

He Puna Hao Pātiki

2018 Investment Statement Investing for Wellbeing

Sources of Information

Information contained in this Statement is based on a variety of sources. Unless otherwise stated, all information is based on financial years ending 30 June. Historical financial data are based on the *Financial Statements of the Government of New Zealand for the year ended 30 June 2017* and and forecast figures from the *Half Year Economic and Fiscal Update 2017* (HYEFU17), with additional supporting information collected by the Treasury. The detailed non-financial performance analysis in Sections two and four is based on management information provided to the Treasury by government agencies in 2017. While some of this information may have been previously disclosed publicly, some of it was provided, or created specifically, for this Statement. Note not all figures will add to totals due to rounding.

20 March 2018

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Presented to the House of Representatives pursuant to Section 26NA of the Public Finance Act 1989.

The Treasury would like to acknowledge agencies' contributions to the performance information detailed in Section 4 of this document, and the comments provided by an external panel of experts in the development of this Statement.

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Foreword

The 2018 Investment Statement (Statement) fulfils a reporting requirement set by Parliament within the *Public Finance Act 1989.* It is the Treasury's second Investment Statement and builds on the findings and conclusions from the first Statement published in 2014. This Investment Statement also complements the Treasury's 2016 Statement on the Long-Term Fiscal Position.

The Public Finance Act requires the Investment Statement to describe and state the value of the Crown's portfolio of significant assets and liabilities, how this has changed from the past, and how it is expected to change in future. Investment Statements add to the suite of fiscal reporting that sets out how public resources have been or are being used.

This Statement discusses the importance, principles of and progress towards good balance sheet management. These principles include efficient asset management, sustainable funding, prudent risk management, collection of supporting information, and use of that information to inform subsequent decisions and actions. Such principles will always be important to the provision of high-quality and cost-effective public services.

A significant addition to this Statement is that we consider the contribution of the government's assets and liabilities in the context of our Living Standards Framework. Without being able to have a view on how application of the principles of good balance sheet management support living standards, the task for policymakers is incomplete. Understanding the state of social, human, natural, and physical and financial capitals is also important and in this Statement we illustrate the issues with a discussion of natural capital.

The scope of new issues raised by applying a Living Standards Framework approach to government balance sheet management is wide ranging and challenging. This work pushes into areas of analysis that are not well settled in international practice. However, understanding the link between the government's investments and wellbeing is fundamental for effective public policy.

The Treasury will track progress on the key issues identified in this Statement. This will be reported in the next *Statement on the Long-Term Fiscal Position* due to be published by 2020 and the next *Investment Statement* due to be published by 2022.

In preparing this Statement, the Treasury has used its best professional judgement.

Secretary to the Treasury 20 March 2018

"Without being able to have a view on how application of the principles of good balance sheet management support living standards, the task for policymakers is incomplete."

Executive summary

Why does balance sheet management matter?

The New Zealand government manages significant assets and liabilities on behalf of the people of New Zealand. These provide resources which the government and New Zealanders can draw on to raise wellbeing, now and into the future. Together, these assets and the liabilities are known as the government's balance sheet. Managing the balance sheet well is important for delivering public services needed today in a way that maximises value for money, and for sustainable, resilient and adaptable public finances that will support living standards for generations to come. The government's balance sheet represents a financial valuation of a proportion of New Zealand's financial and physical capital, one of the four capitals along with human, social and natural capital that underpin wellbeing over the long term.

This Investment Statement (Statement) is focused on the management of the government's balance sheet and the assets and liabilities that make it up. The Statement also explores how balance sheet management can be extended to further support wellbeing using the Treasury's Living Standards Framework (LSF).

Many entities in New Zealand face similar issues of managing for wellbeing outcomes. For example, iwi asset owners and others in the Māori economy generally take an explicitly intergenerational and multidimensional approach. Some regional councils and private businesses in New Zealand present their corporate reporting in terms of non-financial as well as financial outcomes, such as in the International Integrated Reporting framework.

The analysis in this Statement supports the Treasury's function of promoting good practice in relation to central government balance sheet and investment management. The approaches used here will not necessarily be suitable or appropriate for other entities or authorities to adopt for their own purposes. But if others are able to draw inspiration for their own efforts from the analysis, we would be delighted. We hope that the issues raised in this Statement will contribute to broad-based discussions on effective balance sheet management in many contexts, including our own.

The major conclusions of this Statement and areas identified for further work, analysis or improved management are summarised below.

What is the balance sheet?

The balance sheet has been growing in recent years. As at 30 June 2017, the government owned \$314 billion worth of assets, and owed \$197 billion worth of liabilities. The difference is a net worth of \$117 billion, or around \$24,000 per person in New Zealand.¹ By 2022 assets are expected to reach \$365 billion while liabilities are expected to reach \$205 billion and net worth is expected to reach \$160 billion.

Around 52 percent of assets are in the Social Portfolio, primarily land, buildings and equipment used to support the delivery of social services – for example, schools and hospitals. A further 30 percent are in the Financial Portfolio, pre-funding government spending such as accident compensation and superannuation. The government also holds a Commercial Portfolio of companies with commercial objectives (18 percent).

Most of the government's liabilities represent general borrowing to help fund the operations of government. Other significant liabilities include insurance and retirement plan liabilities.

Section four of the Statement contains detailed performance assessments of the significant assets and liabilities on the balance sheet. These performance assessments contribute to transparency over the use of the taxpayers' investment managed by the government. "The government's balance sheet is currently strong, providing resilience in the face of adverse events."

Improving balance sheet management

Managing risks to the economy

The government's balance sheet is currently strong, providing resilience in the face of adverse events. This enables better planning and provides the government with a wider range of choices about possible future policy. The stress testing presented in this Statement suggests that the strength of the fiscal position would be broadly tolerant to large but plausible adverse shocks, in the form of a major earthquake, a widespread agricultural disease outbreak, or an international economic downturn.

The stress tests show net core Crown debt impacts over a five-year horizon, for each shock individually, remaining within a range that can be absorbed without implying the need for immediate and substantial changes in policy settings, which might further damage wellbeing. This analysis will feed into regular fiscal strategy advice on the adequacy of the balance sheet buffer against risk. In the future, we will:

• Include fiscal stress testing as an additional tool in the development of fiscal strategy advice.

In addition to preparing for unexpected adverse events, maintaining fiscal resilience requires confronting some known long-term fiscal pressures, for which it is sensible to plan for now. These include that New Zealand's population is growing, getting older on average and is increasingly urbanising.

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Based on StatsNZ population clock on 20 February 2018 http://archive.stats. govt.nz/tools_and_services/population_clock.aspx?url=/tools_and_services/ population_clock.aspx

Considering the balance sheet in light of expected future government income and expenditure gives a much fuller picture of the intergenerational implications of these trends on government finances (through, for example, public health expenditure). As discussed in the Treasury's 2016 *Statement on the Long-term Fiscal Position, He Tirohanga Mokopuna*, fiscal pressures are projected to build over the next 40 years. Small changes made now can have a significant impact later.

Finally, there are a number of possible medium-tolonger-term challenges of a more uncertain character, that are likely to substantially affect the economy and the government's balance sheet, but in a way that is not straightforward to analyse quantitatively. This does not make such challenges any less urgent to confront. The climate is changing, with the potential for sealevel rise, changes in average weather patterns, and more extreme weather events. Technology constantly changes, potentially rendering some assets obsolete and creating opportunities to deploy quite different assets in the delivery of public services. A strong and resilient balance sheet allows adaptation to these substantial challenges, underscoring the need for ongoing prudent balance sheet management.

Seeking value for money

To assess whether government is realising the best value for money from its assets and liabilities, all the options for achieving policy objectives need to be assessed.

Direct government ownership is only one form of intervention. The choice to own needs to be rigorously assessed against alternatives, such as regulation or the purchase of services from others. But once an asset is owned or a liability created, it should be managed well, and there are a range of ownership and funding mechanisms that should be considered. This Statement assesses the performance of assets and liabilities held by capital intensive government agencies. Key findings include:

 Social assets are ageing. For example, over 25,000 State houses and approximately 38 percent of school buildings are older than 50 years. As social assets are rejuvenated, their composition should be assessed to ensure it best supports changing service delivery models, and that the overall contribution to supporting wellbeing is maximised. Improving the indicators of asset performance and how they are linked to wellbeing outcomes is likely to help.

- The proportion of financial assets on the balance sheet has grown and is projected to continue growing. This increase in financial assets will change the government's overall risk profile. Analysis of the current risk position suggests it is diversified geographically and by asset class. Even so there remains exposure to normal market cycles. The different risk profile will require ongoing management.
- The government realises returns from the Commercial Portfolio primarily through dividends and the dividend yield has been low. Focus should be given to improving dividend yield or expanding options for realising returns.
- The policy settings, decision rights and fiscal management arrangements that drive government investment behaviour have over time become substantially more complex. Those arrangements need to be examined to ensure they are fit-forpurpose and achieve maximum positive impact.

These conclusions suggest that future development of balance sheet management arrangements should include efforts to:

- Examine whether system settings are encouraging appropriate investment management behaviours, particularly the management of assets used to support delivery of key state services.
- Examine how to reduce compliance costs on agencies so that they can more effectively meet their obligations.
- Investigate better arrangements for long-term budgeting, including the integration of capital and operating spending decisions into a single framework with common practices.

In addition, it is important to continue progress on the areas of focus (owning the right assets and managing them well, managing risk efficiently, sustainable financing and strong systems), from the 2014 Investment Statement, especially regarding improving the quality of information.

Better linking balance sheet management to wellbeing

The contribution of the government balance sheet and asset management to improving wellbeing is an ongoing, multi-year process for the Treasury. The areas of focus discussed above are a key part of meeting the challenge, within the realm of relatively conventional financial management disciplines. Over time we aim to broaden further the approach to linking balance sheet management to wellbeing, using the organising principles from the Treasury's LSF.

Wellbeing comprises tangible and intangible aspects of life experience, including housing, income, employment, community engagement, enjoyment of environmental amenity, education and health and security. In the LSF, these aspects are supported now and in the future by four capitals – natural, social, human and financial/physical. Many of these aspects and capitals are hard to measure, and knowing the impact of government decisions on each aspect or domain is also not straightforward.

A fundamental part of the challenge is thus to improve the wellbeing measurement framework. This effort needs to be motivated not by measurement for its own sake, but by the objective of improving existing tools for evidence-based policy development, such as social cost-benefit analysis, to incorporate more systematic and empirically-founded consideration of all the dimensions of wellbeing. A good measurement framework would set out the relevant generally accepted theory (ie, causal models) within each domain, and populate those models with data and indicators. Such a framework would provide a diagnostic tool to inform policy priorities, facilitate better analysis of the role and contribution of government activities to support particular wellbeing outcomes, and support evaluation of particular government investment, balance sheet operations or other intervention proposals intended to improve wellbeing.

The ability to construct public sector business case analyses incorporating considerations of wellbeing already exists to an extent, with some variability depending on the respective state of knowledge. The Treasury's development of the LSF is focused on promoting more systematic application across the domains and different spheres of government activity. Part of this effort is to work with the policy community to promote coherence across the system, through improved agency guidance and policy development processes.

Consideration of the wellbeing aspects of environmental amenity and natural capital illustrates how further development of the measurement framework in this domain might assist with the practical work of policy. Natural capital – including land, soil, water, the atmosphere, plants and animals, and minerals – is both a direct source of wellbeing in the form of environmental amenity, and supports a wide range of economic, social and cultural activities. Government investments in natural capital, or its other activities that have an impact on natural capital, therefore may have far-reaching impacts on current and future wellbeing.

Techniques to support monetary valuation of natural capital (or its components) and ecosystem services, generally within a 'Total Economic Value' approach that includes use and non-use values, are becoming more available. A common valuation metric would, in principle, enable comparison and aggregation across domains and hence more sharply quantified analysis to support policy development, whether the context

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"Over time we aim to broaden further the approach to linking balance sheet management to wellbeing, using the organising principles from the Treasury's Living Standards Framework." is diagnostic or project evaluation. Many of the techniques for measuring non-use values, however, depend on contestable assumptions and a range of uncertainties, and this area remains very much a work in progress.

The developing system of available environmental data, analysis and reporting arrangements can inform practical policy choices regarding the use or conservation of natural resources, including those associated with government assets (such as conservation land). The system could also help support policy assessments and decisions about balance sheet resilience. These include allowing for possible future government obligations associated with the adverse consequences of climate change and measuring the national balance sheet more fully to take account of the diverse sources of wellbeing. Finally, greater clarity on environmental values will assist in diagnostic work, policy prioritisation and sharper evaluation of the range of uses for public resources across natural capital and other wellbeing objectives.

Despite evident gaps in data and understanding across the wellbeing domains and the four capitals, the early building blocks for a stronger wellbeing orientation to government balance sheet and investment and asset management are in place. Further work in this area at the Treasury will include development of processes to:

- Regularly assess the state of, and future prospects for, wellbeing in New Zealand.
- Progressively promote a stronger wellbeing orientation to all policy including the management of the government balance sheet, other spending, taxation and regulatory policy.

This Statement concludes that while fiscal sustainability and the resilience of the government's balance sheet are currently satisfactory, we face a range of challenges in progressively bringing about a greater wellbeing orientation to investment management, that will require concerted effort to address.



Whakarāpopototanga matua

He aha e hira ai te whakahaere ripanga kaute?

Ka whakahaere te kāwanatanga o Aotearoa Niu Tīreni i ētahi rawa hirahira, i ētahi taumahatanga hirahira hoki mō ngā tāngata o Aotearoa Niu Tīreni. Ka whakarato ēnei i ētahi rauemi ka āhei te kāwanatanga te tiki atu hei mea whakapiki oranga, i tēnei wā, ā, haere ake nei. Hui katoa ka mōhiotia ko te ripanga kaute a te kāwanatanga ēnei rawa me ēnei taumahatanga. He mea hiranga te whakahaere tika i te ripanga kaute mō te whakarato ratonga tūmatanui e matea ana i tēnei wā kia whakanui ake i te wāriu nui, ā, kia toitū, kia pakari hoki, kia urutau hoki te ahumoni tūmatanui ka hāpai i ngā paerewa oranga mō ngā reanga kei te heke mai.

Ka whakaaturia e te ripanga kaute a te kāwanatanga te wāriutanga ahumoni o tētahi wāhanga o tā Aotearoa Niu Tīreni haupū rawa ahumoni, haupū rawa ōkiko hoki, arā, ko tētahi o ngā haupū rawa e whā, tae atu ki te haupū rawa ā-tangata, ā-pāpori, ā-ao tūroa ka noho hei tūāpapa mō te oranga i te wā roa.

Ka arotahi tēnei Tauākī Whakangao (Tauākī) ki te whakahaeretanga o te ripanga kaute o te kāwanatanga me ngā rawa me ngā taumahatanga kei roto. Ka tūhura hoki te Tauākī ka pēhea te whakawhānui i te whakahaere ripanga kaute kia whānui atu te tautoko i te oranga mā te whakamahi i ngā mātāpono whakarite i roto i te Anga Paerewa Oranga, arā, ko te Living Standards Framework (LSF), a te Kaitohutohu Kaupapa Rawa.

He maha ngā hinonga i Aotearoa Niu Tīreni kei te hiki te mānuka o te whakahaere mō ngā putanga oranga. Hei tauira, arā ētahi kaipupuri rawa ā-iwi, me ētahi atu (kaipupuri rawa) i te ōhanga Māori he aronga tuku iho, he aronga matatini hoki. Arā noa atu ētahi kaunihera ā-rohe me ētahi pakihi tūmataiti i Aotearoa Niu Tīreni ka whakaatu i ngā putanga kore ahumoni me ngā putanga ahumoni pērā i ō te anga Tuku Pūrongo Pāhekoheko ā-ao.

Ka tautoko te tātaritanga i roto i tēnei Tauākī i tā te Kaitohutohu Kaupapa Rawa mahi ki te toko ake i te whai tikanga e pā ana ki te ripanga kaute me te whakahaere whakangao a te kāwanatanga ā-motu. Kāore pea e tika ngā aronga ka whāia i konei hei mea whai mā ētahi atu hinonga, mā ētahi atu mana whakahaere hoki i ā rātou ake mahi. Heoi anō, mehemea ka puta i te tātari te whakamanawa i ētahi atu hinonga ki ā rātou ake mahi, ka pai hoki tērā. Ko te tūmanako ka tāpae ngā take ka puta i tēnei Tauākī ki ngā matapaki e pā ana ki te whakahaere ripanga kaute ka whai hua i roto i ngā horopaki maha, tae atu ki tā tātou nei.

Ka whakarāpopotongia ki raro nei ngā whakataunga matua o tēnei Tauākī me ngā āhuatanga ka tautuhia hei mea mahi tonu, hei mea tātari hoki, hei mea whakapai ake rānei i te whakahaere.

He aha tēnei mea te ripanga kaute?

Kua tipu ā-ahumoni te ripanga kaute i ngā tau tata kua taha ake. I te 30 o Pipiri 2017, i pupuri te kāwanatanga i ngā rawa ka \$314 piriona te wāriu, ā, ka noho nama i ngā taumahatanga kia \$197 piriona. Ka \$117 piriona te wāriu more o te hua tango, arā, ka tata ki te \$24,000 mō ia tangata i Aotearoa Niu Tīreni. Ko te whakapae hei mua mai i te tau 2022 ka eke ngā rawa ki te \$365 piriona, ā, ka whakaarohia ka eke ngā taumahatanga ki te \$205 piriona, ā, ko te whakapae ka eke te wāriu more ki te \$160 piriona. Ka tata ki te 52% o ngā rawa kei te Wāhanga Pāpori, ka kaha tautuhia te whenua, ngā whare, me ngā utauta ka whakamahia hei āwhina i te whakarato ratonga pāpori – hei tauira, he kura, he hōhipera hoki. Ka 30% anō kei roto i te Wāhanga Ahumoni, i ngā whakawhitinga kāwanatanga i mua i te pūtea pērā i te tāke āwhina hunga whara me te penihana kaumātua. Kei te kāwanatanga tētahi Wāhanga Arumoni hoki he pakihi o roto me ngā whāinga arumoni (ka 18 ōrau). Ko te nuinga o ngā taumahatanga o te kāwanatanga he tono pūtea whānui nā te kāwanatanga ka āwhina i te utu i ngā whakamahi o te kāwanatanga. Tae atu ētahi anō taumahatanga nūnui ki ngā taumahatanga mahere rīanga, ki ngā taumahatanga mahere rītaiatanga hoki.

Kei roto i te Wāhanga 4 o te Tauākī ētahi aromatawai mahi whai āmiki o ngā rawa me ngā taumahatanga nui kei te ripanga kaute. Ka tāpae ēnei aromatawai mahi ki te pūataata i te whakamahinga o te whakangao kaiutu tāke.

Te whakapai ake i te whakahaere ripanga kaute

Te karo tūraru ki te ōhanga

I tēnei wā he kaha te ripanga kaute a te kāwanatanga, mā reira e manawaroa ai ahakoa ngā āhuatanga poautinitini. Mā tēnei e āhei ai te whakamahere pai ake, e whakatakoto ai hoki ngā tūmomo kōwhiringa maha ki te kāwanatanga mō te kaupapa here e āhei ana te puta, haere ake nei. E ai ki te whakamātau kōhukihuki ka whakatakotoria ki roto i tēnei Tauākī ka āhua toitū tonu te tūranga ā-ahumoni ina tūpono mai tētahi whawhati ohotata poautinitini nui pērā i te rū whenua kino, i te mate urutā hoki ka puta whānui, i te pāheketanga ōhanga ā-ao rānei.

Ka whakaatu ngā whakamātau kōhukihuki i ngā pānga ki ngā nama kāwanatanga i te roanga o ngā tau e rima, mō ia raruraru takitahi, ā, ka noho tonu i te huinga oti ka taea tonu te whakaea me te kore tohu i ētahi panoni tere tonu, nui hoki ki ngā whakataunga kaupapa here, tēnā pea ka whakaheke tonu i te oranga. Ka uru tēnei tātaritanga ki roto i te tohutohu rautaki ā-ahumoni auau e pā ana ki te pai o te pākai ā-ripanga kaute hei ārai tūraru. Haere ake nei, ko tā mātou:

 He whakauru i te whakamātau kōhukihuki ā-ahumoni hei taputapu anō i te whakawhanake tohutohu rautaki ā-ahumoni.

Āpiti atu i te whakarite mō ngā āhuatanga poautinitini ohorere, me ahu atu ki ētahi tāmitanga ahumoni wā e mōhiotia nei, ā, me whakamahere ināianei ka tika kia ū tonu ai te manawaroa ā-ahumoni. Tae atu ēnei ki te tipu haere me te pakeke haere ā-taurite o te taupori o Aotearoa Niu Tīreni, ā, kei te nui haere te hunga e noho tāone ana. Mā te whakawhānui i te ripanga kaute kia whakaurua ai te pūtea whiwhi haere ake nei ka kawatautia, ka āta kitea ngā pānga tuku iho o ēnei tikanga ki te pūtea a te kāwanatanga (hei tauira, mā te whakapau pūtea ki te hauora tūmatanui). E ai ki ngā whakamārama i te Tauākī mō te Tūranga Ahumoni Wā roa 2016 a te Kaitohutohu Kaupapa Rawa, arā, He Tirohanga Mokopuna, ko te tirohanga whakamua ka nui haere ngā tāmitanga ahumoni ā ngā tau 40 kei te tū mai. Iti nei ngā panoni o nāianei, heoi anō ā muri atu rā ka puta te pānga nui.

Ka mutu, arā anō ētahi wero pae waenga ki te pae tawhiti ka āhua pāhekeheke, e tinga ana ka tino pā atu ki te ōhanga me te ripanga kaute a te kāwanatanga, engari ka kore e tōtika te tātari ā-tatau. Ehara i te mea ka memeha haere te matea kia whakaea i ēnei momo wero. E huri ana te āhuarangi, nā reira ka puta pea te piki o te pae moana, te huri hoki o ngā tauira huarere taurite, me ngā āhuatanga huarere kino rawa atu. Ka huri tonu te hangarau, ka tino tawhito haere pea ētahi rawa, ā, ka āhei pea te whakamahi i ngā rawa tino rerekē hei tuku i ngā ratonga tūmatanui. Mā te ripanga kaute kaha e pakari hoki ai te urutau ki ēnei wero nūnui, ā, ka āta kitea te matea me matawhāiti te whakahaere i te ripanga kaute, haere ake nei.

Te rapu i te wāriu mai i te pūtea

Me aromatawai ngā ara katoa ki te whakatutuki whāinga kaupapa here kia aromatawaitia ka whakatinana rānei te kāwanatanga i te wāriu pai rawa mō te pūtea i āna rawa, taumahatanga hoki.

Ko te pupuritanga tōtika a te kāwanatanga tētahi momo ara hou anahe. Me āta aromatawai te kōwhiringa kia whiwhi ki ara kē atu, pērā i te whakariterite, i te hoko ratonga mai i ētahi atu rānei. Engari, inā whiwhia tētahi rawa, inā whakatūria tētahi taumahatanga rānei, me tika te whakahaere, ā, arā anō ngā ritenga whiwhi, ngā ritenga whai pūtea hoki hei mea whakaaro. Ka aromatawai tēnei Tauākī i te mahi a ngā rawa me ngā taumahatanga ka pupurihia e ngā pokapū kāwanatanga e pupuri ana i te nui haupū rawa. Tae atu ngā kitenga matua ki:

- Te tawhito haere o ngā rawa pāpori. Hei tauira, nui atu i te 25,000 whare Kāwanatanga, tata ki te 38 ōrau o ngā whare o ngā kura kua neke atu i te 50 tau te tawhito. Whakahoungia ai te kohinga rawa pāpori, me aromatawai tōna hanga kia ū ai ka pai rawa te taunaki i ngā ritenga tuku ratonga ka panoni, kia nui te tāpae whānui ki te taunaki oranga hoki ki tōna e taea ana. E tinga ana ka āwhina te whakapai ake i ngā tūtohi o te mahi o ngā rawa, ā, ka honoa ērā ki ngā putanga oranga.
- Te tipu haere o te hautanga o ngā rawa ahumoni kei te ripanga kaute, ā, e ai ki te matapae ka nui haere tonu. Ka whakarerekē tēnei nui haere o ngā rawa ahumoni i tō te Kāwanatanga anga tūraru whānui. E ai ki te tātari i te tūranga tūraru o tēnei wā kua whakaputaina kētia ā-matawhenua, ā-momo rawa hoki. Ahakoa tonu tērā, tēnā pea ka kitea ka nui atu i te \$11 piriona te moni ngaro i te moka o ngā hurihanga noa o te tauhokohoko. Nā te mea ka rerekē te anga tūraru, me haere tonu te tirotiro ka tika.
- Te whakatinana a te Kāwanatanga i ngā moni hua i te Taha Arumoni, tuatahi mā te moni hua, ā, ka iti te moni hua. Me arotahi ki te whakanui i te moni hua ka hua mai, ki te whakawhānui rānei i ngā ara hei whakatinana i ngā hua.
- Haere ai te wā kua tino whīwhiwhi haere ngā āhuatanga ka kōpana i te whanonga whakangao a te kāwanatanga, arā, ko te whakataunga kaupapa here, ngā tika whakataunga whakaaro me ngā ritenga whakahaere pūtea. Me tirotiro i aua ritenga ka tika kia ū ai ka tika mō te mahi, ka whakawhiwhia te pānga pai rawa atu ka taea.

E ai ki ngā whakataunga nei me tae atu te whanake i ngā ritenga ripanga kaute mō ngā rā e tū mai ana ki te whai i te:

- Rapu i ngā ritenga pai ake mō te mahere pūtea wā roa, tae atu ki te whakauru i ngā whakataunga haupū rawa me ngā whakataunga whakapaunga whakahaere ki te anga kotahi me āna tikanga noa.
- Whakatewhatewha i te whakahau rānei a ngā tautanga pūnaha i te whanonga whakahaere whakangao e tika ana, inarā te whakahaere rawa ka taunaki i te ratonga o ngā tino ratonga ā-motu.
- Whakatewhatewha me pēhea te whakaiti i ō ngā pokapū ngā nama tūtohu kia pai ake ai te whakaea i ā rātou herenga.

Āpiti atu i tērā, ka hirahira te haere tonu o te ahu whakamua i ngā wāhanga arotahi (arā, ko te pupuri i ngā rawa tika me te whakahaere pai i aua rawa, te whakahaere tūraru kia whai hua, te whai pūtea me ngā pūnaha toitū) mai i te Tauākī Whakangao, i 2014, inarā ka hāngai ki te whakapai ake i te kounga o te pārongo.

Te whakapai ake i te hono o te whakahaere ripanga kaute ki te oranga

Hei ngā tau huhua kei te tū mai, ka haere tonu atu te whakapai ake tonu i te ripanga kaute o te kāwanatanga me te whakahaere rawa kia tutuki ai te tino whāinga, arā, ko te toko ake i te oranga i te wā roa. He āhuatanga motuhake o te hiki i te mānuka ngā wāhanga arotahi ka whakamāramatia ai i runga ake, i roto i ngā akoranga whakahaere ahumoni o ia rā. Ko te whāinga ia ka whakawhānui tonu i te aronga ki te whakaahu i te whakahaere ripanga kaute ki te oranga, mā te whakamahi i ngā mātāpono whakarite i tā te Kaitohutohu Kaupapa Rawa Anga Taumata Ora (LSF).

Arā noa atu ngā āhuatanga papatupu me ngā āhuatanga memeha o te wheako ka kīia ko te oranga, tae atu ki te whai whare, te whiwhi pūtea hoki, te whiwhi mahi hoki, te whai wāhi ā-hapori hoki, te rongo hoki i te pārekareka o ngā ratonga ā-taiao, te mātauranga hoki, te hauora me te taituarā. He uaua te ine i te nuinga o ēnei hua o te oranga, ā, kāore hoki i te ngāwari noa iho kia mōhio i te pānga o ngā whakataunga kāwanatanga ki ia wāhanga.

Ko te whakapai ake i te anga ine oranga tētahi tino āhuatanga o te wero. Me kaua tēnei mahi e puta i te ine mo te ine noa iho te take, engari me puta i te hiahia ki te whakapai ake i ngā taputapu o tēnei wā hei whanake i te kaupapa here ā-taunaki, pērā ki te tātari i te tū āhua o te utu ki te hua mā te pāpori; ka whai whakaarotia te whakauru i te whai tikanga, i te whai taunakitanga hoki ki ngā āhuatanga katoa o te oranga. Ka whakaatu tētahi anga ine pai i te ariā e hāngai ana, ka whakaaetia whānuitia (arā, ko ngā tauira taketake) kei roto i ia wāhanga, ā, ka whakakīia aua tauira ki ētahi raraunga, tūtohi hoki. Ka whakarato tētahi anga pēnei i tētahi taputapu tātari hei whakamōhio i ō ngā kaupapa here mea tuatahi, hei whakamāmā i te tātari mahi, i te tātari tāpae hoki a ngā mahi a te kāwanatanga ki te tautoko i ētahi putanga oranga me te aromātai i ētahi whakangaotanga motuhake o te kāwanatanga, i ngā whakahaere ripanga kaute, i ētahi anō marohi wawao rānei hei hāpai oranga.

Kua āhua tau kē te āhei ki te hanga tātaritanga o ngā ritenga pakihi a te rāngai tūmatanui, ā, kua whakaurua kētia ētahi whai whakaaro whānui ake e pā ana ki te oranga, ā, arā hoki te āhua whakaehu puta noa i ngā wāhanga kei te āhua tonu o te taumata mōhiotanga o ia wāhanga, o ia wāhanga. Ka ahu atu tā te Kaitohutohu Kaupapa Rawa whakawhanake i te LSF ki te toko i te whakamahinga nahanaha puta noa i ngā wāhanga me ngā momo ngohe rerekē o te kāwanatanga. Ko tētahi āhuatanga o tēnei mahi ko te mahi ki te taha o te hapori kaupapa here whānui ki te toko ake i te whakakaupapa puta noa i te pūnaha, mā te ārahitanga pokapū pai ake me ētahi hātepe whanake kaupapa here.

Ka whakaatu te whai whakaaro i ngā āhuatanga o te oranga, arā, o te āhuatanga taiao me te haupū rawa māori i te whanake tonu o te anga ine i roto i tēnei wāhanga tērā pea ka āwhina i te mahi whai take o te kaupapa here. Ko te haupū rawa māori – tae atu ki te whenua, te one, te wai, te kōhauhau, ngā tupu me ngā kararehe, me ngā kohuke hoki te puna tūturu o te oranga mā te hanga o te haratau taiao, ā, ka taunaki hoki i ngā momo ngohe ōhanga, pāpori, ahurea hoki. Nō reira tērā pea ka pāngia whānuitia te oranga o tēnei wā me te oranga haere ake nei e te whakangao a te kāwanatanga i roto i te haupū rawa māori, e ētahi atu o āna mahi ka pā atu ki te haupū rawa māori rānei.

Kei te pārāweranui haere ngā āhua ā-mahi hei āwhina i te whai wāriu ā-pūtea o te haupū rawa māori (o ōna wāhanga rānei), hei āwhina i ngā ratonga pūnaha hauropi hoki, kei roto i te aronga 'Wāriu Ōhanga Tapeke', tae atu tēnei aronga ki te wāriu whakamahi me te wāriu whakamahi kore. Ka whakaahei whakataurite, tōpūtanga hoki tētahi pūnaha māmā ka ine i ngā hua wāriu puta noa i ngā wāhanga, ā, nā konā te tātaritanga ka āta tātaihia kia āwhina i te whanake kaupapa here, ahakoa te horopaki rangahau, te horopaki aromātai kaupapa rānei. Heoi anō, ka whirinaki ngā āhua ā-mahi maha hei ine i ngā wāriu whakamahi kore ki ētahi whakaaro whai whakamātau me ētahi whiringa pātai, ā, ka noho tonu tēnei wāhanga hei mahi kei te mahia tonutia.

Ka āhei te pūnaha ka whanakehia hei raraunga taiao ka noho wātea, me ngā ritenga tātari me ngā ritenga tuku pūrongo te whakamōhio i ngā whiringa kaupapa here whai take, e pā ana ki te whakamahi, ki te whakauka rānei i ngā rauemi māori, tae atu ki ērā ka hāngai ki ngā rawa o te kāwanatanga (pērā i te whenua whakauka). Ka āhei hoki te pūnaha te āwhina, te tautoko hoki i ngā aromatawai kaupapa here me ngā whakataunga e pā ana ki te manawaroa o te ripanga kaute. Tae atu ēnei ki te tuku i ngā herenga o te kāwanatanga tērā pea ka puta haere ake nei e hāngai ana ki ngā hua kōaro o te panoni āhuarangi me te āta ine i te ripanga kaute ā-motu ki taumata anō hei aro atu ki ngā ahunga rerekē o te oranga. Hei mea mutunga, ka āwhinatia e te ariari nui atu e pā ana ki ngā uara taiao te mahi whakatau,

te whakaaro tau i te kaupapa here me te aromātai koi atu i ngā momo whakamahi i ngā rauemi tūmatanui puta atu i ngā whāinga haupū rawa māori me ētahi atu whāinga oranga.

