

SIB. What does it really mean?

A theoretical approach on Social Impact Bonds

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Abstract

Research into public value creation is advancing. A new field of interest consists in the use of Social Impact Bonds (SIBs) as a social finance scheme and in the analysis of its ability to enhance collaborative relationships for public value creation.

The research objective is twofold. Firstly, it aims to frame SIBs in public management studies. The second goal is to provide an analytical tool to assess the feasibility and effect of SIBs.

The research provides a formal model proposal that shows key variables, their interactions and the conditions of success of a SIB within the context of value co-creation.

Keywords: social impact bond; value co-creation; social finance

1. Theoretical framework

The research objective is twofold. Firstly, it aims to frame SIBs in public management studies. The second goal is to provide an analytical tool to assess the feasibility and effect of SIBs. To fulfil the first aim it is necessary design the theoretical framework of this study. In order to do so, this section is based on the analysis of two bodies of literature: studies dedicated to impact finance and the functioning of the SIB, and the co-creation of value between PA and other sectors. Both take a particular view of SIBs.

SIBs represent a research field within the broader area of social finance and impact investing, though there is little published research in this area compared with the body of research existing for foundations, observatories and government agencies. This paper is unique in that it attempts to analyse the function of SIBs from the perspective of possible innovations of the PA.

Meneguzzo and Galeone (2016) state that since the economic crisis, more studies have explored impact finance for social enterprises, new welfare systems, and contemporary social challenges. In the OECD's report on "New investment approaches to meet the social

and economic challenges" (Wilson, KE, 2014), they found that *impact investing* has declined as a result of the changing relationship between finance and philanthropy.

They have also found that social investment has had an impact on public spending, and that private resources continue to be given to strategic sectors that have general interest.

These changes present a challenge in the form of a hybrid market, with unexplored potential, involving financial intermediaries and local bodies, small-medium sized enterprises (SMEs) and large enterprises, social enterprises and civil society (Brown and Swersky, 2012). The Social Impact Bond is one of the finance tools that has the greatest impact, and originated in the UK impact market following the establishment of a *Social Investment Task Force* by the government. The so-called Social Impact Bond (SIB) is configured as a partnership between different actors dedicated to raising private capital to promote social initiatives in the public and non-profit sectors (OECD 2014).

Before in-deepen the discourse it is important it is important to point out that the evidences about SIBs are still very few since this tool has been fully experimented in very few cases. As pointed out by Christian Berndt and Manuel Wirth (2018, 28):

"the scholarly debate about SIBs is still only in its infant stage, observers being largely interested in technical issues and focusing on how to improve a promising market for more socially inclined investors. By and large, academic and more policy-oriented contributions paint a positive picture. SIBs are represented as a powerful tool that is capable of overcoming "inefficient" state intervention, bureaucracy and "unreliable" social service provision. Against this, SIBs are celebrated for their rationalized, evidence-based approach and their promise to introduce financial discipline and entrepreneurial spirit to public service delivery (Liebman, 2011; Mair and Milligan, 2012, p. 27)".

Burand (2013) claims that SIBs are obligations that arise essentially for two reasons:

- An attempt by the public sector and non-profit organisations to access the resources they need to finance projects with a social impact;
- The request of investors who desire responsible and transparent investment instruments.

Gustaffson-Wright, Gardiner and Putter (2015) define SIBs, in their survey of 125 global investors, as *"a contract with the public sector or governing authority, whereby it pays for better social outcomes in certain areas and passes on part of the savings achieved to investors"*. In contrast, the OECD (2017) defines SIBs as *"a mechanism that harnesses private capital for social services and encourages outcome achievement by making repayment contingent upon success"*.

*The Government Outcomes Lab (GoLab)*¹ of the University of Oxford defines SIBs as *"one form of outcome based commissioning. What differentiates SIBs from other forms of outcome based commissioning is the involvement of social investors to cover the upfront capital required for a provider to set up and deliver a service. The service is set out to achieve measurable outcomes established by the commissioning authority, for example a Local Authority or a central government department, and the investor is repaid only if these outcomes are achieved"*.

