UNDERSTANDING OUTCOMES-READINESS: WHAT ARE THE STRUCTURAL FACTORS INFLUENCING THE LAUNCH OF IMPACT BOND PROJECTS

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About the Government Outcomes Lab

The Government Outcomes Lab (GO Lab) is a research and policy centre based in the Blavatnik School of Government, University of Oxford. It was created as a partnership between the School and the UK Government and is funded by a range of organisations. Using qualitative, quantitative and economic analysis, it investigates how governments partner with the private and social sectors to improve social outcomes.

In addition, the GO Lab hosts an online global knowledge hub and data collaborative, and has an expansive programme of engagement and capacity-building to disseminate insights and allow a wide community of practitioners to share experiences with one another.

About the INSPER Metricis

Insper Metricis is a research centre focused on studies of organisational strategies and management practices for projects with the potential to generate high socio-environmental impact. Special emphasis is given to the development of tools for planning, executing and evaluating impact projects performed by companies, non-profit organisations and governments.

About the Children's Investment Fund Foundation

CIFF is an independent philanthropic organisation that works with a range of partners seeking to create a healthy, fair and safe world for children. It plays a catalytic role to deliver urgent and lasting change at scale. Areas of work include sexual, reproductive health and rights, girls' education and skilling, health, nutrition and tackling climate change.

CIFF places significant emphasis on transparency, quality data and evidence. For many of its grants, it works with partners to measure and evaluate progress to achieve large scale and sustainable impact.

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Executive summary

Implementing impact bond (IBs) projects has often been described as challenging. More than ten years after the first contract, 283[1] projects have been launched. Although impact bonds are present across the globe, they are concentrated in specific regions, especially in the Global North.

The factors underpinning the success or failure in launching an impact bond have not yet been fully explored and tested. This report aims to shed light on the factors influencing the probability of whether an impact bond is successfully launched. Building on previous qualitative frameworks developed by practitioners, evaluators and commissioners, our original contribution is to use quantitative data to test which are the factors that influence the probability of launching an impact bond project.

Our analysis shows that:
1. Data availability plays a key role in increasing the chances of launching impact bond projects.
2. Having experience with a previous impact bond (IB) significantly increases the probability of a country launching additional projects.
3. The existence of an outcomes fund increases the probability of a country launching more impact bond projects.
4. The interaction between previous projects and strong regulatory frameworks has a significant positive effect on the probability of launching additional impact bond projects.
5. The interaction between previous projects and state capabilities has a significant positive effect on the probability of launching additional impact bond projects.

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[1] Number of impact bond projects listed in INDIGO Impact Bond Dataset as of 4th of October

Introduction

Outcomes-based contracts (OBCs) emerged as a promising typology of contracts for the provision of public services (Fraser et al., 2018; Lazzarini, 2022). By paying for results (or outcomes) rather than inputs or activities, these contracts aim to provide the public sector and social investors with a mechanism to effect positive changes in social or environmental outcomes. Payment is contingent upon the realization of pre-agreed outcomes (Carter et al., 2018).

Impact bonds are a prominent form of outcome-based contracts, and the focus of this policy report. Their peculiarity is the use of funding from private investors or multilateral organisations to cover the upfront capital required for providers to set up and deliver a service. The service is set out to achieve measurable outcomes established by the commissioning authority (or outcome payer) and investors are paid only if pre-specified outcomes are achieved. Impact bonds are also referred to as social impact bonds, development impact bonds, social outcomes contracts, pay for success or social outcomes partnerships[2].

Despite the idea's appeal, the literature on impact bonds (IBs) shows that implementing these contracts can be challenging (Arena et al., 2016; Heinrich & Kabourek, 2019). Some of the challenges include high transaction costs, difficulties with outcomes monitoring systems, lack of capacity in different sectors to manage complex contracts, and the inherent difficulty in accurately measuring the effective impact resulting from the interventions (Lazzarini et al, 2022).

More than ten years after the first impact bond, as of October 2023, 283 impact bonds have been launched worldwide (INDIGO Impact Bond Dataset, 2023). Impact bonds have seen global adoption, having been launched in 38 different countries. 50% of all projects are concentrated on the UK, the US and Portugal. However, despite the dissemination of impact bonds, little is known about the factors underpinning the success or failure in launching an impact bond. This report

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[2] We use the terms social impact bond and impact bond interchangeably.

addresses this gap by empirically investigating the structural factors influencing the probability of different countries launching impact bond projects.

Although the establishment of these contracts hinges on a combination of structural factors and project-specific elements, a thorough examination of country-level factors can offer a broader perspective and imparts insights into their contextual applicability. This nuanced understanding serves as a guide to inform the decision to whether to pursue an impact bond contract in a particular country or region. It can also contribute to our understanding of which factors may facilitate or undermine the launch of these contracts in a geographical context.

What do we know so far?

The community of practitioners engaged with impact bond projects has developed a set of qualitative frameworks to understand when a country, a region or a sector is "ready" to shift from a model based on activities and inputs to one based around outcomes. In the context of this report, this transition is referred to as "outcomes-readiness". These frameworks highlight different types of factors that impede or favour the development of impact bonds. These factors include both macro level (for instance, economic context and political support) or micro level factors (like the presence of a champion on the government side or goal alignment within the organisations working on the project). For our analysis, we review four frameworks developed by practitioners.

The National Audit Office framework

The Analytical Framework for Decision-Makers, developed by the UK National Audit Office in 2015, was one of the first frameworks shared across the community of practitioners. Its purpose is to assist commissioners considering the use of payment-by-results mechanisms, in determining the suitability of an outcomes contract for public services.

