

How Can NPOs Attract Professional Investors in Developing Countries?

An Evidence-based Structure for Development Impact Bonds

Abstract

Development Impact Bonds (DIBs) may represent a new way to finance foreign aid programs and to favor public-private partnership between non-profit organizations (NPOs) and governments. However, currently, their spread is modest. Therefore, the present research aims to verify if their contractual design and financial features could explain the lack of professional investors' participation. The empirical analysis, carried out on 28 DIBs to date designed worldwide, suggests that in their current form DIBs are unbalanced in terms of risk and returns for investors, the required upfront capital commitment is too high compared with additional grants, and the contract duration and the payment schedule are poor attractive. Furthermore, by comparing the current DIB model in theory with the empirical evidence, the paper proposes a new and more complete DIB structure, thus providing an easy-to-understand prototypical DIB for NPOs and practitioners.

Keywords

Development Impact Bonds, foreign aid, public-private partnership, non-profit organizations, professional investors

Introduction

Foreign aid explains near 10% of gross domestic product (GDP) of developing countries (OECD, 2018). Development Impact Bonds (DIBs) represent a new way to finance foreign aid programs with money from private investors who earn a return if the program is successful, paid by a third-party donor. Differently from the past, DIBs could directly enhance innovation programs while preserving donors from the risk of an ineffective use of resources. In fact, the old way to finance aid for developing countries shows two critical issues: first, it convoys donations to nongovernmental organizations (NGOs) rather than relying on governments; second, it does not finance innovations. DIBs could help to solve both problems.

Western donors prefer to deliver financial aids through NGOs rather than governments (Dupuy & Prakash, 2018). NGOs are well connected to the local communities and have the incentive to select the appropriate beneficiaries to deliver aid, while the governments have less incentives or skills to effectively use aid rather than NGOs (Dietrich, 2013; Edwards & Hulme, 1996; Van Rooy, 1998). Among NGOs, it is critical to distinguish between nonprofit organizations (NPOs), that deliver goods and services, from activist organizations (AO) that seek to influence policy. From the point of view of the developing countries governments, a foreign aid to AO could be an attempt to interfere in their domestic affairs (Carothers & Brechenmacher, 2014; Dupuy et al., 2016; Mendelson, 2015; Tiwana & Belay, 2010). In fact, some governments approve law restrictions to NGO finance in order to keep control on foreign aids. For donors, and consequently for NPOs, these restrictions are problematic because they undermine their aid delivery model: donors fear the negative reputation if they provide aid to countries that restrict civil rights; the immediate consequence is a significant drop in donation when a law restriction is adopted, thus severely affecting also NPOs that work in these countries (Dupuy & Prakash, 2018).

DIBs are related to specific projects delivered by NPOs, so donors and developing countries governments have no conflicts on the use of these instruments. This helps to develop public – to – private partnership

(PPP), that is the necessary framework for a DIB. In fact, the concept of DIBs encompasses Payment-by-Results (PbR), impact investing, and PPPs. DIBs are Outcome-based Contracts (OBCs), that is they provide a return when a pre-established outcome is reached, designed for delivering public services in low and middle-income countries. DIBs are an adaptation of Social Impact Bonds (SIBs), OBCs designed for delivering public services in high-income countries. So, the partnership with public authorities is a fundamental task for a DIB.

The second issue is related to the risk to finance innovation in a developing country. Both donors and NPOs are particularly risk-averse, and the embedded riskiness of impact investments typically leads to adverse selection and cherry picking or discourages these actors from undertaking innovations (Dagher 2013). Given the nature of a DIB, the connections of NPOs with local communities play an important role as a risk mitigating factor (Elber and Schulben, 2011). While a PPP often relies on a special purpose vehicle (SPV) for this purpose (Moszoro, 2014; Rufin and Rivera-Santos, 2010), we expect that a DIB could be organized without an SPV because investors could be more confident on the ability of the NPO to efficiently deliver aid to the target population. Private investors are the key of DIBs success: they professionally manage risks for a return, so they can bet on innovations; they can exert a closer control when funding the project, so guaranteeing the donors about the effective use of the resources (Callanan & Law, 2012); they have visibility motivation, thus giving more emphasis to the projects they are financing (Barajas et al. 2014).

As a matter of fact, despite the growing interest of both researchers and policy makers, the adoption rate of DIBs is modest; from the launch of the first DIB in 2014 at the end of 2018, only 28 DIBs have been implemented worldwide (Instiglio; Social Finance). In general, impact investing represents the least developed strategy in the broader social and responsible investing context (GSIA, 2019). According to the last Global Sustainable Investment Alliance report, there are now \$30 trillion of assets being professionally managed under social and responsible investment strategies, and \$440 billion are related to impact investing strategies. DIBs represent a very small fraction of these investments, accounting for less than \$50 million of investments (Instiglio). DIBs have the potential to bring new capital and to increase the efficiency in the supply of social services, but according to the current design, some problems may undermine the entire mechanism at its roots.

