



SIB for Growth

Education & integration through social finance

**A project co-financed by the European Programme for Employment and
Social Innovation (EaSI)**

Feasibility Study

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I Introduction

The present document illustrates the feasibility study carried out under the project 'SIB for Growth: Education and Integration through Social Finance' financed by the European Programme EaSI 2014-2020. The project was meant to set up and showcase a specific financial instrument, namely a Social Impact Bond (SIB), designed to tackle the problem of immigrant students' early school leaving, while promoting their integration in the Region of Piedmont. Finpiemonteⁱ, the Regional Government of Piedmontⁱⁱ, Next Level Associationⁱⁱⁱ and Piedmont Forum of the Third Sector^{iv}, established a partnership in 2017, to make the SIB viable in 2018.

The project 'SIB for Growth' has been developed in the wider context of the rise of impact investing. The concept of impact investing has been attracting the increasing interest of civil society, financial institutions and governments worldwide. Impact investing is seen as a new paradigm to cope with the economic crisis and the curtailed public budgets and as an answer to the more and more diversified social needs. Also, private investors have been increasingly interested in the concept of impact investing, in their search for new investment opportunities to channel the enormous liquidity available. New investment approaches are needed to address social and economic challenges, including new models of public and private partnership which can fund, deliver and scale innovative solutions from the ground up.

In such a context, the project 'SIB for Growth' is broadly intended to promote the framework of impact investing with the aim of mobilizing public commissioners, private investors, and social service providers, to further develop the social investment market in Piedmont. SIB is indeed a 'game changing' solution which entails a radical shift in the way public

authorities deliver resources to social service providers.

First, reimbursement/payment for social service providers is strictly on the basis of the social results achieved, thus focusing more on social change than service provision; valuing outcomes more than outputs and assessment more than accounting. With a SIB, instead of public authorities paying for inputs at the outset of the contract, they pay for end results or for midterm milestones defined within the contract. This shift from outputs to outcomes is important because it signifies a commitment to pay for the achievement of policy objectives, as measured by outcome indicators, instead of simply paying for an activity. Unlike other public service commissioning models, the measurement of social outcomes is a necessary component of a SIB, since this functions as the trigger for payments by the commissioning authorities and is the basis on which investors are repaid. As such, SIBs are seen as an innovative tool for delivering better social outcomes whilst ensuring value for money for public spending.

Second, a SIB opens new sources of funding by attracting private resources and developing new models of public and private partnership which can fund, deliver and scale innovative solutions from the ground up. A SIB adds a financial circuit to the pay-by-results model that enables the service delivery organization (typically a social enterprise) to be paid up-front during the contract while the investors are paid upon output delivery or at milestones.

Setting up such 'ground breaking' innovation requires a feasibility study addressing technical aspects related to financial and legal structure of the instrument, mapping best practices already in place, gathering historical data on target groups, and, moreover, building consensus among stakeholders by encouraging constructive criticism while overcoming cultural barriers. The present document illustrates the context in which 'SIB for Growth' has been developed and its creation

process. The study is organized as follows: the first part represents an overview of Social Impact Investing within the international context and provides a more detailed explanation of the SIB mechanism. The second part is focused on the 'SIB for Growth' project and portrays background conditions, activities carried out and their

results in terms of the problem addressed, target group identification, intervention model, outcomes and financial return scheme, governance, legal and financial structure. Technical annexes and acknowledgments are included.

2 Impact investing

Since the concept was first proposed by the Rockefeller Foundation back in 2007, many institutions, practitioners and scholars have provided their own definition of impact investing. According to these definitions and daily practice, there are three main distinguishing features of impact investing:

- ✓ intentionality of social and/or environmental impact, which differentiates it from a pure financial investment;
- ✓ generation of financial returns which sets it apart from a philanthropic approach;
- ✓ additionality of impacts, which means that the investment must increase the quantity or quality of the social or environmental outcome beyond what would otherwise have occurred through traditional investment. Hence, the measurement of social and environmental performance, a hallmark of impact investing, is essential in order to prove the impacts achieved and the additionality of these results.

Impact investing targets enterprises and projects where the impact and the financial return on invested capital are both part of the same business mission, thus the social objectives are never pursued at the expense of profitability. The combination of financial and social returns is possible by directly addressing issues and markets where a social or environmental need creates a business opportunity.

The impact investment market has grown significantly in the last few years, shifting from 10.6 US\$ billion in 2014 to 77.4 US\$ billion in 2016, according to the GIIN^v estimates. The market is projected to grow to 300 US\$ billion or more by 2020 according to the Global Steering Group on Impact Investment^{vi}. Despite this rapid growth, impact investment remains only a fraction of the global financial market (for example, global private-equity assets under management were about 2.5 trillion in 2016^{vii}).

Impact investing has attracted a wide variety of investors, both private and institutional, with different levels of commitment and interest towards this investment approach:

- HNWIs and family offices
- Foundations and religious institutions
- Financial development institutions
- Mainstream investors like banks, pension funds and insurance companies.

While some mainstream investors are already making a play in impact investing, the ecosystem is still quite early stage, fragmented and largely comprised of niche players.

In terms of financial instruments, impact investing builds upon traditional finance with new applications and vehicle structures. Many asset classes (i.e. equity, debt, fixed income, real estate and infrastructure) offer impact opportunities, however the most common way for investors to invest in impact opportunities is through investment funds and SIBs.

Impact investment funds represent the most used vehicles, with 310 impact funds active worldwide. These funds adopt the venture capital investment approach and are differentiated by their target sector or geography, and expected return. They make small to mid-cap growth equity investments to sustain the growth and the scaling of new and young impact ventures.

Examples of impact funds include Bridges Venture (UK/US), Social Venture Fund (Germany), Phitrust Impact Investors (France), Oltre Venture (Italy), SJF Ventures (US), and Bamboo Finance (Singapore).

Notably, the US Small Business Administration and the European Investment Fund have launched dedicated facilities to stimulate the creation of new impact funds. SIBs are a pay-for-success contract with the public sector in which a private investor provides the investment capital to fund an intervention to address a social challenge, typically related to behavioural change.

The investor is paid a financial return based on the savings actually achieved as a result of a successful intervention.

SIBs have spread around the globe in the past five years. In the context of continuing pressure on public budgets in the aftermath of the economic crisis, a financing mechanism for social policies that promises to mitigate the public sector risk, increase effectiveness and pay for services now while requiring public contributions later, is likely to attract attention. Few policy tools have been disseminated so far and so fast. Since the first SIB was launched in 2010, 89 others have been set up in 11

countries representing an investment of over 200 million EUR.

While the expectation of a return is implicit in any impact investment, the expected rate of return can vary widely. According to the latest survey of the GIIN in 2016, 59% of investors sought risk-adjusted market returns. One quarter expected below-market returns, and 16% simply wanted a rate of return close to capital preservation. Notably, despite a perception among some investors that impact investments deliver lower returns, a benchmark developed by Cambridge Associates showed that, on average, impact investment funds have returned 6.9% over a 10-year period.

3 Social Impact Bond: model and international experience

A Social Impact Bond (SIB) is an innovative financing mechanism in which public authorities (outcome payers) enter into agreements with service providers, such as social enterprises or non-profit organizations, and investors to pay for the delivery of pre-defined social outcomes.

To put it simply, a SIB involves a set of contracts, the basis of which is an agreement by a PA to pay investors for an improvement in a specific social challenge once it has been achieved. Investors provide capital to deliver the intervention, thus assuming the financial risk. These funds are passed onto service providers, generally through an intermediary, to cover the investment and/or operating costs to deliver an intervention to a target group of beneficiaries. If the measurable outcomes agreed upfront are achieved, government will pay the investors the agreed amount of money. In case of lower or higher performance in the achievement of the target outcomes, the payment will be, respectively, higher or lower. In the latter case, no payment will be secured if no outcome is generated. In other words, if the intermediary and subcontractors are not able to generate the expected outcomes, the payment by the authority is cut or cancelled and no return on investment is generated.

The SIB is a sophisticated financial instrument, like derivatives. However, unlike those normally circulating in financial markets, it is not created to encourage speculation, but to promote social innovation and facilitate its scalability.

The complexity of the instrument in this case is not linked to algorithms that make it very difficult to predict the success or failure of an investment, what makes the SIB complex is the network of relationships between the actors taking part in the process. These are in fact linked by a partnership, also recognized under the contractual profile, where the variable 'financial risk' of a traditional investment is added to the variable 'trust'

between the partners who take part in the project. The investor believes in the ability of a certain social service provider to achieve a certain result; public authorities believe that the innovative service has value in economic terms; finally all the actors trust their counterparts to respect their contractual obligations.

The term 'bond' used to define the SIB is actually a misnomer. In financial terms, SIBs are not real bonds, as its financial model and the profile of the flows generated are not standard (plain vanilla) with a fixed remuneration (coupon) and the certain return (except bankruptcy of the issuer) of the nominal value of the principal loaned at maturity. The SIB yield is variable, similar to public share prices, which change (at least in theory) based on the performance achieved by the company. In this case the remuneration is linked to the results of the activity financed in terms of social value created.

