

EDUCATION IMPACT BONDS:

Picking Low-Hanging
Fruit or Reaching
for the Stars?

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About the Project

This research paper is a product of the Innovative Financing for Education to Leave No One Behind project, funded by the TRANSFORM research initiative of the Swiss Agency for Development and Cooperation and by consortium members. The project focuses on utilising and assessing the contribution of innovation in education financing to bring in more and better financing to reach the most disadvantaged and marginalised groups.

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LIST OF ACRONYMS

DIB	Development Impact Bond
EIB	Education Impact Bond
IFE	Innovative Financing for Education
OBF	Outcomes-Based Financing
OBPM	Outcomes-Based Performance Management
OECD	Organisation for Economic Co-Operation and Development
PTF	Proyectá Tu Futuro
QEI	Quality Education India
SIB	Social Impact Bond
TVET	Technical and Vocational Education and Training
UK	United Kingdom
US	United States

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EXECUTIVE SUMMARY

Impact bonds, a mechanism with the potential to improve and generate more financing towards educational outcomes, have gained traction over the past 15 years; however, empirical evidence regarding their use remains limited. This paper intends to contribute to this knowledge gap by examining the intended impact of education impact bonds (EIBs), which tie the achievement of predetermined targeted results to outcome payments. The analysis addresses critiques that navigating the diverse motivations of different stakeholders may result in concentrating on low-hanging fruit (setting easy-to-achieve targeted results), increasing the risk of perverse incentives and simplifying complex educational challenges.

This paper employs a mixed-methods approach to analyse publicly available information, building specifically on data collated in the [Innovative Financing for Education to Leave No One Behind: Education Impact Bonds Database](#) (NORRAG, 2024). Its analysis of 361 targeted results used across 120 EIBs is structured along five lenses identified through the literature review: 1) targeted educational impact, 2) level of impact, 3) financial distribution, 4) type of metric, and 5) system level measured. The work's findings are then disaggregated by country income level to examine any differences in the patterns identified.

Easy-to-Achieve Targeted Results

Existing literature on impact bonds highlights the potential tension between investors seeking reliable financial returns – even when socially motivated – and outcome funders (often from the public sector), who look to reach ambitious outcomes to ensure value for money. In delving into the evidence on striving for easy-to-achieve targeted results, this paper analyses the targeted educational impact, the level of impact and the financial distribution of outcome payments in EIBs.

Targeted Educational Impact

Analysing the targeted educational impact involves categorising each targeted result into one of seven categories: enrolment, participation, attitude/behaviour, parental engagement, teaching/teacher training, learning outcomes and cost savings. The largest category is learning outcomes, with 71% of the analysed projects having at least one targeted result in this category. As the attainment of learning outcomes is typically understood to be beyond the direct control of service providers and influenced by various external factors beyond the educational intervention itself,

the high use of learning outcomes indicates a tendency for EIBs to strive for harder-to-achieve targeted results.

Even after disaggregating this analysis by countries' income level, learning outcomes still represent the highest share of targeted results in both OECD and non-OECD countries. However, non-OECD countries tend to have fewer types of targeted educational impact than OECD countries. Of the seven categories, only four are present in non-OECD countries: Enrolment, participation, teaching/teacher training and learning outcomes, showing that EIBs may be used to target a wider array of educational impacts in OECD countries.

Level of Impact

The targeted results of each EIB do not exist in isolation; rather, they are contextually relational to the project and target different levels of impact. Developing a results chain for each project reveals whether targeted results are outputs, immediate outcomes or intermediate outcomes by situating each targeted result between the project's educational intervention and its ultimate goal.

Of the 361 targeted results analysed, 62% are intermediate outcomes, while immediate outcomes and outputs, make up 26% and 12% of the targeted results, respectively. Due to their weaker attribution between intervention and effect, intermediate outcomes are arguably harder to achieve than outputs or immediate outcomes, contradicting the suggestion that EIBs target low-hanging fruit.

For EIBs in both OECD and non-OECD countries, outcome payments are more tied to intermediate outcomes than to outputs and immediate outcomes. However, the proportion of intermediate outcomes is much smaller in non-OECD countries, totalling 42% of the targeted results (63% in OECD countries), suggesting that the difficulty of intended impact differs across contexts.

Financial Distribution

This paper examines the financial distribution of outcome payments across targeted results. The 34 projects with publicly available financial information at the time of analysis (out of a total of 120 projects analysed) exhibit a tendency for greater financial weighting to be associated with harder-to-achieve targeted results. The available data show that 91% of the sample place a higher value or proportion of outcome payments on targeted

results situated further along the results chain. For example, some projects attribute higher potential outcome payments to higher levels of educational qualifications obtained. However, any generalisations should be interpreted cautiously given the small sample size, which is caused by the lack of publicly available data.

Risk of Perverse Incentives

The current literature on impact bonds highlights that the pressure of achieving predetermined targeted results could increase the risk of perverse incentives, thereby prioritising the achievement of targeted results, possibly at the expense of broader positive impact. The risk of perverse incentives is examined through the use of binary and frequency metrics when setting targets. Binary metrics (e.g. pass/fail criterion) are considered to risk encouraging gaming strategies, such as focusing on the beneficiaries that are most likely to achieve results. In contrast, frequency metrics are aggregate, cohort-level metrics that count the number of occurrences, often in comparison to a baseline or control group, and leave less room for gaming. This paper examines the tendency for impact bonds to use binary metrics, as described by Maier and Meyer (2017).

Type of Metric

After categorising the 361 targeted results, the pattern identified by Maier and Meyer (2017) is clearly found to be consistent in EIBs, with binary metrics accounting for 86% of the targeted results analysed in this paper. When disaggregating between EIBs located in OECD and non-OECD countries, binary metrics remain the most frequently used type of metric. However, the proportion of frequency metrics is considerably higher in non-OECD-based projects: 35% of targeted results compared to 6% in OECD-based EIBs. This could indicate that EIBs in non-OECD countries are designed with less risk of gaming practices. Nevertheless, this paper does not imply a direct link between binary metrics and perverse incentives. Instead, it highlights the potential risk of gaming that may arise if projects concentrate on the beneficiaries more likely to achieve the targeted results at the expense of excluding marginalised and vulnerable populations.

Simplification of Complex Challenges

Regardless of the metric type or difficulty of targeted results, EIBs inherently require educational challenges to be broken down and simplified into quantifiable targeted results. Analysing the system level at which outcome payments are tied builds on Tse and Warner's (2020a) application of the human ecological theory in early childhood-related impact bonds, whose framework consists of three system levels: the micro-level, which represents the child and their caregivers; the meso level, denoting community-level actors (e.g. service providers); and the macro level, which signifies the wider system, such as public policy and the private market. Their analysis showed that targeted results primarily aim at measurable changes occurring at the micro-level.

System Level Measured

By categorising the 361 targeted results into the three system levels, this analysis reveals that meso- and macro-level targeted results are uncommon in EIBs. The vast majority (94%) focus on the micro level, a trend that is consistent across OECD and non-OECD countries. The limited focus on meso- and macro-levels, however, does not mean that service providers or the wider system are not impacted. These levels are simply not related to the disbursed outcome payments.

Recommendations

After analysing the targeted results used in EIBs across five analytical lenses, the paper concludes with five practical recommendations for future project design.

1. Understand the context

Situate the project within the wider educational context to understand how its intended impact contributes to broader educational challenges and existing projects and policies.

2. Build a theory of change

Develop a theory of change to demonstrate the contributions the EIB intends to make. How this contribution is expected to unfold in terms of the targeted results used and the dependencies between them should be clear to all actors involved. Identify the assumptions and account for influencing factors that may significantly impact the intervention and its pathway of change.

3. Limit the risk of perverse incentives

Where possible, consider the use of frequency metrics, which pose a smaller risk of perverse incentives that can encourage gaming strategies. When this is not possible, ensure strong mechanisms are in place to prevent perverse incentives when using binary metrics.

4. Actively understand the wider impact

Incorporate mechanisms to track and understand the wider impact of the project beyond the targeted results tied to outcome payments. Where possible, examine all three system levels (micro, meso and macro) to understand the breadth of the impact projects have. This should include both intended and unintended impacts that may benefit or harm beneficiaries.

5. Analyse whether an impact bond is the most suitable financing mechanism

Assess whether an EIB would be the best financing mechanism for addressing an identified educational challenge. Since EIBs require impact to be defined through measurable metrics, they might not be suited to addressing complex education challenges and their respective root causes. Traditional education financing might be better suited to address results that are difficult or expensive to monitor, as well as medium- and long-term outcomes, or results at the meso and macro levels. Instead, EIBs may be designed to complement existing financing mechanisms.

2

INTRODUCTION

Over 290 impact bonds have been launched worldwide (Government Outcomes Lab [GO Lab], n.d.-b) since the launch of the first impact bond in the United Kingdom (UK) in 2010¹. Spanning a range of policy sectors, impact bonds have been presented as a solution to tackle complex social challenges. However, over a decade later, there is still limited empirical evidence on the contribution of impact bonds to educational outcomes. This paper aims to contribute to this knowledge gap by exploring the intended impact of EIBs, specifically whether they concentrate on achieving low-hanging fruit (i.e. the targeted results that are easiest to achieve) or strive for more ambitious targeted results situated further along a project's results chain. To do so, the paper analyses the targeted results used in 120 EIB projects identified by January 2024.

The paper begins with an introduction to a prototypical impact bond structure before describing the paper's methodology. The landscape of the 120 analysed EIBs is then presented. This is followed by a two-part literature review that examines what we know about how impact bonds are designed for impact and then details existing critiques and the limitations of impact bonds when it comes to achieving social impact. The literature review informs the five lenses of analysis used in this paper, which are described before the findings are presented. The findings of the analysis are structured around three implications that could potentially hinder the extent to which the impact bond mechanism yields a positive impact: focusing on easy-to-achieve targeted results, increasing the risk of perverse incentives, and simplifying complex educational challenges. The next section disaggregates the findings by

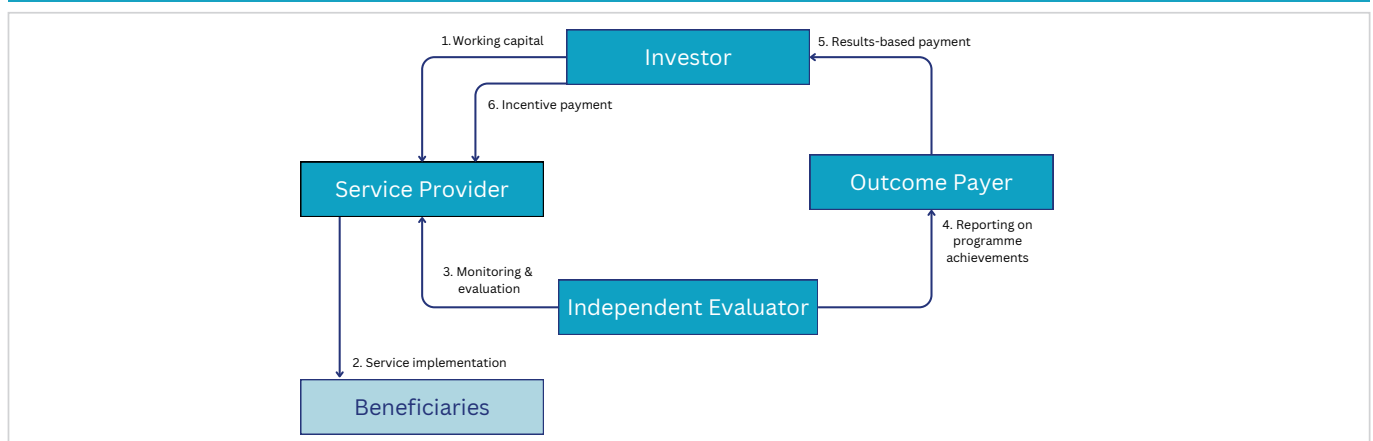
country income level. A conclusion and practical recommendations are detailed in the final section.

