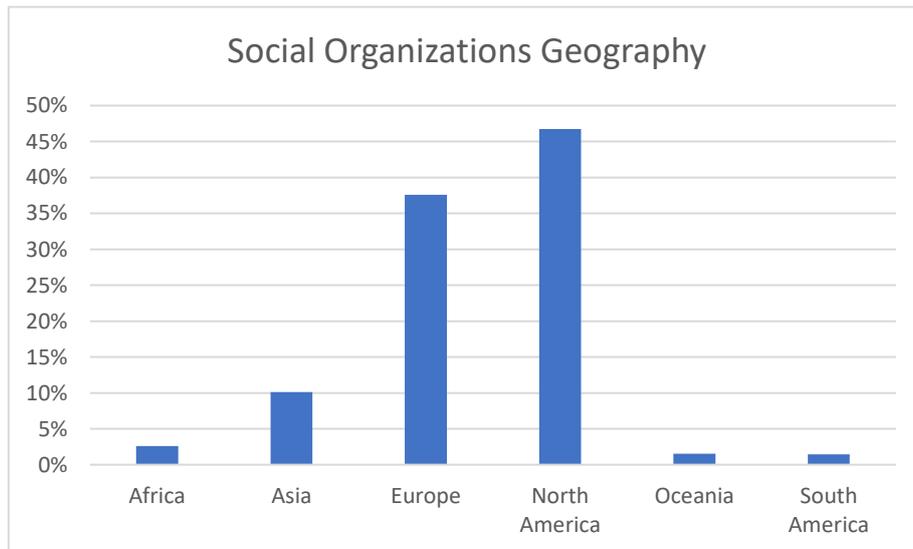
tab investor_country_code if (d_social*tag==1)
```

Graph 2: Social Investor Geography



As it is possible to see in figure 2 the big majority of social investors are located in North America (>60%), followed by Europe and Asia that in the last years is rapidly growing. In the specific U.S.A. is the country with more social investor and accounts for the 55% of the total, followed by UK with only 7%. The same analysis has been performed for social organizations with the output of graph 3.

Graph 3: Social Organizations Geography



As it is possible to note, also the majority of social organizations are located in North America (>45%), followed by a strong presence in Europe (>35%).

While social investors are strongly located in North America, the presence of social organizations in Europe is highly significant.

As for the social investors the two most relevant countries for the presence of social organizations are U.S.A. and UK.

### 4.3.2 Investment types and Raised amount

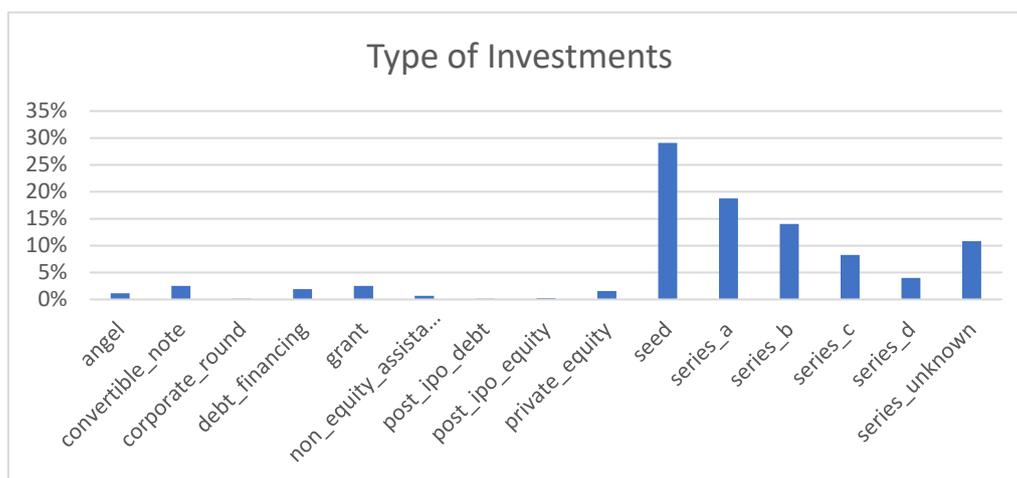
Further analysis has been done to understand how investors finance social organization, in terms of financing vehicles used to provide funds to social organizations, and in terms of amount of capital.

Starting with the different types of investments used by social investors, graph 3 highlights that the most investments are seed rounds (early stage of the business) while investments by social investors in more advanced stage of the business (series b, series c and series d) are less relevant.

Social funds highly invest in promising start ups in their early stage, but then they select just best performing organizations for the next financing rounds.