This framework claimed that public services suitable for payment-by-results (PbR) schemes were those with the features summarised in Figure 1.
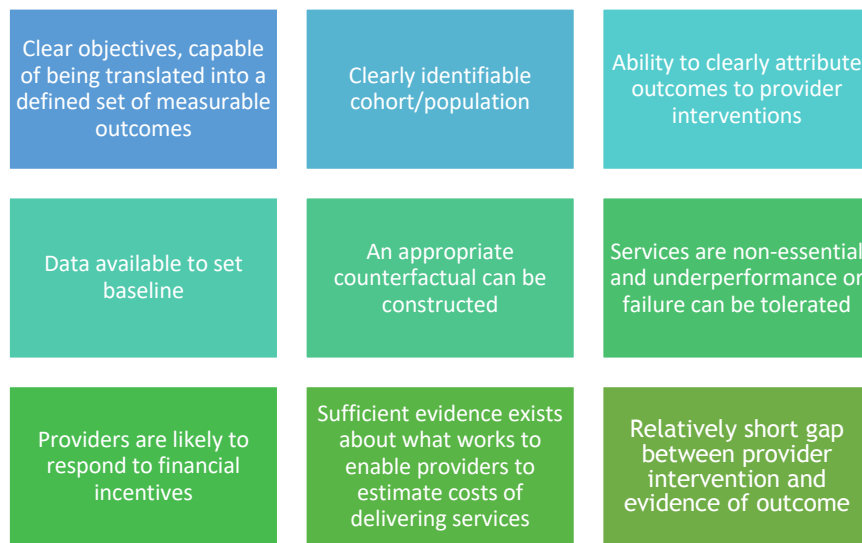
Clear objectives, capable of being translated into a defined set of measurable outcomes	Clearly identifiable cohort/population	Ability to clearly attribute outcomes to provider interventions
Data available to set baseline	An appropriate counterfactual can be constructed	Services are non-essential and underperformance or failure can be tolerated
Providers are likely to respond to financial incentives	Sufficient evidence exists about what works to enable providers to estimate costs of delivering services	Relatively short gap between provider intervention and evidence of outcome

Figure 1: Features of public services suitable for PbR

The LOUD Model

In 2017, Ronicle, Fraser, Tan and Erskine (2017) developed the LOUD model.[3] The LOUD model builds on the research of the Policy Innovation Research Unit (PIRU), based at the London School of Hygiene & Tropical Medicine, and the Ecorys team. The PIRU and Ecorys teams undertook interviews with commissioners, service providers and investors across the 25 sites to understand the reasons behind the decision to commission, or not, an impact bond. They found that four key factors can determine the propensity of launching an impact bond project (Ronicle, Fraser, Tan and Erskine, 2017):

1. **Collective leadership** includes strategic, organisational and environmental leadership. This is important to influence changes within and between organisations delivering an impact bond.

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[3] Ronicle, J., Fraser, A., Tan, S. and Erskine, C. (2017) The LOUD model: The four factors that determine whether a social impact bond is launched. Available at: https://golab.bsg.ox.ac.uk/knowledge-bank/resources/loud-sib-model-four-factors-determine-whether-social-impact-bond-launched/

2. Impact bonds should have **clear outcomes**: a well-defined cohort of service users and outcomes that are clear and attributable.

3. An important component in impact bond development is the establishment of **a shared understanding of the policy problem**, the way it can be credibly addressed, the proposed intervention is credible and impact bond project is viable option in the area where it is to be delivered.

4. Every impact bond proposal needs **data**, especially data on the eligible cohort (the size, characteristics, and baseline achievements) and the expected outcomes for the cohort.

The DREAM Framework

The Inter-American Development Bank (IDB) commissioned a report to Ecorys to understand the factors affecting the ability of a country/region to develop an impact bond market. With the Latin American context in mind, Ecorys developed the DREAM framework (Agusti Strid and Ronicle, 2021), which included the five categories listed in Figure 2.

Demand from government

Regulatory framework

Economic and political context
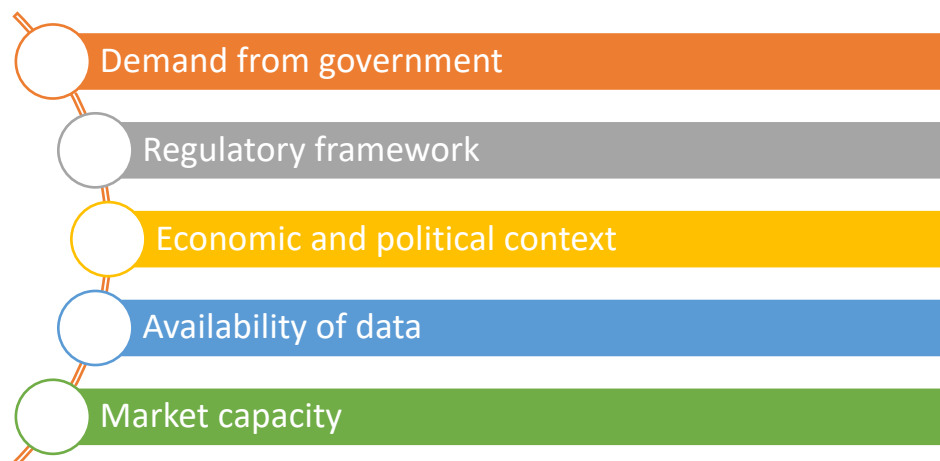
Availability of data

Market capacity

Figure 2: Five categories from DREAM framework

Government demand to launch an impact bond is essential. If there is no government demand, other organisations could take the role of an outcome payer (foundations or philanthropic organisations). However, as the ecosystem grows, impact bonds and the capabilities to design and manage them should be embedded within government institutions (Agusti Strid and Ronicle, 2021).

Countries with regulatory frameworks that incentivise the creation of impact bonds are those with mechanisms to overcome constraints of budget cycles for multi-year budgetary commitments. Favourable regulatory frameworks enable payments to be attached to outcomes, not outputs; and investors can legally get a return on social investment.

Economic and political context plays a key role. Practitioners and policy makers can be discouraged if election cycles make multi-year commitments challenging, there is high-staff turnover or the macroeconomy is unstable.