In the majority of cases, investors use an intermediary to facilitate the selection of the most appropriate, efficient and effective service provider. The intermediary can be a foundation, a specialized organization or a SPV (special purpose vehicle), which is created to implement the SIB and to manage the financial flows. An SPV can be an optimal solution in order to insulate the SIBs, in a legal and financial perspective, from its stakeholders. Investors can provide the money to the SPV in the form of equity, debt or mezzanine financing (also known as junior debt, whose repayment is made after the senior debt has been repaid, yet before the distribution of dividends, which represent the remuneration for the equity invested).

SIBs were developed in the UK, where the Government chose, in the end of 80's, to involve the private sector in the delivery of many public services, especially those that could not be privatized, in order to increase efficiency and effectiveness. In this context, the UK

Government conceived the so-called “Private Finance Initiative” (PFI), under which an SPV is set up by industrial operators and financial investors to design, build, finance and manage infrastructure, such as hospitals, federal buildings, schools, motorways and public transport systems.

In the PFI model, private investors are repaid for the investment made and the service delivered by charging an availability fee, to which deductions are applied in case Key Performance Indicators (KPIs) are not met. The PFI is based on a Public–Private Partnership contract, mainly funded by a project finance loan or a project bond. Equity and debt investors and industrial operators (such as construction and management companies) are repaid through the availability charge. It can be noted that the SIB model is quite similar to a PFI/PPP scheme. The main difference is the underpinning goal. A SIB does not focus on an infrastructure–based service, as does a PFI/PPP scheme, but on a social issue that requires new approaches (a social innovation). Furthermore, as a SIB is focused on social challenges, it generally involves a plurality of stakeholders.

The number of successfully launched and financed SIB's is rapidly growing. Three lists are worthy of mention: the Canadian SIBs Tracker website^{viii}, the map of SIBs on the Social Finance website that has now been transferred to the Centre for SIBs^{ix}, and the database of Instiglio^x. Some differences between the databases arise because of variations in the way a SIB is defined and in the way they are classified (according to their phase of development).

According to the Instiglio database, which appears to be the most up-to-date of the three, 113 SIBs are registered to date at the international level.

The majority are in the implementation phase, while 1/3 is in the design phase.

Desk research on these SIBs has been conducted. For each, a series of key variables were taken into consideration, such as the place of issuance, geographical coverage, capital collected and duration.

Among these, 56 SIBs were chosen on the basis of their geographical location, selecting areas which are comparable on the basis of similarities between their welfare states.

Among these 56 SIBs, some case studies have been further examined according to the following three dimensions:

- those already launched and operational, in the areas of education and welfare for children and families
- those with a target population similar to that of SIB for Growth
- those with the evaluation of academic results as a primary outcome.

In annex 1 a detailed analysis of these SIBs is reported. Parallel to the desk research, an in-depth analysis on 7 SIBs was conducted, selecting those operating in two thematic fields, education and migrants. Each SIB has been analysed both through the examination of documents/ publicly available data and by conducting interviews with actors involved in the implementation. In annex 2 a report of this analysis is presented.

4 SIB for Growth: a SIB in Italy to prevent early school leaving among immigrant students

As anticipated in the first paragraph, the ‘SIB for Growth’ is intended to implement a SIB to finance an intervention to reduce the early school leaving rate of immigrant students in Piedmont. This chapter portrays background conditions and the activities carried out by the partners in terms of: understanding the social problem to be addressed; identifying the target population; defining the intervention strategy; defining the expected results; and estimating the expected gains (cost savings, extra revenues) from the implementation of the SIB.

4.1 Background conditions: opportunities and limits

In the years directly after the financial crisis there was in Italy a relevant discussion about impact finance, as a way to jump-start the economic cycle. As a result, funding began to shift from subsidies and public funding, to different interventions including public-private partnership based on the level of payment by results.

An overall change in the third sector regulation is also taking place, through the so-called “Reform of the third sector Law” that was legislated in 2016 (legislative decree, n° 112/2017) and should be operational from 2019, which introduces several modifications that could leverage social impact investments. The reform entitles social enterprises, if registered as companies, to distribute dividends within certain limits. Tax deduction for investments in social enterprises has also been included in the new legislation. Furthermore it is worth noting that impact measurement and management, which are key aspects of SIB implementation, are quickly spreading in the Italian social policies adopted by Public Authorities and by notable private foundations, such as the Public-Private Social Enterprise “Impresa con i Bambini”.

Focusing on Social Impact Bonds, in 2017 a feasibility study on Pay by Results contracts was issued by

Fondazione Sviluppo e Crescita CRT and Human Foundation^{xi}; it focused on the viability of a Pay by Results scheme in the sector of social and employment reintegration of ex-prisoners. Finally, a 25 million Euro Social Innovation Fund was set up through the Budget Law, in December 2017, with the aim of piloting impact contracts.

On one hand, it seems that social impact contracting and investing is gaining momentum in Italy, while on the other, limitations to its full grounding and expansion in Italian social economy still exist. Limiting factors which have been recorded include cultural barriers, scepticism, and fear, among the private financial players, of dealing with third sector organizations and public administration officers.”

Such barriers may be rooted in objective limitations such as weak leadership and managerial skills in the PA, including weaknesses in strategic planning and performance management, as well as poor financial literacy both in the PA and in the third sector. Strong restriction in national procurement and budget laws, traditional challenges in government-government relationships, and a shortage of technical tools (e.g. contract templates.) also hinder innovation in the field. As a pilot experiment, ‘SIB for Growth’ represents an attempt to overcome such limits and pave the way for future replications.

4.2 Activities undertaken to set up the ‘SIB for Growth’

‘SIB for Growth’ has undertaken a stream of actions to solve financial, technical and legal problems while gathering inputs from relevant stakeholders and engaging them, from the very outset, in discussions as part of the consensus building process. This effort was guided by the conviction that the SIB is a community development tool as much as a financial instrument, and therefore took the preparatory phase as an

opportunity for establishing the ecosystem needed for future SIB implementation. The main activities undertaken are described as follows:

1. framing the political priorities and problems that the Regional Government wanted to address through a Steering Committee Group and its regular meetings;
2. intelligent targeting of the identified population through the analysis of historical statistical data on native and immigrant students in the Turin Area, and of data on the student population distribution in 2017 per nationality, age, gender and background;
3. financial engineering;
4. intervention model development through qualitative research (10 semi-structured individual interviews) and two workshops involving third sector organizations/enterprises, and focused on effective practices already in place, their costs and potential for innovation;
5. procurement and contracting design with a legal advisor, investigating public-private partnership under the Italian public procurement regime, drawing up competitive dialogue procedures and two contract models (commissioner-provider and provider-investor);
6. involvement of lower secondary schools to agree on intervention goals, process and timeline, school staff and teacher involvement, and referral procedures to link providers and students.

4.3 Identification of the social problem to be solved

Early school leaving (ESL) is a major social and educational problem for Europe, as it generates high costs for individuals and for society. Numerous studies have shown that ESL is related to important socio-economic phenomena, such as the risk and increase of unemployment, low pay with limited contractual protection, precariousness, and non-specialized professional services, which all contribute to overall increased risk of poverty. ESL is socially burdensome

and harmful as a further year of school education can increase earnings by 4% -10% over the life span of the individual^{xii}. Furthermore, the damage sustained by ESL goes far beyond the economic. For example, individuals who stay longer on a scholastic path, on average, have greater satisfaction in their work, make more informed decisions about their health, social life, etc., and increase their non-cognitive skills. Their exclusion from work life goes hand in hand with a reduction in opportunities to take part in lifelong learning, leading to a further narrowing of the chances of obtaining employment.

For society and the economy, poor education produces low levels of human capital, inadequate skills, insufficient knowledge, reduced competitiveness, all of which translate into lower employment rates, lower economic growth and lower tax revenue on one hand, and higher unemployment benefits, social welfare benefits, and increased public and health spending on the other.

Different phenomena - social environment, gender, age, geographical location - result in different conditions of educational exclusion: early school leaving, NEET^{xiii}, and the achievement gap. Students get lost from one cycle to another and are not intercepted: they migrate between schools, attend occasionally and passively, and then disappear from the circuit prematurely. They do not learn enough or acquire uncertain and poor knowledge that compromise the prospects for cultural and professional growth.

Although there is still a lack of evidence pointing to the underlying reasons for this phenomenon^{xiv}, it is clear that early school leavers are more likely to come from immigrant student groups, as their 'early school leaving rates are nearly twice as high as those of the native population'^{xv}.

Italy, compared to other European countries, ranks among the worst performing both in terms of students' overall performance and the gap between native and migrant students. Together with other countries in Southern Europe, it is characterized by a school system that appears less effective judging by the low academic

level reached, on average, by its 15-year-old students, and its problems integrating migrant students.