Equity financing is strongly more used than debt financing that at this stage of business in quite irrelevant.

Graph 3: Type of investments



Analyzing the average amount of money invested by social investors (Table 1) in both social organization and not social organizations, the outcome is that the average investment for social investor in all type of organizations is 230M\$.

Table 1

Variable	Obs	Mean	Std. Dev.	Min	Max
raised_amo~d	68,428	2.30e+07	1.46e+08	0	1.40e+10

It's interesting to see that instead the average investment of social investor in social organizations (Table 2) is higher.

Table 2

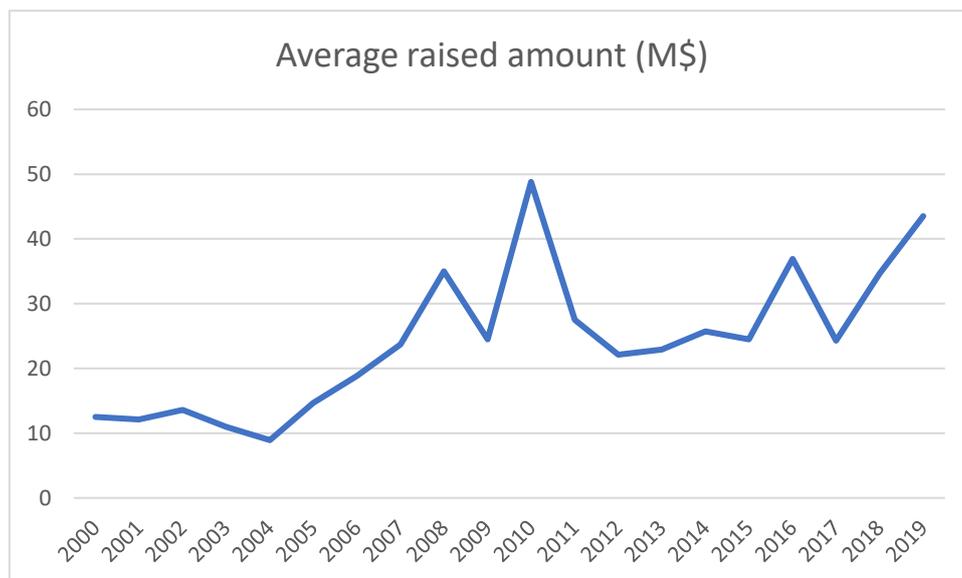
`. summarize raised_amount_usd if social_inv_org==1`

Variable	Obs	Mean	Std. Dev.	Min	Max
raised_amo~d	2,431	2.72e+07	6.61e+07	5000	1.20e+09

The mean investment in this second case is 4,2M\$ higher than the previous analysis; highlighting that social investors prefer to invest into social organizations.

To understand how the market is evolving, has been performed an investigation on how is changed the mean investment of social investors into social organizations from 2000 to 2019.

Graph 4: Average Raised Amount



Graph 4 shows that the average investment is drastically increased respect to the first years of 2000s, and in 2019, the mean investment of a social investor in a social organization is

above 40M\$. The rapid growth of the average investment points out how the market is booming and the growing interest of investors.

A second step has been done to understand what is the level of capitalization that social organizations receive from social investors compared to founding received from other sources. As can be seen from table 3, social organizations are financed for more than 40% by social investors, therefore it can be assumed that social investors have a primary role in the advancement and financing of social organizations.