In a departure from the majority of studies (e.g., Wilson, 2014; Lehner and Brandstetter, 2014; OECD, 2016; Prentice, 2016), we hypothesize that DIBs' contractual design could explain the lack of private investors' participation, whilst recognizing the importance attributed to financial features. To verify our hypothesis, we first depict the current DIB's theoretical model and, then, we map, analyze and compare the main contractual and financial characteristics of the 28 DIBs to date designed all over the world. From an in-depth analysis, it emerges that the bullet payment schedule, the high upfront capital commitment, the low additional grants, the long contract duration and the lack of guarantees on the capital provided might negatively affect DIBs usage among NPOs and private investors. Another interesting finding is that DIBs appear to be much more complex than theorized, thus, we revise the current model and propose a new and more complete DIB structure, easy-to-understand for NPOs and practitioners.

Accordingly, the study provides several contributions to academic literature and practice. First, a first mapping of worldwide DIBs is performed. Second, a prototypical DIB structure firmly grounded in empirical evidence is built. Third, our findings show how DIBs may help NPOs promote their rapport with local governments and circumvent restrictive regulations on NGO funding.

Development Impact Bonds: New tools to fund nonprofit organizations

Foreign aid has always been a way to finance developing countries. Over the years, donors have directed their funds mainly towards military partners, former colonies (Winters & Martinez, 2015) and states, which

imported goods in whose production donors had a competitive edge (Younas, 2008), according to a donor interest-based logic (Maizels & Nissanke, 1984). When, since 80s, the approach has changed towards a recipient interest-based logic, foreign donors have begun to identify the recipient states in a different way and have preferred to address their donations towards NGOs rather than governments (Fuchs et al., 2014). Bypassing governments via NGOs may be a way to respond to weak recipient state institutions (Acht et al., 2015). However, delivering aid through nongovernmental organizations risks of incurring in ratification of law restrictions to NGOs funding. As pointed out in the introduction, NGOs include nonprofit organizations, definable as stable, bounded, voluntary relationships among parties to provide a specific service using specific approaches (Yanacopulos, 2017), and activist organizations, that seek to affect policy. Since local authorities do not want foreign aid may support AOs and, more in general, prefer to avoid foreign aid enters without a specific purpose, they enact laws controlling and restraining the inflow of foreign aid directed to NGOs. The natural consequence is a reduction of donations towards those states. Accordingly, a recent panel investigation of 134 aid-receiving countries for the years 1993-2012 found that, all else equal, a restrictive NGO finance law results in a 32% drop in foreign aid inflows in following years (Dupuy & Prakash, 2018). A such reduction has obvious consequences on the provisions of social services by NPOs and should push them to look for alternative ways to collect funds, especially private investors' capital. As evidence reveals that only higher quality aid, in terms of selectivity, alignment, harmonization, and specialization, exerts a positive change in recipient states' GDP (Knack et al., 2010), NPOs should attract high quality capital. Ways to do this could be providing incentives (Helms-McCarthy et al., 2016) or guarantees, by formalizing intervention projects and making investors conscious about what they are financing.

A further effort by NPOs could be formalizing innovative intervention projects. Financing innovation is actually a current limitation when foreign aid is destined to nonprofit organizations, because of the adverse-risk attitude characterizing donors/investors. They know that, in emerging economies, poor business practices, delays, corruption and a generalized lack of publicly available information are widely spread. Therefore, even though they look forward the potential gains that take place when risk-taking pays off and improves living conditions of recipients, they demand adequate risk management tools to safeguard their capital (Williams et al., 2014). Accordingly, to encourage the adoption of acceptable risk-taking practices, NPOs should design more flexible funding and investment mechanisms, which might reduce transaction costs and speed up the pace of disbursement (OECD, 2012). To exacerbate the risk-aversion of investors, there are the principal-agent problems (Jensen & Meckling, 1976) that emerge when merely a remote and indirect link exists between investors and NPOs. Therefore, investors look for guarantees and shared purposes before to provide their capital to NPOs. In fragile and transnational contexts, investors should have more rational expectations for the level and detail of financial reporting and place a stronger emphasis on the speed of transfer of funds and conditions for disbursement (OECD, 2011). Thus, classic ways to support aid in low and middle-income countries may fail in financing innovation, because they need the implementation of too many risk mitigation mechanisms.

Finally, social investors also care for the usage of the resources they've handed over to a third-party service provider to convey an intervention, notably if the latter takes place in a dangerous economic and political context. They want their funds to be both effectively and efficiently managed: both financial and social outcomes are deemed important (Jackson, 2012). Therefore, nonprofit organizations are called to behave entrepreneurially (Badelt, 1997; Morris et al., 2007; Morris et al., 2011). They need to diversify revenue strategies, by including also commercial and services activities, and overall need to attract private capitals (Froelich, 1999). This last necessity leads NPOs to look for alternative funding models.

Development Impact Bonds may partly deal with the aforementioned issues. These financial tools, together with Social Impact Bonds go back to 2000, when the notion of Social Policy Bonds (SPBs) was formulated. SPBs were portrayed as freely tradable, non-interest-bearing bonds redeemable for a definite amount only

when a targeted social objective has been achieved (Olson & Phillips, 2013; Disley & Rubin, 2014; Nicholls & Tomkinson, 2013). They were concerned in maximizing private returns and effectively accomplishing the targeted social targets (Horesh, 2000). However, sometime later, the notion of SPB lost its original connotation of freely tradable, non-interest-bearing bond to develop into a form of outcome-based contract signed between private and public actors. Specifically, to date, Social Impact Bonds are considered outcome-based contracts signed between governments, non-profit service providers and private investors in high-income countries to support socially relevant initiatives. DIBs, instead, although they have the same nature of outcome-based contracts, address social issues affecting low-and middle-income countries (Arena et al., 2016; Gustafsson-Wright & Gardiner, 2015). Moreover, SIBs' and DIBs' players and the issues they confront are diverse (Fraser et al., 2018).