From these three definitions, it would appear that the essential elements of social impact bonds are:

- A programme of interventions in the social field capable of generating a social impact and saving public expenditure;
- A loan with return of principal and remuneration only if the programme is successful.

It is important to note that service providers, both social enterprises and other companies, can count on reliable resources over a period of time, from a minimum of 3 to a maximum of 10 years, considerably longer than that foreseen by traditional programmes that ranged from 1 to 3 years. The SIB is like other forms of "payment for results" contracts in that it is a financing mechanism in which the return for the investor is determined by the positive impacts generated by a certain social activity (Burand 2013). The performance of the SIB

¹ GoLab <https://golab.bsg.ox.ac.uk/>

changes according to the performance achieved by the social enterprise. In this case, the remuneration is linked to the results of the activity financed in terms of value created for society (Brown and Swersky, 2012).

It is a sophisticated financial instrument that is born to promote social innovation. The complexity of the instrument in this case is not linked to the difficulty of being able to predict the success or failure of an investment, but to the network of relationships between the actors taking part in the process. These are in fact linked by a partnership, recognised under the contractual profile, where the perceived variable of ‘financial risk’ of a traditional investment is added to the variable of trust between partners who participate in the game. The investor believes in the ability to a certain social service provider to achieve a certain result. The Public Administration believes that the innovative service has value in economic terms as well, and all the actors trust in the validity and certainty of statistical surveys that measure the performance of a certain service, and which are carried out by an independent third party.

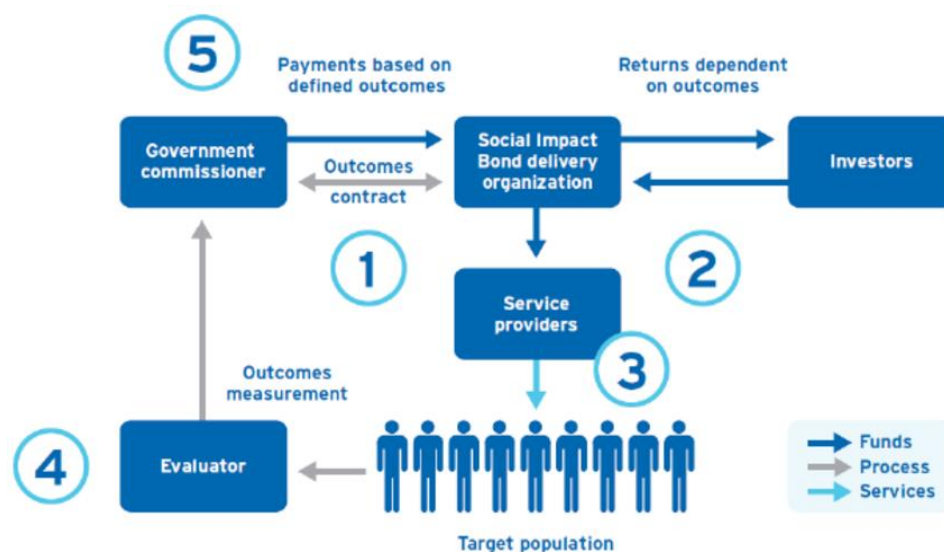


Figure 3. The SIB model. Source: So, I., & Jagelewski, A. (2013).

Figure 3 shows the process of SIBs. The intermediary, in agreement with the public body, issues a Social Bond placed with private investors, who provide the necessary capital to support a social project. In turn, the intermediary transfers the funds obtained through the SIBs to non-profit organisations who provide the services required by the project. The

evaluation of the effectiveness of the results obtained from the project is entrusted to a third party. This third party, along with the intermediary, defines the system for monitoring and measuring final performance. If the project meets the quality standards established at the time of issuance of the obligation, the public body is required to pay the amount due, giving the intermediary a percentage of the costs avoided due to the reduction in public expenditure determined by the programme, plus a predetermined additional percentage to the intermediary, who will in turn pay the investors who provided the initial capital².

