CHAPTER 2

Social Investment: The New Zealand Case

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INTRODUCTION

A social investment approach to welfare may be defined in a number of ways, but at its most basic, it means the allocation of resources to programs or interventions to promote individual capabilities, which, in turn, are expected to benefit families and communities more broadly (Midgley et al., 2017). While social investment approaches to welfare based on big data analytics are a relatively recent development, the ideas underlying social investment have a long history, albeit with considerable variation in how they are conceived and implemented (Nolan, 2013; Midgley et al., 2017; Staines et al., 2020). The underlying assumption of a social investment approach to welfare is that early interventions to improve outcomes at one stage of the life course, such as through educational attainment or employment, will result in broader flow-on improvements later in the life course. Furthermore, improvements for any one individual may benefit those around them, such as children, families and communities, including potentially, across generations, through improved family resources and dynamics (Gluckman, 2017). The elements of a social investment approach focusing on the development of human capabilities (Sen, 2003), the importance of early interventions (Heckman & Cunha, 2010) and life course trajectories (Mayer, 2004; Elder, 1994) have a long history in the social sciences. What is new is the increasing availability and use of large-scale, multidimensional, longitudinal, linked datasets, often created by governments through the delivery of services and payments, along with recent advances in data science methods and techniques, that enable policymakers to potentially track and assess the outcomes of social interventions.

Some argue that social investment approaches based on big data should be treated with extreme caution, given the possibilities for welfare surveillance, threats to privacy and labelling and stigmatising vulnerable groups (Staines et al., 2020). Others offer a more moderate view, acknowledging the opportunities, limitations and challenges of social investment approaches based on big data analytics (Gluckman, 2017; Boston & Gill, 2017). Gluckman, for example, identifies challenges around the social licence and transparency of data, the need for good governance and data management, clarity of system architecture and the importance of high-quality data. These themes resonate closely with comments made by our interview participants, as will be seen below.

We draw on this background literature and information collected from analyses of policy documents and interviews with key informants to provide an overview of the New Zealand social investment approach to welfare, introduced in 2011-12 by the National Party. A key element of the social investment approach in New Zealand is actuarial analyses of integrated government administrative data to identify social groups at risk of long-term welfare dependence and to forecast their future liability. The Integrated Data Infrastructure (IDI) developed by Statistics New Zealand and comprising whole-of-population administrative data from several government departments linked to the census and several other surveys is a core component of the New Zealand approach, and will be discussed in several sections of the chapter.

We commence by briefly outlining the development and implementation of the social investment approach in the New Zealand context. We then present our case study method and describe our data collection and analytical procedures. We present our findings in relation to several broad themes emerging from our analyses. These include an outline of the variations across sectors in understanding what social investment means, an overview of key concerns raised by stakeholders about the social investment implementation process, and issues about data competency, infrastructure and social licence. We conclude with a discussion of lessons learned and implications for Australian social policy which overall point to the critical importance of governance arrangements, engagement with communities, and some of the limits of administrative data for enabling social investment to address social disadvantage.

BACKGROUND: HISTORY AND DEVELOPMENT

The New Zealand social investment approach developed during a time of wider social welfare reforms to the New Zealand welfare benefit system, including rethinking spending priorities and increased focus on improving protection systems for children (Destremau & Wilson, 2017). Table 2.1 provides a timeline of some of the key milestone dates. Factors identified as leading to the development of the approach in New Zealand included efforts to develop tighter fiscal policies to manage spending and reduce government costs, increased emphasis on more coordinated and client-focused social services and cross-agency collaboration, concerns about increased levels of long-term and intergenerational welfare dependency, and concerns about high rates of child abuse and neglect (Boston & Gill, 2017). Importantly, given the theme of the current volume, increased recognition of the value, availability and use of administrative data and the use of data analytics to predict welfare risk and evaluate the outcomes of policy changes also contributed to the new policy approach (Boston & Gill, 2017).

Boston & Gill (2017) divide the development of the New Zealand social investment approach into two stages or models. Model 1 emerged during 2011-12, with a primary focus on improving the welfare system and reducing the long-term fiscal liability of working-age beneficiaries. Under this model, reduced fiscal liability of the benefit system was considered a proxy for overall improvement in societal outcomes, with the assumption that an individual exiting from the welfare benefits system was entering the labour market (Boston & Gill, 2017). Actuarial analysis was emphasised and implemented as a relevant metric to measure outcomes. Actuarial analysis involves calculation of long-term projections of costs and liabilities, estimating the "risk" that an individual will make a claim or use a benefit.