Heoi anō, kua whakaritea ngā wāhanga waihanga tīmatanga mō te ahunga oranga kaha atu ki te ripanga kaute kāwanatanga me te whakahaere whakangao, rawa hoki. Tae atu ētahi anō mahi i tēnei wāhanga i te Kaitohutohu Kaupapa Rawa ki te whanake i ētahi hātepe hei:

- Aromatawai auau i te āhua me te pitomata haere ake nei o te oranga i Aotearoa Niu Tīreni.
- Toko ake tonu i te ahunga oranga kaha atu ki ngā kaupapa here katoa tae atu ki te whakahaere o te ripanga kaute kāwanatanga, ki ētahi anō whakapaunga, ki te tāke me te kaupapa here mō te whakariterite.

Ka whakatau tēnei Tauākī ka pai te toitū ā-ahumoni me te manawaroa o te ripanga kaute kāwanatanga i tēnei wā, engari kei mua i te aroaro ētahi wero i te whakatinana tonu i te ahunga oranga kaha ake ki te whakahaere whakangao.

About the design elements

The symbology used throughout *He Puna Hao Pātiki* is based on metaphor embedded in Ngā Mokopuna a Tāne, the Treasury's wharenui (meeting house).

The wharenui depicts korero tuku iho (oral traditions) that embody the matauranga (knowledge, wisdom and skill) of successive generations. These lift our sights and enrich our analysis with diverse perspectives.

The design elements in this Statement employ patterns from the wharenui's tukutuku (lattice-work panels), kōwhaiwhai (scroll patterns) and whakairo (carvings) to portray key themes of *He Puna Hao Pātiki*.





Mangopare kōwhaiwhai

Resilience Tenacious resolve and endurance

Mangopare, the Hammerhead shark resembles a leader's resolve and endurance.

Q: Can the investment cope with unexpected events, like natural disasters?

.....

Pārekereke kōwhaiwhai

Sustainability Intergenerational prosperity

Pārekereke, the unfurling fern frond, symbolises the nurturing and wellbeing of younger generations.

Q: Will funding sustain expected service delivery over the long term, under current policy settings?

Puhoro kōwhaiwhai

Efficiency Momentum for progress

Puhoro resembles the rippling pattern created by the strokes of many oars propelling a waka (canoe) swiftly through water.

Q: Is the investment being used productively?

.....

Kaokao tukutuku

System settings Noble behaviour and protection of people and assets

Kaokao symbolises a leader's protective embrace, whose strength does not come from one alone but from many, moving and acting in unison.

Q: Do system settings produce investment management behaviours that maximise wellbeing?





Mumu tukutuku

Effectiveness Dynamic balance – reconciling need and opportunity

Mumu symbolises unity through tribal alliances and intermarriage. It signifies that important needs can be met synergistically, through the amalgamation of objectives.

Q: Does the investment system select the highest priority investments to improve wellbeing?

.....

Pātiki tukutuku

Wellbeing New Zealand's resources – provisions for all

Pātiki (flounder) symbolise the good fortune that comes from an abundance of resources and the resourcefulness of people as they take advantage of this abundance for the benefit of all.

Pātiki feature on the cover and throughout this Statement.

Poutama tukutuku

Information Shared knowledge

Poutama symbolises human advancement and the sharing of knowledge to benefit all.

Q: Does information allow decision-makers to understand impacts on wellbeing?

.....

Purapurawhetū tukutuku

Distribution For the benefit of all people

Purapurawhetū symbolises the many people of a nation and likens them to the myriad of stars.

Q: How are the wellbeing outcomes distributed?

Roimata Toroa tukutuku

Adaptability Paying attention

Roimata Toroa symbolises the falling tears of the Albatross. It is a reminder of the misfortune resulting from inattention.

Q: Can the investment respond to expected long-term trends, like technological and demographic change?

Te ika a Māui whakairo

Te ika a Māui symbolises the patterned scales of Māui's fish – now transformed into ika whenua – the contour of the mountain ranges, tundra and river flats of the land.

The pattern of Te ika a Māui is carved into the Treasury's pou tokomanawa (central structural post) and signifies links to the land and whakapapa (genealogy). It features on the spine of this Statement.













Managing the balance sheet

Section one: Managing the balance sheet

Section 26NA of the Public Finance Act 1989 requires the Investment Statement to describe and state the value of the government's significant assets and liabilities and how they are changing over time. The starting point for this analysis is the rigorous and independent generally accepted accounting principles (GAAP) presentation used to produce the *Financial Statements of the Government of New Zealand*. This section explores the analysis of those accounts. Augmenting this accounting information can further make the assessment of the value of investments more comprehensive and reflective of their contribution to wellbeing. How and how well the government's investments link to wellbeing is explored in section two, and how a stronger wellbeing approach can be applied to the government's investment management system is discussed in section three.

Chapter 1.1: Good management of the balance sheet is important

The government balance sheet

Government investments underpin the delivery of important social services including health, education, justice, transport and defence. They also help fund social service commitments and transfers, like New Zealand Superannuation and the Accident Compensation Corporation (ACC).

The assets and liabilities of the government are represented on its balance sheet, formally known as the Statement of Financial Position, as presented in the *Financial Statements of the Government of New Zealand*.² Assets and liabilities that make up the balance sheet are diverse, including:

- · physical assets such as government buildings
- financial assets and liabilities
- companies
- debt obligations of the Crown.

The assets and liabilities that make up the balance sheet are owned and managed by the diverse range of agencies that make up the government, including government departments, Crown entities and State-owned Enterprises (SOEs).³

As at 30 June 2017, the government's balance sheet had \$314 billion (117 percent of GDP) in assets, and by 2022 assets are expected to reach \$365 billion (105 percent of GDP). Meanwhile, liabilities total \$197 billion (74 percent of GDP), and by 2022 liabilities are expected to reach \$205 billion (59 percent of GDP). This leaves net worth (assets less liabilities) of \$117 billion (36 percent of GDP) at 30 June 2017, and by 2022 net worth is expected to reach \$160 billion (57 percent of GDP). The composition and size of the balance sheet reflects numerous government decisions over time as well as factors beyond the immediate control of the government. Investment and associated financing decisions have direct asset and liability impacts. Subsequent to acquisition, asset and liability values vary due to depreciation or changes in market or replacement value. Operating decisions and fiscal surpluses or deficits further impact net worth.

The balance sheet can also be impacted by infrequent shocks, such as disasters and economic downturns. These can have pervasive and adverse impacts. This can either be because of direct effects on government assets and liabilities, or indirectly through taxes falling and government expenditure rising in response to disruptions in economic activity.

All these factors act together to shape the balance sheet seen today. How the future balance sheet will change depends on how balance sheet management decisions deal with these dynamics.

The information provided by the balance sheet can be used to assess the cost of government activities, hold the government to account for its use of resources, and allow creditors to form judgements about the government's capacity to meet obligations.

For a more in depth discussion of the composition of the balance sheet see chapter 1.2.

² Refer: http://www.treasury.govt.nz/government/financialstatements

³ See Appendix 1 for a full list.

Selected assets and liabilities per capita

A selection of assets and liabilities is shown on a per capita basis (to the nearest \$500) in Table 1.1.

Table 1.1: Selected assets and liabilities per capita

	Total Assets and liabilities	NZSF	ACC	Healthcare	Education	HNZC*	Conservation	NZDMO**
Assets	\$64,500	\$7,000	\$8,500	\$1,500	\$4,000	\$5,500	\$1,500	\$4,500
Liabilities	\$40,500	\$ -	\$8,500	\$500	\$500	\$1,000	\$ -	\$18,000

* Housing New Zealand Corporation ** New Zealand Debt Management Office

Source: The Treasury

Good government balance sheet management

In supporting wellbeing the government operates in the context of other institutions and individuals. This includes New Zealanders making their own choices about how to raise wellbeing for themselves, their families, and communities.

Good public policy process requires the government to set clear objectives, understand the nature of the problems that might stand in the way, and evaluate a range of intervention options (such as regulation, service delivery or owning and operating assets) for overcoming these problems, and acting (or not acting) where appropriate. The options should be evaluated against a well-specified 'counterfactual' of what would happen if the government did not intervene, and incorporate the full range of financial and nonfinancial costs and benefits of each option.

The box below elaborates on these principles in the context of government balance sheet management.

When should government own things?

Ownership is only one form of intervention to achieve a public policy goal. The choice to own needs to be rigorously assessed against alternatives. Of course, ownership can be, and is, an effective intervention in the right circumstances. These include when:

- · the social and economic benefits of ownership outweigh the costs
- service delivery involves specialised assets that the private sector has trouble providing on an ongoing basis
- · risk cannot be efficiently transferred to the private sector through a contract
- the government has the most relevant expertise
- the government needs to be directly accountable for outcomes.

These factors explain why the government tends to own military equipment, utilises both public and private ownership of school buildings for education and leases many of the buildings used to house government agencies.

If the best solution to an identified problem involves owning an asset or incurring a liability then these need to be managed well to maximise the benefits they provide and to minimise costs. Good management of the balance sheet requires:

- Owning the right assets and managing them well – proactive alignment of assets with government priorities and managing them well to optimise the value that can be generated from existing resources.
- Managing risk efficiently to enhance resilience of public services to shocks and to minimise costs.
- **Sustainable financing** to ensure durable fiscal policy settings and resilience to shocks.
- Strong systems to support and ensure efficient and effective management of assets and liabilities by agencies and government.

The 2014 Investment Statement discussed these principles in detail.

Benefits of good government balance sheet management

Benefits of good balance sheet management include:

- Improved wellbeing through ensuring the public services delivered are those most valued by New Zealanders.
- More efficient use of assets and liabilities releasing resources for other uses including:
 - expanding the range and quality of government services
 - increasing government saving to strengthen the balance sheet
 - reducing government borrowing, and/or
 - reducing tax.
- Allowing an equitable distribution of costs and benefits of public services across generations, such as:
 - minimising the transfer of today's costs onto future generations, and/or
 - spreading the cost of long-lived infrastructure across the generations that benefit.

- Supporting fiscal sustainability and resilience, which improves wellbeing and economic growth through:
 - maintaining essential public services during periods of poor economic performance or shocks
 - encouraging economic growth through creating a stable environment for investment
 - reducing the cost of debt for the government and the private sector
 - responding to circumstances on the basis of need and opportunity rather when they are affordable.

Limits to balance sheet growth

The limits to balance sheet growth are primarily about the affordability and risk associated with the collective and cumulative sum of decisions.

Debt is one means to finance government activities, but when debt gets too high, there can be adverse repercussions and the ability to manage shocks is reduced. Increasing tax to fund investment also has its limits. In both cases, investing more taxpayer funds into assets carries opportunity costs in preventing other activities that would be possible in the absence of the investment.

The implication of these constraints is that investment needs to be rationed with the highest value projects chosen first and the sustainability and resilience of the balance sheet need to be carefully monitored so that debt levels do not become too high. The fiscal responsibility provisions of the Public Finance Act 1989 place obligations on Governments to ensure this remains the case.

Recent improvements in government balance sheet management

The Treasury's previous Investment Statement⁴ identified opportunities to improve government balance sheet management. These drove a work programme that addressed the themes of good balance sheet management discussed earlier. Substantive achievements include updated expectations for government agencies in managing assets under their responsibility on behalf of the government, a method for fiscal risk assessment, and improvements to debt management.

Asset management expectations

The Cabinet Office Circular, CO(15)5⁵, sets out system-wide expectations for managing social sector assets. Agencies are required to target asset performance and report against indicators including utilisation, condition and fitness for purpose. Agencies are also required to: provide more information about long-term plans; improve their cost benefit analysis for investment proposals; and project implementation. These practices have increased the amount of useful information for future investment decision-making.

The circular introduced the Investor Confidence Rating (ICR) which provides an incentive mechanism that rewards good investment management performance and proactively addresses gaps in investment management performance. Over time the ICR is expected to improve key aspects of investment management maturity and investment performance as a means of delivering best value for money. ICR assessments affect agency decision rights and autonomy, including access to government balance sheet resources, levels of authority to make investment decisions, and levels of investment-related reporting and assurance activity.⁶

Fiscal risk assessment

The fiscal risk assessment illustrated in chapter 1.3 was developed to support the development of fiscal strategy and management of the balance sheet.

Debt arrangements

How to support fiscal sustainability is an ongoing focus. One new initiative is a commitment to maintaining a sustainable government debt market. The government has committed to keep the level of New Zealand Government Bonds (NZGBs) on issue at not less than 20 percent of GDP over time.⁷ This means government will continue to issue NZGBs even if net core Crown debt falls below 20 percent of GDP. The benefit of a minimum level of NZGBs on issue is to ensure ongoing government access to debt funding and to maintain good balance sheet liquidity.

Remaining challenges

Improvements still need to be made across all elements of government balance sheet management. Similar to issues raised in the previous Investment Statement, there is still a need to improve the rigour of performance reporting. This includes the quality and timeliness of the measures reported on and the quality of the underlying data. Data integrity is essential when relying on information for decision-making. More specifically, as discussed later, there is a need to enhance the understanding of how asset management leads to improve wellbeing outcomes.

⁴ Refer: http://www.treasury.govt.nz/government/investmentstatements/2014

⁵ A Cabinet Office Circular conveys decisions of Cabinet that apply to the executive branch of government. Refer: https://www.dpmc.govt.nz/ publications/co-15-5-investment-management-and-asset-performance-state-services

⁶ Refer: http://www.treasury.govt.nz/statesector/investmentmanagement/review/icr/information

⁷ NZGBs account for the vast majority of gross core Crown debt and are the Government's main debt funding tool.

Chapter 1.2: Balance sheet by the numbers

The government's balance sheet is split into assets – which the government owns, and liabilities – which the government owes. The assets and liabilities of all government agencies⁸ are included in the balance sheet. The difference between assets and liabilities represents net worth, which provides a view of the strength of the government balance sheet at a given point in time.⁹

As at 30 June 2017 the value of government assets totalled \$314 billion, of which the main asset types were:

- property, plant and equipment (PP&E), such as land and buildings (\$145 billion)
- marketable securities and share investments (\$81 billion)
- tax receivables (\$10 billion) and advances (\$29 billion).

Meanwhile the value of government liabilities totalled \$197 billion, primarily consisting of:

 borrowings (\$112 billion), of which the majority is in the form of New Zealand Government securities, which are debt instruments issued in capital markets

- insurance liabilities including ACC and the Earthquake Commission (EQC) (\$43 billion)
- retirement plan liabilities (\$11 billion).

Net worth was \$117 billion as at 30 June 2017, representing taxpayers' net investment managed by the government of New Zealand.

⁸ Refer Appendix 1.

⁹ For a fuller explanation of the balance sheet and its interrelationship with the other financial statements of the Government of New Zealand, refer to http://www.treasury.govt.nz/government/fiscalstrategy/ fiscalind-fsg.pdf

The government's balance sheet position

Table 1.2 sets out the past, present and forecast balance sheets of the government.

Table 1.2: The government's balance sheet

June Years \$ millions	2005 Actual	2009 Actual	2013 Actual	2017 Actual	2018 Forecast	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
Assets									
Cash and cash equivalents	3,710	6,268	14,924	18,732	15,512	15,214	15,654	16,255	16,843
Receivables	10,883	14,619	19,883	18,529	18,900	19,876	20,588	21,988	22,220
Marketable securities, deposits and derivatives in gain	22,166	45,708	44,000	50,506	47,214	43,562	43,467	41,791	53,612
Share investments	10,896	11,160	17,359	30,700	34,512	36,492	38,749	42,838	47,138
Advances	8,536	15,604	22,613	28,583	29,411	30,428	31,280	32,015	32,735
Inventory	946	1,082	1,140	1,167	1,057	1,007	994	978	973
Other assets	453	1,630	2,295	3,079	2,619	2,661	2,661	2,679	2,698
Property, plant & equipment	67,494	110,135	109,833	144,550	149,323	154,300	157,627	158,638	160,278
Equity accounted investments	5,010	8,777	9,593	14,210	14,678	15,161	15,617	16,171	16,694
Intangible assets and goodwill	737	2,168	2,776	3,553	3,887	3,916	3,896	3,812	3,716
Forecast for new capital spending					304	2,269	4,734	7,479	10,199
Top-down capital adjustment					-1,100	-1,550	-1,800	-1,900	-1,950
Total Assets	130,831	217,151	244,416	313,609	316,317	323,336	333,467	342,744	364,796
Liabilities									
									0.040
Issued currency	3,197	4,005	4,691	5,980	6,085	6,267	6,455	6,649	6,849
Issued currency Payables	3,197 11,371	4,005 9,139	4,691 11,160	5,980 14,794	6,085 12,306	6,267 12,387	6,455 12,323	6,649 13,136	12,852
Issued currency Payables Deferred revenue	3,197 11,371 	4,005 9,139 1,426	4,691 11,160 1,714	5,980 14,794 2,224	6,085 12,306 2,118	6,267 12,387 2,184	6,455 12,323 2,200	6,649 13,136 2,244	6,849 12,852 2,270
Issued currency Payables Deferred revenue Borrowings	3,197 11,371 36,864	4,005 9,139 1,426 61,953	4,691 11,160 1,714 100,087	5,980 14,794 2,224 111,806	6,085 12,306 2,118 110,904	6,267 12,387 2,184 111,832	6,455 12,323 2,200 112,722	6,649 13,136 2,244 109,605	6,849 12,852 2,270 117,503
Issued currency Payables Deferred revenue Borrowings Insurance liabilities	3,197 11,371 36,864 11,384	4,005 9,139 1,426 61,953 26,567	4,691 11,160 1,714 100,087 37,712	5,980 14,794 2,224 111,806 42,786	6,085 12,306 2,118 110,904 43,364	6,267 12,387 2,184 111,832 44,186	6,455 12,323 2,200 112,722 45,784	6,649 13,136 2,244 109,605 47,721	6,849 12,852 2,270 117,503 49,708
Issued currency Payables Deferred revenue Borrowings Insurance liabilities Retirement plan liabilities	3,197 11,371 36,864 11,384 14,952	4,005 9,139 1,426 61,953 26,567 8,993	4,691 11,160 1,714 100,087 37,712 11,903	5,980 14,794 2,224 111,806 42,786 11,006	6,085 12,306 2,118 110,904 43,364 10,388	6,267 12,387 2,184 111,832 44,186 9,825	6,455 12,323 2,200 112,722 45,784 9,287	6,649 13,136 2,244 109,605 47,721 8,777	6,849 12,852 2,270 117,503 49,708 8,289
Issued currency Payables Deferred revenue Borrowings Insurance liabilities Retirement plan liabilities Provisions	3,197 11,371 36,864 11,384 14,952 3,080	4,005 9,139 1,426 61,953 26,567 8,993 5,553	4,691 11,160 1,714 100,087 37,712 11,903 7,138	5,980 14,794 2,224 111,806 42,786 11,006 8,541	6,085 12,306 2,118 110,904 43,364 10,388 8,704	6,267 12,387 2,184 111,832 44,186 9,825 8,328	6,455 12,323 2,200 112,722 45,784 9,287 7,892	6,649 13,136 2,244 109,605 47,721 8,777 7,499	6,849 12,852 2,270 117,503 49,708 8,289 7,071
Issued currency Payables Deferred revenue Borrowings Insurance liabilities Retirement plan liabilities Provisions Total liabilities	3,197 11,371 36,864 11,384 14,952 3,080 80,848	4,005 9,139 1,426 61,953 26,567 8,993 5,553 117,636	4,691 11,160 1,714 100,087 37,712 11,903 7,138 174,405	5,980 14,794 2,224 111,806 42,786 11,006 8,541 197,137	6,085 12,306 2,118 110,904 43,364 10,388 8,704 193,869	6,267 12,387 2,184 111,832 44,186 9,825 8,328 195,009	6,455 12,323 2,200 112,722 45,784 9,287 7,892 196,663	6,649 13,136 2,244 109,605 47,721 8,777 7,499 195,631	6,849 12,852 2,270 117,503 49,708 8,289 7,071 204,542
Issued currency Payables Deferred revenue Borrowings Insurance liabilities Retirement plan liabilities Provisions Total liabilities Net Worth	3,197 11,371 36,864 11,384 14,952 3,080 80,848 49,983	4,005 9,139 1,426 61,953 26,567 8,993 5,553 117,636 99,515	4,691 11,160 1,714 100,087 37,712 11,903 7,138 174,405 70,011	5,980 14,794 2,224 111,806 42,786 11,006 8,541 197,137 116,472	6,085 12,306 2,118 110,904 43,364 10,388 8,704 193,869 122,448	6,267 12,387 2,184 111,832 44,186 9,825 8,328 195,009 128,327	6,455 12,323 2,200 112,722 45,784 9,287 7,892 196,663 136,804	6,649 13,136 2,244 109,605 47,721 8,777 7,499 195,631 147,113	6,849 12,852 2,270 117,503 49,708 8,289 7,071 204,542 160,254
Issued currency Payables Deferred revenue Borrowings Insurance liabilities Retirement plan liabilities Provisions Total liabilities Net Worth Total net worth attributable to the Crown	3,197 11,371 36,864 11,384 14,952 3,080 80,848 49,983 54,025	4,005 9,139 1,426 61,953 26,567 8,993 5,553 117,636 99,515 99,068	4,691 11,160 1,714 100,087 37,712 11,903 7,138 174,405 70,011 68,071	5,980 14,794 2,224 111,806 42,786 11,006 8,541 197,137 116,472 110,532	6,085 12,306 2,118 110,904 43,364 10,388 8,704 193,869 122,448 116,568	6,267 12,387 2,184 111,832 44,186 9,825 8,328 195,009 128,327 122,512	6,455 12,323 2,200 112,722 45,784 9,287 7,892 196,663 136,804 131,055	6,649 13,136 2,244 109,605 47,721 8,777 7,499 195,631 147,113 141,458	6,849 12,852 2,270 117,503 49,708 8,289 7,071 204,542 160,254 154,647
Issued currency Payables Deferred revenue Borrowings Insurance liabilities Retirement plan liabilities Provisions Total liabilities Net Worth Total net worth attributable to the Crown Net Worth attributable to minority interest	3,197 11,371 36,864 11,384 14,952 3,080 80,848 49,983 54,025 -4,042	4,005 9,139 1,426 61,953 26,567 8,993 5,553 117,636 99,515 99,068	4,691 11,160 1,714 100,087 37,712 11,903 7,138 174,405 70,011 68,071 1,940	5,980 14,794 2,224 111,806 42,786 11,006 8,541 197,137 116,472 110,532	6,085 12,306 2,118 110,904 43,364 10,388 8,704 193,869 122,448 116,568 5,880	6,267 12,387 2,184 111,832 44,186 9,825 8,328 195,009 128,327 122,512 5,815	6,455 12,323 2,200 112,722 45,784 9,287 7,892 196,663 136,804 131,055 5,749	6,649 13,136 2,244 109,605 47,721 8,777 7,499 195,631 147,113 141,458 5,655	6,849 12,852 2,270 117,503 49,708 8,289 7,071 204,542 160,254 154,647 5,607

Balance sheet functional classifications

Functional classifications are useful to categorise assets and liabilities of the balance sheet into groups for ease of analysis and discussion. Each balance sheet item's primary purpose is used to determine its functional classification. Section two of this Statement details investment performance using these classifications.

Table 1.3:	Balance	sheet	functional	classifications
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Social	Assets and liabilities held to provide public services. These include, for instance, roads, schools, and the national parks. For the purposes of this Statement, social assets also include tax receivables and student loans managed by the Inland Revenue Department (IRD), and Crown-owned companies that do not have purely commercial objectives such as Crown Research Institutes.
Financial	Assets and liabilities that finance or prefund government expenditure and obligations for future expenditure. This category consists of the Crown Financial Institutions (CFIs) ¹⁰ , the Reserve Bank of New Zealand, and government borrowing via the Treasury's New Zealand Debt Management Office.
Commercial	Assets and liabilities of entities with commercial objectives. The companies are largely independent entities operating in competitive environments. This category comprises of commercial priority companies and listed companies.

Figure 1.1 shows the evolution of assets and liabilities by function and how they are forecast to change. Total assets are forecast to grow by \$51 billion to reach \$365 billion by 2021/22. This increase is driven by capital spending in social assets, and growth of financial assets. Meanwhile total liabilities rise by \$7.5 billion to \$204.5 billion mainly as a result of growth in the ACC scheme.





Source: The Treasury

¹⁰ Crown Financial Institutions (CFIs) include the New Zealand Superannuation Fund, ACC, Earthquake Commission and the Government Superannuation Fund.

Changes in assets and liabilities

Government assets have grown steadily since 2005, and are worth almost two and a half times more now than they were then. Similarly, assets as a proportion of GDP have grown from 15 percent of GDP to 30 percent of GDP over the period. All three functional classifications have grown over the period reflecting both continued investment in social and financial assets and appreciation of existing social, financial and commercial assets.

Total assets are forecast to continue to grow between now and 2022, reaching \$365 billion by the end of the period. In addition to reinvestment to maintain existing social assets, the current Government will invest \$12.6 billion in Budgets 2018 to 2021, with \$10 billion of this expected to be spent between now and 2022 largely to support infrastructure investments in core public services.

In the financial and commercial segments of the balance sheet, assets are expected to continue to grow through asset price increases and in the case of the NZSF due to renewed contributions from the Government.

Liabilities have also increased since 2005, growing from \$81 billion to \$197 billion now. The growth trajectory for

liabilities has been less steady than assets, reflecting the state of government finances over time. In the mid-2000s liabilities grew relatively slowly, due to strong fiscal surpluses, while in the period between 2008 and 2012 liabilities increased quite quickly, as a result of fiscal deficits brought on by the combined impacts of the global financial crisis (GFC) and Canterbury earthquakes. More recently, fiscal consolidation has seen debt grow modestly in dollar terms.

In the future, liability growth will continue to be modest as the current Government manages government finances to meet its Budget Responsibility Rule of net core Crown debt reaching 20 percent of GDP within five years of taking office.

Changes in net worth reflect the cumulative effect of changes in asset and liability values, and the government's operating results. Fiscal surpluses and asset appreciation drove increases in net worth between 2005 and 2008 before the GFC and Canterbury earthquakes had a strong negative impact on the balance sheet. Subsequent fiscal consolidation and increases in asset and land prices have strengthened net worth. This is projected to continue into the future, in line with forecast fiscal surpluses and expected appreciation of financial assets.

The changing composition of the government balance sheet is shown in the box below.

The changing composition of the government balance sheet

One significant way in which the government's balance sheet has evolved is the changing proportions of financial assets relative to traditional social assets, predominantly property, plant and equipment. Refer to section two for more detailed analysis of financial assets managed by government agencies.



Figure 1.2: Proportion of financial and PP&E assets

Social assets and liabilities



Source: The Treasury

Figure 1.5: Forecast movements 2017 - 2022"



Source: The Treasury

Figures 1.3 and 1.4 provide a breakdown of the value of social assets by type and sector. Almost half of the government's social asset portfolio is held in three areas – transport, social housing, and primary and secondary schools.¹² The 'Other' assets consist largely of cash holdings and PP&E across other social agencies. 'Other' liabilities include accounts payable and employee entitlement provisions. Figure 1.5 shows forecast movements in assets from now until 2021. The 'Other' category reflects the effect of new investment, allocated to capital allowances, that has yet to be prioritised across the portfolio.



Figure 1.4: Social assets and liabilities by sector

Source: The Treasury

¹¹ Forecasts exclude revaluations for PP&E.

¹² Transport assets primarily relate to state highways, but also include rail network land.

Financial assets and liabilities

Figure 1.6: Assets for the Financial Portfolio as at 30 June 2017



Source: The Treasury

Figure 1.8: Assets and liabilities for the Financial Portfolio as at 30 June 2017



Source: The Treasury

Figure 1.7: Liabilities for the Financial Portfolio as at 30 June 2017





Figure 1.9: Forecast movements 2018 - 2022



Source: The Treasury

Figures 1.6, 1.7 and 1.8 represent assets and liabilities that make up the Financial Portfolio by type and by agency. Over the next four years, net improvement in the Financial Portfolio will primarily occur through the NZSF. ACC and the Treasury's NZDMO have net increases in liabilities over the same period. The total value of the Financial Portfolio is negative due to the inclusion of government debt, which finances assets in the Social Portfolio as well as government operating expenditure (along with revenue from sources such as tax).

Accounts Payable: \$1.52 billion Provisions: \$1.28 billion

Commercial assets and liabilities

Figure 1.10: Assets for the Commercial Portfolio as at 30 June 2017





4%

Source: The Treasury Figures 1.10 and 1.11 present the composition of assets and liabilities in the Commercial Portfolio of the balance sheet. These assets and liabilities are managed by the entities that own them (eg, Air New Zealand) to meet their business objectives. Assets and liabilities of the Commercial Portfolio are reported according to their component parts (eg, PP&E, borrowings etc), in the government balance sheet rather than as an equity position in each company.¹³



How did the Government balance sheet perform relative to 2014 expectations?

As at 30 June 2017, both assets and liabilities are larger than forecast in the 2014 Investment Statement, by \$39 billion and \$11 billion respectively. Figure 1.12 shows variance between balance sheet items and net worth for the years from 2014 to 2017 relative to forecasts made in 2014 for those years.

The variance in assets was largely driven by land revaluations (included in PP&E), which are not forecast, and to a lesser extent, higher-than-forecast marketable security values due to favourable share market performance as well as cash and cash equivalents from higher operating balances.

On the liabilities side, insurance liabilities accounted for much of the difference, with higher than expected ACC liabilities, as lower interest rates increased the value of the outstanding claims liability and EQC liabilities (with Canterbury earthquake claims now expected to be fully paid out in 2018). Borrowings were lower in 2017 than they were forecast to be in 2014.



Figure 1.12: Change in net worth from forecast

Source: The Treasury

Fiscal performance and the balance sheet

The Government uses net core Crown debt as a share of nominal GDP, a key measure of fiscal performance in its Budget Responsibility Rules, as one mechanism to anchor the fiscal strategy. Net core Crown debt is within the immediate control of the government and is broadly comparable internationally.

The experiences of the past ten years illustrate how the balance sheet and net core Crown debt respond to changing economic conditions and government objectives. As a result of the effects of the global financial crisis and the Canterbury earthquakes, net core Crown debt increased by 20 percent of GDP and fiscal projections showed that net core Crown debt was at risk of increasing to unsustainable levels.

Improved economic growth, management of operating and capital spending growth plus capital reprioritisation all limited net core Crown debt increases. As a share of the economy, net core Crown debt has fallen over the past three years and is forecast to continue to fall. The following Figure 1.13 shows the change in net core Crown debt as a percentage of nominal GDP over the last 10 years.

A prudent and sustainable balance sheet supports the sustainable provision of wellbeing-enhancing public services and helps to absorb the impact of shocks on the government and the economy.



Figure 1.13: Net core Crown debt

Source: The Treasury

Is the government balance sheet the right size?

An important guestion is 'what is the right size of the government balance sheet?' There is no easy answer to this question. The overall size of the government balance sheet is shaped by a range of macro, or top down, considerations - most importantly, how much public investment and spending can be sustained, given government incomes eg, tax and debt issuance. Extending the balance sheet too far can put public services at risk. On the other hand, bottomup considerations, including policy or spending initiatives such as the need for new schools or roads, tend to exert upward pressure on the size of the balance sheet. Balancing these competing pressures is managed through the Budget process, which determines the level of spending available and allows the prioritisation of initiatives.

The comprehensive balance sheet – linking the longterm fiscal position to the government balance sheet

The balance sheet produced under GAAP accounting standards provides considerable information about the state of government finances. The use of internationally accepted accounting practice provides substantial transparency benefits, including fairly straightforward comparison against other reporting entities. However, the GAAP presentation is produced according to defined and strict rules. There remain a range of rights and commitments that have important financial implications for the government, but that do not meet the GAAP criteria for recognition.

This means what appears in the *Financial Statements* of the Government of New Zealand does not fully tell the story of the sustainability of government finances. Considering the balance sheet in light of likely future income and expenditure provides a much fuller picture of government finances. *He Tirohanga Mokopuna*, the Treasury's Statement on the Long-Term Fiscal Position published in 2016, examined in detail the long-term outlook for the fiscal position. The purpose of long-term fiscal statements is to promote transparency about future challenges relating to government finances. An unsustainable fiscal trajectory means that adjustments to fiscal strategy are required, with implications for the wellbeing of current and future generations.

To calculate a 'comprehensive' balance sheet that includes this long-term perspective requires adding the fiscal balance sheet to the GAAP balance sheet. The fiscal balance sheet represents the stock in today's dollars of future expected spending and revenue. In effect the fiscal balance sheet is the balance sheet equivalent of the *Statement of the Long-Term Fiscal Position*.

All projections are subject to considerable uncertainty. However, the comprehensive balance sheet still enables assessment of the overall financial position of the government in a single frame of reference. This is because it brings together the financial impacts of past decisions with expected fiscal revenue and expenditure outcomes. The difference between the assets and liabilities on the comprehensive balance sheet is called comprehensive net worth.