SIBs are characterized by an outcome oriented approach, that is, they aim to maximize social impact through appropriate interventions and are instruments characterised by a set of complex contracts in a multi-stakeholder partnership (GoLab 2018).

Whilst SIBs have been well-researched, it is only since 2016 that their effectiveness has generated critical debate. The main criticisms to the use of SIBs concerns the effect of transformation that might generate on the third sector and social enterprises (Neil McHugh at al 2013), the effect on the public bodies (Berndt C., Wirth M.,2018), the effect on the services users, such as a distortion in the selection of the beneficiaries. The OECD report (2016) describe this distortive phenomenon as ‘cherry piking’ or “‘Cream skimming’. The criticisms to SIBs lies on the idea that the actors involved in the process cannot have the same interest and to merge it some of them have to modify its nature as Maier F. and Meyer M. (2017) pointed out in their paper “Social Impact Bonds and the Perils of Aligned Interests”. Anyhow, qualitative and quantitative studies on this effectiveness are still missing, even if it is starting a lively debate on technical issues as mentioned by Roy at al. in their paper “A Critical Reflection on Social Impact Bonds” (2018).

In light of this discourse, it is interesting mention an OECD report highlights the ‘geographical position’ of impact finance compared to the public sector. SIBs and impact finances are in a ‘grey’ zone between public and private.

² www.socialimpactbond.it

Figure 3.4. Degree of publicness

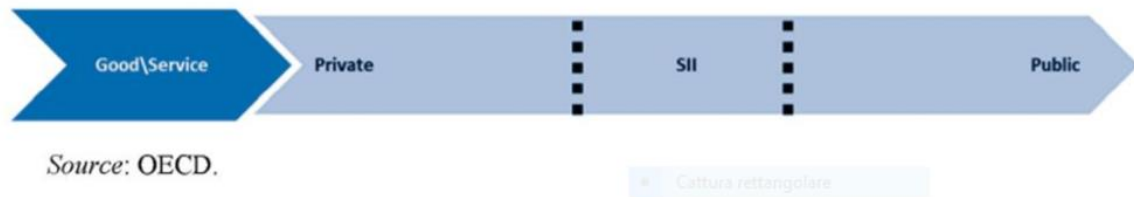


Figure 4. Degree of publicness. Source: "Social Impact Investment Building the Evidence Base: Building the Evidence Base" OECD (2015).

The second line of research analyzed is that of the co-creation of value between PA and other actors. As SIBs are contracts between the PAs and other stakeholders, the issue of shared value creation becomes central.

The PA is designated as the director of a SIB, and is therefore the pivot of a process of complex relationships between diversified stakeholders. Several scholars (Meneguzzo, Rebora 1990; Moore 1995, 2008, 2013; Bozeman 2007; Alford and O'Flynn 2009; Meynhardt, Diefenbach 2012; Bryson, J. M., Crosby, B. C., & Bloomberg, L. 2014; Meynhardt et al. 2017) have written about the intersection between the creation of shared public value and the PA, and the relations between a PA and other actors (Etzkowitz and Leydesdorff 2000; Carayannis and Campbell 2009; Corvo et al. 2014; Mintzberg, 2015; Leydesdorff L. 2015; Mazzuccato 2018, Osborne *et al.* 2014). In some cases, the creation of shared public value may include its co-production (Ostrom, 1996; Alford, J. 2014; Voorberg et al., 2014; Brandsen and Honigh, 2016, Osborne *et al.* 2013, Osborne *et al.* 2016). Co-production occurs when the service provider chooses to involve the end user for the purpose of a service that is more oriented towards achieving the desired outcomes. According to Alford and O'Flynn (2012), coproduction is a response to the search for collaborative and flexible forms of service delivery, which are able to integrate the rigidity of the purposes and modalities of outsourcing.

