



Please cite the Published Version

Olson, Hilary, Painter, Gary, Albertson, Kevin , Fox, Chris  and O'Leary, Chris (2024) Are Social Impact Bonds an innovation in finance or do they help finance social innovation? Journal of Social Policy, 53 (2). pp. 407-431. ISSN 0047-2794

DOI: <https://doi.org/10.1017/S0047279422000356>

Publisher: Cambridge University Press (CUP)

Version: Published Version

Downloaded from: <https://e-space.mmu.ac.uk/629333/>

Usage rights:  [Creative Commons: Attribution 4.0](https://creativecommons.org/licenses/by/4.0/)

Additional Information: This is an open access article which first appeared in Journal of Social Policy

Enquiries:

If you have questions about this document, contact openresearch@mmu.ac.uk. Please include the URL of the record in e-space. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from <https://www.mmu.ac.uk/library/using-the-library/policies-and-guidelines>)

Are Social Impact Bonds an Innovation in Finance or Do They Help Finance Social Innovation?

HILARY OLSON*, GARY PAINTER* , KEVIN ALBERTSON, CHRISTOPHER FOX** AND CHRISTOPHER O'LEARY****

**Doctoral Candidate and Professor, USC Sol Price School of Public Policy*

***Professors, Manchester Metropolitan University*

Corresponding author, email: hilaryol@usc.edu

Abstract

Outcomes Based Commissioning (OBC) – for example, Pay for Success (in the US) or Payment by Results (in the UK) – has been suggested as a way to provide ‘more’ social services for ‘less’ public resources. Such commissioning is often linked with an innovative financing tool called a Social Impact Bond (SIB). Using data from the Social Finance UK Database and focusing on SIBs in the US and UK, we evaluate whether the SIB approach aligns with the theoretical predictions of social innovation. The results provide limited evidence that SIBs facilitate capital injections from the private sector into the production of social goods as well as facilitate parts of the process of social innovation – namely, piloting and scaling. We conclude that there is significant variation, both between the US and UK and within the US, in social innovation ecosystems and the role played by SIBs.

Keywords: Social innovation; Social impact bonds; Outcomes-based commissioning; Social finance; Impact investing

Introduction

Governments in some of the world’s richest nations are facing growing demands to respond to increasing social needs while simultaneously facing fiscal demands which would seem to emphasize the reduction of social budgets. In this context, Outcomes Based Commissioning (OBC) – for example, Pay for Success (in the US) or Payment by Results (in the UK) – has been suggested as one way in which ‘more’ social services can be provided for ‘less’ public resources. These forms of public sector contracting are often linked with a new financing tool for social services referred to as a Social Impact Bond (SIB).

SIBs are not strictly speaking bonds (debt instruments) but are rather a class of OBC contract where the up-front finance for social service delivery is made available by third-party investors rather than service providers. This capital funds a program or intervention seeking to improve the prospects of a target group in need of public services (Mulgan et al., 2011). To attract investors,

SIBs require commitments by a commissioner (usually national or local government) to make payments linked to the achievement of specific social outcomes by the target group (Mulgan et al., 2011). In theory, the SIB partners assess the extent to which the program has achieved these outcomes – either at the conclusion of the program or at various intermediate stages.¹ Based on the value of these outcomes (if any), commissioners then make payments to investors, affording them their return.

Early proponents of SIBs distinguished them from other forms of outcome-based payment by emphasizing that the payment mechanism facilitates the alignment of social and financial returns on investment and that service provider costs are covered by investors' up-front capital. Theoretically, SIBs have the potential to shift risk away from the public sector and to bring together groups of social investors and portfolios of interventions that would not have been connected without the new tool (Social Finance, 2009). SIBs could thus help expand the 'social investment market' as well (Cabinet Office, 2011: paragraph 4.3). The long-term vision of SIBs was ambitious:

Social Impact Bonds enable foundations, social sector organisations and government to work in new ways and to form new partnerships. By aligning the interests of all parties around common social outcomes, Social Impact Bonds have the potential to address some of society's most intractable problems (Social Finance, 2009: 4).

SIBs typically address these social problems through preventive interventions, so commissioners can repay investors from the hypothetical cost savings (Edmiston and Nicholls, 2017; Fraser et al., 2018). For instance, in England a disproportionate amount of public spending has historically gone towards expensive healthcare treatments as opposed to preventions (Albertson et al., 2018). As of November 2018, SIBs in the UK and US focused on the following policy areas: workforce development, housing and homelessness, health, child and family welfare, criminal justice, education and early years, and poverty and the environment (Social Finance, 2018). In particular, SIBs in both countries commonly addressed housing and homelessness or health; UK programs frequently addressed workforce development; and US programs often targeted criminal justice (see figure 1).

Overall, SIBs could facilitate innovation in four distinct ways: 1) unlocking an untapped flow of social finance, 2) incentivizing the development of an evidence base for funded interventions, 3) incentivizing experimentation, and 4) changing the role of government so that its focus is on defining and costing social priorities rather than bringing resources and expertise to bear (Social Finance, 2009).

In this article, we will focus on important aspects of SIBs through the lens of social innovation to contribute to the growing body of literature which considers their efficacy. Many previous analyses of SIBs have been descriptive in nature or

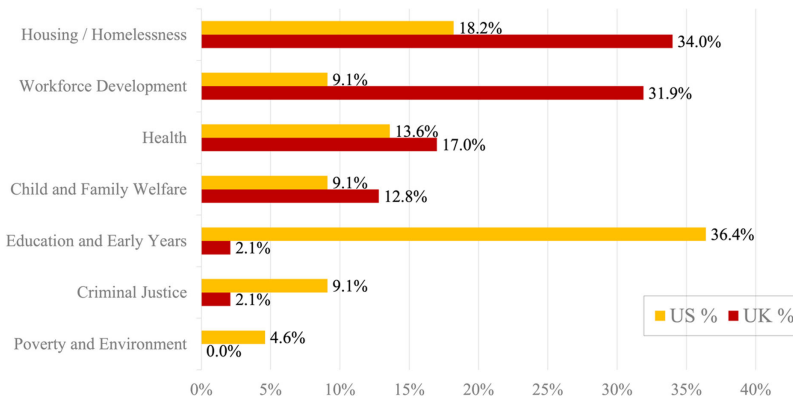


FIGURE 1. Percentage of Programs by Issue Area

have focused on the early lessons of implementation. For example, Ronicle et al. (2014) describe the state of the field in the UK in the first few years of implementation. Gustafsson-Wright et al. (2015) also focus on policy lessons based on the early SIBs that were launched. Albertson et al. (2018) provide an expansive overview of all SIBs in the US and UK at the time of their writing, but do not directly test the emergence of SIBs within theoretical constructs. Finally, Wooldridge et al. (2019) study the challenges and benefits of the UK SIB commissioning process, and the potential for replication and scaling, based on the 68 SIBs launched in the UK as of April 2019. While newer articles have involved more empirical analyses of topics such as the effects of competing stakeholder expectations on SIB ecosystem development (Gruyter et al., 2020; Ormiston et al., 2020; Williams 2020), the SIB field has yet to reach maturity, and there are many areas for further development (Broccardo et al., 2020).