According to OECD data^{xvi}, migrant students repeat grades with much higher frequency than their Italian counterparts: 14.7% in primary school (against 1.9% for Italians), 41.5% in lower secondary school (7.4% for Italians) and 65.1% in upper secondary school (23.3% for Italians), which increases the risk of dropping out and eventually joining the NEET group. Those who reach upper secondary school level are more likely to choose technical schools (38.5%), followed by vocational schools (37.9%). In terms of basic skills, non-Italian students perform worse than Italians, but those in the second generation perform better than the newly arrived. According to PISA 2015, the gap between Italians and non-Italians is higher than in other European states with comparable levels of immigration^{xvii}. (OECD 2016b). Many studies highlight the link between early school leaving and the NEET condition^{xviii}. Early school leavers are more likely to become NEETs than their counterparts who complete their school education. In addition, school dropouts who are also NEETs are more likely to be vulnerable than non-school dropouts: they remain in this status for a longer period of time and are more alienated from society and/or the job market.

Figure 1 shows the relationship between education level attained and NEET conditions in the Turin area. Figure

2 highlights the difference in the incidence of the NEET condition between native and foreign students, as a consequence, among other factors, of the higher rate of early school leaving among foreign students^{xix}.

Figure 1 – Education level and NEET condition

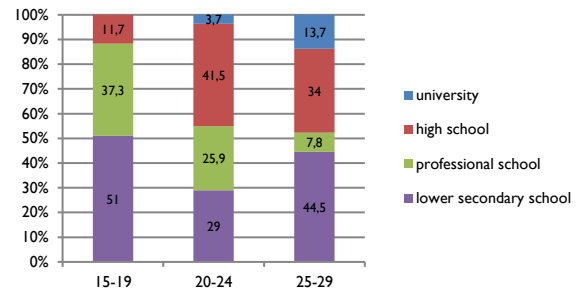
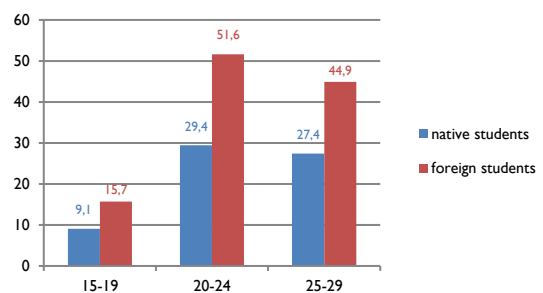


Figure 2 – NEET in Turin area



The negative social consequences produced by early leaving from education and training do not stop with the passage from one generation to the next, but can last over time if an improvement of economic and life conditions doesn't take place. In fact, parents with low levels of education are likely to attribute little value to education and knowledge, exposing their children to greater risks of early school leaving and unemployment.

4.4 Identification of the target population according to risk profile

The definition of the ‘target population’, namely the group for which the interventions are financed^{xx}, is one of the first steps in the process of implementation of a SIB. Clear criteria must be established to identify the target population, because it is on the basis of their characteristics and needs that the intervention to be implemented is designed. If the definition is not sufficiently targeted, intervention may be too widespread to have a significant impact. If the definition is too narrow, the target population may be too small to demonstrate a statistically significant effect.

Before moving on to the description of the selection process it is necessary to explain how the Italian education system is organized. It comprises three cycles, plus a pre-primary cycle (scuola dell’infanzia) for children between 3 and 6 years of age^{xxi}:

- first cycle of education lasting 8 years, made up of:
 - primary education (scuola primaria), lasting 5 years, for children between 6 and 11 years of age;
 - lower secondary school (scuola secondaria di I grado), lasting 3 years, for children between 11 and 14 years of age;
- second cycle of education offering two different pathways:
 - state upper secondary school (scuola secondaria di II grado), lasting 5 years for students from 14 to 19 years of age. It is offered by licei, technical institutes and vocational institutes;
 - three and four-year vocational training courses (IFP), organized by the Regions;
- higher education offered by universities, including polytechnics, institutes of the Higher Education in Art and Music system (Alta Formazione Artistica e Musicale, AFAM) and Higher Technical Institutes (Istituti Tecnici Superiori, ITS).

Education is compulsory for ten years between the ages of 6 and 16. This covers the whole of the first cycle of education, which lasts eight years (five years of primary school and three years of lower secondary school), and the first two years of the second cycle. After completion of the first cycle of education, the final two years of compulsory education (from 14 to 16 years of age) can be undertaken at a State upper secondary school (liceo, technical institute or vocational institute), or on a three- or four-year vocational education and training course which is within the jurisdiction of the Regions.

To select the target population we identified the most important risk factors that can be interpreted as predictive of school drop-out rates or increased risk of abandonment, using a comprehensive database, which collects statistical data on students in the Turin area (95% coverage of schools, 92% of students). A synthesis of our analyses is presented in annex 3.

The database, managed by the Municipality of Turin with the aim of offering a school guidance service for students at the end of lower secondary school, was integrated by the Giovanni Agnelli Foundation with data and information from the national observatory managed by the Ministry of Research and University. In this way it was possible to put together data on the personal characteristics of students and their families and information on their school results.

Probit models have been applied to estimate the probability of three ‘events’:

1. Failing the 8th grade exam (last year of lower secondary school)
2. Choosing vocational training courses (3/4 years) instead of upper secondary school lasting 5 years. Compared with pathways in mainstream education, vocational training courses are shorter (3 or 4 years), make more use of laboratories and periods of work experience, and aim for faster access to the job market.
3. Failing the 9th grade course (first year of upper

secondary school/vocational training course)

Four risk factors have been considered as regressors:

1. Gender
2. Regularity over the course of studies (no course repetition or delayed entry)
3. Origin: born in Italy with Italian parents, born in Italy with foreign parents (2nd generation immigrants),

born in a foreign country with foreign parents (1st generation immigrants)

4. Parents' educational background

In the following figures the estimation results are reported.

Figure 3 – Event 1: failing the 8th grade exam

		average risk	additional risk
		3,40%	
gender	female		-0,70%
	male		0,80%
regularity	early entry (12 years old)		-0,30%
	regular (13 years old)		-0,50%
	late entry/failure (14 years old or older)		2,50%
origin*	Italian		
	2nd generation		
	1st generation		
parents' cultural background	university degree		-1,50%
	upper secondary school degree		-0,30%
	lower secondary school degree or below		3,10%
	unknown		0,60%

* regularity and origin are highly correlated, thus you can consider just one of the two

Figure 4 - Event 2: choosing vocational training courses instead of upper secondary school

		average risk	additional risk
		3,2%	
gender	female		- 0,7%
	male		+ 0,9%
regularity	early entry (12 years old)		- 1,5%
	regular (13 years old)		- 1,0%
	late entry/failure (14 years old)		+ 15,2%
	late entry/failure (15 years old)		+ 48,6%
origin*	Italian		
	2nd generation		
	1st generation		
parents' cultural background	university degree		- 2,5%
	upper secondary school degree		- 0,6%
	lower secondary school degree or below		+6,4%
	unknown		+ 2,9%

* regularity and origin are highly correlated, thus you can consider just one of the two

Figure 5 - Event 3a: failing the 9th grade (in vocational training course)

		average risk	additional risk
		14,2%	
gender	female		- 1,1%
	male		+ 1,2%
regularity	early entry (12 years old)		- 1,3%
	regular (13 years old)		- 0,6%
	late entry/failure (14 years old)		+ 6,5%
	late entry/failure (15 years old)		+ 13,8%
origin	Italian		- 0,6%
	2nd generation		+ 4,2%
	1st generation		+ 5,3%
parents' cultural background	university degree		- 5,9%
	upper secondary school degree		- 1,3%
	lower secondary school degree or below		+ 8,5%
	unknown		+ 5,1%

Figure 6 - Event 3b: failing the 9th grade (in upper secondary school)

		average risk	additional risk
		11,7%	
gender	female		- 1,3%
	male		+ 1,4%
regularity	early entry (12 years old)		
	regular (13 years old)		
	late entry/failure (14 years old)		+ 3,7%
	late entry/failure (15 years old)		+ 7,6%
origin	Italian		
	2nd generation		+ 2,3%
	1st generation		+ 3,1%
parents' cultural background	university degree		- 2,4%
	upper secondary school degree		- 1,6%
	lower secondary school degree or below		+ 3,4%
	unknown		+ 3,0%

These data allow the association of a probability value to each student, given the characteristics in terms of gender, origin, regularity and educational level of the parents. For example, it can be said that the average probability of not passing the 8th grade exam is 3.4%, but for a male with a delay in the course of study and poorly educated parents (lower secondary school or less), the probability will exceed 9%.