Prototypical Impact Bond Structure

Impact bonds are a form of outcomes-based financing (OBF) in which stakeholders look to achieve a common set of targeted social results. They are also known as “social benefit bonds” (Australia) and “pay for success” projects (United States)² depending on the context in which they operate. While the design of impact bonds varies significantly, Figure 1 illustrates the prototypical structure of impact bonds.

In a prototypical impact bond, private investors provide upfront working capital to service providers (commonly non-profit or for-profit social enterprises) that then use these funds to implement interventions focused on achieving specific pre-agreed social outcomes for a group of beneficiaries (Warner, 2013). An independent evaluator assesses the progress made by service providers and reports their findings to the outcome payer (sometimes known as the commissioner). The outcomes payer repays the investor only when the achievement of the predefined targeted results has been verified, as per contract stipulations³. An outcomes payer may be a domestic government entity (thereby distinguishing the project as a social impact bond [SIB]) or a third-party entity, such as philanthropic organisations, charities, international government aid agencies or multilateral agencies (constituting a development impact bond [DIB]).

Figure 1: Prototypical Impact Bond Structure



1. The Peterborough Social Impact Bond aimed to reduce the reoffending rate of prisoners released from HMP Peterborough (Anders & Dorsett, 2017).
2. In this paper, they are universally referred to as impact bonds.
3. Outcome payments typically include the principal plus a pre-agreed return. Depending on the contract, intermediary payments may be made according to agreed milestones, or a single final payment may be made. In most contracts, in case of underachievement, the investor receives a proportionate repayment. Similarly, in the case of overachievement, a bonus payment may be expected.

3

METHODOLOGY

This paper studies the intended impact of EIBs. Specifically, it analyses the targeted results of EIBs, that is, the metrics upon which payments are contingent. It draws upon the academic literature, project information and publicly available project documents compiled in the [Innovative Financing for Education \(IFE\)-2-Leave No One Behind: Education Impact Bonds Database](#) (NORRAG, 2023; 2024).

Literature Review

This paper conducts a review of the academic literature to assess the current evidence and debate regarding the contribution of impact bonds to educational outcomes, leveraging the exhaustive collection of impact bond literature compiled in the EIB database (Version 01; NORRAG, 2023).

The literature review sought to answer two main questions: 1) In what ways are impact bonds expected to create impact? and 2) What critiques exist regarding the intended effectiveness, results and impact of impact bonds, particularly regarding the types of targeted results? Between January and March 2023, 29 of the 123 papers listed in the EIB database (Version 01) were selected as relevant to answering these questions through keyword searches⁴ and subsequent verification.

Analysis

The EIB database (Version 02) comprised 129 projects (NORRAG, 2024) at the time of the analysis (March 2023–January 2024). This paper examines the targeted results of the **120 projects** that had been launched by that time (either being implemented or had been completed)⁵.

While this paper focuses specifically on education, impact bonds tend to operate at the intersection of multiple policy sectors. To account for such overlaps, this paper's definition of what constitutes an EIB encompasses both projects principally operating in the education sector and projects operating under another policy sector but with at least one outcome payment tied to education and/ or

training. Typically, the latter are projects whose ultimate goals are not focused specifically on education but instead use educational outcomes as a tool for achieving results in other policy sectors. For example, the [Deshkan Ziibi Conservation Impact Bond](#) (Canada) principally operates in the agriculture and the environment⁶ sector but also has a targeted result that will disburse payments based on the number of people engaged in learning about the land (Deshkan Ziibi Conservation Impact Bond Leadership Team, 2021).

For projects principally operating in the education sector, all targeted results are included in this analysis. However, for projects principally operating in another policy sector, only education- and training-related targeted results are included. Consequently, of the total 828 targeted results used across the 120 projects, **361** are analysed for this paper.

The analysis is structured along five lenses identified through the literature review: 1) targeted educational impact, 2) level of impact, 3) financial distribution, 4) type of metric, 5) system level measured. It employs a mixed-methods approach and draws on publicly available project documents. Qualitative methods are used to categorise the targeted educational impact and types of metrics used, while quantitative methods are used to examine the financial distribution of outcome payments across targeted results⁷. The findings of these analyses are presented in three sections, each of which responds to a common critique identified in the literature: whether they aim for easy-to-achieve targeted results, the potential risk of perverse incentives, and the simplification of complex educational challenges. The findings are then disaggregated by country income level (i.e. OECD or non-OECD) to examine any differences in the patterns identified.

The authors acknowledge that the paper's reliance on publicly available data constitutes a potential limitation in terms of the paper's findings, as such information may be incomplete, outdated or subject to reporting biases.

4. Keywords searched: measure[ment]; indicator; target; metric; payment; effectiveness; results; output; outcome; impact.

5. The nine excluded projects include three proposed projects that did not launch and six projects which were still under design, and as such, the targeted results were unknown.

6. This paper draws upon the Government Outcomes Lab's attribution and categorisation of principal policy sectors (GO Lab, n.d.-b).

7. See Section 6 for detailed descriptions of each lens of analysis.

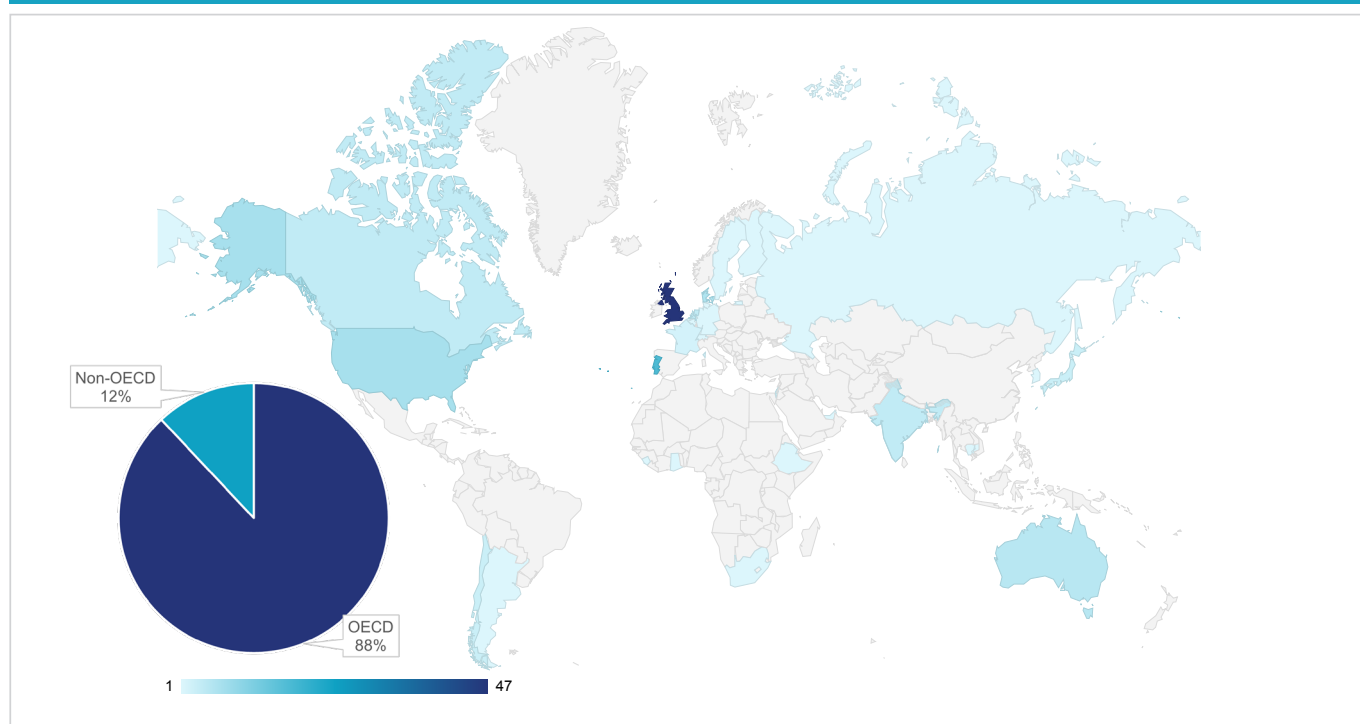
4

EDUCATION IMPACT BONDS

This paper presents data for the 120 EIBs (under implementation or completed) that had been launched at the time of data analysis (NORRAG, 2024). These projects are located across the globe,

spanning 36 countries. The geographic distribution of the EIBs is illustrated in Figure 2.

Figure 2: Location of Education Impact Bonds



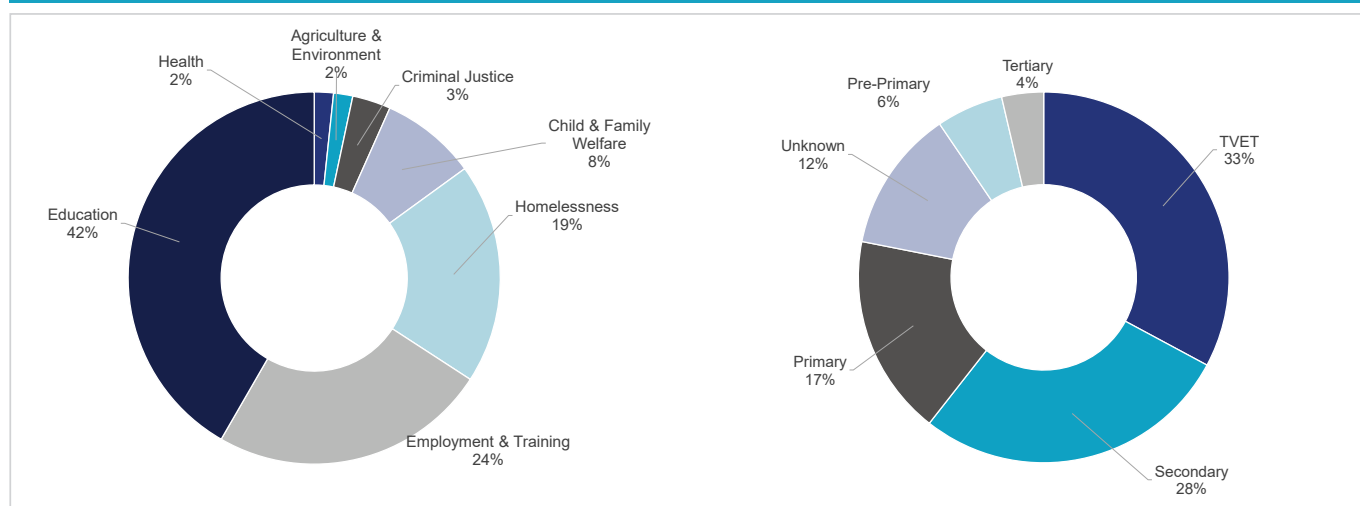
Note: Adapted from IFE-2-Leave No One Behind: Education Impact Bonds Database by NORRAG, 2024, (<https://www.norrageducation.org/ife-database/>).