To date, there are few studies that have investigated with varying degrees of accuracy DIBs contractual and financial characteristics (among others, see: Clarke et al., 2018; Oroxom et al., 2018). The DIB model in theory comprises five phases and five actors (Oroxom et al., 2018). In the first phase, the outcome funder commits to repaying the investors of their principal plus an additional financial return only if service providers achieve the contractually specified target outcomes. *Outcome funders* may be development agencies or philanthropic foundations who complement or replace government disbursements to investors (Atun et al., 2016). *Investors* may be development partners, development finance associations, philanthropic organizations, private investors, or traditional donor agencies. *Service providers* may be public agencies, private firms, or nonprofits which, contrary to investors, are interested in stimulating innovation and scale impact in local communities. In the second phase, the investor provides the service provider with the upfront capital commitment needed to finance the agreed-upon community-level interventions. In the third phase, the service provider delivers a set of social, educational, or health-related services to the needing *target population*. Group beneficiaries include various categories based on the social issues tackled: households, adolescents, patients, etc. In the fourth phase, the independent evaluator assesses the target population for changes and reviews the performance of the service provision delivered through baseline observations, randomized controlled trials (RCTs) or other qualitative procedures. *Outcome evaluators* may be foreign social consulting firms authorized by the other DIB parties to manage the assessment process. In the fifth and last phase, the independent evaluator determines whether the intervention achieved or eventually exceeded the target outcomes defined for the DIB, also in terms of community economic impact (Woller & Parsons, 2002). If that's the case, the outcome funder repays the investors according to contractual arrangements. If payment thresholds are not matched, outcome funders do not reimburse lenders in full or, should the DIB be unsecured, do not refund the investor at all. The evaluation occurs on the basis of outcome metrics. Scholars proposed sensitivity analysis (Anyiam et al., 2017), cash flow analysis (Welburn, et al., 2016) and legal templates (Welburn et al., 2017).

Figure 1 summarizes the DIB model in theory.

[Insert Figure 1 about here]

This scheme could be further enriched by considering another corporate entity, the Development Impact Partnership (DIP), following the indications by the Development Impact Bond Working Group (2013). DIP should oversee contracting with outcome funders and manage funds granted to service providers. Some examples are in the health sector (Anyiam et al., 2017; Welburn et al., 2017). Any author includes intermediaries (Clarke et al., 2018) or technical assistance providers (Gustafsson-Wright & Gardiner, 2015).

Little is known about DIBs implementations, apart from a few studies focused on agriculture (Belt et al., 2017) and innovative health interventions (Trotta et al., 2015; Atun et al., 2016; Welburn et al., 2016; Anyiam et al., 2017; Welburn et al., 2017). Nevertheless, through DIBs, NPOs could favor lasting changes in local communities (Balboa, 2014), by collecting funds by private investors on specific projects (Minasyan et al., 2017). As DIBs are related to specific social interventions, they calm local authorities about flows'

destination (Matei & Apostu, 2014) and may, thus, favor the role of governments as partners (public-private partnership) in social services delivery. Additionally, DIBs may provide higher quality aid flows to developing countries (Knack et al., 2010) not contingent upon commercial (Younas, 2008) and political interests (Brech & Potrafke, 2014; Tingley, 2010). Moreover, because professional investors are experienced in managing risks, they can speculate on innovations and exert, at the same time, a tight control on funded projects (Callanan & Law, 2012). Again, DIBs, if designed properly, can speed up the disbursement of funds (OECD, 2011; OECD, 2012) while achieving both monetary and social outcomes (Jackson, 2012). Finally, DIBs can mitigate principal-agent problems, even though they are still far from being perfect. However, when compared to traditional ways of financing foreign aid, DIBs can shorten the distances between investors and NPOs by eliminating most of the traditional intermediaries (Radelet, 2006). Therefore, why are the adoption rates of DIBs still modest? We argue that it may depend on DIBs contractual design and financial features. Then, we examine the DIBs currently designed all over the world and compare them with the theoretical model above-presented, in order to provide an explanation to the scarce spread and delineate future improvements.

Methods

This study is exploratory in nature, so it uses an inductive approach to data analysis to gain insights into DIBs regular configuration patterns. To do so, a three-step process is adopted (Charmaz, 2006). First, DIBs issued worldwide are identified. Second, the main contractual and financial data are collected. Third, the data are analyzed and discussed to identify recurring patterns and the reasons under the modest spread of DIBs. The “ground-up” analysis of the data (Yin, 2014) is finalized to discover a model (Eisenhardt, 1989) that will “fit and work” (Scott & Glaser, 2006).