Based on these data, it is therefore possible to select the target population and to define, for students in the

target population, the risk of dropping out before obtaining a diploma, thus becoming NEET or low-income workers. The process is structured as follows:

- selection of lower secondary schools in Turin area with the highest percentage of foreign students (Figure 7);
- calculation of the level of risk for students attending the 1st class of lower secondary school in 2017/2018 (Figure 8)

Figure 7 – Schools with highest percentage of foreign students

Lower secondary school	Students	Foreign students	
		n°	%
Giovanni Cena	60	16	26,67%
Leonardo da Vinci	225	74	32,89%
Antonio Pacinotti	96	42	43,75%
Manzoni	94	39	41,49%
Adelaide Cairoli	53	16	30,19%
Di Via Ricasoli	108	59	54,63%
Regio Parco	82	37	45,12%
Vivaldi Murialdo	177	48	27,12%
Sandro Pertini	116	39	33,62%
Di Via Sidoli	44	11	25,00%
Vittorino Da Feltre	69	24	34,78%
L.B. Alberti	176	55	31,25%
Torino I	68	46	67,65%
Torino II	127	93	73,23%
Parri Vian	263	73	27,76%
G. B. Viotti	219	117	53,42%
Norberto Bobbio	259	103	39,77%

Figure 8 – Level of risk for selected schools

Lower secondary school	Failing grade 8	Failing grade 9*	Failing grade 10*
Giovanni Cena	4,89	16,21	16,21
Leonardo da Vinci	5,58	18,22	18,22
Antonio Pacinotti	5,41	17,28	17,28
Manzoni	5,39	17,25	17,25
Adelaide Cairoli	5,28	17,39	17,39
Di Via Ricasoli	5,3	17,76	17,76
Regio Parco	5,41	17,43	17,43
Vivaldi Murialdo	5,29	17,24	17,24
Sandro Pertini	5,37	17,73	17,73
Di Via Sidoli	5,29	17,34	17,34
Vittorino Da Feltre	5,27	17,51	17,51
L.B. Alberti	5,35	17,27	17,27
Torino I	6,07	18,93	18,93
Torino II	4,87	17,03	17,03
Parri Vian	5,43	18,1	18,1
G. B. Viotti	5,21	17,11	17,11
Norberto Bobbio	5,02	17,09	17,09
Average value	5,08	16,91	16,91

* for grade 9 and grade 10, data refer to students coming from the selected school

4.5 Definition of the intervention model

One of the main focus areas of 'SIB for Growth' consisted of qualitative research involving third sector organizations which work with immigrant students and researchers in the field. Ten individual interviews and 2 workshops were conducted to gain a deeper understanding of the early school leaving phenomenon and effective practices already in place in order to define the most suitable intervention strategy. Findings

have shown some very important issues that must be considered to prevent the dropping out phenomenon among immigrant students:

- immigrant students require different types of interventions depending upon whether they are 1st, 1.5, 2nd generation. SIB for Growth will target 2nd generation students who are born in Italy, and 1.5 generation students who have been educated

in Italy from the first year of primary school. These students speak the Italian language, but at home and with peers they often speak their parents' language. Their command of Italian is not strong enough to study complex subjects like law, accounting, history and others.

- According to statistical data, dropout rates peak during the first year of upper secondary school. The main reason is that many immigrant students reach, due to grade repetition during lower secondary school, the compulsory education threshold (10 years of school) after which they are not forced by law to attend school, and leave the education system. New educational challenges (more difficult subjects), new school environments and schedules, could also explain, according to the interviewees, the high rate of drop-outs in the first year. However, a wrong choice of secondary school could also have a negative impact on students' commitment, as described below.
- During the transition to upper secondary school, an over-representation of immigrant students in vocational training courses has been demonstrated, regardless of how successful they might have been in their primary schooling. Such over-representation was explained by the interviewees as mainly an effect of parental expectations. Immigrant parents with a low socioeconomic status often hasten their children's enrolment in the labour market, due to a poor understanding of the complex Italian education system. For all these reasons, they are wary of the academic track and push their children toward the vocational one without considering their academic interests or skills. Unfortunately, the dropout rate reaches 30% in the vocational track. It is about three times higher than in the academic track, because of the so-called 'effetto filiera' and peer negative influence.
- Educational challenges pair with integration difficulties as immigrant adolescents tend to hang

out with friends belonging to the same language community and cultural background.

In light of these findings **three main macro areas of intervention** have been identified and are described in the following paragraphs. It's worth highlighting that 'SIB for Growth' will encourage innovation in addressing immigrants' social and educational issues, by securing a multi-dimensional (educational, social, sports etc.) and multi-level (individual, class, community) approach. The macro-areas identified by the project partners and the Regional Government are described below.

- **Support for the study of advanced and technical levels of Italian**

Language training is essential to help students overcome the obstacles they face in succeeding at school (mixed group activities and, if necessary, individual tutoring). Support for the enhancement of the Italian language must include both educational activities, teaching with the aid of specific tools/books/lessons, and recreational and social activities that foster greater understanding of everyday language. For this purpose, it is necessary to envisage periods devoted both to specific linguistic problems and to spontaneous learning through the development of relational skills. Personalized educational paths attentive to each student's peculiarities and needs must be provided. This activity is intended on the one side to foster literacy, and on the other, to guarantee the continuity of the educational path. Learning Italian not only allows communication with one's peers, but also facilitates the acquisition of lexical knowledge relevant to the various school subjects. Data on academic performance also underscore widespread academic failure of second-generation students who don't have any problem understanding everyday language. The operators must be able to do linguistic-cultural mediation with respect to the gap between what these students are already able to do autonomously and what is required of them in the different disciplines

and their technical vocabularies. This activity should include the analysis of needs through dialogic and self-evaluative methods, involving students in the planning and construction of the training proposal.

- **Guidance and career counselling for teachers, students and families**

✓ Teachers. Teachers need to be supported in addressing diversity to avoid it being treated as a "problem" to be addressed and immigrants students being regarded as needy or disadvantaged. It is fundamental to improve student centred teaching and learning processes, based on adolescents' actual skills and teachers professional development; and collaboration with teachers is therefore essential if the intervention is to be effective. Collaboration with the teachers is also crucial, both to understanding each school's peculiarities and to helping them appreciate the project and endorse it among the students and their families.

✓ Family. It is necessary to improve school-family connection and connections between native and immigrant families, also through transcultural mediation activities. Guidance services for immigrant parents are also required to help them understand the Italian educational systems and its different tracks. Career counselling should be included to work on parental and student expectations to build consensus on educational choices within the family.

✓ Students. Involving the entire class is fundamental to promote social inclusion and to improve students' attitude toward school. Supporting the transition to upper secondary school, by developing self-awareness, career perspective and by offering guidance information, is also necessary.

- **Soft skill development through extracurricular activities**

An inclusive network with sports, cultural, and recreational associations needs to be developed, in order to meet the specific interests and needs of immigrant students engaged in the project. Initiatives such as sports are likely to have a positive impact on student integration. The objective is also to foster the development of soft skills by means of creative and recreational methods such as team working, creative and critical thinking, and problem solving.

All activities can be developed by tutors with different roles and competences, both at curricular and extracurricular levels. Individual as well as group intervention should be carried out simultaneously, paying specific attention to maintaining a strong link between school, community and territory.

4.6 Identification of expected results

As explained in paragraph 4.4 of our SIB, three outcomes will be evaluated: passing grade 8 (last year of lower secondary school), passing grade 9 (first year of upper secondary school/vocational training course) and passing grade 10 (second year of upper secondary school/vocational training course - last year of compulsory education)^{xxii}.

For each outcome, an expected value is calculated using risk profiles as outlined in paragraph 4.4 as baseline data, and a probability structure which is derived both from a benchmarking evaluation (historical data on similar interventions) and from an in-depth analysis by experts, both academics and practitioners.

Figure 9 shows the data for outcome 'failing grade 8'.

In this case the risk of repeating the 8th grade is considered equal to 5.08% (baseline value).

The intervention implemented by the service provider can improve the initial situation (impact indicator > 1), leave it as it is (impact indicator = 1) or make it worse (impact indicator < 1). Based on the evaluated probability distribution the expected value of the repetition rate is equal to 3.76%, which decreases the number of students not passing the 8th grade from 10

to 8. A similar assessment is made for each of the results listed above: failing grade 9 and failing grade 10,

allowing the definition of an overall expected result for the intervention (Figures 10 and 11).