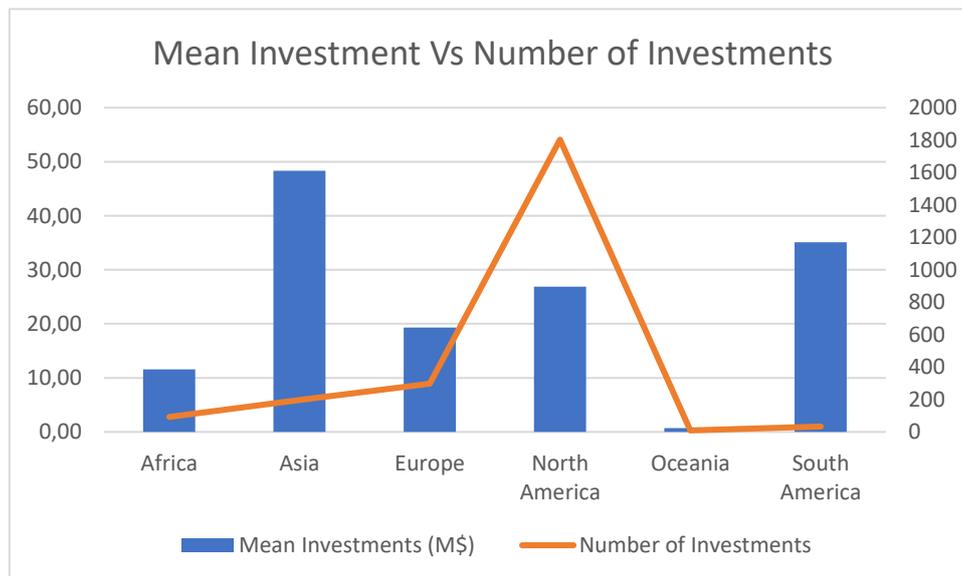
Table 3

`. summarize percentage_of_raised_amount_USD if social_inv_org==1`

Variable	Obs	Mean	Std. Dev.	Min	Max
percentage~D	2,431	.4134479	.3405198	.0002459	1

Going deeper in the analysis was interesting to understand in which continent there are the higher volumes of financing in terms of average amount of capital invested from social investors into social organization. Graph 5 shows the outcome of the average investment in term of amount of capital compared to number of investments per continent.

Graph 5: Mean Investment vs N° of Investment



From the study it is possible to highlight that developing continents such as Asia and South America, although if there is still a small number of investments made into social organizations, it is important to note that the average investment is extremely high.

Especially in Asia the average investment is around 50M\$, doubling the average investment in North America, that as explained before is the leader continent for number of investments. A possible explanation is that developing countries are highly investing and strongly believe in Social investing.

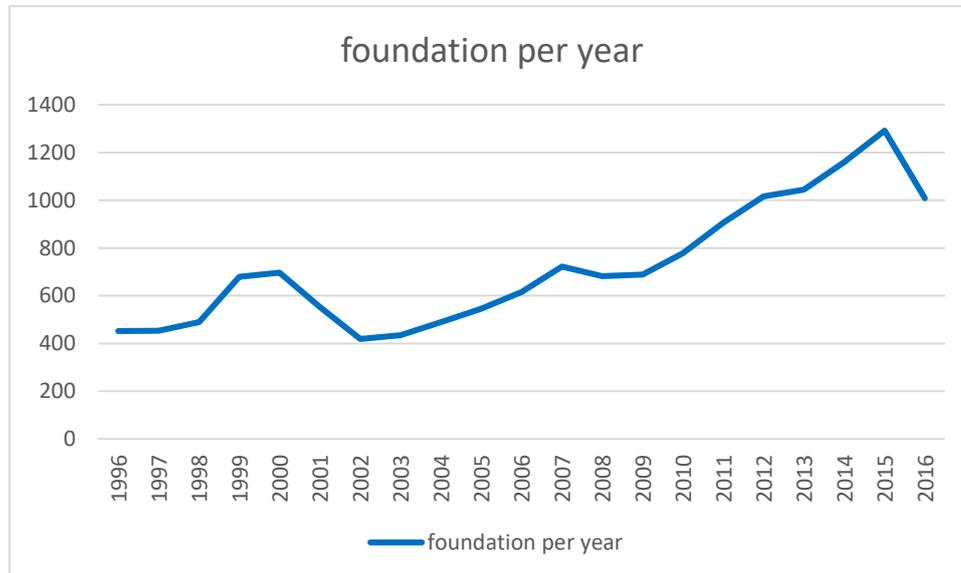
Even if social investments in these continents are still few, in the next years it could be possible to see a great growth of the market.

### 4.3.3 Social Investing Trends

To conclude has been done a study to understand what are the trends of social investors market and how it is evolving in this historic period.

Analyzing the foundations of social investors per year and the closures in the same period of reference, it will be possible to conclude how the market is evolving and whether it is growing or declining. Graph 6 describes the number of social investors founded per year in a twenty years' time period, from 1996 to 2016.

Graph 6: Foundation per year



After a stagnation between 1996 and 2001, where the market has been steady, it is possible to observe a sharp increase between 2002 and 2016.

In this period openings per year have tripled. This analysis highlights how the market of social investing has boosted in the last years and probably has not reached his peak yet, and in the next years we will see a further growth.

The phenomenon of social investing is growing rapidly and the opening of social investors per year confirms it.

## Chapter 5: Syndication

### 5.1. General Introduction

Among the types of investments most used today by private equity and venture capital funds to finance companies and start-ups in the embryonic stage, there is syndicate investing, a type of co-investment aimed at dividing both risks and gains.