Data collection

To identify useful data sources we followed Del Giudice & Migliavacca (2019). Accordingly, as primary data source, we selected the report of Gustafsson-Wright et al. (2017), for its reliability and comprehensiveness. More in details, the report can be considered reliable because the research fellows of the Brookings Institution are independent scholars; and comprehensive because it is perhaps the most complete source of information on international DIBs up to date. When data were missing in the primary source, further information on outcome payments, investors, outcome funders, service providers, intermediaries and intervention metrics were collected on Instiglio SIB & DIB Map and on Social Finance UK Impact Bond Global Database (among others, Arena et al., 2016; Del Giudice & Migliavacca, 2019; La Torre et al., 2019). Instiglio SIB & DIB Map classifies SIBs and DIBs into three stages of advancement: “design”, “implementation” and “completed”. The “design” stage includes projects in which service provision isn’t started, but for which design, social issue, target community and location are known. The “implementation” stage includes projects in which contracts are signed and the service provision is started. The “completed” stage includes projects in which payments to investors are disbursed. The Social Finance UK Impact Bond Global Database comprises 131 impact bonds (both SIBs and DIBs). Users can handle data to get general knowledge on countries, issue areas, investors, payers and service providers. The summary of each deal includes detailed information on contractual and financial features, issues tackled, target population, impact metrics and performance.

Finally, when data were missing on the above-described sources, DIBs’ websites or, in lacking, taking part institutions’ websites were visited. When necessary, also magazines and newspapers articles were examined

Sample

We identified 28 DIBs contracted worldwide since 2014 to the end of 2018. By sorting them on the basis of social issues, we found a prevalence of DIBs contracted in the health sector, as shown in Table 1. The remaining part deals with employment, education, agriculture, and social welfare.

[Insert Table 1 about here]

Table 2 shows the sample distribution for stages of implementation: early-stage, late-stage, implementation and complete. DIBs in late-stage design accounts for more than half of the total sample, while just two DIBs are completed.

[Insert Table 2 about here]

Table 3 reveals that Africa and South America are the geographic areas in which most of the DIBs are designed: jointly, they account for approximately 70% of the overall sample.

[Insert Table 3 about here]

Results

In this section, we present DIBs contractual and financial characteristics in order to provide an answer to our research question and, thus, to understand why the adoption rate of DIBs, when compared to other forms of impact investing, is still modest.

First, we compare the structure of DIBs designed worldwide with the theoretical model (Oroxom et al., 2018). As outlined in Table 4, in all of 28 DIBs, we find the four leading players incorporated in the DIB model in theory: outcome funders, investors, service providers, and outcome evaluators. Additionally, we notice the presence of other three actors not included in the theoretical model: intermediaries, technical assistance providers and lead sponsors. Intermediaries are generally advisory companies who serve as negotiators among the DIB participants, therefore favoring the agreement on contractual and monetary features among the parties. They can operate in the pre-contracting stage to provide recommendations on how to structure the DIB, or may be appointed as project managers of the intervention. Technical assistance providers figure as bridge between investors and service providers and are generally informed about laws, uses and habits of a specific intervention context. Finally, lead sponsors play a crucial role in carrying the projects under community awareness.

[Insert Table 4 about here]

Turning now to the in-depth data on actors' type, Table 5 presents a breakdown of the actors involved in the 28 DIB contracts.

[Insert Table 5 about here]

First, we may note that governments account for almost half of the outcome funders. Therefore, DIBs might really remodel the relationship between service providers, especially local NPOs, and governments from a conflicting one (Matei & Apostu, 2014) to a collaborative one. Looking at investors, we can see that foundations and philanthropists make up almost 60% of the 17s involved in our sample. A relevant role is also that of multilateral and bilateral institutions and of intergovernmental financial institutions, which account for over 20% of the total number of investors. It is interesting to note that both categories represent outcome-oriented actors. Instead, professional investors, such as banks and investment funds, just represent the 18% of investors. Among service providers, a relevant finding emerges: NPOs make up almost 50% of the total 25 service providers of our sample. According to a bottom up logic, they start the DIB design, without the pushing of national authorities or intergovernmental institutions. This may suggest that DIB contracts have the potential to profit from the deep linkages of NPOs with resident communities

(Edwards, 1999), therefore generating a durable change in fragile contexts (Balboa, 2014). Regarding outcome evaluators, research institutes are the participants to which DIB counterparts most often delegate the assessment of the service provision. Their competence, together with their lack of financial involvement, may suggest their recurrence in the arrangements examined. Among intermediaries and technical assistance providers, we may observe a prevalence of social consultancy organizations, specialized in giving help in both the pre-contracting and post-contracting phases of a DIB investment. The involvement of two actors of the same kind in different roles may be a sign of the complexity of DIBs' implementation and a form of additional guarantee. For what concerns lead sponsors, the data suggest a slight prevalence of multilateral, bilateral, or intergovernmental financial institutions (IFI) above all other actors. This may be because such institutions have the organizational structure and the connections necessary to ensure that a given DIB initiative will be properly brought to public attention.

Moving on now to consider the actors' geography, Table 6 reveals that most of the players are foreign, with the highest percentage values displayed in the case of intermediaries, outcome funders and technical assistance providers.

[Insert Table 6 about here]

Such a result supports the idea that DIBs may serve as tools to fund foreign aid. Both investors and outcome funders, which are involved in DIBs' in monetary terms, are essentially overseas players. Contrarily, service providers are mostly locals: as formerly specified, they have a better knowledge about social issues and local contexts.

Turning now to the data on DIBs' contractual characteristics, Table 7 shows that roughly 60% of the 28 DIBs are based on a reward structure which comprises partial payments distributed throughout the service provision. Such payments are usually contingent upon the attainment of contractually defined payment thresholds or outcome metrics.