Figure 9 - Expected result for failing grade 8

impact indicator	failing rate	students failing the grade	probability
0,95	5.34%	11	5%
1	5.08%	10	5%
1.3	4.00%	8	40%
1.5	3.39%	7	40%
1.8	2.82%	6	10%
Expected result	3.76%	8	

Figure 10– Expected result for failing grade 9

impact indicator	failing rate	students failing the grade	probability
0,95	17.80%	34	5%
1	16.91%	32	5%
1.3	13.00%	25	40%
1.5	11.00%	21	40%
1.8	9.00%	17	10%
Expected result	12.24%	23	

Figure 11 - Expected result for failing grade 10

impact indicator	failing rate	students failing the grade	probability
0,95	17.80%	30	5%
1	16.91%	28	5%
1.3	13.00%	22	40%
1.5	11.00%	19	40%
1.8	9.00%	15	10%
Expected result	12.24%	21	

4.7 Estimation of gains

In calculating the amount of savings generated by the SIB the following data have been considered:

- the direct costs of repetition incurred to provide one additional year of education to repeaters; these costs are equal to € 7.000 as calculated by the OECD^{xxiii}
- the costs of being a NEET as a consequence of repetition and dropout; these costs are both direct, namely the costs of subsidies and support to sustain the NEETs, and indirect, which include the loss of tax revenue caused by the delayed and/or under-qualified participation in the job market; these costs were estimated by Eurofound for all European countries: for Italy, € 14,337 per year of direct costs and € 757 per year of indirect costs; the lifetime cost is the discounted sum equal to € 156,421.75.

It is important to note that data concerning the condition of NEET are not taken as a result of the SIB, but are considered to be part of the savings generated by the SIB for the Public Administration, thus affecting the variable part of the payment. In other words to evaluate if the intervention is successful we consider only the failing rate (in grades 8, 9 and 10) but we assume that a positive relationship exists between the reduction in the failing rate and the probability of becoming NEET. Thus, reducing the failing rate would lead to a reduction in the number of NEETs. The following methodological hypotheses have been assumed in order to determine how to quantify the costs related to the NEET condition to be included in the total savings generated by the SIB:

- the probability of dropping out before graduation is very much related to the outcomes of the first two years of secondary school; various experts observe, and data confirm, that rejection at the beginning of upper secondary school is often crucial in the decision to leave school; it is assumed that the probability of obtaining a diploma for students arriving at the end of the obligatory schooling (passing 10th grade) is equal to 60%;
- according to public statistics, a young person who has dropped out of school without a secondary school diploma or professional qualification has a significantly increased risk of becoming a NEET. On the basis of Eurofound data, young people with a low level of education are twice as likely to become a NEET than those with a secondary school diploma or a professional qualification, and three times more than those with tertiary education; according to Eurostat data, there is a 25% probability that a high school graduate becomes a NEET, which increases to 50% among those who have only a lower secondary school diploma (or have stopped before).

Following these hypotheses, the costs related to the NEET condition to be included in the total savings generated by the SIB are calculated as follows:

$$(NEET \text{ without SIB} - NEET \text{ with SIB}) * 156,421.75 \text{ Euro}$$

where

$$NEET = [(students \text{ who complete compulsory education} * 60\%) * 25\%] + [students \text{ who don't complete compulsory education} * 40\%] * 50\%].$$

Figure 12 - Expected savings

	students repeating the year with the SIB	students repeating the year without the SIB	savings
Expected result for passing grade 8	8	10	€ 14.000,00
Expected result for passing grade 9	23	32	€ 63.000,00
Expected result for passing grade 10	21	28	€ 49.000,00
Expected effect on the NEET condition	78	81	€ 469.265,24
Expected savings			€ 595.265,24

5 Governance structure

The governance structure of a SIB is composed of at least three distinct stakeholders: commissioner (government or donor, whoever pays for the outcomes), service provider, investor (or multiples thereof). Many SIBs have a fourth party, effectively a prime contractor, often referred to as an intermediary, managing the SIB.

The governance structure must ensure perfect alignment of stakeholders' interests around the delivery of a pre-agreed set of outcomes for an agreed financial value per social outcome (or set of outcomes). A SIB enables public commissioners to pay service providers directly for successful social outcomes, once they are delivered. The investor supplies capital upfront to cover the costs of the intervention. This could be in full or in part and investor returns are contingent on the successful delivery of outcomes. This tying of investor returns to successful outcomes is what distinguishes SIBs from broader pay-for-success or payment-by-results contracting, in which private finance may be involved, but repayment and returns for investors are not necessarily contingent on the delivery of successful social outcomes.

SIBs can have different models and structures depending on the composition and the dynamics of the actors involved, their functions, the process for structuring the deal and the quantification of the expected outcomes. According to recent analysis elaborated by Bridges Ventures^{xxiv} and OECD^{xxv}, three main structures stand out among the SIBs implemented thus far; direct, intermediated, and managed.

In a direct SIB, a delivery contract is signed between the commissioner and the service provider or a services provider-controlled special purpose vehicle. In this case, the service provider is responsible for the implementation of the deal and the performance management. The intermediary is responsible for raising capital, structuring the deal and determining the

feasibility of the deal. Overall, under this structure the service provider holds the greatest amount of responsibility.

An intermediated SIB foresees that the delivery contract is signed between the commissioner and the investor, or an investor-controlled special purpose vehicle (SPV) or an intermediary, which identifies and contracts the service provider, supports the performance management process and refines the financial model. In some instances, the intermediary can also invest in the SIB.

A managed SIB is signed between the commissioner and the prime contractor (usually an intermediary) or an intermediary-controlled special purpose vehicle, which usually manages the entire process. The process is similar to the intermediated SIB, in terms of the activities of the intermediary. The main difference with the intermediated structure appears to be that the intermediaries have not invested in SIBs directly. Given the adaptability and the flexibility of the SIB structures, it is hard to make clear distinctions between them.

The governance structure of our SIB is shown in Figure 13.

Finpiemonte will act as SIB commissioner, taking a lead role, from concept through execution. Finpiemonte has been appointed by the regional government to develop the whole project: from identifying the target population to defining intervention strategy, from identifying expected outcomes to defining the financial model, from contracting out the range of activities needed to ensuring performance management during delivery.

Finpiemonte will select the service provider in a public tendering process (rules and procedures, as well as the type of contract that will be awarded, are described in next paragraph).

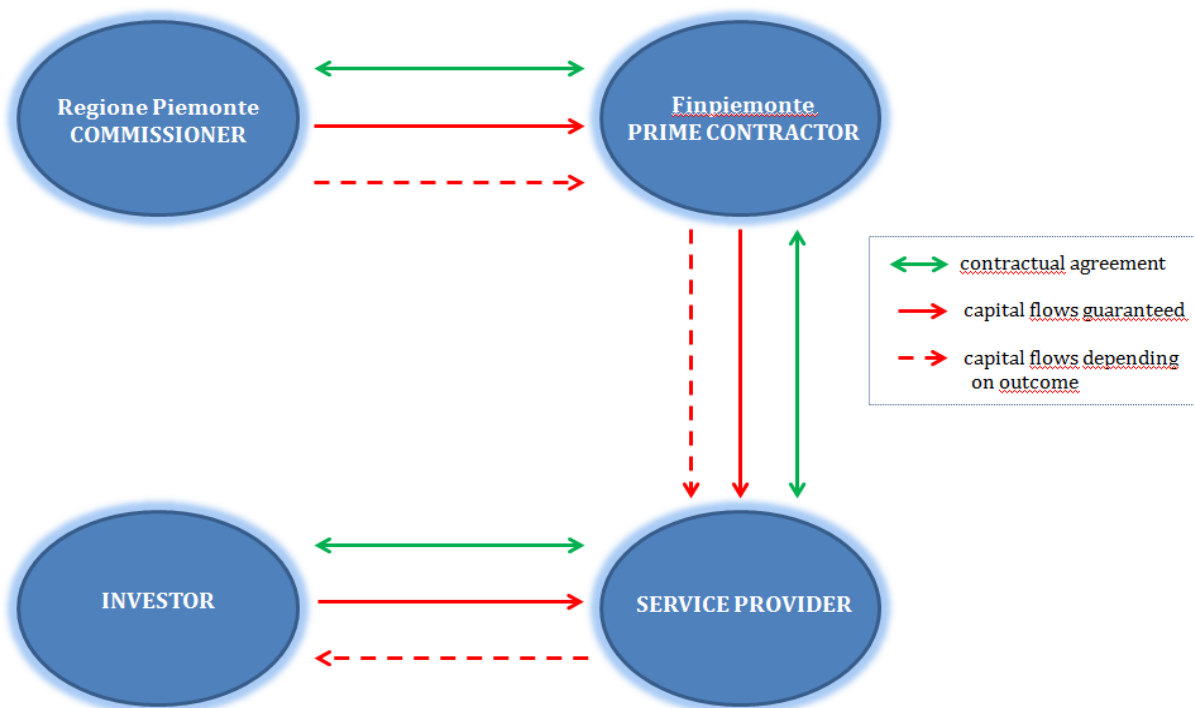
Service providers participating in the tender will have to demonstrate their financial capacity for carrying out

the intervention through a contractual obligation or temporary association (ATI, namely temporary association of enterprises according to Italian law) with one or more financial actors willing to supply capital upfront (in full or in part) to cover the costs of the intervention.

The regional government and Finpiemonte will not bear any financial risk since financial flows will be activated only if the pre-agreed outcomes are delivered.

The financial risk will be borne by investors and service providers according to the contractual agreement between them.