Comprehensive net worth being positive is one indicator that current fiscal projections are broadly sustainable. When it is negative, adjustment to close the gap between the claims and obligations of the government is likely to be necessary. The comprehensive balance sheet also provides a useful frame for assessing the resilience of the government's finances to shocks. These issues are discussed later in this Statement.

The fiscal balance sheet is presented in summary below. As discussed, the major addition is the present value of future revenue in the form of an asset and the present value of expenditure in the form of a liability. For illustrative purposes we have presented the modelling based on the 'historical cost' scenario used in the Treasury's long-term fiscal model presented in *He Tirohanga Mokopuna*. This model assumes future deficits are met from increasing debt, rather than expenditure reductions or tax revenue increases. The net result of this is an estimated negative comprehensive net worth position, consistent with the findings of *He Tirohanga Mokopuna* that fiscal pressures are projected to increase over the next 40 years, primarily as a result of population ageing.

Even with the strength of the government's GAAP balance sheet, comprehensive net worth is still negative because the negative contribution from the fiscal balance sheet is larger.

The gap suggested by current comprehensive net worth may seem relatively small compared to the picture presented in *He Tirohanga Mokopuna*. This is because the fiscal challenges presented in that document occur a long way into the future so that when discounted they are much smaller in today's dollars. This reinforces one of the key messages in *He Tirohanga Mokopuna* and previous long term fiscal statements, that small changes now can have material effects in the future.¹⁴

 Table 1.4: The comprehensive balance sheet – linking

 the long term fiscal position to the government balance

 sheet

NZ\$ billion 30 June 2017	Assets	Liabilities	Net Worth
Social	163	20	143
Financial	94	143	-49
Commercial	57	34	23
Subtotal	314	197	117
Fiscal balance sheet ¹⁵	3,917	4,195	-278
Comprehensive balance sheet	4,231	4,392	-161

¹⁴ Refer to http://www.treasury.govt.nz/government/longterm/ fiscalposition/2016

¹⁵ Based on the discounted operating cash flows arising from Treasury's long-term fiscal model, updated for HYEFU 2017. For further information on this model refer: http://www.treasury.govt.nz/ government/longterm/fiscalmodel

Chapter 1.3: Testing fiscal resilience

Chapter 1.1 discussed how one of the benefits of good balance sheet management was improving wellbeing. Sound public finances are a critical precondition to the delivery of wellbeing-enhancing public services. Sound public finances involve sustainability of fiscal settings over time and resilience to shocks. Sustainability and resilience ensure core public services can continue to be delivered in an uncertain future and provide the government the ability to adapt to a range of economic, environmental, social and fiscal pressures.

Sustainability is a long-term concept and can be assessed by looking at projections of the fiscal position over time – through the long-term fiscal model and other analytical exercises as documented in *He Tirohanga Mokopuna* – as well as by assessing the strength of the comprehensive balance sheet – as discussed in chapter 1.2. The focus in this chapter is on resilience.

Resilience is a shorter-term concept that can be assessed by testing whether the balance sheet can withstand a range of shocks through a process of stress testing or scenario analysis. An insufficiently resilient balance sheet could result in a shock weakening the fiscal position such that creditors begin to demand a greater risk premium to lend to the Crown – pushing up interest expenses that could otherwise be used to deliver public services – or alternatively, requiring cuts to public services.

A strong balance sheet helps resilience but how strong is strong enough? Stress testing provides an insight into this question.

Stress testing

Stress testing is the systematic assessment of the impact of selected shocks on the government balance sheet. It allows us to test whether severe but plausible shocks could have impacts that are beyond the financial capacity of the government to absorb, thus putting the provision of public services at risk. The information gathered through stress testing can help inform fiscal strategy or risk management decisions by the government.

Fiscal stress tests addressing three separate scenarios are presented here. They are:

- 1 a severe Wellington earthquake
- 2 an outbreak of foot-and-mouth disease
- 3 a major international economic downturn.

These scenarios were selected to cover a broad range of plausible and significant shocks that could affect New Zealand over the medium term and were drawn from risk registers prepared to support public risk management and planning processes.

As with all stress testing, the scenarios chosen are almost certain not to accurately reflect any future shock or combination of shocks that occurs. Also, these tests do not assume any particular response to the shock event. Instead, the scenarios are illustrations of how the economy and the government balance sheet could evolve in response to the events, to give a sense of the orders of magnitude involved.

Stress testing methodology

For each of the stress test scenarios a detailed description of the event was developed, including the size of the initial shock and how it could evolve through the economy. This fed into the quantitative economic modelling and assessments of various costs to the government. These costs are presented under three broad categories:

- a Balance sheet revaluations changes in the value of assets and liabilities as a result of the shock
 eg, changes in the value of property owned by the government.
- b Direct fiscal costs actual costs incurred as a result of the shock, eg, financial support, cost to rebuild infrastructure, triggering of contingent liabilities.
- Indirect fiscal costs changes to future government revenue and expenses as a result of the economic impact from the shock. The modelling methodology is based on that used in the Treasury's Economic and Fiscal Updates.¹⁶

Combined, these costs are the impact on the comprehensive balance sheet. Results were also used to estimate impacts on fiscal indicators (eg, net core Crown debt).

The analysis that follows presents the impact to net core Crown debt in five years' time (on a nominal and proportion of GDP basis), and the total financial impact on the government – defined as impacts on the comprehensive balance sheet over a fifteen year period. Fifteen years is chosen because the growth effects of a shock are unlikely to last beyond this time period and it is consistent with the fiscal forecasting model.¹⁷

¹⁶ Refer: http://www.treasury.govt.nz/budget/forecasts

¹⁷ For a full description of the methodology used to prepare these scenarios refer to: http://www.treasury.govt.nz/government/ investmentstatements
Stress test: Severe Wellington earthquake



This scenario assumes a rupture of the Wellington fault resulting in a severe Wellington earthquake. Severe ground shaking and landslides across the Wellington region cause significant damage to homes, buildings and infrastructure. Most homes suffer some damage and thousands of central business district apartment dwellers are not allowed to return to their apartment buildings until after they are inspected and cleared. Wellington is cut off from the rest of the country for a considerable period and essential services take months to be restored. Casualties and injuries are also significant.

A large number of businesses either have to be relocated or closed permanently and some government departments are temporarily moved out of the city. Business activity across the country is very weak in the first six months, with both consumers and businesses very cautious, delaying or cancelling planned spending. In addition, awareness of New Zealand's geological instability increases internationally, with fewer tourists and international students arriving into the country. Major rebuild activity does not commence until 18 months later, when the aftershocks are settled. The rebuild takes over ten years to complete.

Nominal GDP is a cumulative \$44 billion lower over the forecast period.

Cost type	Financial impact	Comment
Balance sheet revaluation	~\$5 billion	Price falls in both New Zealand equity and property markets reduce the values of the government's equity investments and property assets. Partially offsetting these downward revaluations are gains due to lower real interest rates and currency movements.
Direct fiscal costs	~\$22 billion	Includes response costs, damage to government owned assets, the government's share of infrastructure rebuild costs, discretionary support for affected residents similar to the Christchurch red-zone package and EQC costs net of reinsurance recoveries.
Indirect fiscal costs (in today's dollars)	~\$38 billion	Driven predominantly by lower future tax revenue from source deduction and goods and services tax (GST), a flow-on effect from lower GDP.
Total financial impact on the Crown	~\$65 billion	In today's dollars.

Table 1.5: Severe Wellington earthquake stress test results

Impact on net debt

Net core Crown debt increases to 31 percent of GDP five years after the shock, 13 percentage points higher than the HYEFU 2017 forecast.

Stress test: Foot-and-mouth disease outbreak



This scenario assumes a foot-and-mouth disease¹⁸ outbreak in Taranaki that quickly spreads to other parts of the North Island. Over a third of the cattle, sheep and lamb, and deer population in New Zealand are culled for animal welfare purposes. Stock movement controls are enforced to prevent further spread of the disease across New Zealand.

Most export markets are immediately closed to New Zealand meat and dairy products. As a result, export meat slaughter ceases for 10 months and North Island dairy production ceases operation for the season. In the year of the outbreak, lost export earnings are estimated to be about \$15 billion.

The outbreak lasts for about six months, with varying returns to trade periods thereafter. Nominal GDP is a cumulative \$24 billion lower over the next five years.

Table 1.6: Foot-and-mouth outbreak stress test results

Cost type	Financial impact	Comment
Balance sheet revaluation	~\$9 billion	Driven by falls in the values of the government's New Zealand equity investments and property assets. Partially offsetting these downward revaluations are gains due to lower real interest rates and currency movements.
Direct fiscal costs	~\$6 billion	Includes discretionary support to affected farmers, eradication and compensation costs.
Indirect fiscal costs (in today's dollars)	~\$6 billion	Driven predominantly by higher benefits and welfare expenses as a result of job losses in affected sectors.
Total financial impact on the Crown	~\$22 billion	In today's dollars.

Impact on net debt

Net core Crown debt increases to 22 percent of GDP five years after the outbreak, five percentage points higher than the HYEFU 2017 forecast.

¹⁸ The initial impact of this scenario is based on the lost export earnings of the large scenario in a paper published in August 2014 by the Ministry for Primary Industries titled: *Foot-and-Mouth Disease Economic Impact Assessment: What it means for New Zealand,* with flow-on effects modelled by the Treasury.

Stress test: International economic downturn

A sharp unwinding of vulnerabilities in China¹⁹ leads to reduced global growth, disruption in global bank funding markets and a sharp decline in commodity prices.

The terms of trade drops by 20%, the New Zealand dollar falls sharply and borrowing margins rise by approximately 300 basis points. Weaker incomes, subsequent falls in confidence and, consequently, a significantly weaker domestic outlook leads to a fall in property prices (residential, commercial and rural), suppressed credit growth and lower New Zealand share prices.

The New Zealand economy enters a recession and the unemployment rate rises to over 7 percent, the highest rate since the late 1990s. A high degree of excess capacity in the economy induces substantial downward pressure on inflation, with annual inflation slowing to zero percent and remaining around this rate until 2020. To stimulate demand, the Reserve Bank of New Zealand reduces the Official Cash Rate to near zero percent. Nominal GDP is a cumulative \$92 billion lower over the five-year forecast period.

Cost Type	Financial Impact	Comment
Balance sheet revaluation	~\$30 billion	Equity assets are most affected. Property assets also fall in value as the property markets weaken.
Direct fiscal costs	None	No direct costs are assumed with the event.
Indirect fiscal costs (in today's dollars)	~\$127 billion	Nominal GDP is lower than the HYEFU 2017 forecast over the entire period. A significant tax revenue fall, along with slightly higher expenses, particularly in welfare and benefits leads to cash deficits over the entire projection period.
Total financial impact on the Crown	~\$157 billion	In today's dollars.

Table 1.7: International economic downturn stress test results

Impact on net debt

Net core Crown debt rises to 33 percent of GDP five years after the event, 15 percentage points higher than the HYEFU 2017 forecast.

¹⁹ The trigger of this scenario is broadly similar to the scenario contained in the Financial Stability Report published by the Reserve Bank of New Zealand in November 2017.

Summary of impacts on economic and fiscal indicators

The impacts of the stress tests on nominal GDP, the government's operating balance before gains and losses (OBEGAL) and net core Crown debt as a percent of GDP are presented below.



Figure 1.14: Impacts of stress test on nominal GDP

Source: The Treasury

The modelled shocks vary in how they impact the economy. For example, the respective scenarios affect different sectors of the economy and affect prices and volumes differently, leading to different nominal GDP impacts.

The international economic downturn scenario has the largest impact on GDP, with this scenario originating from an offshore event. It first impacts exports and the cost of borrowing before flowing through to consumption and investment. The 'whole economy impact' takes several quarters to take full effect before the economy begins recovering, lowering potential output and significantly weakening future growth. In the severe Wellington earthquake scenario, nominal GDP is weaker in the near term, as consumers and businesses put off spending and fewer international visitors and migrants arrive in the country. Over the medium term, rebuild activity picks up but it is constrained and takes over ten years to complete, and the pace of consumption and investment growth is not strong enough for economic output to reach HYEFU 2017 levels.

On the other hand, the foot-and-mouth disease scenario largely affects a small segment of the economy and the shock is relatively short-lived, with limited impact on the potential output of the economy. After the initial dip, GDP is expected to reach the HYEFU 2017 forecast level by mid-2023, approximately five years after the outbreak.

Impacts on OBEGAL

Figure 1.15: Impacts of stress test on OBEGAL



Source: The Treasury

The severe Wellington earthquake and foot-andmouth disease scenarios have a much larger impact on OBEGAL in the early years compared to the international economic downturn scenario. In these scenarios, after the initial impacts (largely direct fiscal costs), OBEGAL gradually improves as tax revenues increase faster than expenses.

In the international economic downturn scenario, OBEGAL gradually deteriorates as tax revenue growth does not keep pace with increases in government expenditure (higher interest and welfare expenses). As fiscal policy settings are unchanged, OBEGAL is expected to deteriorate further and remain negative throughout the projection period.

Impacts on net core Crown debt

Figure 1.16: Impacts of stress test on net core Crown debt



Source: The Treasury

The impacts of the stress events on OBEGAL directly flow through to the level of net core Crown debt.

In all three stress scenarios, the net core Crown debt to GDP ratio is expected to rise and remain higher than in HYEFU 2017 throughout the five-year forecast period. That said, the net core Crown debt to GDP ratio for each scenario has vastly different paths – the foot-and-mouth disease scenario has net core Crown debt declining from 2019, net core Crown debt stabilises in the severe Wellington earthquake scenario before gradually rising from 2025, while in the international economic downturn scenario, net core Crown debt continues on an upward trajectory.

What is the government's risk tolerance?

For the purposes of this Statement, risk tolerance is the ability to withstand negative financial outcomes, and in the context of the government's overall fiscal position, risk tolerance is given by the maximum sized shock that could occur before material fiscal adjustment is required to improve government finances.

Risk appetite reflects the preferences of decisionmakers to incur risk to meet objectives and may be equal to or less than risk tolerance. In debt terms, risk appetite influences fiscal strategy settings regarding prudent levels of net core Crown debt.

Unsustainable levels of net core Crown debt would lead to downgrades in New Zealand's sovereign credit rating, increases in debt financing costs and would require reductions in spending or increases in revenue. Determining what level of net core Crown debt as a percent of GDP would be unsustainable at any given point in time is not straightforward – it will depend on a range of factors including the state and outlook for the economy, the reason why net core Crown debt has risen, the speed and magnitude of the rise and the credibility of government plans to restore or maintain sustainable fiscal settings. New Zealand's sustainable level of net public debt is likely to be lower than many other developed countries, as it is a small open economy with a relatively high and negative net international investment position (the sum of net public and private liabilities issued by New Zealand entities).

To support resilience against negative shocks, governments generally like to maintain levels of net core Crown debt well below unsustainable debt levels, to ensure that they have the fiscal space necessary to respond to shocks, including by increasing spending. But there is a cost of using funds to pay down debt at the expense of investing in projects that could improve the wellbeing of New Zealanders. The Government of the day's risk appetite and how much of a buffer it wants to maintain to respond to shocks will influence the level of net core Crown debt targeted.

The three fiscal stress tests show net core Crown debt impacts ranging from around five percent of GDP to 15 percent of GDP in five years' time, suggesting that one of these scenarios alone is not likely to lead to debt becoming unsustainable in the short-term. For context, the combination of the GFC and Canterbury earthquakes raised net core Crown debt by about 20 percent of GDP.

The Government's Budget Responsibility Rule to reduce the level of net core Crown debt to 20 percent of GDP within five years of taking office will continue to improve fiscal risk tolerance, building buffers to a range of more severe or clustered shocks. Net core Crown debt objectives will generally take into account a range of factors beyond resilience, including demand for public services, and challenges to long-term fiscal sustainability, as examined in *He Tirohanga Mokopuna*.

Discretionary risk on the government balance sheet

The amount of risk taken in the Financial and Commercial Portfolios of the balance sheet depends on the investment and business strategies of the managers of those entities, subject to their respective governance arrangements. This is in contrast to the social assets of the government, which are purchased as a means to delivering a policy outcome, and where any fiscal risk is a by-product of the choice to own. As the balance sheet becomes more financially orientated, discretionary choices about risk and return on the balance sheet have a greater impact on overall government finances and wellbeing. Of course, higher risk is accompanied by higher expected returns over the long term which benefit taxpayers, allowing more to be spent on other public services, debt reduction or even lower taxes. Risk return trade-offs in the Financial and Commercial Portfolios should maximise wellbeing while reflecting the risk appetite of decision makers.

Information about asset allocation and exposure to risk factors at an entity level is covered in detail in the respective annual reports of the financial entities of the government and in section four of this Statement.

The information below presents financial risk information aggregated across the government. Its purpose is to inform management decisions across the government, including about whether the sum and balance of the parts is appropriate at a whole of government level.

Changes in the value of the Financial and Commercial Portfolios

The value of the government balance sheet is a snapshot at a point in time measuring the financial condition of the government's assets and liabilities. Changes in the value of the Financial and Commercial Portfolios of the balance sheet directly affect the wealth held by the government on behalf of New Zealanders.

Future market volatility will result in a range of financial outcomes in the portfolio over time. Figure 1.18 shows modelled distributions of potential returns over one, five and ten-year holding periods. The Value at Risk (VaR)²⁰ points represent the valuation outcomes over the horizons indicated that should only be exceeded one percent of the time under normal market conditions. In this case, the VaR is \$11 billion for both the one-year and five-year holding periods, and \$5 billion for the ten-year holding period. Riskier investments would increase expected returns and result in larger potential losses. Individual investment choices, and risk return trade-offs, are the responsibility of agencies, subject to Ministerial expectations and guidance. From an overall balance sheet perspective, risks in the Portfolio currently appear reasonable.

²⁰ VaR is calculated on a diversified basis taking into account the offsetting risk factors amongst the Portfolios.



Figure 1.17: Modelled risk and return simulations

Profit and loss distributions and Value at Risks for one year, five year and ten year holding periods

Aggregate risk indicators

The following indicators show the composition of assets and liabilities by entity, form, region and currency.

Figure 1.18: Financial assets by entity







Figure 1.22: Investment asset exposure by region



- ACC and the NZSF together account for 60% of total CFI assets.
- NZSF's balance sheet is expected to grow further now the Government has resumed contributions.
- RBNZ holds assets for managing New Zealand's foreign reserves.
- About half (\$59 billion) of government financial assets are invested in fixed income instruments, such as bonds. Around half of these (\$33 billion) are invested in developed countries overseas.
- Twenty-six percent (\$32 billion) of government financial assets are invested in publicly traded equity of companies.
- A further 19 percent (\$24 billion) is allocated to cash and cash equivalents.
- With \$30 billion worth of exposure, North America accounts for the largest non-New Zealand exposure of the government. NZSF accounts for \$16 billion of this exposure.
- About \$31 billion (30 percent) of country exposure is to New Zealand. Of this, \$22 billion is through ACC.
- Exposure to Europe is about \$18 billion with about half of that incurred by the RBNZ through managing the country's foreign reserves.

Figure 1.24: Total consolidated Crown financial asset credit exposure by credit rating



- Sixty-five percent of the government's credit exposures is to entities rated AA or above.
 The majority of this exposure is to sovereign governments (eg, United Kingdom, United States Japan) as well as international financial institutions and supranational institutions.
- Of the not-rated credit exposure, \$2 billion is to the Bank for International Settlements.













Source for all figures on pages 40 and 41: The Treasury

- NZDMO accounts for over half of total liabilities.
- ACC's Outstanding Claims Liability \$38 billion accounts for almost another quarter of liabilities.
- RBNZ's liabilities are deposits from banks and currency in circulation.

- Key financial liabilities are bills, bonds and inflation-indexed bonds issued by the Treasury's NZDMO – totalling \$84 billion.
- The balance of the borrowings include cash deposits and currency in circulation which amounts to \$13 billion.
- ACC's Outstanding Claims Liability accounts for 21 percent of total liabilities.
- Government foreign currency exposure is dominated by the United States dollar.
- The rest is mainly spread across other major currencies such as the Canadian dollar and the British pound.



Assessing the performance of government investment



Section two: Assessing the performance of government investment

This section introduces five performance dimensions that are then applied to the Social, Financial, and Commercial Portfolios within the government balance sheet. Each Portfolio analysis provides performance observations and a detailed commentary against the five performance dimensions.

The entities within the Social, Financial and Commercial Portfolios are listed in Appendix 1. The performance summaries presented in this chapter analyse the performance of all assets and liabilities within a given Portfolio. Assessing performance at an aggregate level can over-simplify a performance story. The aggregate performance analyses should be therefore be read alongside the detailed performance reports in section four.²¹

Sound financial management is necessary to support wellbeing, but wellbeing is about more than money. Attributing the performance of government investment to wellbeing outcomes is difficult. There are many factors involved. For example, the performance of prison buildings contributes to community safety, but the work of prison staff, the Police, the justice system and the community are equally important to consider. Nevertheless, prison buildings represent a large investment making it important to examine performance and the contribution to wellbeing as best as possible.

21 Section four covers the investments with a book value of over \$1 billion. These are highlighted in blue in Appendix 1.

The performance assessments presented here use five analytical dimensions that form a common basis for assessment. The dimensions are: effectiveness, efficiency, sustainability, resilience, and adaptability. These dimensions focus the analysis in this Statement and when considered together, enable a more holistic view of investment performance and good balance sheet management.

Table 2.1 below shows the performance dimensions, questions associated with each dimension, and examples of indicators that can inform performance judgements.

In addition to these analytical dimensions, it is important to consider whether decision-makers have relevant and accurate information, that the system settings produce investment management behaviours that contribute best to wellbeing outcomes, and that the distribution of outcomes is given sufficient priority.

When applying the five performance dimensions to investments, the absence of quality information

in Portfolios, and in particular the Social Portfolio impacted our analyses. Practices that could help improve the quality of information include:

- suitable indicators to attribute specific government investments to the explicit outcomes being sought
- · indicators that can be aggregated
- suitable domestic and international benchmarks to enable relative performance assessment
- · quantitative measures of resilience and adaptability
- setting targets determined independently of agencies.

Notwithstanding a lack of information in some areas, the available performance information revealed trends that inform performance improvement. In particular, the Commercial and Financial Portfolios have consistent time series information, which assists performance evaluation.

Dimension	To know that the government is investing for wellbeing, we ask:	Example indicators
Effectiveness	Are the investments selected the highest priority investments to improve wellbeing?	Wellbeing outcomes, functionality, condition, satisfaction with service.
Efficiency	Given the investments made, are they being used productively?	Utilisation, condition, availability, surplus assets, operating efficiency, financial returns, cost of capital.
Sustainability	Is funding sufficient to sustain expected service delivery, under current policy settings?	Forecast financial spend, affordability analysis, gearing and capital structure, forecast profitability, capacity, capability.
Resilience	To what extent can the investment cope with unexpected events, for example; financial shocks or natural hazards?	Sensitivity analysis, adequate contingency, responses to previous shocks.
Adaptability	To what extent can the investment respond to long-term trends, for example; technological, demographic, societal and climate changes?	Transformation programmes, scenario planning, demand planning, flexibility of assets.

Table 2.1: Five performance dimensions



Chapter 2.1: Social Portfolio overview

Purpose and description

Social assets are mainly managed by government departments and Crown entities. These assets are held to support the delivery of public services and to achieve government outcomes. An ongoing challenge for social agencies is to get the right mix and level of investment relative to other inputs.

Key observations

Based on an evaluation of the Social Portfolio's performance we make the following observations and conclusions:

- Indicators of asset performance still need to improve – in many cases, indicators have been developed by agencies to suit the specific assets in an agency. There is a balance to be struck between tailoring and standardisation. Standardisation allows for comparisons across agencies in a sector to help identify performance trends. Indicators also need to be useful for decision-making, rather than representing measurement for its own sake.
- It can be difficult to rejuvenate assets quickly

 problems from the age and poor condition of assets can persist even when those assets are being significantly refreshed. When rejuvenating assets, careful thought must be given to the profile of long-term demand, given that the assets are, in many cases, specialised. Changes in objectives, technology, and/or demographics can render existing assets obsolete.
- The construction industry faces capacity constraints on future investment – greater visibility over the pipeline of government commitment to investments in the future could impact market capacity by developing depth in the local market or by attracting international suppliers.

- There are opportunities for efficiency gains across the Social Portfolio – for example, continuing to improve procurement practices across the Social Portfolio, particularly through innovative procurement practices to drive economies of scale to achieve cost savings, is worth further consideration. There are opportunities for asset rationalisation, especially in areas where there are mismatches between supply and demand.
- It is important to regularly assess whether existing social assets continue to meet service objectives – social assets are often comprised of specialised PP&E, such as hospital buildings and medical equipment. The frequent reassessment of service requirements can help organisations respond to change before an asset's usefulness is depleted.

Performance assessment

Effectiveness



How is this dimension assessed for the Social Portfolio?

Effectiveness in the Social Portfolio is measured by the extent to which the types of assets held achieve objectives, and the extent to which those assets are fit-for-purpose.

How is the Social Portfolio performing on this dimension?

Table 2.2 lists the purpose of the largest social assets, which describe the services they support to be delivered, and a short statement from the relevant agencies' websites about how those services contribute to wellbeing.

Investment	Contribution to Wellbeing				
Accident Compensation	ACC "helps prevent injuries and gets New Zealanders and visitors back to everyday life if they've had an accident".				
Corporation (ACC)	Source: Accident Compensation Corporation				
Department of	DOC is the "government agency charged with conserving New Zealand's natural and historic heritage".				
Conservation (DOC)	Source: Department of Conservation				
Healthcare	"The Ministry of Health's purpose is to lead and shape New Zealand's health and disability system to deliver a healthy and independent future for all."				
	Source: Ministry of Health (MoH)				
Housing	Housing New Zealand Corporation (HNZC) "focuses on the efficient and effective management of state houses and the tenancies of those living in them, to meet demand from MSD's social housing register".				
	Source: Housing New Zealand Corporation				
Inland Revenue and New Zealand Customs	"Inland Revenue plays a critical role in improving the economic and social wellbeing of New Zealanders. Inland Revenue collects 80% of the Crown's revenue as well as collecting and disbursing social support programme payments and providing the government with policy advice."				
	Customs "provides border services that protect New Zealand and advances our economy. [Customs] promotes New Zealand's international trade, collects Crown revenue, and enforces the law by identifying and seizing prohibited imports and exports. [Customs] also makes sure that lawful travellers and items can move across our border as smoothly and efficiently as possible."				
	Source: Inland Revenue and New Zealand Customs				
Ministry of Education	MoE "shape[s] an education system that delivers equitable and excellent outcomes."				
	Source: Ministry of Education				
New Zealand Defence Force	"The Defence Force provides essential support to the delivery of the Government's national security interests. Contingent military capabilities are held for unforeseen emergencies or to reinforce existing operations."				
	Source: New Zealand Defence Force				
New Zealand Transport Agency	"A great journey is easy, safe and connected. The Transport Agency is focused on providing one integrated land transport system that helps people get the most out of life and supports business."				
(NZTA)	Source: New Zealand Transport Agency				
Tertiary Education Institutes (TEIs)	TEIs deliver tertiary education and research in New Zealand, which plays a key role in producing knowledge and skills for industry and ensuring people have the competencies that enhance their social and economic outcomes.				
	Source: The Treasury				
The Justice Sector (Ministry of Justice, the Department of Corrections and the New Zealand Police)	The Ministry of Justice (MoJ) "is working with the judiciary and justice sector colleagues to help make sure New Zealand is a safe and just society by delivering modern, accessible, people-centred justice services".				
	"The Department of Corrections creates lasting change by breaking the cycle of re-offending – public safety is their bottom line."				
	"New Zealand Police is working with the community to make New Zealanders be safe and feel safe."				
	Source: Ministry of Justice, Department of Corrections, and New Zealand Police				

Table 2.2: Social Portfolio contributions to wellbeing

Note: Descriptions sourced from agency websites in February 2018 unless otherwise specified.

Observations from agency-level analyses include:

- Owing to changing demographics, there is a growing mismatch between asset type and demand. This results in an oversupply of some assets in some places, and an undersupply in others.
- A significant portion of assets are reaching the end of their useful lives, which can affect their fitnessfor-purpose and therefore limit their effectiveness In many instances measures of asset effectiveness do not exist, are very broad in scope, or cannot reasonably be attributed to any one agency or its assets. More targeted measurement of asset effectiveness would enhance asset allocation decision-making.
- Several modernisation programmes are under way, which should improve asset effectiveness. However, the programmes need coordination with the existing assets to ensure old and new assets remain compatible.
- A greater proportion of functionality indicators²² are showing negative trends than positive trends (41 percent versus 27 percent). The Information and Communications Technology (ICT) portfolio had the poorest performance, with 72 percent of indicators showing a negative trend between 2016 and 2017. The property portfolio had 36 percent of indicators show an improvement, versus 25 percent a decline.

22 Functionality information is collected from investment intensive agencies.

Efficiency



How is this dimension assessed for the Social Portfolio?

The efficiency of the Social Portfolio is typically measured by the condition and utilisation of the assets in the Portfolio. In some cases it is also informative to use financial indicators such as return on investment or cost-efficiency metrics.

How is the Social Portfolio performing on this dimension?

Key observations from agency level analyses suggest mixed performance, although there are pockets of improvement:

- Social Housing HNZC occupancy rates have improved from 2013 by 2.6 percentage points to 97.2 percent in 2017 (against a target of 96.2 percent).
- Inland Revenue the efficiency of receivables collection has improved, with the number of overdue receivables decreasing (gross past due debt decreased from \$5.40 billion in 2013 to \$2.99 billion in 2017).
- **Conservation** visitor assets are now meeting the required service standards.
- Four sectors representing \$62.77 billion or 38.6 percent of the Social Portfolio's asset base have aged assets that adversely impact performance:
 - **Social Housing** the housing portfolio is aged, with approximately 40 percent of assets greater than 50 years old.
 - Healthcare District Health Boards (DHBs) are reporting around 19 percent, by book value, of assets in 'poor' or 'very poor' condition. However, the healthcare sector is quantifying the exact extent of the issue.
 - Education a large proportion of the portfolio is relatively aged with 38 percent of school buildings 50 years old or older. Inconsistent maintenance across the portfolio has resulted in some assets in poor condition.

 Defence – defence assets continue to fall below condition targets. This is to be partially addressed through the Defence Estate Regeneration Programme.

See section four for more detailed assessments.

Condition and utilisation²³ indicators are measures of efficiency. For investment intensive agencies, a greater proportion of condition indicators are showing negative trends than positive trends (37 percent versus 31 percent). For ICT, 40 percent of assets showed a negative trend in condition and 45 percent showed a positive trend in condition. For property, 33 percent of indicators showed a positive trend and 33 percent showed a negative trend.

Similarly, a greater proportion of utilisation indicators are showing negative trends than positive trends (48 percent versus 44 percent). This was owing primarily to property where 55 percent of indicators showed a negative trend for utilisation and 38 percent showed a positive trend.

Sustainability



How is this dimension assessed for the Social Portfolio?

Sustainability of the Social Portfolio is measured by the financial affordability of forecast operational and capital expenditure of the Portfolio under current policy settings.

How is the Social Portfolio performing on this dimension?

Overall, the Social Portfolio faces several sustainability challenges from a relatively aged asset base and increasing demand on assets and services.

Figure 2.1 shows forecast pressure on the capital allowance. Over the past few years the budget has been consistently oversubscribed (more investment proposals than funding). Moreover, there is limited visibility, especially further out, across the pipeline of future investment (with the exception of the defence sector). A projection of the oversubscription trend, based on Budgets 2015 - 2017, is shown in the figure below (the area shaded in yellow). However, based on historical trends, not all of these investment proposals are likely to satisfy business case criteria.





Source: The Treasury

There are several reasons for the likely increases in demand for capital expenditure. For example, replacing ageing assets will likely require significant capital investment and technological change is driving a need to improve ICT capability to support service delivery. There is significant ICT-related expenditure forecast (refer to Figure 2.2).





Source: The Treasury, Government Project Portfolio Reporting

²³ Trends are measured from 2016 - 2017.

The reported initiatives in the Government Project Portfolio (GPP) have an estimated total whole-of-life cost of \$83.02 billion (Figure 2.3).²⁴

Figure 2.3: Estimated whole of life costs for known programmes



Source: The Treasury, Government Project Portfolio Reporting

The Government investment priorities in the housing, transport and health sectors will also require funding, as depreciation reserves are unlikely to be sufficient to fund replacement assets under current policy settings. In addition, new assets typically cost more than their aged counterparts, which will add to fiscal pressures.

Sustained growth in the construction sector means it is operating near capacity. The likely volume of new construction is likely to strain delivery capacity across government and the market, which increases the risk to the price and quality of delivery relative to the benefits that are to be achieved.²⁵

Resilience

How is this dimension assessed for the Social Portfolio?