Using data from the Social Finance UK Database for the US and UK, this article first tests the conjecture that SIBs unlocked an ‘untapped flow of social finance’ (as theorized by Social Finance, 2009). Specifically, we examine whether, and to what extent, private finance was included in the financing of SIB interventions. Second, we test whether SIBs function to support the piloting and scaling stages of the social innovation process. Third, we compare the US and UK on these two measures. Overall, the results provide limited evidence that SIBs attracted private capital for the production of social goods and facilitated the pilot testing and scale-up of social interventions. Nonetheless, the findings are novel in empirically testing the claims that SIBs are both innovative financial instruments themselves as well as policy tools which finance social innovation. We conclude by noting that SIBs could be more effective at facilitating social innovation by involving more mainstream private investors, funding more experimental pilot programs, and including more co-productive processes.

Theory

SIBs are a complex new policy tool which presents a range of both opportunities and challenges to stakeholders. Initial efforts in the literature to analyze SIBs argued that they were an example of the type of public sector reforms adopted under New Public Management (NPM) theory (Hood, 1991). NPM suggests that by adopting private sector practices, the public sector can improve the efficiency and effectiveness of service delivery (Chandra et al., 2021). Edmiston and Nicholls (2017) note that NPM could be an appropriate lens through which to examine SIBs, with their explicit involvement of both markets and measurement. However, NPM appears limited in its ability to account comparatively for SIB variations.

For example, in the UK, it seems reasonable to theorize that SIBs are a part of a 'public sector reform' narrative that is an intrinsic part of NPM and a part of a move towards OBC in public services more generally (Fraser et al., 2018; Lagarde et al., 2013; Painter et al., 2018; Warner, 2013). In contrast, many US SIBs originated from nonprofits seeking funding to expand promising programs, closer to a 'financial sector reform' narrative and more aligned with New Public Governance (NPG), social entrepreneurship and corporate social responsibility (Fraser et al., 2018). NPG highlights the potential of collaboration to co-produce more innovative and sustainable service delivery solutions when facing considerable budget constraints and public management fragmentation (Osborne, 2006; Chandra et al., 2021). From this perspective, SIBs could help to grow the social finance sector as well as spur social and policy innovation through new collaborative governance schemes (Ormiston et al., 2020; FitzGerald et al., 2020).

Although most SIB literature to date has drawn on the public administration theories of NPM and (to a lesser extent) NPG, neither appear sufficient to explain the many forms that SIBs take in practice (Albertson et al., 2020). In recent work, Albertson et al. (2020) thus also propose Open Innovation and social innovation as theoretical lenses by which to analyze the emergence of SIBs. While Open Innovation offers many similar theoretical insights into SIBs as social innovation, it has some notable limitations as well. Open Innovation (and Open Innovation 2.0) propose that intersectoral collaboration, with knowledge and resources more widely shared across organizational boundaries, generates more innovative, sustainable, and cost-effective solutions (Chesbrough and Bogers, 2014; Chesbrough, 2006; Felin and Zenger, 2014; Curley, 2016). Achieving these outcomes is done by aligning the interests of a diverse set of actors with rapid experimentation, and prototyping with users and citizens (Porter and Kramer, 2011; Curley, 2016). However, Open Innovation primarily focuses on the role of firms in co-creating economic and (secondarily) social value (Albertson et al., 2020); meanwhile, social innovation highlights the potential for actors, from a variety of sectors, to (primarily) affect social change (Chesbrough and Di Minin, 2014). In this article, we will

therefore advance social innovation theory as a more appropriate framework with which to analyze SIBs.

Social innovation

In contrast to business innovation, social innovation is focused on producing novel solutions to address pressing social needs (Marques et al., 2018; Murray et al., 2010). However, social innovation theory (e.g. Mulgan, 2006; Sabato et al., 2017) is still emerging, and its definition is contested. There are two competing paradigms within social innovation: a technocratic or utilitarian paradigm (e.g. Phills et al., 2008) with ties to neoliberalism and NPM, and a democratic or radical paradigm (e.g. Moulaert et al., 2005) centered on empowerment and social justice (Montgomery, 2016; Ayob et al., 2016; Chan et al., 2021). Indeed, these more radical conceptions of social innovation include some elements of Open Innovation like coproduction (Rosen and Painter, 2019).² Despite these conceptual debates, common among social innovation definitions is the importance of creating new social relationships to generate collaborative ideas and deliver novel solutions which produce positive social impacts (Ayob et al., 2016). These solutions can take the shape of products or processes (Ayob et al., 2016). We will evaluate SIBs from both perspectives.

As a product, social innovations are “new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations” (Murray et al., 2010: 3). Types of social innovation products include social enterprises, social movements, or social finance tools (Phills et al., 2008). We focus here on the latter, and define social finance as capital that generates primarily social and/or environmental returns, as well as potentially financial returns (Nicholls and Emerson, 2015).

Meanwhile, as a process social innovation involves “inventing, securing support for, and implementing novel solutions to social needs and problems” (Barley, 2003, as quoted in Phills et al., 2008: 36). While there is no singular model for the social innovation process, a general framework typically involves problem identification and idea generation; design and prototyping; launching, sustaining, and scaling; and learning and diffusion (Eveleens, 2010; Murray et al., 2010). For example, figure 2 below attempts to capture the definition advanced by Beckman *et al.*, 2020) that social innovation is an iterative, inclusive process that generates more effective and just solutions to solve complex social problems. Notably, these models emphasize a progression between stages, though not necessarily in a linear fashion (Eveleens, 2010).

SIBs as an innovative financial tool

SIB proponents have hailed SIBs as an innovative financial tool with the potential to attract private capital to finance services for previously under-served

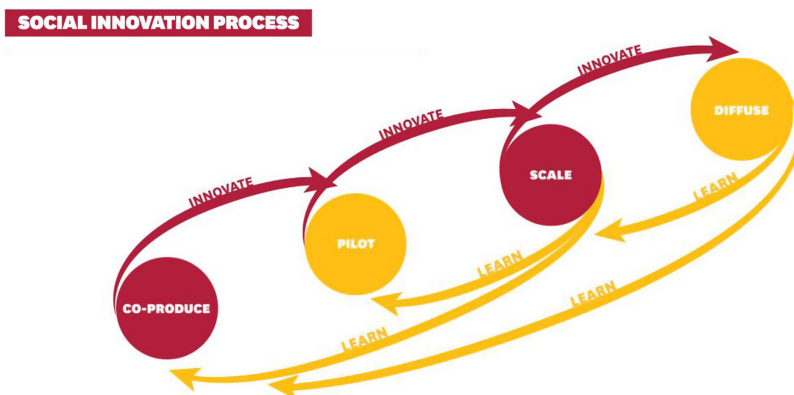


FIGURE 2. The Process of Social Innovation

Note: Figure 2 was developed by Beckman *et al.*, 2020) derived from animation on <https://socialinnovation.usc.edu/>

populations that would otherwise be too risky to deliver (Gruyter *et al.*, 2020; Then and Schmidt 2020). As with impact investing more broadly, SIB stakeholders seek private sector investors who value both social and financial returns; this in turn helps service providers secure larger or more stable funding and governments provide a higher quantity or quality of services (Martin, 2015). Many claims that SIBs can increase access to capital refer to private capital, as the private sector has historically been less willing to accept the below-market returns and higher risks associated with social policy financing (Gruyter *et al.*, 2020; Ormiston *et al.*, 2020). By tying repayment to program success, this front-end investment shifts the financial risk of performance away from service providers and commissioners to investors, encouraging investors to support performance measurement and management (Edmiston and Nicholls, 2017; Martin, 2015).

Therefore, SIBs could theoretically attract an untapped flow of social finance by aligning stakeholder interests around specified social outcomes (Social Finance, 2009). However, Williams (2020: 909) noted that thus far “SIB investments have come primarily from foundations and a small group of “high net worth” individuals” rather than private investors. Questions also remain regarding whether SIB programs still would have been funded through other means or if investors would have invested in other social causes (Gruyter *et al.*, 2020).