[Insert Table 7 about here]

Table 8 examines the financial characteristics of the sample in terms of descriptive statistics.

[Insert Table 8 about here]

The results portray DIBs as high risk-return impact investing tools, which require a consistent upfront capital commitment to fund the service provisions of local NPOs. Regarding the Internal Rate of Return (IRR), it's interesting to notice that there is a DIB that contemplate none monetary compensation. Apart from this exception, the average IRR is noteworthy, pointing that medium-high risks are a feature of such transactions. In fact, turning on to examine the DIBs' potential loss, most of the signed contracts give virtually no guarantees to investors' money. If to this evidence we add that, on average, DIB's duration is of 43 months, we have a more complete picture of the uncertainties surrounding DIBs and, thus, some hints about their poor diffusion. Another noteworthy feature of DIBs is their strong average upfront capital commitment and their modest average value of supplementary grants: this may be a warning of the deficient redistribution of risks among lenders and a component to leverage in future DIBs.

Discussion

The analysis of the contractual design and financial attributes of the DIBs currently designed worldwide allows us to discuss about the potentialities and weaknesses of DIBs and to explain why these tools scarcely attract professional investors.

In primis, our findings reveal that most of the DIBs contracted worldwide referred to the health sector (46%). This finding, although appearing unimportant, might lead us to consider two important aspects of DIBs. First, NPOs may use DIBs to support interventions, such as those dealing with health

issues, which demand significant initial costs to arrest the spread of a disease or of any other phenomenon threatening local communities. After such disbursement phase, subsequent costs for control treatments will be modest, while the savings deriving from the delivered service provisions will grow more substantial (Welburn et al., 2016; Welburn et al., 2017). Second, NPOs may contract for DIBs when enough empirical data is available for the evaluation process, as with health projects, for which there are historical data and providers and outcome evaluator can systematically collect empirical evidence. NPOs must thus determine if such conditions, among others, are present and operate proactively to develop a flexible, evidence-based business model to make the engagement of lenders and outcome funders easier, as recently done in DIBs successful interventions (IDInsight, 2018).

Putting our attention on the actors involved in a DIB, from the analysis, it emerges that outcome funders are mainly embodied by governments. Whether they are foreign, we may deduce that local NPOs are supported in the service by foreign aid. Therefore, DIBs may be a workable and innovative tool to subsidize foreign aid even in presence of fragile contexts or law restrictions. Instead, whether they are local, we may suggest that such innovative financing tools may move the relationship between governments and local NPOs towards a public-private partnership. If funds are directed toward specific projects and the risk of financing AOs is minimized, then public and private actors can become partners in service delivery (Matei & Apostu, 2014). Looking at investors, as foundations and intergovernmental institutions represent the greater part, we may assess that NPOs may trust in DIBs, because both such investors are outcome-oriented. However, we are worried about the residual role by banks and investment funds. Although we have few available data, we provide a focus on the DIBs in which these actors are involved to understand what might attract them (Table 9). Accordingly, we find that the IRR median value of such DIBs is 8%. Furthermore, the amounts of upfront capital commitment and additional grants are close to each other. Again, the average duration is shorter than that measured on the full sample. Therefore, we can conclude that a greater sharing of risks among players and more acceptable contract duration seem to incentivize professional investors to finance DIBs, despite their potential 100% loss.

[Insert Table 9 about here]

Moving the attention on the service providers, it emerges the prominent role by local NPOs. This is because they have strong connections with local communities that international NPOs lack (Edwards, 1999). Although this strengthens to deliver social services and solve social issues, if local NPOs want to attract professional investors, they must develop global capabilities (Balboa, 2014) and entrepreneurial mentality (Badelt, 1997; Morris et al., 2007; Morris et al., 2011), and should shift towards an evidence-based business model to offer additional guarantees and quantitative evidence. Another noteworthy feature of DIBs is the engagement of mostly foreign research institutes and of professional services companies as outcome evaluators. This is a significant guarantee for both NPOs and lenders because both players are not financially involved in DIBs activities. On the one hand, the NPOs can bypass goal displacement effects that occur when the investors are also those who examine the quality of benefits delivered (Froelich, 1999; Lipsky & Smith, 1989); on the other hand, investors have an objective technical report that motivates the amount of reimbursement. Finally, we look at the three actors not included in the theoretical model. Among intermediaries and technical assistance providers, findings show a prevalence of advisory companies, foreign in the case of intermediaries and local as technical assistance providers. Such a difference might be because local consultants may provide practical observations about the industrial and political background and give legal assistance to match the demands of local jurisdictions. The conjunct involvement of the same class of professionals in two separate roles is a form of supplementary guarantee for investors, service providers and outcome funders. Concerning lead sponsors, mainly foreign, they are embodied by categories able to bring to worldwide public attention the initiatives deemed relevant and, thus, have a fundamental role in attracting investors.