The resilience of the Social Portfolio is measured by the ability to respond to and cope with a variety of adverse shocks. Indicators include the level of spare capacity, the speed and cost of responding to realised risks, and the adequacy of service after a shock has occurred.

How is the Social Portfolio performing on this dimension?

At an aggregate level, resilience has improved in the Social Portfolio following the Canterbury earthquakes, however, the portfolio is still exposed to physical and capacity risks. A common challenge in maintaining resilience is balancing the need for efficient utilisation against holding adequate spare capacity to cope with shocks.

- Coping with a sudden reduction in capacity

 public sector agencies own significant physical infrastructure across New Zealand. PP&E within the Social Portfolio totals \$114.85 billion (or 70.6 percent) of total assets in the portfolio. Many of these PP&E assets are susceptible to physical risks, such as from natural hazards. Where possible, upgrade programmes are underway to ensure existing assets comply with building and construction codes, however, it is rarely possible to fully mitigate against physical risks to assets.
- Responding to sudden increases in demand

 events that result in sudden changes to
 demand can place asset capacity under strain.
 For example, the recent announcement of free
 tertiary education is likely to cause a step change
 in demand in the tertiary education sector. Tertiary
 education providers will need to ensure that
 capacity is managed to maintain the quality of
 service provided to students.

The cost of providing some social services is dependent on economic variables such as interest rates that are out of an agency's control. For example the funding costs of student loans depends on the cost of borrowing.

²⁴ The GPP includes major investment and significant programmes or projects. These initiatives may or may not have approved business cases. As such, GPP figures are *indicative* of demand.

²⁵ Refer: http://www.treasury.govt.nz/statesector/ investmentmanagement/publications/ipannualreport/2015-16/ ipannualreport-15-16.pdf

Adaptability



How is this dimension assessed for the Social Portfolio?

Adaptability of the Social Portfolio is measured by the ability to respond to significant long-term trends such as technological, climate or demographic changes.

How is the Social Portfolio performing on this dimension?

The Social Portfolio mainly comprises fixed and/ or specialised assets that, by their nature, can be inflexible and slow to adapt. Therefore, a significant risk exists of stranded and/or redundant assets as technology, climate and demography change the way assets perform or are utilised.

Long-term fiscal projections suggest that the composition of social assets is likely to need to change over the next 30 years owing to the implications of demographic changes, for instance:

- Population growth may place additional pressure on social infrastructure, such as transport, the need for medical facilities, prisons and schools. Specifically, the population in 2043 is projected to be almost six million people, a quarter more than 2017.²⁶
- Owing to urbanisation, the geographic distribution of assets is also likely to change. The demand profile will likely skew further towards larger urban centres and away from smaller rural towns. Population decline in some areas, and growth in others, makes efficient asset utilisation challenging. The majority of projected population growth is in Auckland, which is expected to experience a 40 percent increase from 1.7 million people in 2017 to around 2.3 million people in 2043.²⁷
- Population ageing is projected to apply fiscal pressure to the government through lower revenue growth (resulting from proportionately less income tax revenue) and increases in expenditure, primarily from New Zealand Superannuation and healthcare.

26 Source: StatsNZ; all figures are as at 30 June for their respective year. 27 Ibid.

Other trends of significance include:

- Climate change may impact the government balance sheet:
 - Existing government assets may be directly impacted by climate change, eg, coastal highways or public conservation land.
 - Obligations may arise related to any future government involvement in adjustment in response to climate change, eg, shifts in agricultural production due to changes in water catchment availability or impacts on coastal settlements.
- Technological changes may change service delivery models (eg, from physical infrastructure to online), reduce the costs of service or infrastructure delivery, or increase/decrease demand on the Social Portfolio.

Chapter 2.2: Financial Portfolio overview

Purpose and description

The government acquires financial assets to the extent that they serve a specific purpose, such as funding government liabilities associated with contractual obligations and policy commitments, and to build buffers against adverse events. Financial liabilities represent borrowing by the government to fund investment or operating deficits. The Financial Portfolio contains the majority of government liabilities.²⁸

The Crown Financial Institutions (CFIs) comprise ACC, the Earthquake Commission (EQC), the Government Superannuation Fund (GSF), the New Zealand Superannuation Fund (NZSF), and the National Provident Fund (NPF).²⁹ These institutions manage financial assets and liabilities. Other institutions that perform such a role include the Reserve Bank of New Zealand (RBNZ) and the Treasury's New Zealand Debt Management Office (NZDMO).

Key observations and conclusions

Based on an evaluation of the Financial Portfolio's performance we make the following observations and conclusions:

- The Financial Portfolio is set to increase as a proportion of the government balance sheet over the medium term – this increase of financial assets and liabilities will expose the government to a different risk profile relative to today. For instance, compared to the current balance sheet, the future balance sheet is likely to have a greater exposure to economic shocks which in turn impact the value of financial assets. To properly manage such risk as the Financial Portfolio changes composition will require new and different management behaviours, mitigations and controls.
- The Financial Portfolio faces sustainability challenges from an ageing and increasing population – an ageing population has the potential to increase the obligations of the government under the existing settings of the New Zealand Superannuation Scheme. With an ageing and increasing population, the scale of borrowing undertaken by the Treasury's NZDMO may have to increase, as a result of a growing economy.
- Strong investment returns in the portfolio have been partially driven by buoyant market conditions – such returns are unlikely to stay at these high rates in perpetuity.

²⁸ Other liabilities are debt issued by SOEs or mixed ownership companies, and minor obligations incurred as part of government operations, such as accounts payable.

²⁹ The GSF Authority manages the Government Superannuation Fund (GSF). GSF assets do not belong to the government but serve to reduce the government liability. As such, only the net liability is reported on the government's balance sheet. The NPF has been excluded from the following analysis of performance as it does not sit within the government's financial statements.

Performance assessment

Effectiveness

How is this dimension assessed for the Financial Portfolio?

Effectiveness of the Financial Portfolio is measured by the appropriateness of its asset allocation against a given a set of objectives, and the availability and quantum of funds to meet current and expected obligations.

How is the Financial Portfolio performing on this dimension?

The Financial Portfolio serves an integral role in the provision of wellbeing to New Zealanders (see Table 2.3) through smoothing intergenerational tax burdens, the provision of insurance, promoting financial stability, and providing the option to fund government activities by liquidating assets.

Dimension	To know that the government is investing for wellbeing, we ask:
ACC Investments	ACC provides cover to all New Zealanders injured in accidents. In the 2017 financial year \$1.95 million new claims were received.
Earthquake Commission	EQC settled 99 percent of Canterbury earthquakes claims (paying out over \$10 billion) and 60 percent of claims from the Kaikōura earthquakes.
Government Superannuation Fund Authority	The GSF provides superannuation support to public sector employees (who commenced prior to 1992), improving their wellbeing in later life. Currently, the GSF has 45,279 annuitants and 8,356 contributors.
New Zealand Superannuation Fund	The NZSF prefunds a proportion of the future cost of New Zealand Superannuation. The funds under management in the NZSF have increased by \$11.53 billion since 2013.
Reserve Bank of New Zealand	The RBNZ supports financial stability and monetary policy through the effective use of its balance sheet to manage liquidity in the banking system and maintain capacity for crisis interventions.
New Zealand Debt Management Office	A business unit of the Treasury that manages and raises borrowings and associated assets for the government, to meet the government's financing and liquidity requirements.

Table 2.3: The Financial Portfolio's contributions to wellbeing

Source: The Treasury

The total Funds under Management (FUM) of the four CFIs have increased at a compound annual growth rate (CAGR) of 11.6 percent from \$18.48 billion in the first quarter of 2005 to \$77.06 billion as at 30 June 2017. The balance as at 30 June 2017 is equivalent to 28.1 percent of GDP; see Figure 2.4. The total FUM for the Natural Disaster Fund (NDF) in EQC declined following withdrawals to meet claims from the Canterbury 2010/11 and Kaikōura 2016 earthquakes.

As at 30 June 2017 the NZSF and the ACC represent 23.7 percent of the government's total assets.³⁰ Current projections (Figure 2.5) have the NZSF and the ACC reaching 51.0 percent of government assets by 2060.³¹ The NZSF's value is projected to peak as a percentage of GDP at 39.5 percent (\$888.96 billion) in the 2070's.³²

For each CFI asset allocation is dictated by liquidity (withdrawal) requirements, financial objectives, and risk appetite (see Figure 2.6). For instance, the NZSF is not expected to have sustained withdrawals until at least the 2050's and, as a result, its asset mix is skewed towards illiquid, higher risk and higher growth assets. In contrast, the EQC's NDF was converted in 2012 to liquid fixed income (lower growth) assets to meet the withdrawal requirements of the Canterbury earthquakes.

90 (NZ\$ billions) 80 70 60 Funds Under Management 50 40 30 20 10 n 2017Q1 2005Q1 2008Q1 2011Q1 2014Q1 Quarters ■NZSF ■ACC ■EQC ■GSF

Figure 2.4: Total funds under management from CFIs

Source: The Treasury

Figure 2.5: Forecast value in total government assets





Source: The Treasury







The RBNZ's balance sheet supports financial stability and monetary policy implementation through the use of balance sheet components to manage liquidity in the banking system and maintain crisis intervention capacity. For example, foreign reserves are available to reduce market volatility in times of financial distress, and for intervention in foreign exchange markets for monetary policy purposes.

On the liabilities side the Treasury's NZDMO has implemented an \$8 billion per annum funding programme in recent years, taking New Zealand Government Bonds on issue to \$76.6 billion.

³⁰ Based on consolidated figures.

³¹ These projected figures include the restarting of contributions by the Government to NZSF while keeping other policy settings constant (eg, excludes revaluations of assets). ACC projections are based on the Long-term Fiscal Model (2016).

³² Based on NZSF model v37 projections. Refer: http://www.treasury. govt.nz/government/assets/nzsf/contributionratemodel

Efficiency



How is this dimension assessed for the Financial Portfolio?

The efficiency of the Financial Portfolio is measured by rates of return relative to risk-adjusted benchmarks.

How is the Financial Portfolio performing on this dimension?

Returns have been in excess of each fund's passive benchmark (Table 2.4). The passive benchmark is based on the returns from a reference portfolio.

Table 2.4: Financial Highlights for the CFIs

Fund			2017	2013	5-year average
ACC	Return	%	5.8	9.7	9.4
	Passive Benchmark	%	4.3	8.4	8.5
	Difference	%	+1.5	+1.3	+0.9
GSF	Return	%	13.9	17.4	12.1
	Passive Benchmark	%	12.5	15.3	11.3
	Difference	%	+1.4	+2.1	+0.8
NZSF	Return	%	20.7	25.8	16.5
	Passive Benchmark	%	16.3	18.5	13.2
	Difference	%	+4.4	+7.3	+3.3
EQC	Return	%	1.4	1.4	5.1
	Passive Benchmark	%	-	-	-
	Difference	%	-	-	-

Source: The Treasury, CFI Quarterly Reporting

Note: EQC does not have a passive benchmark as the composition of the NDF has been changed to entirely fixed income assets.

In addition to passive benchmarks, each CFI (excluding EQC) has a specific performance expectation/objective. Each CFI has generated returns in excess of these expectations/objectives (referring to Figure 2.7). Each CFI's performance expectation/objective is listed below:

- ACC ACC's performance expectation/objective is that returns are greater than 0.3 percent (after costs) above its passive benchmark.
- GSF the GSF's performance expectation/ objective is to maximise the Fund's excess return relative to New Zealand Government Stock with a one in four chance of under-performing it by a cumulative 10 percent measured over rolling 10year periods.
- NZSF the NZSF's performance expectation/ objective is to exceed the New Zealand Treasury Bill return by at least 2.7 percent per annum (prior to 1 July 2015, 2.5 percent per annum).

Over the past five years the financial performance of the CFIs has been partially driven by strong global and domestic equity markets.

Figure 2.7: CFI index



Source: The Treasury

In addition to the return on assets, the cost of financing the government's activities is a measure of efficiency. The lower the cost of financing, the more funds are available for other activities. In recent years the Treasury's NZDMO cost of borrowing has declined in line with global trends of lower interest rates.

Sustainability



How is this dimension assessed for the Financial Portfolio?

For the CFIs, sustainability is measured by the projected gap between their assets and future obligations under current policy settings. For the Treasury's NZDMO, sustainability is measured by the ability of the NZDMO to access debt markets, net core Crown debt values, and whether actions by the NZDMO minimise borrowing costs through time. For the RBNZ, sustainability is measured by its ability to maintain stable levels of funding in the financial system.

How is the Financial Portfolio performing on this dimension?

Despite strong performance by most CFIs, overall there remains a significant probability that investment income may be insufficient to meet future obligations, partly as a result of demographic pressures, market conditions, and historic decisions regarding government contributions to the funds. Specifically:

- ACC the ACC's Outstanding Claims Liability is likely to increase partly in response to an ageing population and partly in response to inflation. ACC estimates investment returns of approximately 5.0 percent per annum and an increase in liabilities of 4.0 percent per annum. Hence, marginally lower investment returns or unexpected growth in the Outstanding Claims Liability could result in a net liability position.
- GSF assets are insufficient to meet liabilities, primarily because successive governments did not make sufficient employer contributions at the time the scheme was open to new members. The unfunded shortfall is not expected to improve in the future. The government contributed \$0.69 billion in 2017 to meet the withdrawal requirements. The remaining unfunded shortfall for future requirements is \$11.00 billion.

- NZSF the fund is expected to grow substantially, however, the quantum of the obligation against which the fund will be managed is not yet fully known.³³ An ageing population will lead to the increasing cost of New Zealand Superannuation, which the fund will need to partially meet (refer to Figure 2.8).
- EQC in 2017 the NDF's closing balance was less than \$1.00 billion and is expected to be fully depleted by the end of 2018. The government is required, under a legislated guarantee, to meet any shortfall in the event of insufficient cash flow to meet claims.

Figure 2.8: Projected NZS expenditure



Source: The Treasury, NZSF Model

The Treasury's NZDMO ensures the government has sustainable funding through:

- building and maintaining depth, diversity and confidence of the investor base to ensure ongoing market access to funding
- ensuring the NZDMO's actions support secondary market liquidity and well-functioning New Zealand capital markets to minimise borrowing costs through time.

³³ The NZSF is not expected to fully fund the New Zealand Superannuation scheme, but is instead designed to smooth the intergenerational tax costs of funding the scheme. The future cost of the New Zealand Superannuation scheme is not recorded as a liability in the Financial Statements of the Government of New Zealand. Estimates are used to quantify and provide guidance for the level of assets required to partially meet projected future costs.

Resilience

How is this dimension assessed for the Financial Portfolio?

The resilience of the Financial Portfolio is measured by its ability to respond to financial and economic shocks.

How is the Financial Portfolio performing on this dimension?

An overall skew towards growth assets means that the CFIs (excluding EQC) are exposed to a relatively high degree of market risk. For example, during the Global Financial Crisis the NZSF lost 22.1 percent of its value in the 12 months to 30 June 2009.

The ability of the CFIs to withstand shocks varies. Although the NZSF's asset portfolio has a higher risk exposure relative to other CFIs, it is relatively well placed to withstand economic shocks due to its position as a long-term investor. In contrast, the GSF, which has an ongoing withdrawal profile, is not as well positioned as there is limited time for it to recover between a shock and required withdrawals. ACC holds a variety of long-term fixed interest and indexed linked investments to manage risk.

Another event of the scale of the Canterbury or Kaikōura earthquakes could not be fully funded from the NDF and would likely require a call on the government guarantee to cover the residual balance. To partially offset such risk, EQC has increased reinsurance cover to \$4.8 billion (from \$2.5 billion prior to 2011) and the government maintains significant borrowing capacity.

The NZDMO's resilience is assisted by its issuance of a diverse range of securities, its reputation for transparency and consistency, and its commitment to maintain minimum levels of New Zealand Government Bonds. The NZDMO also maintains a broad investor base. In addition, recent investment replacing the core technology platform has enhanced business continuity resilience and significantly reduced operational risks.

The RBNZ holds foreign reserves to intervene in currency markets in the case of severe market disorder. In 2017 foreign reserves were maintained at target levels (totalling \$22.2 billion), with 75 percent hedged to minimise exchange and interest rate risks. Following an economic shock, the RBNZ can also inject liquidity, which has successfully supported the banking system in the past (see Figure 2.9, the left-hand axis is a measure of market stress and the higher the spread, the more stressed the market. The yellow areas indicate periods when the RBNZ has intervened to lower market stress).

Figure 2.9: New Zealand 3-month bank bill less NZ\$ 3-month OIS



Source: Reserve Bank, Thompson Reuters

As previously noted, long-term fiscal projections indicate an increase in the value of the Financial Portfolio within the government balance sheet (see Figure 2.5). The increasing level of financial assets will likely expose the government balance sheet to a different risk profile such as greater exposure to market risks. See chapter 1.3 for analysis of current financial risk.

Adaptability

How is this dimension assessed for the Financial Portfolio?

The adaptability of the Financial Portfolio is measured by its ability to respond to long-term trends, particularly those leading to growth in future obligations.

How is the Financial Portfolio performing on this dimension?

As discussed, an ageing and increasing population will place demand-based pressure across the Financial Portfolio. For example, as the population increases, so too will the economy, and so may the intervention capacity required by RBNZ in case of financial market distress. Similarly, the Treasury's NZDMO may be required to borrow relatively more to provide funding for social programmes and to maintain a larger asset portfolio as a result of application of the Government's policy of maintaining a minimum level of New Zealand Government Bonds outstanding at 20 percent of GDP. Climate change may have a material impact on some investment asset classes that are either directly or indirectly impacted by climate change itself or are subject to climate change-related regulation. Indeed, the NZSF has recognised climate change as an investment risk and has taken steps to reduce the Fund's exposure to this risk.

There are opportunities to improve services and, in some cases, reduce liabilities. Specific examples include:

- A review of the Earthquake Commission Act 1993 is under way. Among other things, the review is to articulate EQC's role in disaster recovery and enhance the risk transfer arrangements between the EQC and the government.
- ACC's liabilities may be reduced (or increased) by technological advancements that reduce (or increase) the financial cost of medical treatment.



Chapter 2.3: Commercial Portfolio overview

Purpose and description

The government's Commercial Portfolio includes wholly or partly Crown-owned enterprises that have primarily commercial objectives. The government's expectation is that these entities will be as profitable and efficient as comparable businesses owned by the private sector. The Commercial Portfolio is split into two sub-portfolios:

- **Commercial priority companies** unlisted entities that operate as commercial enterprises primarily in the form of companies.
- Publicly listed companies companies that the Crown holds a majority shareholding in that are listed on the New Zealand Stock Exchange (NZX).

Key observations

Based on an evaluation of the Commercial Portfolio's performance we make the following observations and conclusions:

- The government realises returns from the portfolio primarily through dividends and the dividend yield is low focus should be given to improving dividend yield or expanding options for realising returns.
- Beyond commercial returns, there are few other reasons to own companies – where returns are relatively poor and risks are relatively high, the strength of those other reasons need to be frequently examined to make sure the case for public ownership continues to be sufficiently strong.
- The performance challenges and risks facing commercial priority companies are numerous and diverse – common risks include responding to disruptive technology, limited growth opportunities, and shifting consumer preferences.
- The mixed-ownership model has been financially successful since the completion of the mixed-

ownership programme, the financial returns of the publicly listed companies have been higher than those of the commercial priority companies.

Performance assessment

Commercial priority companies

Effectiveness

How is this dimension assessed for the Commercial Portfolio?

Effectiveness of the Commercial Portfolio is measured by the generation of shareholder value, primarily measured by returns.

How are the commercial priority companies performing on this dimension?

The commercial priority companies contribute to wellbeing through the generation of shareholder returns, which, when realised either through a dividend or capital return, can be used to invest in other wellbeing enhancing activities (returns are addressed more fully in the following pages). The portfolio also indirectly supports the economic functioning of several industries in New Zealand and provides services directly to households.

Overall, it is not clear whether the current investment allocation is optimal in generating strong returns and wellbeing outcomes. There are choices over which assets the government owns, and how to redeploy capital, especially in instances where the freed capital may be invested in higher value uses. For example capital may redeployed from one commercial asset to another, higher value, commercial asset or even to another type of asset such as a social asset. Furthermore, competitive markets and regulation provide mechanisms to protect consumers, employees, and the environment consistent with broader government objectives, which in general reduces the need for government ownership as a mechanism to achieve these aims.

Efficiency



How is this dimension assessed for the Commercial Portfolio?

Efficiency of the Commercial Portfolio is measured by relative returns to shareholders, operating profitability and capital utilisation.

How are the commercial priority companies performing on this dimension?

Overall returns were low comparative to the degree of risk associated with equity investment in commercial companies.

Referring to Figure 2.10, since 2013, total shareholder returns (TSR) in the commercial priority companies have remained relatively static over the longer term (yellow line). Once Solid Energy is removed from the analysis, TSR were below the NZX50G index returns but showed improvement since 2008 (grey line), although a large portion of this return was due to Transpower dividends (grey dotted line).

Figure 2.10: Total shareholder returns for the commercial priority companies



Source: Bloomberg, The Treasury

In the absence of capital returns, dividends are the government's only means of realising returns. Dividends to the government since 2013 were \$1.42 billion.³⁴ Excluding Transpower, dividends for the same period were only \$0.35 billion, despite the government's preference for cash dividends. This resulted in a net \$0.39 billion distribution from the Portfolio (\$1.42 billion in dividends less equity injected of \$1.03 billion, of which \$1.00 billion was for KiwiRail).

Figure 2.11: Dividend returns for the commercial priority companies



Source: Bloomberg, The Treasury

Note Figures 2.10 and 2.11: Includes all Commercial Priority companies except KiwiRail (due to a change in valuation methodology in 2011) and Fairway (which was only operating 2012-2017).

The relative data in these charts is impacted by the point-ofcycle factors for the period in question. The NZX50 index has been used as a broad indicator of market returns.

Figure 2.12: Commercial priority companies valuation breakdown from 2008 - 2017





Note: Figure includes all commercial priority companies except KiwiRail (due to a change in valuation methodology in 2011) and Fairway (which was only operating 2012 - 2017).

Aggregate level operating profitability, as measured using the operating margin (Table 2.5), improved following various cost-efficiency programmes by

³⁴ Figure includes all commercial priority companies and only counts dividends paid to the government.

Measure	Units	2017	2013	Variance (2017- 2013)	5-year average	10-year average
Total Shareholder Return (TSR) ³⁶	%	2.4	-16.3	18.6	1.1	4.5
Return on Capital Employed (ROCE)37	%	11.5	8.3	3.1	9.8	10.7
Operating Margin	%	31.7	22.5	9.2	27.3	25.7
Net Profit After Tax (NPAT)	NZ\$ billions	0.48	0.10	0.38	0.30	0.27

Table 2.5: Aggregate financial highlights for the commercial priority companies³⁵

Source: The Treasury, CFI Quarterly Reporting

companies. However, the aggregate operating margin result was primarily driven by Transpower. Removing Transpower from the analysis, the aggregate operating margin was between 11.6 percent (2013) and 16.3 percent (2017) for the period, reflecting lower margins for the remaining companies.

Sustainability

How is this dimension assessed for the Commercial Portfolio?

The sustainability of the Commercial Portfolio is measured by assessing whether profits could be sustained under current operating conditions and whether the balance sheet has capacity to support expansion and business-as-usual investment.

How are the commercial priority companies performing on this dimension?

Industry forces impacting the commercial priority portfolio suggest a challenging earnings environment ahead. Excluding Solid Energy, at an aggregate level, earnings before interest, tax, depreciation, amortisation and fair value adjustments (EBITDAF) was up \$0.22 billion or 21.6 percent since 2013 (see Figure 2.13). However, removing the large companies (Transpower and Kiwi Group) from the analysis reveals that operating profit growth was flat for the remaining companies.

Figure 2.13: Commercial priority companies EBITDAF from 2008 - 2017



Source: The Treasury

Note: Includes all commercial priority companies except KiwiRail (due to grant income) and Fairway (which was only operating 2012-2017).

In 2017 the Crown sold 47% of Kiwi Group Holdings to NZSF and ACC, the portion of EBITDAF attributable to NZSF and ACC is shown in the shaded bar.

An analysis of forecasts provided in the company business plans across the Portfolio also shows a gradual flattening off in forecast operating profits across the period (see Figure 2.14).³⁸ Strong competitive pressures and limited growth prospects (the majority of the companies in the portfolio exist in mature markets, with low organic and inorganic growth prospects) may place downward pressure on these forecasts and suggests decreasing real growth in the Portfolio.

³⁵ All figures exclude KiwiRail (due to change in valuation methodology in 2011 and accounting for grant income) and Fairway (which was only operating from 2012-2017). All figures are based on the government's ownership percentage. Refer Appendix 2 for definition of terms.

³⁶ Note: 5-year average TSR and ROCE is calculated using a CAGR.

³⁷ ROCE excludes NZ Post, Kiwi Group Holdings and Public Trust.

³⁸ Companies are required to provide earnings forecasts in their Business Plans.



Figure 2.14: Commercial priority company three-year EBITDAF forecast from 2013 - 2020



Note: includes all commercial priority companies except KiwiRail, Fairway, NZ Post, Kiwi Group, and Solid Energy due to substantial changes in operating or accounting models during the period.

KiwiRail, for example, faces significant and recurring fixed costs to maintain its rail network. There is currently insufficient volume traversing the rail network to cover both fixed and variable costs. Since 2013, the government's equity injection was between \$119 million to \$250 million per annum to fund the shortfall. Without a significant change in market conditions or policy settings, the need for the government to subsidise KiwiRail is likely to continue.

In 2017 the commercial priority companies had a net gearing of 50.5 percent (down from 52.4 percent in 2013).³⁹ Since 2008, net gearing has increased from 36.1 percent due to Transpower, which went through a period of heavy investment in the transmission grid. Removing Transpower from the analysis shows that gearing was down from 33.5 percent in 2013 to 26.3 percent in 2017, highlighting a gradual deleveraging to more conservative balance sheets in recognition of challenges facing several companies.

Resilience



How is this dimension assessed for the Commercial Portfolio?

Resilience of the Commercial Portfolio is measured by assessing whether its portfolio companies, individually or in aggregate, can cope with one-off shocks operationally and financially. Such shocks may require some borrowing and operational capacity beyond that necessary for business as usual across the Portfolio.

How are the commercial priority companies performing on this dimension?

The assets of the commercial priority companies are predominantly located in New Zealand, and their value is concentrated in a few industries. This leads to the following risks:

- Geographic risks affecting New Zealand, such as domestic economic shocks or natural hazards like earthquakes. Net fixed assets amount to \$7.68 billion for the portfolio and PP&E accounts for 23.7 percent of total assets.⁴⁰ The extensive damage to KiwiRail's South Island network following the Canterbury 2010/2011 and Kaikōura 2016 earthquakes and consequential call on Crown capital highlights this vulnerability.
- The Portfolio is subject to concentration risk. Four companies (New Zealand Post, including Kiwi Group Holdings Limited, Transpower Limited, Landcorp Limited, and KiwiRail Limited) account for over 67.9 percent of total revenue and one company, Transpower Limited, accounts for over half of Portfolio dividends.

³⁹ Net gearing figures exclude KiwiRail, Fairway, New Zealand Post, and Kiwi Group.

⁴⁰ Figures include all commercial priority companies.

Adaptability



How is this dimension assessed for the Commercial Portfolio?

The adaptability of the Commercial Portfolio is measured by the ability to cope and respond to future challenges and opportunities, such as changing technology, climate, demographics, and consumer preferences.

How are the commercial priority companies performing on this dimension?

There are several trends in the external environment impacting the companies within the Portfolio:

- Changing technology has resulted in the need to invest in asset upgrades and replacements across the portfolio (eg, Airways replacing outdated radar and Kiwibank upgrading core systems). Longerterm disruption may adversely impact revenue streams (eg, distributed generation affecting demand for Transpower's national grid).
- Changing consumer preferences are eroding traditional revenue streams (eg, for Landcorp, plant-based protein is competing with traditional animal-based sources of protein).
- Higher levels of competition, particularly in international markets, has placed pressure on profit margins (eg, Metservice, Quotable Value, and Kordia Australia).
- Short-term competitive pressures are less for Transpower and, to a lesser extent, airports, resulting in stable revenue streams due to monopolistic market structures.
- Relative exposures to disruptive trends or competitive forces may change, and higher stranded asset risks for infrastructure-focussed companies mean that adaptation may be more difficult.

Some Portfolio companies appear to be facing difficulty to adapt, as evidenced by declining growth rates and profitability.

Listed companies

Effectiveness

How are the listed companies performing on this dimension?



Similar to the commercial priority companies, the listed companies generate returns to shareholders (of which the government is just one), that can be invested in other wellbeing enhancing activities. Additionally, the listed companies provide services to a large number of New Zealanders, such as the provision of electricity and assisting in the movement of people and freight domestically and internationally.

Efficiency

How are the listed companies performing on this dimension?



Figure 2.15⁴¹ presents the gross share market returns index of the four listed companies that are majority owned by the Crown since June 2007. As shown, performance has generally been positive and ahead of the NZX50G.

Strong performance has allowed the energy companies to increase their dividends paid to shareholders since listing. As at 30 June 2017, aggregate dividends from the three energy companies to the government were \$1.47 billion (Figure 2.15). The higher dividends were partially driven by less investment in new generation plants (due to flatter electricity demand in recent years), a focus on core business by selling unprofitable or marginal operations, and cost saving initiatives leaving companies with higher levels of free cash flow.

⁴¹ Air New Zealand rebased to NZX50G on 30 June 2008. Other companies rebased to NZX50G upon listing. Prices are based on Bloomberg total return index.

Measure ⁴²	Units	2017	2013	Variance (2017 - 2013)	5 year average	10 year average
Return on capital employed (ROCE)43	%	13.3	10.5	2.8	12.5	11.4
Operating margin	%	23.2	18.8	4.4	21.1	19.1
Net profit after tax (NPAT)	NZ\$ billion	0.88	0.70	0.18	0.81	0.60

Table 2.6: Aggregate financial highlights for the listed companies

Source: The Treasury

Figure 2.15: Listed companies gross sharemarket returns index from 2008 - 2017



Source: Bloomberg, The Treasury

Figure 2.16: Dividends to the government from the electricity generator-retailers from 2009 - 2017



Source: The Treasury

Note: Chart includes special dividends except for Meridian's special dividend in 2011 (which resulted from mandatory divestments under the Government's electricity policy reform).

Air New Zealand has had strong performance relative to the NZX50G. Since selling down its ownership in November 2013 from approximately 73.4 percent to 53.1 percent,⁴⁴ the government has received a total of \$0.53 billion in dividends. Air New Zealand has also undertaken a number of cost-efficiency initiatives to improve profitability.

As at 30 June 2017 the combined market capitalisation of the listed companies was \$18.12 billion.⁴⁵

Sustainability



How are the listed companies performing on this dimension?

Combined operating cash flows for the listed companies was \$1.94 billion, up from \$1.68 billion in 2013 (a 15.5 percent increase). For the three energy companies, operating profit was up from 2013 by \$0.21 billion. Air New Zealand has increased its operating profit (2017 EBITDAF of \$1.03 billion compared to 2013 EBITDAF of \$0.72 billion) following capacity expansion and the establishment of new routes since 2013.

Combined gearing was 27.2 percent in 2017 and 22.3 percent in 2013. The increase was largely driven by capital investments (such as investment in new aircraft for Air New Zealand and Genesis' acquisition of Nova Energy's retail LPG business and

44 And subsequent dilution to 51.9 percent.

42 For the specific calculations and definitions used for preparing metrics, please refer to Appendix 2.

⁴⁵ Market capitalisation can be thought of as a proxy for a company's net worth (or commercial value). However, it is important to note that the share prices from which market capitalisation is calculated reflect the market value of a minority stake in the companies. The value of the government's shareholding includes a control premium and to this extent, the market capitalisation understates the commercial value of the government's stake.

⁴³ Average ROCE is calculated using a CAGR.

Table 2.7: Listed companies' credit ratings

Entity	Credit rating	Interpretation	Rating agency
Air New Zealand	Baa2	Investment Grade	Moody's
Mercury	BBB+	Investment Grade	Standard & Poor's
Meridian	BBB+	Investment Grade	Standard & Poor's
Genesis	BBB+	Investment Grade	Standard & Poor's

Source: Company annual results presentations

the acquisition of an increased share in the Kupe Joint Venture) and Meridian's five-year capital return programme, which commenced in August 2015.

As of 30 June 2017, all listed companies received investment grade credit ratings from their respective rating agencies (see Table 2.7).

Resilience

How are the listed companies performing on this dimension?

The listed companies seek to mitigate major business risk where possible. The following observations can be made:

- The three energy companies:
 - have a diversified generation portfolio, reducing exposure to a range of business risks
 - manage wholesale market volatility through a variety of hedge contracts and forward integration into retail
 - but are exposed to demand risks from the New Zealand Aluminium Smelter as the smelter accounts for a significant portion of industry demand (approximately 13.0 percent).
- Air New Zealand:
 - like most airlines, faces the risk of fuel price fluctuations and hedges this risk through a variety of fuel swap and fuel option contracts
 - but is exposed to event risks or safety risks impacting demand for air travel or access to key locations.