Labelled the most “mature ecosystem” of impact bonds worldwide, the UK hosts the highest concentration of EIBs, as it has 39% of the studied projects (UNESCO, 2023, p. 33). It also hosted the first-ever EIBs: 10 projects funded under the Innovation Fund (2012–2015) that supported disadvantaged young people in participating and succeeding in education and training. These projects aimed to increase their employability and ultimately reduce their dependency on the welfare state (Griffiths, Thomas & Pemberton, 2016). The countries with the next highest proportion of EIBs are Portugal (14% of projects), the United States (US, 6%) and Denmark (5%). Europe and Central Asia host the highest number (68%) of EIBs, followed by North America and East Asia & Pacific, which each host 9%. The Middle East & North Africa, Latin America and the Caribbean, South Asia and Sub-Saharan Africa each host 3% of all EIB projects – the lowest percentage.

As shown in Figure 2, only 12% of EIBs are located in non-OECD countries, with India hosting the most, with 4 projects (3%). India was also the location of the first-ever DIB in education, the [Educate Girls DIB](#) (GO Lab, 2022). Overall, very few education DIBs exist, representing only eight (7%) of the 120 projects analysed, of which seven are located in non-OECD countries.

Of the 120 EIBs, 42% principally operate in the education sector. Figure 3 illustrates their principal policy sectors.

Figure 3: Principal Policy Sector and Education Subsector of EIBs



Note: The data for Figure 3 are from the IFE-2-Leave No One Behind: Education Impact Bonds Database by NORRAG, 2024. (<https://www.norrageducation.org/ife-database/>).

After education, the principal policy sector with the highest number of impact bonds targeting education outcomes is employment & training (24%), followed by homelessness (19%) and child & family welfare (8%). The fewest impact bonds intersecting with education are found under the principal policy sectors of criminal justice (3%), agriculture & the environment (2%) and health (2%).

The educational focus of EIBs spans different subsectors, as shown in Figure 3. The largest proportion of EIBs (31%) operate in the subsector of technical and vocational education and training (TVET), followed by secondary (28%) and primary education (18%). The lowest proportion of projects operated in pre-primary (8%) and tertiary education (3%)⁸. The remaining 12% of projects operate in unknown subsectors⁹.

The number of beneficiaries served can vary significantly depending on the scope of the impact bond. For example, the [ATMAH SIB](#) in Abu Dhabi, United Arab Emirates, offered education and vocational training to 25 individuals, whereas the [Quality Education India DIB](#) strived to improve the literacy and numeracy skills of 200,000 students in four states across India (Savell, 2022; Gustafsson-Wright, Osborne & Shankar, 2022).

An EIB's targeted results also vary from project to project – from how they are structured to what they intend to achieve. There are two principal ways in which these results are organised: using a standard list or using a rate card. This paper defines the standard list of targeted results as, quite simply, a set of one or more metrics to be achieved within the project's timeframe. On the other hand, a rate card offers a menu of metrics, with stakeholders maintaining a certain degree of flexibility to choose which metrics to focus on (Fox et al., 2023; Anderson, 2019; Social Finance, n.d.-b). Each metric has an assigned maximum monetary value that the outcome payer is willing to pay per claim per beneficiary – this is often based on estimations of intervention costs and future savings (GO Lab, n.d.-a; Hevenstone et al., 2022; Social Finance, n.d.-b; n.d.-c). The difference between the two structures is depicted in [Figure 4](#).

Figure 4: Structure of Targeted Results in EIBs

Standard List	Rate Card
- Targeted Result 1 - Targeted Result 2 - Targeted Result 3 - Targeted Result 4 - Targeted Result 5	☐ Targeted Result 1
	☒ Targeted Result 2
	☒ Targeted Result 3
	☐ Targeted Result 4
	☒ Targeted Result 5

Of the 120 EIBs analysed, 37 use rate cards – all of which are located in the UK. Most of these rate card projects fall under the umbrella of an outcomes fund, wherein a rate card has been used to contract multiple service providers through one request for proposals. This aims to reduce transaction costs and keep costs consistent across service providers (Anderson, 2019). Of the remaining projects, 79 use a standard list. The [West London Zone](#) project differs slightly in using both a standard list containing three targeted results and a small rate card of potential outcomes (Erskine, 2021; GO Lab, n.d.-f). The remaining two projects use multiple standard lists. The [Massachusetts Pathways to Economic Advancement Pay for Success Project](#) offers four programme tracks, each with a distinct standard list of two metrics (The Commonwealth of Massachusetts, 2016; Roder & Elliott, 2020). The other case is the [Finland Children's Welfare SIB II](#), where each municipality area has a unique standard list (Työ- ja elinkeinoministeriö, 2020).

The next section presents the literature review, followed by detailed descriptions of the lenses of analysis used in this paper.

8. Note: Some projects span more than one education subsector.

9. Unknown refers to the projects for which there is insufficient public information for deciphering the education subsector.

5

LITERATURE REVIEW

The findings of the literature review are structured into two parts. First, existing perspectives on the promise of impact bonds are presented, specifically identifying how impact bonds are expected to generate social impact. Second, critiques regarding the potential impact of impact bonds are uncovered, particularly concerning the types of targeted results aimed for by projects.

A Financing Mechanism Designed for Impact

The contractual specificities of each impact bond differ. However, proponents of impact bonds argue that certain common design features make them a “mechanism to drive solutions to complex and expensive social problems” (Carter, 2021). The following section examines three common features of a prototypical impact bond that, according to the academic literature, contribute to their ability to yield a positive social impact: 1) payments being contingent upon success, 2) the alignment of diverse stakeholders, and 3) the outcomes being verified through an independent evaluation.

Payment is Contingent upon Success

Impact bonds are OBF mechanisms designed to pay only for what is achieved (Temple & Reynolds, 2015; Pastore & Corvo, 2022; Tse & Warner, 2020a; Warner, 2013). Project stakeholders are contractually bound to an agreed-upon set of targeted results whose attainment determines the disbursement of outcome payments. This contingency upon success is believed to shift the programmatic focus from inputs and activities towards project results (Edmiston & Nicholls, 2018). In other words, the central focus of impact bonds is on their achievements rather than on the means by which they are attained (Arena et al., 2016).

With this outcome focus, service providers are expected to have increased flexibility in implementing their services, as contracts typically do not stipulate the delivery methods of their interventions (Dixon, 2020). Such flexibility is believed to create space for innovation, experimentation and personalisation of services, thereby driving up service provision standards to achieve the targeted results (Tan et al., 2021; Warner, 2013). However, evidence of impact bonds increasing efficiency relative to more traditional financing mechanisms remains limited.

Alignment of Diverse Stakeholders

The involvement of a range of stakeholder groups (e.g. private investors, service providers, and government bodies) with diverse backgrounds and divergent mandates (Arena et al., 2016) is a

key feature of impact bonds, which are designed to redefine the relationships between these stakeholders by aligning their interests around one clear objective: the targeted results (Heinrich & Kabourek, 2019; Maier & Meyer, 2017; Arena et al., 2016).

Advocates perceive impact bonds as a “win-win” solution for investors, service providers and outcome funders alike due to clarity and consensus around project objectives (Warner, 2013; Fraser et al., 2016; Sinclair, McHugh & Roy, 2021; Tan et al., 2021). Investors enable social interventions to take place by providing upfront capital. Subsequently, they receive a financial return on their investment when (and only if) the outcomes are achieved (Tan et al., 2021). Certain impact bond proponents believe that private sector actors can help overcome perceived shortcomings in public sector funding by leveraging such investments (Carter, 2021; Fraser et al., 2016). Service providers use this working capital to implement their interventions, working with the flexibility to adapt their services as necessary. Finally, outcome funders are typically only required to pay for the outcomes achieved, arguably increasing value for money and, in the case of SIBs, reducing costs for taxpayers, as domestic governments only pay for what works (Temple & Reynolds, 2015; Tan et al., 2021; Warner, 2013). Given that each stakeholder plays a distinct role, impact bonds are believed to encourage collaboration, creating a symbiosis between the public sector, private actors and social services (Fraser et al., 2016).

Monitoring and Evaluation

Given the diverse set of interested parties involved, the independent verification of results is an important component of impact bonds, as it enhances the transparency of its achievements. This requires regular data collection and monitoring. In some cases, an impact bond can enable the creation or strengthening of such monitoring systems. Regular monitoring also enables continuous improvement by allowing service providers to identify gaps in service provision and adapt as necessary to reach the targeted results (Kabli, Rizzello & Trotta, 2021; Sinclair et al., 2021).

Overall, proponents of impact bonds claim that impact bonds are a mechanism for solving complex problems. The focus on results rather than activities, the symbiosis between diverse stakeholders and the central role of monitoring and independent evaluation are important features of this financing mechanism, which looks to drive results and lead to positive social impact.

A Financing Mechanism with Limitations for Impact

On the other hand, the potential effects of impact bonds have been subject to several critiques. This section highlights three implications of prototypical impact bond design that potentially hinder the extent to which this financing mechanism yields a positive impact. These are 1) the use of easy-to-achieve targeted results, 2) the potential of perverse incentives, and 3) the simplification of complex social challenges.

Easy-to-Achieve Targeted Results

Selecting targeted results requires agreement across all involved stakeholders. However, a potential tension between investor (private sector) and outcome funder (often public sector) preferences exists. Even socially motivated investors require their investments to be repaid (often with a financial return). Therefore, they are likelier to encourage easily attainable results that enable more reliable returns (Heinrich & Kabourek, 2019; Maier & Meyer, 2017). On the other hand, a commissioner (especially a government entity) would be highly motivated to set ambitious targets, hoping that the outcome payments spent would be at least equivalent to, if not cheaper than, using traditional financing mechanisms (Maier & Meyer, 2017). An agreement on targeted results that navigates and balances these diverging interests must be reached. Critics question the potential value of impact bonds that concentrate on low-hanging fruit (i.e. the easiest-to-reach targeted results) (Fitzgerald et al., 2019). Maier & Meyer (2017) also caution against prioritising easier-to-achieve targets when a combination of targeted results has been agreed upon.

The Potential for Perverse Incentives

Within OBF structures (including impact bonds), there is a concern regarding opportunism (Fitzgerald et al., 2019). Using targeted results to judge the performance and effectiveness of interventions is a practice that Lowe & Wilson (2017) call outcomes-based performance management (OBPM). Proponents see this shift towards focusing on outcomes as a beneficial feature that can drive efficiency and productivity (Arena et al., 2016; Fox & Albertson, 2011; Tan et al., 2021). However, with success tied to the achievement of a set of quantifiable metrics, Tse & Warner (2020b) warn that the pressure to perform risks the use of “gamesmanship” strategies to guarantee success (Child, Gibbs & Rowley, 2016; Morley, 2021; Tse & Warner, 2020a; Tse & Warner, 2020b; Heinrich & Kabourek, 2019). These gaming practices could include the following:

- **Cherry picking:** selecting “easy-to-help” beneficiaries for participation (Fitzgerald et al., 2019, p. 462; Carter, 2021)
- **Creaming and parking:** concentrating efforts on participants who are most likely to achieve the desired outcomes (creaming) and ignoring those who have a low probability of doing so (parking) (Carter, 2021; Fitzgerald et al., 2019; Maier & Meyer, 2017)
- **Teaching to the test:** increasing the focus on high-stakes subjects at the expense of other areas (Child et al., 2016)
- **Falsification of data:** altering or fabricating data (Tse & Warner, 2020b)

Lowe and Wilson (2017, p. 997) call these tactics “the use of dubious methods to win or gain a serious advantage”. In other words, the

achievement of performance metrics could be prioritised at the expense of target population needs or by excluding vulnerable and marginalised populations.

