



Discussion paper

# Public sector financial sustainability





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## Auditor-General's overview

As Auditor-General, I have a keen interest in the financial sustainability of the public sector. This discussion paper explores international practices and current research in assessing and understanding public sector financial sustainability.

The origin of this paper is the research that my Office commissioned for use on our 2012/13 work programme theme *Our future needs – is the public sector ready?* I decided to publish this summary of the research because we have found it interesting and helpful for that work programme. It also informed our report about local authorities' long-term plans (published in December 2012) and our upcoming report, due later in 2013, on the Treasury's 2013 Statement on New Zealand's Long-Term Fiscal Position, for which we have had to consider public sector financial sustainability.

The working definition used by the research is:

*Public sector financial sustainability is the financial capacity of the public sector to meet its current obligations, to withstand shocks, and to maintain service, debt, and commitment levels at reasonable levels relative to both national expectations and likely future income, while maintaining public confidence.*

Clearly, if the public sector is not able to sustain itself financially, then it cannot be ready for the challenges it faces. A lack of clarity about what will help it to remain financially sustainable will put its future performance at risk.

The research identifies an increasing focus on understanding the underlying social, environmental, and economic drivers of public spending, and the connections between them, rather than focusing primarily on the current composition of that spending. Systems of "key national indicators" are increasingly being explored and used to build this understanding.

This finding coincides with what I've been observing when interacting with my international colleagues and with international accounting and auditing bodies. I have noticed greater interest in, and work on, integrated financial and performance reports. In the private sector, integrated reporting is gaining increasing traction globally.

The research makes a strong case for engaging with the public – that it is essential to engage about the major underlying social, environmental, and economic issues, as well as their consequences for public services. New Zealand's public sector is already internationally known for its high levels of transparency about financial and performance information and measurement. Public engagement about our future financial sustainability and the factors that influence it can help the public sector better prepare and shape itself for future needs.

Although this discussion paper, which summarises the research we commissioned, is not a statement of my views or those of my Office, I hope that it will be useful and interesting. Most especially, I hope that it will stimulate debate among members of Parliament, the public, and public entities when reflecting on our future public sector financial sustainability and whether our public sector will be ready for our future needs.

I acknowledge and thank Bruce Anderson (the research author) and all those who gave him their time and insight.

A handwritten signature in black ink, appearing to read 'Lyn Provost', written in a cursive style.

Lyn Provost  
Controller and Auditor-General

28 May 2013



## Part 1

# Understanding public sector financial sustainability

- 1.1 This discussion paper summarises the research we commissioned in the area of public sector financial sustainability. This research looked at the issue of longer-term sustainability and the financial sustainability of New Zealand's public sector.
- 1.2 In this Part, we set out the background to this paper about the research, a definition of public sector financial sustainability, and the findings and implications of the research.
- 1.3 In Part 2, we summarise the research on the context for New Zealand's public sector financial sustainability. This includes discussion of the Treasury's work on New Zealand's long-term fiscal position.
- 1.4 In Part 3, we summarise the research about how overseas jurisdictions have developed their thinking on public sector financial sustainability. This includes discussion of an emerging trend towards national indicators.
- 1.5 In Part 4, we set out some suggested indicators of public sector financial sustainability and discuss how such indicators relate to national indicators. We also outline what the research indicates about engaging with the public about long-term public sector financial sustainability to inform choices and decision-making.

### Background to this paper

- 1.6 In 2012, we commissioned Bruce Anderson<sup>1</sup> to prepare research to inform our 2012/13 work programme theme *Our future needs – is the public sector ready?* We consider that the research is interesting and helpful, and our aim in publishing this summary is to share the research to inform ongoing discussions among members of Parliament, the public, and the wider public sector.
- 1.7 The research included:
- a literature search of international and New Zealand research and other published material;
  - seeking information from 25 of the Auditor-General's overseas counterparts about work in their jurisdictions on public sector financial sustainability (16 of the 25 were able to provide supplementary information); and
  - discussions with staff at the Treasury, staff of some other government departments with an interest in key national indicators (KNIs), and other researchers.

<sup>1</sup> Bruce Anderson is a Fellow of the New Zealand Institute of Chartered Accountants, with a background in auditing, organisational review, performance measurement and reporting, and corporate management. Between 1980 and 2003, he spent 13 years working for the Audit Office in a range of roles, finishing as an Assistant Auditor-General.

## Defining public sector financial sustainability

- 1.8 During the last three decades, the sustainability of public sector finances over the medium to long term has become an increasing concern worldwide. This is because pressures on public sector services, revenues, and expenditure have increased and look likely to increase further throughout the 21st century because of existing and new pressures.
- 1.9 The *Oxford English Dictionary* offers two definitions of sustainability: the ability to maintain something at a certain rate or level (for example, sustainable economic growth) and the ability to uphold or defend something (for example, sustainable professional practices). The research we commissioned suggests that public sector financial sustainability encompasses shades of both meanings, which are inextricably linked.
- 1.10 The research identifies the main elements of public sector financial sustainability as:
- *liquidity* (the ability to meet financial obligations when they fall due);
  - *resilience* (the financial capacity to withstand shocks, whether internal or external);
  - *service and fiscal responsibility* (maintaining service, debt, and commitments at reasonable levels relative to both national expectations and likely future income); and
  - therefore maintaining *public confidence* (the ultimate guarantor that enough revenue can be collected to meet tomorrow's obligations).
- 1.11 The working definition used by the research is:
- Public sector financial sustainability is the financial capacity of the public sector to meet its current obligations, to withstand shocks, and to maintain service, debt, and commitment levels at reasonable levels relative to both national expectations and likely future income, while maintaining public confidence.*
- 1.12 In suggesting this definition, the research also identifies that:
- Financial sustainability is determined as much by public confidence as by financial capacity.
  - Intergenerational equity (that is, that any generation should be fair and reasonable in its use of resources and wealth relative to subsequent generations) is part of the service and fiscal responsibility element. The challenge is determining what is reasonable relative to both national expectations and likely future income.
  - Equating sustainability with maintaining existing services is unhelpful. Maintaining services at reasonable levels relative to national expectations does

not mean maintaining existing services, but ensuring that services will be fit for the times.

- Government is not separate from its society, but is part of a complex set of social relationships that includes sharing and transferring resources among citizens. Societies can thrive across wide ranges of proportionality of government to the rest of the economy and net government indebtedness.

1.13 “Fiscal sustainability” is an often-used term that is synonymous with “public sector financial sustainability”. In this paper, we use “public sector financial sustainability” because it is more complete and in plainer language. Where we can do so unambiguously, we shorten it to “financial sustainability”.

## Findings from the research

1.14 There are five main findings from the research:

- Public sector financial sustainability is not just a matter of spending less than you earn.
- To find useful and timely indicators of financial sustainability, there needs to be a better understanding of social, environmental, and economic indicators – which are related and may be lead indicators – rather than relying primarily on financial indicators (which are usually effect and lag indicators).
- A single approach or perspective is not enough to effectively address the complex and inter-related issues because such an approach usually tries to put a monetary value on the issues to make comparisons easier.<sup>2</sup> Multiple perspectives are likely to offer a more rounded view of complex issues.
- Long-term public sector financial sustainability is a complex, society-wide issue, and greater efforts should be made to engage citizens effectively in the debate.
- The current classification of government spending is not enough to support a proper understanding of financial sustainability and could be expanded to include descriptions that are more closely linked, such as redistribution, investment, and defensive spending (see paragraphs 4.31-4.34).