Adaptability



65

How are the listed companies performing on this dimension?

The listed companies all compete in highly fragmented industries and face strong competitive forces. For example, in the energy sector, there is uncertainty whether demand opportunities from continued electrification, eg, electric vehicles, will offset potential demand declines from distributed generation and storage technologies. Changing consumer preferences for more flexible and tailored services are likely to affect all four companies.

Chapter 2.4: The role of system settings

The performance of government investment depends on a wide range of processes, rules, capabilities and information requirements collectively referred to as system settings. Together they are intended to influence the behaviour of various agents so they optimise resources and deliver the expected value over time. The main agents in the system are Cabinet, individual Ministers, central agencies, functional leaders, Boards of Directors, departments, Crown entities and agency management teams.

The key settings in the system that impact on asset and liability management are regulatory requirements, government policy, and financial delegations for investment decisions. The regulatory requirements range from compliance with workplace health and safety legislation, to building codes and agency mandates. Other factors also have a bearing on management over time, including the impacts of past investments, the strength of agency balance sheets and access to revenue or new capital. Compared to those factors, administrative arrangements, such as financial or performance reporting or the requirement for a return on capital employed, typically play a lesser role in determining behaviours over time than may have been intended when they were introduced.

Since the 2014 Investment Statement, the government has changed some settings to help achieve better investment decisions, wholeof-government procurement, and transparent reporting on asset performance. These include the establishment of the Investment Ministers process, the extension of functional leadership to Crown entities, the introduction of the Investor Confidence Rating and reporting on the investment in major investment projects.

The analysis supporting this Statement suggests there have been some early and positive impacts on behaviour and results from these changes. For example the incentive effects of the Investor Confidence Rating are leading agencies to pay more attention to delivering the benefits from investments and investing in the capability to manage investments well over time. At Ministerial level there is more advice and reporting by government officials on the opportunities to align the investment portfolio to government outcomes. Yet these administrative and regulatory changes have been applied in addition to existing policy settings, decision rights and fiscal management rules, resulting in more, not less complexity.

One question the Treasury will consider is whether the funding arrangements for agencies are consistently enabling the delivery of efficient, effective, resilient, sustainable and adaptable assets and services or whether changes could improve the arrangements in some sectors, as reviewed in this section and section four. For example, there are sound reasons to fund depreciation expenses incurred by departments, there are also examples where the funding does not occur. Similarly, there have been valid arguments to apply a capital charge on the value of taxpayer funds committed to an agency balance sheet, yet there is a low level of returns of capital from agencies back to government. There are similar questions around the effectiveness of the stewardship of resources over time and the way the government prioritises investments and allocates resources.

Given the impact of settings in the system, it is appropriate in the coming four-year period of this Investment Statement to examine such matters to improve management of the government balance sheet and wellbeing outcomes for New Zealanders.



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3

Pursuing distant horizons

Section three: Pursuing distant horizons

Section one discussed the importance of, and mechanisms for, managing the government's balance sheet effectively to support the government's ability to respond to adverse economic and natural events. Section two discussed the performance of the assets and liabilities on the government balance sheet in relation to their contribution to overall wellbeing – a more comprehensive view of the value of government assets. This third and final section explores some important issues and challenges in further broadening the approach to assessing the effectiveness of government balance sheet management. Much work can be done in this sphere to sharpen concepts of value, as part of developing and promoting a greater wellbeing orientation to public policy. This section sets out a concept of value that recognises its many dimensions beyond the more conventional treatment in financial accounting, and looks at the implications for future balance sheet management assessment.

It begins with a discussion of some key issues involved in developing a fully-fledged wellbeing measurement, assessment and policy framework. We discuss these issues using the organising principles in the Treasury's Living Standards Framework (LSF). The framework has been, and will continue to be, progressively developed to support the identification of priorities for government, evaluation of potential policy options and the direction of analytical and research activity. We use the framework to illustrate how the discussion of government balance sheet management in sections one and two could be extended and better oriented towards wellbeing in the future. We then take the framework's elements relating to natural capital and environmental aspects of wellbeing as an applied example.
Chapter 3.1: The role of the Living Standards Framework

The LSF is a New Zealand-specific framework that draws from a range of wellbeing approaches available internationally and domestically (see box on page 71 for more detail). It builds in particular on the OECD's approach to wellbeing (see (OECD, 2017) for the latest assessment of wellbeing in OECD countries).

The framework conceives of wellbeing as comprising a number of aspects of life experience, such as housing, income, employment, education, community engagement, enjoyment of environmental amenity and health and safety. Measures of these aspects provide a snapshot of *current* wellbeing. The wellbeing of *future* generations is represented by four 'capital stocks' – financial/physical,⁴⁶ social, human and natural capital.

The LSF supports policy development and assessment by allowing government activities to be situated in a comprehensively articulated view of how wellbeing outcomes are generated. This enables analysis of what is important in wellbeing and the relative importance of the different aspects. It also provides the top-level objectives and outcomes relevant to the development of causal models of the various influences on wellbeing, including environmental, social and technological trends, and government activities such as operating spending, regulation, procurement, taxation, and of course balance sheet and asset and liability management. As the framework is progressively populated with data, it can be used to inform questions about:

- the state of, trajectory of, and risks to wellbeing now and in the future
- wellbeing inequalities across different population
 groups
- the relationships and dependencies between different wellbeing aspects, both current and longer-term
- resource prioritisation, both across current wellbeing aspects and across generations.

The document *The Treasury Approach to the Living Standards Framework*⁴⁷ elaborates on these issues.

Like the Treasury, many entities in New Zealand are challenging themselves to confront similar issues of managing and decision-making towards a broad conception of wellbeing. For example, a number of iwi asset owners and others in the Māori economy, which accounts for a substantial proportion of wealth held and managed for future generations of Māori, also take an explicitly intergenerational and multidimensional approach to wellbeing that recognises a range of tangible and non-tangible outcomes as important. Some regional councils also consider a broad range of social, environmental and economic outcomes for their regions in strategic planning. Finally, a growing number of businesses in New Zealand are presenting corporate reports under

46 Called 'economic capital' in the OECD analysis.

⁴⁷ Refer: http://www.treasury.govt.nz/abouttreasury/ higherlivingstandards

the International Integrated Reporting framework, which encourages recognition in such reporting of the impacts of the reporting entity's activities on social and environmental, as well as economic and financial domains (see Diplock, 2018 for New Zealand examples).

The Treasury's analysis and LSF presented here are designed to support its role in central government in relation to government balance sheet and investment and asset management. It is not necessarily an approach that will be sensible or appropriate for other entities to adopt for their balance sheet management purposes. However, we hope that others might draw inspiration for their own efforts by looking at the Treasury's approach. As noted, the development and application of the LSF is an ongoing work in progress, and we hope that sharing and discussing our experience with others will help us develop our own thinking.



The Living Standards Framework

The Treasury has been developing its living standards approach since 2012 to ensure its analysis and advice considers the wide range of factors that impact wellbeing. The LSF is a way of supporting government agencies to be more cohesive so that advice on spending and other government interventions can have the greatest chance of improving intergenerational wellbeing at least cost.

The framework has been recently updated. The current focus is on enhancing and adapting the OECD's wellbeing framework⁴⁸ to allow for New Zealand specific circumstances and values, including Te Ao Māori, and other dimensions of cultural identity as well as measures for mental health, volunteering and corruption. This work is discussed in the paper *Wellbeing Frameworks for the Treasury*.⁴⁹

While tailoring the framework to support its use in a New Zealand policymaking context is of course the overriding objective, it is also important to maintain international comparability as part of promoting transparency and the ability to benchmark against peer countries. The OECD's framework is shown in Figure 3.1 and is essentially the same as that used in the LSF.

Figure 3.1: The OECD wellbeing framework



Source: OECD (2015), How's Life? Measuring Well-Being

The key components of the framework are:

- · A range of indicators to measure current wellbeing.
- · Four capitals (stocks) that are drawn on to produce wellbeing (flows).
- A range of methods to measure the various capitals, wellbeing flows and the relationship between them.

⁴⁸ Refer: http://www.treasury.govt.nz/publications/research-policy/tp/approach-to-lsf

⁴⁹ Refer: http://www.treasury.govt.nz/abouttreasury/higherlivingstandards

The LSF four capitals are as follows:

Figure 3.2: The four capitals

The Four Capitals Intergenerational wellbeing relies on the growth, distribution, and sustainability of the Four Capitals. The Capitals are interdependent and work together to support wellbeing. The Crown-Mäcri relationship is integral to all four capitals. The LSF is being continually developed and the next iteration of the framework will consider the role of culture, including Mäcri culture, as part of the capitals approach in more detail. This encompasses people's skills, knowledge and physical and mental health. These are the things This refers to all aspects of the natural environm needed to support life and human activity. It includes which enable people to participate fully in work, study recreation and in society more broadly. land, soil, water, plants and animals, as well as minerals and energy resources Financial Social Capital Physical Capital This includes things like houses, roads, buildings, This describes the norms and values that underpin hospitals, factories, equipment and vehicles. These are the things which make up the country's physical and financial assets which have a direct role in society. It includes things like trust, the rule of law, the Crown-Mäori relationship, cultural identity, and the connections between people and communities supporting incomes and material living conditions

The current LSF development programme includes developing the measurement framework for the four capitals and how they contribute to wellbeing in New Zealand. The Treasury has released three discussion documents to contribute to conservations about the value of human, natural and social capital in New Zealand.⁵⁰

We are also developing tools to provide regular assessments of current wellbeing in New Zealand. Such assessments will support policy prioritisation and analytical work programmes. This is a work in progress, and we are drawing on examples of 'snapshot' presentations of wellbeing such as the following from the OECD.

Figure 3.3: New Zealand's average level of current wellbeing: Comparative strengths and weaknesses



Note: This chart shows New Zealand's relative strengths and weaknesses in wellbeing when compared with other OECD countries. For both positive and negative indicators (such as homicides, marked with an '*'), longer bars always indicate better outcomes (ie, higher wellbeing), whereas shorter bars always indicate worse outcomes (ie, lower wellbeing). If data are missing for any given indicator, the relevant segment of the circle is shaded in white.

Additional information, including the data used, can be found at: www.oecd.org/statistics/Better-Life-Initiative-2017-country-notes-data.xlsx

50 Refer: http://www.treasury.govt.nz/abouttreasury/higherlivingstandards

Developing an outcomes and valuation framework

Applying the LSF organising principles to the formulation of government policy indicates some areas where practices can be developed further. Historically, reporting and monitoring on government performance has generally been centred on financial and economic indicators, such as the government's debt position and national income (GDP). Assessment of government agency performance and project proposals has also relied heavily on financial and other operational metrics.

A more mature approach informed by the LSF would recognise that traditional economic and financial measures miss important aspects of wellbeing. The approach would embed more fully all government activities, including government asset and liability management, within a broad conception of national wealth. Balance sheet objectives would be linked explicitly to the overarching aim of enhancing the wellbeing of current and future generations, with investment activities and other balance sheet management decisions driven by an empiricallyfounded view of the impact of those activities on the health and growth of the four capitals. Extending national and government balance sheet reporting beyond GAAP measures would also provide greater transparency about both broader national wealth, and the proportion accounted for by government holdings.

Research and practice internationally seeks to use the strong statistical foundations provided by GAAP and the System of National Accounts (SNA) to support broadened, consistent and coherent measurement across the wellbeing domains and the non-physical and financial capitals (particularly natural capital, which we discuss and illustrate later). For example, the World Bank (2006, 2017) produces comprehensive wealth accounts for most countries, covering a range of capitals similar to those in the Living Standards Framework. Such wealth measurement frameworks adjust traditional measures of national income and savings to take into account depletions of the capitals - resulting in 'genuine savings' measures.⁵¹ These are a step towards a conception of national income assessment that takes into account impacts on future generations.

Measuring the various wellbeing aspects in physical terms (eg, air quality, levels of education and health etc) and knowing the causal models linking government activity to these quantities, while necessary, is not sufficient. A means of valuing the wellbeing states in each aspect is also of great interest to public policy, because it would support performance comparisons and the evaluation of trade-offs and dependencies across domains. This would in turn support and inform government prioritisation choices and resource allocation decisions on relative value grounds (NZIER, 2017).

For goods and services traded in markets, value is observed from market prices. But much government policy is concerned with addressing market failures, in which there may be no market prices with which to value the impacts of government activity directly. In fields such as conservation, defence, education, health and justice, the costs of providing services are easily identified, but the value obtained from them is much more difficult to quantify in dollar terms.

Extending current asset management analysis

As the LSF develops to address these issues, we aim to use it to support more comprehensive coverage in future Investment Statements of balance sheet management as it pertains to wellbeing.

Sections one and two of this Investment Statement provided a discussion of the value of government assets and liabilities, based on GAAP. The presentation of these and other accounts of the government of New Zealand in GAAP format has provided, and continues to provide, great benefits in terms of transparency and comparability with other entities. This in turn supports fiscal discipline and prudent fiscal management, as well as standardised assessment of the performance of the government's financial and physical capital in terms of financial returns, on the same basis as for any other GAAPreporting entity.⁵² Thus, measuring the wellbeing benefits of the government's financial/physical capital in financial or income terms is a well-characterised and mature discipline. Likewise, measuring the government's influence on macro-economic indicators is well-characterised and mature, reflecting decades

⁵¹ See Oxley L, Qasim M and McLaughlin E: *Testing Genuine Savings in NZ* (2017).

⁵² See http://www.treasury.govt.nz/publications/guidance/publicfinance/ pfaguide

of modelling and analysis supported by measurement of incomes and expenditure using the international SNA. This has provided similar benefits in terms of transparency and comparability.

However, as discussed in earlier sections, the government balance sheet performs a role in cushioning the economy against a wide range of adverse events, and government assets have a direct role in supporting the delivery of important social services such as health, education, justice, transport and defence, as well as funding future provision of services. These primarily support non-tangible aspects of wellbeing now and in the future. The government's investment activities are substantial in size and scope, and there are always alternative options for intervention to promote wellbeing that need to be considered, including regulation, government procurement of goods and services from private providers, and investing in, or assisting suppliers with, market-driven solutions. The LSF aims to support the development of balance sheet management policy within this complex environment.

As shown in sections two and four in the context of reporting the impact of agency asset management, government agencies are already required to, and do, report on a range of performance indicators and outcomes beyond standard financial metrics to some extent. The discussion in those sections included some of the strategic issues and choices faced by the reporting agencies, which explicitly touch on wellbeing outcomes to varying degrees. But it is also clear that measuring outcomes precisely, and presenting the choices in terms of how the impacts of particular strategies would differ, is far from a mature discipline. What is usually much easier to measure is the relative cost of an initiative or asset. There are, of course, significant practical difficulties to be overcome in strengthening the wellbeing orientation of balance sheet and asset management reporting. Full comparability in a common currency across the capitals and wellbeing domains is a distant prospect, even if it is achievable for practical purposes at all. Defining and gathering better information on the non-financial capitals and how they contribute to wellbeing is an early step, along with establishing 'accounting' rules, such as defining the boundaries between the capitals, ownership and recognition criteria and avoiding double counting.

Practical application will help clarify information and data gaps, as well as the reporting formats that will best support decision-making. There already exist a wide range of tools and frameworks to support governments in testing whether interventions are necessary and, if so, assessing the relative value of the choices available. The Treasury's Guide to Social Cost-Benefit Analysis (2015) provides an overarching perspective and some practical examples. Specific tools and frameworks include the Impact Analysis Requirements for Regulatory Proposals,⁵³ the Investment Management and Asset Performance in the State Services requirements,54 the Cost-Benefit Analysis Extra (CBAx) tool⁵⁵ and the Policy Improvements Framework.⁵⁶ These are all intended to operationalise the principle that when comparing options for projects or regulation, both costs and benefits should be considered not simply in terms of direct financially measurable impacts but all costs and benefits to the wellbeing of New Zealanders.57 The value that the LSF is intended to add to these existing tools is to align them to a more explicit articulation of wellbeing outcomes and the causal models developed to help evaluate proposed interventions to promote wellbeing.

- 55 See http://www.treasury.govt.nz/publications/guidance/planning/ costbenefitanalysis/cbax
- 56 See https://www.dpmc.govt.nz/our-programmes/policy-project/policyimprovement-frameworks
- 57 The Treasury social cost-benefit guide goes through the range of approaches that are available to value non-market goods and services, such as revealed preference, hedonic analysis etc... see http://www.treasury.govt.nz/publications/guidance/planning/ costbenefitanalysis/guide/15.htm. This includes providing guidance to cover goods and services that cannot be quantified.

⁵³ See http://www.treasury.govt.nz/regulation/regulatoryproposal/ria/ regulation/impact-analysis

⁵⁴ See http://www.treasury.govt.nz/statesector/investmentmanagement

Chapter 3.2: Illustration: Natural capital

This chapter uses elements of the LSF relating to natural capital and environmental amenity to illustrate how data and indicators measuring different parts of the conceptual framework can assist with the practical work of developing policy. We have chosen natural capital here because, for our purposes, theoretical and empirical work and measurement approaches, for natural capital appear to be better developed than for human or social capital. As discussed above, the Treasury has begun a conversation on human and social capital as well as natural capital and this ongoing work will continue to draw together theoretical and empirical understandings of these capitals.⁵⁸

Natural capital includes all aspects of the natural environment needed to support economic, social and cultural activities. It includes land, soil, water, the atmosphere, plants and animals, as well as minerals and energy resources.⁵⁹ As for the other capitals, investment proposals in natural capital need to be assessed for their relative effectiveness and efficiency in promoting wellbeing.

Natural capital concepts help to inform difficult choices to use or conserve natural resources, recognising that alternative uses may also contribute to wellbeing. Adverse trends affecting natural capital, such as climate change, may also require costly remediation in the future. Recognising this likelihood enriches consideration of the outlook for the liability side of the government balance sheet.

There are important and ongoing scientific issues involved in better understanding natural capital dynamics and the impact of human activity and other forces on the environment. This includes characterisation of the likely thresholds and nonlinearities in certain environmental processes, such as biodiversity loss and nutrient cycling, close to which behaviour and resilience may change abruptly and for the worse. Issues also surround whether aggregation across natural capital domains is feasible or even sensible.⁶⁰

Nevertheless, natural capital concepts are invoked for various policy purposes, which affect the choice of measurement technique (NZIER, 2017). Some of the major purposes are to:

- adjust national income measures to reflect depletion of, or damage to, natural assets
- produce sustainability analyses (including assessing the net benefits of drawing down natural assets to invest in other assets, including the other capitals)
- provide a clearer theoretical basis for monitoring changes in natural asset stocks
- provide a basis for attaching economic instruments (eg, fishing quota) to improve the choice of management options.

At the level of assessment of individual projects, regulations or policies for their impact on natural capital, some kind of valuation is needed to accord natural capital appropriate weight when considering its use or retention compared to developments that might replace or transform it in some way. Again, market-driven development gains are usually readily quantified but less so the impacts of natural capital loss on the community. Adding to the analytical difficulty is that the environment contributes to a wide range of economic, social and cultural values. Some of these values (such as sense of place and identity or aesthetic, spiritual and cultural connection) do not naturally fit into a transactional model of activity and hence are difficult to analyse using a market approach.

⁵⁸ See Treasury Discussion Papers on natural, human and social capital: http://www.treasury.govt.nz/publications/research-policy/ dp/2018

⁶⁰ See Treasury Discussion Paper on natural capital: http://www.treasury.govt.nz/publications/research-policy/dp/2018/ 18-03/dp18-03.pdf

For example, rents received by government from natural resource use are readily measurable and included in the national accounts. In 2017, rents from natural resources paid to government from extracting petroleum (and to a much lesser extent, minerals, coal, and ironsands) amounted to \$248 million (StatsNZ, 2017). However, this valuation does not include any of the environmental costs associated with extracting these resources.

The concept of 'Total Economic Value' (TEV) was developed in the 1980s to address this demand for a valuation framework to support comparison of project

or intervention options in natural capital, particularly to include recognition of non-market valuation techniques. By providing a common metric, valuation enables quantitative comparison of ecosystem services to each other (eg, water supply for irrigation compared to water left in stream for habitat), and comparison across different forms of capital (eg, leaving a forest intact for biodiversity compared to cutting the forest to sell the timber), supporting cost-benefit analysis as well as aggregation across domains. The TEV framework is discussed further in the box on the following page.



Total Economic Value framework

This box sets out the main elements of the TEV framework.61

- **Current use value** from environmental services consumed **directly** by firms and people, which may be both extractive and non-extractive services:
 - **Examples include:** walking in a forest (non-extractive use) or cutting down a forest to use as timber (extractive use).
- **Current use value** from services consumed **indirectly** by people, including environmental regulatory effects felt far from where they are created:
 - **Examples include:** the absorption of carbon by a forest or the protection against erosion provided by a forest.
- **Future use** value in retaining the option to use an environmental resource and its services in future, that can cover both direct and indirect uses:
 - **Examples include:** the yet-to-be-discovered medicines that may derive from forest plants, or a potential buffer against climate change.
- **Non-use or passive use** value, which is principally the existence value that comes from knowing an environmental feature will continue to exist in future, irrespective of any expectation of actual use.
 - Examples include: the value placed knowing a forest exists, regardless of any intent to ever visit it.

Putting an economic value on changes to natural capital or the ecosystem services they provide can proceed in three stages (in order of practical difficulty):

- 1 Identifying effects, whether they are positive or negative for well-being, and when they are likely to occur (qualitative).
- 2 Quantifying effects to the extent possible (quantitative).
- 3 Converting effects to a common currency for comparison through monetary valuations made timeconsistent through discounting (monetary).

TEEB (2009) discusses these steps in more detail.62

The TEV framework illustrates the sometimes controversial implications of applying valuation for the purpose of informing difficult choices. It can be seen as 'putting a price on nature', but the purpose is to help inform management of natural resources in practice, when there are always competing uses and wellbeing objectives. Valuation brings together the relative scarcity or abundance of different natural capital components, and the degree to which people value them.

⁶¹ See NZIER: Whats the use of non-use values? (2017).

⁶² See TEEB: Responding to the values of nature (2009).

Assessing the state of New Zealand natural capital – fresh water

The following is a worked example of quantifying the state and trajectory of a natural capital component fresh water - with some of the indicator data available that relate to economic, social and environmental benefits of fresh water. The purpose here is to illustrate how a set of indicators about a particular capital and related wellbeing aspects can assist with the task of measuring wealth and capital more comprehensively and developing policy priorities and proposals, some of which may include the kinds of government balance sheet and asset management interventions discussed in sections one and two. Such indicators can help identify drivers of ecosystem change within the wider economy and society and support assessments of whether New Zealand stocks of natural capital are being used sustainably.

Multidimensional outcome considerations in the management of fresh water are of course highly salient to regional councils also, which in many cases govern levers and interventions that can profoundly influence this component of natural capital. The Waikato Regional Council, for example, frames its activities in terms of a broad notion of 'progress' in the region, with a set of outcome domains akin to the wellbeing domains of the LSF. This progress framework is used to set strategic context for integrated management in the region, including asset management relating to water and its benefits and impacts on the region's people (see case study on page 80).

As will become clear in the discussion of the fresh water example below, there are limitations to the kinds of analysis that current indicators can support, which points the way to future development of both the indicators and the wellbeing-oriented theory motivating their collection. One of the challenges is the complexity of the different mechanisms and entities involved in collecting environmental information, which include regional councils, CRIs, private firms and others.

For national-level accounting, we first look at a dataset, the System of Environmental-Economic Accounting (SEEA), which is designed to quantify the quantity and value of fresh water in its role of

supporting economic activity where it is deliberately used for such a purpose ('direct use value' in terms of the TEV). We then comment on water quality, and consider broader environmental indicators as examples of how the other dimensions of natural capital value identified in the TEV might be addressed quantitatively.

System of Environmental-Economic Accounting

The SEEA (United Nations, 2014a) is an internationally accepted framework for measuring the interactions between the environment and the economy using principles and concepts that align with the SNA. This consistency allows for measures of natural capital to be compared to national accounts data (capturing, among other things, GDP).

The two measurement systems can thus in principle be used together to provide a more comprehensive view of national income that takes account of a range of environmental impacts of economic and other activity. This can in turn support policy analysis regarding sustainability, economic instruments and the role of government assets by recognising the dependencies between the economy and the environment (see StatsNZ 2018 for the latest SEEA data).

The water physical stock account is an example of how the quantity and 'use' value of fresh water in its role of supporting economic activity may be measured. It can show the resources available for economic production or private consumption (use values), or for future generations (bequests). The water physical stock account describes how stocks of freshwater on a pure volume basis are affected by water inflows and outflows within the hydrological system (see StatsNZ for definitions). The physical stock account does not provide a monetary valuation of water use, measures of quality or total stocks of water. Monetary values are captured in other accounts under the SEEA framework that have yet to be developed (except for hydroelectricity, which is discussed below). Total stocks are not available given the significance of New Zealand's braided rivers and other measurement challenges.

The account shows that total precipitation is plentiful in New Zealand, but it is not evenly distributed across regions, and varies significantly over time. The use of water for hydroelectricity generation is a significant component of the accounts, though this is a nonconsumptive use, and the water is counted each time it is used for hydroelectricity generation. The account values the use of water for hydroelectricity generation at \$9.6 billion in 2016, demonstrating the magnitude of this resource.

The accounts provide estimates of use of water for livestock drinking-water and dairy-shed requirements, and these are a very small fraction of total precipitation. There remain significant gaps in coverage of water use by people and for irrigation, which limits how much the SEEA water accounts can be used at this stage to illuminate the effects of water use on wellbeing.

Other fresh water attribute indicators

Other indicators can provide a picture of other values of fresh water in the TEV framework to supplement the use value focus of the SEEA. A wide range of indicators is published by, among others, the Ministry for the Environment and StatsNZ under the Environmental Reporting Act 2015.⁶³ In addition, the Parliamentary Commissioner for the Environment is given a role under section 18 of the Environmental Reporting Act 2015 to analyse environmental reports, identify trends, discuss the implications and recommend responses.

Analysis of diverse physical water quality indicators, such as concentrations of nitrogen and phosphorus, trophic state, E. coli concentrations, clarity, and, invertebrate populations can support assessments of both use and non-use values and analysis of the biophysical causal links between water quality and total value. Other indicators and assessments drawn from Māori traditional practice can provide measures of the cultural value of water quality factors to Māori, which is particularly important in the New Zealand context as a component of total value. These data and analyses support decision-making towards the objectives set out in the National Policy Statement for Freshwater Management 2014.⁶⁴

Because the choice and design of such indicators is not currently governed by a framework such as SEEA to ensure consistency with national income accounting (and in some cases it may not be actually feasible to do so, because of conceptual differences), it is difficult to incorporate them into the construction of a national balance sheet including natural capital. Such data could, however, form the basis of an ecosystem condition account consistent in its principles with national accounting. Australian Bureau of Statistics (2015) provides an example of how ecosystem condition can be measured in this way. Further conceptual work that links the quality of natural capital to national balance sheet concepts would also help.

NZIER (2017) discusses examples of usage of natural capital concepts and indicators in both assessment of the state and trajectory of natural capital components and in project evaluation.

Conclusion

The above discussion suggests how the TEV framework can provide a conceptual approach to building more comprehensive national and government balance sheets which take account of how people value natural capital and environmental quality, and a way of making cost-benefit appraisals for natural capital project proposals, and proposals for other projects that have natural capital impacts, more comprehensive. Data availability is a major constraint on what is feasible currently, but the early building blocks are in place and a review of current practice suggests that practical decision-making can still be supported even by incomplete datasets.

The Treasury intends to work further with the natural resource sector agencies and StatsNZ to develop the natural capital and environmental quality elements of the LSF to support more comprehensive analysis in the natural capital domain.

⁶³ Refer http://www.mfe.govt.nz/

⁶⁴ National Policy Statement on Freshwater Management 2014 full report – http://www.mfe.govt.nz/publications/fresh-water/nationalpolicy-statement-freshwater-management-2014

Case Study – Wellbeing, ecosystem services and asset management in the Waikato region

Many decisions relevant to the health of New Zealand's ecosystems and the benefits they provide are in the hands of regional authorities, rather than central government. Regional authorities have a similar need to central government to take decisions about natural capital with a focus on wellbeing outcomes.

This case study illustrates the Waikato Regional Council's (WRC) framework. In this framework, the highlevel wellbeing outcomes WRC seeks can be traced through more spatially and operationally detailed planning guidance, to 'ground level' asset management decisions.

The outcomes are set out in WRC's Strategic Direction 2016-19, which guides the WRC's work over the current council's term to build a Waikato region with a healthy environment, a strong economy and vibrant communities.

The Waikato Regional Council framework

The measurement framework for these outcomes is set out in the Waikato Progress Indicators – *Tupuranga Waikato* (WPI) report, which measures societal and environmental progress in the region and growth in the Waikato regional economy. The WPIs depict the current situation and recent trends across each of 32 key economic, environmental and social aspects. Together, these provide a dashboard of the health of the Waikato region, including the wellbeing and quality of life of its people and communities.

The WPIs identify the wellbeing domains in which Waikato is doing well, possible improvements, how changes in one domain are linked to changes in others, and comparison with other regions and with 'average' New Zealand (see Figure 3.4). This provides a shared evidence base on regional progress and wellbeing that can be used by others, which facilitates a common understanding of current and emerging challenges and opportunities, and encourages debate about the region's future and priorities for action.



Figure 3.4: Waikato progress indicators

Within the environmental domain, a key analytical concept is that of ecosystem services, defined in this context as the outputs of ecosystems from which people derive benefits (Gardiner and Huser, 2017). The ecosystem services concept is not substantively new (for example, see the Resource Management Act 1991 (RMA)'s Section 5 on 'Purpose'). But experience with applying the concept in policy and public services over the years has allowed development of more refined and practical approaches to implementation.

The WRC actively refers in planning documents, such as the Regional Policy Statement (RPS) and the Waikato Plan, to the need to consider and value ecosystem services more explicitly in planning decisions. For example, the RPS (2016, p.5) states that "integrated management requires the adoption of an approach that recognises and accounts for: the natural processes and basic principles that support life; the complex interactions between air, water, land and all living things; the needs of current and future generations; environmental, social, economic and cultural outcomes; and the need to work with agencies, landowners, resource users and communities", and includes an Objective (3.6) that "The range of ecosystem services associated with natural resources are recognised and maintained or enhanced to enable their ongoing contribution to regional wellbeing".

Zone management plans (ZMPs) are instruments that provide examples of how such 'integrated management' is implemented for river and catchment activities. ZMPs are in place for eight zones across the region and supported by an overarching *Overview of River and Catchment Services – Waikato Region (2010).* ZMPs bring together issues such as the management of environmental, service delivery and financial risks associated with asset failure; lifecycle costs to provide agreed levels of service; long term works programmes; and the need for adaptability to changing demands. In many cases, the response to these issues sits within other more focused documents. For example, with regard to the management of flood protection and land drainage infrastructure, a 30 year *Infrastructure Strategy and a Regional Asset Management Plan* are in place.

The Waihou-Piako catchment

The current *Waihou-Piako catchment ZMP (2011)*, which covers a flood protection scheme including assets such as stopbanks, floodgate structures and pump stations, illustrates well a range of wellbeing considerations, particularly relating to the interactions of natural and physical capital, relevant to asset and investment management for the zone.

Prior to the arrival of Europeans in New Zealand, the Waihou-Piako catchment was largely forested, with the Thames Valley and Hauraki Plains comprising extensive wetlands and the northern end of the plains comprising a tidal and wetland floodplain. Land drainage, construction of canals, cuts to shorten rivers and stopbanks opened up large areas of land for settlement and farming. Development has converted most of the catchment to pasture (predominantly for dairy farming), with significant flood protection in the lower reaches.

The total capital value of properties in the 'direct benefit' area of the zone is approximately \$25.7 billion, with the total value added for landowners through the use of this land estimated to be \$770 million per annum. These very large figures are one big reason why the flood protection scheme exists. Another is to keep open the national road and rail lifeline, which was often impassable during flood events before the scheme was built. The national electricity transmission network is protected also. These lifelines support community wellbeing, commerce and tourism. The ongoing maintenance of the early works has enabled rural communities to prosper and grow, representing an indirect benefit of the scheme.

The flood control and protection works reduce the risks to communities from flooding and other risks associated with rivers and streams in the zone and have grown to include activities that restore and enhance the environment, particularly river channels and erosion prone or damaged land. Consequently, there are strong linkages between these activities and other catchment initiatives such as agricultural extension work programmes and planning under the RMA. One particular benefit from the broadening of the outcomes sought from this work is the increased focus on the values that are important to iwi. Examples include the protection of culturally significant sites, and the restoration and protection of indigenous biodiversity.