Syndicate investing allows all investors (so-called backers) to co-invest with experienced investors (so-called lead investors), in investment rounds that are usually not very accessible.

In this way it is possible to equip the startup with the capital necessary for the growth path, reducing the risk of investing alone.

In the case of private equity, syndication is said to occur when at least two PE firms carry out a joint investment with a view to sharing the profits (Wilson 1968).

The syndicate partners, shares the due diligence costs for evaluation of the company, structure the transaction and establish the shareholdings; thanks to this mode of investment, venture capitalists may also have the option of compare their knowledge with those of other investors, so as to have a shape to "verify" their choices.

The risk of exploitation of confidential informations by the partner has to be take into consideration, however, it is well documented, in literature, how the positive aspects of creating a syndication prevail: the network of investors facilitates the flow of information and facilitates it monitoring operations, alleviating the problems of information asymmetry towards the target company. The primary reason to co-investing is sharing of knowledge rather than spreading of financial risk (Bygrave, 2017).

It is possible to reassume the advantages of syndication investing with the follow elements:

- **Diversification:** Possibility of making more investments with the same capital allocation.
- **Investment Framework:** Join expert investors (lead Investors) is important to increase the chances of new rounds and subsequently exits.

- **More capital:** The startup raises more capital, from different investors, in a single process.

Within syndication investment, there are generally one or more investors for the particular role assumed of the lead investor (Wright & Lockett, 2003), generally identifiable by the higher amount paid into the co-investment.

The lead investor can be represented as a connecting role between the syndicate partners and the target company: he tries to coordinate the two parties, solving information problems through active monitoring, thus attracting “less informed” investors. Often, we witness the entry of additional investors in subsequent funding stages; the role of lead investor is often hired by the investor involved from the first rounds, to which they will work alongside new partners in the following stages. (Lerner, 1994)

The features of a Lead investor can be summarized as follows (Venture, 2018):

- Invest at least 10-15 percent of the round.
- Work with the start-up to set the valuation and terms of investment.
- Represent the investor syndicate during fundraising (pitch on behalf of the startup, review term sheet, answer investor queries)
- Based on the board seat allocated, sit on the board of the startup or as an observer.
- Work with the startup on the next rounds of funding.

Other Investors (backed) when join a syndication investment should be careful about the lead investor ability to perform an accurate due diligence and also to be aligned with the performing strategy that the main investor wants to carry on and subsequently the exit strategy.

### **5.1.1. Syndication in Venture Capital**

Venture capital as covered in the first chapter of the thesis, is characterized by high uncertainty and risk since the nature of the companies financed. Typically, the size of the investment and, consequently, the levels of risk associated with it, increase across the rounds.

For these reason Venture Capital firms tend not to invest alone. In fact, as much as 90% of VC firms coinvest, or “syndicate” with other VC firms, 50-60% of all VC investments in start-up are syndicated. Syndication allows VC firms to share risks and to reduce uncertainty.

Syndication also allows the firm to build relationships, with their co-investors, to secure access to future deals (Ruling Zhang, 2021).

Moreover, Syndication investment are widely used in the impact investing, since the risk of investing in impact projects is higher than it is in traditional investments.

With the following analysis we are going to highlights which are the main trends of syndication in impact investing and how syndication is influenced by several characteristics of Venture Capital funds.

## 5.2. Syndication descriptive statistics

The first step in order to perform the analysis on the database regarding the syndication investment was to create the variable syndication that it is equal to 1 if there has been syndication in the investment round.

```
generate syndication = 1 if strpos( investor_types, "syndic")>0  
replace syndication = 0 if strpos( investor types, "syndic")<=0
```

The analysis of the variable Syndication has given the following output.

```
. tab syndication
```

syndication	Freq.	Percent	Cum.
0	380,150	99.89	99.89
1	404	0.11	100.00
Total	380,554	100.00	

It can be concluded that syndication investments just represent only a small part of the investment database taken into consideration for the thesis work. The characteristics of this investment in the context of impact investing will be described below.

## 5.3. Description of the model

The model consists in a linear regression composed by 7 variables taken by the analysis of the database.

$$\text{Syndication} = \alpha + \beta_i \times \text{explanatory variable}_i + \varepsilon$$

The regression was performed thanks to the software Stata 14.

### **a. Variable used to define the analysis**

As main dependent variable has been decided to use the Syndication variable that is equal to 1 if there has been syndication in the investment round and 0 otherwise.