Table 2.1. Timeline of the development and implementation of the New Zealand social investment approach

Year	Development
Social Investment—improving welfare and reducing fiscal liability	
2011 – 12	Introducing Social Investment for welfare
Social Investment—improving social and economic outcomes for complex families	
2015	Introducing Social Investment for housing
2015	Speech: Speech to the Treasury Guest Lecture Series on Social Investment, Bill English
2015	Analytical paper: Using Integrated Administrative Data to Identify Youth Who are at Risk of Poor Outcomes as Adults
2016	Report: Defining Social Investment Kiwi Style, New Zealand Institute for Economic Research
2016	Introducing the SIAL (Social Investment Analytical Layer)
2016	$652.1m Social Investment package for vulnerable New Zealanders
2017	Report: Governance and accountability in Social Investment, Information release, The Treasury
2017	Social Investment Agency established
2017	Speech: Changing Lives: Our Social Investment Approach, Amy Adams
Labour Government elected. Social Investment - improving wellbeing	
2017	Introducing "Investing for Social Wellbeing"
2018	Programme: "Your Voice, Your Data, Your Say" community engagement
May – September 2018	Investing for Social Wellbeing community engagement
May – September 2018	Data Protection and Use Policy community engagement
November 2018	Report: "What You Told Us" - Findings of the "Your Voice, Your Data, Your Say" engagement on social wellbeing and the protection and use of data, Social Investment Agency
February 2020	Report: Towards Better Social Sector Decision Making and Practice: A Social Wellbeing Approach
March 2020	New Zealand Social Investment Agency renamed Social Wellbeing Agency
December 2020	Social Wellbeing Agency releases the Dataset Assembly tool

Model 2, which emerged during 2015-2016, took a broader approach. While still focused on reducing fiscal liabilities, more emphasis was placed on improving social and economic outcomes for vulnerable and complex families, and generating wider social benefits. In a 2015 cabinet paper, the then Minister of Finance, Bill English and the Minister of State Services, Paula Bennett defined social investment as follows:

> *Social investment is about improving the lives of New Zealanders by applying rigorous and evidence-based investment practices to social services. It means using information and technology to identify those people for whom additional early investment will improve long term outcomes, better understanding their needs and what works for them, and then adjusting services accordingly. What is learnt through this process informs the next set of investment decisions. (Cabinet Social Policy Committee, 2015: 1)*

The new model saw a broadening of the target population to include children at risk, broadening of goals beyond long-term fiscal liability and a broadening of the range of analytical tools employed, including an increased focus on cost-benefit analysis (Boston & Gill, 2017). As a newly elected leader of the National Party in 2016, Bill English announced that, under his leadership, the government would prioritise the social investment approach (Destremau & Wilson, 2017). While the emerging second model of social investment represented a broadening of both the target population and target metrics, Boston and Gill (2017) argue that the model was still underdeveloped, lacking in specificity, and not fully embedded in the public management system.

In 2017, New Zealand voters elected a new Labour Government after 10 years of National Party rule. Whereas social investment was a high priority of the outgoing government, championed by the former Prime Minister Bill English, the incoming government, under the leadership of Prime Minister Jacinda Ardern, developed an adjusted approach referred to as "Investing for Social Wellbeing" (Cabinet Social Wellbeing Committee, 2018). The Labour Government highlighted this new approach as "a marked departure from the previous social investment approach," noting that it moved away from "a narrower focus on reducing government costs and forward liability" to focus on wellbeing more broadly (Cabinet Social Wellbeing Committee, 2018).

The 2017 October election may be seen as marking the end of the development of Model 2, as delineated by Boston and Gill (2017), and the beginning of a new approach focusing on wellbeing rather than welfare. Whether this should be called the third phase of the NZ Social Investment approach or the end of the NZ Social Investment approach is debatable. After the election, community engagement projects with a focus on protection and use of data were initiated in the Social Investment Agency. In March 2020, the agency was renamed the Social Wellbeing Agency, marking an end to the language of "social investment" in the New Zealand Government. However, this has not meant the end of activities connected to a social investment type approach. The Social Wellbeing Agency has continued work on improving tools for the use of government data for research and insights, such as the Dataset Assembly tool released at the end of 2020. The tool is designed to standardise and automate the process of combining data from a wide range of sources into a single useable dataset (see https://vhin.co.nz/dataset-assembly-tool/).

One thread of continuity across all phases of the development and implementation of the social investment approach to welfare in New Zealand is the use of administrative data to identify groups at risk and generate evidence for policy and program outcomes. The IDI compiled by Statistics New Zealand is the key data resource developed and championed by the New Zealand Government for these purposes (Stats NZ, 2020). The IDI links individual-level data from different government agencies, including tax, health, education and social services, with data from the 2013 and 2018 censuses and other national surveys (Milne et. al., 2019). The IDI covers all New Zealand residents, is longitudinal and is regularly updated and expanded with new data sources. As might be expected, linkage rates and data quality vary for different surveys and across social groups (Milne et. al., 2019). When asked about how to create evidence-driven approaches that sustain beyond changes of government and political machinery, Bill English, one of our interview participants, replied:

> *So, here is the key thing you have to do. Well, there's two bits that are absolutely key to sustainability. One is, institutionalise the integrated data. Because then you have a body of knowledge which they can look away from, they can steer around, but it exists. And it's very hard for people to un-know … So you have to institutionalise it, and that has been done successfully in New Zealand. The second thing is, you have to create external demand … So, we went hard*

on selling it to the social science community and some of their key people, including the chief government scientist and chief social scientist, who are very well respected people. (Bill English)

English's perception of the value and importance of the IDI was supported by comments from other interview participants. As discussed below, the IDI is widely perceived as a comprehensive source, but with some important limitations, including data quality and infrastructure, as well as lack of understanding amongst policymakers about what the data are able to say about complex social lives and outcomes.