Figure 13– Governance structure/I



6 Legal structure and procedures

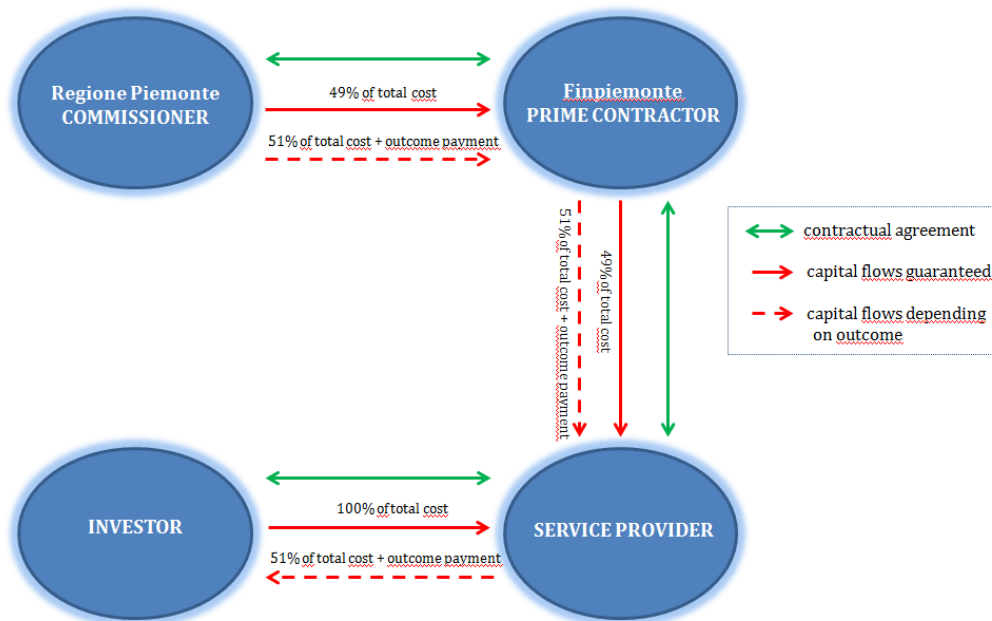
To define the legal structure of our SIB we went through the following considerations:

- a SIB is a partnership between private and public (PPP) to reach strategic goals otherwise not possible;
- a SIB should not be just a 'contracting out' of a social service, for which traditional, cheaper and easier approaches are available;
- in the EU framework it is clear that a PPP must allocate risks to private operators and these risks may generate rewards as well as losses;
- if the Public Authority transfers the so-called operating risk (from which rewards and losses may be generated) to private operators, then the contract must be qualified as a concession.

All this considered, we have decided to structure our SIB as a concession. Finpiemonte will launch a tender to select a service provider and an investor to work together on the project. As shown in Figure 14, there will be an agreement between service provider and investor regulating their relationship, especially in terms of 'who does what' and 'who risks what'.

It is important to note that in the Italian legal framework, to qualify a contract as a concession the private operator risk must be at least equal to 51% of its total capital expenditure. In other words, the secured (not depending on outcome) part of the repayment by the Public Authority must not exceed 49% of total capital expenditure.

Figure 14 – Governance structure/2



The service provider will be selected by Finpiemonte through a Competitive Dialogue Procedure. According to European (Directive 2004/18) and Italian legislation (Decreto Legislativo 50/2016) the use of the Competitive Dialogue Procedure must be objectively justified. It can be used when a contract is 'particularly complex', namely when a contracting authority considers that use of other procedures (requiring pre-

determined specifications) will not allow the award of the contract and:

- the contracting authority is not objectively able to define the technical means capable of satisfying their needs or objectives and/or
- the contracting authority is not objectively able to specify the legal and/or financial make-up of a project.

Directive 2004/18 defines Competitive Dialogue as 'a procedure in which any economic operator may request to participate and whereby the Contracting Authority conducts a dialogue with the candidates admitted to that procedure, with the aim of developing one or more suitable alternatives capable of meeting its requirements, and on the basis of which the candidates chosen are invited to tender'. Competitive Dialogue is meant to allow a public entity to discuss, in confidence, various means to achieve a desired goal with short-listed candidates before calling for final bids.

The Competitive Dialogue procedure will be organized in the following phases:

- a short-listing phase, in which suitable tenderers, who meet the minimum eligibility standards for financial, economic, technical criteria, are selected;

- a dialogue phase with tenderers where the means of meeting the project objectives are discussed and negotiation is permitted; the aim is to identify and define the 'means' best suited to satisfy the contracting authority's 'needs';
- a final tender phase with the submission of tenders after which clarification, specification and fine tuning are permitted provided that they do not change the basic features of the tenders or the contract's key terms.

The dialogue phase discusses both technical aspects (concerning for example types of activities, role and responsibilities of persons involved, management and monitoring) and legal/financial aspects, with specific attention paid to the relationship between service provider and investor.

A draft of bidding documents is reported in annex 4.

7 Financial structure

7.1 Theoretical model

There are four financial elements to be considered when structuring a SIB: the type of security adopted, the payment drawdown structure, the repayment plan and the Internal Rate of Return (IRR).

The first element is the **type of security adopted**, which is a very important issue for the definition of the SIB, since it significantly affects the risk and return profile of the instrument, thus being crucial for the identification of the profile of investors to be engaged.

The use of the term 'bond' to define a SIB is misleading since it carries the promise that the issuer will return the face value of the security to the holder at maturity. The term 'bond' also contains the promise that the issuer will pay the investors a set rate of interest on a set schedule. By thinking in terms of bonds, the issuers and intermediaries who are structuring a SIB naturally begin to discuss how to ensure that investors are repaid. This leads to a discussion of risk mitigation, credit enhancement, and loss reserves - interventions that often require financial support from philanthropic investors that care about the issue being addressed. Continuing to rely heavily on the limited resources of philanthropy means that the solutions to social ills funded through the SIB model will never get to the scale needed to create a substantial market.

But, despite their name, a SIB can also be structured as an equity investment and indeed SIBs around the world have been issued in terms of bonds as well as equity investments. The projects in the UK have generally been structured more like equity investments, while in the US and Continental Europe debt-like structures are more common.

When a SIB is structured as an equity investment investors can lose up to 100% of the principal and the rate of return depends upon the performance/outcome to be negotiated between the investors, the service

providers that produce the intervention, and the government that saves money.

The second element is the **drawdown structure**. The drawdown, also defined as capital call, is the act of collecting funds from committed investors whenever the need arises. When an investor subscribes to a SIB, he agrees to make committed funds available to the intermediary when the service provider needs them to implement the intervention. In turn, investors are able to hold onto their funds and keep them in a favourable investment account so that the investment can continue to appreciate until the service provider needs it. In this view, the later you collect funds the lower the rate of return will be. So the drawdown structure of a SIB must be designed according to the needs of the intervention (i.e. one-time vs. on-going and multi-year activities) in order to assure that resources are available when needed, but also take into account the need to optimize investor cash flow.

The third element is the **repayment plan**. The repayment of the principal and interest can follow different plans, according to the type of intervention and the timing of the outcome measurement. If the service is delivered to more than one cohort of beneficiaries over a period of more than one year, payments should be made in multiple tranches. At the same time, if no intermediate output is set and results are to be achieved and measured at the end, or even after the end, of the intervention, the repayment should be made in one single tranche at maturity. The repayment schedule also affects the return earned by private investors.

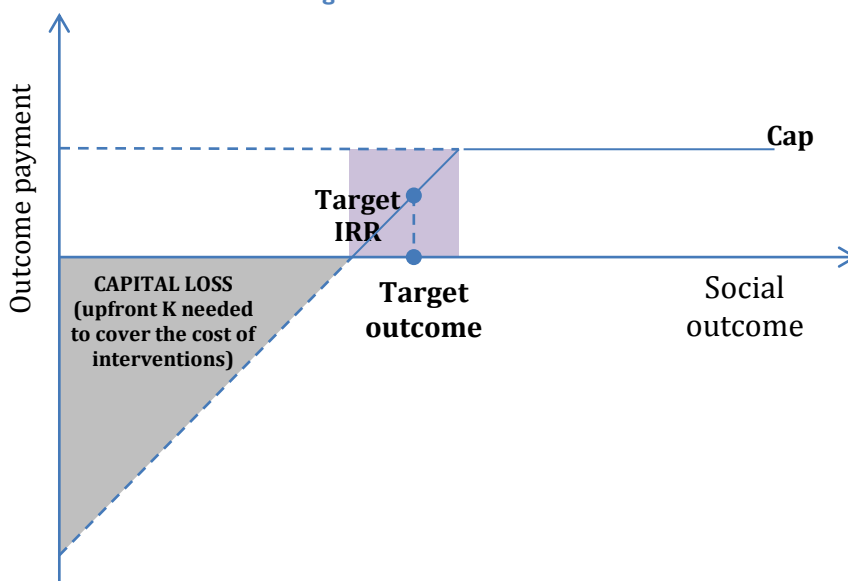
The last element to be considered is the return delivered to investors, that is in financial terms, the **Internal Rate of Return**. The IRR depends mainly on the risk associated with the project which is a function of the expected outcome and of its probability

distribution. The higher the expected outcome, the riskier the project, thus requiring higher outcome payments. The IRR also depends on the timing of cash flows, in terms of capital calls and repayments.