SIBs as facilitators of the social innovation process

SIBs could also theoretically contribute to the process of social innovation by supporting one or more of its stages. However, most research to date

indicates the role of service providers and users in co-production are typically absent from SIB narratives (Ormiston et al., 2020; FitzGerald et al., 2020). Similarly, little data is available on the ability for SIBs to catalyze more transformational change given that only a small number of SIBs have reached completion thus far (Gruyter et al., 2020; FitzGerald et al., 2020). The analysis will therefore examine the contribution of SIBs to the piloting and scaling of social interventions, as this was the primary focus of early wave UK and US SIBs.

Pilots are small-scale, localized projects which gather evidence about an intervention through ‘lean experimentation’ (Murray and Ma, 2015: paragraph 2), feedback loops, and practical experience to make improvements before broader implementation (Mulgan, 2006; Ettelt et al., 2015). Scaling (Westley et al., 2014), then involves growing, replicating, adapting, or franchising a program to reach larger target populations or new locations (Mulgan, 2006). Arguments in favor of SIBs frequently claim that by supplying service providers with the up-front risk capital, SIBs can encourage delivery partners to experiment and innovate in service delivery (Edmiston and Nicholls, 2017; Martin, 2015). However, as with many innovation-driven initiatives, what is meant by experimentation and innovation is often vague (Hammond et al., 2021). Most frequently, SIB proponents appear to use innovation to mean implementing proven interventions in new contexts as opposed to piloting new services (FitzGerald et al., 2020; Albertson et al., 2018); in part, because investors often prefer investing in evidence-based programs rather than novel interventions – to reduce the risk of failure (Gruyter et al., 2020).

Research questions

The framework of social innovation can capture many of the features of SIBs, particularly the opportunity for stakeholders in different sectors (public, private, and social) to work collaboratively to address pressing social challenges and deliver social outcomes in new ways. This research will test some of the implications of social innovation theory by analyzing SIBs along both their product and process dimensions. The first two research questions are:

- 1) Are SIBs social finance tools being used to bring in private capital to fund service delivery?
- 2) Are SIBs being used to finance the piloting and scaling stages of the social innovation process?

Additionally, this study will have a particular analytic focus on SIBs in the US and UK – the two leading countries in SIB development. The first SIB was established in the UK in 2010. By 2012, the UK had established 13 more. By 2013, the adoption of SIBs had expanded to other developed countries, including 3 in the US. Since that time, the number of SIBs continued to grow rapidly – as of

November 2018, 121 SIBs had been launched in 24 countries, with the majority in the UK (47 SIBs) and the US (22 SIBs) (Social Finance, 2018). Therefore, the third research question is:

- 3) How do SIBs in the UK and US compare along these two dimensions?

Data and methods

To answer these research questions, we primarily use data from the SIB Database managed by Social Finance, a not-for-profit organization based in the UK (Social Finance, 2018). This Database contains profiles of SIBs compiled using publicly available information, including program location, launch date, target population, and stakeholders. We downloaded all available data as of 20 November 2018, converted monetary values into US dollars (OECD.Stat [n.d.](#)), and classified SIBs located in Wales or England within a UK grouping. The analysis took place in two main stages: an ‘investor classifications’ stage and a ‘program classifications’ stage.

Investor classifications

To determine if SIBs can attract private capital, we examined the proportion of up-front investors who were for-profit. We categorized all UK and US SIB investors into six categories: 1) charities, trusts, and foundations (‘charities’), 2) for-profit limited companies, 3) public bodies, 4) social enterprises, 5) registered social landlords (RSLs) or housing associations, and 6) private individuals. Charities are those organizations which are designated as such by charities or tax law due to their charitable activities. For-profit limited companies are organizations which pursue traditional profit maximization. Public bodies are those entities which are branches of local or national governments. Social enterprises can take a variety of legal structures, including charities, limited companies, and community interest companies. However, their defining characteristic is that they are primarily operating with social purposes. RSLs and landlord associations are a UK-specific category of organizations that often take the form of charities or social enterprises, but generally have more assets and are larger in size. Finally, private individuals are those charitable or philanthropic individuals investing their own money as opposed to investing on behalf of larger organizations.

To sort investors into these six categories, we relied upon self-reported information from the organizations – for instance, as stated on their institutional websites or professional profiles such as LinkedIn and Charity Navigator. If further information was required, we looked at textual descriptions provided in press releases or other organizational documents. Even after careful

analysis, the classification of about 5 programs could be contested, especially those which display characteristics of social enterprises. For example, the Goldman Sachs Urban Investment Group, which invested in the US's Green Infrastructure program, participates in impact investing – an activity typically associated with social enterprises. Given the Group's situation within the broader Goldman Sachs' institution, we labeled it as a for-profit limited company. The conclusions of this study are not altered by how these few programs are classified.

Program classifications

The programs classifications analysis focused on determining at what stage SIBs are funding programs within the social innovation process: pilot testing or scaling. To extract evidence from the Database's text-based profiles to classify programs, we applied content analysis to identify trends and patterns within the text using categories and coding (Stemler, 2000). Using an inductive approach to allow concepts to emerge from the data (Elo and Kyngas, 2007: 113), we began by reviewing the types of data contained within the Database's profile texts and determining which stages of the social innovation process could be coded and categorized.

As expected, this analysis uncovered that, as of yet, little data is available regarding the extent to which SIBs are engaging in co-production or are contributing to systems change. As is further explained in the Discussion section, while many SIB profiles refer to some relevant aspects of co-production – for instance, providing personalized support – no profiles offered specific information about how such approaches were designed or implemented. Similarly, given the recent implementation of SIBs, the analysis found few data within the Database regarding the extent to which SIB programs and strategies are being diffused into broader systems. On the other hand, the content analysis did reveal sufficient evidence to categorize programs as either operating at the pilot or scaled stage.

Pilots versus scaled

Based on the initial content analysis, which categorized SIBs as either pilot or scaled interventions (see appendix 1), the first classification strategy defined programs as pilots or scaled interventions quantitatively based on the size of a program's target population as well as the amount of capital invested in each program. We coded programs as pilots if they had target populations below 300 and if they had a budget ('capital raised') of less than \$2 million. If the Database did not contain any information on these two variables, we did not categorize the program as either pilot or scaled. There were seven such

programs. If the Database was missing information on one of the variables, we classified the program according to the variable that was available.

Feasibility versus effectiveness

For a more robust analysis, and as a validity check, the analysis then utilized a second typology using qualitative criteria such as each program's objectives and methods for evaluating outcomes. Following scholars (e.g. Ettelt et al., 2015) who have begun to suggest ways of classifying different types of social innovation, we created and operationalized our own typology: programs testing feasibility versus programs testing effectiveness. We conceptualized programs testing feasibility to be comparable to pilot programs and programs testing effectiveness to be comparable to scaled interventions. This feasibility/effectiveness analysis also took an inductive approach to content analysis.

We classified programs as testing feasibility if their objectives appeared to align more with learning from implementation processes or demonstrating a proof of concept. These programs were characterized as not being based upon an already proven intervention and not using rigorous evaluation methods. Programs testing feasibility were also more likely to measure programmatic outcomes, reference "learning" or "adapting", and claim they were the "first" program to be implemented in some way. Conversely, we classified as testing effectiveness those programs that aimed to demonstrate the replicability or scalability of an intervention. These programs were more likely to be systematized or professionalized – for instance, by being part of a broader SIB funding initiative or by using rate cards to monetize outcomes. Programs testing effectiveness also typically used more rigorous evaluation methods and built upon proven interventions.