According to Maier & Meyer (2017), using binary metrics heightens the risk of perverse incentives in impact bonds. A binary metric is a criterion that is either met or not met. Such metrics can be seen as pass/fail or yes/no indicators. On the other hand, frequency metrics count the number of occurrences. For example, such metrics count the number of times a desired event occurs (or an undesired event does not), as opposed to determining whether a particular intervention did not take place (i.e., comparing the treatment group to a historical baseline or a control group). Maier and Meyer (2017) suggest that there is a tendency for impact bonds to use binary rather than frequency metrics, as the latter can be difficult and expensive to measure, especially when trying to calculate the number of times something does not happen. However, involving a pass/fail criterion can encourage the creaming (inclusion) and parking (exclusion) of certain participants to concentrate on those most likely to achieve the targeted results.

The Simplification of Complex Challenges

Whether impact bonds focus on easy-to-achieve targeted results or not, they require educational challenges to be broken down and simplified. This simplification manifests as quantifiable and measurable metrics that are needed to identify and reward success (Lowe & Wilson, 2017). However, several academics have warned that this simplification only captures a small slice of the complex nature of social (and educational) challenges; therefore, it narrows the understanding of the problem to be addressed (Tse & Warner, 2020a; Sinclair et al., 2021; Child et al., 2016; Fraser et al., 2016; Lowe & Wilson, 2017; Tse & Warner, 2020b). Additionally, Sinclair et al. (2021) state that impact bonds tend to focus on the symptoms of challenges rather than tackling the actual root causes. The focus is on static, countable and point-in-time targeted results, yet social challenges are “complex, multi-dimensional, multi-layered (with micro-, meso-, and macro-level dimensions) and contentious” (Sinclair et al., 2021, p. 18; Tse & Warner, 2020a).

The multi-layered nature of social problems is further highlighted through Tse and Warner’s (2020a) application of human ecological theory to impact bonds in the early childhood services sector. Their analytical framework recognises the micro level as involving the child and parent/ guardian, the meso level as concerning community-level actors such as service providers and their employees and the macro level as public policy and the private market. Although Dixon (2020) suggests that impact bonds may benefit wider society in the long term, Tse & Warner (2020a) argue that benefits beyond the micro-level are rarely measured; therefore, such a claim is not evidenced. They suggest that an overwhelming focus on the micro-level ignores the social responsibilities of institutional actors who fall under the meso- and macro-level dimensions (Tse & Warner, 2020a; 2020b).

Identifying existing critiques and potential limitations of the impact of impact bonds is not to say that they are inherently negative financing mechanisms, but to highlight the potential perverse incentives and the limitations of rewarding performance based on quantifiable targeted results. The following section presents the five lenses of analysis used to examine the intended impact of impact bonds and how they relate to the critiques identified in the literature.

6

LENSES OF ANALYSIS

Building on the findings of the literature review, five lenses of analysis were used to understand the intended impact of EIBs, as presented in Table 1.

Table 1. Three Themes Examined through Five Analytical Lenses

Literature Review Theme	Analytical Lens
Easy-to-achieve targeted results	1. Targeted educational impact
	2. Targeted level of impact
	3. Financial distribution of outcome payments
Potential for perverse incentives	4. Type of metric used
Simplification of complex challenges	5. System level measured

The analytical lenses are presented and explained in detail below.

Targeted Educational Impact

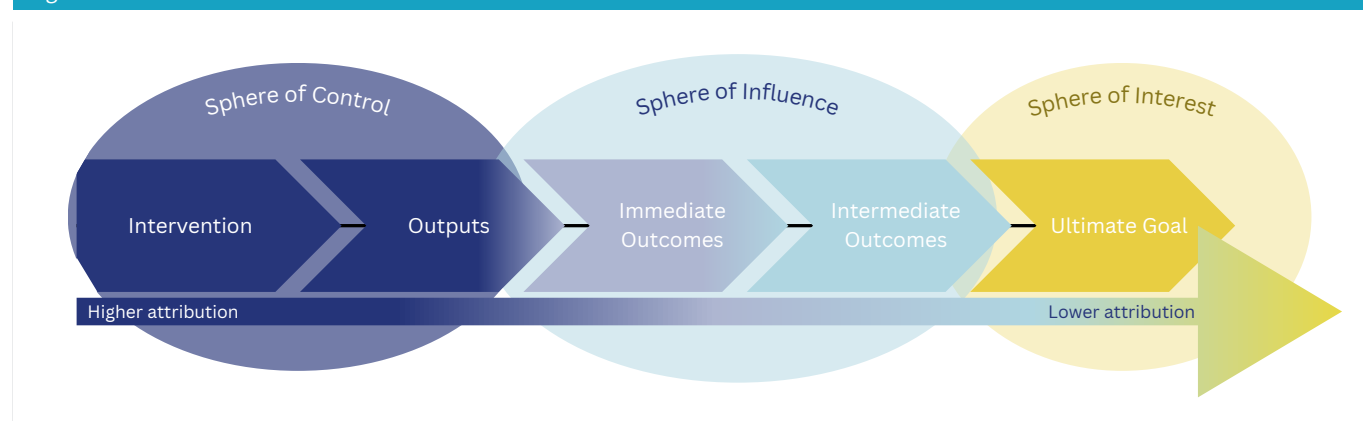
The first lens of analysis examines the type of educational impact that EIBs strive to achieve. Each targeted result is categorised into one of seven categories: enrolment, participation, attitude/behaviour, parental engagement, teaching/ teacher training, learning outcomes, and cost savings. This analysis responds to claims in the literature regarding the ease of achieving certain targeted results. Some categories of targeted results may thus be harder to attain than others. For example, learning outcomes may present more difficulties than enrolment, and investigating these distinctions could offer indicative findings about our sample. Nevertheless, looking at the nuances of the targeted results within the context of each project, which the next lens studies, is equally important.

Level of Impact

Analysing the level of impact involves examining whether EIBs' targeted results are outputs, immediate outcomes or intermediate outcomes. This analysis draws from the debate regarding the use of easy-to-achieve targeted results. The literature highlights the necessity of navigating the diverging interests of private investors and outcome funders (often governmental institutions) to agree upon a set of targeted results that, on the one hand, are attainable within the given timeframe to ensure financial returns but are also ambitious enough to ensure cost-effectiveness. This analysis intends to uncover whether EIBs concentrate on more low-hanging fruit (i.e. outputs) or strive to achieve harder-to-reach immediate and intermediate outcomes.

Using a results chain model for each project situates the targeted results between a project's educational intervention and its ultimate goal. This lens of analysis enables the visualisation of the intended

Figure 5: Results Chain Model



output/ outcome level of each targeted result within its unique project context. This contextual analysis is important because, although different projects may aim for similar types of educational impact (e.g. participation), what one project may consider an output, another may define as an outcome, depending on where it sits along the results chain. [Figure 5](#) illustrates a results chain model, detailing the intervention to ultimate outcomes.

Project interventions are not contractually specified in a typical impact bond. Instead, service providers are contracted to achieve predetermined targeted results, which may constitute either outputs or outcomes. Outputs are direct products, services or deliverables stemming from the activities of an organisation,

policy, programme or project (Global Affairs Canada, n.d.). Given the great degree of attribution between the intervention and the achievement of outputs, outputs are considered to fall within the sphere of control of service providers.

Situated further along the results chain, there is a weaker attribution between project activities and outcomes: desirable or measurable changes that build upon project outputs. This analysis divides outcomes into immediate and intermediate outcomes. These tend to fall within the sphere of influence, whereas the ultimate goal of the project, also known as ultimate outcomes, is situated in the sphere of interest, which features the lowest attribution to project activities. [Table 2](#) presents the definitions of outputs and outcomes used in this analysis.

Table 2. Definition of Outputs and Outcomes			
Sphere of control	Sphere of influence		Sphere of interest
Outputs	A desirable or measurable change that builds upon project outputs. Outcomes can be broken down into immediate, intermediate and ultimate outcomes.		
	Immediate outcomes	Intermediate outcomes	Ultimate outcomes
Direct products, services or deliverables stemming from the activities of an organisation, policy, programme or project	- Expected to logically occur following the provision of one or more outputs - Short-term outcomes - Often refers to changes in capacity, such as skills, knowledge, abilities, access or awareness	- Expected to logically occur following the achievement of one or more immediate outcomes - Medium-term outcomes achieved by the end of the project period - Often refers to changes in behaviour, practice or performance	- Expected to logically occur following the achievement of one or more intermediate outcomes - The highest-level change, representing the “why” of the project, policy or organisation - Often refers to changes in state or condition that a project’s ultimate beneficiaries should experience

Note: Authors. Data from *Results-based management for international assistance programming at Global Affairs Canada: A how to guide* by Global Affairs Canada, 2022; *Glossary of results-based management terms* by Global Affairs Canada, n.d.; *A refined method for theory-based evaluation of the societal impacts of research* by B. Belcher, R. Davel, & R. Claus, 2020.

Financial Distribution of Outcome Payments

This paper studies the financial distribution of outcome payments across targeted results to delve deeper into understanding EIB targeted results and to explore the question around low-hanging fruit posed in the literature. If most funding were disbursed based on outputs, this would suggest EIBs prioritise easier-to-achieve targets.

The financial value of targeted results is presented in one of two ways: Either a set value is available per targeted result claimed, or projects reveal the percentage of maximum outcome payments available per targeted result. For rate card projects, all targeted results have a set value available per claim. For standard list projects, some specify a certain value per claim for each targeted result, while others indicate the percentage of overall maximum outcome payments available for each targeted result. This lens of analysis aims to reveal patterns regarding the financial focus of targeted results in EIBs and, therefore, determine whether EIBs put a higher financial weighting on easier or harder-to-achieve targeted results.

Type of Metric

The literature review above also highlighted that the pressure to achieve pre-agreed targeted results can increase the risk that “gamesmanship” strategies are used. Various tactics, including “cherry picking” and “teaching to the test”, have been exemplified as potential risks when using impact bonds. This opportunism may hinder the extent to which EIBs yield a positive impact.

This lens of analysis builds on the concept that targeted results can be measured as either binary or frequency metrics (Symons, 2015, p. 18). A binary metric offers rewards based on whether a particular criterion is met or not (i.e., yes/no or pass/fail). On the other hand, frequency metrics count the number of occurrences, noting the increase/ reduction across the entire cohort of beneficiaries, often compared to a control group, a historical baseline or national standards. For example, if a project aims to reduce the use of special education services, it could use a binary measure to observe the number of students who avoid these services. For example, in the [Child-Parent Center Pay for Success Initiative](#) (United States), USD

9,100 was allocated per student per year for the purpose of avoiding special education services (i.e. whether or not a student used such services) (Rohacek & Isaacs, n.d.). However, if the same targeted result were to be used as a frequency metric, it could look at the total use of these services across the cohort. For example, whether there was an aggregate decrease in the use of remedial services across the intervention cohort, perhaps compared to a control group.

Maier and Meyer (2017) suggest that binary metrics are used more than frequency metrics in impact bonds. They also caution that binary metrics risk encouraging gaming practices such as the “creaming” (inclusion) of beneficiaries that are most likely to achieve the results, and the “parking” (exclusion) of those who are not, to reduce the risk of non-delivery and thus non-repayment. On the other hand, frequency metrics – which are aggregate, cohort-level metrics – leave less opportunity for such gaming. However, they can be difficult and expensive to measure. This lens of analysis examines whether Maier & Meyer’s (2017) suggestion that impact bonds tend to use binary rather than frequency metrics holds true for EIBs. As this paper studies the intended impact of EIBs, it does not attempt to analyse the presence of perverse incentives or unintended consequences.