The net effects on intergenerational wellbeing of flood protection and drainage investment works are ambiguous. The rich soils of the Hauraki plains are an important component of natural capital, with many alternative uses. In the Waihou-Piako zone, main channel plantings and stability control provide flood management benefits, and the works have enabled settlement of the zone and the development of significant primary production and processing industries based on this capital. The natural capital value of the rivers, streams, remaining wetlands, and the coastal zone (dunes, coastal wetlands, mangroves) are less tangible and there have been significant costs associated with development, such as the drainage of large areas of wetlands, which typically have high ecosystem service values such as those associated with indigenous biodiversity, and the subsidence of peat soils, requiring increasing costs to pump. Further analysis is required to quantify these less tangible benefits, costs and vulnerabilities (see Kalaugher *et al.* (2017) for a discussion).

The ZMP states five goals, each with a defined set of objectives covering flood protection itself, biodiversity, iwi and regional community relationships. Prioritisation criteria recognise the likely benefits to people and the environment, and the dependencies and relationships between the goals and objectives.

The ZMP, read together with the WRC's Strategic Direction, other planning guidance and other relevant regulatory instruments such as the RMA and National Policy Statements, form a toolset to support structured deliberation about the impact of WRC's activities on regional wellbeing. The toolset recognises the dependencies between different wellbeing domains.

Such a toolset helps address the multifaceted wellbeing issues associated with particular asset management decisions as they arise. The ZMP notes relevant trends and challenges for the catchment, such as the impact of climate change on river systems and river flood risks, shrinkage of peat soils due to drainage, the need to set clear limits and thresholds for resource use where appropriate and evidence and information requirements to support assessment of different management options and their relative value to communities. Affordability and funding sources for flood protection are key issues.

Conclusion

There are a range of similarities between the WRC's framework and the LSF. Both frameworks support progress measurement at a spatially aggregated level across environmental, social and economic domains. The WRC framework provides an explicit outcomes focus for asset management activities, commitments and objectives at the ZMP level, similarly to how the LSF might be used in the future to focus Crown asset and investment management.

In the ongoing development of the Crown's asset and investment management framework, we intend to explore the areas of commonality between central and regional government frameworks further, as a way of learning from practice directed towards similar ends.

Detailed sector performance

How to read the templates

General

- · The government's investments are managed by many agencies.
- These templates focus on the largest of those investments (defined by an asset or liability that has a book value of greater than \$1 billion as at 30 June 2017).
- Investments are split by functional classification (social, financial and commercial). Within these classifications, investments are categorised by asset type, agency, or sector depending on the circumstances.
- Each template is broken into five horizontal streams:



Page two

4	Stream 4 provides a case study.	Description and Purpose
5	Stream 5 outlines performance considerations relevant to the future management focus.	Performance considerations Image: I

Stream 1: Overview

- **Description and Purpose**: Outlines the main functions and attributes of an investment.
- Investor Confidence Rating (ICR): This is the latest available ICR rating for an agency. The ICR is a twoyearly assessment of the performance of investmentintensive agencies in managing investments and social assets that are critical to the delivery of government services. The ICR provides an indication of the level of confidence that government can have in an agency's ability to realise a promised investment result. An agency is rated on a scale of 'A' (highest score) to 'E' (lowest score). The current Cabinet expectation is that agencies achieve at least a 'B' rating over time. For further information, please refer to the Treasury website: http://www.treasury.govt.nz/ statesector/investmentmanagement/review/icr
- Balance Sheet Profile: Contains a snapshot of the investment's balance sheet over time using actual results for historic periods and Treasury-generated forecasts from the HYEFU 2017. For the commercial portfolio, balance sheet forecasts have not been provided in order to preserve companies' commercial position. Figures reported are unconsolidated unless otherwise stated.
- Forward agenda or Financial highlights: For the social investments, significant milestones are presented over the period 2018 to 2021. The list of milestones is not exhaustive but is meant to provide a snapshot of major capital project or operational milestones. For the financial and commercial investments, there is a table of financial highlights showing key financial performance metrics.
- F = Forecast.

Stream 2: Performance Overview

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 The performance analysis is designed to be evidence or fact-based using publicly available information, in that it is based on objective observations of what an investment has done or is currently doing.

Stream 3: Performance Indicators

- Indicators presented here support the analysis in Stream 2. Each table or figure has a statement describing the trend or significance of the information presented.
- Each dimension has its own performance statement, summarising performance under that dimension.
 Select evidence is summarised below using bullet points.

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 Indicators are categorised based on the Capital they help to measure. The four Capitals are: Physical/ Financial, Natural, Social, and Human Capital.

Stream 4: Case Study

• The case study is designed to provide a more detailed look at one or more initiatives or performance challenges facing an investment.

Stream 5: Focus Areas

· Outlines key performance considerations of an investment.

Accident Compensation Corporation (Operations)

Description and Purpose

New Zealand's accident compensation scheme (managed by the Accident Compensation Corporation (ACC)) was established to provide comprehensive no-fault personal injury cover for all New Zealand residents and visitors. The main liability, against which ACC holds investment assets, is the Outstanding Claims Liability (OCL) which is an actuarial estimate of future expenditure relating to injuries that have already occurred. ACC manages claims and the OCL through five different accounts, with each providing a specific type of cover. The Work, Earners' and Motor Vehicle accounts are funded through levies, while a government appropriation funds the Non-Earners' Account. Treatment injuries (accidents during treatment from a health professional) are funded through the Earners' and Non-Earners' accounts.

Note: this template focuses on the operational performance of ACC. For a discussion of investment performance please refer to the ACC Investments report.

Effectiveness

The rate of OCL growth has accelerated but encouragingly, the growth of long-term claims has stabilised following large increases since 2014.

- The OCL is expected to increase as the scheme matures (more new claims than exits) and also with economic and population growth. However, the rate of OCL growth has accelerated since 2013 due to larger than expected increases in claim volumes (compensation), cost pressures on care provision, improving access for sensitive claims and a downward movement in interest rates (refer to Figure 1 and Table 1).
- Table 1: The long-term claims pool (active claims receiving compensation for > 1 year) is a core driver of the OCL. The increase from 2014 - 2016 was due to volume growth and longer duration of claims than assumed, particularly the rate at which claims > 1 year are returned to work.
- The growth in average care packages is ACC's core controllable metric for the OCL, as price or service increases in the provision of care are applied to claims that can run for 80+ years. Target growth is ~2 percent p.a.

Efficiency

ACC has improved efficiency for administration of the scheme, and return on investment metrics have improved.

- Table 2: The proportion of expenditure that goes to claims has increased since 2014. This is a core efficiency indicator for the underlying administration relative to services provided. ACC has generally had a slightly lower proportion of administration cost to services when compared with Australian workers compensation schemes.
- Table 2: Return on investment for injury prevention has increased from \$1.34 per \$1 spent to \$1.63 per \$1 spent since 2015. ACC aims to improve the scale and efficiency of its investments, with a target to reach a return of \$2 for every \$1 spent by the end of 2019. However, while spending has increased year-on-year, ACC has run below its forecasted expenditure, indicating that new projects are difficult to deliver.

Investor confidence rating

Scope: Property and ICT portfolio. For further details please refer to the Treasury website:



Results published July 2016

Sustainability

ACC seeks to match investment assets to liabilities.

- Figure 2: 'Solvency' is a term used for the relative level of assets to liabilities and is measured for each of the five accounts.
- Levy reductions since 2014 were a short-term response to higher than targeted solvency positions, with levy rates to return to long-term expectations once target solvency is reached.
- Lower than target solvency for the Non-Earners post-2001 claims was due to a reduction in discount rates relative to a high proportion of long-term claims, improved access for sensitive claims, that has seen increased volumes, and the government's option to defer funding against these cost increases.
- Investment performance above the interest rate/inflation assumptions in the OCL contributes additional revenue, which has the potential to reduce levies or appropriations.

 Table 1: Rehabilitation performance is stabilising following reductions 2013 - 2016

Measure	2014	2015	2016	2017
Change in the Long Term Claims Pool	364	720	807	401
Durable return to work rate (%)	77	80	79	80
Return to independence for those not in the workforce (%)	86.00	86.00	86.70	85.80

Source: Accident Compensation Corporation

The OCL has accelerated 2013 - 2016 following large claim volume growth, lower discount rates and reduced rehabilitation performance

Figure 1: Outstanding claims liability from 2013 - 2017





OVERVIEW

PERFORMANCE INDICATORS

Balance sheet profile



Forward agenda: Significant milestones



Source: The Treasury

Resilience

The long time horizon of the OCL and the risk margins allow ACC to manage uncertainty in future costs.

- The OCL valuation is subject to controllable factors (eg, rehabilitation performance) but other factors are outside of ACC's control (eg, interest rates and, for the most part, claim volumes).
- The OCL includes a risk margin* to reflect a 75 percent confidence interval that assumptions are sufficient.
- Full funding allows ACC to manage volatility in price and demand for services. As funding is not required immediately, any spikes in demand can be smoothed out over a number of years without affecting services.
- The government aims to ensure a balance between service levels and sustainability as part of a wider system of government. While the OCL allows for a detailed forward view of the cost of existing claims, the government controls costs through entitlement policy to ensure affordability of the scheme.

* Thirteen percent or \$4.33 billion in 2017.

Source: The Treasury

Adaptability

ACC is actively seeking to position itself to respond to long-term trends.

- ACC's Shaping Our Future strategy aims to improve ACC's services to the New Zealand public, in response to wide-ranging customer feedback.
- The Transformation Programme, Health Services Strategy and Next Generation Case Management are the key change initiatives under way.
- ACC's actuarial valuation helps to evaluate the changing trends in claim cost and complexity. Advancements in health technologies, societal trends such as greater dependence on agency rather than family care, and the impact of ageing on long term clients provide cost pressures greater than inflation.
- Assumptions used in the valuation model are adapted on a medium-tolong-term basis, depending on trends in actual versus expected results.

Table 2: Proportion of expenditure spent on claims remains high and return on investment for injury prevention has continued to increase

Measure	2014	2015	2016	2017
Proportion of Expenditure spent on Claims (%)	78.30	82.10	86.00	85.80
Injury Prevention: Return on Investment (per \$1 invested)	No data	\$1.34	\$1.60	\$1.63

Source: Accident Compensation Corporation. The Treasury



Levied accounts are above target of 100 - 110 percent, Non-Earners and Treatment are below target

Figure 2: Scheme solvency from 2013 - 2017



Source: Accident Compensation Corporation. The Treasury Note: Only post-2001 claims are funded forwards for the Non-Earners' Account and the Non-Earners' funded portion of the Treatment Injury Account.

Distribution

There is a disproportionately high number of young males and disproportionately low number of Māori accessing the scheme.

- Figure 3: There is a large difference between the number of claims lodged by young males and young females, particularly for ages 15 24. This decreases (and ultimately reverses) for claimants in older age groups.
- Claim volumes generally reduce by age bracket but increase again for those above 65.
- Different claim volumes could reflect different injury rates across the population or different rates of access to services.
- ACC notes in its 2017 Annual Report that "Māori are more likely to sustain serious injury, but less likely to access ACC services".

Shaping Our Future improving ACC's services to the New Zealand public

Overview/Objective

- Strategy inception in 2014, following feedback from 5,500 clients, providers, business customers and staff.
- A business case for the Transformation Programme was endorsed in
 2015, with an objective to build a customer-centred organisation without compromising the stewardship and financial sustainability of the scheme.
- Customer problem statements underpin proposed changes to people, process and technology and help define a Target Operating Model.
- The programme represents the second largest transformation undertaken by the New Zealand Government.

Shaping our Future Strategy July 2014 Nov 2015 Diagnostic & Discovery Integrated Design & Planning

Expected Programme Costs and Benefits*

Focus on improving public trust and confidence in ACC

Expected lifetime	15 years
Whole-of-life cost**	\$456 million
One-off cash cost**	\$280 million
Contingency**	\$40 million
Total cash cost**	\$320 million
Whole-of-life benefits**	\$804 million
Net Present Value	\$56 million

Future pressures on the scheme may result from changes in the economy, changing population demographics and challenges to the scheme's operational boundaries:

- An increase in the population of older people will increase the OCL for the Non-Earners' Account, other things being equal. Older people have higher claim frequencies and longer recovery times. Unlike increasing population of workers or motor vehicle owners, there is no offsetting revenue stream (from levies) for increased claim numbers, with revenue drawn from general taxation.
- Where there are different service levels between ACC and the health and welfare systems, this can result in legal challenges and societal pressure to increase eligibility for ACC. These pressures will need to be understood and managed from a cross-government perspective.
- The Government is required to balance competing pressures on the scheme. Fairness and sustainability are not mutually exclusive but require strong and stable leadership to balance. Prioritising strong financial management at the cost of access to the scheme, or level of service, can cause disruption and affect the public's trust and confidence in the scheme, whereas increasing service levels or scope can impact sustainability.
- ACC is expanding its investment in Injury Prevention. Successful health and safety campaigns could reduce injury rates and severity, improving living standards, and also reduce growth in the OCL. This will require strong partnerships across government and with specialist providers to attain the scale and reach for a significant impact.
 - In particular, greater coordination with social agencies, such as the Ministry for Social Development, provide an opportunity for ACC to improve prevention in areas such as mental health and sexual and domestic violence.



Nov 2017 Feb/Mar 2018 Delivery **Transformation Programme Integrated portfolio** Other strategic change New policy and levy management system (Juno) released Progress Next steps Simplification and modernisation of core systems and System and process change to evolve case management processes for business customers (launch Feb/Mar 2018). and improve client experiences and outcomes. Collaboration and partnership with providers, to ease the Enhancement of systems and processes supporting service delivery for clients. purchase and payment of services. Established change capability and capacity. Improving ACC's digital presence and data and analytical capability.



Target Operating Model

Describes the fundamental changes required to deliver future customer experiences.

- Efficient interaction with the health sector and community of service providers. This could see improvements to rehabilitation and more consistent setting of expectations – improving cost-effectiveness and public trust and confidence.
- Improve long-term asset planning and realise more benefits from its change investments. In particular, ACC's Long-Term Investment Planning process currently has a more medium-term (1 - 5 years) rather than long-term (up to 10 years) focus.
- New treatment technologies provide both an opportunity for better client outcomes and potentially higher costs and expectations that could impact long-term sustainability.
- ACC has had persistently strong investment performance. Continued strong performance provides an opportunity to reduce the income required from levies/appropriations. However, the opposite is true should there be a slow down in global markets.

Defence

Description and Purpose

Defence assets are managed by the New Zealand Defence Force (NZDF) and are held to secure New Zealand against external threats, protect sovereign interests and to be able to take action to meet contingencies in strategic areas of interest. Part of the Ministry of Defence's (MoD) role is to provide policy advice on defence matters and undertake procurement of major assets on behalf of NZDF. The majority of Defence assets consist of specialised military equipment (SME) and the Defence Estate. The Defence Estate primarily consists of nine bases across the country, consisting largely of buildings serving a variety of purposes, broadly classified into working, living, training or shared environments. The Defence Estate comprises 81,000 hectares and over 4,700 buildings to support military capability and is largely configured to support the delivery of the following Services: maritime, land, and air.

Investor confidence rating

А	В	С	D	E
High				Low

Target = B or better

Results published July 2016 Scope specialised military equipment, property, ICT, but excluding minor capital works. Assessment covers NZDF and MoD.

Effectiveness

NZDF manages risk and supports social infrastructure by ensuring that New Zealand citizens and resources are physically secure.

- The key measure of the effectiveness of Defence assets is readiness of specialist military equipment to undertake operations. While NZDF aspires to be ready 100 percent of the time, Table 1 indicates that it was below target by 8 percent in 2016 - 2017.
- Investment in the Defence Estate is a key enabler of readiness and delivery of military operations. NZDF assesses that 109 critical buildings are past their useful lives, which may have an impact on service delivery. Without intervention, NZDF considers there is a risk that the Estate will become increasingly unfit for purpose, impeding the delivery of military outputs.
- The benefit of readiness is the ability to utilise specialist military equipment in support of broader government objectives. NZDF's 'protect' output class is largely influenced by the needs of other agencies in the system - such as the Ministry for Primary Industries, Customs, Police and the Ministry for Foreign Affairs and Trade - as part of their operational activities.

Efficiency

Additional focus is required to improve existing asset condition.

- Efficiency is difficult to measure because utilisation is not the primary objective of investment in specialist military equipment.
- Utilisation of Defence estate assets is measured periodically on a multi-year cycle. As indicated in Table 2, this was last measured in detail in 2014 - 2015. NZDF exceeded target for both critical and non-critical estate assets. There has been no material change in the intervening years. The percentage of critical estate assets with an actual

condition of good or better was below target due to the majority of assets reaching the end of their economic and/ or useful lives.

Sustainability

Significant programmes will require strong governance and management...

Figure 1: Five of 15 Defence platform types have reached or will reach end of life by 2025. Without asset replacement, maintenance costs of ageing assets will continue to increase over time. Some SME and Estate assets will become unsafe to retain and operate and could result in capability gaps.

Table 1: Specialised military equipment was below target on all indicators







OVERVIEW

Balance sheet profile



Source: The Treasury

- Implementation of the Defence Capability Plan (DCP) will place financial pressure on government in the medium to long term, with approximately \$20 billion in the period through to 2030. This budget is indicative only and careful management of cost throughout the programme will be important.
- Total operating costs continue to increase, rising from \$2.46 billion in 2016 to \$2.51 billion in 2017. This was driven by increases in personnel, operating and depreciation costs as forecast in the Defence White Paper 2016, offset by a reduction in the capital charge rate.

Forward agenda: Significant milestones



Resilience

...and will improve Defence's ability to respond to domestic and international events...

- The Defence White Paper (DWP) 2016 is intended to maintain, and in some cases improve, NZDF's flexibility and depth of capability:
 - This will allow NZDF to continue to be able to respond to civil emergencies and natural disasters in New Zealand or the Pacific Islands, such as the Kaikōura earthquake in 2016.
 - It will also support New Zealand's ability to contribute to international coalition deployments alongside the partners that support us.
- Initiatives such as the DCP and the Defence Estate Regeneration Plan will help reduce key equipment and facility risks.

Adaptability

...while remaining flexible to respond in a complex and evolving international environment.

- Some assets require upgrading and enhancement to ensure that they are fit-for-purpose in a modern environment, such as camps and bases and the army's radio communication system eg: Network Enabled Army, High Frequency Radio, Defence Estate Tranche 2.
- In addition to adopting modern technology and practices, NZDF intends to develop its cyber security capability.



 Table 2: Estate condition is below target

Measure	Indicator	Target	2015 Actual	2016 Actual	2017 Actual
% of critical estate assets with actual condition of good or better	Condition	70*	63	61	59
% of critical estate assets with actual utilisation rated as under-used or over-used	Utilisation	75%	88%	Not measured	Not measured
% of non-critical estate assets with actual condition of average or better	Condition	84	91	90	74
% of non-critical estate assets with actual utilisation rated as under-used or over-used	Utilisation	80	95	Not measured	Not measured

SOCIAL

Distribution

The Defence Force maintains a presence across New Zealand but plans to make its biggest investments in Auckland and Manawatu.

- Proposed investment by the Defence Force in the Defence Estate represents around 1 percent of total capital investment in New Zealand over the period of the Plan.
- Figure 2: Shows the regional distribution of NZDF's property investment is informed by the location of its camps and bases. In approving the Defence Estate Regeneration Programme Plan (DERPP), the previous Government issued a clear direction that the Defence Force must maintain a substantial presence in its current major locations. However, the DERPP also indicates that internal reorganisation and rationalisation should occur within and between bases where it makes economic or military sense to do so.
- The Plan nonetheless acknowledges that the delay or cancellation of major construction projects, or the short-term establishment of new projects, can have a significant impact on the availability of resources, particularly in regions distant from major cities. The Plan needs to retain flexibility to allow an appropriate response to such fluctuations in resource availability and competitiveness in local markets. This variability emphasises the need for good market intelligence at a regional level.

Maritime Sustainment Capability project

The Maritime Sustainment Capability is a project to purchase a modern naval tanker to replace the recently retired HMNZS Endeavour. The tanker will provide fuel, water and other goods, including ammunition, to deployed New Zealand Defence Force and partners' ships, helicopters and vehicles. The most efficient way to deliver these bulk goods to deployed forces is by tanker. It will also have the ability to generate 250 tonnes of fresh water a day. The tanker is an important capability for the New Zealand Defence Force, particularly to support security and disaster relief operations in the Pacific, where there are very few port facilities. The tanker will be ice-strengthened and winterised, allowing the new ship to support New Zealand's continued civilian presence in Antarctica through a contribution to the Joint Logistics Pool. It will be able to deliver specialised Antarctic fuel and transport containerised scientific material and supplies to McMurdo Sound. Design of the tanker is scheduled to be completed by the end of May 2018. The first steel was cut in January 2018. The tanker is due to be delivered to New Zealand in early 2020, with operational release the following year. The Royal New Zealand Navy has announced that the name of the ship will be HMNZS Aotearoa following commission.

- NZDF's operations are relatively small compared to New Zealand's strategic partners. A challenge continues to be to maintain sufficient capability for a range of independent tasks and the ability to contribute to operations with key strategic partners without over committing capital in an unsustainable manner.
- The size and complexity of the Defence portfolio. The large size of the Defence portfolio coupled with its technical complexity has historically made delivering initiatives on time and to budget challenging. In response to this challenge Defence has improvements under way through the DCCAP to develop strong portfolio, programme, project, and benefit management disciplines and, in so doing, avoid unnecessary project costs, inefficient use of capital, and delays to the realisation of benefits.
- There is a risk to benefit realisation if introduction into service and organisational change is not appropriately managed. It will be challenging to manage the introduction of new platforms and capability while maintaining high levels of readiness. The DCP and Estate programmes will also result in large amounts of organisational change, which will require additional focus to ensure the realisation of benefits.

- The Defence White Paper 2016 (DWP) indicative funding track will require careful management. Changes to project timing, large movements in the rates of foreign exchange or inflation or underestimation of costs could potentially pose affordability challenges for the government and Defence in implementing the DWP.
- There is an opportunity to improve the estate portfolio. For the NZDF estate, there are a large number of older buildings across a significant land area. There is an opportunity to rationalise the estate through targeted functional consolidation within and between bases, new acquisitions and divestment activity, which would improve the estate's efficiency. Benefits may include functionality enhancements, create operating cost-efficiencies.



Source: Defence Estate Regeneration Plan

Defence Capability Change Action Plan (DCCAP)

Defence is half way through a four-year programme to improve the way it delivers major defence acquisition projects. Management and governance structures have been strengthened, including the addition of independent experts on boards. Guidance, procedures, processes and policies to support the Defence Capability Management System have been updated in line with international best practice. The size of the Capability Delivery team has been increased, with specialist expertise hired in the areas of project management, financial management and commercial expertise. A whole-of-life costing model has been implemented to enable greater fidelity in Defence costings. Defence has applied lessons learnt from previous capability projects and developed improved risk and mitigation processes. Shared information systems have been introduced across the Ministry of Defence and New Zealand Defence Force. Defence remains committed to improving overall performance and ensuring that it is transparent in the way it reports on its progress.

- There is an opportunity to leverage economies of scale in the procurement of services. For instance, where appropriate, the bundling procurement items for the estate regeneration programme.
- There is an opportunity to improve effectiveness through the procurement of more modern equipment and improve efficiency through the adoption of better logistics management. For example, the Network Enabled Army Programme will provide modernised command and control capability and the Consolidated Logistics Programme is generating improvements in efficiency by equipping the force as a whole, rather than individual units, camps or bases.

Department of Conservation

Description and Purpose

Public conservation land (PCL) is the major asset managed by the Department of Conservation (DOC), to preserve New Zealand's natural, historic and cultural heritage, while fostering recreation and allowing tourism. PCL covers about 8.6 million hectares (ha) of land (33 percent of New Zealand's land area), including 13 national parks (2.9 million ha). In addition, there are 44 marine reserves. Land assets make up nearly 90 percent of DOC's total assets. PCL provides ecosystem services such as biodiversity, erosion control, flood protection, climate regulation, water purification, landscape values and recreational access. Built assets include approximately 16,760km of fences, over 14,000km of walking tracks, 965 huts, and 13,500 bridges, boardwalks and other structures. Operational assets include property, fleet, firefighting equipment and infrastructure such as information and communications technology (ICT), radiocommunications, roads, water supply and waste disposal.

Investor confidence rating

Scope: Natural Heritage portfolio, Recreation, Tourism and Historic portfolio and Capability portfolio.



Results published June 2017

Effectiveness

PCL delivers wellbeing through, in particular, protecting biodiversity. This includes both use value (eg, recreation) and non-use value (eg, cultural and scientific values).

- Biodiversity is in a state of decline in New Zealand. Predators, weeds and pests are a major cause of the decline.
- Figure 1: Predation and competition from weeds remain major causes of the decline in biodiversity, and enhancing the level of control cannot be addressed within current resourcing.
- Public participation in PCL activities continues to increase. In 2017, participation increased at 67 percent of monitored tracks.
- Figure 2: Visitor satisfaction to PCL is high but cleanliness, signage and noise need addressing to ensure levels are maintained.

Efficiency

DOC works to maximise the benefits achieved from its funding and partnerships.

- DOC focuses expenditure on sites with high value to ensure maximum return on investment for biodiversity and recreation.
- Figure 3: The condition of tracks, structures and buildings is now meeting, and occasionally exceeding, the standards required. Standards vary depending on the asset type.
- Figure 4: Revenue generation from DOC's recreation and tourism assets. and concessions for activities on PCL, continues to grow but is small in comparison to expenditure increase. The Conservation Act 1987 states entry to and use of conservation areas by the public shall be free of charge.

Sustainability

However, forecast increases in maintenance costs may place financial pressure on DOC.

- Operating costs continue to increase, rising from \$0.33 billion in 2013 to \$0.36 billion in 2017. This was driven by natural disasters, biosecurity incursions and increased tourism.
- In 2017, additional funding of \$0.08 billion operating and capital over four years was allocated to DOC for the maintenance of basic facilities, asset enhancement and for new customerfacing ICT services.
- The goal of Predator Free New Zealand 2050 is unlikely to be met under current resourcing.



Managing pest animals and weeds is a challenge to biodiversity

Figure 1: Pest animal and weed percent occupancy on PCL and percent sustained management on PCL from 2013 - 2017



Visitor satisfaction is high but cleanliness, signage and noise need addressing

Figure 2: Visitor reported satisfaction (national survey) from 2009 - 2016



Source: Department of Conservation

Source: Department of Conservation

PERFORMANCE INDICATORS

PERFORMANCE DIMENSIONS

Balance sheet profile



Forward agenda: Significant milestones



Source: The Treasury, DOC Note: Profile includes all DOC assets and is not

limited to DOC's balance sheet.

Source: The Treasury, DOC

Resilience

DOC's capabilities are designed to provide ongoing services throughout New Zealand.

- DOC has shown resilience in ٠ addressing regular events such as fires and floods within baselines through reprioritisation.
- DOC has needed additional funding in recent years for larger shocks, such as major pest irruptions, the Port Hills fire and the Christchurch earthquakes.
- Climate change will increase the ٠ severity of existing threats like pests, weeds, floods and fire.

Adaptability

Long-term increases in demand will necessitate significant investment at kev sites.

- By 2025, an additional 2 million people ٠ are expected to visit PCL each year.
- To meet increasing demand, DOC is focused on asset renewals and shifting its range and mix of assets. Examples of this include changing asset location, capacity and length of activity.
- The introduction of two new Great Walks and new Short Walks will help in addressing capacity issues at existing sites.
- DOC is implementing new customerfocused technology, including websites, booking systems and safety alerts.



Visitor assets are meeting required service standards

Figure 3: Visitor assets and meeting required service standards





Revenue has continued to grow but is small in comparison to expenditure and the value of the land and other assets

Figure 4: Revenue (NZ\$ millions) from 2012 - 2017



Source: Department of Conservation

Distribution

The accessibility of DOC's tracks, huts, campsites and other visitor facilities will need to adapt to meet the demands of changing recreational preferences.

- Recent investment has been focused on Great Walks, which target a narrow customer base.
- The type of recreational services visitors are seeking from PCL is changing. International visitors and an ageing New Zealand demographic are looking for activities that are more accessible. Activities that are easily accessible can be done in a day, easy to learn and not require technical gear. In Budget 2017, DOC committed to enhancement of existing infrastructure of 20 short walks and 10 day hikes to meet increasing accessibility demands.
- Figures 5 and 6: To accommodate more people living in the top half of the North Island, and high numbers of international visitors to the Waikato and Auckland regions, DOC will have to regionally align its assets to deliver higher value.
- Diversifying the range of recreational opportunities available at less busy sites could help spread the visitor load from high-use sites and help with regional economic development.

Predator Free

On 25 July 2016 the then Government announced its goal to make New Zealand free of possums, stoats and rats by 2050, through growing and coordinating predator-control efforts by iwi, local government, communities and the private sector. DOC is responsible for facilitating the overall Predator Free 2050 programme and ensuring the public and private sectors are well connected.

In 2016, DOC spent close to \$40 million on predator and pest control. The goal of becoming predator free by 2050 can only be achieved if new, more effective, methods of predator control are developed.

A Crown company (Predator Free 2050 Limited or PF2050 Limited) has been set up to invest \$6 million annually over four years in landscape scale predator control programmes and

innovative methods for killing predators. PF2050 Limited is expected to increase non-Crown funding in conservation through provision of government support on a 1:2 basis. The first projects for PF2050 Limited investment are to be approved by the PFNZ Board Limited in 2018.

- Native species continue to decline and the biodiversity challenge extends beyond PCL. DOC cannot manage all the threats (predators, pests, diseases) to New Zealand's conservation values and enhance key ecosystems, species and landscapes in isolation. Partnering with other government agencies, local government, iwi, communities and the private sector would help. Effective coordination of parties towards common objectives is required to maximise the impact of conservation activities.
- Climate change will intensify the frequency and severity of some threats and will pose new threats, for example, as species' geographical ranges change.
- Increasing visitor numbers are putting pressure on facilities. Recreational pressures tend to affect some sites more than others. For example, demand on facilities can lead to overcrowding, health and safety concerns and possibly environmental degradation. There is also the risk that negative visitor experiences will reflect badly on New Zealand's image.

- Beyond their intrinsic values, there are opportunities to better understand and reflect the contribution of PCL and biodiversity conservation across all four capitals, for example in:
 - providing wider ecosystem services (eg, the impact of PCL on water quality and as a carbon sink) (Natural Capital)
 - supporting a sustainable economy (eg, as the major drawcard for tourism and a key underpinning for New Zealand's green image) (Physical and Financial Capital), and
 - supporting social and cultural outcomes (eg, providing health benefits through recreation) (Social and Human Capital).

Figure 6: Distribution of DOC's most popular visitor





Figure 5: Travel reach from main population centres

Visitor Strategy

Current tourism forecasts predict that New Zealand will receive an annual total of 4.9 million international visitors by 2023, with around half of these visitors likely to visit New Zealand's national parks. New Zealand's population will also increase to over 5.1 million by 2028.

DOC's most recent visitor strategy is from 1996. DOC is updating this strategy to reflect the changing visitor environment. The updated strategy will aim to ensure that conservation values and experiences are maintained in the face of much higher volumes of visitors. The strategy will also inform choices around use of visitor demand management tools and revenue generation options. In 2015, user charges only funded around 10 percent of the cost of visitor facilities provided by DOC.

Improved cross-sector coordination (at the national and regional level) will be needed to deliver New Zealand's wider tourism objectives (eg, regional and seasonal dispersal) whilst maintaining conservation values.

- There are opportunities to move to a more effective landscape scale approach to ecosystem restoration and pest/predator reduction:
 - DOC is rolling out a programme that will deliver pest/ predator control and enhanced biodiversity across large, defendable landscapes. This programme will cross public and private land and is backed by public/private/ community partnerships and the development of new methods.
 - The programme will use monitoring systems to target interventions and coordinate with wider landscape work, such as visitor management.



Source: Department of Conservation

destinations

- There are opportunities for additional revenue generation:
 - DOC is working to generate additional revenue from concession holders and others (ie, those with authorisation to conduct private or commercial activity on conservation lands). For high volume, high profit sites, commercial-level rents should be targeted from concession holders.
 - There is a potential for increased cost recovery from land administered by DOC. This may require changing policy settings and legislation.

Healthcare

Description and Purpose

The New Zealand Ministry of Health (MoH or the Ministry) is the government's principal advisor on health and disability with the objective of improving, promoting and protecting the health of all New Zealanders. New Zealand's healthcare services are largely publicly funded but are provided by a mix of public and private organisations. The majority of expenditure by the New Zealand government on healthcare flows through 20 District Health Boards (DHBs). DHBs provide funding to the private primary care sector, including aged residential care and community care, but deliver most secondary services directly. DHBs collectively manage around \$6.3 billion worth of property, plant and equipment, the majority of which are the seven major hospitals, 20 general hospitals, 35 sub-acute hospitals and 24 specialist facilities.

Investor confidence rating

Scope: ICT, equipment and facilities portfolios, excluding Ministry of Health managed capital works programmes.



Effectiveness

Healthcare improves mental and physical health outcomes for those using facilities and services, increasing wellbeing.