Results

There are some notable differences between SIB program characteristics in the UK and US (see table 1). The range for target population in the UK (14 to 11,000) is much larger than in the US (135 to 4,458); though upon removing one outlier, the maximum in the UK is 4,000.³ UK and US programs also have comparable target population means (1,205.2 and 1,239.8) and medians (416 and 562.5), respectively. US programs have more generous SIB budgets ('capital raised') than UK programs, with a maximum value of \$30 million, compared to \$7.7 million in the UK. The average (\$2.0 million) and median (\$1.5 million) capital raised for UK programs are also much less than the average (\$10.3 million) and median (\$8.7 million) for US programs. Similar patterns emerge in maximum outcome payments. UK program lengths range from 2 to 10 years, with a mean and median of 3.9 and 3.5 years, respectively. US program

TABLE 1. Summary Statistics for Key SIB Program Criteria

	UK	US
Target population		
Min	14	135
Max	11,000	4,458
Mean	1,205.2	1,239.8
Median	416	562.5
Capital raised (\$M)		
Min	\$0.5	\$0.5
Max	\$7.7	\$30.0
Mean	\$2.0	\$10.3
Median	\$1.5	\$8.7
Max outcome payments (\$M)		
Min	\$0.1	\$0.5
Max	\$13.3	\$34.5
Mean	\$4.3	\$11.8
Median	\$3.8	\$8.0
Duration (years)		
Min	2.0	3.0
Max	10.0	30.0
Mean	3.9	6.2
Median	3.5	5.5

durations, meanwhile, have a larger range (3 to 30 years), mean (6.2 years) and median (5.5 years).

In addition to this programmatic data, table 2 provides further descriptive data on the number of program stakeholders for UK and US programs – specifically investors, outcome payors, service providers, and intermediaries.⁴ UK programs tend to have fewer investors overall, with a maximum of 13, average of 2.9, and median of 2; in the US the maximum number of investors is 35, average is 5.8, and median is 4. For outcome funders, the maximum number for UK programs is 12, compared to 3 in the US. Meanwhile, the average and median number of outcome funders for UK programs (2.4 and 2) are slightly larger than for US programs (1.3 and 1), respectively. While the maximum number of service providers for UK programs (16) is higher than for US programs (6), the averages for US programs (1.7) and UK programs (2.1) are much closer, and the median for both is 1. Meanwhile, for intermediaries of UK and US SIBs, the maximums are 1 and 2, the averages are 0.6 and 1, and the medians are both 1, respectively.

Private sector social financing

In the US, a typical SIB has nearly double the number of investors per program compared to the UK; the US also has a much higher percentage of programs with at least one for-profit investor, at around two-thirds of all

TABLE 2. Summary Statistics for SIB Program Stakeholders

	UK	US
Investors		
Min	0	1
Max	13	35
Mean	2.9	5.8
Median	2	4
Outcome Funders		
Min	1	1
Max	12	3
Mean	2.4	1.3
Median	2	1
Service Providers		
Min	1	1
Max	16	6
Mean	2.1	1.7
Median	1	1
Intermediaries		
Min	0	1
Max	1	2
Mean	0.6	1.0
Median	1	1

TABLE 3. Trends in Potential Program Criteria for UK and US Programs

	UK	US
Target population < 300	35.6% (16/45)	25.0% (5/20)
Capital raised < \$2M (>\$0)	69.7% (23/33)	4.8% (1/21)
Max outcome payments < \$2M (>\$0)	21.4% (6/28)	5.3% (1/19)
Duration < 4 years	70.5% (31/44)	14.3% (3/21)
Pilot programs	31.9% (15/47)	9.1% (2/22)
Scaled programs	63.8% (30/47)	90.9% (20/22)
Non-classified programs	4.3% (2/47)	0% (0/22)

Note: Parentheses provide the number of programs that meet each qualification out of the number of programs for which that value is non-blank and non-zero

programs compared to one-sixth in the UK (see figure 3). However, the UK and US have similar percentages of programs with at least one investor classified as a public entity (around 12.5 percent) or a private individual (around 7.5 percent). Conversely, while almost half of the UK programs have at least one charity as an investor, all of the US programs do. In addition, many more UK programs (72 percent) have at least one investor that is a social enterprise than US programs (5 percent). Notably, this social enterprise participation in the UK SIBs was dominated by one major investor – Bridges Fund Management

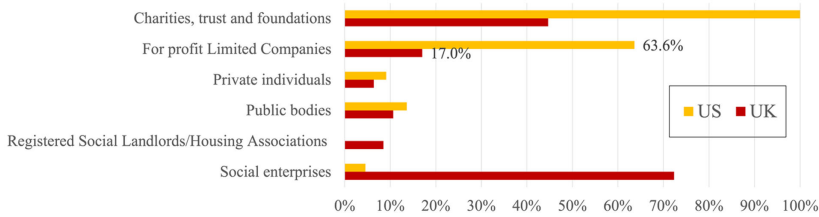


FIGURE 3. Percent of SIBs with at Least One Investor from the Following Sectors

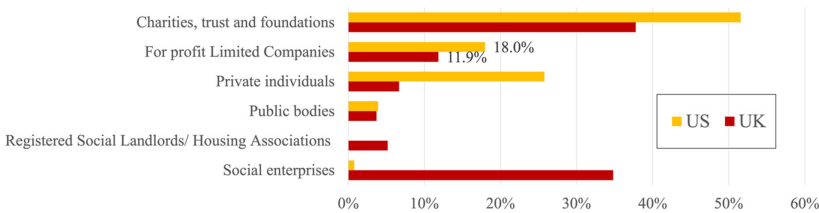


FIGURE 4. Percent of Investors from the Following Sectors Across All SIBs

(“Bridges”) – which invested in nearly half of the UK SIBs. Approximately 9 percent of the UK programs have at least one RSL investor (a UK-specific category).

In examining the total number of investors involved in all UK and US SIBs, the analysis found a comparable percentage of investors that are for-profit in the UK (12 percent) and US (18 percent) (see figure 4). Further, for both UK and US programs around half of all investors were charities and around 4 percent were public bodies. However, 35 percent of UK program investors were social enterprises compared to only 1 percent for US programs. US programs also have a higher percentage of investors who are private individuals (26 percent) than UK programs (7 percent). In addition, about 5 percent of UK program investors are RSLs.

The analysis also uncovered an interesting divergence in the number of repeat investors between the two countries. In the UK, there were 48 unique investors in SIB programs. While each investor contributed to an average of 2.2 SIBs, there were 13 investors (27 percent of all UK investors) who contributed to more than one SIB. Notably, Bridges invested in 21 SIBs (44.7 percent of all UK SIBs) – a considerable number, as the next highest number of SIBs to which one investor contributed was 8 (for Big Issue Invest). Meanwhile, in the US, there were 54 unique investors. Each investor contributed to an average of 1.6 programs, and 14 investors (26 percent of all US investors) contributed to more than one SIB. In the US, the investor who contributed to the most SIBs was the Reinvestment Fund, at 6 SIBs (25 percent of all US SIBs). See appendix 2 for tables listing each unique investor and the number of SIBs in which they invested for both UK and US programs.