Availability and robustness of data varies greatly across geographies and different policy areas, affecting risk perception and increasing costs. In addition, 'silo' working might pose difficulties for sharing data across government departments.

Market capacity to launch an impact bond is essential. Market capacity refers to the availability of investors willing to invest funds in outcomes-based approaches, service providers capable of adapting to these contracting mechanisms and governments (or other organisations) paying for outcomes (instead of inputs or activities).

Social Finance - Ecosystem Readiness Framework

In 2002, Social Finance UK developed an ecosystem readiness framework (Savell, Williams, Urrea and Thomas, 2022). Based on a literature review of previous frameworks and interviews with practitioners from all over the world, the ecosystem framework identifies the factors that facilitate the beginning, expansion and consolidation of an outcomes-based partnership ecosystem. They build on the DREAM framework and add more specifications on each of the dimensions according to the degree of development of the ecosystem.

The Social Finance framework highlights that the notion of 'demand from government' varies depending on whether the ecosystem is in its nascent stages or

already well-established. In an emerging ecosystem, the term 'demand from government' imply in the readiness on the part of government, philanthropies and/or donor agencies to explore an outcomes-based approach. In a well-established ecosystem, governments and donor agencies already have a deep understanding of outcome-based approaches. They also tend to have skills to assess value, design, launch, and evaluate projects as well as investing in their feasibility (Savell, Williams, Urrea and Thomas, 2022).

Why read this report

All the frameworks we reviewed above originated from a practitioner perspective. Whether a commissioner, an evaluator or a service provider, all these frameworks draw upon the day-to-day experience of practitioners engaged in impact bonds. At the time of writing this report, there has been no empirical test of these frameworks, nor an attempt at quantifying the weight of each factor into the decision of launching/ not launching (or commissioning/ not commissioning) and impact bond. This report seeks to address this gap by empirically testing, at the country level, the impact of these factors on the probability of signing a contract and launching a impact bonds project.

Overview of impact bonds across the world

As of October 4th 2023, the INDIGO Impact Bond Dataset identifies 283 impact bond projects across the world. There are 175 impact bonds in Europe, 37 in North America, 32 in Asia, 18 in Oceania, 13 in Africa and 8 in South America.

Map 1: Distribution of impact bond projects by country.
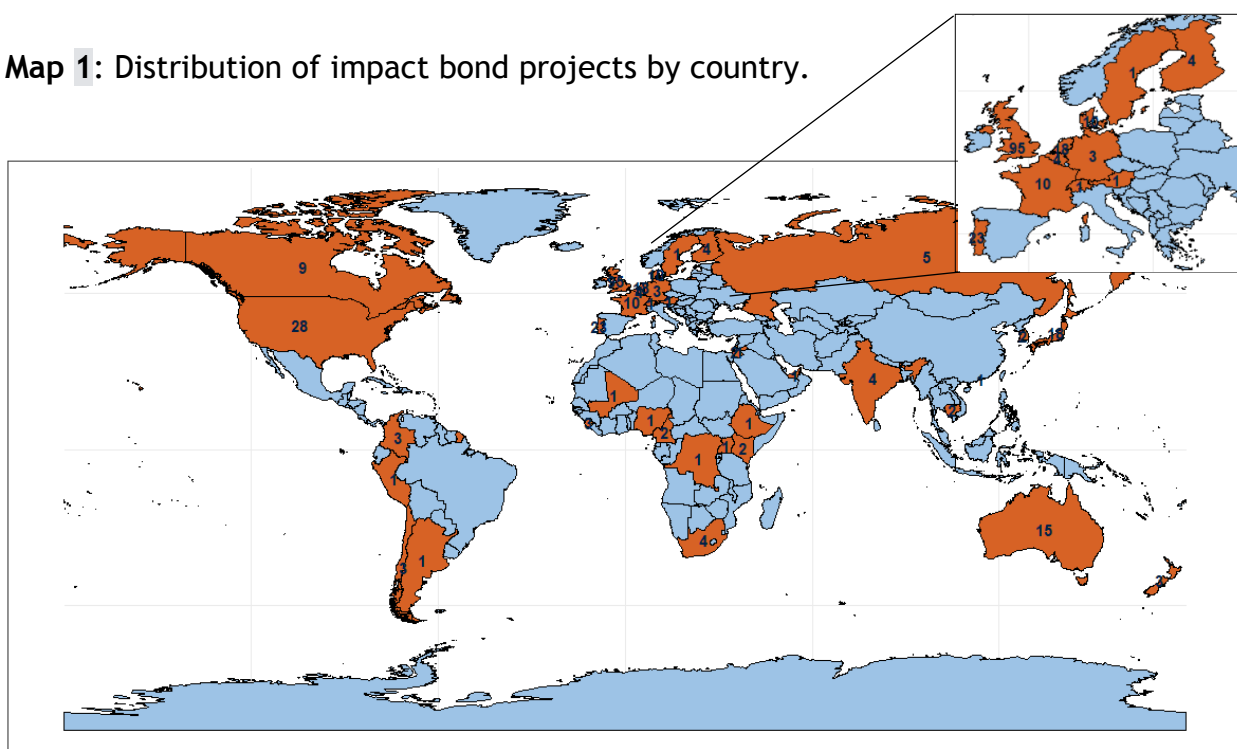
Source: INDIGO Impact Bond Dataset (October 2023), Government Outcomes Lab.