- New Zealand's health system was tied for 4th place (with Norway) in a 2017 Commonwealth Fund comparative study of 11 OECD countries that looked at average care process, access, administrative efficiency, equity, and health care outcomes.
- At a high level, New Zealand's health loss rates and health expenditure per capita are reasonably similar to other comparable countries (see Figure 1). Health loss is measured in Figure 1 using disability adjusted life years, which combine loss from early mortality, illness, and disability. Careful choices are required around investment in health services, as increased spending does not guarantee better health outcomes.

Efficiency

Poor DHB asset condition is a major driver of investment in new and redeveloped facilities.

- DHBs: Over 19 percent of hospital assets (by book value) are rated in poor or very poor condition (see Figure 2). In the Southern region over 16 percent of assets are in very poor condition, which is a major driver for redevelopments in Christchurch and Greymouth and planning for the replacement of Dunedin Hospital.
- DHBs: A 2017 report by the Treasury found that scheduled maintenance performance required improvement. A number of DHBs reporting underspends in maintenance also had net deficits, suggesting that some DHBs may be deferring repairs and maintenance to redirect operational expenditure to other areas.

Sustainability

DHBs are relying heavily on the government for additional funding to replace assets rather than financing them from their own resources.

- MoH: MoH's liquid assets balance is significantly below accumulated depreciation (see Figure 3). This raises concerns about the affordability of asset replacement, especially given that a majority of MoH's assets are nearing the end of their useful lives.
- DHBs: An ageing asset base will require capital expenditure estimated at \$14 billion over the next 10 vears. Depreciation reserves will be insufficient to cover the required investments (refer to Figure 4).

Health loss rates and expenditure per capita for selected high-income counties

Figure 1: Expenditure on Healthcare versus Disability Adjusted Life Years





Regional Asset Condition shows that there are a large number of poor-condition assets in the Southern region

Figure 2: Regional asset condition



Balance sheet profile



Source: The Treasury, Ministry of Health

Forward agenda: Significant milestones



Resilience

The Ministry of Health and DHBs play a critical role in emergency management responses.

- MoH: The Ministry has specific emergency management obligations, including leadership and coordination for the health sector in planning, preparing and responding to a health emergency; and leading all-ofgovernment responses to a national health emergency (pandemic).
- DHBs: DHBs have a responsibility to be able to provide healthcare for their communities during periods of emergency. This includes ensuring essential health service providers have a corresponding ability to plan, maintain, exercise and continue the delivery of health services in an emergency.

Adaptability

Heath services need to be adaptable to meet the needs of current and future generations.

- DHBs: Investment in new health capacity will be required to meet the significant population growth across the three DHBs in Auckland. These DHBs, along with Northland DHB, are developing a regional long-term investment plan to allow them to respond to demographic and other pressures in a coordinated and prioritised way.
- MoH: The Ministry is developing a business case to enable better access to health-related information for providers, consumers, planners and innovators through a National Electronic Health Record platform.



Accumulated depreciation (required funding) significantly exceeds MoH's liquid assets

Figure 3: Accumulated depreciation versus current assets (NZ\$ billions) from 2008 - 2017





The ratio of capital expenditure to accumulated depreciation highlights a funding shortfall

Figure 4: The ratio of capital expenditure to accumulated depreciation



Source: Ministry of Health

Distribution

Despite the health system's strong performance at a population level, there are persistent and significant disparities in outcome and access for some population groups.

- Ambulatory sensitive hospitalisations (ASH) are acute admissions that are considered relatively avoidable through primary or community care. Accordingly, they are a used as a proxy for the accessibility and quality of those services. Owing to the range of socioeconomic factors that affect ASH rates there is ongoing discussion on the health sector's capability to reduce them and the role of other social agencies (such as those that provide financial support and housing). Figure 5 shows ASH rates 0-4 year-olds and Figure 6 45-64 year-olds.
- Māori children were 1.3 times more likely, and Pasifika children were 2.3 times more likely, to have an ASH event than children of other ethnicities. Expressed another way, there would have been 25 percent less events for Māori children and 56 percent less events for Pasifika children if they had the same rate as other ethnicities. Total ASH events would fall by 17 percent if Māori and Pasifika children had the same rates as other ethnicities (this percentage is lower as the majority of children are of other ethnicities).
- Referring to Figures 7 and 8 for theatres and inpatient and maternity beds by DHB shows regional differences.

West Coast Partnership Group

The West Coast Partnership Group was established in December 2012 to plan and deliver the redevelopment of Grey Base and Buller Hospitals. The intent of the partnership group was to provide capability for a once-in-a-generation project and build expertise at the centre that can be transferred between projects. An initial Detailed Business Case (DBC) for the redevelopment project was submitted in May 2013, with a preferred option for Grey Base Hospital based on a brownfield development. The proposed campus had 62 beds and three theatres.

The redevelopment of Grey Base and Buller facilities provided a unique opportunity for the partnership group to modernise and improve service delivery at Grey Base and Buller Hospitals so that the new facilities were the right size and fit-for-purpose. In March 2014, the Partnership Group submitted a revised DBC that looked at models of care that reduce demand for hospital services. The models of care allowed the Partnership Group to design new facilities that are smaller than they would otherwise be if models of care did not change. The revised DBC proposed investment in smaller facilities in absolute terms, reducing the bed numbers from 62 to 56 beds and theatre numbers from three to two. Other savings were also made by reducing the gross floor area and by using lightweight construction for some areas, such as storage. Like most hospital redevelopments, the majority of benefits derive from changes to models of care, which underpin the scale and scope of new facilities. However, a limited amount of overall benefit can be directly attributed to the buildings.

- DHBs are strongly focused on delivering short-term results within a challenging operating environment and financial constraints. The health system is facing challenges from a rising demand for services and for access to better technologies, exacerbated by an ageing and growing population and urbanisation. To deal with these challenges, the health sector and each DHB will need to take a longerterm perspective on health services and the associated capital investment and asset management. The Ministry needs to provide leadership in this space.
- There is a risk of an emerging health infrastructure deficit as the result of a need to rebuild a number of large hospitals, build major new hospitals and repair existing infrastructure. As noted, depreciation reserves will not be sufficient to cover these investments, requiring additional funding from the government.
- Given the scale of required investments, there may be construction sector capacity constraints (given specialist capabilities required to build medical facilities). Ongoing monitoring of current and forecast supply chain constraints will be important for proper sequencing of investments.
- Low capability to manage complex developments and largely siloed investment decision-making. There is considerable variability in the capability across the individual DHBs to deliver complex programmes. Better application of lessons learned and capabilities is required across the sector. Historically, DHB investments have been considered on a case-by-case basis rather than informed by requirements of the system as a whole. As a result, investment requirements are likely significantly understated due to lack of clarity at a health system-level.

PERFORMANCE INDICATORS

Ambulatory sensitive hospitalisation rates for 0-4 year-olds are higher for Māori and Pasifika

Figure 5: Ambulatory sensitive hospitalisation rates for 0-4 year-olds from 2003 - 2016



Source: Health Quality & Safety Commission



Ambulatory sensitive hospitalisation rates for 45-65 year-olds are higher for Māori and Pasifika people

Figure 6: Ambulatory sensitive hospitalisation rates for 45-65 year-olds from 2003 - 2016



Source: Health Quality & Safety Commission



- There is an opportunity to focus on developing a prioritised pipeline of investments across the DHB network informed by the requirements of the system as a whole. Better quality information on asset condition, capacity and functionality will provide a better basis for investment planning at a national level.
- Consider establishing a standalone entity to plan, design and build major health investments and explore holding depreciation funding at the centre to improve asset management.
- Explore opportunities to partner with the construction sector and training providers to include apprenticeships as part of procurement approaches. Additionally, the sector could leverage economies of scale through the bundling of procurements during upcoming build programmes to create cost-efficiencies. This will need to be balanced against supply chain constraints.
- The Ministry intends to adopt an as-a-service funding approach for future information technology requirements, which would transfer the funding pressure from the Ministry's balance sheet and capital expenditure to the operating baseline. However, it is noted there are already significant constraints on operating expenditure.
- There is an opportunity to partner with the private sector to better leverage New Zealand's strengths in health technology to address challenges of an ageing population. New Zealand has an international reputation for excellence in digital health and health technologies.

Housing New Zealand Corporation

Description and Purpose

Housing New Zealand Corporation (HNZC) is a statutory Crown entity responsible for providing housing services to eligible tenants as assessed by the Ministry of Social Development (MSD). HNZC manages a property portfolio of approximately 63,000 properties, of which it owns around 60,600 with a total approximate value of \$25.2 billion. HNZC's housing stock has an average age of 47 years.

Investor confidence rating

Scope: Housing portfolio and corporate information systems

Α	В	С	D	E
High				Low

Target = B or betterResults published June 2017

Balance sheet profile



Source: The Treasury, Housing New Zealand Corporation

Effectiveness

HNZC is delivering housing to 180,000 vulnerable citizens but needs to better match type supply to demand...

- Figure 1: During 2017, 93 percent of applicants housed from the MSD Register (excluding transfers) were Priority A applicants (the highest priority applicants). Since 2013, the percentage of Priority A applicants housed increased by 31 percent. For 2018 year-to-date (YTD) (Nov), 96 percent of applicants housed from the MSD Register were Priority A applicants. By 2021 HNZC aims for a 20 percent reduction in the time to house Priority A clients.
- Figure 2: There is an oversupply of three-bedroom homes due to historic build programmes (as at 30 June 2017 39.6 percent of HNZC houses had three bedrooms, by 30 November 2017 that figure was 39.4 percent) and an undersupply of the types current tenants and applicants need.
- HNZC aims to align 90 percent of its portfolio additions to the MSD purchasing strategy.

housing is increasing

from August 2012 - June 2017

Efficiency

...improve turnaround times for vacancies.

- For 2017, occupancy rate was 97.2 percent against the target of 96.2 percent (an increase of 2.6 percentage points since 2013).
 For 2018, YTD, the occupancy rate is 98.1 percent against a target of 97.2 percent. HNZC has set a target occupancy rate of 98 percent by 2021.
- For 2018, YTD, the average number of days from a home becoming vacant to being ready to let is 19.6 days against a target of 24 days.
- Increased occupancy and reduced turnaround times have resulted from changes to between-tenancy maintenance processes and increased demand.
- The return on equity from operations is typically under 2.0 percent per annum.

Sustainability

There is limited financial scope to concurrently maintain or refurbish ageing housing stock and build new houses...

- Figure 3: Many assets are nearing the end of their functional lives, with approximately 40 percent of houses constructed prior to 1966.
- Redevelopment activity is accelerating with 1,421 replacement and new homes delivered in 2017 (against a target of 1,339) and for 2018, over 1,400 replacement and new homes are expected.
- HNZC is planning for a 15 percent reduction in construction programme build costs by 2021, however, it still remains challenging to maintain a net rental income sufficient to sustain future portfolio activity.



The number of high priority applicants receiving

Figure 1: High priority applicants receiving housing

Linear (Priority A Applicants Housed as % of Tenants Housed)



There is a mismatch in supply and demand

Figure 2: Housing supply versus demand for 2017





Forward agenda: Significant milestones



Resilience

...due to low commercial returns and damage to property.

- Low commercial returns means that HNZC cannot afford to replace houses in the case of a stress event (eg, an earthquake damaging a significant number of assets).
- In response to the Canterbury earthquakes, HNZC initiated a programme that restored the city's public housing stock to pre-earthquake levels by mid-2016.
- Occupants causing damage to housing presents a risk to HNZC. A significant number of homes require remediation for methamphetamine damage. In 2017, the testing, remediation and reinstatement of HNZC methamphetamine-contaminated properties cost \$51.6 million.

Adaptability

HNZC will face demand pressures from urbanisation and shifting demographics.

- Increased urbanisation and population growth is expected to place pressure on the need for housing across the housing continuum.
- MSD plans to purchase 4,500 additional income-related rent subsidy-funded places from HNZC and Community Housing Providers by June 2020 (a total of approximately 67,800). This number is under review, and HNZC's contribution to KiwiBuild is also being worked through at present.
- In building new stock HNZC is challenged by land use regulation, building costs, capability and capacity in the construction sector and availability of funding.

A significant portion of the housing portfolio is reaching the end of its economic life

Figure 3: Age of the Housing portfolio



Source: Housing New Zealand Corporation

Distribution

HNZC's tenant base is diverse

- Ethnicity. Approximately 36 percent of tenants identify as European, 35 percent as Māori, and 27 percent as Pasifika.
 HNZC also house people seeking refuge from civil war and unrest in their countries of origin.
- Ageing population. As the population continues to age, so too does the tenant base. Around 40 percent of HNZC tenants are over the age of 55 (see Figure 4).
- Household types. The types of houses tenants and new applicants need are continuing to change. The most common household type amongst tenants is a single parent with child(ren), with single person households the second most common. This has led to an oversupply of the standard three-bedroom houses that were the focus of the early build programmes.
- Complexity in needs. Changes in policy settings for who HNZC house, alongside other societal shifts, have seen the proportion of the tenant base with high and complex needs increase. The growing proportion of Priority A applicants means there are a number of issues becoming more prominent in tenancies. These include limited life skills and an inability to manage the responsibilities of a tenancy, increased mental health and wellness issues, drug and alcohol abuse, increased anti-social behaviour and increased incidents of threatening behaviour.

Reviewing operational policies

HNZC's role is to provide warm dry and secure roofs for the most vulnerable in New Zealand communities and to provide pastoral care that enables tenants to have access to the support they need to sustain their tenancies and live with dignity.

Over the next two years, HNZC will review all its operational policies so that they reflect the respectful and better quality relationships they want with their tenants.

Currently there are two policies that are under review – the Pets/ Dogs policy and the Drug/Methamphetamine policy. Both are going through a policy development process based around sustaining tenancies.

Cross-laminated timber

Housing New Zealand is piloting the use of cross-laminated timber (CLT) across seven build projects all scheduled for completion in 2018. These projects will test the extent to which CLT can improve the scale and pace of HNZC's activity and reduce construction cost spend.

CLT provides a number of benefits including:

- · Superior structural, thermal insulation and fire characteristics.
- Exceptional sustainability credentials.
- Excellent dimensional stability owing to cross-lamination.
- 99.4 percent renewable timber, 0.6 percent formaldehyde-free glue.
- Simple planning and building. All aspects are easily completed using the same material.
- A quieter construction method, because of its reliance on assembly of pre-made frames as opposed to building on site.
- · Environmentally friendly with lower carbon emissions.
- Increasing demand for housing. New Zealand has experienced significant increases in demand across the housing continuum and HNZC has been tasked with growing net supply. HNZC is balancing the delivery of State, affordable and market housing through large-scale redevelopment programmes, particularly in Auckland where housing demand is significant.
- Ageing asset base. A renewal programme to refresh the portfolio and deliver fit-for-purpose housing, while also delivering net supply at pace in a viable way, places pressure on available funding. HNZC is currently developing a Long-Term Financial Strategy to better understand the long-term implications of different levels of growth, together with renewal – this will help support decision-making regarding allocation of funding and the long-term implications of borrowing to finance growth.
- Sector capacity. Construction supply chain capacity constraints may impact HNZC's ability to deliver its asset programme at pace. HNZC is working proactively with build partners to provide longer-term certainty to ensure build partners maintain capacity to support HNZC requirements.

- Meeting the needs of tenants. As providers of housing and related services for some of New Zealand's most vulnerable people, HNZC needs to ensure that tenants have access to the social services they require to help them improve their circumstances. HNZC is currently developing a Customer Strategy to better inform the design of new operational approaches, asset design, programmes and services
- Redevelopment potential. HNZC's ageing asset base provides an opportunity to improve intensification of HNZC land, particularly in Auckland through the provisions of the Unitary Plan.
- Cost reduction. HNZC is continuing to explore opportunities to further reduce the cost of building by utilising the scale and longevity of build programmes, standardising building designs and exploiting new building methodologies (eg, off-site manufacturing, exploring innovative solutions such as crosslaminated timber and enhancing the evaluative capacity for build programmes).

PERFORMANCE DIMENSIONS

FOCUS AREAS


PERFORMANCE INDICATORS

- Increasing the pace of delivery. In addition to cost reduction initiatives, HNZC is also improving the speed at which it makes decisions and streamlining the development process across internal and external stakeholders. A key aspect of this is engaging with key suppliers to increase the pipeline of activity and delivery of new State houses.
- Increasing the scale of delivery. HNZC is currently developing a long-term financial strategy, analysing the long-term impacts of various levels of growth in current asset programmes. Strategy setting also involves the use of scenario planning.
- Affordable housing and Kiwibuild. To better support demand across the housing continuum, in February 2018 the HNZC Board will consider commencing building housing for resale as affordable (eg, Kiwibuild) or market housing, subject to taxation issues being resolved with Inland Revenue (IR).
- **Pastoral care.** The development of the Customer Strategy is supporting HZNC's strategic goal of better understanding and responding to the needs of tenants. The discovery and planning phase of the strategy is now under way. This work will provide better insights into the different demographics of tenants, their needs and the potential trends in demand over the coming years.

Inland Revenue & Customs Receivables

Description and Purpose

Inland Revenue (IR) and New Zealand Customs (Customs) are owed money called receivables and they manage the collection of these receivables. Predominantly these receivables relate to tax obligations (ie, income tax, pay as you earn (PAYE), goods and services tax (GST) and other taxes) but also include KiwiSaver contributions, overpaid Working for Families tax credits, interest and penalties. Customs collects around 20 per cent of total core government tax revenue annually through customs duty and GST on imports, excise duty on domestically manufactured alcohol, tobacco and petroleum products and excise equivalent duty on the same products imported into New Zealand.

Investor confidence rating

Scope: Customer-facing information systems, Corporate information systems, Leased property, equipment and vehicle portfolios.



Results published July 2017

Results published June 2017

Effectiveness

IR and Customs provide significant revenue to fund social programmes.

- IR and Customs: IR and Customs indirectly contribute to wellbeing through the collection of tax revenue, which the Government uses to fund public goods, such as health and education.
- IR and Customs: Total IR and Customs tax receivables has increased since 2013 from \$8.780 billion to \$11.12 billion. The level of IR tax receivables have remained consistent with the level of total tax revenue during this period (see Balance Sheet Profile).

Efficiency

Collection of receivables and core business activities are becoming more efficient.

- IR: A key performance measure is the resolution of debt. Between 2013 and 2017, the percentage of cases resolved improved. For 2017, IR resolved 85 percent of debt cases within 6 months, an improvement over the 2016 rate (82.5 percent).
- IR and Customs: Receivables have increased as a proportion of core Crown tax revenue from 2015 (see Figure 1).
- IR: The value of overdue receivables has decreased (see Figures 2 and 3), driven by initiatives targeting ageing debt and outstanding returns. Across 2013-17, overall gross past due debt has decreased from \$5.40 billion to \$2.99 billion.
- IR: Since 2014. IR has increased its focus on the prevention and recovery of debt. As a result of the successes achieved with its collections work and supporting analytics and insight, tax debt has reduced for three consecutive years. The 2017 overdue IR receivables figure is a 36.1 percent decrease from the previous year (see Figure 3).
- Customs: The proportion of electronic transactions using SmartGate has increased from 27.4 percent in 2013 to 44.7 percent in 2017, enabling the more efficient processing of transactions.
- Customs: In 2015, Customs introduced a new Debt Management Strategy to increase voluntary compliance and in 2016 further implemented this strategy with help from IR.

OVERVIEW



Figure 1: Receivables and core Crown tax revenue from 2013 - 2017





The amount of IR's overdue debt has decreased since 2013

Figure 2: Current and overdue IR receivables from 2013 - 2017



Source: Inland Revenue, Customs, The Treasury



Forward agenda: Significant milestones



Source: The Treasury Note: Profile only includes IR and Customs receivables

Sustainability

IR and Customs are adapting to trends.

- IR: IR currently receives funding for several major initiatives that include a focus on additional investigations, education and marketing activity in the hidden economy. In 2017, IR achieved a return on investment of \$11.55 per \$1 spent against the target of \$8 per \$1 spent.
- Customs: Traveller numbers have been consistently higher than expected (see Figure 4 for traveller volumes), which has led to increased revenues, and this trend continued on in 2017. Memorandum accounts were in surplus as at 30 June 2016, equal to 4.6 percent of total Customs revenue. Customs is currently reviewing its cost recovery model and settings for its border risk management costs, which include the Border Clearance Levy (BCL) and the Biosecurity Systems Entry Levy (BSEL).

Adaptability

Source: The Treasury

It will be important for both organisations to respond to potential changes to service delivery models

- IR: The BT programme (at a cost of \$1.87 billion over 10 years) is expected to greatly enhance IR's ability to adopt new technologies and service delivery models to improve receivables collection. A key focus of the programme is moving to a model where it is easier for customers to comply and get it right from the start. IR has committed to additional revenue generation through this programme.
- Customs: Customs is adapting to ever increasing demand by investing in modernising its border operation through its Joint Border Management System (JBMS) programme to reduce costs. Customs is responding to increasing processing volumes through modernisation and shifting to electronic processing.

Overdue IR receivables decreased significantly from 2014 - 2017 Figure 3: Overdue IR receivables from 2013 - 2017



Traveller volumes have increased but the cost of processing has decreased

Figure 4: Change in traveller volumes and processing cost from 2013 - 2017



Source: Customs

Resilience

IR has established processes for supporting customers through natural disasters.

- IR: IR has a range of tools available to assist where customers are experiencing cash flow difficulties. Relief may be granted, for example, following a natural event (such as an earthquake or a flood).
- IR: IR supports customers during adverse events, such as earthquakes and floods, by meeting with them at local recovery hubs and sharing information face to face.
- IR: IR recently entered an information sharing agreement with the Ministry of Social Development (MSD) that enabled it to provide financial assistance to small businesses affected by the Kaikoura earthquake.
- IR: IR showed operational resilience following the 2016 Kaikoura earthquake. Some of IR's Wellington sites were closed at the same time they were preparing to release the new GST online services. Critical task work was moved to other sites, staff were relocated, remote working capabilities were increased and hot-desking and shiftworking were implemented in some cases. Around 630 staff were relocated following the closure of the Hawkestone Street site in February 2017.

Customs' Joint Border Management System

Customs' JBMS aims for a faster, simpler, more cohesive and reliable system of border management. Border modernisation was planned in two tranches at a total cost of \$140 million and with the second tranche costing approximately \$65 million. Tranche 1 would deliver a 'Trade Single Window' (TSW), an e-commerce platform that would allow all border requirements for goods and craft to be met in one place. Tranche 2 would then retire part, or all, of Customs' and Ministry for Primary Industries' (MPI's) border management systems. When Custom's encountered setbacks, it focused on completing a component to access the benefits it provided, at the expense of the overall programme schedule.

In November 2009 Cabinet approved Tranche 1 [CAB Min (09) 39/22 refers] based on a Business Case and with funding of \$75.9 million. However, the procurement process and prime vendor negotiations took longer than originally planned and this pushed out the go-live date from mid-2012 to April 2013. In June 2012 the development of the system was also changed to roll out functionality in phases rather than all at once. Then in March 2013 the State Sector Reform and Expenditure Control Committee approved an increase of \$13.8 million to the project's capital budget [SEC Min (13) 4/3 refers] as well as a further increase of \$14.4 million in June 2014, adding up to a total capital budget of \$104.1 million to be met within existing baselines.

The final major release of outstanding TSW functionality was scheduled for May 2016. But IBM failed to meet a major commercial milestone in February 2016. Customs and MPI responded by decoupling risk and intelligence tools from ongoing implementation and thereby focused on completing TSW. This decision enabled Customs and MPI to finish TSW and receive the benefits it provides to the industry.

The new functionality of JBMS went live in 2017. Customs and MPI will now implement Tranche 2 through a series of smaller projects that will either enhance or replace elements of current systems. This will require more investment beyond existing capital funding, estimated at \$74.1 million capital and additional net operating costs of \$18 million in year one and \$13 million in out vears

The 2009 business case estimated JBMS would yield benefits of \$535 million over a 10-year period. In February 2016, JBMS returned \$38.2 million. Another \$87 million will be realised from the same benefit streams in the next six years. It will now take 15 years to realise the full benefits of \$535 million. This is in part due to delivery delays and the phased implementation approach adopted in 2012.

- IR: Changes to BT implementation timelines could add significant costs and risks to the programme. The transformation programme is financed through both government investment and from IR's baseline. Continued focus on strong programme and project management disciplines will be essential for IR to manage any cost pressures as it targets a sustainable out-year baseline.
- IR and Customs: E-commerce has resulted in an increase of purchases below the tax collection threshold from offshore (ie, non-GST registered) companies This trend erodes receivables revenues for the government.
- IR: There are opportunities outside of the transformation programme. Inland Revenue could improve in the development of medium and long-term plans beyond the BT horizon, exploring future investment tranches and required levels of performance. This includes cross-government initiatives and the continued collaboration with other agencies and the private sector to create costs and/or productivity savings.
- Customs: More comprehensive long-term planning presents an opportunity to improve Custom's performance. Customs should aim for a more comprehensive long-term investment plan. This can be achieved through better integrating material from its four-year pan and related work on asset management and border sector strategies to reveal impacts investment decisions have on Customs' performance.
- Customs: There are opportunities to lift the performance of Customs' asset performance. Strong investment in border modernisation and the intent to invest in ICT provides Customs with several opportunities to lift the overall performance of assets, increase collection of revenue on behalf of the government and improve on the service Customs delivers.

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FOCUS AREAS



Ministry of Education

Description and Purpose

The Ministry of Education (MoE or the Ministry) manages a significant social asset property portfolio, with a net book value of approximately \$17.2 billion and a replacement value of approximately \$30.0 billion. Non-residential school buildings and school land make up the majority of the portfolio. The school property portfolio accommodates more than 660,000 students (around 85 percent of school-age students in New Zealand) in around 2,100 State schools and is made up of 8,000 hectares of land, and over 35,000 classrooms. MoE also provides funding contributions to support the provision, maintenance and renewal of an additional 330 State-integrated schools (former private schools that have been integrated into the State system but still own their property and land).

MoE's second largest asset portfolio is its Information and Communications Technology (ICT) portfolio. With a book value of approximately \$64 million, the ICT portfolio informs MoE's strategic choices to enable and enhance education access. The ICT portfolio also provides the platforms necessary to support rapid information sharing and communication within MoE.

MoE's asset portfolios are enablers to improve education outcomes. The classroom model has been the Ministry's preferred approach to education, with schools providing a social setting and a community focus alongside education provision. ICT is a more recent portfolio, that provides additional choice in enhancing and enabling education and access.

Investor confidence rating

Scope: School property and ICT portfolios.



Effectiveness

Education outcomes are continuing to enhance New Zealanders' wellbeing.

- The link between education and wellbeing is strong, with better outcomes demonstrated across a range of indicators for those who achieve National Certificate of Educational Achievement (NCEA) Level 2 qualifications or above.
- MoE's total portfolio contributes to these outcomes but only in conjunction with other elements, for example, the effectiveness of the education workforce.
- Evidence indicates good acoustics, ventilation, lighting and heating are required to avoid creating barriers to learning and that flexible learning environments can have a positive impact on students' outcomes, when accompanied by changes to pedagogical practices.

- MoE is continuing to undertake research to better understand how physical environments impact learning.
- Most of the innovative learning environments (ILEs) in schools are at least fairly functional, although not all schools have ILEs yet.
- The modernisation of learning environments continues, with elements of flexibility and technology increasingly being incorporated into classrooms.
- Figure 1: School buildings are also grouped into categories 1-5 based on the extent to which each building is assessed as being compliant with various functionality standards. These standards cover areas such as health and hygiene, flexibility, and environmental factors such as temperature. The measure covers 33 percent of buildings, although MoE is assessing more each year.
- Table 1: Current analysis shows over 70 percent of school buildings surveyed have a functionality score of between 1 and 3 (target 65 percent). This is within MoE's current target for this measure, which was introduced in 2017.
- From 2013 to 2017, an additional 23 new schools have been funded, with many builds now complete.

Efficiency

While asset utilisation meets targets, there are opportunities for further efficiencies by reducing redundancy and improving asset management.

 Table 1: For 2017, the percentage of State schools that had utilisation rates reflective of efficient use of the property portfolio (72 percent) exceeded MoE's target (65 percent).

OVERVIEW

While not all state school buildings have recorded ILEs, the majority of schools that do meet ILE functionality targets



Source: The Ministry of Education

Note: a lower score represents a higher functionality rating





Most school buildings' maintenance costs are

less than their replacement costs

Figure 2: Condition of Assets

Source: The Ministry of Education

Note: a lower score represents a higher functionality rating



Wainuiomata High

2021

Christchurch Boys'

2020

Balance sheet profile



Forward agenda: Significant milestones

Wellington East

Girls' College,

redevelopment

Wellington:

\$39 million

2019

Takapuna

Grammar.

Auckland:

\$26 million

2018

redevelopment

Source: The Ministry of Education, The Treasury

- Population decline in some areas, and growth in others, makes effective utilisation challenging. MOE's response to this has included using enrolment zones, building new capacity and rationalising surplus capacity.
- To ensure flexibility, and to enable parental and student choice, some excess capacity within the portfolio is required. To maximise the benefits, the redundancy should be in areas of growth and high mobility.
- Table 1: While scoring well on asset efficiency metrics, the decentralisation of operational maintenance to schools has resulted in inconsistent management of assets across schools. As a result, MoE is sometimes required to provide urgent responses to maintenance issues that are the legal responsibility of boards of trustees.
- Figure 2 (overleaf): School buildings are grouped into categories 1-5 based on the ratio of each building's forward 10-year cost relative to their replacement cost. Current analysis shows that over 90 percent of school buildings' 10-year maintenance costs are less than 20 percent of their replacement cost. This is within MoE's current targets for this measure. While this is not a new measure, the individual components that make up the overall assessment have changed over time, making comparison across years difficult.

Sustainability

Planned capital expenditure cannot be covered by depreciation reserves.

MoE anticipates that around \$3.8 billion will be invested to expand the portfolio from 2017/18 to 2026/27, of which \$2.89 billion in new capital funding will be sought.

- Figure 3 (overleaf): On top of this, MoE expects that \$5.39 billion from baseline funding will go towards maintaining the existing portfolio. This includes funding redevelopments, and replacing ageing assets (approximately 74 percent of buildings are greater than 20 years old).
- Strong demand growth, particularly in Auckland, combined with land availability constraints is driving up both the volume and cost of new builds. Price escalation is expected to continue in the medium term until land availability constraints are addressed.
- Historic issues with weather tightness continue to place pressure on maintenance budgets, with an estimated 8 percent of school buildings still requiring remedial work. The cost of this work will become clear after re-inspections have been completed.

Table 1: MoE is continuing to meet, and in some cases exceed, its portfolio targets

Measure	Aspect	2016 Target	2016 Result	2017 Target	2017 Result
Percentage of State school buildings with a property condition of '3' or better, as an indicator of the condition of the school property portfolio	Condition	N/A	N/A	85	93
Percentage of State schools with a utilisation ratio between 75% and 105% as an indicator of the effective use of the school property portfolio	Utilisation	65	73	65	72
Percentage of State school buildings with property-related elements of Innovative Learning Environment assessments showing functionality score of '3' or better	Functionality	N/A	N/A	65	73
Eligible schools which are connected to the Network for Learning for broadband services to support a modern learning environment	Functionality	2300	2369	98%	98%
Schools that have had their networks upgraded to enable better wireless functionality under the Wireless School Network Upgrade Project	Functionality	319	383	660	786
Percentage of eligible schools with ultra-fast broadband connection available	Functionality	100	100	100	100
The Ministry of Education's disk storage capacity: allocated storage	Utilisation	N/A	N/A	No more than 90%	84%
Percentage of State school buildings with property-related elements of Innovative Learning Environment assessments showing functionality score of '3' or better	Condition	N/A	N/A	85	93

Source: The Ministry of Education, The Treasury Note: Some measures were recently introduced, which is why there is no comparable data for the 2016 financial year

Resilience

The portfolio is resilient to most small shocks.

The levels of excess capacity in the portfolio provide a buffer in case of short-term changes in demand or supply or unforeseen circumstances, like natural disasters or unexpected school closures.

- The capacity in the system is sufficient to enable MoE to accommodate urban students across a number of schools. However, this could lead to high usage rates at some schools, which may necessitate the short-term use of temporary property solutions.
- In rural areas, the closure of a large school may present a risk to the wider system. Surrounding schools may struggle to absorb the additional students and some students may need to be transported to other schools.
- An Ombudsman report into MoE's management of the Christchurch Schools Rebuild programme found that, in general, it was well handled. In the future it is recommended that MoE could strengthen its community consultation and engagement processes.
- MoE, in conjunction with Education Payroll Limited, is determining the long-term plan for the provision of schools' payroll services.

Adaptability

MoE is working to improve its adaptability.