Overall, the data provide mixed evidence of whether SIBs are behaving as innovative financing tools by utilizing private capital to finance social programs, with considerable differences between the two countries. In particular, the data suggest that participation in SIBs from at least one private actor is happening at much higher rates in the US than the UK, suggesting that US SIBs have been more effective at achieving the goal for social finance instruments of bringing in private capital for social purposes. Conversely, the UK has much higher rates of participation from social enterprises. While attracting social enterprise capital could also be seen as an aim of social finance tools, given that historically social funding has come from charitable trusts and foundations (Albertson et al., 2018), it falls short of the objective of attracting more mainstream for-profit investors.

In addition, the data reveal further divergence in how UK and US SIBs utilize other capital sources – for instance, from charities or private individuals – and in how they are able to encourage repeat investments. However, the data do not provide information about the share of total investment in each SIB that is coming from these groups relative to other sectors. If the relative percentage is high, this would provide even stronger support for the claim that SIBs are innovative in their ability to bring ‘new’ types of funding to service provision.

Piloting and scaling social innovation

Within the social innovation process, the analysis focused specifically on classifying programs according to the piloting or scaling stages. It then utilized a secondary approach which equated piloting with testing feasibility and scaling with testing effectiveness. When comparing the piloting/feasibility and scaling/effectiveness classifications, we find that these two typologies matched 78 percent of the time. Further, these two classifications were very similar for the UK programs, with 32 percent of programs classified as pilots and as testing feasibility, and 64 percent of programs classified as scaled interventions and 68 percent as testing effectiveness. However, there were larger differences between the classifications for the US programs using the two typologies. While only 9 percent of US programs were classified as pilots, 18 percent were classified as testing feasibility. Additionally, while 91 percent of programs were classified as scaled interventions, 82 percent were classified as testing effectiveness. The results from the first classification process are summarized in figure 5, while the results from the second classification process are provided in figure 6.

In sum, the evidence of how SIB use fits within the process of social innovation suggests variation in how SIBs are used to fund the stages of piloting and scaling between the UK and US, as well as in how SIBs are used within each country. Nonetheless, we find that both UK and US SIBs tend to fund more programs operating at the scaled intervention level and testing effectiveness than programs operating at the pilot level and testing feasibility. We also find that

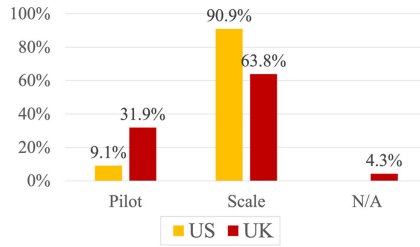


FIGURE 5. Pilot vs Scale

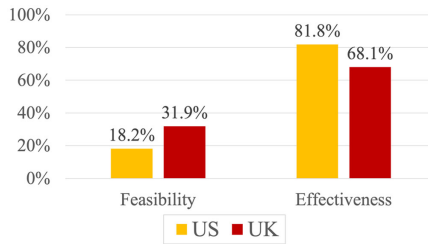


FIGURE 6. Feasibility vs Effectiveness

under both approaches the US consistently funds even fewer programs operating at the pilot stage and testing feasibility than the UK. As such, the evidence suggests that early UK and US SIBs were only supporting the social innovation process in limited ways.

Discussion

This study provides important evidence on the nature of SIBs as viewed through a social innovation framework. First, as a tool that can bring in private capital for the production of public goods, we found that a little over 60 percent of US SIBs included a private sector funder, while a little over 70 percent of UK SIBs included a social enterprise investor. As such, it appears that there is only moderate evidence for SIBs to be considered an innovative financial mechanism, with more support for US SIBs. Moreover, it remains to be seen if a broad cross section of private and social sector investors will use SIBs to increase their contribution to the production of social goods, as the diversity of investors in the US is not replicated in the UK, where one investor (Bridges) invested in almost half of the SIBs.

We also found that the use of SIBs in the UK is much more likely to be driven by public sector investment than philanthropic investment as in the US. Out of the 47 UK SIBs, 24 were purportedly launched as part of a broader SIB funding agenda at the UK national government level. For example, “The UK

Department for Work and Pensions (DWP) commissioned ten Social Impact Bonds under the innovation fund, to pilot social investment and new delivery models” (Social Finance, 2018). Conversely, none of the US SIB profiles mention such coordinated funding initiatives. However, in prior research, Fry (2019: 788) found that “federal support of PFS [pay-for-success] was a major catalyst for PFS diffusion” in the US – for instance, through the Social Innovation Fund and the 2018 Social Impact Partnerships to Pay for Results Act. Nonetheless, our findings conform with earlier research that the UK is taking more of a centralized approach to implementing SIBs than the US (Heinrich and Kabourek, 2019), with the government providing higher amounts of support and subsidies (Williams, 2020).

Second, this study also tested how SIBs can accelerate the process of social innovation through piloting and scaling. We found that both the UK and the US are creating fewer SIBs at the earlier stage of the process (i.e. during the pilot phase), where more policy experimentation is likely to happen. Instead, they appear to be funding relatively more programs that scale up previously proven interventions. In contrast to the UK where about a third of SIBs are small-scale pilots, in the US, testing for the efficacy of promising programs at scale is the dominant feature of the US SIB market. Thus, we also found minimal evidence that SIBs support the entirety of the social innovation process, as this support primarily took place during the scaling stage.

Additionally, SIBs in the US are generally employing more rigorous evaluation methods than in the UK. In examining the language contained within the SIB profiles, only nine (19 percent) UK SIBs and seven (32 percent) US SIBs mentioned conducting an RCT or comparing outcomes with a comparison group, control group, or historical baseline. Notably, the only three programs which specifically mentioned the use of an RCT were from the US. In part, this is due to the scale of the SIBs in the US, but many of the larger SIBs in the UK also do not employ rigorous evaluation methodologies. Therefore, increasing the use of rigorous evaluations in both countries, but especially the UK, is an area of potential emphasis in the future (Albertson et al., 2018). Additionally, in the US, nine out of the 22 SIBs state that they are the “first” to implement a SIB within some unique context, suggesting that the US is still piloting the SIB tool as a social innovation itself. Thus, it is likely that we will see further developments in how the US uses SIBs in the future.

Third, as highlighted throughout our analysis, we found notable differences between the use of SIBs in the UK and the US; overall, the analysis showed that early UK SIBs tend to be much smaller than US SIBs, and tend to have more social investors compared to private investors in the US, conforming with earlier findings (Painter et al., 2018; Gustafsson-Wright et al., 2015). These trends reflect the differing impetus behind SIB adoption in the two countries. As explained by Albertson et al. (2018), the primary driver of SIBs in the

UK was public sector demand for the subcontracting of existing services; UK SIBs intended to encourage new entrants into service delivery in order to increase competition and reduce costs, partly requiring experimentation (Albertson et al., 2018). Meanwhile, the primary driver of SIBs in the US was private sector supply of innovative social services, with US SIBs responding to the “large, and unmet, demand for funding sources that can support transformation in social service delivery”, especially in scaling previously proven interventions (Albertson et al., 2018: 104).

Fourth, as previously mentioned, there was very limited evidence in the database to suggest that SIBs also work to include co-productive elements or have an explicit orientation for diffusion. While language describing the SIBs did not mention co-production or co-creation explicitly, some did include language suggesting the personalization of services. For example, 31 SIB profiles mentioned providing one-on-one, holistic, personalized, bespoke, tailored, intensive and/or wrap-around support to respond to individual needs. The vast majority of these (25) were in the UK, including six funded through the Innovation Fund and five funded through the Fair Chance Fund. However, the Database language was vague and did not go further to discuss specific co-production strategies. The most information that a profile offered on potentially co-productive strategies was the UK’s end of life care program launched in September 2018, which stated that it collected “feedback from carers and families on their experience of the service.”