Despite the emergence of impact bonds in various contexts, many countries have not yet experimented with this innovative mechanism or, if they did, they have not (yet) launched one. Map 1 shows the geographic distribution of these contracts around the world, which are present across five continents but also absent across vast regions. From 2010 to October 2023, the period covered by the analysis, of the

195 countries recognized by the United Nations (UN), 37 had implemented at least one impact bond.[4]

**Figure 3**: Evolution of the number of impact bond projects by country over time.
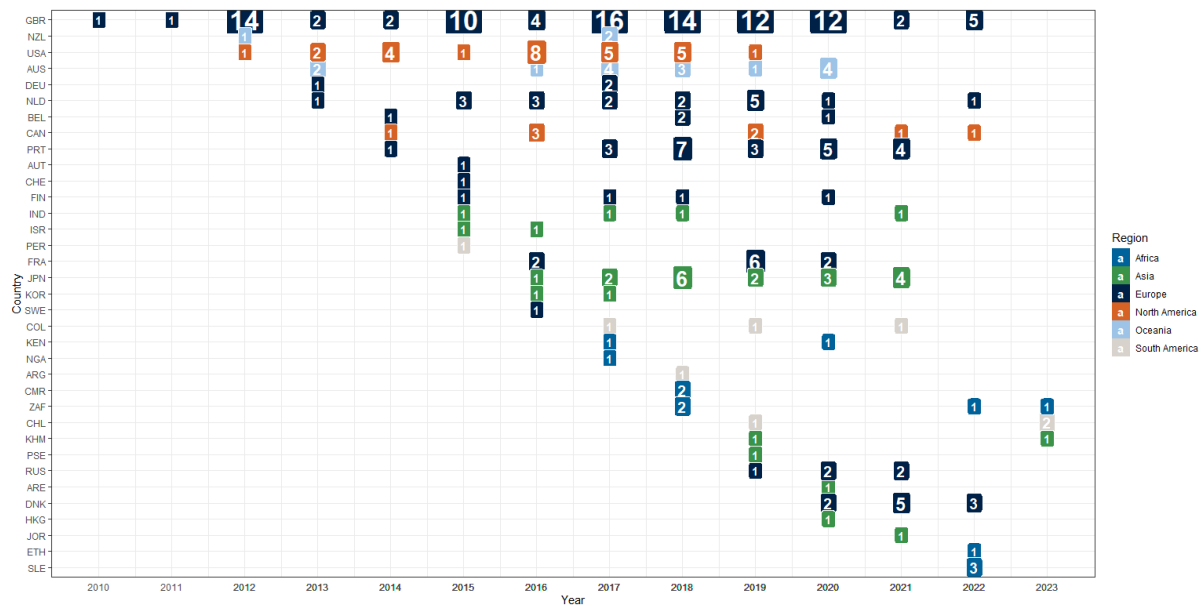
Source: INDIGO Impact Bond Dataset (October 2023), Government Outcomes Lab.

According to Figure 3, most impact bonds were implemented in high-income countries, primarily in the Global North. Of the 283 contracts, only 34 (less than 12%) refer to initiatives in middle or low-income countries. It is possible to draw various hypotheses. For instance, high-income countries may have an institutional environment more favourable to the emergence of innovative ways of contracting for public services. Better access to data provides more opportunities for providers in high-income countries to build a business case. Stronger and more agile bureaucracies might be more prone to experimenting with new contracting mechanisms and learning from innovative approaches. These hypotheses, while not exhaustive, highlight possible ways through which country-level differences might explain the emergence of impact bonds. We will explore in more details some of these factors through our analysis.

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[4] INDIGO Impact Bond Dataset. Available at: https://golab.bsg.ox.ac.uk/knowledge-bank/indigo/impact-bond-dataset-v2/ [Accessed 31 May 2023]. Two contracts were implemented in more than just one country. The Village Enterprise Development Impact Bond (INDIGO-POJ-0043) was implemented in Kenya and Uganda, and the ICRC Programme for Humanitarian Impact Investment (PHII) (INDIGO-POJ-0057) was implemented in Nigeria, the Democratic Republic of Congo, and Mali. In this study, since each is just one contract, they were randomly assigned to just one country, Kenya and Nigeria, respectively.

Figure 4: Leading impact bond countries (by number of impact bonds)
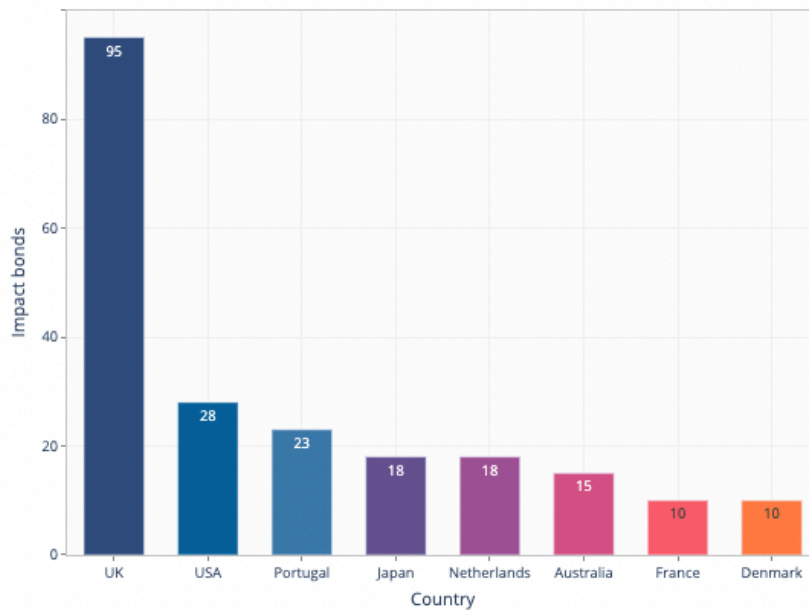
Source: INDIGO Impact Bond Dataset (October 2023), Government Outcomes Lab.

One of the insights gleaned from examining the distribution of impact bond projects across countries underscores the important role played by of outcome funds (Savell et al., 2021). The Government Outcomes Lab Glossary defines outcome funds as *a pool of capital from one or more funders to pay for a set of pre-defined outcomes. Outcome funds allow the commissioning of multiple impact bonds under one structure.*

Figure 5 shows the relationship between impact bond projects and outcome funds. Each blue node represents an impact bond project, and each orange node represents an outcome fund. Outcome funds have been labelled with the ISO code for their country and their INDIGO ID number. According to Figure 5, 117 impact bonds (approximately 40% of projects) have been supported by an outcomes fund.