Brandsen and Van Hout (2008) and Pestoff et al. (2012) both argue that co-production involves a collaboration between public agencies and users and must be distinguished from any other case in which inter-organisational collaboration occurs, such as 'co-management' or 'co-governance'. Voorberg et al (2014) state that despite these clarifications, in 19% of academic articles, the meaning attributed to the term co-production is interchangeable with

that of co-creation of value, and the distinctiveness of their specific meanings becomes lost. It would seem that in all SIBs, the inter-organizational collaboration processes involve mechanisms of co-governance, co-planning, optional co-production, and co-evaluation.

According to Borgonovi and Mussari (2011), the specific nature of public organizations lies in the fact that, within the limits of economic compatibility, they must simultaneously meet both individual and collective needs without being able to select the most profitable market segments. SIBs present a particular challenge in ensuring that the needs of the public administration system are in place alongside attempts to innovate the methods of allocating public spending, outsourcing services and evaluating.

Mazzuccato (2018) summarises the concept of value, central to this perspective: "Public value (here we also consider social) does not simply mean redistributing existing wealth or correcting problems concerning public goods. Instead, it means co-creating value in different spaces. When public-sector actors are driven by the mission and they work together to tackle large-scale problems, they co-create new markets that influence both the growth rate and its direction".

Mazzuccato's concept of public value describes what should be the basis for the functioning of SIBs. SIBs are a very complex mechanism of co-creation where the public sector manages multiple roles at the same time. In a preparatory work for this contribution (Corvo Pastore, 2017) the authors have used the categories of the macro-processes of the PA of Gianfranco Rebora (2015) and have crossed them with the possible roles that a PA can perform, often simultaneously, in a SIB. An analysis of the processes shows that there are three fundamental roles that the PA assumes in a SIB process (Corvo, Pastore 2017):

- Producer-investor entity: where it is believed that the value (in its plural meaning) that can be generated by the direct intervention of the State is higher than the value that the market would be able to generate. In this case, the SIBs represent an important tool for the redevelopment of public spending towards a defined 'outcome based commissioning' approach.
- Regulator-controller: the aim is to ensure compliance with the shared rules and the conditions of social cohesion.
- Enabling and facilitating subject: this function, less prevalent in the Italian context, aims to create new relationships capable of underpinning innovative projects in the

SIBs field (Corvo, Pastore 2017). In this sense, the PA is not only a subject that funds the initiatives or that decrees the legitimacy of an initiative; rather, it is the subject that works to generate value, and thus has an intrinsic interest for all programmes and projects that are able to generate social impact.

2. Research question

The research questions concern PA and its relationship with social finance instruments such as the SIBs. In particular, the research questions are:

- What are the key variables, in a multi-stakeholder logic, on which public decision-makers agree in order to be able to assess the feasibility and results of a SIB?
- How do these variables act in signalling the co-creation of value in a multi-stakeholder logic?

3. Methodology

The research was carried out using qualitative-ethnographic methodology (Bales 1950, Hammersley 1989; Corbetta, 1999). This was selected as it comprises documental analysis (Bowen GA, 2009), workshops with key actors (Breen 2006) and semi-structured interviews (Kvale, 1996). The research was launched in July 2017 and is currently underway. This article is part of a wider research project involving the study of the Alpine regions of five countries: Italy, France, Germany, Switzerland and Slovenia.

As a research group Government and Civil Society (GCS)³, we have been involved in a project that has been questioning the financing of social impact and projects and SIBs. The European project, AlpSib⁴, focuses on five countries in the Alpine area of Central Europe. The project aims to identify a common methodology for Social Impact Investing (SII) policies, adapting social finance approaches to the organizations involved.