## Some implications

1.15 Although New Zealand remains one of the most stable and safe countries in the world, our economic performance is mediocre compared with many Organisation for Economic Co-operation and Development (OECD) countries. Nevertheless, we are better placed than most to withstand major shocks or deteriorations in conditions in the 21st century.

<sup>2</sup> See, for example, Waring, M (2012), “Making visible the invisible: commodification is not the answer”, paper for Association for Women’s Rights in Development plenary session, available at [www.awid.org](http://www.awid.org).

- 1.16 We also have a competent public sector, a proud history of public sector innovation, and access to world leaders on questions about measuring financial sustainability.
- 1.17 New Zealand's current legislative framework is an effective underpinning for considering public sector financial sustainability. It offers the transparency and flexibility required to support appropriate debate on longer-term issues. Work in a number of agencies, such as the Treasury, Statistics New Zealand, the Ministry of Social Development, and the Ministry for the Environment, has also set up a good basis for further developing our understanding of the deeper drivers of our financial sustainability.
- 1.18 There has been, and continues to be, significant attention given to financial sustainability in New Zealand, including the Treasury's current work on engaging with the public in the lead-up to publishing its 2013 Statement on New Zealand's Long-Term Fiscal Position (see paragraphs 2.20-2.22).
- 1.19 There have also been a number of recent activities related to KNI systems. These systems provide summary or headline statistics gathered from a range of sources to provide information on the state of, and trends in, a national or sub-national jurisdiction. The Treasury and other agencies are currently working on whether and how to develop a suitable "umbrella" framework – in essence, a KNI system. The Government's result areas for the public service during the next five years, announced in 2012,<sup>3</sup> although primarily about public service targets and management, overlap with the above developments as indicators of targeted social outcomes.
- 1.20 Although the path the Treasury is currently taking towards wider engagement about a broader set of issues is a positive one, information about factors that influence public sector financial sustainability has not been integrated into our Public Finance Act "fiscal gap"-based assessments (see Part 3).
- 1.21 There is a long way to go to improve our understanding of the drivers of public sector financial sustainability. Work in New Zealand remains largely fragmented and user-specific, and it is not clear whether further maintenance, development, and use of the presently fragmented national indicator information sets is intended.

3 See the information on Better Public Services on the State Services Commission's website, [www.ssc.govt.nz](http://www.ssc.govt.nz).

## Part 2

# New Zealand's public sector financial sustainability context

- 2.1 In this Part, we discuss the international and national context for public sector financial sustainability and the arrangements in the public sector for fiscal responsibility.

### International drivers

- 2.2 International forces have a major effect on our national and public sector financial sustainability. Paragraphs 2.3-2.9 set out some of these forces.

### Economic changes

- 2.3 From 2008, the Global Financial Crisis has had ongoing recessionary effects on economies, up to and including the spectre of nations defaulting on their debts. New Zealand has escaped the worst of this, mainly because of relatively tight Australian banking laws. However, both private and public wealth and income have suffered from the recessionary effect.
- 2.4 Most OECD countries have experienced declines in real wages, even though productivity has been increasing. Research evidence is mounting that relative poverty (that is, income inequality) within a country is associated with a wide range of undesirable outcomes and consequent public costs.<sup>4</sup>
- 2.5 A growing problem of under-investment in public infrastructure is emerging, with cities world-wide struggling to cope with increasing populations and/or ageing or unsuitable infrastructure such as water reticulation, sewerage, and roading. This problem is not yet critical in young, low-population-density, stable countries such as New Zealand and Australia, but even here the investment required is forecast to be substantial.

### Environmental changes

- 2.6 The rapid increase in the world's population, increasing consumption per capita, and the diminishing availability and quality of renewable resources are putting greater pressure on the environment's capacity to sustain human activity.
- 2.7 Also, from the early 1990s, the reports<sup>5</sup> of the Inter-Governmental Panel on Climate Change have shown increasing certainty that temperatures will rise steadily in the 21st century. Extreme weather events are expected to increase, local weather patterns to change, and communities (including a number of small Pacific Island populations) to be displaced. The effect on the financial sustainability of nations and local governments is likely to be significant.

4 See Wilkinson R and Pickett K (2010), *The spirit level: Why equality is better for everyone*, Penguin, London; and Stiglitz J (2012), *The price of inequality: How today's divided society endangers our future*, Amazon Kindle edition.

5 See Assessment Reports available at [www.ipcc.ch/](http://www.ipcc.ch/).

## Population changes

- 2.8 Many countries experienced the post-World War II baby boom, particularly in the Western world. However, although the baby boom was a spike in birth rates, it was followed by a decrease in ongoing fertility rates, making the demographic change structural, not temporary.<sup>6</sup> Largely because of a “mini-baby boom” in the late 1980s, New Zealand’s demographic trend has been assessed as less severe than that of other OECD countries.<sup>7</sup>
- 2.9 However, the size of the baby boom relative to future generations is such that a decreasing proportion of the working-age population (reducing from 66% to 58% of the total population during the next 50 years) will be supporting an over-65s group that will double as a proportion of the population (from 13% to 26%).<sup>8</sup> Work since the 1970s has, in particular, clearly foreshadowed current concerns with public sector financial sustainability<sup>9</sup> and the affordability of universal superannuation. Combined with the growth in health spending – at faster than Gross Domestic Product (GDP) growth – and not solely related to the ageing of the baby-boomers, population change is putting greater pressure on the sustainability of public sector finances.

## Factors that differentiate New Zealand

- 2.10 Paragraphs 2.11-2.17 set out some unusual factors about New Zealand that will affect our public sector financial sustainability.
- 2.11 *High, but reducing, natural renewable resource availability and quality:* New Zealand has the world’s fourth-largest exclusive economic zone and is highly ranked in terms of water availability and protected land, grasslands, and forests. However, our renewable resource capacity per capita is reducing, and our surplus capacity will halve in the next 40 years if current trends continue.
- 2.12 *Mediocre economic performance:* Partly because of our isolation and despite some useful enablers such as good education and ease of doing business, private sector productivity improvements have remained modest during the last 50 years. Our economy is largely based on the ability to “harvest water” through milk, forestry, and other agricultural products. We remain a resource-based, or emerging, economy and have not translated favourable commodity prices into investment in better-value additions through, for example, processing raw products. Although our economy looks like that of a developing country, our social and political structures, and expectations, are clearly those of a developed country. Public

6 World Bank public data (2012).

7 State Services Commission (1998), *Strengthening strategic management: Summary of fiscal modelling work*, Occasional Paper No. 4, and (2001), *Medium-term fiscal modelling: Update report*, Occasional Paper No. 14.

8 Statistics New Zealand (2012), *National population projections 2011-2061*.

9 See, for example, <http://www.bookfinder.com/author/new-zealand-planning-council/>.

sector financial sustainability is at least partly dependent on building a better match between our economy and our social and political features.