Outcome funds are an increasingly prominent approach within the ecosystem of social outcomes contracting and impact bond development. They have been widely described as the solution to taking outcomes-based contracts, like impact bonds, to scale (Savell et al., 2021)

According to the 'Understanding Outcome Funds' guide, most outcome funds have three defining characteristics:
1. **Dedicated funding to pay for social outcomes** – Outcomes funds pool funding to financially reward the successful delivery of outcomes. Disbursal of funding is contingent on results. Payments from an outcomes fund only occur if specific criteria, agreed ex ante by the funders, are met.
2. **Intention to issue multiple separate outcomes-based contracts** – Outcomes funds intend to initiate and support multiple, independent outcomes-based contracts either directly with service providers, and / or by co-funding outcomes in contracts issued by other commissioners.
3. **Open to the involvement of impact investment** – Outcomes funds acknowledge that, to enable outcomes-based, rather than input- or activity-based payments, service providers may need to access funding to pre-finance the delivery of interventions aiming to deliver results. Sometimes providers can cover these upfront costs themselves, but often prefinancing will need to be provided by third parties. In outcomes funds, this third party may include impact investors (Savell et al., 2021)

As of November 2023, 20 outcomes funds were launched worldwide (Outcome Fund Directory, 2023). The first outcomes fund was launched in the UK in 2011 (the Department for Work and Pensions Innovation Fund) and the UK is the host of the largest number of outcomes funds internationally (ten outcomes funds to date, but note that not all UK-labelled funds are UK-wide and some are applicable only in England). The outcomes fund tool has also been applied in Portugal, the Netherlands, and USA. Since 2020 the approach has also been applied in Latin America (Colombia 2020) and Sub-Saharan Africa (Ghana, Sierra Leone and South Africa 2020). The latest outcome funds have launched in Australia (Social Impact Outcomes Fund - New South Wales 2021) and the UK (Refugee Transitions Outcomes Fund 2021).

More information on outcome funds is available in the 'Understanding Outcome Funds' guide for practitioners, governments and donors; and the INDIGO Outcome Funds Directory.

Figure 5: Distribution of impact bond projects and outcome funds

Source: INDIGO Impact Bond Dataset (October 2023), Government Outcomes Lab.

The evolution of impact bond projects across the world has been influenced by the catalysing role of outcome funds, the strong presence of high number of impact bond projects in high-income countries and the emerging presence of these projects and of outcomes funds in low and middle-income countries. The next section elaborates on the methods and data that we used to unpack the factors related with outcomes readiness.

Our approach to understanding outcomes-readiness

What do we mean when we say 'outcomes-readiness'? At the moment of writing, we have identified more than 277 impact bond project proposals that did not launch. By 'not launched proposals' we consider cases in which at least two organisations came together to design an impact bond project but, to date, the contract has not (yet) been signed because of some impediments. Some of these impediments seem structural and can be observed at the level of a country. In this report, we analyse the different factors that make a country more prone to working with impact bonds or are 'readier' than other to experiment with this model.

We used the frameworks gathered by qualitative researchers (described in section 1) as the starting point for our analysis. All of them describe essential factors behind the commissioning of an impact bond. However, not all those factors are measurable with quantitative data. As we aim to build a global model that can help us understand outcomes readiness, we selected dimensions that were measurable with publicly available data for most countries. In this sense, we selected the DREAM framework as our reference because this framework was designed based on an international mindset and its dimensions are more likely to be measured with quantitative indicators. We intended to measure every dimension from the DREAM framework. However, we faced a challenge as we were not able to find a comprehensive database that could provide us with data on market capacity for every country. We also included other variables that are not part of the DREAM framework but are usually referred to as key drivers of successful impact bond projects (Savell et al., 2022).

We used panel data for 195 countries and 12 years (from 2010 to 2021) and a complex regression model (Wooldridge, 2010) to analyse the conditional correlation between

the proxies for demand from the government, regulatory framework, economic and political context, data availability, state capabilities, previous experience launching an impact bond, and the number of contracts already launched in the country.

Data for this analysis came from three different sources. The World Bank DataBank, a data repository hosted by the World Bank, provided proxies for three variables: regulatory framework, economic and political context, and availability of data. Data on the government's effectiveness came from the Quality of Government (QoG) Institute. We take the variable "Government Effectiveness" from this source.

The INDIGO Impact Bond Dataset offers data on the distribution of impact bonds worldwide. The database provided data on 283 (launched) projects distributed across the world. The information that we could gather from this database includes stage of development, policy sector, amount of investment, and size of the cohort, among other variables. We used three main data points from this database: the year of the signature of the contract[5], the country in which the services were provided, and the information about outcome funds (used as a proxy for demand from the government). Therefore, it was possible to map the number of contracts implemented per year and country, and if they had the support from an outcome fund.

Table 1 presents definitions and characteristics of the main variables in our study.

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[5] We replaced it by the start date of service provision when the signature date was not available.

Table 1: Description of variables used in the analysis.