³ <http://gcs-group.it/>

⁴ <http://www.alpine-space.eu/projects/alpsib/en/home>

One of the expected results is the "Common SII policy methodology" which consists of a shared roadmap to strengthen those responsible for social impact investment policies. This output was discussed in the Transnational Advisory Board held in Monaco for June 2018. As a GCS research group, we were initially involved as experts on this topic for the organisation of the Italian workshop and the drafting of the Italian Discussion paper. From each workshop, a discussion paper was written, focusing on each country, underlining the opportunities and critical issues of the SIBs present in that area.

The methodological steps related to this contribution were the following:

1. Document analysis of the SIB models;
2. Italian workshop with public decision makers called to discuss the SIB device;
3. European workshop with research centres specialising in impact finance and experts.

The document analysis involved the study of 14 SIBs carried out in Europe and described through specific reports. They have been chosen starting from the most complete Impact Bonds database available, using the open source data provided by the platform www.socialfinanze.uk.org, and certifying the presence in the world of 108 SIBs.⁵ The analysis was initially restricted to the 62 European SIBs, among which there is a high number of English experiences (40), and then the choice of the 14 SIBs based on criteria of territorial distribution and social areas of intervention.

Below is the table with the references of the 14 SIBs analysed in this study:

N.	Country	Intervention Area	Region / (Municipality)
1	UK	Socio-occupational reintegration of former prisoners	Peterborough
2	UK	Services sanitised for minors	Birmingham
3	Holland	Socio- occupational reintegration of former prisoners	Amsterdam
4	Holland	Training for professional retraining	Utrecht
5	Belgium	Socio-occupational insertion of migrants	Bruxelles
6	Germany	Social assistance to families	Osnabruck
7	Germany	Job placement of NEETs	Augsburg
8	France	Socio-economic integration of rural areas	(Politica nazionale)
9	Switzerland	Socio-occupational insertion of migrants	Berna

⁵ Data updated on 5.06.2018, the number of SIBs when the search was started was 89 in the world (data compared to Europe did not vary greatly).

10	Austria	Socio-economic support for women subjected to violence	Upper Austria
11	Sweden	Contrast to educational poverty	Norrköping
12	Finland	Socio-occupational insertion of migrants	(Politica nazionale)
13	Finland	Organisational wellbeing of public employees	Helsinki
14	Portugal	Contrast to educational poverty	Lisbona

Table 1. SIB for document analysis. Source: Own processing.

This analysis made it possible to compare the key dimensions taken into consideration in the European experience in order to arrive at a first proposed variable selection to be submitted to the public decision-makers participating in the Italian workshop.

The Italian workshop, entitled "The challenge of the Social Impact Bond", was held on October 26, 2017 in Turin and was a period of reflection aimed at identifying the key variables of a SIB to determine its feasibility and evaluate its success – the first research question.

The workshop participants were selected according to the following criteria:

- Policy makers and main PA managers involved in areas of possible application of the SIB (welfare area), with particular attention to the representatives of the Alpine regions;
- Homogeneous representation between local and central PA;
- Inclusion of non-public but strategic actors with respect to the management of a SIB, including social enterprises, social investment funds and consultancy agencies z.

In total, 90 subjects were selected throughout Italy and invitations were sent one month before the event. The seminar was attended by 32 people, comprising:

- 20 PA policy makers, managers and officials, from:
 - Four Regions -Piemonte, Friuli Venezia Giulia, Valle d'Aosta, Puglia, with two representatives per region, almost all of whom were managers at the time except one, who was a decision maker in the Valle D'Aosta region.
 - One Faculty of Economics, University of Rome "Tor Vergata" in the Department of Management and Law, and three members of the research group of Government and Civil Society.

- Two City: the metropolitan city of Turin, including two representatives – one political and one technician, and the city of Pordenone, again, including two representatives – one executive and one official.
- One representatives of the Regional Agency for Social Housing (Regione Piemonte).
- One consultant from a private company for the public administration on the European structural funds.
- One official from a cohesion agency.
- One official from the Ministry of Labour.
- Two representatives of the Association of Local Governments (ANCI) and the Financial Institute for Local Governments (IFEL)
- Five experts on the topic from the *Università della Svizzera Italiana* - one participant, the University of Rome ‘Tor Vergata’ - two participants, and from the Human Foundation Giving and Innovating - two participants.
- Seven representatives of three partners of the Alp SIB project: Finpiemonte – four participants, and the Next Level Association - three participants, and the Municipality of Pordenone (already listed).