- 2.13 *High and increasing private debt:* New Zealanders as a whole have spent more than they have earned for all but four of the last 55 years, as measured by the current account deficit.<sup>10</sup> Household debt is high and rising. It is comparable with some of the more stressed OECD countries. Overall, external debt has been at 70-80% of GDP since 2000, and our household debt to income ratio has risen from 100% to 140% between 2000 and 2012.<sup>11</sup>
- 2.14 *Good government, strong fiscal governance, and low public debt:* Our public sector has a solid reputation for innovation and excellence, and is not expensive by any standards. Broadly, education accounts for 20% of government spending, health 20% and rising, transfer payments 40% and rising, and all the rest of government activities the other 20%.<sup>12</sup> Public sector net indebtedness is low. The Government's net external debt was hovering around 10% of GDP from 2000 till 2008 but, because of the global recession and the Canterbury earthquakes, has since grown to 25% of GDP – still a modest level by international standards.
- 2.15 *Increasing income inequality and some disturbing social trends:* New Zealand has moved from being one of the most equal countries in the OECD in terms of market income 30 years ago to being one of the least equal today. There also appear to be an increasing range of at-risk groups, centred mainly on youth (as shown, for example, by high youth suicide, teen fertility, and unemployment rates).
- 2.16 *A high overall level of well-being and life satisfaction:* On the other hand, New Zealand rates highly on levels of tolerance, interpersonal trust, and life satisfaction. This may help us retain the social capital needed to effectively address the negative states and trends identified above.
- 2.17 Looking to the future, and at the level of economic, social, and environment drivers, there is also relatively good news for New Zealand. Subject to the environmental risks and poor social trends summarised above, although our isolated ocean location has a significant effect on our costs of production, it may also protect us from some of the worse potential social and climatic effects during the 21st century.

10 Nana G (2012), *The new year and "a new normal"*, New Zealand Institute of Economic Research presentation at New Zealand Institute of Chartered Accountants seminar.

11 Reserve Bank of New Zealand (2012), *Financial stability report, May 2012*.

12 See, for example: New Zealand Government (2011), *Better Public Services Advisory Group Report*.

## Public sector fiscal responsibility arrangements

- 2.18 The Fiscal Responsibility Act 1994 sets out principles of “responsible fiscal management” based on reducing debt to, and maintaining it at, “prudent levels”. The Government defines “prudent levels” and has the flexibility to depart from the principles temporarily, along with a requirement to state the reasons for the departure and the path back.
- 2.19 New Zealand’s gross public debt burden substantially reduced during the two decades after the Act was passed. It reduced from about 70% of GDP in the early 1990s to 20% in the late 2000s (net public debt went from 50% to 0% during the same period).
- 2.20 In 2004, the Public Finance Act 1989 was amended to require the Treasury to prepare a statement on the long-term (at least 40 years) fiscal position at least once every four years.
- 2.21 The Treasury’s first two statements were published in 2006 and 2009. They were primarily technical assessments of the Government’s fiscal position and projected debt, with discussion of options for reducing spending to contain debt. Although these statements received some media and political attention, the Treasury does not consider them to have been as effective as they could have been in promoting consideration of the long-term issues.
- 2.22 The Treasury has begun a much more consultative development process for the next statement, planned for later in 2013. The process has included obtaining input from large government departments, working in partnership with Victoria University of Wellington, forming an expert panel, holding a public conference in December 2012, and conducting a public survey.
- 2.23 In the local government sector, legislation since 1989 has required local authorities to prepare long-term (at least 10 years) financial plans that, since 2006, we have audited.



## Part 3

# International practices and experience

- 3.1 In this Part, we set out how other jurisdictions and international organisations have developed indicators that are relevant to public sector financial sustainability. The research indicates that:
- by itself, a debt indicator is not enough;
  - there is an evolving approach to financial sustainability, with various jurisdictions using increasingly sophisticated financial measures of public sector financial sustainability; and
  - there is an emerging trend towards national indicators (often referred to as KNIs), which are highly relevant to public sector financial sustainability. This has occurred because of the limitations of financial indicators and a growing recognition of the social and environmental factors underlying economic activities and costs.

### **A debt indicator is not enough – Mr Micawber’s sixpence**

- 3.2 At one level, assessing public sector financial sustainability is very simple. Mr Micawber, in Dickens’s *David Copperfield*, describes it thus: “Annual income twenty pounds, annual expenditure nineteen pounds nineteen and six, result happiness. Annual income twenty pounds, annual expenditure twenty pounds ought and six, result misery.”<sup>13</sup>
- 3.3 The “fiscal gap” is simply Mr Micawber’s sixpence. An unacceptable level of debt (and consequential credit rating downgrades and default) is the national equivalent of debtor’s prison, as the consequences of overspending extend over a long period. So, indicators of public sector financial sustainability generally start with assessments of imbalances of public revenue and expenditure (the net surplus or deficit), and their consequential effects on public debt and debt servicing costs (which compound any initial imbalance).
- 3.4 Literature on levels of debt generally shows that net debt above 90% of GDP may have a negative effect on GDP growth. Levels higher than 90% also increase the likelihood of other negative outcomes, such as substantial decreases in sovereign credit ratings, increased servicing costs, and default.
- 3.5 However, negative imbalances in public sector accounts affect not only debt levels directly but also financial flexibility and perceived creditworthiness. So, even in the “simple” world of Mr Micawber, a debt indicator is not enough to fully assess the situation.

<sup>13</sup> The attention of the research author, Bruce Anderson, was drawn to Mr Micawber by the New Zealand Institute of Economic Research’s 2012 report, *Is local government fiscally responsible?*, for Local Government New Zealand.

### The evolving approach to financial sustainability

- 3.6 Many institutions and groups have been working on public sector financial sustainability and related issues during the last several decades. Some examples include:
- Supra-national institutions such as the International Monetary Fund (IMF) have carried out work on financial stability.
  - The Washington Consensus, which includes policies that favour public sector financial sustainability and fiscal discipline, has been used as a policy prescription for struggling nations.
  - New Zealand was a world leader with the Fiscal Responsibility Act in 1994. The Act sets out five principles of “responsible fiscal management” based on reducing debt to, and maintaining it at, “prudent levels”.
  - Members of the European Union signed a “Stability and Growth Pact” in 1997. The Pact introduced a system of monitoring and sanctions aimed at fiscal discipline in member states, based on the two key planks of annual budget deficits lower than 3% of GDP and public debt below 60% of GDP.
  - A number of individual countries and sub-national jurisdictions have developed their own interpretations of fiscal sustainability.
  - The accounting profession (for example, the American Governmental Accounting Standards Board<sup>14</sup> and International Public Sector Accounting Standards Board<sup>15</sup>) has begun looking at financial sustainability.
  - The emergence of integrated reporting initiatives (such as triple bottom line and sustainability reporting focusing on questions of sustainable growth, the “true” costs of economic activity, and intergenerational equity).
- 3.7 This work has varied considerably in its effectiveness, but the range of groups engaged and initiatives carried out illustrates how seriously public sector financial sustainability is now being taken.
- 3.8 A 2005 OECD paper<sup>16</sup> describes four methods of measuring public sector financial sustainability:
- *Baseline projections* extend the fiscal effects of current policies over longer time periods, and are about the financial sustainability of today’s policies, assessing both “no-change” and defined change scenarios. The Treasury’s Long-Term Fiscal Statements use this method, and it is the common method used by

14 Governmental Accounting Standards Board (2011), *Preliminary views on economic condition reporting*.

15 International Federation of Accountants (IFAC) International Public Sector Accounting Standards Board (2011), *Exposure Draft 46, Recommended Practice Guideline: Reporting on the long-term sustainability of a public sector entity’s finances*.