The analysis performed thanks to the study of the database has the goal to understand how syndication it is influenced by Impact Investing.

In order achieve this goal has been decided to use 7 Independent variables to see how they are correlated to the Dependent variable and what is their impact on the probability of Syndication.

In particular the variables chosen are:

- **Social\_backed\_round**: That is a Boolean variable that is equal to 1 if there is at least one social investor in the investment round and 0 otherwise;
- **Dummy\_investment\_type (1-24)**: Every variable stands for a different type of investment used to finance the organization (Seed, serie A, Serie B, etc);
- **Investor\_count**: The number of investor present in the investment round;
- **Raised\_amount\_usd**: The amount of US dollars collected during the round, how it impacts the probability of syndication;
- **Lead\_Investor\_social**: Boolean variable that is equal to 1 if the lead investor is social and is equal to 0 otherwise;
- **Investor\_Investment\_count**: Represents the number of investments per investor taking part to the investment round;
- **Inv\_year\_from\_foundation**: number of years from when the organization has been founded at the moment of the financing round.

### **b. Hypothesis**

Considering the initial stage of impact investing linked to venture capital and the high risk associated with investments in this sector and thanks to the results obtained in previous analyzes; it was possible for us to arrive at the following hypotheses that we will verify with the regression analysis.

**Hypothesis 1:** The presence in the investment round of at least one social impact investor has a positive effect on syndication.

**Hypothesis 2:** The fact that the lead investor is a social investor has a positive impact on the probability of syndication.

**Hypothesis 3:** The greater the number of investors in an investment round, the greater the probability of syndication.

In the following paragraph, the analysis will be conducted to draw conclusions on our hypotheses.

#### 5.4. Result analysis

Regression results are reported in Table 7, statistical significances, which can be concluded thanks to the p-value of the different variable are described below.

syndication	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
social_backed_round	-.1439824	.0539412	-2.67	0.008	-.2497051	-.0382596
dummy_investment_type1	.2592051	.1090532	2.38	0.017	.0454647	.4729454
dummy_investment_type2	.0990031	.1669499	0.59	0.553	-.2282128	.4262189
dummy_investment_type3	0	(omitted)				
dummy_investment_type4	0	(omitted)				
dummy_investment_type5	1.512506	.1234701	12.25	0.000	1.270509	1.754503
dummy_investment_type6	0	(omitted)				
dummy_investment_type7	.3318363	.3515323	0.94	0.345	-.3571544	1.020827
dummy_investment_type8	0	(omitted)				
dummy_investment_type9	.2594021	.3355766	0.77	0.440	-.3983159	.91712
dummy_investment_type10	-.1622949	.3023582	-0.54	0.591	-.7549061	.4303163
dummy_investment_type11	0	(omitted)				
dummy_investment_type12	.318663	.1342798	2.37	0.018	.0554795	.5818466
dummy_investment_type13	-.4035545	.2825288	-1.43	0.153	-.9573008	.1501918
dummy_investment_type14	0	(omitted)				
dummy_investment_type15	0	(omitted)				
dummy_investment_type16	.1801017	.0644804	2.79	0.005	.0537224	.3064809
dummy_investment_type17	-.192223	.0779026	-2.47	0.014	-.3449093	-.0395366
dummy_investment_type18	-.42489	.1095519	-3.88	0.000	-.6396078	-.2101722
dummy_investment_type19	-.3252672	.124881	-2.60	0.009	-.5700294	-.080505
dummy_investment_type20	-.3828198	.1989825	-1.92	0.054	-.7728184	.0071788
dummy_investment_type21	-.2991991	.274165	-1.09	0.275	-.8365527	.2381545
dummy_investment_type22	0	(omitted)				
dummy_investment_type23	0	(omitted)				
dummy_investment_type24	.5917047	.3639864	1.63	0.104	-.1216956	1.305105
dummy_investment_type25	0	(omitted)				
dummy_investment_type26	0	(omitted)				

dummy_investment_type27	0	(omitted)					
dummy_investment_type28	0	(omitted)					
investor_count	.0056625	.0061528	0.92	0.357	-.0063969	.0177218	
raised_amount_usd	2.18e-11	1.57e-10	0.14	0.890	-2.87e-10	3.30e-10	
lead_investor_social	-.4796211	.2699572	-1.78	0.076	-1.008727	.0494852	
investor_investment_count	-.0039678	.00055	-7.21	0.000	-.0050458	-.0028898	
inv_year_from_foundation	-.0132243	.0069047	-1.92	0.055	-.0267573	.0003086	
cons	-2.82031	.0677558	-41.62	0.000	-2.953108	-2.687511	

Tabel 7: Regression Output

The variable Social\_backed\_round is significant at 1% level, so an increase of 1 unit decrease the probability of syndication by 14,3%.