As a first step, an **expected social outcome** for the intervention is set and a **target outcome payment (and target IRR)** is linked to that outcome. The target outcome payment (and IRR) is earned when the social outcome reaches the expected value of its estimator,

meaning that the intervention has achieved the exact result forecasted. If the social outcome achieved is below the expected value, the outcome payment and IRR will be lower, and private investors may lose a part, or the entirety, of their investment. If the social outcome achieved is above the target, the outcome payment and IRR is higher but, usually, a cap is defined. Figure 15 shows the relationship between the social outcome and the payment for investors.

Figure 15 – IRR function



The challenge is to define the **amount of outcome payment (and level of IRR)**, namely to set the correct pricing for the SIB.

Despite a review of international cases showing a range of returns from 2% to 15%, there is no standard methodology to calculate the return for investors within the context of SIBs. This is mainly due to the following reasons:

- i) most investors in SIBs are foundations and/or investors with concessional money that are mainly motivated by testing out the instrument, not setting the perfect pricing;
- ii) SIBs do not follow a standardized structure, some are designed as unsecured bonds, others as an equity investment; some involve the establishment of an SPV, while others are simply based on a set of contracts;

iii) the returns associated with SIBs often depend on a large number of scenarios and outcomes, some of which are designed during the launch; hence a straightforward pricing method is challenging;

iv) despite the increased number of SIBs launched worldwide in recent years, observations are still scarce and historical data are limited.

This report proposes a method for estimating the rate of return that would be considered acceptable to mainstream , as well as philanthropic investors committing capital to SIBs .

The funds used to invest in SIBs have other potential uses in the economy. Therefore, in theory, holders of such funds will invest in a SIB only if the return they expect to earn from doing so exceeds the market price of the risk involved. Therefore, how the market perceives risk, and how it prices that risk, are

fundamental issues that must be addressed when generating an estimate of the cost of capital.

This view of the risk-return relationship is formalized in the Capital Asset Pricing Model (CAPM), which is one of the most commonly used approaches for pricing equity investments. It determines the returns required on any given asset or project, namely the return that an investment must generate in order to attract capital from the market, as a function of the return available on a risk-free investment plus a premium for the amount of the systematic risk in the investment being considered.

Once the cost of capital is defined following the CAPM approach, the outcome payment must be set such that the expected SIB cash flows deliver a return that is equal to the actual capital cost.

It is important to note that the resources for outcome payments should be derived from the savings generated by the results achieved. In this view, the amount of the outcome payment should be ideally a share of the savings derived from the intervention financed with the SIB. If the outcome payment needed to guarantee that the IRR of the SIB's expected cash flow exceeds the

amount of savings generated, the SIB is not sustainable from a financial point of view.

SIBs should be used to finance preventative interventions, namely interventions whose mission is preventing social problems from arising. In this view, savings generated by a SIB can be calculated comparing the following costs:

- costs in dealing with a specific social problem in a given population which are generally estimated based on statistical data of the rate of occurrence of the social problem; for example, if you are dealing with youth unemployment, you have to estimate the unit cost in dealing with that problem (both direct cost such as subsidies or training, and indirect cost such as the loss of tax earnings) multiplied by the number of unemployed young people you can expect to have in your population based on statistical data;
- costs of SIB-funded preventative intervention plus costs of dealing with the remaining youth unemployment problem of a reduced number of people based on the outcome of the intervention.

Figure 17 shows the key steps that must be undertaken in order to calculate a SIB outcome payment.

Figure 16 – Savings generated by a SIB

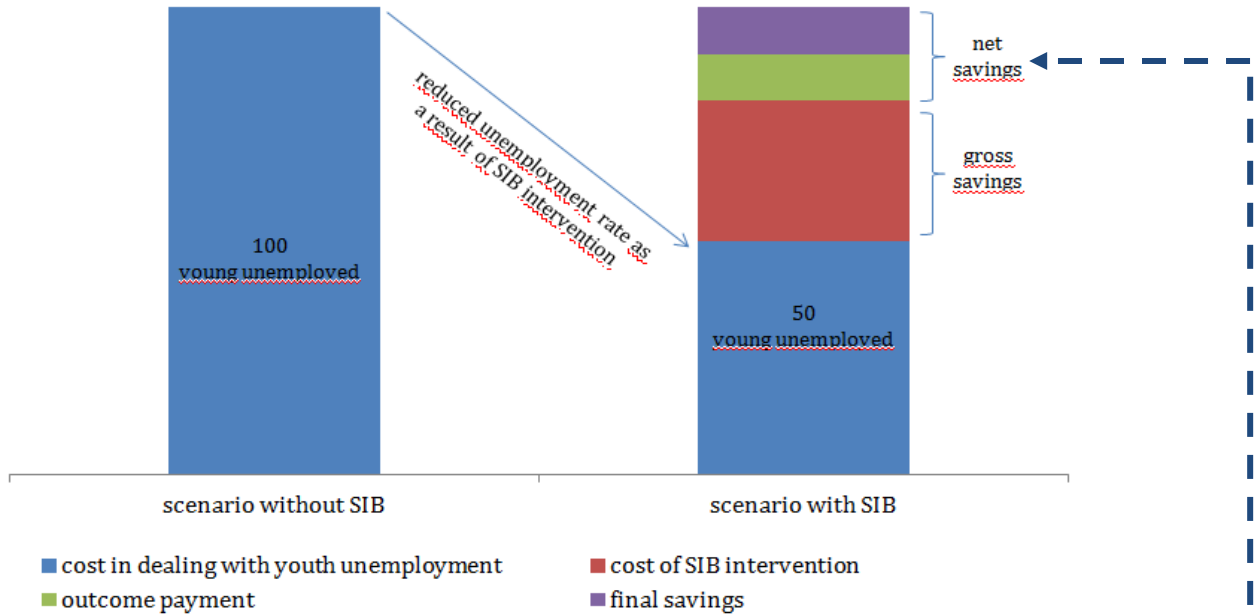
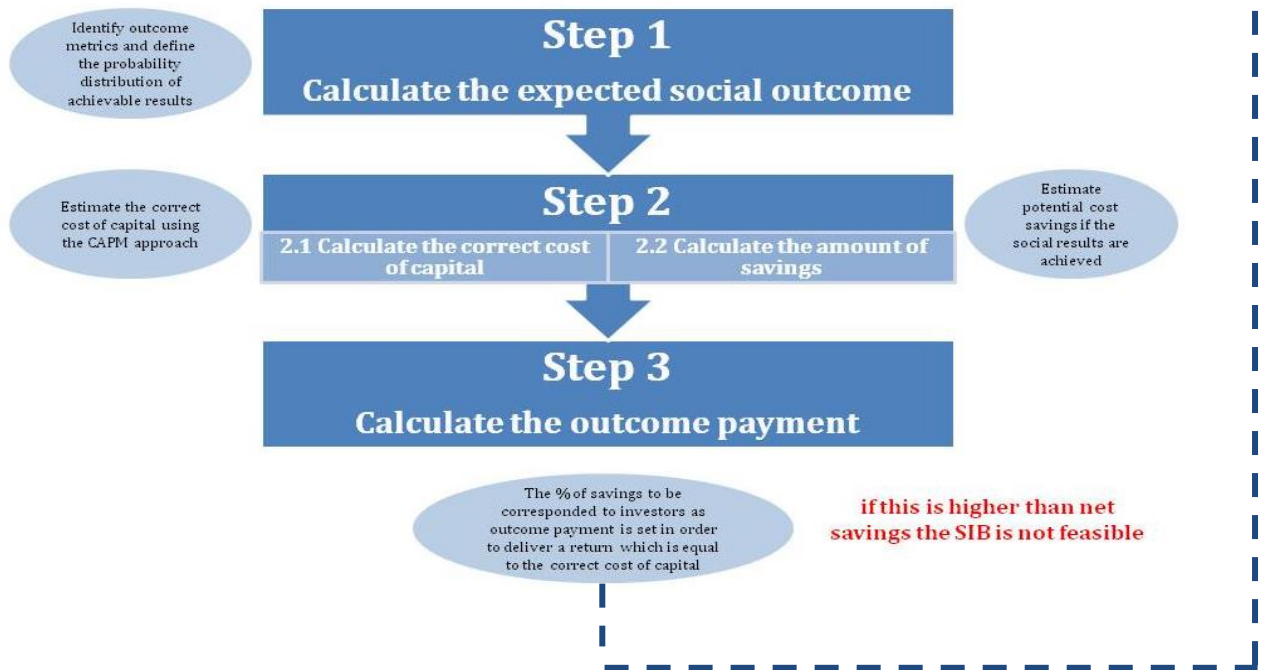


Figure 17 – Key steps for the calculation of SIB outcome payment



7.2 The SIB for Growth financial structure

In this paragraph, the afore-mentioned model is applied to our SIB.