16 Schick A (2005), “Sustainable Budget Policy: Concepts and Approaches”, *OECD Journal on Budgeting* Vol. 5, No.1, pages 107-126.

countries for which the offices of other Auditors-General provided information.

- *Balance sheet analysis*, which will be incomplete as long as only explicit liabilities arising out of past actions are recognised. To be complete, balance sheet analysis also needs to include future obligations arising from the legitimate expectations of government and liabilities arising from current policy.
- *Fiscal gap analysis* measures the gap needing to be bridged between the current fiscal policy and one that meets a target debt level in a target year.
- *Generational accounting* attempts to measure and compare the net benefits received by different age cohorts, mainly by calculating transfers made less taxes paid.

3.9 Some of the national jurisdictions approached as part of the research offered information on work that had been done, and measures used, in this area:

- **Denmark** operates rolling four-year caps on public spending (exclusive of unemployment benefits, which are considered a core automatic stabiliser during economic downturns).
- **Sweden**, like Denmark, is outside the European Monetary Union. Like New Zealand, both Sweden and Denmark are small players with floating exchange rates. Sweden focuses on net debt rather than gross debt and also considers that long-term financial sustainability is dependent on welfare and economic resources being redistributed in an acceptable manner, with the conflict between redistribution, stabilisation, and structural policy to be “limited”.
- **The United Kingdom** recently established an Office of Budget Responsibility to monitor financial sustainability, which provides in its (first) 2011 report a very useful depiction of the elements of government activity, past and future, in terms of stocks and flows. It uses this to underpin its sustainability assessments and to illustrate the limitations of the different methods used. For example, flow-based methods predict future revenue and spending, while stock-based methods measure existing assets and liabilities then assess discounted future revenue and expenditure streams.
- **Canada’s** Parliamentary Budget Office produces a financial sustainability report, and its 2010 report provides a useful illustration of the effect of various levels of delay in addressing the fiscal gap, a concept most reporters struggle to communicate effectively.

3.10 Recently, a group of Masters students at Stanford University, under the guidance of David Walker, the former Comptroller General of the United States of America and currently at Stanford University, released a “Sovereign Fiscal Responsibility

Index”, which “provides unique and useful insight into the fiscal sustainability of countries ...”.<sup>17</sup> The components are:

- **fiscal space** – a measure that compares a country’s weighted average debt level with an assessed debt ceiling (an IMF measure based on past behaviour, stability of government, and some economic measures), at which point it is assessed that a major fiscal crisis is inevitable;
- **fiscal path** – which measures how many years it will take a country to reach the debt ceiling on its current fiscal path (complementing this by measuring how long it will take to reduce the fiscal space to 50% of GDP); and
- **fiscal governance** – which weights fiscal rules, transparency, and “enforceability” equally to come up with a “points out of 100” measure.

3.11 The three components are then ranked and the rankings averaged to create the overall ranking and index. Despite the limitations of such indices that various commentators have explored,<sup>18</sup> the Sovereign Fiscal Responsibility Index has some very attractive features:

- it attempts to measure the stability of the fiscal system by looking at both its limits, or tipping points, and its strength (and, implicitly, public confidence in it);
- it uses a more balanced concept of debt than the other measures; and
- it makes its assessments more useful by giving time periods before fiscal crisis is possible or likely to occur.

3.12 New Zealand fares well under the Sovereign Fiscal Responsibility Index assessment, being ranked second only to Australia out of 34 countries rated in the 2011 Stanford report.

## Interconnectedness and the emerging trend to national indicators

3.13 The major limitation of the main methods used to assess public sector financial sustainability is that the measures are of matters directly related to financial activities. They are lag indicators that take little account of the social and environmental causal loops that underlie economic activity and costs.

3.14 A major finding of the research is that public sector financial sustainability is not just a matter of “spending less than you earn”. Greater focus is emerging

17 Augustine TJ, Maasry A, Sobo D, Wang D, Walker DM, and Nation J (2011), *A Sovereign Fiscal Responsibility Index*, Stanford Institute for Economic Policy Research Brief.

18 See, for example, Pollitt (2011), “Moderation in all things: International comparisons of governance quality”, *Financial Accountability and Management*, Vol. 27, Issue 4, pages 437-457; and Hood C, Dixon R, and Beeston C (2008), “Rating the rankings: Assessing international rankings of public service performance”, *International Public Management Journal*, Vol. 11, No. 3, pages 298-328.

internationally on gaining a better understanding of the underlying social, environmental, and economic drivers of public spending, and the connections between them, rather than focusing primarily on the current composition of that spending.

- 3.15 The indicators arising from this work cross into the realm of narrow public sector accountability. Some of the most commonly used economic KNIs have clear and direct relevance to public sector financial sustainability (for example, GDP per capita, impacts on public spending, productivity, fiscal gap, infrastructure investment). Many more are underlying and – actually or potentially – causal. The research links KNIs and indicators of public sector financial sustainability together to consider how a fuller understanding of public sector sustainability in the context of wider drivers could be built.
- 3.16 Interconnectedness is important to public sector financial sustainability because:
- At the simplest level, a range of issues might be characterised as competing with each other for attention and public funds.
  - However, there are multiple connections and flow-on effects between them that are not always obvious.
  - Since these are parts of complex systems, it is often extremely difficult to sort out the levels of effect (or multiplier/dampener effects) that parts have on each other. There are also hard-to-assess risks of tipping-point effects, where an accumulation of small, apparently innocuous events or changes results in a sudden discontinuity.
  - There is also the difficulty of externalising costs or effects when everything is interconnected. The current Global Financial Crisis is a vivid case in point. One of the strengths of capitalism in a market-based economy is that real costs can be externalised, as long as there is somewhere to externalise them to, but our inter-connected economies leave less and less room for such externalising.
- 3.17 Systems of KNIs are being increasingly explored and used to build understanding of the underlying social, environmental, and economic drivers of public spending, and the connections between them. A number of initiatives show promise in offering better views of the connections between a wider set of drivers. The purposes range from informing public debate to targeting and measuring progress in the jurisdiction. The arrangements for the systems vary in their independence from the government of the day, partly dependent on their different purposes but also partly on history and local conditions.
- 3.18 Indicator systems are generally organised on the “three domains” basis (society, environment, and economy). Most offer a “top 20 indicators” or equivalent, which

are often selected as an overview from a larger body of published indicators. They are also usually the top of a pyramid of subject, sector, or sub-national indicator systems run by various agencies. The indicators used have been moderately stable during the last 20 years and have generally been changed in a considered and well-described way.

- 3.19 There is considerable overlap between systems at indicator, category, and purpose levels. However, there are as many unique or uncommon indicators as there are common, and similar indicators will often be grouped under quite different categories or even domains. The General Accountability Office (GAO) in the United States of America provides one example of how national indicators can be categorised, as shown in Figure 1.