OUR CASE STUDY APPROACH

Our aim in this chapter is to describe the social investment approach in New Zealand, with the aim of identifying strengths, weaknesses and lessons learned, particularly for the Australian policy context. We commenced with a desktop review of key policy papers, documents and literature to understand the historical and political context underlying the development and implementation of the social investment approach in New Zealand.

We then identified key stakeholders for interview in order to gather information about how the approach was received in New Zealand, some of the perceived strengths and weaknesses, and the key issues, as identified by those actively involved in developing, implementing or applying the new approach. In order to cover a wide range of opinions and viewpoints, we mapped out stakeholders who had been involved in different ways in the social investment approach, including senior political and government figures, policy analysts, academic researchers and community representatives. The identification of relevant stakeholders was done through desktop research, review of key literature and references and personal recommendations. For the purposes of this chapter, we have used alphabetical letters rather than names when referring to our interview participants, with one exception. We were fortunate to interview Bill English, former New Zealand Prime Minister and one of the architects and key proponents of the social investment approach. Given the likelihood that his comments will be easily identifiable and the importance of being able to name him directly as one of our participants, we sought and received his permission to report his involvement in the study and identify any comments from his interview quoted in this chapter.

Each interview participant was emailed and provided with an outline of the research and an interview consent form. The interviews were undertaken over the phone or by Skype/Zoom in April/May 2019 and were recorded and subsequently transcribed. We identified five selected participants, all of whom accepted our invitation to be interviewed for the study. All of the participants had been involved in the social investment approach in one form or another, including its development, implementation, or through research using the IDI. In several cases, our participants had been involved in more than one of these areas. Each interview took approximately one hour and included discussion of their understandings of how the New Zealand social investment approach had developed, their perceptions of its strengths and weaknesses, their perceptions of the implementation process and modifications to the approach over time, and their knowledge and views about the quality, accessibility and importance of the data infrastructure underlying the approach. Each interview covered slightly different issues, according to the context of the participant and their involvement with the social investment approach. A draft of the chapter was sent to each participant to provide an opportunity for them to comment on our interpretation of the data and to ensure their agreement with our representation of their views. No substantive changes were requested by any of the participants.

THEMES AND KEY FINDINGS

Defining the New Zealand social investment approach

In a 2015, a New Zealand Cabinet paper headed by the then Minister of Finance, Bill English and the Minister of State Services, Paula Bennett described the benefits of social investment in the following way: (1) The social investment approach sets clear and measurable goals. (2) It provides a better use of information and technology to understand the needs of people who rely on social services. (3) It provides systematic measurement of the effectiveness of services, and feeds those learnings back into the decision-making process. (4) Social investment enables governments to purchase outcomes rather than specific inputs, shifting funding to the most efficient service providers, whether government or non-government providers (Destremau & Wilson, 2017). These sentiments were echoed in our interview when we asked Bill English to describe the New Zealand social investment approach.

It gives you a framework which shows you who to apply it [a policy programme] to and then it gives you a feedback loop that makes sure you stick at it and that you adjust policy as time goes on. Now, that's the heart of the implementation of social investment … It does not, in itself, provide a new service, but rather, shows you investment and pay-offs for people in existing services. This way, social investment is meant to identify services which are not capturing the whole population in need, so those most in need miss out, and likewise, when services are capturing people who would otherwise get on fine. (Bill English)

Compared to Bill English, other participants were a bit more cautious about the benefits of the social investment approach. Our researcher and community representative suggested:

The social investment model was a way of -- a benign description of it would be: informing early investment to pre-empt later costs to the state. And a less benign description of it would be identifying high-risk individuals who are going to be really, really expensive. (Participant A)

Another questioned whether social investment was actually a new approach or simply a repackaging of previous approaches. Participant C, a university-based researcher with previous experience working in government agencies, was quite adamant that social investment for welfare was not new.

There is nothing inherently ground-breaking here at all. The entire notion of a social investment is overblown. (Participant C)

And later continued:

I am not a fan of the idea that there is a social investment approach or in any way represents some revolutionary approach in social policy. I think it's very sensible to use more data and empirical evidence in policy, and there's some sensible questions there. But I think the entire notion of a social investment approach is overblown … I'm quite sceptical of the idea of the social investment approach as a thing… The idea of a social investment approach as a particular way or methodology … like with some solution there, is nonsense. There are some good ideas there, there are some things that are worth lifting out, but it's not a transformation on social policy. (Participant C)

Similar views that social investment was not a particularly new approach are also apparent in some of the literature. For example, Destremau and Wilson (2017) note that the idea that some social spending can be considered social investment rather than social cost can be traced back to the writings of Swedish economist Gunnar Myrdal in the 1930s.