Similarly, only seven profiles of UK SIBs financed through the Fair Chance Fund used explicit diffusion-related language, stating that their “findings will inform policy direction.” Additionally, a couple of larger-scale SIBs within the Database hinted at possible diffusion into wider systems. The Green Infrastructure program in Washington D.C. has the longest duration (30 years) of all programs as well as very large values of capital raised (\$25 million) and maximum outcome payments (\$28.3 million). It is the only US SIB to address poverty and the environment, and promotes wider systems change by reducing pollution to improve water quality, as well as by reinvesting all SIB proceeds into additional green infrastructure projects.⁵

Finally, it is important to note that by focusing on the piloting and scaling stages as well as on the role of private sector funding within SIBs, our analysis aligns more with the technocratic or utilitarian paradigm of social innovation, omitting the more democratic or radically-oriented elements such as co-production (Montgomery, 2016; Ayob et al., 2016). Further, although this paper found relatively little evidence that early-wave SIBs in the US and UK displayed socially innovative characteristics, findings might also suggest “a flaw in the design of SIBs” (Albertson et al., 2020: 7) which social innovation theory (including the radical paradigm) could help address by guiding the continued evolution of SIBs.

Conclusion

In analyzing SIBs through the theoretical lens of social innovation, this article has found limited evidence that SIBs are either an innovation in social finance or a tool which supports the piloting and scaling stages of the social innovation process. The data revealed that around two-thirds of US SIBs, but only one-sixth of UK SIBs, received up-front funding from private investors and that the majority of SIBs, particularly within the US, fund scaled programs which aim to test the effectiveness of social interventions. The analysis also identified several notable differences between the US and UK in their use of SIBs. For instance, on average, the US has much higher program budgets and potential outcome payments, longer program durations, and nearly twice as many investors per SIB. In addition, while both countries are not systematically utilizing rigorous evaluation methods, the US has been incorporating more RCTs and control group/baseline comparisons than the UK. The analysis further uncovered interesting trends within the SIB ecosystems within the two countries. Within the UK, the central government has given considerable funding and support to SIBs, and Bridges has provided up-front capital to nearly half of all programs. Meanwhile, in the US, stakeholders seem to be continuing to test SIBs by applying them in novel ways.

This study also suggests fruitful opportunities for further research. First, studies could more closely explore the source of investment capital from different sectors to determine the amount of private funding SIBs have been able to leverage in comparison to other sources (e.g. social, public and charitable investors). Research on SIB investment could also examine in more depth the types of financial returns, capital protections, and levels of investment available to investors. If considerable financial guarantees are necessary to attract more mainstream investors, this could limit the amount of risk transfer from the public to the private sector (FitzGerald et al., 2020). As this analysis focused on US and UK SIBs as the leaders in SIB implementation, it would also be highly valuable for researchers to compare SIB use around the globe, including extending the analysis to Development Impact Bonds.

Additionally, given that this analysis examined the role of SIBs during the piloting and scaling stages of the social innovation process, future studies could focus specifically on the co-production and diffusion stages, especially as growing numbers of SIB contracts will have officially ended. Although previous work (e.g. Albertson et al., 2018 and Ronicle et al., 2014) suggests that service users and their communities generally have little or no role in the development of SIBs, emerging research has identified a number of promising ways in which SIBs have begun to incorporate co-creation – for instance, Fox et al. (2021) found strengths-based working and co-creation crucial to facilitating early-stage innovation in a case study of four UK SIBs. Additional research could therefore continue to explore how SIB design can better incorporate co-production and

diffusion-oriented strategies – for instance, as part of the push for SIBs 2.0 that Baines et al. (2021: 7) argue should “put people at the heart of service design and delivery; create the conditions for learning; and encourage wider systems change.”

Notes

- 1 In the US, assessment is more likely done through an independent evaluation and in the UK more likely based on a rigorous audit of agreed outcome measures.
- 2 It is worth noting as Rosen and Painter (2019) discuss that the term co-production can have different meanings. Here we use the term co-production as Rosen and Painter (2019) describe and not as a government led process that does not include the customer and service provider in co-creation.
- 3 During our initial data cleaning, we also removed one US outlier for target population of 160,000.
- 4 Due to imprecise wording from the SIB Database, we estimated the number of stakeholders in at least one of the four stakeholder categories for 16 programs. For example, one funder listed in the UK's Children Social Care program launched in 2017 was simply “schools.” Without knowing the exact number of schools, we estimated it at the lower bound of two. Therefore, some uncertainty remains over the true number of stakeholders involved for some SIBs.
- 5 Outside of the US and the UK, there was anecdotal evidence that Belgium's Duo for a Job SIB did experience rapid diffusion of innovative practices, in part, “because of deep stakeholder involvement” (Painter et al., 2018: paragraph 17).

References

- Albertson, K., Bailey, K., Fox, C., LaBarbera, J., O'Leary, C. and Painter, G. (2018), *Payment by Results and Social Impact Bonds: Outcome-based payment systems in the UK and US*, Bristol: Policy Press.
- Albertson, K., Fox, C., O'Leary, C. and Painter, G. (2020), ‘Towards a Theoretical Framework for Social Impact Bonds’, *Nonprofit Policy Forum*, 11(2).
- Ayob, N., Teasdale, S. and Fagan, K. (2016), ‘How social innovation ‘came to be’: Tracing the evolution of a contested concept’, *Journal of Social Policy*, 45(4), 635–653.
- Baines, S., Fox, C. and Painter, G. (2021), ‘Social Impact Bonds 2.0: The First Ten Years, The Next Ten Years’, <https://socialinnovation.usc.edu/wp-content/uploads/2021/05/Editorial-Next-10-years.pdf> [accessed 12/1/2021].
- Barley, S. (2003), ‘Editor's Note’, *Stanford Social Innovation Review*, Spring, 1–2.
- Beckman, C., Painter, G. and Rosen, J. (2020), ‘The Social Innovation Process’, <https://socialinnovation.usc.edu/research/social-innovation/>
- Broccardo, E., Mazzuca, M. and Frigotto, M. L. (2020), ‘Social impact bonds: The evolution of research and a review of the academic literature’, *Corporate Social-Responsibility and Environmental Management*, 27(3), 1316–1332.
- Cabinet Office (2011), ‘*Growing the Social Investment Market: A vision and strategy*’, London: Cabinet Office, <https://www.gov.uk/government/publications/growing-the-social-investment-market-a-vision-and-strategy> [accessed 09/09/2019].
- Chan, C. H., Chui, C. H.-K. and Chandra, Y. (2021), ‘The role of social innovation policy in social service sector reform: Evidence from Hong Kong’, *Journal of Social Policy*, 1–19.
- Chandra, Y., Shang, L. and Roy, M. J. (2021), ‘Understanding Healthcare Social Enterprises: A New Public Governance Perspective’, *Journal of Social Policy*, 1–22.