The programme of the day was divided into three parts: the first part was dedicated to the study of the SIB framework, the second to the discussion of the key dimensions identified by the analysis of the 14 European SIBs and the third part to the translation of the validated dimensions into key variables.

These variables, and the relative interactions between these and the stakeholders of an SIB, have been described and systematised within the discussion paper produced following the Italian workshop. The discussion paper was sent to all the participants of the workshop, collecting feedback and was presented in Ljubljana on 5 December 2017, at the time of the European workshop, which was also attended by the five countries of the AlpSib project.

The European workshop involved 40 people, including project partners - European Municipalities and Regions of the Alpine Space, academics - including 2 representatives of GoLab, University of Oxford, practitioners - consultants in the economic-financial and legal fields.

On this occasion, the variables that were identified in the Italian workshop were presented and validated from a theoretical and empirical viewpoint and empirical, thus arriving at a formalised model of SIBs.

The discussion for validation was conducted through the following steps:

- *Step 1* - Presentation and revision of the variables
- *Step 2* - Identification of the relationships between variables and stakeholders
- *Step 3* - Identification of the object of relations between stakeholders
- *Step 4* - Analysis of the conditions for the development of an SIB:
 - Hypothesis 1 - necessary conditions;
 - Hypothesis 2 - conditions to consider it a success;
 - Hypothesis 3 - conditions for verifying the creation of public value, as measured against the model variables.

4. Results

The results will be presented following the order of the research questions.

The first research question sought to identify key variables, in a multi-stakeholder logic, on which the public decision-makers should agree in order to be able to assess the feasibility and results of an SIB. The following table is presented with respect to the variables identified:

CS_h : Historical cost of the service (historical allocation of the PA compared to a service)
CS_I : <i>Impact based cost (i.e the cost with the SIB)</i>
O_E : <i>Outcome Expected (that is the expected outcome after the SIB)</i>
O_M : <i>Outcome Measured (that is the outcome measured by the evaluating body)</i>
ROI_P : <i>Return on investment for the PA</i>
ROI_F : <i>Return on investment for the financial partner</i>
α : <i>Coefficient for the conversion of O_M in ROI_F</i>

Table 2. The variables of the formalized model of a SIB. Source: Own processing

To evaluate the feasibility and results of a SIB in a multi-stakeholder logic, the variables to be considered, are proposed with reference to each stakeholder involved in a SIB, as the following (Result 2):

In order to fully answer the first research question, which considers key variables from the perspective of a multi-stakeholder logic, the variables are proposed with reference to each stakeholder involved in a SIB. Actors involved	Variables
PA	CS_h
	O_E
	α, ROI_P
Financial investor	α, ROI_F
Service provider	CS_I
Evaluating body	O_M

Table 3. The relation between actors and variables in the model of an SIB. Source: Own processing.

Regarding the second research question, aimed at identifying the modalities of interaction of variables, and therefore of actors, for the co-creation of value, an intermediate result is presented that shows the set of interactions and the object of each interaction (Result 3).

Interactions between actors	Variables	Object of the interaction
PA - Service Provider	$CS_h - CS_I$	ROI_P
Service Provider - Financial Investor	CS_I	<i>Impact investment</i>
PA - Financial Investor	α	ROI_F
PA - Service provider - Evaluating body	O_E	<i>Outcome based commissioning</i>
	O_M	<i>Outcome based payment</i>

Table 4. Objects of the interaction between actors. Source: Own elaboration.

Having identified the object of each interaction, it is possible to consider in which cases a SIB is considered feasible and in which it can be positively evaluated.