Debate about the definition of the social investment approach seems, to a large extent, focused on whether it should be seen as a purely fiscal approach to reduce government spending or something broader, aimed at improving lives. For example, one of our interview participants suggested that social investment is worth doing because it helps develop long-term thinking about fiscal spending, but only provided that you recognise it for what it is, a better measure of fiscal cost.

One thing [that can lift the quality of policy advice] is getting a better handle on fiscal impact, particularly fiscal impact over time, and recognising that spending now … on someone with a service is not a good measure of lifetime or ongoing fiscal spend … That is pretty close to the original Bill English-era idea of social investment. And I think that's worth doing, provided you recognise what it is. It's giving you a better measure of a fiscal cost. (Participant C)

Another suggested that disagreement about the definition of social investment is not just a political issue, but also has consequences for how it is implemented, resourced and managed. Lack of a shared understanding about the aims may lead to variations in implementation and levels of support across agencies. For example, one of our participants with experience in government, non-government organisations, as well as business, argued that the way in which social investment was applied in some government agencies, such as the Ministry for Social Development, was indeed just a fiscal approach. But in other areas, it was not.

They're [social investment and a fiscal approach] not the same thing. The way social investment was being applied in the justice sector and in the child protection sector wasn't a fiscal approach … Rather than the single fiscal objective, they had a range of objectives that they were pursuing, and they were measuring each of them. (Participant D)

This participant also argued that criticisms of how social investment was implemented in certain areas were not necessarily applicable to how it was implemented in other areas, where they were not using purely fiscal objectives. Undoubtedly, there was a wide range of views and understandings about the social investment approach at all times, and the aforementioned distinction between Model 1 and Model 2 implies a clear temporal distinction that, in reality, was possibly much less defined. Both views may have coincided across different sectors and within sectors at the same time. Some people may have viewed social investment as a fiscal policy, while others viewed it as a means of supporting social and economic improvements for vulnerable and complex families. Criticism of the social investment approach to some extent then depends on what "phase" is being assessed: the "when" and "who" is making the argument.

In light of these disagreements about what social investment actually is or was, and, further, the trouble in agreeing on what is meant by target measures, one participant noted a lack of policy evaluation of social investment.

> *[There is] [n]o actual analysis deconstructing what "core concept" means. What do you mean when you say "return"? Do you mean fiscal return or broader social return? Discussions about the conditions under which fiscal return would be a good proxy for social return. When does early intervention make sense? (Participant D)*

Another of our participants, head of a social research agency at a university, emphasised the actuarial basis of the approach, suggesting that the core issue was not about the value of social investment for reducing state fiscal cost, but rather, ideological differences in ways of thinking about risk and redistribution.

> *The focus on cost, I don't think, was the thing. The focus was on this kind of actuarial or insurance-based approach. There's two ways you can think of our safety nets. You can think of our safety nets as a system of redistribution, which is a very static concept, like there are some people doing well, some people are not doing very well. Let's take from the people doing well and make sure that the people who are doing badly are not suffering from whatever is happening in their lives. Or you can take it as an actuarial model, which is: some people's house didn't burn down this year, some people's house did burn down. What we're doing is insuring the people whose house burned down .... It was a very individualised insurance model. (Participant E)*

The implementation of actuarial analysis, according to Bill English, came from the use of this type of actuarial framework in the Accident Compensation Corporation (ACC) scheme, a national injury compensation scheme primarily funded through levies, designed to compensate residents that have suffered personal injuries (Accident Compensation Corporation, 2020). However, the social investment actuarial approach was supposed to be different from the ACC and other general insurances that do top-down risk analysis. Instead, the idea was to focus on building up a picture of big risks from individual trajectories and to understand cumulative effects on particular populations. The implementation of actuarial analysis as the main mode of analysis within the social investment approach met substantial scepticism, while others were merely cautious (Boston & Gill, 2017). Our interview participants also expressed a range of views. One participant expressed scepticism, also picking up on the ideological component of this divide.

> *I'm pretty sceptical of the whole initial thing of social investment as actuaries ... But I'm also not entirely sceptical that it's worth looking at forward fiscal costs associated with programs. It's an area which has divided people quite strongly into different camps. I mean, economists have generally been pretty sceptical of it. Possibly a little bit too much so. But, then again, on the actuarial side, I think they've been vastly too ideological and over-confident with it. (Participant C)*

Bill English noted that implementing the social investment approach shone a light on the difficulty in defining and measuring concepts that at first glance seem straightforward.