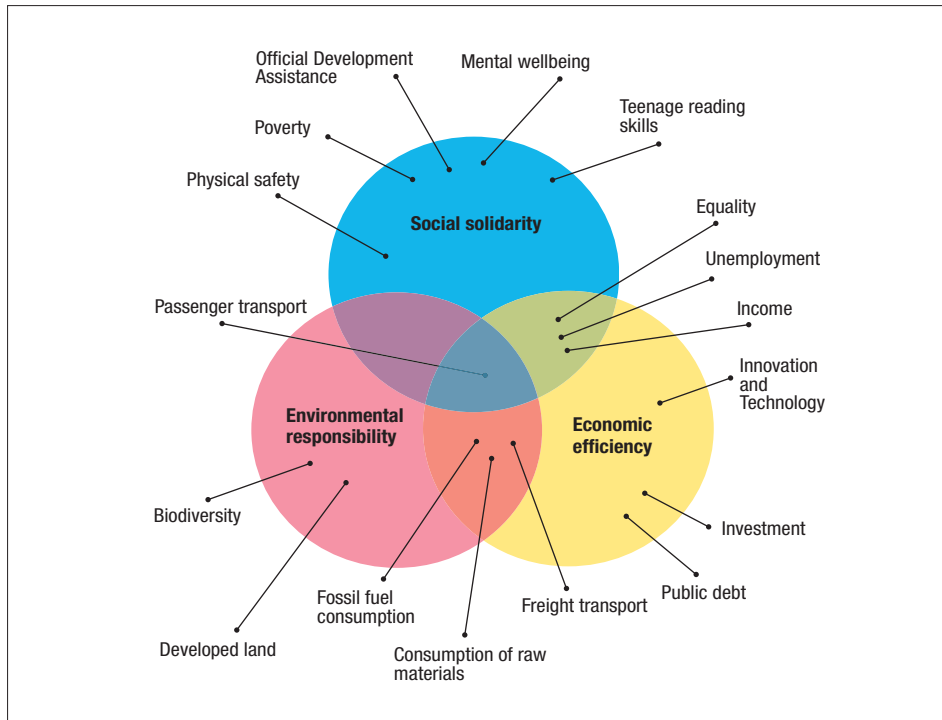
**Figure 1**  
**General Accountability Office key national indicator categories, 2011**



Source: United States General Accountability Office (2011), *Key indicator systems: Experiences of other national and subnational systems offer insights for the United States*, page 2.

- 3.20 The variation in possible indicators and their categories reflects the issue of interconnectedness. Switzerland uses a Venn diagram as a partial illustration of this (see Figure 2), and some jurisdictions offer different ways to slice and view the information – for example, as “cross-cutting issues”.

**Figure 2**  
Switzerland’s overview of key national indicators, categorised according to three qualitative objectives

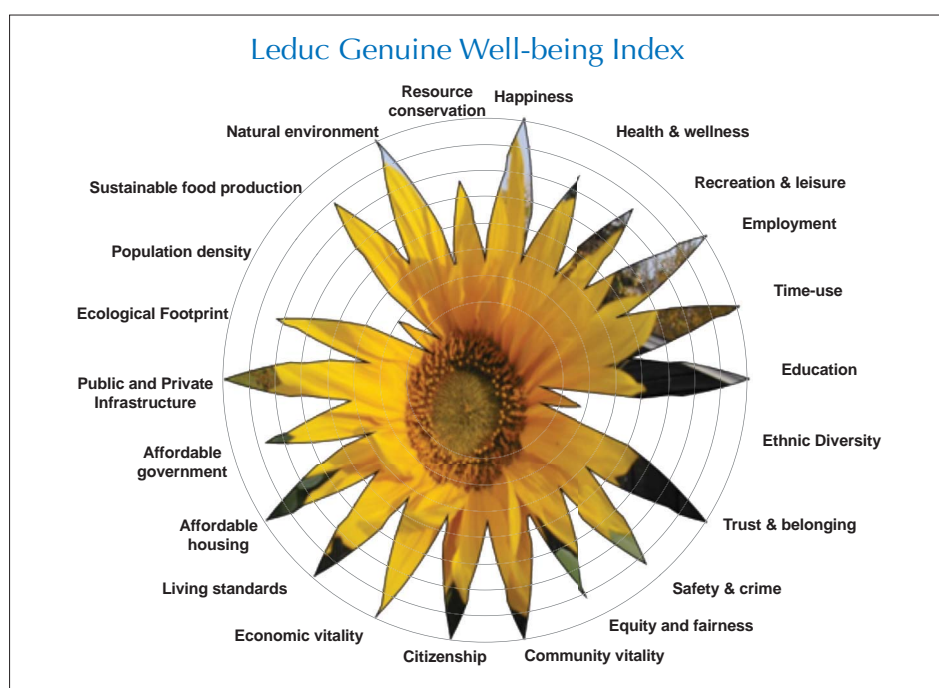


Source: Swiss Federal Statistical Office (SFSO), Swiss Statistics Web site (2013), *Sustainable Development – A Brief Guide 2013: 17 key indicators to measure progress*, Neuchâtel, page 23. (Copy made May 2013.)

3.21 An alternative approach is the “radar diagram” (see Figure 3),<sup>19</sup> which depicts the indicators in a way that enables effective strategic discussion of their relationships and trade-offs.

19 This is used by Mark Anielski and others to illustrate the “Genuine Progress Indicator” and related indicator systems. See: [www.anielski.com](http://www.anielski.com).

**Figure 3**  
Example of a “radar diagram” for key indicators



Source: Mark Anielski (2006), *Leduc Genuine Wealth Report 2006*. Available at <http://www.anielski.com/publications/>. (Copy made May 2013.) © Anielski Management Inc., Edmonton, Alberta.

- 3.22 Recently, Australia and the OECD have done some useful thinking about designing national indicator systems. Australia proposes replacing the “Mickey Mouse”<sup>20</sup> model with the “strong sustainability”<sup>21</sup> model (see Figure 4). The OECD makes a useful distinction between (mainly economic and environmental) inputs and (mainly societal) outcomes in its 2010 report.<sup>22</sup>

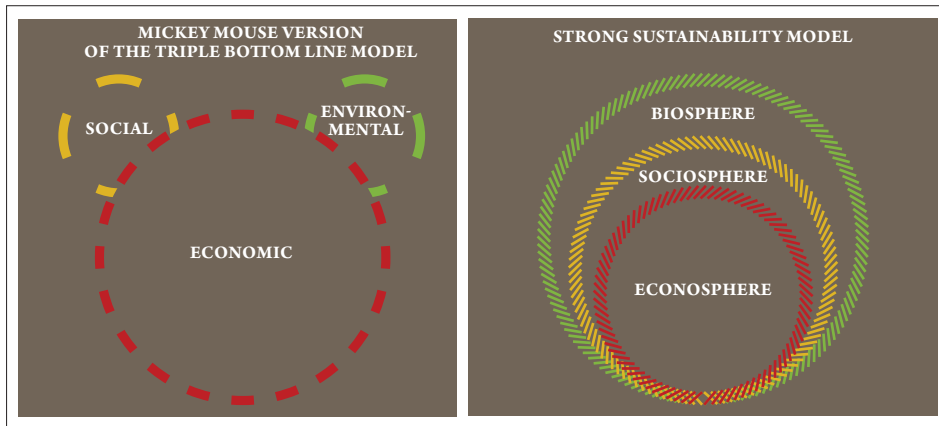
20 See <http://nz.phase2.org/what-is-strong-sustainability>.

21 Australian Bureau of Statistics (2010), *Future directions for measuring Australia's progress*.

22 OECD (2010), *A framework to measure the progress of societies*, Statistics Directorate Working Paper No. 34, STD/DOC(2010)5, France.