The total cost of the SIB-funded intervention is equal to 480.000 € over a time span of 3 years.

Type of security adopted

Our SIB will be structured in the form of equity as a consequence of the concession model adopted. In the concession model the procuring authority has to transfer to private operators the so-called 'operating risk', meaning that the profit of private operators, at least in part, is dependent on the results of their activities.

As specified in paragraph 6, within the Italian framework, to have a concession the risk for the

private operator must be equal to at least 51% of the total capital expenditure. In other words the secured part of the repayment (not dependent on results) should not exceed 49% of the total capital expenditure.

Drawdown structure

The SIB-funded intervention will last four years. According to the provisional scheduling of intervention (it is important to note that the specific

set of activities to be implemented, as well as the scheduling of these activities, will be defined during the procurement phase according to the proposals of private operators) the drawdown can be structured as shown in the Figure 18.

Repayment plan

The measurement and the evaluation of the outcome achieved will be done after the activities are completed. The repayment plan envisages a partial repayment of capital (€ 235.200,00 that is equivalent to 49% of the total amount) at the beginning of each school year (in October) and a final repayment (including a rate of return in case of success) at the end of the third school year (in July), as shown in Figure 19. It is important to note that the residual capital (€ 244.800,00 that is 51% of the total amount) will be repaid to investors only if a threshold value of the impact indicator (equal to 1,3) is achieved, while the rate of return is strictly dependent on the level of outcome achieved.

Considering both the timeline for capital calls (drawdown) and repayment, the cash flow of the SIB is structured as shown in Figure 20.

Figure 18 – Drawdown structure

school year 1, October	school year 2, October	school year 3, October	total
- € 160.000,00	- € 160.000,00	- € 160.000,00	- € 480.000,00

Figure 19 – Repayment plan -

	school year 1, October	school year 2, October	school year 3, October	school year 3, June
guaranteed	€ 78.400,00	€ 78.400,00	€ 78.400,00	
unguaranteed				€ 244.800,00 + ?

Figure 20 – Cash flow of the SIB

	s.y. 1, October	s.y. 2, October	s.y. 3, October	s.y. 3, June		
Payment by investors	-€ 160.000,00	-€ 160.000,00	-€ 160.000,00			
Repayment to investors	Capital	€ 78.400,00	€ 78.400,00	€ 78.400,00	€ 244.800,00	→ Only if the impact indicator > 1,3
	Return				?	
Cash flow to investors	-€ 81.600,00	-€ 81.600,00	-€ 81.600,00	€ 265,200,00 + ?		→ Dependent on the level of the impact indicator

Outcome payment and Internal Rate of Return

The first step in calculating the SIB rate of return (see Figure 17) is the definition of the expected social outcome (as explained in paragraph 4.4).

The second step is the calculation of the amount of savings generated by the SIB (as explained in paragraph 4.5) and of the cost of capital.

With regard to the first element, the calculation is defined on the basis of a double evaluation:

- financial method of the Capital Asset Pricing Model, which, starting from an analysis of the risk components connected to a certain investment, allows the determination of the yield;
- analysis of similar cases (Social Impact Bonds and other forms of payment by result contracts) in which the remuneration provided includes a reward based on the results achieved.

Under the CAPM the cost of capital is calculated with the following formula:

$$\text{Cost of capital} = r_f + \beta * EMRP$$

where

r_f is the risk-free rate, estimated using the interest rate on government securities; the interest rate of a 5-years BTP is equal to 0,95%^{xxvi}

$EMRP = r_m - r_f$ is the average premium above the risk-free rate on equities, reflecting the amount of risk in the

equity market portfolio; based on the results of an academic survey we use a rate of 8,40%^{xxvii}

β is the measure of systematic risk; it gauges the tendency of the return of a security to move in parallel with the return of the stock market as a whole.

In order to estimate the beta of the SIB we rely on the analysis made by the Impact Investing Lab (Bocconi University), which is one of the associated organizations of the project SIB for Growth^{xxviii}. According to this analysis the beta of the SIB is equal to 0,48.

Putting together all the elements, the target IRR is computed as follows:

Figure 21 – Target IRR

Parameters	Value
5 years BTP (risk free rate)	0,95%
Adjusted Equity Beta	0,48
Equity Market Risk Premium Italy	8,40%
Cost of the Capital/Target IRR	5,00%

Having calculated the expected total savings generated by the SIB-funded intervention, the final step of the outcome payment can be calculated, setting the share of savings to be paid to investors such that the IRR of the expected cash flow of the SIB reflects the cost of capital computed with the CAPM methodology. As shown in Figure 22, in order to deliver a return of 5,00% to investors, the outcome payment at maturity must be € 25.318,61, that is equal to 3,19% of the total savings generated

Figure 22 – Outcome payment

	s.y. 1, October	s.y. 2, October	s.y. 3, October	s.y. 3, June
Cash flow to investors	-€ 81.600,00	-€ 81.600,00	-€ 81.600,00	€ 265,200,00 + ?

If ? = € 25.318,61, then IRR = 5,00%

The last step is to verify whether the SIB is feasible from a financial point of view, namely whether the outcome payment is lower than net savings generated. This analysis offers a projection of the benefit to Public

Administration as a result of the positive outcomes generated. The difference between benefits to Public Administration and total cost of the SIB program offers the net savings of the model, as shown in Figure 23.

Figure 23 – Value for money



8 Notes

- ⁱ Finpiemonte is the regional in-house company mandated to sustain development and competitiveness in the Region of Piedmont through financial services.
- ⁱⁱ The Regional Government involved the Department of Social Affairs and the Department of Immigration Policies
- ⁱⁱⁱ Next Level is a non-profit organization working in the field of education and social impact investing (www.nextlevel.it)
- ^{iv} Forum del Terzo Settore del Piemonte is the regional branch of the National Association representing social enterprises
- ^v Global Impact Investment Network launched in 2008 and now grouping more than 500 members
- ^{vi} <http://www.socialimpactinvestment.org>
- ^{vii} Prequin 2017, Global Private Equity and Venture Capital report, <http://www.prequin.com>
- ^{viii} SIB tracker website at <http://financeforgood.ca/social-impact-bond-resources/sib-tracker/>
- ^{ix} Centre for SIBs world map https://data.gov.uk/sib_knowledge_box/map
- ^x <http://www.instiglio.org/en/projects/>
- ^{xi} <http://humanfoundation.it/ita/la-fondazione/pubblicazioni/47-l-applicazione-di-strumenti-pay-by-result-per-l-innovazione-dei-programmi-di-reinserimento-sociale-e-lavorativo-delle-persone-detenute-1/file.html>
- ^{xii} European Commission, 2013b, p. 11
- ^{xiii} The term NEET defines a young person who is no longer in the education system and who is not working or being trained for work.
- ^{xiv} In particular, it is not clear whether, among early school leavers, immigrants students are more frequent due to specific reasons related to the status of immigrants or whether they are more frequent because immigrant students are more likely to possess the set of characteristics that are normally associated with early school leaving behavior (such as belonging to low socio economic status).
- ^{xv} European Commission. (2016). European Semester thematic factsheet Early school leavers
- ^{xvi} https://ec.europa.eu/education/sites/education/files/monitor2017-it_en.pdf
- ^{xvii} OECD. (2016b). PISA 2015 Assessment and Analytical Framework: Science, Reading, Mathematic and Financial Literacy. OECD Publishing, Paris
- ^{xviii} Study on the link between dropping out of school and NEET status, Laetitia Hauret, LISER, 2017
- ^{xix} Netpaper Sisform, 1/2016, IRES Piemonte
- ^{xx} In the social sector the term target population describes a group of individuals with identical characteristics who are the objective of the intervention.
- ^{xxi} For more details, http://www.indire.it/lucabas/lkmw_img/eurydice/quaderno_eurydice_30_per_web.pdf
- ^{xxii} The outcomes are evaluated as a decrease of repetition rate
- ^{xxiii} PISA 2012 Results: What Makes Schools Successful? Volume IV
- ^{xxiv} Choosing Social Impact Bonds. A Practitioner's Guide, <http://www.bridgesfundmanagement.com/wp-content/uploads/2017/08/Bridges-Choosing-Social-Impact-Bonds-A-Practitioner%E2%80%99s-Guide.pdf>
- ^{xxv} Understanding Social Impact Bonds, <http://www.oecd.org/cfe/leed/UnderstandingSIBsLux-WorkingPaper.pdf>
- ^{xxvi} Issue date 30/05/2018
- ^{xxvii} Damodaran, NYU Stern
- ^{xxviii} See Annex 5 for more details