The feasibility of a SIB is considered positive if the following conditions exist (Result 4):

$$- \quad CS_I \leq CS_h$$

- O_E it can be defined with clear and measurable indicators
- $ROI_F = \alpha ROI_P$

The realisation of a SIB, and therefore its success, is considered positive if the following conditions exist (Result 5):

- $O_M \geq O_E$
- $CS_h - CS_l = ROI_P$
- $0 \leq \alpha < 1$

Finally, it is possible to consider a SIB as a device that enables value co-creation if the following relationships are considered (Result 6):

- $ROI_P \neq \text{Public Value}$
- $\text{Public Value} = ROI_P + O_M$
- $\text{Public Value Added} = ROI_P + (O_E - O_M)$

5. Critical discussion of the results

The first result represents the achievement of shared semantics with respect to what should be considered a priority in the construction and monitoring, or evaluation, of a SIB. In particular, the analysis resulted in three key dimensions which then led to the identification of the variables through the methodological steps described above.

Number of result	Description Result	Research question
Result 1	The variables of the formalised model of an SIB (Table 2)	(1) What are the key variables, in a multi-stakeholder logic, on which the public decision-makers agree in order to be able to assess the feasibility and the results of an SIB? (2) How do these variables act in signaling the co-creation of value in a multi-stakeholder logic?
Result 2	The actors / variables relationship in the multi-stakeholder model (Table 3)	
Result 3	The relationships between actors and the object of interaction (Table 4)	
Result 4	Required conditions (feasibility)	
Result 5	Conditions of success	
Result 6	Conditions for co-creation of value	

Table 5. Summary of research results. Source: Own processing.

The key dimensions to which the variables are linked are:

1. Economic dimension:
 - a. CS_h : the historical cost of the service considered, calculated on the basis of the analytical accounting of the PA. This variable indicates, therefore, the willingness to pay the PA for the provision of the service.
 - b. CS_l : the cost of the service considering the incorporation of the social impact. This variable indicates the cost reduction potential that can be achieved thanks to the ability to translate social impact into a financial metric.
2. Financial dimension:
 - a. ROI_p : the return on investment for the PA. Considering the difference between the historical cost and the cost obtained given the social impact generated, savings are generated wherever the latter is lower than the first. Such savings can be allocated, in whole or in part, to the PA that has invested in the SIB initiative.
 - b. ROI_f : the return on investment for the financial partner. This is derived from the difference between the historical cost and the cost obtained due to the social impact generated, and is the complement to 1 of the ROI_p
 - c. α : the coefficient that determines how much of ROI_p remains to remunerate the financial partner becoming ROI_f . This depends on the specific conditions of the context on which the SIB is activated and thus takes into consideration the investment risk. As the risk increases, this coefficient is higher and translates into greater returns for the financial partner who has the higher risk.
3. Social impact dimension:
 - a. O_E : expected outcome. This indicates the impact expectations of the PA and justifies the use of public resources through a SIB.
 - b. O_M : measured outcome. This indicates the actual data of the impact achieved through the SIB.

Result 2 introduces a dynamic element in the interaction between each actor of the SIB and the key variables of the SIB itself. It should thus incorporate the multi-stakeholder logic into the analysis. In particular, we intend to highlight how the identified variables are controlled

by different actors (as shown in Table 2) and that to achieve a balance within the SIB initiative, a collaborative interaction between the actors is needed.

This leads to result 3, which no longer shows the single actor, rather, the interactions between different actors of a SIB and identified variables. In order to be able to interpret well in SIB, it is not enough to understand what variables are controlled by the PA (or other actors) but it is crucial to understand which variables are taken into account in the interaction between different actors.

When examining how the PA interacts with the financial investor, a knowledge of how to negotiate the distribution coefficient of the ROI is essential in order to keep public interests in equilibrium and reduce the level of risk assumed by the investor. In this case, the object of the interaction is the return in investment for the financial partner.