**Figure 4**  
The “Mickey Mouse” and “strong sustainability” models of national indicator systems



Source: Sustainable Aotearoa New Zealand Incorporated (SANZ) and Nakedize Limited (2009), *Strong Sustainability for New Zealand: Principles and scenarios*, page 8. Available at [www.phase2.org](http://www.phase2.org).

3.23 The GAO’s 2004<sup>23</sup> and 2011<sup>24</sup> reports, based on surveys of supra-national, national, and sub-national systems, give good information on, and examples of, lessons learned and potential benefits and pitfalls. Highlights of these are:

- There is evidence of positive effects, notably improved collaboration in addressing public issues, providing tools to encourage progress, more informed decision-making and research, and increased user knowledge.
- Major challenges experienced included securing and sustaining stakeholder support and funding, agreeing types and numbers of indicators, and obtaining indicators or data for the system.
- Of themselves, and subject to set-up and consultation costs, the KNI systems are not expensive to run (because they are mostly about gathering and coordinating existing data sets). The GAO’s 2004 report found that “[i]n most cases, one to three persons [are working] on the project full-time”.<sup>25</sup>

23 United States General Accountability Office (2004), *Informing our nation: Improving how to understand and assess the USA’s position and progress*.

24 United States General Accountability Office (2011), *Key indicator systems: Experiences of other national and subnational systems offer insights for the United States*.

25 United States General Accountability Office (2004), *Informing our nation: Improving how to understand and assess the USA’s position and progress*, page 16.



## Part 4

# National and public sector financial sustainability indicators in New Zealand

4.1 This Part discusses:

- recent New Zealand public sector work to develop national indicators;
- the overlaps between national indicators and the suggested indicators of public sector financial sustainability;
- suggested indicators related to public sector activity;
- suggested indicators of government spending; and
- the importance of effectively engaging with the public.

### Recent public sector work

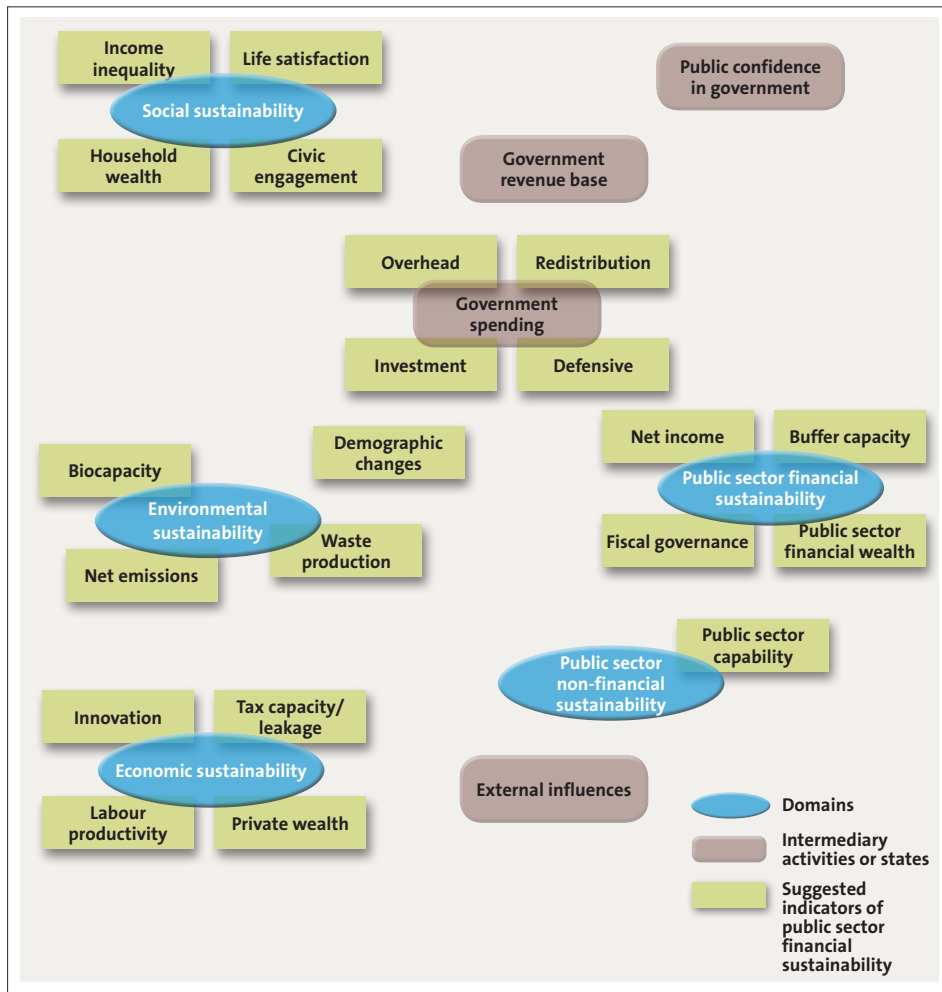
- 4.2 Our public sector has been focusing on improving the cost-effectiveness of its operations in response to the Global Financial Crisis, which was followed by the catastrophic Canterbury earthquakes. These events, combined with the international and New Zealand drivers discussed in Part 2, are increasing pressure on our public sector financial sustainability. Effort is being made to better understand the level of economic, social, and environmental drivers and the effect on the financial sustainability of the public sector.
- 4.3 In 2011, the Treasury published a working paper, *Working towards higher living standards for New Zealanders*, which provides 46 indicators with commentary, mainly on social and household economic indicators.
- 4.4 Building on the working paper, the Treasury has also developed a draft framework for policy analysis that proposes five domains as a basis for assessing contributions and trade-offs: economic growth, sustainability, equity, social infrastructure, and risk.
- 4.5 In 2012, the Government announced a set of 10 targets for the public service during the next five years, based on the 2011 *Better Public Services Advisory Group Report*.<sup>26</sup> Although these are primarily about public service targets and management, they overlap with the concept of KNIs as indicators of targeted social outcomes.
- 4.6 Statistics New Zealand published *Measuring New Zealand's Progress* (providing 16 of 85 indicators as headliners across four areas, including indicators of economic resilience) in 2008 and updated it in 2011. In 2009, it published *Statistics New Zealand's Framework for Measuring Sustainable Development* (setting out design criteria for a sustainable development indicator system). Along with the Treasury and other agencies, it is currently working on whether and how to make this a suitable “umbrella” framework – in essence, a KNI system.

<sup>26</sup> See the information on Better Public Services on the State Services Commission's website, [www.ssc.govt.nz](http://www.ssc.govt.nz).

## Towards a New Zealand indicator set

- 4.7 The research included reviewing the information supplied by the offices of other Auditors-General to consider what sort of categories and indicators were being used in KNI systems internationally and to develop an initial set of indicators of public sector financial sustainability for New Zealand. As discussed in Part 3 (see paragraphs 3.13-3.15), there is considerable interconnection and overlap between key national indicator and public sector financial sustainability indicator sets.
- 4.8 Figure 5 sets out the broad domains of sustainability (see blue boxes) and major linking activities or states (see brown boxes) that might be relevant for developing New Zealand's public sector financial sustainability indicators. The green boxes show the suggested public sector financial sustainability indicators.