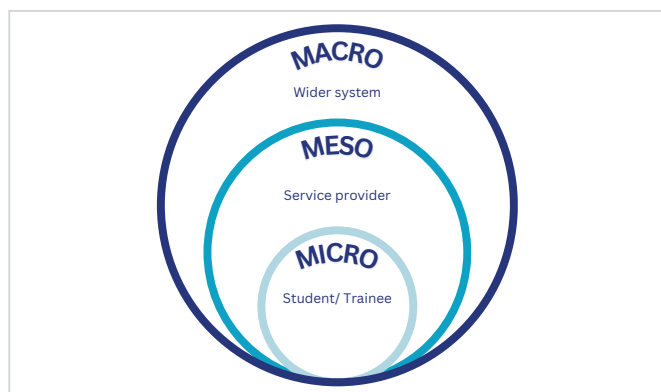
System Level Measured

Whether or not EIBs focus on easy-to-achieve targeted results and choose metrics that increase the risk of gaming, they must meet an inherent requirement that educational challenges be broken down and simplified. Sinclair et al. (2021) caution that the need for targeted results to be measurable risks focusing on static metrics that may not fully reflect the complex and multi-dimensional nature of education challenges.

This final lens of analysis derives from Tse & Warner’s (2020a) application of the human ecological theory in early childhood-related impact bonds. Their framework consists of three system levels, as illustrated in Figure 6. The micro level represents the student or trainee as well as their caregivers. The meso level denotes community-level actors, such as service providers (i.e. those who deliver the educational intervention). Finally, the macro level signifies the wider system in which the ultimate beneficiary is situated, which can be considered as public policy and the private market.

Tse & Warner’s (2020a) study sample revealed targeted results primarily aimed at measurable changes occurring at the micro level, and they caution that impact bond mechanisms ignore the sources of social problems at the meso and macro levels. This lens of analysis categorises the targeted results into the three system levels and examines whether the concentration on micro level targeted results holds true across EIBs.

Figure 6: System Levels



INTENDED IMPACT OF EDUCATION IMPACT BONDS

While each EIB is unique, this section intends to uncover general trends regarding their intended impact. It presents findings from the five lenses of analysis described above, structured by the three implications that could potentially hinder the extent to which the impact bond mechanism yields a positive impact, as identified in the literature review. First, the targeted educational impact, the level of impact and the financial distribution of outcome payments will uncover a narrative around whether EIBs focus on easy-to-achieve targeted results. Second, the type of metric used reveals the potential risk of perverse incentives. Finally, the intended system-level effects of EIBs will be uncovered by examining which system levels are measured and tied to outcome payments.

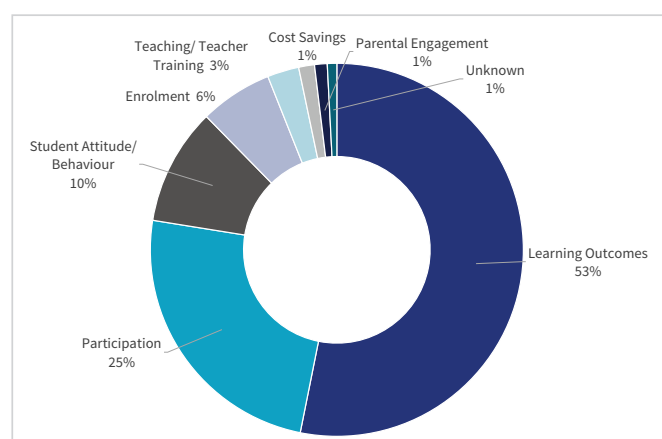
Aiming for Easy-to-Achieve Targeted Results

The concern in the literature is that impact bonds risk focusing on low-hanging fruit due to the tension between ensuring a reliable financial return for private investors and being ambitious and cost-effective for public sector outcome funders. This section reveals the findings from three lenses of analysis to examine whether there is any indication that EIBs focus on easier-to-achieve targeted results: 1) the targeted educational impact, 2) the level of impact, and 3) the financial distribution.

Targeted Educational Impact

Each EIB is unique, with projects striving for a variety of targeted results. These targeted results have been categorised into eight groups, as presented in [Figure 7](#) below.

Figure 7: Targeted Results of EIBs by Educational Category



Learning outcomes are the most used category by EIBs, accounting for over half (53%) of the 361 targeted results in EIBs. This is followed by participation (25%), student attitude/behaviour (10%), and enrolment (6%). The least common targeted results are related to teachers/teacher training (3%), cost savings (1%) and parental engagement (1%).

EIBs exhibit a clear focus on learning outcomes. Across the 120 projects, 71% included at least one targeted result related to learning outcomes. This suggests a tendency for EIBs to strive for harder-to-achieve results, given that learning outcomes are commonly situated beyond the direct control of service providers and often challenging to achieve, as they are highly dependent on students' non-school environment.

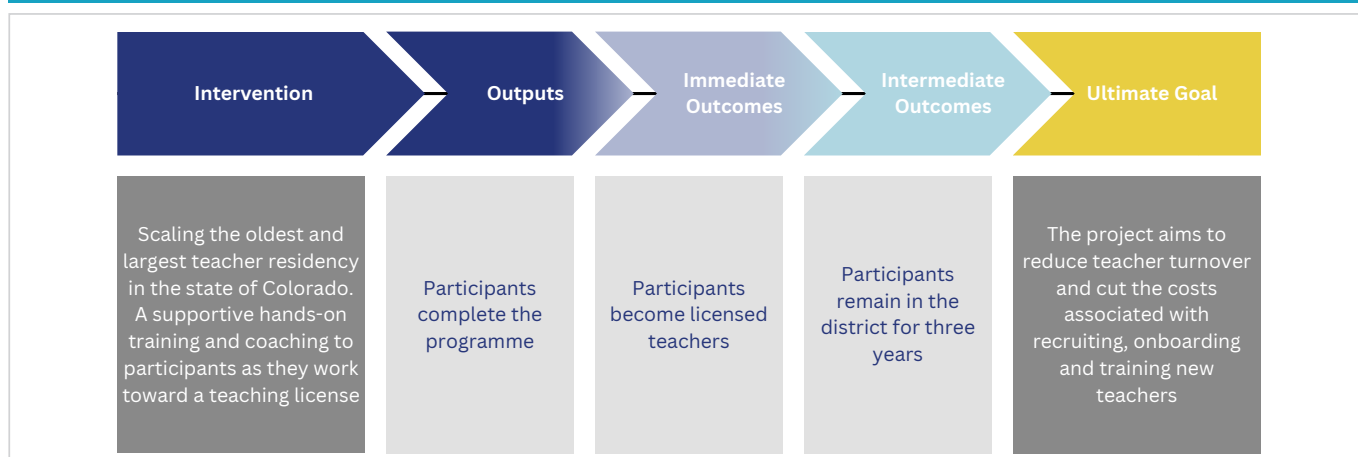
Level of Impact

Targeted results do not exist in isolation. Instead, they are contextually relational to the project. Developing a logical results chain for each project that starts with the intervention and ends with the ultimate goal uncovers where each targeted result is situated. [Figure 8](#) exemplifies the results chain approach taken.

The intervention and ultimate goals of the [Public Education & Business Coalition](#) (US) project extracted from publicly available information (PEBC, 2022; GO Lab, n.d.-e). Subsequently, the payment-linked targeted results were positioned at the intended level of impact relative to the contextual information.

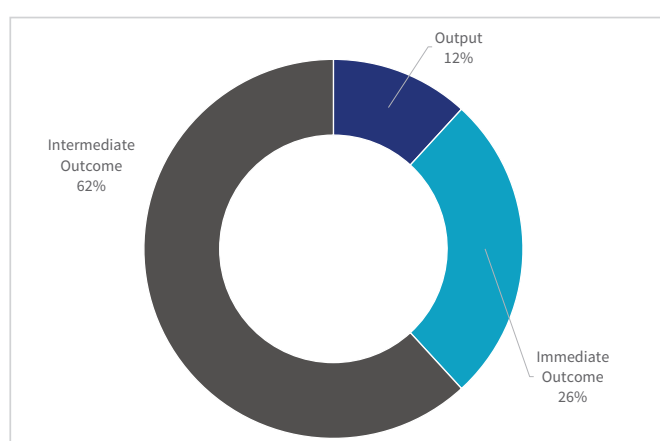
This results chain analysis reveals that the majority of targeted results in EIBs are intermediate outcomes. As illustrated in [Figure 9](#), 62% of the 361 targeted results are intermediate outcomes compared to immediate outcomes and outputs, which make up 26% and 12% of targeted results, respectively. In other words, outcome payments depend on achievements beyond the direct control of service providers. Often referred to as changes in behaviour, practice or performance, intermediate outcomes are influenced by project interventions; however, there tends to be a weaker attribution between intervention and effect than what is found with outputs or immediate outcomes (Global Affairs Canada, 2022). Therefore, it is arguably more difficult to achieve intermediate outcomes, which lie further along the results chain,

Figure 8: Results Chain Analysis: Public Education & Business Coalition



Note: Authors. Data from *PEBC Receives First in Nation Pay for Success Financing That Supports Training More High-Quality Colorado Teachers* by PEBC, 2022; *Public Education & Business Coalition* by GO Lab, n.d.-e.

Figure 9: Level of Targeted Impact



than outputs, which are more greatly attributable to project interventions. As most targeted results are situated further along the results chain and commonly depend on the achievement of other results, it can be argued that EIBs largely strive for harder-to-achieve results.

Financial Distribution of Outcome Payments in Education Impact Bonds

Examining the financial distribution of outcome payments across the targeted results is important for delving deeper into the question of low-hanging fruit in EIBs. If, within an EIB project, the majority of funding is disbursed based on outputs, the previous suggestion that EIBs tend to focus more on harder-to-achieve targets could be called into question. The following section discusses the financial distribution of outcome payments within the 34 (28% of) projects for which financial information was publicly available at the time of analysis¹⁰.

These 34 projects reveal a tendency for EIBs to assign greater financial weighting to harder-to-achieve targeted results, with 91% of the sample placing a higher value or proportion of outcome

payments on targeted results situated further along the results chain. However, this sample is small, especially given that 26 of these projects fall under the umbrella of just seven rate cards. Therefore, any generalisations must be interpreted cautiously.

The comparison of the financial distribution of outcome payments between standard lists and rate cards must be approached with caution. Every potential targeted result in a rate card has an associated value but may not be claimed by every beneficiary. In these menus of targeted results, projects are rewarded for what they can accomplish, regardless of whether they are easier or more difficult to achieve, which could potentially result in projects maximising payments by concentrating on attaining easier-to-achieve targeted results. On the other hand, projects using standard lists are financially penalised (i.e. outcome payments are not disbursed) if the prescribed harder-to-achieve targets are not met. The rest of the section is divided into two parts to examine the emerging patterns and limitations of this generalisation. First, it explores financial patterns in projects using standard list structures; then, it examines those with rate cards.

Standard List Structures

For projects using a standard list structure, the value of each targeted result is presented either as a percentage of outcome payments or as a set numeric value that will be disbursed per claim. The sample shows that 62.5% of standard list projects associate a higher financial value with harder-to-achieve intermediate outcomes. In the case of [Educate Girls DIB](#) (India), for example, learning outcomes accounted for 80% of outcome payments compared to 20% for the enrolment of out-of-school girls (GO Lab, 2022; Gallucci et al., 2019).