Variable	Proxies	Description	Source	Type
Demand from government	Existence of an outcome fund from the government, or with partial support from the government, in that country.	Outcome funds are usually open for applications for a period before selecting and contracting with projects. We used the number of outcomes funds open for application in the country for the specific year.	INDIGO Impact Bond Dataset	Numeric
Regulatory framework	Perception of Rule of Law	This variable measures the perception of citizens of local governance, such as mechanisms of enforcing contracts, guarantees of private property, and trust in the police. Citizens rank their perception in a range from 0 to 100, where 100 indicates the perception of strong governance.	World Bank Databank (Series of Governance Indicators)	Ordinal
Economic and political context	Percentage of annual GDP growth per capita	GDP per capita i.e. gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus	World Bank Databank	Numeric

		any subsidies not included in the value of the products		
Data availability	Statistical performance indicators (SPI) for SDGs (scale 0-100)	This variable provides a score of the quality of the indicators produced by the country related to the Sustainable Development Goals (SDGs) from the United Nations. Countries are ranked on a scale between 0 to 100, where 100 indicates that the country has every single element that the SPI measures. The elements include data use, data infrastructure, data services, etc.	World Bank Databank	Ordinal
State capabilities	Government Effectiveness	Government Effectiveness captures the perception of the quality of public service provision, bureaucracies and civil servants; the independence of the civil service from political pressures, and the credibility of the government's commitment to policies. Estimate gives the country's score on an aggregate indicator, in units of standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	Quality of Government (QoG) Institute	Continuous

Findings and insights

The following findings and recommendations are drawn from the conducted analysis. Three factors positively correlate with the number of impact bond projects launched by country: demand from the government, availability of data and previous experience with impact bonds. This indicates that countries demonstrating (i) governmental interest in experimenting with these approaches, (ii) available data for building a robust baseline and justifying interventions, and (iii) prior experience with impact bonds, are more likely to launch new impact bonds projects compared to countries lacking these factors.

Government demand

Government's interest to work with impact bonds or other outcomes-based approaches can be expressed in different ways. Some governments provide development grants to emerging outcomes-based projects. This practice aids them in developing an impact bond model to implement their intervention. Some governments express interest by actively inquiring about these approaches and looking at other countries' experiences with impact bonds to draw valuable insights. We decided to use the availability of an outcome fund as a proxy for 'government demand' as this is a clear signal that a government is willing to support impact bond projects and pay for their outcomes. Examples of outcome funds include the Life Chances Fund (United Kingdom), the LOGRA – *Fondo de Pago por Resultados* (Colombia), the Sierra Leone Education Innovation Challenge (supported by the Education Outcomes Fund), among others.

According to the Outcome Fund Guide, outcome funds facilitate the establishment of multiple outcomes contracts. They are increasingly seen as a route to scale for outcomes-based contracts and impact bonds. Governments that have adopted these approaches have different rationales, such as building an outcomes ecosystem (including impact investing market and service provider capacity), encouraging cross-sector partnerships, expanding the use of outcomes-based contracting and

accelerating learning on outcomes-based contracting. In sum, the availability of outcome funds signals the willingness of a government to dedicate funds to the development of multiple outcomes-based projects and grow a market/ecosystem.

Data availability

Data is a key factor in the initial stages of an impact bond initiative. Data is needed to develop a business case, to create a baseline for the intended cohort of beneficiaries, to develop outcome metrics and understand what is achievable in terms of performance.

We built our measure for data availability using the World Bank Statistical Performance Indicators (SPI). The SPI index provides a measure of the performance of a country's statistical system. A country with good statistical performance is a country where: data sources produced by the national statistics office are used by international organisations; data releases by the national statistics office are of good quality and open to public consumption; data products cover social, economic, environmental and institutional dimension of the country's journey towards the SDGs; data sources include a variety of sources, such as administrative data, censuses, surveys, geospatial data, private sector and citizen generated data; and data infrastructure is robust, well-documented and based on international standards.

The results of our analysis show that countries with higher data availability are enabling contexts for the development of new impact bond projects. In this sense, the lack of data is frequently cited by practitioners as one of the most difficult barriers to overcome when developing impact bond projects in countries with poor statistical performance. This result does not mean that is not possible to launch an impact bond project in countries with low data availability. The lack of publicly available data can be overcome by projects doing primary data collection themselves. However, this approach increases the cost of designing an impact bond project and might pose a challenge when presenting the business case to the outcome funders.

Experience with previous impact bonds

The results also point that prior experience with impact bonds project in a country increases the odds of developing more projects in the future. Practitioners usually refer to the lack of legal frameworks for impact bonds as a major challenge when designing the first pilot. Designing a project in a country where predecessors have successfully addressed a challenge becomes more straightforward due to the existence of a precedent case. The initial pilot in each country not only achieved the desired outcomes but also showcased the viability of a model, heightened awareness about innovative contracting mechanisms, and fostered a network of organizations with experience in operating with an outcomes-oriented mindset.

Limitations of our approach

Our findings contribute to a better understanding of the factors that increase or hinder the possibilities of launching new impact bond projects. However, it is also worth noting the limitations of our work. One of the most significant limitations is that we performed the analysis at the country level, not accounting for variables related to individual projects. Moreover, our current analysis focuses only on the structural factors. We acknowledge that some of the key factors that practitioners usually refer to in interviews and focus groups are specific to the projects and might be difficult to measure quantitatively (for instance, availability of a champion in government, shared understanding of goals, collective leadership). Other non-structural factors might be playing a significant role in determining the outcomes-readiness.

Another limitation is related to the proxies selected for our model. None of the applied indicators in this study measure the exact dimensions that the previous readiness frameworks intended to measure. For instance, the figure of annual GDP growth may not be enough to capture information about 'political and economic context'. The use of proxies may pose a risk of validity errors in our model.

It is important to note that the INDIGO Impact Bond Dataset – one of our sources of data – uses a collaborative and open process to collect information from practitioners and policy makers. The data is shared on voluntary basis, which may result in potential biases. Projects with good results and successful stories might feel more comfortable sharing data than other projects. In addition, the lack of clarity of data sharing standard in the sector may be another barrier that practitioners face to share data with INDIGO. Finally, the results point to correlations, but further analysis is needed to establish a causal relationship between these variables.

In addition, we tested various models with different specifications in order to unpack potential differences between social impact bonds and development impact bonds[6] (or international impact bonds, as we label them in the INDIGO Impact Bond Dataset). However, we could not find any significant differences. As of October 2023, the Impact Bond Dataset identifies 23 international impact bonds. It was not possible to find significant effects of these 23 development impact bonds in a bigger sample of 283 impact bond projects.