In the light of these findings, we can assess that the current theoretical DIB model (Oroxom et al., 2018) should be extended by considering empirical evidence. Indeed, even though it helps to grasp the general functioning of a DIB, it is not fully respondent to empirical practice. Therefore, while DIB model in theory comprises five and five phases, by moving from our findings, we suggest the inclusion of three additional players: intermediaries, technical assistance providers and lead sponsors. Furthermore, we propose to discriminate among pre-intervention, intervention and post-intervention phases. In *pre-intervention phase*, service providers feel the need to resolve a social issue and to find funds accordingly. Thus, they start the process by calling an intermediary on, which help identifying outcome funders, investors and outcome evaluators. Subsequently, the intermediary support parties in finding an agreement about investments amounts, expected outcomes, outcome metrics and guarantees. Then, with the assistance of a technical assistant provider, the DIB is formalized and the lead sponsor may echo. During the *intervention phase*, investors provide capital to service providers that can deliver the services to the target population. In *post-intervention phase*, outcome evaluator analyzes the intervention outcomes, draws up a technical report for the outcome funder that proceeds with the reimbursement. Figure 2 depicts a DIB's structure and process as proposed.

[Insert Figure 2 about here]

To conclude our discussion, we now consider DIBs contractual design and financial features. Regarding contractual design, almost half of the DIBs included in our sample provides repayments of principal and additional returns to investors in bullet form. That's a first element that may impede DIBs diffusion among private investors, especially when considered together with the average contract duration of 43 months. Investors should not only wait to get back their capital until the end of the service provision, but they should likewise linger for the technical report of the outcome evaluator, which may take supplementary months to complete. When payments are intermediate and partial, investors may be incentivized to invest in DIBs because they could benefit from partial reimbursements. Moving on to consider the financial characteristics of DIBs, current practices can discourage private investors from subsidizing DIBs. Although there are cases of DIBs with no internal rate of return (IRR), in most of the DIBs included in our sample, the average IRR is about 9%. That's a significant average financial return, but it is still not enough to justify the considerable risk underlying DIB contracts. The average upfront capital commitment required from lenders to support the initial implementation of the service provision is 2,367 USD millions, a financial engagement that most investors may do not meet for several reasons. Moreover, and that's the most significant result of our study, the average potential loss for investors is of 82%, and this value is somewhat influenced by a DIB project in which the maximum potential loss is of 25%. DIBs usually revolve around a 100% loss in case of unsuccessful service delivery. Investors won't consider DIBs as investment tools if their riskiness will not be somehow mitigated. A solution may be to readjust upfront capital commitment and additional grants, since the latter, on average, accounts only for 0,60 USD millions. Increasing the amount of additional grants given by third-parties distinct from investors may mitigate risk, therefore making DIBs more attractive.

Conclusions

The present study aimed to explain why the adoption rates of Development Impact Bonds (DIBs) are so small when contrasted with those of alternative impact investing tools. We hypothesized that this may be because of the current DIBs contractual and financial attributes, which hinder their usage by preventing professional investors to fund DIB interventions.

The findings show that DIBs might be a workable tool for local NPOs to obtain foreign aid, regardless of law restrictions, and to favor the public-private partnership with governments. However, in their current form, they are unbalanced in terms of risk and returns for investors: even yet ensuring, on average, a compelling

internal rate of return (IRR), the potential loss is almost always equal to 100%. Moreover, the upfront capital commitment needed to subsidize the service provision of NPOs is remarkably high and the risk balance among lenders, as showed by the low average values of the supplementary grants, require serious modifications. Therefore, to make DIBs more attractive, several changes are required on both contractual design and financial features. First, the current DIB model in theory (Oroxom et al., 2018) should incorporate additional actors. Second, to arouse the interest of professional investors, a more equitable distribution of capital commitment over the time, the possibility to achieve intermediate reimbursements, the sharing of risks among players and more acceptable contract duration would be necessary.

Although the present study represents a first attempt to thoroughly examine worldwide DIBs from a contractual and financial standpoint, it seeks to contribute to theory and practice. First, by setting on the empirical evidence, it depicts a new and more complete DIB structure, thus providing an easy-to-understand prototypical DIB for NPOs and practitioners. In so doing, it emphasizes the critical role of intermediaries and technical assistant providers, which may help NPOs in identifying partners and in working out a complex outcome-based transaction; and the role of lead sponsors in public communication processes. Second, our findings show how DIBs may lessen the principal-agent dilemmas emerging in foreign aid, by shortening the distances between investors and aid beneficiaries. Third, we describe how DIBs may help NPOs promote their rapport with local governments and circumvent restrictive regulations on NGO funding.

These findings provide several insights for future research. First, the accuracy of our prototypical DIB model could be tested on single or multiple-case studies. Second, the role of intermediaries, technical assistance providers, and lead sponsors requires future attention. Third, the role of DIPs in DIBs, currently just theorized (Development Impact Bond Working Group, 2013) should be clarified. Fourth, the monitoring of the change in contractual and financial characteristics of DIBs would be of help to track the evolution of such an innovative tool. Moreover, as this paper has several limitations, further research development are worthy. First, the sample size is small, thus not allowing us to draw on a comprehensive experimental base to generalize our results. Therefore, in future, studies should be conducted on larger sample, hopefully a greater adoption of DIBs worldwide. Second, mere 7% of the DIBs examined were completed: this means that contractual and financial aspects, notably for those DIBs in an early-stage design (29%), may be subjected to change. Third, despite the reliance on several sources of information, the most detailed reports on DIBs intervention will be eventually made publicly available only when the projects supported will be completed. Thus, a similar study could be replicated in future.