Alternatively, the [Impact Bond Innovation Fund](#) (South Africa) attributes just 10% to what Khan (2021, p. 4) called the “true outcome measure”: learning outcomes as indicated by the Early Learning Outcomes Measure tool. Instead, most of its outcome payments are contingent upon

10. As the purpose of this analysis was to compare the financial allocation of outcome payments across targeted results in EIBs, it does not include projects that have just one targeted result. For the financial information associated with projects not specifically in the education sector, this analysis factors in all of the projects' targeted results for better contextual understanding of the financial distribution across the project as a whole.

recruitment and attendance targets, which the service provider (Western Cape Foundation for Community Work) believed were highly likely to be achieved based on their successful track record (Khan, 2021).

Not all EIBs operate principally in the education sector. Therefore, the financial weighting of education-related targeted results within these projects is another important distinction to review. For example, [Proyecto Tu Futuro](#) (PTF, Argentina) principally operates under the employment & training sector and ultimately aims to address youth unemployment (Esper & Acosta, 2023; GO Lab, n.d.-d). The education and training component is important; however, because the project goal is linked to employment, it is unsurprising that the employment-related targeted results sit further along the results chain and have a higher associated financial value. In the case of PTF, the maximum amount available for completing secondary education (which is defined as a “basic” result) is USD 103,562, which is less than a quarter of the value of finding a job (USD 431,512) (Acosta & Esper, 2021, p. 18). The “extraordinary” result of sustaining employment for 12 months has an even higher potential maximum value of USD 1,265,028 and, as such, shows that a higher financial weighting is given to targeted results further along the results chain (Acosta & Esper, 2021, p. 18).

Rate Card Structures

The rate card menu pairs targeted results with the value that an outcome funder is willing to pay for its achievement. This structure is thought to give service providers the flexibility to adapt interventions to best suit the beneficiary and often has maximum outcome payments available per individual. Not all targeted results are claimed for every beneficiary, and therefore, the ultimate financial distribution between outputs, immediate outcomes and intermediate outcomes may only be uncovered once the project is completed. Nonetheless, this section examines the financial patterns of targeted results in rate cards.

Generally, rate cards tend to more highly value targeted results closer to the ultimate aim of the project. For example, learning outcomes

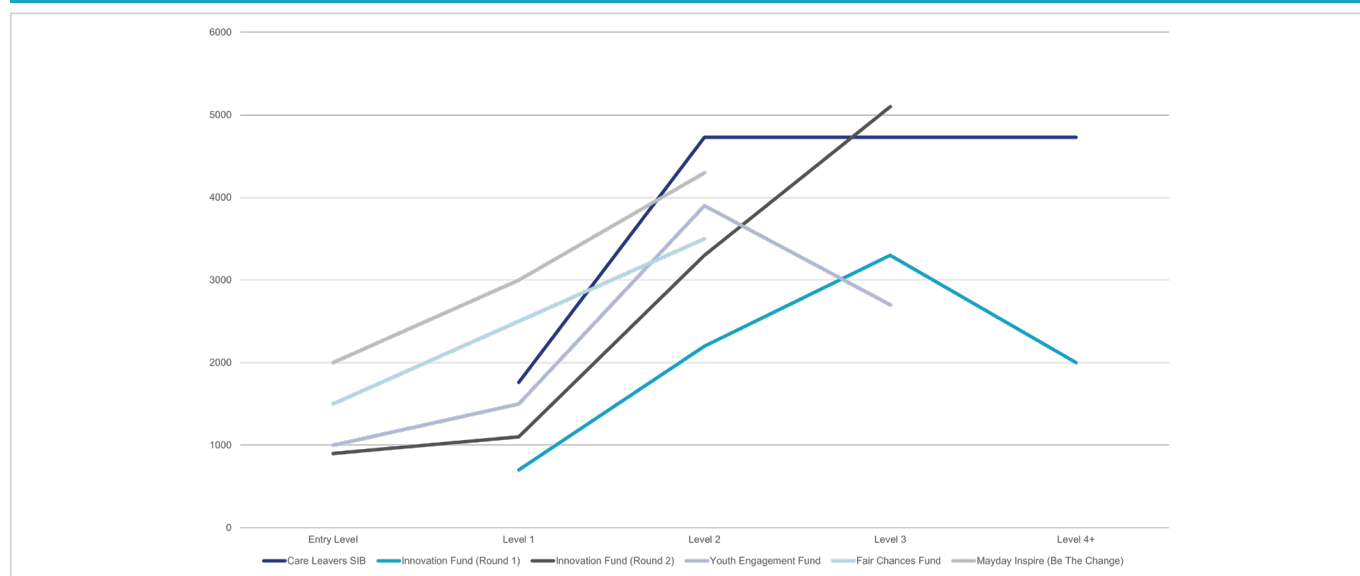
tend to sit further along the results chain than enrolment and participation and also hold greater financial value. For example, in the Fair Chances Fund projects, enrolment in education or training would disburse GBP 500 compared to a level one qualification valued at GBP 2,500 per claim (ICF Consulting Services, 2019). As learning outcomes are situated further along the results chain in these rate card projects, harder-to-achieve targeted results seem to be valued more highly than those more directly within the sphere of control of service providers.

Additionally, the higher the educational qualification, the higher the attributed value tends to be. [Figure 10](#) depicts this trend, illustrating the value per claim of achieving qualifications (entry-level up to level four+) across six rate cards.

Analysing the financial distribution within rate cards is challenging because the number of times each menu item will be claimed is unknown. The [Entrenched Rough Sleeping SIB](#) in Greater Manchester states that there is no prescribed number of targets to be achieved because it is impossible to anticipate the needs of the participants (Greater Manchester Combined Authority, 2021). Although this reinforces the notion of flexibility within rate cards, efforts could risk concentrating on easier-to-achieve targeted results. The financial distribution of outcome payments in rate cards requires further research into the ultimate targeted results achieved. This would provide a deeper understanding of whether placing a higher value on harder-to-achieve targets encourages their achievement or whether service providers tend to focus on the low-hanging fruit.

Overall, the evidence on the financial distribution of potential outcome payments in EIBs is neither comprehensive nor conclusive. Although evidence has indicated that some EIBs attribute a higher financial value to harder-to-achieve targeted results, the narrative presented in this section should be interpreted cautiously due to the limited and heterogeneous financial data upon which it draws.

Figure 10: Financial Value Attributed to Educational Qualifications Across Six Rate Cards (GBP, per claim)



Note: Authors. Adapted from the *Evaluation of the Care Leavers Social Impact Bond (SIB) programme. Final evaluation report* by Davey, C. et al., 2023; *Qualitative evaluation of the DWP Innovation Fund: Final report*, by Griffiths, R., Thomas, A., & Pemberton, A., 2016; *Evaluation of the Fair Chance Fund. Final report* by ICF Consulting Services, 2019; *Youth Engagement Fund Evaluation*, by Ronicle, J., & Smith, K., 2020; *Be the Change Social Impact Bond. An Indepth Review*, by Robinson, E., n.d.

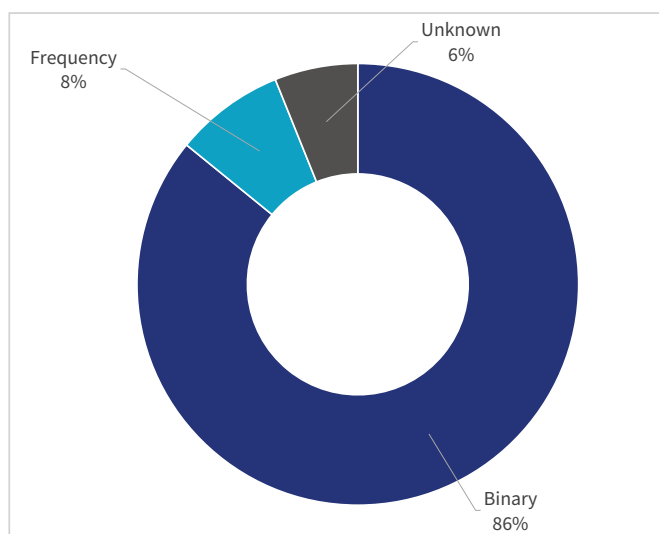
Risk of Perverse Incentives

Despite a focus on intermediate outcomes and the indication that EIBs may place greater financial weighting on harder-to-achieve targeted results, Maier and Meyer (2017) claim that impact bonds tend to use binary rather than frequency metrics and caution against the risk of perverse incentives that this may induce.

Outcome payments for projects with rate cards are based on whether a participating beneficiary achieves a certain criterion or not (i.e. binary metrics). For example, [3SC Capitalise](#) (Innovation Fund) supports vulnerable 14- and 15-year-olds through one-to-one mentoring and group work to help them transition from education to employment (Good Finance, n.d.). Outcome payments are disbursed based on the 10 targeted results defined by the Innovation Fund rate card, including improved school attendance, improved school behaviour and the achievement of educational qualifications, up to a maximum of GBP 11,700 per young person (Griffiths et al., 2016).

The majority of the targeted results across the 120 EIBs are binary metrics, supporting the findings of Maier and Meyer (2017). Of the 361 targeted results analysed, 86% are binary, and only 8% are frequency metrics. Publicly available information is insufficient for determining the categorisation of the remaining 6% of targeted results. This breakdown is seen in [Figure 11](#).

Figure 11: Type of Metric



According to Maier and Meyer (2017), the use of binary metrics risks encouraging the creaming and parking of beneficiaries most likely to achieve the desired results. This analysis reveals an overwhelming use of binary metrics, flagging the risk of such gaming practices in EIBs. Projects such as the Educate Girls DIB included a frequency metric to reduce the risk of cherry picking in the binary metric targeted result. For the binary metric of enrolling out-of-school girls (i.e. whether a girl was enrolled), the evaluator, IDinsight, validated the enrolment of girls annually by requesting verification from headmasters and proof from school registers (Kitzmüller et al., 2018). The second targeted result tied outcome payments to the aggregate learning gains for all students in Grades 3–5. This frequency metric measured the aggregate rather than

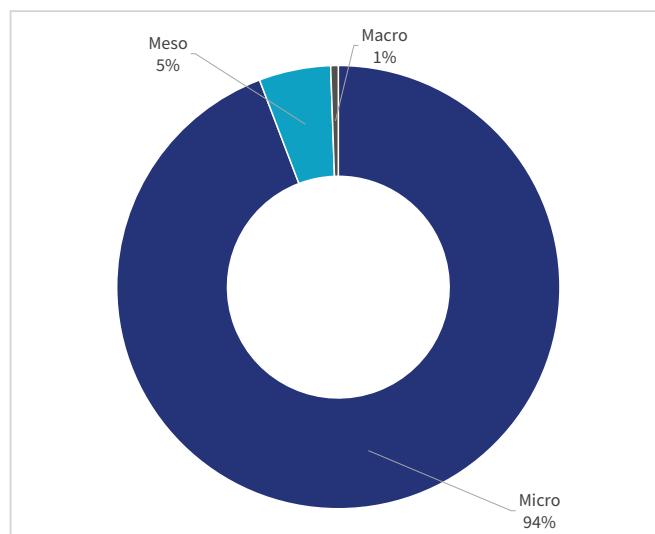
the average effect to avoid penalising Educate Girls for enrolling the most marginalised girls. Reducing the concern of enrolling low-performing students who may bring an average effect down lowered the risk of cherry picking (Kitzmüller et al., 2018; Gallucci et al., 2019). However, frequency metrics tend to be more difficult and expensive to measure, and our analysis shows that they are not commonly used in EIBs.