Next steps

In the future, we aim to collect more data and build a more complex model that considers more factors around outcomes readiness. We aim to examine project-level data to discern the conditions under which announced projects can transition into projects with signed contracts. What type of dimensions have a stronger effect on the probability of launching an impact bond: contract-level or country-level dimensions?

We are currently working on collecting data on both launched and non-launched projects[7]. By including data on projects that have and have not launched, we will be able to understand which type of dimension have a stronger effect on the probability of launching a project, and to identify patterns around outcomes readiness in different regions and policy sectors.

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[6] The INDIGO Data Dictionary defines international impact bonds as an impact bond project where at least one of the outcome payers is located in a different country from the service delivery. It is helpful to recall the difference between international impact bonds and development impact bonds (DIBs). At the Government Outcomes Lab, we understand development impact bonds as "Impact bonds in which the outcome payer is an external donor - an aid agency of a government or multilateral agency, or a philanthropic organisation" (GO Lab Introduction to social impact bonds). However, there was some uncertainty around the different classifications of impact bonds. In some organisations, the main difference between social impact bonds and development impact bonds seemed to be the type of organisation that was paying for social outcomes. In this report, we use a geographical criterion and identify as international impact bond any impact bond project where at least one of the outcome payers is located in a different country from the service delivery (regardless of the type of organisation).

[7] We define 'non-launched project' as *a project where two or more organisations tried to launch an impact bond, but different factors impede it, and the contract could not be signed. There is data on the target population, type of intervention and involved organisations (at least approximate data).*

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Appendix

The appendix details the methodology implemented to analyse the conditional correlation between the number of contracts and the independent variables demand from the government, regulatory framework, economic and political context, data availability, state capabilities, and previous experience launching a SIB.

We used a fixed effects regression model (Wooldridge, 2010). Compared to random effects or pooled regression models, the fixed effects approach has the advantage of accounting for the possible correlation between characteristics that do not vary over time (included in the error term) and the regressors. We performed the following econometric model:

(1) $\ddot{y}_{it} = \beta_0 + \beta_1 Proxy.\ddot{D}emand_{it} + \beta_2 Proxy.\ddot{R}egulatory_{it} + \beta_3 Proxy.\ddot{E}conomic_{it} + \beta_4 Prox\ddot{y}.Data_{it} + \beta_5 Proxy.\ddot{C}apabilities_{it} + \beta_6 Previous.\ddot{C}ontract_{it} + \ddot{u}_{it}$

Where:

- $\ddot{y}_{it} = y_{it} - \bar{y}_i$ is difference between the number of contracts signed in country i and year t and the average number of contracts signed in country i.

- $Proxy.\ddot{D}emand_{it} = Proxy.Demand_{it} - \overline{Proxy.Demand_i}$ is difference between the proxy for the demand from the government for country i at year t and the average proxy for the demand from the government for country i.

- $Proxy.\ddot{R}egulatory_{it} = Proxy.Regulatory_{it} - \overline{Proxy.Regulatory_i}$ is difference between the proxy for the regulatory framework for country i at year t and the average proxy for the regulatory framework for country i.

- $Proxy.\ddot{E}conomic_{it} = Proxy.Economic_{it} - \overline{Proxy.Economic_i}$ is difference between the proxy for the economic and political context for country i at

year t and the average proxy for the economic and political context for country i.

- $Prox\ddot{y}.Data_{it} = Proxy.Data_{it} - \overline{Proxy.Data_i}$ is difference between the proxy for the availability of data for country i at year t and the average proxy for the availability of data for country i.

- $Proxy.Cap\ddot{a}bilities_{it} = Proxy.Capabilities_{it} - \overline{Proxy.Capabilities_i}$ is difference between the proxy for the state capabilities for country i at year t and the average proxy for the state capabilities for country i.

- $Previou\ddot{s}.Contract_{it} = Previous.Contract_{it} - \overline{Previous.Contract_i}$ is difference between a dummy variable equal to 1 if the country i had implemented at least one SIB up to the previous year t and 0 otherwise and the average value for this dummy for country i.

- $\ddot{u}_{it} = u_{it} - \bar{u}_i$ is the error term.

In fixed effects models, its mean is subtracted from each variable. This transformation aims to mitigate possible biases arising from unobservable individual characteristics fixed over time (which would be in the error term) correlated with one or more regressors. Another important feature in a fixed effects model is that, even after the transformation, the parameters of interest remain the same as in a regression without subtracting the average of the independent variables.

We lagged the independent variables in one period (or two, as a robustness test) to account for the fact that the signature of the contract is the final stage of a process that started some period before. We also included interactions between the variable $Previou\ddot{s}.Contract_{it}$ with $Proxy.R\ddot{e}gulatory_{it}$, $Proxy.\ddot{E}conomic_{it}$, $Prox\ddot{y}.Data_{it}$, and $Proxy.Cap\ddot{a}bilities_{it}$ to capture possible heterogeneous effects between the previous experience in launching a SIB and these variables.

Table 1 reports the estimates for the fixed effects model with the independent variables lagged in one year and the number of contracts as the dependent variable. Column (1) shows the results of the regression with a binary variable equal to one if the country has had a previous SIB and 0 otherwise, and the proxies

for the demand from the government, regulatory framework, economic and political context, data availability, and state capabilities. Column (2) includes the year-fixed effect on the regression. Columns (3 and 4) add the interaction between the binary indicator of the existence of a previous SIB and the proxy for the regulatory framework (column 3 without and column 4 with year fixed effect). Columns (5 and 6) include the interaction between the binary indicator of the existence of a previous SIB and the proxy for the economic and political context (column 5 without and column 6 with year fixed effect). Columns (7 and 8) add the interaction between the binary variable for the previous SIB contract and the proxy for the availability of data (column 7 without and column 8 with year fixed effect). Finally, columns (9 and 10) include the interaction between the binary variable for the previous SIB contract and the proxy for the state capabilities (column 9 without and column 10 with year fixed effect). In all cases, standard errors are clustered at the country level[8].