**Figure 5**  
 Domains of national indicators, intermediary activities or states, and suggested indicators of public sector financial sustainability



- 4.9 Figures 6 to 8 list the most common KNIs and categories used by eight national jurisdictions and two “think tank” organisations (described as “systems” in Figures 6 to 8), after combining similar indicators, ranked by incidence in each of the three common KNI domains (social, environmental, and economic). After each figure, we set out the suggested indicators of public sector financial sustainability. The overlap between the list in each figure and the associated list of suggested indicators should be readily apparent.
- 4.10 The research concluded that most of the indicators of public sector financial sustainability would be relatively easily implemented. At least two-thirds of those identified are already measured internationally, and most of these are measured in New Zealand. However, some indicators would need developing to assess public sector financial sustainability within our national context.

### Social, environmental, and economic indicators

**Figure 6**  
Most commonly used key national indicators in the social domain

Social domain – most commonly used indicators	No. of systems using
Health – life expectancy at birth, male and female	8
Crime – level of significant crime	7
Poverty – direct measures, and by at-risk group	7
Work – unemployment rate	7
Employment – % of men and women in employment	5
Education – Attainment in reading, maths, and science at age 15	5
Education – % of 19-yr-olds with Level 2* qualifications	5
Education and training – % aged 25-64 years with a vocational or higher education qualification	4
Housing – state and growth	4
Culture – % of people visiting types of cultural institution	3
Education participation – numbers at primary, secondary, and tertiary levels	3
Social/environmental – Personal mobility	3
Income inequality	3

\*Approximates to university entrance level.

- 4.11 Paragraphs 4.12-4.16 set out possible social indicators of public sector financial sustainability.<sup>27</sup>
- 4.12 *Income inequality* is in the social sustainability grouping because of the increasing realisation of the corrosive effects of increasing inequality and relative poverty on social stability and economic performance, even in wealthy countries such as New Zealand (where inequality is growing fast). The indicator used is the “post-tax Gini coefficient”. (*The Social Report*<sup>28</sup> has provided this in recent years.)
- 4.13 *Household wealth*. The Global Financial Crisis not only sent tens of millions of people back into absolute poverty but also stripped millions in developed countries of their equity in, or possession of, their main store of wealth, their home. Although the effects in New Zealand were less severe than average, the fact remains that the wealthier have more assets to fall back on than the poorer – so wealth and income both need to be considered in assessing relative poverty.
- 4.14 *Life satisfaction* is included because, regardless of other underlying drivers such as income inequality and (diminishing) wealth, the level and trends of life satisfaction will give insight into public confidence at the least. (*The Social Report* provides this.)
- 4.15 *Civic engagement* is a more direct indicator of public confidence in government. Some may argue that more engagement means less confidence (“let’s do it ourselves”), but the natural indicator (voter turnout) does not suffer from this risk. High voter turnout may indicate either satisfaction or dissatisfaction with an incumbent government, but, in either case, it is a vote of confidence in our democracy as an institution. (*The Social Report* provides this at national level.)
- 4.16 *Demographic changes* is shown on its own in Figure 5 because it remains a critical quantitative driver of the public sector and its levels of activity, revenue, and expenditure. It is fundamental to current assessments of public sector financial sustainability. The headline indicator would be population size and trend. (Statistics New Zealand already provides this.)

27 Other potential indicators considered but not included in the set of possible social indicators included:

- *Education* is universally acknowledged to be one of the major drivers of quality of life, through improved income and participation. It could arguably be seen as an economic rather than a social driver. Although New Zealand has a history of good educational outcomes, this has not translated itself directly into superior productivity or innovation gains, hence the use of more direct economic drivers.
- *Youth stress*, as indicated by suicide rates, fertility rates, and under-employment, is a clear driver of both present cost and future risk.

28 See, for example, *The Social Report 2010*, available at <http://socialreport.msd.govt.nz/>.

**Figure 7**  
**Most commonly used key national indicators in the environmental domain**

Environmental domain – most commonly used indicators	No. of systems using
Atmosphere – net greenhouse gas emissions (million tonnes of CO <sub>2</sub> equivalent)	9
Energy use per capita	4
Bird populations	4
Waste arising – disposed of in landfill sites (million tonnes)	4
Percentage of electricity generated by renewable sources	3

- 4.17 Paragraphs 4.18-4.20 set out possible environmental indicators of public sector financial sustainability.<sup>29</sup>
- 4.18 *Net greenhouse gas emissions* capture the main aspects of New Zealand's contribution to climate change, which is small in absolute terms but large per capita. It acknowledges the positive effect of some of New Zealand's activities (mainly forestry) and also provides an effective umbrella for innovation in this area (as demonstrated by the work on cattle and methane). (*Environment New Zealand 2007*<sup>30</sup> provided this information.)
- 4.19 *(Solid) waste production* is increasingly important in countries with higher population density. Having a measure of how we compare with those countries, as well as a measure of our own progress in reducing consumption and waste, is useful. (*Environment New Zealand 2007* provided this information.)
- 4.20 *Biocapacity* summarises key aspects of the overall state and change in our environmental capacity in a single measurement. Biocapacity is short for biological capacity, which is defined by the Global Footprint Network as the ability of an ecosystem to produce useful biological materials and to absorb carbon dioxide emissions. It is calculated using the factors of the area of croplands and grazing land. (The Global Footprint Network<sup>31</sup> publishes this information.)

29 Also considered but not included in the possible environmental indicators was *Water availability* as the most fundamental driver of New Zealand's economy and hence of public sector financial sustainability. New Zealand has water in abundance, albeit unevenly distributed, redistributed, and harvested, but availability is likely to be put under more pressure because of climate change.

30 Ministry for the Environment (2007), *Environment New Zealand 2007*, available at <http://www.mfe.govt.nz/publications/ser/enz07-dec07/>.

31 See: <http://footprintnetwork.org/en/index.php/GFN/>.



**Figure 8**  
**Most commonly used key national indicators in the economic domain**

Economic domain – most commonly used indicators	No. of systems using
Economic output – GDP and GDP per capita	6
Economic sustainability – fiscal gap, level of debt	4
Household economic well-being	4
Productivity – multi-factor productivity in the market sector	4
Economic sustainability – impacts on public spending	3
Growth/productivity – % of GDP spent on research and development	3
National income – real net national disposable income per capita	3

- 4.21 Paragraphs 4.22-4.25 set out possible economic indicators of public sector financial sustainability.
- 4.22 *Labour productivity* is a key determinant of our creation of wealth. Improvements have been modest for at least the last 150 years, but this might reflect an approach that values other activities ahead of economic effort. On the other hand, New Zealand's high labour utilisation might also suggest that, even if we do value these other activities, we can no longer afford as much time for them. (*Economic Development Indicators*<sup>32</sup> provided this information.)
- 4.23 *New Zealand's private financial wealth* is a key indicator of our financial stability and resilience, whether held by households or by businesses. Poor countries appear unable to afford high-quality public sectors (in many, work in the public sector is desirable for its status and reward, rather than its contribution), so a wealthier private sector is a key driver of the financial sustainability of an effective public sector. The best and most accurate indicator is probably net private saving. (*Economic Development Indicators* provides this information.)
- 4.24 *Innovation* (levels and trends) is another key determinant because it measures the sustainable vitality of our economic activity. (*Economic Development Indicators* provides this information.)
- 4.25 *Tax capacity/leakage* is essentially a measure of the quality of tax law and compliance. Private and business tax avoidance and evasion may or may not be a significant problem in New Zealand, but, because it is largely unmeasured, the extent of the problem is not known. A large black economy, and widespread tax avoidance, would not only have a direct effect on the public purse but also indicate low or decreasing levels of confidence in government, perhaps leading

32 See: Ministry of Business, Innovation and Employment (2011), *Economic Development Indicators 2011*, available at <http://www.med.govt.nz/about-us/publications-by-topic/economic-indicators/>.

into downward spirals. An indicator or indicators would need to be developed for this.