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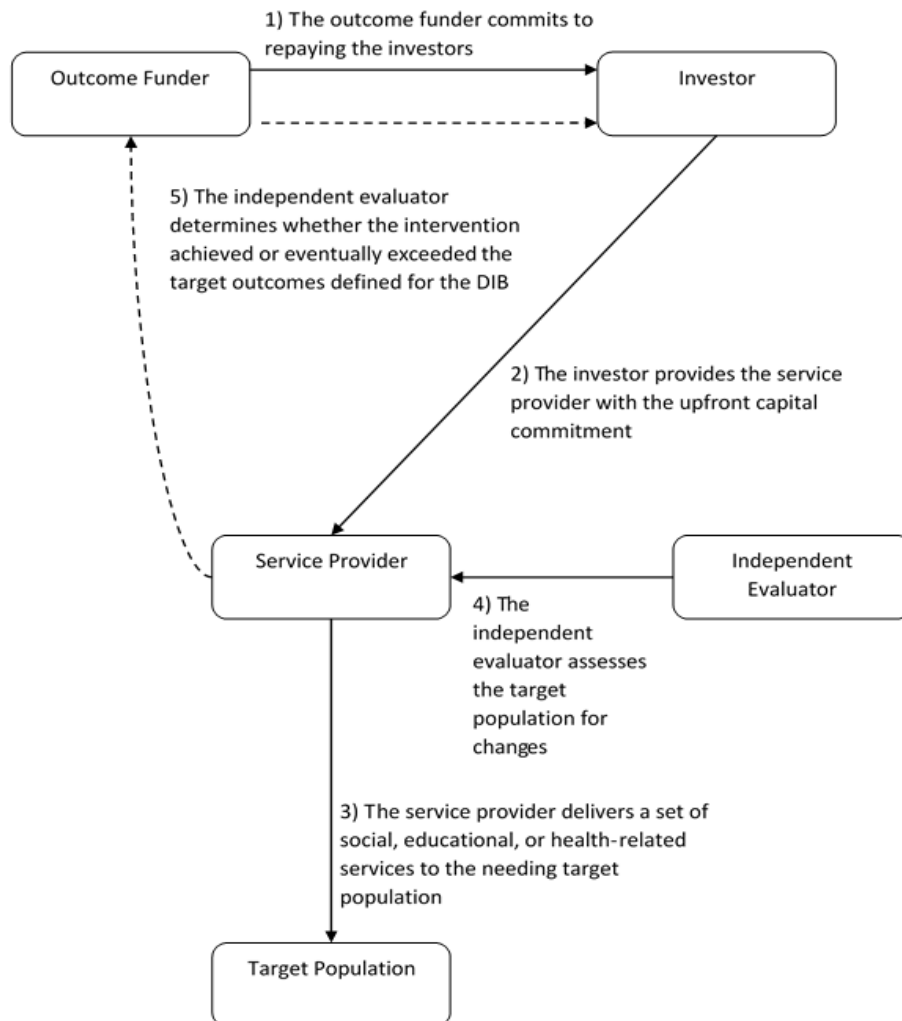
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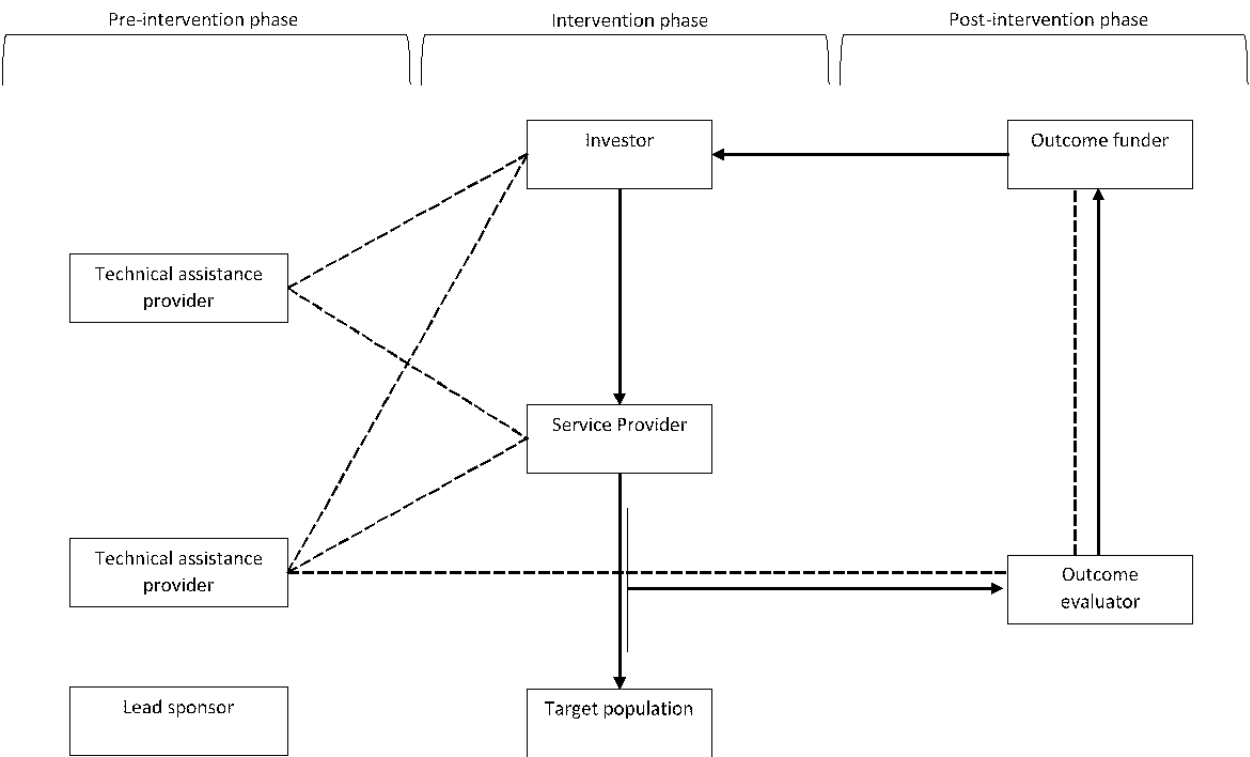
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Figure 1 – The DIB model in theory