Regarding the type of investment (dummy\_investment\_type), can be concluded that only a few of them have an impact on the probability of syndication. In the specific dummy\_investment\_type1 is significant at 5% level and have a positive impact on syndication; also the variable dummy\_investment\_type 12 has the same impact on the probability of syndication. Dummy\_investment\_type 16 is significant at 1% level and an increase of 1 unit increase the probability of syndication by 18%.

On the other hand, the variable dummy\_investment\_type 18 is significant at 1% level but an increase of 1 unit decrease the probability of syndication by 42%.

The two case when it is highly significant,  $p\text{-value} < 1$ , it is regarding the angel investing, and the equity crowdfunding that have a positive impact on the probability of syndication. This result is in line with our expectations since these two financing method have the peculiarity to join into investments with stronger and bigger investors that have the role of Lead Investor into the syndication.

In the case of Angel, syndicates offers investors clear advantages (Kotelnikov, 2018):

- Pooling money to invest in larger deals otherwise out of reach;
- Diversification across multiple investments;
- Leveraging and sharing of network contacts and investment expertise;
- The ability to add more investments to an existing portfolio;
- The ability to add further follow-on rounds to existing investments.

The variable Lead\_investor\_social is statistically significant at 10% level, and an increase of 1 unit decrease the probability of syndication by 47%.

Thus, the presence of a Lead social investor in the round seems to have a negative effect on the syndication. This can be explained by the fact that social investors nowadays are not

considered has expert investors that can lead an investment and bring results to the co-investors. Being investors new in the market, they are not considered reliable by the rest of the investors that prefer rely on more expert investors to embody the role of lead investor.

The variable `investor_investment_count` is highly significant at 1% level and an increase of 1 unit decrease the probability of syndication by 0,4%.

All the other variables taken into consideration during the analysis are not significant, so it can be concluded that they do not have an impact into the probability of syndication.

## **Chapter 6: Results and Conclusions**

This present thesis work had the scope to analyse the status and the perspectives of the impact investing market, with a special focus on the way syndication is used as instrument of financing in this particular sector.

To this end, a considerable effort in terms of research and analysis of the extant literature was made, so to understand which are the main trends of social investing and to understand how syndication is used.

The analysis has confirmed that the phenomenon of impact investing is growing strongly and especially in the last 10 years, we have seen a rapid increase both in terms of volume and value of investments.

In the specific the study has confirmed that the most common type of investor is the Venture capital, followed by Private equity that as said in the in the first chapters of introduction, are the most active investors in the impact investors worldwide.

In the specific they prefer to invest in promising start up, committed in the impact investing, to increase their value and afterwards optimize profit through an Exit or an IPO.

In order to finance these organizations, investors use different types of investments, in the specific the Equity investments are largely used, as was expected by the theory, while debt instruments have a niche role in the market.

In particular the financing rounds with biggest volume of investments are Seed and Serie A, used to finance the first phase of development of the start-up.

The following investments rounds (Serie B, Serie C and later), as shown by the analysis, are less and less used, highlighting that only few investments have positive results and deserve further funds to expand their business.

Moreover, the study has confirmed that the continents with the highest volume of investments focused on Impact investment are North America, followed by Europe and Asia, and same continents are the ones with the highest concentration of social organizations that receive these funds.

Nevertheless, the trend is positive worldwide, and in particular in the development countries such as Asia and South America, where the market is likely to see a strong expansion in the next years. As proof of this assumption is the fact that even if the number of investments in these continents are still few compared to the developed continents, the average investments in terms of value is considerably higher; underlining that there are still few social organizations in which to invest but that the market is growing strongly.

Dealing with the regression performed in order to understand how Syndication is used, has been possible to conclude that the features regarding social investing, such as the presence of a social investor in the round or the presence of a social lead investor, have a negative impact on the probability of syndication in the investment round.

A possible explanation is that being social investing still a niche market, nowadays not many investors are interested in investing, and they don't believe that these kind of investments can bring financial results especially in the short term.

Moreover, social investors are not believed to be expert investors, being new on the market, and for these reasons investors could be reluctant to invest with them.

Following our results in the next years probably we will see a change, and investors will start to consider social investors as reliable and social investing as a way to generate also a financial results and not just a way to help the planet.

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