### Indicators related to public sector activity

- 4.26 The sets of suggested indicators listed above are about the external drivers of public sector financial sustainability. In paragraphs 4.27-4.30, we set out suggested public sector financial sustainability indicators related to the activities of the public sector and the financial results of these activities.
- 4.27 *Public sector capability* is about the quality and capacity of the public sector to deliver into the future. More research is needed to develop useful indicators and, from those, a useable headline indicator. Crude current options might include the level of investment in public sector productivity and improvement, trends in experience and qualifications of the public sector workforce, levels of engagement (as a measure of commitment, if not capacity), public perceptions of corruption and/or competence. Perhaps the World Bank's "Government Effectiveness Index", a composite measure quoted in *Economic Development Indicators*, could act as a temporary proxy for this indicator.
- 4.28 *Fiscal governance* is the application of public sector capability to the fiscal situation. The OECD, World Bank, David Walker, and the European Union have all developed indicators in this area.
- 4.29 *Net income and public sector financial wealth* get to the core indicators of public sector financial sustainability as it is currently conceived. Trends in net income (measured as the imbalance between this and a set goal for public debt) give us the fiscal gap, and trends in public wealth give us the net public debt (or, in rare cases, the net public assets). They are certainly an important pair of indicators of public sector financial sustainability, but they are, essentially, effect and lag indicators (see paragraph 1.14), which simply show what happens as a result of decisions or actions in other critical areas. There is abundant literature on desirable levels of debt, with the most convincing showing that net debt above 90% of GDP may have a negative effect on GDP growth, and that as levels go higher than this, so do the probabilities of negative outcomes such as substantial decreases in sovereign credit ratings, increased servicing costs, and, eventually, default.
- 4.30 Finally, *buffer capacity* represents an idea rather than an indicator at this stage. David Walker's "fiscal space" (see paragraph 3.10) gives part of it, by indicating the levels of debt that might be called on in distress situations, but this is measured by net public debt (see paragraph 4.29). At the other end of the spectrum, factors such as social stability along with the quality of fiscal governance create

longer-term buffer capacity. Development of a more intermediate measure of buffer capacity or the country's effective ability to externalise costs (for example, insurance) would be useful.

### Describing the nature of government spending

- 4.31 The following set of suggested public sector financial sustainability indicators are intended to show the nature of government spending in a different way than traditional accounting. They draw on the ideas of the “Genuine Progress Indicator”<sup>33</sup> and “Adjusted Net Savings”,<sup>34</sup> to describe four categories of expenditure that go beyond the meaning of “consumption” and “capital” expenditure.
- 4.32 This is important because government spending, by its nature, should expand “virtuous” circles of sustainability (for example, higher spending on education should lead to better economic and social performance, higher income, and more capacity to invest in education). However, government spending cannot diminish “vicious” circles directly (for example, higher spending on education should lead to higher income, and therefore less health and justice spending; but higher spending on palliative health and on retributive justice will not reduce the requirement to spend on them, because they are “bottom of the cliff” activities, doing little to affect the downward traffic). The four suggested categories of indicators are:
- *Redistribution* expenditure is relatively straightforward, with the Government setting rules for who gets how much of what and then redistributing it.
  - *Investment* expenditure includes not only conventional capital expenditure (mainly on public infrastructure) but also investment in people, primarily early childhood development, child care, and education. It also includes prevention-type expenditure, primarily public health. This type of expenditure has long-term benefits, so can be considered as an important contributor to intergenerational equity.
  - *Defensive* expenditure captures spending on the “bads” and “regrettables”. This includes most of justice, defence, and primary, secondary, and tertiary health care, and at least some aspects of regulatory activity.
  - *Overhead (or unclear)* expenditure includes miscellaneous activities and those that do not clearly belong under one of the three categories above. This may include foreign affairs, sport, arts, culture and heritage, policy formation, and possibly some aspects of regulatory activity.

33 See Wikipedia's information about “Genuine progress indicator”, at [http://en.wikipedia.org/wiki/Genuine\\_progress\\_indicator](http://en.wikipedia.org/wiki/Genuine_progress_indicator).

34 See information available from the World Bank, “Adjusted Net Saving”, at <http://www.worldbank.org>.

- 4.33 There can be fine lines between these categories, argument about which elements belong where, and cases to be made that some (or most) expenditure is of both an investment and a defensive type (for example, public health and primary health care). Despite these problems, it could be useful, when considering public sector financial sustainability, to go beyond net public debt and the major elements of public sector spending by sector.
- 4.34 Government makes investments whose payback is capability, and it also spends money that does nothing more than ameliorate bad situations. Our long-term preference must surely be an upward trend in the first and a downward trend in the second, or at least an upward trend in the first relative to the second. At the very least, we should be tracking the relative trends of the four suggested categories. Redistribution expenditure is already measured, but there would need to be some categorisation and development work before the other three categories could be measured.

### Engaging with the public

- 4.35 Measurement is a complex and value-laden activity. What is measured and how critically it is measured influence the information that can be produced and the use that can be made of that information. The research has focused on the methods and matters that could be the basis for measuring public sector financial sustainability. However, measurement is only part of the discussion. Without measurement, such discussion will usually be based on misinformation or extremely partial information. Conversely, without public discussion and action, improving measurement is pointless technical activity.
- 4.36 Therefore, the main objective of understanding our financial sustainability is not about forecasting the future correctly. Rather, the aim is to provide information that helps with making choices about the best actions to take and directions to choose from where we stand now.
- 4.37 Our financial sustainability issues are large, society wide, and complex. Such issues are effectively addressed only when all the parties affected are engaged in co-designing the solutions.<sup>35</sup> Although there is a large technical component to the questions of public sector financial sustainability, there are also large values and behavioural components (such as public and business expectations).
- 4.38 A recent paper<sup>36</sup> offers research evidence that providing good information is not enough in itself. People faced with complex and difficult problems often

35 See, for example, Kahane A (2004), *Solving Tough Problems: An Open Way of Talking, Listening, and Creating New Realities*, Berrett-Koehler Publishers, San Francisco, USA.

36 Shepherd S and Kay AC (February 2012), "On the perpetuation of ignorance: system dependence, system justification, and the motivated avoidance of socio-political information", *Journal of Personality and Social Psychology*, Vol. 102, No. 2, pages 264-280.

avoid learning about the issue and exhibit increased tendencies to trust or expect the Government to solve their problems for them. However, our financial sustainability challenges will be susceptible only to solutions based on co-operation and co-design, and learning-based solutions developed over time. It will not be enough to publish information on public sector financial sustainability – prior and subsequent engagement processes are critical to their usefulness.

- 4.39 The Treasury's current approach in preparing its 2013 Long-Term Fiscal Statement, towards wider engagement about a broader set of issues, is a positive one.
- 4.40 However, for any information about public sector financial sustainability to be used and useful, much more effort will need to be made to engage effectively with the public on the major underlying social, environmental, and economic issues, as well as their consequences for public services.



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