Considering the results without the interactions (columns 1 and 2), we find a positive and statistically significant effect at a 5% level of the variables previous experience with SIBs, and the proxies for demand from the government and data availability. These results are similar to the robustness test performed with the variables lagged in two years (Table 2), with the binary variable for previous experience and the proxy for demand from the government positive and statistically significant at a 5% level, and the proxy for data availability significant only at a 10% level. These results empirically support the findings from the descriptive analysis of the distribution of contracts over the word: availability of funding may be critical to the implementation of SIBs, and data is important to measure the outcomes from the initiatives, even when controlling for the previous experience with this type of contract.

The results considering the inclusion of the interactions (columns 3 to 10) show a positive and statistically significant effect at a 5% level for the interaction

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[8] As additional controls, we included in all regressions the population (log), life expectancy at birth (years), fertility rate (births per woman), the Human Development Index (HDI), and mortality rate under 5 (per 1,000 live births).

between the binary variable for the existence of a previous contract and the proxy for the state capabilities (columns 9 and 10), and at a 10% level for the interaction between previous experience and the proxy for the regulatory framework. Despite not statistically significant in none of the models without interaction (columns 1 and 2), the regulatory framework and the state capabilities seem to strengthen the effect from the previous experience with SIBs. This suggests that state capabilities and an environment with better quality of regulation matter especially for the diffusion of news contracts in an environment with previous experience with SIBs. The estimates are similar even considering the independent variables lagged in two (significant at a 5% level).

Table 1: Number of contracts as the dependent variable (independent variables lagged in one year).

	Dependent variable: number of contracts									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Previous_contract_1	0.500***	0.470***	0.268**	0.258**	0.387*	0.356*	-2.136	-2.208	0.213*	0.207*
	(0.181)	(0.178)	(0.128)	(0.125)	(0.198)	(0.194)	(2.015)	(1.995)	(0.116)	(0.116)
Demand_1	1.068***	1.057***	1.054***	1.047***	1.040***	1.029***	1.041***	1.025***	1.048***	1.042***
	(0.239)	(0.238)	(0.235)	(0.235)	(0.244)	(0.244)	(0.254)	(0.251)	(0.239)	(0.239)
Regulatory_1	-0.072	-0.051	-0.087	-0.067	-0.064	-0.042	-0.044	-0.029	-0.080	-0.060
	(0.093)	(0.086)	(0.090)	(0.083)	(0.096)	(0.089)	(0.074)	(0.073)	(0.091)	(0.084)
Economic_1	0.001	0.0003	0.001	0.0001	0.001	0.0001	0.002	0.001	0.001	0.0001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Data_1	0.015**	0.014**	0.013**	0.013**	0.015**	0.014**	0.011***	0.010***	0.013**	0.012**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
State_Capabilities_1	-0.008	0.005	0.014	0.024	-0.016	-0.004	-0.002	0.013	0.006	0.016
	(0.045)	(0.045)	(0.043)	(0.042)	(0.041)	(0.040)	(0.045)	(0.045)	(0.044)	(0.044)
Regulatory_1:Previous_contract_1			0.252*	0.234*						
			(0.135)	(0.134)						
Economic_1:Previous_contract_1					0.084	0.084				
					(0.086)	(0.085)				
Data_1:Previous_contract_1							0.039	0.040		
							(0.031)	(0.030)		
State_Capabilities_1:Previous_contract_1									0.300**	0.279**
									(0.141)	(0.141)
Year fixed effects	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	2,007	2,007	2,007	2,007	2,007	2,007	2,007	2,007	2,007	2,007
R2	0.110	0.115	0.116	0.120	0.112	0.117	0.128	0.133	0.117	0.121

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table 2: Number of contracts as the dependent variable (independent variables lagged in two year).

	Dependent variable: number of contracts									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Previous_contract_2	0.687***	0.673***	0.338**	0.360**	0.536**	0.526**	1.795	1.657	0.276**	0.302**
	(0.230)	(0.228)	(0.138)	(0.141)	(0.234)	(0.234)	(1.245)	(1.225)	(0.123)	(0.129)
Demand_2	1.091***	1.076***	1.062***	1.053***	1.057***	1.043***	1.098***	1.084***	1.056***	1.047***
	(0.339)	(0.333)	(0.340)	(0.334)	(0.327)	(0.321)	(0.324)	(0.318)	(0.340)	(0.335)
Regulatory_2	-0.015	-0.008	-0.033	-0.028	-0.005	0.004	-0.024	-0.014	-0.023	-0.019
	(0.055)	(0.050)	(0.054)	(0.049)	(0.054)	(0.049)	(0.050)	(0.046)	(0.055)	(0.049)
Economic_2	0.002	0.002	0.002	0.001	0.002	0.001	0.002	0.001	0.002	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Data_2	0.006*	0.006*	0.004	0.004	0.006*	0.006*	0.007**	0.007**	0.003	0.004
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
State_Capabilities_2	0.029	0.042	0.059	0.067	0.017	0.030	0.025	0.038	0.047	0.056
	(0.055)	(0.055)	(0.058)	(0.058)	(0.056)	(0.056)	(0.056)	(0.056)	(0.058)	(0.057)
Regulatory_2:Previous_contract_2			0.367**	0.334**						
			(0.157)	(0.152)						
Economic_2:Previous_contract_2					0.112	0.108				
					(0.091)	(0.089)				
Data_2:Previous_contract_2							-0.017	-0.015		
							(0.018)	(0.018)		
State_Capabilities_2:Previous_contract_2									0.418**	0.382**
									(0.169)	(0.165)
Year fixed effects	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	2,188	2,188	2,188	2,188	2,188	2,188	2,188	2,188	2,188	2,188
R2	0.109	0.118	0.120	0.127	0.112	0.121	0.112	0.120	0.121	0.127

Note: *p<0.1; **p<0.05; ***p<0.01