> *And it turned out, for instance, in that case, teachers, police, and nurses all had quite different tools in their head for determining whether a child was an abuse victim. And that took 12 months to sort out. But it wouldn't have come up if we didn't start the conversation. ... They're all talking about child abuse and we all thought they knew and we knew what we were talking about. But it turned out, we didn't know. (Bill English)*

In some of our interviews, issues of transparency were also raised. One participant felt that the social investment approach had been characterised by a lack of transparency in the methods being used.

> *One concern was, there was very little transparency about their work. What does their algorithm look like? What does the code look like? From what I could see, there was very little engagement with academia and very little engagement with external peer review. (Participant A)*

The issue of transparency is important for several reasons, including its effect on the legitimacy of ensuing policies or approaches. As we have seen, there does not seem to be agreement on how data should be analysed, given the criticism of the actuarial approach. Methods of analysis for the Integrated Data Infrastructure will depend partly on your standpoint. For example, should welfare systems be treated more like market insurance schemes or redistribution systems, and how do you define and measure outcomes? There are many small decisions in adjusting and specifying a model throughout the process of data analysis that will have important consequences for what your model does and how to interpret it. When these decisions are not transparent from the outside, peer review and critical assessment of the work becomes impossible.

> *Working with actuarial risk-profiling models means even less transparency because the financial services firms can regard their work as proprietary. (Participant A)*

This point has become especially important for lessons learned for the future, in particular, where lack of transparency relates to proprietary code.

In sum, there is not, and maybe we should not expect, consensus on what a social investment approach is, how "new" it is, whether it is a fiscal policy designed to reduce costs, whether it is aimed at social and economic wellbeing, and whether the actuarial approach is a suitable one. What we can learn is that all analytical decisions, including implementation processes, will be based on core assumptions and ideological beliefs about how welfare systems should be managed, what success looks like and how it will be achieved or measured. If there is a lack of clear shared vision and understanding, implementation processes will be compromised. Clear, visible, transparent and shared understandings are important to enable constructive opportunities for critical peer review, informed discussion and new approaches going forward.

Implementation and the New Zealand Social Investment Agency

An important part of the way the New Zealand Government decided to manage implementation of the social investment approach was to move its base out of the Ministry for Social Development and establish a standalone agency, called the Social Investment Agency. The new agency, established in 2017, was tasked with furthering the implementation of the approach and was intended to broaden the use of social investment across agencies. The Social Investment Agency continued under the Labour Government, with the stated aim of "strengthening the use of data, analytics and insights in social sector decision making to improve New Zealanders' wellbeing" (Social Investment Agency, 2019), but was renamed the Social Wellbeing Agency in March 2020 (The Beehive, 2020).

While the goal of the Social Investment Agency was to drive the implementation of the social investment approach, the view amongst our interview participants was that this decision severely weakened the possibility of achieving effective implementation. One participant commented, "Original name, same old people" (Participant A). Another stated, "There has been a lot of turnover at the top-tier staff since it started up. That doesn't allow you to build much capacity" (Participant C). And another: "It reads to me like something that is slowly deflating" (Participant D). One issue for the agency was that it was set up quite late in the social investment timeline, leaving it little time to get established and running before the change of government in 2017 and the ensuing change from Social Investment for Welfare to Investing for Social Wellbeing. According to some of our interview participants, the Social Investment Agency did not manage to establish itself as the place to go to achieve impact. Its staff were not perceived as the "people who can move the dial" (Participant E).

> *I think there was a sort of sidelining of the SIA and it didn't have the intellectual heft to be able to go and impose itself on big operational behemoths, such as the welfare system. It was underpowered for what it was trying to do. (Participant E)*

In a similar vein, Participant D commented:

> *The problem that agency will have is it's kind of a second-tier agency. So, they're not at the big table … the SIA was a small and vulnerable agency. They did not pick fights with the big players in town, because they could just be shut down. (Participant D)*

Participant D emphasised the fact that to achieve systematic policy change, you need both strong political leadership and strong bureaucratic leadership pushing for the same change.

> *If you don't have a capable bureaucratic leader, you don't get effective change. Creating a bespoke agency like the Social Investment Agency is the wrong solution to that, because they are small and vulnerable. … If you are a small agency, you choose your fights very carefully. (Participant D)*

Additionally, our participants perceived that there were few incentives for cross-agency collaboration, and that agencies perceived sharing data and insights as a potential risk to their autonomy and future funding. Further, if data was shared in an incorrect way, there was the possibility of media scandals. Instead, it was easier to avoid these risks by not sharing data and not working across agencies. Bill English noted these power struggles, which he suggested originated out of competition for funding, acting as roadblocks in implementing insights, particularly in cases that involve many agencies, such as cases of family violence or child abuse, where a number of different agencies were involved in the response.

> *You can say, "Okay, this is what we now know about the bottom 1% of kids." Then it's just 2 years of chaos while agencies fight. So, the problem's here a fight over why you shouldn't unbundle their funding and who's going to control it. (Bill English)*

This suggests that incentives for collaboration are needed, and that, while cross-agency solutions come with difficulties, leadership, clear processes and shared understanding of goals are essential. What is also clear from this section is the importance of establishing the right governance and bureaucratic structures. The danger of developing a standalone agency that can be easily sidelined is apparent from the above comments, and points to the need to ensure that the department tasked with implementing an approach such as social investment must be located in a core, whole-of-government agency and funded appropriately to do the task.