- Chesbrough, H. W. (2006), *Open Innovation: The new imperative for creating and profiting from technology*, Watertown, Mass: Harvard Business Review Press.
- Chesbrough, H. W. and Bogers, M. (2014), 'Explicating Open Innovation: Clarifying an emerging paradigm for understanding innovation', in Chesbrough, H., Vanhaverbeke, W. and West, J. (eds.), *New Frontiers in Open Innovation*. Oxford: Oxford University Press, pp. 3–28.
- Chesbrough, H. W. and Di Minin, A. (2014). Open social innovation. *New frontiers in open innovation*, 16, 301–315.
- Curley, M. (2016), 'Twelve principles for open innovation 2.0', *Nature*, 533(7603), 314–316.
- Edmiston, D. and Nicholls, A. (2017), 'Social Impact Bonds: The role of private capital in outcome-based commissioning', *Journal of Social Policy*, 47(1), 57–76.
- Elo, S. and Kyngas, H. (2007), 'The qualitative analysis process', *Journal of Advanced Nursing*, 62(1), 107–115.
- Ettelt, S., Mays, N. and Allen, P. (2015), 'The Multiple Purposes of Policy Piloting and Their Consequences: Three Examples from National Health and Social Care Policy in England', *Journal of Social Policy*, 44(2), 319–337.
- Eveleens, C. (2010), 'Innovation management; a literature review of innovation process models and their implications', *Science*, 800, 900–916.
- Felin, T. and Zenger, T. R. (2014), 'Closed or open innovation? Problem solving and the governance choice', *Research policy*, 43(5), 914–925.
- FitzGerald, C., Fraser, A. and Kimmitt, J. (2020), 'Tackling the Big Questions in Social Impact Bond Research through Comparative Approaches', *Journal of Comparative Policy Analysis*, 22(2), 85–99.
- Fox, C., Olson, H. and Armitage, H. (2021), 'Social Impact Bonds 2.0? Findings from a Study of Four UK SIBs', <https://socialinnovation.usc.edu/wp-content/uploads/2021/05/Fox-et-al-2020-Finding-from-a-study-of-4-UK-SIBs-1.pdf> [accessed 06/14/2021].
- Fraser, A., Tan, S., Lagarde, M. and Mays, N. (2018), 'Narratives of Promise, Narratives of Caution: A review of the literature on Social Impact Bonds', *Social Policy and Administration*, 52(1), 4–28.
- Fry, V. C. (2019), 'Pay for Success: Diffusion of Policy Innovation for Social and Economic Stability', *Public Administration Review*, 79(5), 784–790.
- Gruyter, E. de, Petrie, D., Black, N. and Gharghori, P. (2020), 'Attracting investors for public health programmes with Social Impact Bonds', *Public Money & Management*, 40(3), 225–236.
- Gustafsson-Wright, E., Gardiner, S. and Putcha, V. (2015), '*The potential and limitations of impact bonds: Lessons from the first five years of experience worldwide*', Washington, D.C.: Brookings, <https://www.brookings.edu/wp-content/uploads/2015/07/impact-bondsweb.pdf> [accessed 06/14/2021].
- Hammond, J., Bailey, S., Gore, O., Checkland, K., Darley, S., McDonald, R. and Blakeman, T. (2021), 'The Problem of Success and Failure in Public-private Innovation Partnerships', *Journal of Social Policy*, 1–21.
- Heinrich, C. J. and Kabourek, S. E. (2019), 'Pay-for-Success Development in the United States: Feasible or Failing to Launch?', *Public Administration Review*, 79(6), 867–879.
- Hood, C. (1991), 'A Public Management for all Seasons?', *Public administration*, 69(1), 3–19.
- Lagarde, M., Wright, M., Nossiter, J. and Mays, N. (2013), '*Challenges of Payment-for Performance in Health Care and Other Public Services – Design, Implementation and Evaluation*', London: PIRU Publications, <http://piru.lshtm.ac.uk/assets/files/Challenges%20of%20payment%20for%20performance%20in%20healthcare%20and%20other%20public%20services%20final.pdf> [accessed 09/09/2019].
- Marques, P., Morgan, K. and Richardson, R. (2018), 'Social Innovation in Question: The theoretical and practical implications of a contested concept', *Environment and Planning C: Politics and Space*, 36(3), 496–512.
- Martin, M. (2015), 'Building impact businesses through hybrid financing', *Entrepreneurship Research Journal*, 5(2), 109–126.

- Montgomery, T. (2016), 'Are social innovation paradigms incommensurable?', *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 27(4), 1979–2000.
- Moulaert, F., Martinelli, F., Swyngedouw, E. and Gonzalez, S. (2005), 'Towards Alternative Model(s) of Local Innovation', *Urban Studies (Edinburgh, Scotland)*, 42(11), 1969–1990.
- Mulgan, G. (2006), 'The Process of Social Innovation', *Innovations: Technology, Governance, Globalization*, 1(2), 145–162.
- Mulgan, G., Reeder, N., Aylott, M. and Bo'sher, L. (2011), 'Social Impact Investment: The challenge and opportunity of Social Impact Bonds', London: The Young Foundation, <https://youngfoundation.org/wp-content/uploads/2012/10/Social-Impact-Investment-The-opportunity-and-challenge-of-Social-Impact-Bonds-March-2011.pdf> [accessed 16/07/2019].
- Murray, P. and Ma, S. (2015), 'The Promise of Lean Experimentation', *Stanford Social Innovations Review*, https://ssir.org/articles/entry/the_promise_of_lean_experimentation [accessed 10/09/2019].
- Murray, R., Caulier-Grice, J. and Mulgan, G. (2010), *The Open Book of Social Innovation*, London: National Endowment for Science, Technology and the Art.
- Nicholls, A. and Emerson, J. (2015), 'Social Finance: Capitalizing Social Impact', in Nicholls, A., Paton, R. and Emerson, J. (eds.), *Social Finance* (First edition.). Oxford: Oxford University Press, pp. 1–46.
- OECD.Stat (n.d.), 'PPPs and Exchange Rates', Organisation for Economic Co-Operation and Development, <https://stats.oecd.org/index.aspx?r=989045#> [accessed 23/02/2019].
- Ormiston, J., Moran, M., Castellás, E. I. and Tomkinson, E. (2020), 'Everybody wins? A discourse analysis of competing stakeholder expectations in Social Impact Bonds', *Public Money & Management*, 40(3), 237–246.
- Osborne, S. P. (2006), 'The New Public Governance?', *Public Management Review*, 8(3), 377–387.
- Painter, G., Albertson, K., Fox, C. and O'Leary, C. (2018), 'Social Impact Bonds: More than one approach', *Stanford Social Innovation Review*, <https://ssir.org/articles/entry/social-impact-bonds-more-than-one-approach> [accessed 09/09/2019].
- Phills, J. A. J., Deiglmeier, K. and Miller, D. T. (2008), 'Rediscovering Social Innovation', *Stanford Social Innovation Review* https://ssir.org/articles/entry/rediscovering_social_innovation [accessed 09/09/2019].
- Porter, M. and Kramer, M. R. (2011), 'Creating shared value', *Harvard Business Review*, 89(1/2), 62–77.
- Ronicle, J., Stanworth, N., Hickman, E. and Fox, T. (2014), 'Social Impact Bonds: The state of play', London: Big Lottery Fund, <https://golab.bsg.ox.ac.uk/knowledge-bank/resources/social-impact-bonds-state-play/> [accessed 09/09/2019].
- Rosen, J. and Painter, G. (2019), 'From Citizen Control to Co-Production: Moving beyond a linear conception of citizen participation', *Journal of the American Planning Association*, 85(3), 335–347.
- Sabato, S., Vanhercke, B. and Verschraegen, G. (2017), 'Connecting Entrepreneurship with Policy Experimentation? The EU framework for social innovation', *Innovation: The European Journal of Social Science Research*, 30(2), 147–167.
- Social Finance (2009), 'Social Impact Bonds: Rethinking finance for social outcomes', London: Social Finance, <https://www.slideshare.net/nffgroups/social-impact-bonds-rethinking-finance-for-social-outcomes> [accessed 09/09/2019].
- Social Finance (2018), Impact Bond Global Database, Social Finance, <https://sibdatabase.socialfinance.org.uk/> [accessed 01/03/2019].
- Stemler, S. (2000), 'An overview of content analysis', *Practical Assessment, Research, and Evaluation*, 7(1), 17.
- Then, V. and Schmidt, T. (2020), 'Debate: Comparing the progress of social impact investment in welfare states-a problem of supply or demand?', *Public Money & Management*, 40(3), 192–194.