Source: Oroxom et al., 2018

Figure 2 – A prototypical DIB structure



Source: *our elaboration*

Table 1 – Sample distribution for social issues.

Social Issues	Nr.	%
Agriculture	3	11%
Education	4	14%
Employment	6	21%
Health	13	46%
Social Welfare	2	7%
Total	28	100%

Table 2 – Sample distribution for stage.

Stage	Nr.	%
Early-stage	8	29%
Late-stage	16	57%
Implementation	2	7%
Complete	2	7%
Total	28	100%

Table 3 – Sample distribution for countries.

Country	Nr.	%
South America	8	29%
Africa	11	39%
Asia	5	18%
Middle East	3	10%
To be confirmed	1	4%
Total	28	100%

Table 4 – The actors (class).

Actors	N*	Nr. DIB	% (Nr. DIB/N*)	Nr. Of Actors
Investors	13	13	100%	17
Out. Evaluators	9	9	100%	12
Outcome Funders	20	20	100%	37
Service Providers	17	17	100%	25
Intermediaries	14	13	93%	18
Tec. Ass. Providers	17	15	88%	43
Lead Sponsors	28	28	100%	52

*Number of DIBs with available information.

Table 5 – The actors (types).

Investors (17)	
Banks	6%
Investment Funds	12%
Multilateral, bilateral or intergovernmental financial institutions (IFI)	23%
Foundations or philanthropists	59%
Outcome Evaluators (12)	
Academics	8%
Multilateral, bilateral or intergovernmental financial institutions (IFI)	8%
Professional Services Firms	25%
Research Institutes	59%
Outcome Funders (37)	
Trust	3%
Investment Funds	3%
International Organizations	8%
Multilateral, bilateral or intergovernmental financial institutions (IFI)	19%
Foundations or philanthropists	21%
Governments	46%
Service Providers (25)	
Nongovernmental Organizations	4%
International Organizations	24%
Community Organizations	24%
Nonprofits	48%
Intermediaries (18)	
Foundations or philanthropists	6%
Nonprofits	11%
Investment Funds	11%
Advisory Organizations	72%
Technical Assistance Providers (43)	
Universities	2%
Think tanks	12%
Law Firms	21%
Social Consultancy Organizations	65%
Lead Sponsors (52)	
Action Tank	2%
Think Tank	2%
Trust	2%
Nonprofit	6%
Research Institutes	8%
Social Consultancy Organization	10%
Investment Funds	11%
International Institutions	12%
Foundations or philanthropists	13%
Governments	13%
Multilateral, bilateral or intergovernmental financial institutions (IFI)	21%

Table 6 – The actors (local/foreign).

Actors	Local			Foreign		
	Nr.	%	N*	Nr.	%	N*
Investors	7	41%	17	10	59%	17
Outcome Evaluators	5	42%	12	7	58%	12
Outcome Funders	12	32%	37	25	68%	37
Service Providers	15	60%	25	10	40%	25
Intermediaries	1	6%	18	17	94%	18
Technical Assistance Providers	15	35%	43	28	65%	43
Lead Sponsors	15	29%	52	37	71%	52

*Number of DIBs with available information.

Table 7 – DIBs' contractual characteristics.

Features	Nr.	%	N*
Timing			
Intervention end	5	42%	12
Intermediate	7	58%	12
Payment schedule			
Bullet	5	42%	12
Partial	7	58%	12

*Number of DIBs with available information.

Table 8 – DIBs' financial characteristics.

Financial characteristics	Mean	S.D.	Median	Min	Max	N*
Internal Rate of Return (IRR)	9%	6%	8%	0%	16%	11
Outcome funds (USD Mln)	6,70	8,48	3,55	0,11	30,00	20
Upfront Capital Commitment (USD Mln)	2,367	2,08	2,25	0,11	7,50	16
Additional grants (USD Mln)	0,60	0,88	0,20	0,00	3,00	13
Potential loss	82%	34%	100%	25%	100%	8
Duration	43	13	48	10	60	25

*Number of DIBs with available information.

Table 9 – DIBs' financial characteristics (focus on banks and investment funds)

Financial characteristics	Mean	S.D.	Median	Min	Max
Internal Rate of Return (IRR)	8%	11%	8%	0%	15%
Outcome funds (USD Mln)	4,05	5,58	4,055	0,11	8,00
Upfront Capital Commitment (USD Mln)	1,41	2,24	0,120	0,11	4,00
Additional grants (USD Mln)	1,12	0,83	1,115	0,53	1,70
Potential loss	100%	0%	100%	100%	100%
Duration	29	17	36	10	42