Data infrastructure and competency

A key component of the social investment approach in New Zealand is the Integrated Data Infrastructure. This is a population-wide person-centred micro-dataset linking data from a range of government agencies, surveys from Statistics New Zealand, including the 2013 and 2018 censuses, and data from non-government organisations (Stats NZ, 2017). Funded by the New Zealand Government, the IDI was promoted as being developed with the aim of helping decision makers find answers to complex social questions (Stats NZ, 2017). While the IDI was established and is run independently of the Social Investment Agency, it was fundamentally a part of the social investment approach to integration of data into policy, and achieving the key goal of identifying and tracking population cohorts over time and the opportunity to evaluate interventions or system-wide policy changes (Milne et al., 2019). It continues to be the centre of attention under the Social Wellbeing Agency, with ongoing release of improvements and tools. The social investment approach established a political desire for integrated data, which, in turn, has had positive outcomes for the sustainability of the IDI.

> *That, I think, was a really amazing legacy from the National Government and from Bill English, that desire to have this integrated data, and the social licence that they got around it from the agencies who are willing to put the data in. (Participant E)*

The IDI was unanimously perceived as a great resource by all of our interview participants, illustrating that a government-led initiative has potential to lead to better collaboration and access. One participant stated that Australians should "bully, bribe, beg" to get the Australian Bureau of Statistics to put social surveys together with linked administrative data (Participant C). We note that considerable progress in this direction has occurred in Australia through the Multi-Agency Data Integration Project (MADIP), which includes data on health, education, income support payments, employment and demographics (ABS, 2021). Another participant (Participant E) highlighted the team at Statistics New

Zealand for their work showing that backend integration of administrative and survey data does not have to be difficult and is achievable. The IDI was considered an outstanding resource both for government and researchers. As noted, Bill English specifically described the IDI as a strategy for making the social investment approach possible and for helping to ensure the longevity of the approach beyond changes of government.

> *If the government tried to dismantle the IDI, there would be outrage … So that's why you've got to create external constituencies for the information. (Bill English)*

Nevertheless, the IDI has experienced issues with infrastructure, with several of our participants pointing out that it "drops out every few weeks" (Participant C) or "collapses once a fortnight" (Participant A). This recurring instability of infrastructure capacity was perceived as a result of a lack of funding of Statistics New Zealand, with insufficient resources put towards the infrastructure underlying political initiatives such as the social investment approach. As one participant put it, "Without good quality data, all this complicated complex modelling that we're doing is pretty worthless" (Participant A). Funding cuts and changes to how Statistics New Zealand collected census data in 2018 were perceived as particularly problematic for the Indigenous population, since it affected Indigenous data coverage to a much greater extent than the rest of the population.

A further perceived issue with the implementation of the social investment approach, and the establishment of the Social Investment Agency in particular, was a lack of competency in data analysis and interpretation, and limited understanding of the possibilities and limitations of administrative data.

> *I just feel that they didn't have the technical expertise. There was lots of people who didn't seem to have a lot of data knowledge, really. (Participant E)*

> *It hasn't actually yet built a culture of using data. (Participant C)*

> *We need more people, decision makers inside government and outside government, with statistical literacy and an understanding of what big data can do, and, more importantly, what it can't do. (Participant A)*

The lack of data and analytical competency in the Social Investment Agency and the lack of broad leadership were seen as major roadblocks for the success of the social investment approach, making it hard to create a culture of data and evidence-based policy. Participant C emphasised the "lack of understanding of quantitative methods" and the value of using them from the "upper levels of civil service" as the main barrier in the continued development and implementation of the social investment approach.

Moreover, our participants noted that even if the IDI is a great resource for policy development, the issue of competency and understanding of big data is integral for its incorporation into social policy.

> *It's like any tool. We're learning its role and we're learning more about its limits. Is it a positive development for policy? Absolutely. Have we achieved its full potential? No. Is it the greatest thing since sliced bread? No. (Participant D)*

The researchers amongst our participant group were very clear that it was important to understand the datasets, how they were constructed, what the variables mean, and what's not there. Skilled users with an understanding of these datasets can pull a lot of evidence out of the IDI, but limitations in analytical skills and lack of understanding of the data were viewed as major limitations.

> *So we're running these highly complex models that are calculating these fabulous betas and particular point estimates, but we don't know what the confidence intervals are. (Participant A)*

> *The fundamental problem is going from correlation to causation. There is nothing inherent in the IDI that answers that question. There is nothing in the big datasets telling you what to do about something. (Participant D)*

Overall, the three key messages from our discussion of the Integrated Data Infrastructure were: first, that it was a wonderful resource with a great deal of potential for supporting social policy analysis generally, including social investment; second, that effective use of the data required a combination of specific technical skill sets, a broader culture of evidence-based policy integrated at all levels, and competency in interpreting and translating research into policy; and third, an effective social investment approach required proper funding for the underlying data infrastructure, including strong data governance and ongoing investment that maintained the data, kept it up to date, and supported effective usage in terms of training, information and culture.