Although this analysis reveals that binary metrics are overwhelmingly used, it does not imply a direct link between binary metrics and perverse incentives. Instead, it highlights the potential risk of gaming that may arise if projects concentrate on beneficiaries who are more likely to achieve their targeted results. If this is the case, projects may be achieving the harder-to-achieve targeted results, but at the expense of excluding marginalised and vulnerable populations.

Simplifying Complex Educational Challenges

The final lens of analysis studies the system levels at which outcome payments are tied. Overall, the EIB analysis aligns with Tse and Warner's (2020a) suggestion that impact bonds focus on micro-level (beneficiary) impact. According to the authors, this could mean that due to the need to break down education challenges into measurable targeted results, EIBs ignore the sources of social problems at the meso- (service provider and employees) and macro-level (wider system) dimensions.

Figure 12: Micro, Meso and Macro Level Focus of Targeted Results



As shown in [Figure 12](#), 94% of the 361 targeted results analysed focus on the micro level, i.e., their achievement is due to success at the beneficiary level. Only 5% of targeted results focus on achievement at the service provider level, and only 1% disburse outcome payments due to an achievement at the macro level.

Targeted results at the micro level include, for example, an increase in literacy skills ([Promoción de habilidades de lectoescritura en Chile](#)) and the completion of secondary education (PTF, Argentina) (GO Lab, n.d.-c; Acosta & Esper, 2021). At the meso-level, The [Programa Primero Lee SIB](#) (Chile), which aims to develop students' literacy skills and build teacher capacity, included a targeted result

measuring the quality implementation of the programme by teachers and school leadership teams (Social Finance, n.d.-a). This analysis has identified only two instances in which a project's targeted results included a macro-level focus: the Swedish project of [Norrköping](#) and [Finland Children's Welfare SIB II](#), which both partially disburse outcome payments based on the respective municipalities' savings in child welfare costs (Bokström et al., 2021; Työ- ja elinkeinoministeriö, 2020). In both cases, outcome payments also depend on educational attainment (micro level). Therefore, in cases where a macro-level focus is included, it is combined with a micro-level focus.

This analysis of EIBs demonstrates that Tse and Warner's (2020a) findings in the early childhood care and education spheres are equally relevant to the education sector more broadly. The use of meso and macro level targeted results in EIBs is not common; however, this does not imply a lack of impact at the service provider or wider system levels. Instead, it merely points to the fact that these levels are not the focus for outcome payment disbursement. To understand the full extent of the impact of EIBs, project evaluations must go beyond what is inherently measured to determine outcome payments (i.e. mostly micro-level targeted results). They should also study the long-term impacts on service providers and wider systems. However, impact evaluations tend to be costly, and project budgets may not allow for such in-depth and broad examinations.

8

FINDINGS DISAGGREGATED BY OECD CLASSIFICATION

As noted earlier in the paper, most EIBs are located in OECD countries. This geographic concentration likely skews the findings towards the norms and practices that are commonplace for EIBs in higher-income countries. To examine this further, four of the analytical lens findings are disaggregated by country income level. These lenses are targeted educational impact, level of impact,

type of metric and system level measured¹¹. This section builds a narrative around emerging differences between EIBs located in OECD and non-OECD countries; however, given that only 12% of the EIBs are located in non-OECD countries, all comparative findings should be interpreted cautiously.

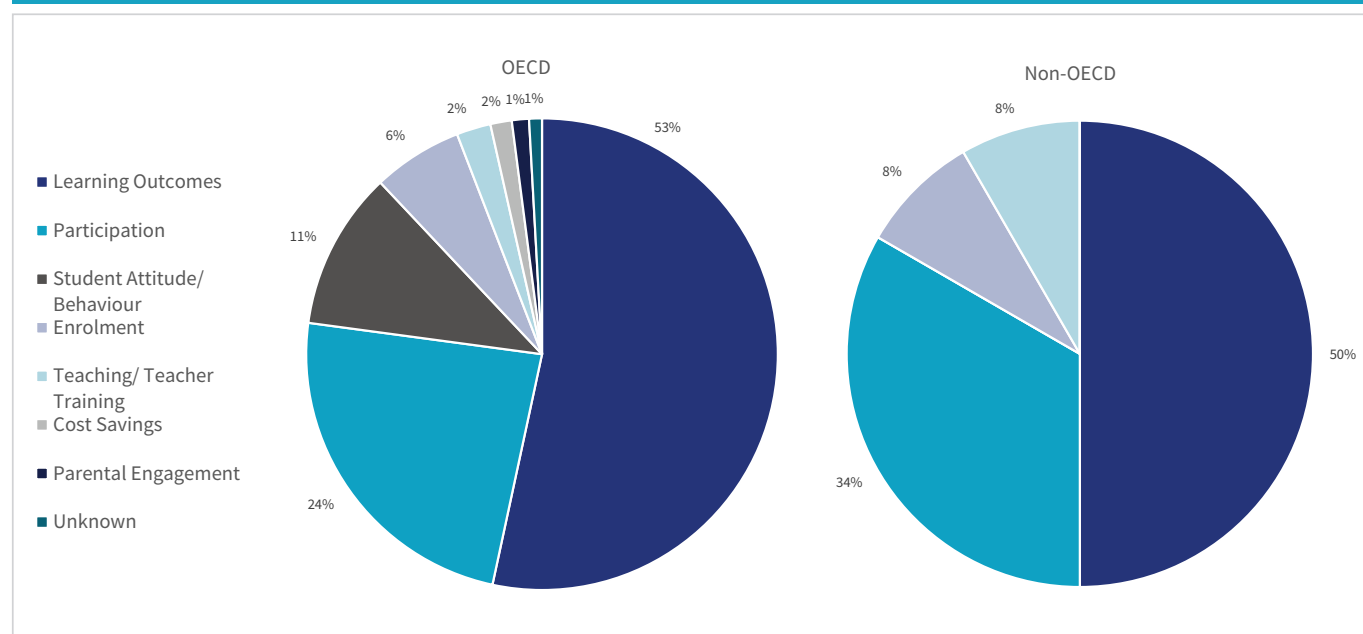
Targeted Educational Impact

For EIBs in both OECD and non-OECD countries, learning outcomes and participation account for the largest share of targeted results, as shown in Figure 13.

The primary difference between EIBs operating in OECD and non-OECD countries lies in the number of distinct categories.

For projects in non-OECD countries, targeted results fall into four principal categories: learning outcomes, participation, enrolment and teaching/teacher training. In contrast, OECD-based projects also tie outcome payments to student attitude and behaviour, cost savings and parental engagement, suggesting a more diverse array of educational impact being targeted through EIBs.

Figure 13: Targeted Educational Impact by OECD Classification



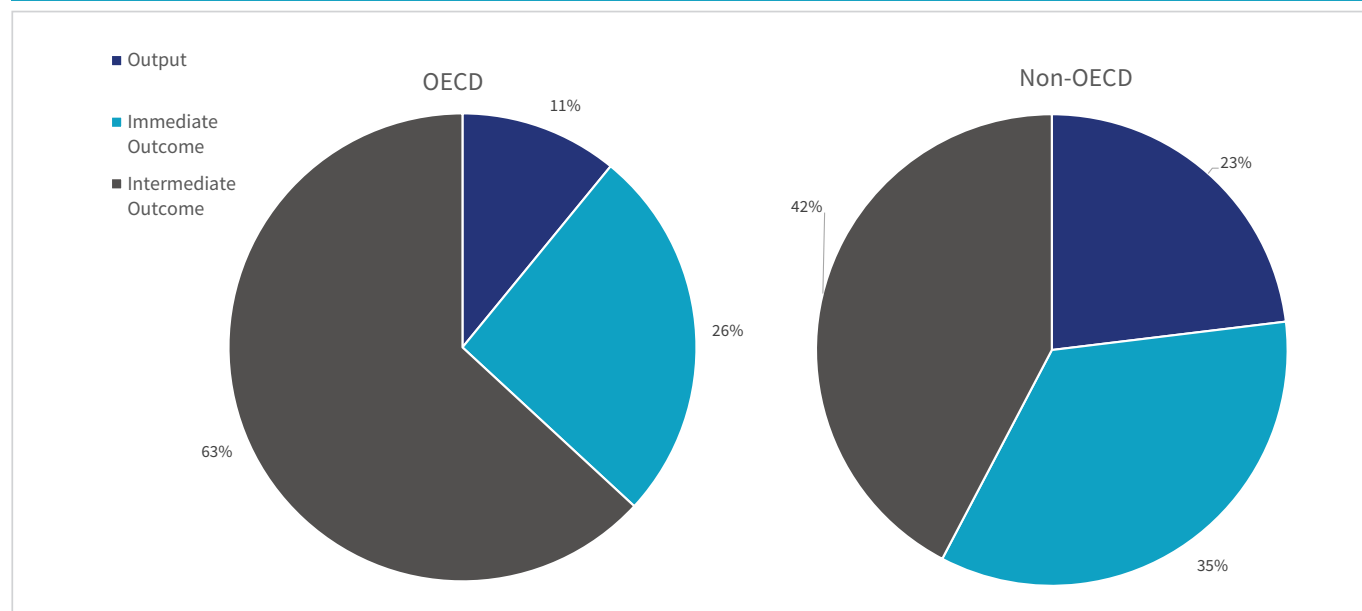
11. Data on financial distribution of outcome payments is insufficient for conducting this disaggregated analysis.

Level of Impact

A breakdown of targeted results in OECD versus non-OECD countries reveals that their intended levels of impact exhibit similar trends. In both instances, intermediate outcomes are used the most, followed by immediate outcomes and then outputs. Figure 14 presents this breakdown.

However, Figure 14 also shows that the proportion of intermediate outcomes is much smaller in non-OECD countries, with outputs making up more than double the percentage of targeted results compared to OECD countries. Over half of the targeted results in non-OECD countries represent outputs and immediate outcomes, suggesting that the intended impact of these EIBs does not fall as far along the results chain as in EIBs in OECD countries, potentially representing lower-hanging fruit.