In the same way, when the PA interfaces with the service provider and negotiates the expected impact, this interaction enables outcome based commissioning, or the assignment of services based on the outcome that the PA intends to pursue.

Results 4, 5, 6 consist in an elaboration of the previous variables in the attempt to find patterns of analysis for current SIBs and patterns of choice for policy makers.

The equations of results 4 describe the required conditions to start a SIBs process concerning the three key dimensions: economic financial and social impact. This result points out that SIBs are not a feasible solution for every welfare intervention, on the contrary there are very specific conditions to take into considerations. In particular, the attention is focus on the measurability of the outcome expected that not every welfare intervention can provide without risking a distortion in the services. The other two conditions are regards the financial and economic benefit.

The results 5 describes when a SIB can considered a successful initiative:

- When the social impact is positive, i.e. the outcome measured is higher or equal to the expected one;
- When the economic dimension is positive, i.e. the cost is lower then the historical one and there is the generation of a return on the investment for the public administration

- When the financial dimension is positive, i.e. the coefficient is between zero and one and the return on the investment is fairly distributed between the public administration and the private investor.

Finally, result 6 describe the condition to analysis the creation (or distruction) of value:

- The value creation cannot be identified just in the economic and financial successful of the operation, i.e. cannot be overlapped with the ROI for the public administration
- The public value equation is composed by the 3 key dimensions: economic and financial (summarized in the ROI for the public administration) and the social impact one (represented by the outcome measured)
- It is possible also to measure the added public value if to the previous equation it is taken into consideration the delta between the outcome expected and the one measured. In this way it is possible to considered the effect in terms of added value (or loss).

6. Contribution of research to theoretical debate

This research contributes to the theoretical debate by including the topic of SIBs in PA studies. Table 6 shows how results can include the co-creation of value in academic discussion about SIBs. From a theoretical point of view, it is possible to approximate the behaviour of future SIBs by comparing our data with difference scenarios. The relationships and variables that a particular SIB entails, and the various types of inter-organizational collaborative relationships that can be included in the co-creation of value include:

- *Co-governance* is the relationship between the PA and the investment fund. This relationship must be incorporated into the relative agreement, the expected outcome and the coefficient of return.
- *Co-planning* is the relationship between PA and service provider. Both must work together to understand the relationship between the historical cost and the cost of the intervention proposed by the SIB.
- *Co-production* occurs if the service provider decides to involve the end user in the design or delivery of the service. This type of collaborative relationship is not

foreseen in an SIB but further research may wish to explore if this is a practice that characterizes SIBs in progress generally.

- *Co-evaluation* concerns the PA and the evaluating body, which must always be external to the SIB, but the PA must design the evaluation model, or at least agree what the measured outcome can be in advance of the SIB.

Co-creazione of value	Actors involved	Model variables
<i>Co-governance</i>	PA - Financial Investor	O_E α
<i>Co-planning</i>	PA - Service provider	CS_h CS_I
<i>Co-production</i> (opzionale)	Service provider - user	CS_I O_M
<i>Co-evaluation</i>	PA - Evaluating body	O_M

Table 6. SIBs and phases of value co-creation. Source: Own processing.

Each of these inter-organisational collaborative relationships may form the basis of future research, an area which has not been well studied to date in public management studies.

7. Research contribution for policy makers

SIBs are in an early stage of study and implementation. This has leading to the construction of public policies aimed at strengthening the administrative capacity of public administrations to make them able to drive social impact finance processes.

Considering that there is currently little understanding about SIBs, this research may help inform a public debate on impact finance, and to help policy makers to be more aware of the developing potential for SIBs. In particular, the proposed model could be used by policy makers to decide if and how to implement an SIB, particularly within the context of the experiments envisaged by the Social Innovation Fund. In addition to defining the key variables and relationships imperative to the success of SIBs, the hypotheses in this paper show the necessary conditions for success in public value creation, which may useful to public decision makers in their evaluation of the possible success of an SIB.

8. References

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