Social licence and community data rights

An important issue in the use of big data for social policy is social licence to use the data, particularly licence from vulnerable groups and communities who are highly represented in the data. Data ownership has emerged as a major concern for the UN Permanent Forum on Indigenous Issues (UNPFII) (Davis, 2016). One of our participants who was Māori raised these issues in a number of places in the interview. This participant took particular issue with the ease in which the government was willing to share the New Zealand data with international researchers, in light of the Indigenous struggle for their right to control their data.

> *Indigenous people have been asking for access to this information for years and never got it. They're doing work on our vulnerable children and giving overseas access to information about our children. (Participant A)*

He explained that the tribal nations and the iwi leaders' forum in New Zealand now consider data to be so fundamental to Indigenous development that they have created a sub-group to work with data and data sovereignty. In the 2015 charter establishing Te Mana Raraunga—the Māori Data Sovereignty Network—data is determined to be living tāonga (Kukutai & Taylor, 2016), meaning something that is considered to be of social or cultural importance (Moorfield, 2021). The Australian equivalent is the Maiam nayri Wingara Aboriginal and Torres Strait Islander Data Sovereignty Collective formed in early 2017 to develop Aboriginal and Torres Strait Islander data sovereignty principles and to identify Aboriginal and Torres Strait Islander strategic data assets (see https://www.maiamnayriwingara.org/). Kukutai and Taylor (2016) write that while Indigenous peoples have long claimed sovereign status over their land and territories, missing from the conversation has been the rights of Indigenous peoples relating to the collection, ownership and application of data about their people. Our Māori participant was critical of the way that Indigenous data sovereignty had been handled in the social investment approach, referring to it as "very disempowering for Māori," especially in relation to analyses of vulnerable children.

> *… it led to some high-level discussion about who can tell our stories with our data. We've been clear with the Office of National Statistics that no regional stories can be told about children without the engagement of the tribal nations. (Participant A)*

There were also fears that the use of predictive analytical models leads to increased stigma rather than improvements in living conditions. A key component of the social investment approach is the ability to segment populations. But this has the risk of individuals being classified as risky and being further stigmatised, without engaging with these so-called "risky groups or communities" to hear their perspectives and to work together to improve outcomes.

Our Māori participant perceived this failure to obtain social licence, from both Indigenous peoples and other populations, to be a key lesson to be learned from the New Zealand example of implementing a social investment approach.

> *The main lesson is that the people who are providing the information and the people about whom the study is, or the subjects of the study, needs to be engaged with, and not persuaded, but engaged with and supportive of both the outcomes and the algorithms being used to examine those outcomes … Doing it in a detached way will lead to incompetence at best and community disempowerment at worst. (Participant A)*

Some work on strengthening the social licence dimension of the usage of administrative data has been done by the New Zealand Labour Government as a part of their efforts in shifting from Social Investment to the Investing for Social Wellbeing approach. The "Your Voice, Your Data, Your Say" program was undertaken during 2018 as part of a process to create a data protection and use policy (Social Investment Agency, 2018). One aim of the policy was to highlight Māori and other voices and perspectives. Among the highlighted outcomes of this social licence program was the expressed need for more policy solutions that were culturally sensitive and locally led, and both the Māori groups and

Pacific peoples groups emphasised issues of trust in government and the need for culturally sensitive measurements. The report explicitly argued that these culturally sensitive measures do not only need to take the Māori and Pacific peoples' needs and wants into account, but must be developed in conjunction with representatives of these groups as true partnerships (Social Investment Agency, 2018).

Analysis without engagement can be disempowering, especially for vulnerable populations. Building trust and partnerships is imperative for establishing a social licence to use data. Countries with Indigenous peoples have an additional dimension of Indigenous rights that needs to be taken into account (United Nations, 2007). The right of Indigenous peoples to define their own measures of success have a potentially critical impact on how success measures are created and employed in big data for social policy approaches. This dimension of the social investment approach has been surprisingly invisible in government reporting and academic debate around the outcomes and success of the social investment approach and has important implications for the Australian case. We note, however, that the Indigenous Data Sovereignty discussion is gaining greater prominence in Australia, with the Academy of Social Sciences partnering with key Indigenous leaders and national data agencies to host a roundtable in mid-2021 to develop core principles for Indigenous data infrastructure.