Figure 14: Level of Impact by OECD Classification



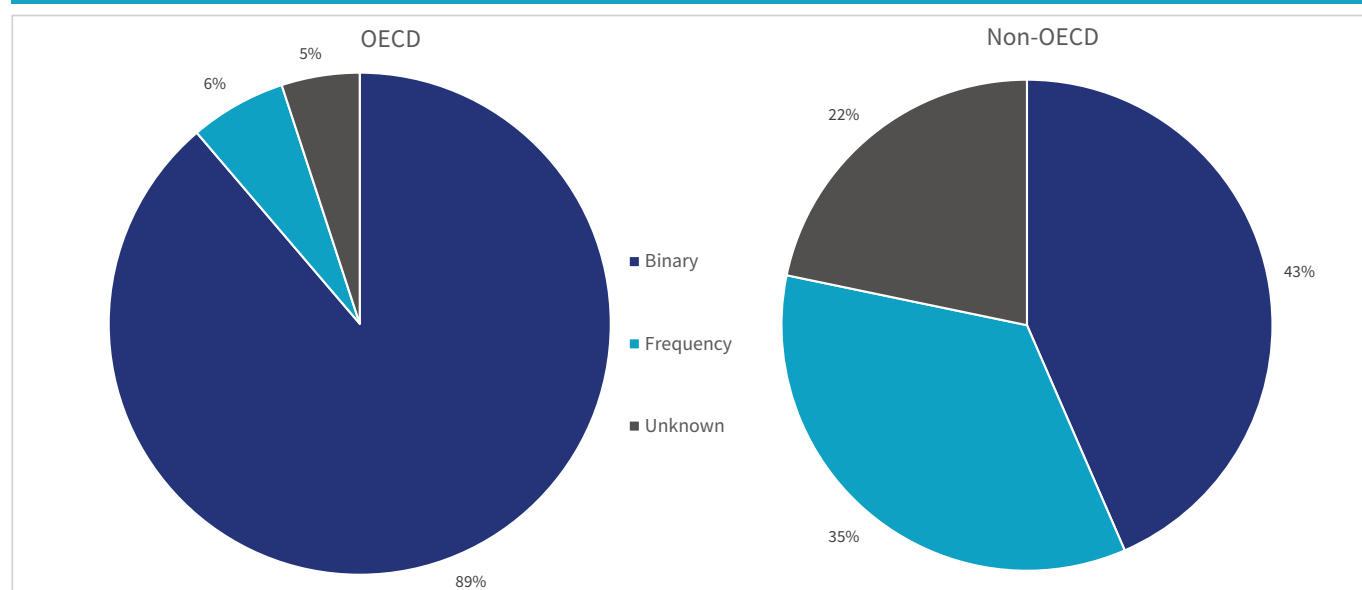
Type of Metric

The breakdown of binary and frequency metrics after categorising by OECD classification reveals a difference in proportions between EIBs located in OECD and non-OECD countries, as illustrated in Figure 15.

Although both cases employ a higher proportion of binary than frequency metrics, the percentage of frequency metrics in non-OECD countries is more than five times that in OECD countries. Figure 15 shows that binary metrics are used considerably more

than frequency metrics in OECD-based EIBs. Comparatively, the distribution of binary and frequency metrics in non-OECD countries is more balanced, with only 8% more binary metrics than frequency metrics. This could suggest that EIBs in non-OECD countries are more often designed with frequency metrics in mind and, therefore, could have an overall lower risk of gaming practices. Nevertheless, the small sample size of EIBs in non-OECD countries requires this generalisation to be interpreted cautiously.

Figure 15: Type of Metric by OECD Classification



System Level Measured

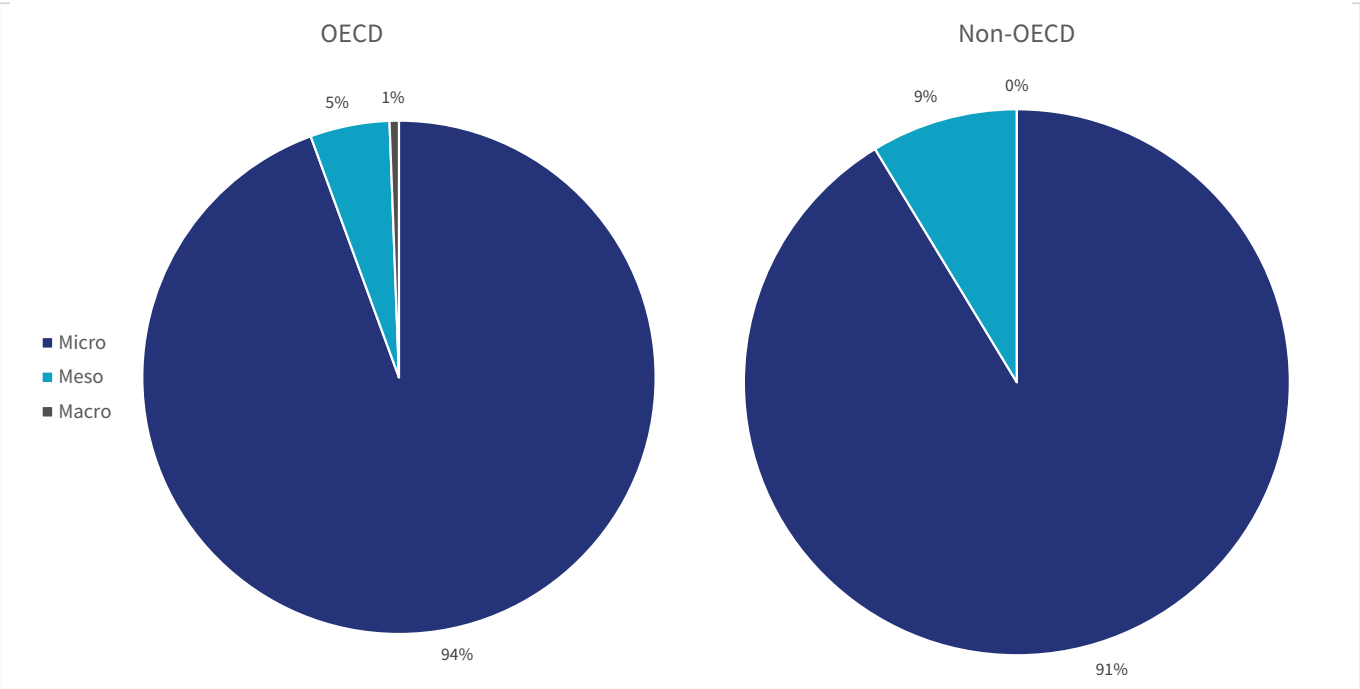
When disaggregating the findings related to the system level being measured, the pattern remains similar across both OECD and non-OECD countries.

Figure 16 shows that for both groups, EIBs tie most outcome payments to targeted results at the micro level. The main difference lies at the macro level, where both instances are identified in OECD countries.

Across the four analytical lenses, EIBs in OECD countries reflect the overall findings presented in Section 7, given that they represent the majority of projects and likely skew the overall findings. As to EIBs in non-OECD countries, this section has uncovered three main

differences from those operating in OECD countries. First, they have a narrower educational focus, as demonstrated by the smaller number of categories of targeted educational impact. Second, they are more likely to focus on easier-to-achieve targeted results, given that over half of their targeted results are outputs and immediate outcomes compared to OECD-based EIBs, where almost two-thirds of targeted results represent intermediate outcomes and therefore are situated further along the results chain. Nevertheless, the third difference is in the type of metrics used, which signifies that EIBs in non-OECD countries may have a lower risk of perverse incentives due to the higher proportion of frequency metrics used.

Figure 16: System Level Measured by OECD Classification



CONCLUSION

This paper aimed to contribute to the evidence on EIBs by examining how the structuring of their predetermined targeted results may influence their intended impact. Specifically, by analysing targeted results, this work examined whether EIBs concentrate on achieving low-hanging fruit or on striving for more ambitious impact. It also reviewed the potential for perverse incentives and the simplification of complex challenges as factors that could influence the potential impact of EIBs.

This paper leveraged five lenses of analysis to uncover evidence suggesting that EIBs often focus on harder-to-achieve targeted results. First, over half of the targeted results analysed relate to learning outcomes, with the majority of projects including at least one learning outcome. As they are situated beyond the direct control of service providers, a concentration on learning outcomes was found to be the first indication that EIBs are not merely focusing on low-hanging fruit. A subsequent exploration into the level of result revealed that almost two-thirds of the targeted results represented intermediate outcomes. This results chain analysis demonstrates that EIBs commonly disburse outcome payments for harder-to-achieve results. Nonetheless, this finding notably refers to impact within the universe of the project and does not look at the targeted results in relation to broader educational challenges in the given context. Furthermore, disaggregating the findings by country income level reveals that EIBs operating in non-OECD countries tie more of their outcome payments to outputs and immediate outcomes than to intermediate outcomes, suggesting a greater focus on easier-to-achieve targeted results in these particular contexts. Finally, this work further examines the notion of low-hanging fruit, finding that the financial distribution of targeted results hints at emerging patterns of a greater financial weight on harder-to-achieve targeted results. However, due to the small sample size in this financial distribution analysis, the patterns identified should be interpreted cautiously; they are not intended to offer a generalisation about EIBs.

The analysis also examined the argued risk of perverse incentives. Analysing the types of metrics used in EIBs revealed the use of predominantly binary metrics, which the literature pinpoints as a risk for gaming practices. Although this paper does not infer this link, a greater risk of strategies such as cherry picking could hinder

the potential positive impact EIBs have if the harder-to-achieve targeted results are accomplished to the detriment of more marginalised and vulnerable populations.

Furthermore, examining the system level at which targeted results are related uncovered that the vast majority of EIBs focus on micro-level successes (e.g. for students and/or trainees and their caregivers); however, this does not suggest that EIBs' impact does not extend beyond this. The literature suggests that a micro-level focus could result in ignoring the root causes of complex, social challenges at the meso and macro level. However, without intricately exploring the contexts in which projects are situated, it is unknown whether a focus on micro-level targeted results (even if they are harder to achieve in the context of the project) means that EIBs target low-hanging fruit in the grand scheme of complex educational challenges. Furthermore, it is not known whether targeting meso- and macro-level results could aid in better tackling the root causes of educational challenges or whether it would be beyond the scope of what is feasible under the design, timeframes and resource allocation of EIBs.

Finally, EIBs must be acknowledged as just one financing mechanism available to address education challenges among many other options. In this sense, they are not a panacea for all education challenges; instead, they are simply one option for advancing measurable education results.

10

RECOMMENDATIONS

This paper analyses the intended impact of existing EIBs and ends with five practical recommendations for future project design and offers possible areas for further research.

Practical Recommendations

1. Understand the context

Situate the project within the wider educational context to understand how its intended impact contributes to broader educational challenges and existing projects and policies.

2. Build a theory of change

Develop a theory of change to demonstrate the contributions the EIB intends to make. How this contribution is expected to unfold in terms of the targeted results used and the dependencies between them should be clear to all actors involved. Identify the assumptions and account for influencing factors that may significantly impact the intervention and its pathway of change.

3. Limit the risk of perverse incentives

Where possible, consider the use of frequency metrics, which pose a smaller risk of perverse incentives that can encourage gaming strategies such as cherry picking. When this is not possible, ensure that strong mechanisms are in place to prevent perverse incentives when using binary metrics.

4. Actively understand the wider impact

Incorporate mechanisms to track and understand the wider impact of the project beyond the targeted results tied to outcome payments. Where possible, examine all three system levels (micro, meso and macro) to understand the breadth of the impact these projects have. This should include both intended and unintended impacts that may benefit or harm beneficiaries.

5. Analyse whether an impact bond is the most suitable financing mechanism

Assess whether an EIB would be the best financing mechanism for addressing an identified educational challenge. Since EIBs require impact to be defined through measurable metrics, they might not be suited to addressing complex education challenges and their respective root causes. Traditional education financing might be better suited to address results that are difficult or expensive to monitor, as well as medium- and long-term outcomes, or results at the meso and macro levels. Instead, EIBs may be designed to complement existing financing mechanisms.

Areas for Further Research

This paper has analysed the intended impact of EIBs and could be supplemented by undertaking further research into exploring questions such as the following:

- What are the actual (intended and unintended) achieved results of EIBs in both OECD and non-OECD country contexts?
- How sustainable is the impact created by EIBs?
- What is the final financial distribution of outcome payments in rate cards once the EIB is completed?
- How have EIBs mitigated the risk of perverse incentives?
- Do EIBs focus on targeted results with a history of success, or do they attempt to fill a specific gap in the education system that is currently unaddressed by traditional funding mechanisms?

These potential avenues for future research should be supported by heightened transparency of data by making more information publicly available so that researchers, policymakers and practitioners can learn from existing experiences of impact bonds contributing to educational outcomes.

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