- Warner, M. E. (2013), 'Private finance for Public Goods: Social Impact Bonds', *Journal of Economic Policy Reform*, 16(4), 303–319.
- Westley, F., Antadze, N., Riddell, D. J., Robinson, K. and Geobey, S. (2014), 'Five Configurations for Scaling Up Social Innovation: Case Examples of Nonprofit Organizations From Canada', *The Journal of Applied Behavioral Science*, 50(3), 234–260.
- Williams, J. W. (2020), 'Surveying the SIB economy: Social impact bonds, "local" challenges, and shifting markets in urban social problems', *Journal of Urban Affairs*, 42(6), 907–919.
- Wooldridge, R., Stanworth, N. and Ronicle, J. (2019), 'A Study into the Challenges and Benefits of the Social Impact Bond Commissioning Process in the UK - Final Report', Birmingham: Ecorys. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/844190/A_study_into_the_challenges_and_benefits_of_the_SIB_commissioning_process_Final_Report.pdf [accessed 01/10/2020].

Appendix 1. Further background on pilot versus scaled classification process

We initially used content analysis to classify the data from the SIB Database profiles according to the type of language used to describe each program. We hand-labeled a program as a "pilot" when the following type of language was used: "pilot," "test," "show whether or not the . . . method is successful," "initially support," "provide additional academic support," and "identify the broader impact and benefits of the program." On the other hand, we labeled a program as "scaled" when the following kinds of phrases were used: "scale," "scale-up," "expand," "established model," "existing suite of programs," and "as a result of learnings from a pilot program."

Utilizing a sample of 27 of these programs, each classified by their description, we next looked for patterns in target population size, size of capital raised, size of maximum outcome payments, and program duration. In general, we observed that most of the pilot-by-description programs had target populations below 300, had both capital raised and maximum outcome payments below \$2 million, and had durations of less than 4 years. Summary statistics for these variable thresholds for both the UK and US programs are provided in table 3 below.

However, based on data availability, we ultimately decided to use the target population and capital raised criteria for our more systematic classification. Overall, this systematic classification (by size) conformed well with our prior manual classifications (based on descriptors). However, there were some notable instances in which this was not the case. For example, there were two scaled-by-description programs that had target populations of only 180 and 200, and there were also two pilot-by-description programs with target populations of 1,300 and 2,250.

More specifically, the scaled-by-description program with a target population of 180 was the Youth Unemployment program launched in Portugal in 2017 and had only \$0.79 million in capital raised. Thus, despite the fact that it was described as a "scale-up of Portugal's first Social Impact Bond," we doubted whether this really should be referred to as a scaled program, and thus felt that our coding of the program as pilot (by size) was reasonable. Similarly, the pilot-by-description program with a target population of 2,250 was the Diabetes Prevention program launched in Israel in 2016 and had raised \$5.5 million in capital. Although its Database profile stated that the program was designed to "test a preventative Diabetes model, and if successful . . . extend diabetes prevention measures to many more people," we questioned our initial manual label of this program as a pilot, and thus felt that our coding of the program as scaled (by size) was reasonable. In addition, there was one instance in which a pilot-by-descriptor program could not be classified by size because of missing data for both target population and capital raised.

Appendix 2. Unique investors for UK and US SIBs

UK Unique Investors	# of SIBs
Bridges Fund Management (AKA Bridges Social Impact Bond Fund and Bridges Ventures)	21
Big Issue Invest	8
Big Society Capital	7
CAF Venturesome	6
Esmée Fairbairn Foundation	6
Barrow Cadbury Trust	5
The Key Fund	5
Care and Wellbeing Fund	3
Impetus-PEF	3
Charities Aid Foundation	2
Department of Health Social Enterprise Investment Fund	2
Orp Foundation	2
Tudor Trust	2
3SC	1
Advance Personnel Management (APM) UK Ltd	1
Age UK	1
Berkshire Community Foundation	1
Big Lottery Fund	1
Bracknell Forest Homes	1
Buckinghamshire County Council	1
Elton John Aids Foundation	1
Friends Provident Foundation	1
Helena Partnerships	1
J Paul Getty Charitable Trust	1
Johansson Family Foundation	1
Knowsely Housing Trust	1
LankellyChase Foundation	1
Liverpool Mutual Homes	1
Montpelier Foundation	1
Nesta Impact Investments	1
Northstar Ventures	1
Nottingham City Council	1
Panaphur Charitable Trust	1
Paul Hamlyn Foundation	1
Prevista	1
Resonance Bristol SITR fund	1
Rockefeller Foundation	1
Sainsbury's Charitable Trust	1
Social and Sustainable Capital (SASC)	1
St. Mungo's Broadway	1
Stratford Development Partnerships	1
Thames Reach	1
The Henry Smith Charity	1
The King Badouin Foundation	1
The Monument Trust	1
The Social Venture Fund	1
Triodos	1
Wirral Partnership Homes	1
Total number of SIBs	107
Total number of unique investors	48
Average number of SIBs per investor	2.2
Number of unique investors invested in >1 SIB	13

US Unique Investors	# of SIBs
Reinvestment Fund	6
Goldman Sachs (including Urban Investment Group)	5
Living Cities (including Blended Catalyst Fund)	5
Northern Trust	5
Laura and John Arnold Foundation	4
Nonprofit Finance Fund	4
QBE Insurance Group Limited	3
Ally Bank	2
BNP Paribas	2
Corporation for Supportive Housing (CSH)	2
James Lee Sorenson Family Foundation	2
Sorenson Impact Foundation	2
The J.B. and M.K. Pritzker Family Foundation	2
The Robin Hood Foundation	2
Bloomberg Philanthropies	1
Blue Shield of California Foundation	1
BlueCross BlueShield of South Carolina Foundation	1
Calvert Foundation	1
Combined Jewish Philanthropies' Donor Advised Funds	1
DCF Social Impact Fund	1
Deutsche Bank	1
Doris Duke Charitable Foundation	1
Federal Human Services Administration	1
George Kaiser Family Foundation	1
Google.org	1
Greenville County SC First Steps	1
Maycomb Capital Community Outcomes Fund	1
Medicaid	1
Michigan Health Endowment Fund	1
New Profit	1
Prudential Financial	1
Santander Bank N.A	1
Sisters of Charity Foundation of Cleveland	1
Spectrum Health	1
The Ben and Lucy Ana Walton Fund of the Walton Family Foundation	1
The Boeing Foundation	1
The Boston Foundation	1
The California Endowment	1
The Cleveland Foundation	1
The Colorado Health Foundation	1
The Conrad N. Hilton Foundation	1
The Dakota Foundation	1
The Denver Foundation	1
The Duke Endowment	1
The George Gund Foundation	1
The Health Trust	1
The James Irvine Foundation	1
The Kresge Foundation	1
the Piton Foundation	1
The Rockefeller Foundation	1
The Sobrato Family Foundation	1
The Whitney Museum of American Art	1
United Way of Massachusetts Bay and Merrimack Valley	1

Continued

US Unique Investors	# of SIBs
UnitedHealthcare	1
W.K. Kellogg Foundation	1
Total number of SIBs	87
Total number of unique investors	55
Average number of SIBs per investor	1.6
Number of unique investors invested in >1 SIB	14