FINAL THOUGHTS

The New Zealand social investment approach provides a very useful case study for highlighting the role of administrative data for developing and informing social policy. Developed and initially implemented in 2011–12, there is sufficient time to review the successes and challenges, how the approach fared following a change of government in 2017, and development of a new agency and implementation strategies. The New Zealand case study is particularly instructive, given the parallels with the Australian Priority Investment Approach announced in the 2015-16 Federal Budget. In this chapter, we have reported on findings from a desktop review of key literature and government reports as well as interviews with five participants representing a range of views and sectors including government, the academy, social research organisations and public and private agencies. Although clearly not representative, and not intended to be, our participants provided key insights into the New Zealand social investment approach and gave us an opportunity to identify some key themes about the use of big data for social policy. In this final section, we highlight three overarching themes emerging from the issues raised above.

First, our analyses highlight the importance of shared understandings, definitions, vision and understanding of how data and evidence can be used to inform a social investment approach. This is critical for ensuring that the approach and infrastructure underneath it is implemented appropriately, with shared understandings and sufficient resources to maintain them over time. This point is illustrated by Bill English above, when referring to defining child abuse and the importance of starting the conversation which led to identification of key differences in views across sectors. Clarity in core concepts is also critical to ensure the possibility of constructive criticism and critique of the approach from the surrounding expert community, which is integral in both developing and improving the approach, but also from a democratic transparency perspective. This is not an easy task, as new approaches are rarely developed overnight but evolve and develop over time as they are implemented, reviewed, critiqued, developed further, tested and redesigned. At any one point in time, definitions will be undergoing change and development and stakeholders will view the same approach from widely varying perspectives. Opportunities for open debate, constructive criticism and ongoing strategies to minimise division and dismissal of new ideas are essential.

Variations in perspectives were apparent throughout our case study. This emerged clearly in key texts such as the volume by Boston and Gill (2017), as well as amongst our interview participants. Some interview participants were more critical than others, and even when positive in their comments, were clearly prioritising different aspects of the social investment approach and exhibiting variations in their understanding of it. All were positive about the Integrated Data Infrastructure, but there were concerns about whether the data infrastructure was sufficiently resourced and maintained. Similar discussions have been surfacing in Australia, where the former national statistician David Kalisch publicly criticised funding cuts to the Australian Bureau of Statistics, saying that they threatened key data releases (Wright, 2019). While our stakeholders generally agreed on the importance of a stable and properly funded data infrastructure for an approach such as social investment to yield any results, we observed differences in views about the value of the data in terms of the lack of transparency in background material to ensure accurate interpretation of results and translation of results into policy outcomes, variations in views about data competency and skills, and variations in concerns about social licence and ethics of data use. In our view, these concerns do not undermine the importance of a data infrastructure such as the IDI, but rather, point to issues that must be addressed to ensure appropriate usage, governance and maintenance.

Second, governance and infrastructure are critical elements in the successful delivery of social policy approaches, and this was particularly apparent for the New Zealand social investment approach. Despite strong championing of the approach from Bill English and other senior political and government leaders, the infrastructure for building and maintaining the Integrated Data Infrastructure was viewed by our participants as insufficient, with too little funding provided to Statistics New Zealand to ensure a stable, continuously funded and well-maintained data infrastructure. Moreover, participants were clear that the movement of the Social Investment Agency to a standalone agency had severely compromised its power, resources and ability to deliver on the policy approach. We will not be the first to highlight the importance of governance arrangements in delivering policy, but we see this as a very clear example of how governance decisions can effectively undermine, or, at the very least, sideline previously robust social policies.

Third, underlying all social policy approaches, of course, are political frameworks, priorities, opportunities and constraints. Bill English, both as National Party Finance Minister and later as Prime Minister, was a key champion of the social investment approach and was, and is, passionate about its promise to find solutions to some of New Zealand's most complex and wicked social problems. While aspects of the social investment approach survived the change of government in 2017 and the election of Prime Minister Jacinda Ardern and a Labour Government, the approach has shifted markedly to a focus on wellbeing. More than a semantic shift, this change has coincided with a downplaying of the social investment approach to the point where some of our interview participants commented on its overall deflation and dwindling. Clearly, the New Zealand social investment approach is evolving over time and will continue to do so in relation to changing political and economic contexts. The IDI, on the other hand, is potentially an enduring resource that is continually developed under the Social Wellbeing Agency, with much broader value than application to the social investment approach. There will inevitably be political debate about the priorities between competing policy concerns, but all depend upon the IDI, or something similar, and on appropriate management of the related ethical issues.

Fourth, although evidence can point to solutions that may improve individual outcomes, translating this evidence into actionable policy is not straightforward. As Gluckman (2017: 6) notes, there are many complexities for effective social policy including "how to juggle constituent demands, partisan ideology and goals, and real world fiscal and societal constraints." Bill English makes a similar point:

> *The way to think about the social investment framework is that it basically says, "Find a solution that works"' … the hardest job is not actually solution finding. Those emerge. It's changing existing institutions to accommodate those solutions. (Bill English)*

While big data may offer increasingly fine-grained insights into what works, for whom, when and where, translating these insights into real world solutions will rarely be straightforward.

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