- The classroom model is the Ministry's preferred approach to education and this requires additional classrooms and teachers (and potentially network configuration changes) to respond to changes in demand.
- MoE is exploring the use of policy options to address volume pressures.
- The aged asset base means that many buildings were built with traditional cellular classroom configuration. Progressive adaptation is needed as teaching practices change.
- The Education Resourcing System Programme will provide a digital platform to enable the management and administration of over \$6.95 billion per annum of investment to schools and Early Childhood Education (ECE) providers. The provision of this funding currently relies heavily on ICT systems, which are ageing and at risk of being unsupported after 2020.

Christchurch Schools Rebuild Programme

In 2013, Cabinet agreed to set aside \$1.137 billion to fund the Christchurch Schools Rebuild (CSR) Programme. The programme was established to redevelop and rebuild schools in the wider Christchurch area that were damaged as a result of the 2010 and 2011 earthquakes. The programme, which is now in its fifth year, is comprised of 115 schools that cater to a combined roll of around 46,100 students.

The schools included in the programme are at various stages throughout the process. To date, 22 schools have been completed, 22 schools are in construction, 37 schools are in design or master planning, 12 are in pre-project engagement and 22 schools are awaiting to enter the programme.

The risk of cost pressure from an ageing asset base.
 Asset maintenance expenditure associated with the portfolio's age will need to be budgeted for in advance, as it is likely to exceed MoE's depreciation reserves.

- The risk of uncoordinated investment decision-making. With high levels of budgeted operating and capital expenditure over the next four years, investment decision-making needs to be based on robust business cases and prioritisation frameworks that look across the portfolio. MoE is currently redesigning its Operating Model, which will help ensure that all decisions relating to the life cycle of property are aligned.
- The risk of supply side constraints. MoE will need to lift its capacity to deliver on increased infrastructure investment and may be constrained by the ability of the market to deliver. MoE currently represents approximately 11 percent of the non-residential demand on the construction sector. The sector is operating near full capacity and, accordingly, the Ministry may face cost challenges and risks to the quality of services provided.

The schools also require different amounts and types of work. Some schools are being completely redeveloped, others are being co-located, while others are undergoing smaller-scale remediation works.

In 2016, the Treasury removed the programme from its list of major monitored projects. This reflected the Treasury's confidence that MoE had the capacity and capability to continue delivering schools in the programme on time and within budget.

- There are challenges created by population growth and changing demand profiles from urbanisation. These trends mean that underutilisation (predominantly in declining rural and provincial areas) co-exists with overutilisation (areas of rapid growth like Auckland, Tauranga, Queenstown). MoE's network and property management functions will need to manage these pressures to maintain efficiency.
- The sector's fragmented structure presents a challenge for managing large-scale ICT projects.
- There are opportunities to improve efficiency within the school property portfolio by clarifying the relative roles and responsibilities of schools and MoE with regards to property maintenance.
- Efficiencies could be further improved through the use of management techniques, such as zoning, use of school transport and alternative delivery models (such as modular transportable classrooms).
- Costs could be reduced through the rationalisation of surplus property. Selling the underlying surplus land could yield savings that be reinvested in modernising and maintaining the portfolio.

Distribution

Most of New Zealand's schools are large and urban.

- New Zealand has 2,405 State and State-integrated schools. The majority of these schools are large; 1,138 have less than 200 students, while only 102 have more than 1,000 students.
- Most of New Zealand's schools are in urban areas (approximately 72 percent) with around a third of schools (approximately 27 percent) located rurally. Rural schools tend to be smaller than urban schools; only 8 percent of New Zealand students are located rurally.

\$

Approximately 38 percent of school buildings are older than 50 years

Figure 3: Average age of the school portfolio



Source: The Ministry of Education

Figure 4: Break down of schools in the Christchurch Schools Rebuild Programme



Source: The Ministry of Education

- Technology provides opportunities to reduce costs and increase efficiencies. These are currently being explored by MoE, particularly in relation to the maintenance of school property and the energy efficiency of school property.
- There is an opportunity to leverage the scale of MoE's construction activity to drive carbon neutral construction and energy efficient design and construction for school property.
- There are opportunities to build on good practice to achieve better value through MoE's investment in strong commercial relationships with a capable supplier market. This could be achieved through improved and innovative procurement techniques, including: developing longer-term arrangements with suppliers; bundling work to leverage scale; developing more consistent requirements; ensuring decisionmaking has a focus on whole-of-life value; increasing the integration of facilities management; and improving asset management and capital investment.

State Highways

Description and Purpose

The New Zealand Transport Agency (NZTA or the Agency), under the Land Transport Management Act 2003 (LTMA), is responsible for managing the state highway system, including planning, funding, designing, supervising, constructing, maintaining and operating the system. The Agency must give effect to the Government Policy Statement on Land Transport (GPS) and is a Crown entity governed by a statutory board. Information included in this assessment has been provided prior to the release of a revised GPS to be published for consultation in March 2018.

The Agency invests the National Land Transport Fund (NLTF) to give effect to the prevailing GPS. The Agency uses an intervention hierarchy to optimise past and new investments. State highways represent approximately 95 percent of NZTA's asset base and is expected to stay at a similar level out to 2021. To better position the Agency to meet future transport system challenges, on 3 July 2017 the Agency adopted a new strategy, supported by a new operating model and organisational structure.

The Agency will be working to deliver one connected transport system with a focus on integrating land-use planning and transport planning, national and local strategic networks and integrating digital technology with physical infrastructure.

Investor confidence rating

Scope: Management of the state highway asset, management of the National Land Transport Programme and delivery of state highway programmes and projects and corporate information systems. Excludes NZTA's regulatory functions

А	В	С	D	E
High				Low

Target = B or better Results published July 2016

Effectiveness

State Highways provide connectivity between regional economic centres.

- State Highways are an essential conduit for moving people, goods and services throughout the country (see Figure 1). As a result, a significant portion of the economy's supply chain relies on the connectivity generated through the State Highway network. Moreover, State Highways facilitate social connections and leisure travel.
- NZTA has developed a Long-term Strategic View (LTSV). The LTSV captures the pressure points and key economic, environmental and population factors that will help shape the transport systems needed for the future. The LTSV supports investment prioritisation and tradeoff decisions across all transport modes (including State Highways) as well as other system options in conjunction with other elements of the Agency's investment decision-making framework.

Efficiency

Network efficiency requires improvement across all major centres.

- Table 1 shows that asset condition is generally tracking well, reflecting ongoing investment in the State Highway network.
- Network utilisation (productivity of the network measured in terms of the product of speed and flow compared with optimal road lane vehicle throughput) showed mixed results across the urban centres (see Figure 2). Since 2014, productivity has improved in Christchurch but still remains low due to the damage from earthquakes and changing traffic patterns reducing throughput. For the same period, Auckland and Wellington both saw a marginal decrease in productivity.

Sustainability

NZTA is seeking to address sustainability through continued network improvement initiatives.

- Figure 3 highlights that NZTA makes significant investment in the State Highway network of \$1.0-1.5 billion a year for improvements and around \$0.5-0.6 billion for maintenance. Investments in State Highways are funded through the National Land Transport Fund (NLTF), which is funded by road users.
- The significant repair and enhancement work on State Highway 1 between Picton and Christchurch is expected to cost \$812 million over a period of 3 years.
- The Agency, under the LTMA, is required to balance expenditure to available revenue and to stay within GPS funding ranges for a variety of activity classes (including State Highways) as set out in the GPS.

<u>o v er v i e w</u>

Number of state highway road users per annum is increasing

Figure 1: State highways heavy and light vehicles VKT from 2012 - 2017





Indicators of performance have tended to remain stable

Table 1: Indicators of performance from 2014 - 2017

Indicators	Measure	2014	2015	2016	2017
Network Resilience	% of rutting >20mm over state highway network	1	1	1	1
Safe Stopping	% of travel on network above skid threshold	98	99	98	98
Smooth ride	% of travel on network classes as smooth	99	98	98	99
Resilience	% availability of state highway network	85	79	87	86

Source: New Zealand Transport Agency

Balance sheet profile



Forward agenda: Significant milestones



Source: The Treasury

Source: The Treasury, New Zealand Transport Agency

Resilience

The network is increasingly exposed to natural disaster risks.

- The State Highway network is susceptible to physical risks. This was illustrated most recently by the 2016 Kaikōura earthquake. An alternative route was provided for the transportation of freight between Picton and Christchurch, however, it was less suitable than the coastal State Highway 1 (SH1) route.
- The Agency undertakes a number of preventative resilience activities to reduce the impact of physical risks, this includes seismic strengthening of bridges and taking into account the effects of climate change in the justification, development and design of all new projects and improvement works.
- Following a number of large land slides and repeated closures, the Agency is working with the community and key stakeholders to develop an alternative to the SH3 link through the Manawatū Gorge.

Adaptability

NZTA engages in a number of activities to better respond to changes in its environment.

- NZTA uses agency-led and sector research to ensure that its planning and funding tools remain relevant. This research also enables the Agency to take advantage of current and emerging innovations.
- NZTA works to encourage the uptake of emerging technology – such as the use of high tech equipment to predict and control avalanches.
- The Agency uses a number of procurement models, such as Alliance, Design and Construct and Public Private Partnerships to ensure best value for money and optimal project outcomes (including innovation).
- The Agency seeks to continually improve its economic evaluation guidance to better forecast costs and benefits.

Network utilisation is varied across all major centres

Figure 2: Network utilisation (percent) across major centres from 2014 - 2017



Source: New Zealand Transport Agency



More money spent on improvements than maintenance



Figure 3: National Land Transport Programme spend on state highways

Source: New Zealand Transport Agency

Distribution

The length of the State Highway network is growing in urban areas and reducing modestly in rural areas.

- Figure 4 shows the length of the State Highway network by region.
- Figure 5 shows the distribution of vehicle kilometres travelled by region.
- Waikato has the most extensive State Highway network at 1,715km or 16 percent of the network.
- Waikato and the Bay of Plenty regions have the highest concentration of State Highway km relative to the size of the region. Southland has the lowest density.
- As of 2016, New Zealand has 10,855km of State Highways and 84,150km of local roads. State Highways therefore represent approximately 11.4 percent of the road network.*

*Note: figures sourced from 'Transport Outlook: Current State 2016'

Waterview

The Waterview Tunnel is a key piece of the Western Ring Route, a 48km motorway route through the west of Auckland, connecting Manukau, the city, West Auckland and the North Shore. The 2.4km Waterview Tunnel between Pt Chevalier and Mt Roskill opened in July 2017 and cost \$1.4 billion to build. The provision of a second route through Auckland (bypassing the city) and efficient links to and from Auckland Airport, Ports of Auckland and inland freight hubs has significantly improved reliability and resilience (where resilience in this context is defined as the ability to absorb, adapt to, and/or rapidly recover from a potentially disruptive event). Since the tunnel opened, there has been a significant redistribution of demand between motorway corridors, which has seen the total kilometres travelled on the SH1 fall by 6 percent-7 percent with a corresponding increase in total kilometres travelled on SH20 and SH16 with around 8,500 fewer hours each day of total travel time on the motorways alone.

Prior to the Waterview Connection, journeys from the Airport to the central business district (CBD) in the afternoon peak would take an average 44 minutes via Manukau Rd and Gillies Ave. Now, via the Waterview Tunnel, they take 27 minutes. A total distance of 38km of bus shoulder lanes was added by the project and as part of the Waterview Connection, a range of walking and cycling facilities were created to enhance the connections between local communities.

- The population is growing. This growth will place pressure on state highway networks, in particular, in main urban areas such as Auckland.
- The resilience of the State Highway network to the impacts of climate change and natural disasters, such as earthquakes.
- Revenue for the National Land Transport Fund comes from fuel excise duties, road user charges, motor vehicle registration and licensing fees and state highway property disposals. The 2018-21 State Highway Programme has been developed on the basis that sufficient revenue will be made available to achieve the draft GPS expenditure ranges. The Agency, along with the Ministry of Transport, monitors forecast and actual revenue on a regular basis and adjusts the programme to manage the risk that revenues do not cover GPS expenditure ranges.
- The uptake of emerging technology, for example, electric vehicles, and the ability of the Agency to influence travel demand may impact future revenues to the National Land Transport Fund.

- The Agency needs to be mindful of delivering infrastructure that becomes redundant over time.
 In response to this the Agency is focused on being responsive to adaptive and emerging technologies.
- Over the next three years the Agency will be working to deliver one connected transport system with a focus on integrating land-use planning and transport planning, national and local strategic networks, different transport modes and integrating digital technology with physical infrastructure and travel demand management initiatives.
- In the medium to long term, there is an opportunity to consider incorporating emergent technologies (eg, sensors for self-driving cars, mobility services or enhanced non-slip surfaces improving road safety) and further develop the integration of public transport options with the State Highway network.

Length of state highway network varies markedly by region

Figure 4: State Highway Network length by region





Vehicle kilometres travelled by region is highest through Auckland and Waikato

Figure 5: State Highways heavy and light vehicles VKT by region



Source: New Zealand Transport Agency

State Highway 1 Picton to Christchurch

The 2016 Kaikōura earthquake caused over 50 landslides along SH1 and the main rail trunk line, to the north and south of Kaikōura. The North Canterbury Transport Infrastructure Recovery alliance was set up to restore the road and rail networks. Following significant work to clear and stabilise it, SH1 was reopened to the public on 15 December 2017 with travel permitted within daylight hours. Remaining core recovery construction works is continuing with the anticipation the road will be available for 24/7 travel by early 2018. The design of the resilience packages is focused on restoring road and rail corridors to a resilience level needed for a network of this national strategic nature. As at 31 December 2017 the overall design (including resilience and SH1 improvements) is approximately 50 percent complete, with the priority focus on completing design related to core recovery works by mid-2018.

- The implementation of lessons from the Investor Confidence Rating assessment presents an opportunity to improve programme delivery, benefits realisation, rationalising investment reporting requirements and developing a 10-year investment plan.
- The recent organisation restructure further provides the opportunity to improve the sharing of information within the Agency as well as across the sector. This relates to both sharing best practice and lessons learned with peer agencies and the wider sector, as well as taking a leadership role in collaboration and information sharing.

The overall project budget (including rail) remains at \$1.12 billion with the project life-to-date spend as at December 2017 of \$563 million. Owing to the extensive media advertising campaign across the upper South Island reinforcing key messages, customer expectations with respect to travelling SH1 were well managed with holiday period journey times well within the target level of service.

The Justice Sector

Description and Purpose

The major agencies in the Justice Sector are the New Zealand Police (Police), the Ministry of Justice (MoJ), and the Department of Corrections (Corrections). Most of the assets held by Police are property, which has a total net book value of \$0.62 billion. This is composed of police stations (\$0.50 billion), and operational buildings and houses (\$0.11 billion). The next largest asset is Police vehicles (\$0.15 billion). Courthouses are the primary asset held by MoJ, valued at approximately \$1 billion. The majority of courthouses are owned by the government, while a small minority are leased. Of the court venues owned by the government, there are 42 District Courts, three High Courts, 14 shared High and District Courts, one Court of Appeal and one Supreme Court. Corrections holds total assets valued at \$3.21 billion. These consist mainly of land and buildings for its 18 prisons and community-based non-custodial sites around the country (\$2.74 billion).

Effectiveness

The crime rate has generally been trending down since the 1990s, however, the prison population is continuing to rise...

- The justice system enforces law and order through the provision of social infrastructure and operational capabilities. Trust and the rule of law, delivers wellbeing for New Zealanders.
- Sector: The crime rate (the number of reported offences per 100,000 people) at March 2017 was 4 percent up from March 2013 but has declined 13 percent since 2011. At the same time, demand for justice sector services is increasing. (Figure 1).

Efficiency

...and asset utilisation results are mixed, with several asset classes below target efficiency levels.

- Condition measures for assets across the Justice Sector show reasonable condition of some assets but also some areas of strain (Tables 1 and 2).
- Police: For 2016, Police were making relatively efficient use of vehicle assets (Table 1).
- MoJ: For 2017, MoJ reported that 78 percent of its courtrooms had 'Green' utilisation ratings, 60 percent of courtrooms had 'Green' condition ratings and that 69 percent of courtrooms had 'Green' functionality ratings.*
- Corrections: In 2017, utilisation of assets was high, with the majority of prison sites exceeding utilisation targets. The condition of the prison network reduced slightly (Table 2).

Investor confidence rating

Scope: Property and ICT portfolios (Corrections), owned and leased property and corporate information systems (MoJ) and business-facing information systems, corporate information systems and owned and leased property (Police).

		-	•		_	
Agency	A	в	C	ע	E	
Corrections			С			Results published July 2016
MoJ		В				Booulto publiched June 2017
Police			С			
Target = B or better	High				I ow	_

Sustainability

Operating costs have been increasing across the sector, in large part due to volume pressures and current policy settings...

- Police: The Police property portfolio has undergone some recent reinvestment but its core continues to age. A programme of work to refresh the portfolio will be necessary, which may be able to be funded internally depending on the pace and scale of investment.
- Corrections: The prison population has increased by 20 percent since 2014, significantly faster than population growth, resulting in additional capacity requirements with corresponding capital and operating costs.

*Note: Courtroom utilisation: For a courtroom to have a 'Green' utilisation rating, it must have been in use for at least 247 days in the financial year and at least 79 percent of the footprint was in use and the activity that the courtroom was used was rated at least an 11 on MoJ's court busyness index. Courtroom condition: For a courtroom to have a 'Green' condition rating, it must not be due (or overdue) for condition-related work. Courtroom functionality: For a courtroom to have a 'Green' functionality reting, it must not be due (or overdue) for functionality related work.





 Table 1: Police key asset performance indicators

 showed mixed performance against targets

Measure	Target	2016
Percent of buildings that hold a warrant of fitness	100	94
Percent of maintenance that is reactive	Less than 30	65
Percent of police fleet being maintained to the manufacturer's specification	98	98
Average age of police vehicles	Less than 7 years	6.9 years
Number of police vehicles travelling less than 10,000km per annum	Less than 100	191
Number of police vehicles travelling less than 10,000km per annum	Less than 100	191

Source: New Zealand Police



Forward agenda: Significant milestones



Source: Justice Sector, The Treasury

- MoJ: MoJ has an aged asset base, with 40 percent of its buildings being more than 50 years old. The combination of increasing maintenance needs due to aged infrastructure, coupled with flat funding means that MoJ is expecting a gradual deterioration in the condition and functionality of its courtrooms over the next year.
- Refer to Figure 2 for operating and capital expenditure.

Resilience

- ... and the ability to withstand shocks is varied across the sector...
- Corrections: Corrections' prison network is forecast to be operating close to capacity until approximately 2021, meaning the network is vulnerable to sudden events that could reduce capacity, such as earthquakes, fires, riots etc. Corrections Prison Capacity Programme includes additional capacity to rebuild resilience to cover these risks.
- Police: Police has an extensive business continuity and disaster recovery programme.
- MoJ: MoJ has carried out earthquake strengthening at several key locations. All business continuity plans are being refreshed in the first half of 2018 to ensure that critical services will continue should one or more sites be unavailable. There is an alternative to the Wellington Incident Management Centre in Auckland, with appropriate staff.

Adaptability

The sector is looking at future capacity needs, and ways of modernising service delivery are priorities.

- **Corrections:** In response to anticipated increases in the Prison population from population growth (refer to Figure 3), a Prison Capacity Programme is under way, which has added around 2,000 extra beds at an approximate capital cost of \$0.23 billion by the end of December 2017.
- **MoJ:** In October 2017, MoJ launched a five-year modernisation roadmap to ensure New Zealanders have access to better justice services. This will improve customer experience, reduce the potential for harm and improve productivity.
- **Police:** Through the Policing 2021 transformation programme, Police are modernising services to deliver a more efficient and customer-connected front end to policing, whilst ensuring services will address future capacity needs.



 Table 2: Corrections' key asset performance

 indicators show high levels of utilisation

Measure	Target
Prison sites	84.9% of prison sites had a condition rating of 3 or higher.
	97% of prison capacity was available.
	95% of this capacity was in use.
Community Corrections sites	100% for Community Correction sites had a condition rating of 3 or higher.
ICT assets	Systems availability = 99.4%.
	Systems in poor condition = 17%.
	Community Probation frontline staff using mobile technology = 65%.
Fleet	Average age of vehicles = 7.5 years.

Source: Department of Corrections

Operating costs have increased across the sector since 2013

Figure 2: Justice Sector operating and capital spending from 2009 - 2016



Source: The Treasury

Distribution

There are indications that the justice sector may deliver different outcomes for different groups.

- Differences in outcomes for Māori are particularly marked in relation to the prison population. Māori make up 15 percent of the New Zealand population but represent 50.3 percent of all men in prison and 58.3 percent of all women in prison. Māori are over-represented not just in prison, but at all stages of the criminal justice pipeline. For example, in 2015, Māori made up 42 percent of all people proceeded against by Police and 38 percent of all people prosecuted.
- Māori are also over represented as victims of crime. Thirty-three percent of Māori were victims of crime in 2013, compared with 24 percent of the general population. For some kinds of crime, in particular family violence, this over-representation as victims is even more marked.
- There are some signs of regional disparities in terms of justice outcomes. Levels of victimisation are higher in Auckland than in the rest of New Zealand, with 28 percent of Aucklanders victimised once or more in 2013 compared with 24 percent of the general population.
- There is limited data on whether geographical location affects offenders' experiences of the justice system. However, some evidence suggests that there may be differences in District Court sentencing outcomes in different locations, with courts in regions being on the whole more likely to impose prison sentences, and for longer, than courts in main centres.

The Justice Pipeline

The criminal justice system is often referred to as a 'pipeline'. Individuals can progress through different stages to different destinations. Prison is the end point of the pipeline but most people exit at earlier stages. This diagram shows numbers flowing through each part of the criminal justice pipeline in 2016. Seemingly isolated policy decisions can have a large impact on other parts of the pipeline, eg, an operational decision to respond to certain offences with either a pre-charge warning or a criminal charge can affect the numbers of people prosecuted, numbers flowing through the court system and numbers starting prison sentences.



Source: Ministry of Justice. Note that this chart shows 'flows', not 'stocks'. So, for example, it shows that 9,000 people started prison sentences in 2016, not that the prison population for 2016 was 9,000.

FOCUS AREAS



Figure 3: Likelihood of victimisation by ethnicity





The likelihood of victimisation is higher amongst young people

Figure 4: Likelihood of victimisation by age



Source (both): New Zealand Crime and Safety Survey 2014

- A forecast increase in the number of serious cases and an increasing prison population presents risks to resource allocation across the sector:
 - There will be a need to balance modernisation of court venues and property consolidation against increasing demand. There are a number of possible options, including: 1) consolidating the number of multi-purpose courthouses in main centres and 2) harnessing alternative facilities and technology to meet the needs of those outside of the main urban areas.
 - The increasing prison population creates operational risks for Corrections, such as matching capacity to demand, operating at high levels of utilisation and effectively delivering rehabilitation programmes. High utilisation also has the potential to impact the condition and sustainability of Corrections' sites.
- There is a risk of operational scope creep for policing services. Increasingly, the public expects Police to participate in a wider range of public safety and prevention activities and to respond to larger volumes of non-criminal calls for service.

- There is an opportunity to better leverage current and emergent technologies to help improve performance across the justice sector:
 - Modern policing is becoming less reliant on providing physical Police presence through Police stations. There may be opportunities to provide physical presence and communication with the public through a variety of methods, such as mobile Police stations and interactive technology, which would change the composition of Police assets and future capital expenditure. Police's Long-Term Investment Plan identifies further opportunities to enhance productivity and realise efficiencies, particularly in the intelligence area, through investment in ICT capability.
 - MoJ is investing in ICT capability, including audio-visual technology. Audio-visual links not only facilitate greater collaboration across the justice sector but also support MoJ's objectives of reducing case resolution time and reducing dependence on physical location.
- New prison capacity presents opportunities to use design to support cheaper and more effective operating models. Modern prison design focuses on prison estate layout to support employee and prisoner safety and rehabilitative qualities (such as the use of green and open spaces). Combined with the use of technology, effective prison design can allow for enhancements to staff-to-prisoner operating ratios.

Tertiary Education Institutions

Description and Purpose

The Crown has ownership interest in eight universities (Net assets: \$9.02 billion); 16 institutes of technology and polytechnics (ITPs) (\$2.12 billion); and three wānanga (\$0.31 billion). The Tertiary Education Institutions (TEIs) are autonomous Crown entities, with approximately half of the sector's revenue coming from government funding and the remainder coming largely from student fees and a mix of government and private funded research income. As autonomous Crown Entities, for all but exceptional circumstances (such as the Canterbury Earthquakes) TEIs make their own decisions regarding capital asset management and investment, with most TEI capital expenditure self-funded through a combination of balance sheet reserves, sale of assets and borrowing.

Note: TEIs are included in the financial accounts on an equity basis only, compared to line-by-line consolidation for most agencies. This means that gross assets and liabilities are not included, only the lesser net amount.

Balance sheet profile



Source: The Treasury

Effectiveness

TEIs play a key role in producing knowledge and skills for industry and ensuring people have the competencies that enhance social and economic outcomes.

- All, bar one, New Zealand university, is ranked in the top 350 (3.0 percent) of universities in the world, with the University of Auckland in the top 100 in the 2017 QS University rankings.
- Figure 1: Performance in the tertiary education system has improved since 2008, with an increase in course and qualification completion rates across sub-sectors.
- Research output has improved, with the proportion of world-indexed publications produced in New Zealand increasing from 0.40 percent in 2001-04 to 0.49 percent in 2011-15.
- Figure 2: Graduates also go on to earn substantially more depending on qualification levels.

Efficiency

TEIs are investing in capital programmes to upgrade outdated and inefficient capital assets.

- Space utilisation (m² per Equivalent Full-time Student) is around 14m², which is only slightly below space planning guidelines used by Australasian Universities of 15m².
- Return on net assets (RONA) is forecast to be 5.4 percent for 2017, increasing to 7.4 percent by 2021. Since 2013, RONA has decreased by 1.6 percent due to lower sector profitability.
- Figure 3: The value of property, plant and equipment per equivalent full-time student (EFTS) is expected to increase to \$58,789 in 2021, reflecting TEIs addressing deferred maintenance and capital expenditure programmes to replace existing assets. Capital spending peaked in 2017. This includes earthquake-related capital expenditure.

Sustainability

Sustainability will be an area of focus for TEIs, as demand patterns will be impacted by the first year fees-free package and changing labour market demands.

- Sustainability is likely to be challenging in the ITP subsector, with demand and profitability forecast to reduce.
- The proportion of Tertiary Education Commission (TEC) funding to TEI revenue across the sector was 46.0 percent, and has decreased since 2013 mainly due to increases in international revenue.
- Operating surpluses (including insurance receipts) were \$0.21 billion, remaining largely steady compared to 2013. This is expected to decrease over time due to tighter operating constraints.
- Figure 4: Debt levels are forecast to increase through to 2020, primarily to fund capital expenditure.



Course completion rates have increased slightly

Median annual earnings of domestic graduates increases as higher qualifications are gained

Figure 2: Median annual earnings of domestic graduates, one, two and five years after study





Source: Ministry of Education

Forward agenda: Significant milestones



Source: The Treasury

Resilience

Adequate planning and management should help mitigate such risks as natural disasters and financial difficulties.

- Reliance on international student revenue streams means that TEIs, particularly ITPs, are susceptible to events that reduce demand for New Zealand as a study location.
- Large PP&E asset bases mean that TEIs are susceptible to natural disasters and changes in safety regulations. Many TEIs are undertaking seismic strengthening programmes. The majority of capital expenditure will go towards replacements and refurbishments.

Adaptability

Adapting to online education and the international education market will be a significant goal for TEIs.

- TEIs are increasingly exploring online learning arrangements. New learning models such as massive open online courses, distance-based learning and the incorporation of digital technology means TEIs have a larger reach than traditional learning models.
- Flexible funding arrangements from 2016 have encouraged government and tertiary education providers to respond to changes in demand with greater flexibility.



The value of Property, Plant & Equipment per EFTS has increased by more than 25 percent since 2014







Forecast debt levels are expected to peak in 2020 before declining

Figure 4: Debt from 2012 - 2021



Distribution

Some populations and regions benefit disproportionately more or less from tertiary education.

- TEIs are an enabler of success and participation in society. International evidence demonstrates that tertiary education leads to higher incomes, reduced crime and poverty rates, greater participation in civic society and less reliance on welfare. However, some populations and regions benefit disproportionately more or less from tertiary education. Larger TEIs, particularly universities and larger polytechnics, are located in large urban centres, as they were institutions that were developed as towns grew into cities. As well as having a main campus, some TEIs have several specialist satellite campuses located away from the main campus for research and on-site teaching purposes.
- Refer to Figure 5 for a break down in EFTS over time by ethnic group.

Major Capital Works

There are several major capital works in the TEI sector, with all but one being undertaken by universities. Major capital works in the TEI sector total >\$100 million.

Examples of significant capital works programmes include:

- University of Auckland:
 - Construction of a brand-new, purpose-built engineering building for students. Opening in late 2019.
 - Construction of the largest catered school leaver hall in New Zealand, with 786 beds in two towers scheduled to open in 2020.
- Canterbury University:
 - Rutherford Regional Science and Innovation Centre, stage 1 opened in 2018, stage 2 due for completion in 2019.
- Lincoln University:
 - Lincoln University/AgResearch Joint Facility scheduled for completion in 2021.

- University of Otago:
 - School of Dentistry upgrade and extension completion expected in mid-2019.
- Victoria University of Wellington:
 - Te Toki a Rata/Gateway Building (Biological Sciences) almost completed.
- Unitec, in Auckland, is the only ITP with a major capital expenditure (capex) programme under way, that matches the major university projects:
 - Extensive campus redesign focused on developing a more compact and lively Mt. Albert campus.
 - The large majority of these works are driven by rebuilding or replacing older assets or modernising teaching spaces.

- High levels of capital investment present a financing risk. Over the short to medium term, TEIs are expected to make significant capital investment. Many TEIs forecast that to undertake planned capital expenditure they may require new debt facilities to maintain adequate levels of liquidity. This will require careful management. Some universities are receiving equity injections (eg, Lincoln and Canterbury universities) because of earthquake-related building programme costs exceeding individual university's funding capacity.
- Global marketplace. TEIs are now operating in a global marketplace. Graduates are increasingly seeking educational opportunities that have more global connections, while the market for international education is also a burgeoning one. As such, TEIs need to adapt their business strategies to tap into new markets and also develop their teaching practices to equip students for a more globally-connected environment.
- Online learning provides an opportunity for TEIs to diversify their revenue sources through further market penetration for distance learning. This has been identified as particular focus area in the latest Education New Zealand International Education Strategy.

- There is an opportunity to better match skills taught at tertiary institutes to the skills required by industry. There is a need to ensure the skill needs in the labour market are met. TEIs have the capacity and capability to provide quality education by equipping learners with the skills and knowledge of the 'future workplace'.
- There is an opportunity to use data to better match prospective students to institutions of study. From 2017, tertiary providers will be required to give the Ministry of Education access to graduate employment information. This information is intended to help students decide what and where to study. This will also give providers a better understanding of their own performance and will help the public understand how its spending on tertiary education is contributing to New Zealand's development.





SOCIAL

The Student Loan Scheme

Description and Purpose

The primary purpose of the Student Loan Scheme (SLS) is to provide a long-term, affordable loan scheme for students that will enhance the human capital of New Zealand as a whole. The scheme is administered by three government agencies:

- Ministry of Education policy advice and lead responsibility for scheme.
- Ministry of Social Development (Studylink) information, assessment and payment.
- IR responsible for loan management and collection.

From 1 January 2018 the Government has introduced a first year fees-free tertiary education initiative that will have an impact on the SLS. The rollout of this programme also provides an opportunity to reassess student support settings and the future of learning in the long term.

Balance sheet profile



Source: The Treasury, Ministry of Education Note: No forecast information available for 2021

Effectiveness

The SLS enables a wide range of people to access tertiary education, gaining knowledge and skills that enhance the economic and social wellbeing of New Zealand.

- The government covers approximately 80 percent of the cost of tertiary study through tuition subsidies.
- Figure 1: Over 175,000 students took up student loans in 2016, representing 70 percent of eligible students.
- At the end of 2017, there were 732,973 borrower accounts, with a median balance of \$21,467. The median account balance has increased since 2013 when the median balance was \$13,307 - largely driven by an increase in borrowing for tuition fees and higher living costs.

Efficiency

The subsidy cost of the SLS is being offset by decreasing costs of borrowing and improved repayment rates.

- Figure 2: The average cost of lending has remained largely stable over time, averaging between 40 to 45 cents of every dollar lent.
- In 2017 the number of borrowers with overdue payments decreased by 1.6 percent.
- The median repayment time for all borrowers is 8.3 years. Loan repayment times are faster for New Zealand-based borrowers, which is primarily driven by loan repayment collection through the tax system.
- Repayments by those who had previously defaulted increased by \$0.03 billion for the year ended December 2016 following the implementation of the overseas based borrower initiative.

Sustainability

The SLS is an ongoing and growing cost, which is dependent on administrative as well as wider economic factors.

- Figure 3: As at 30 June 2017, there were \$1.2 billion in repayments overdue. The large majority of this is owed by overseas-based borrowers.
- Figure 4: The carrying-to-nominal value ratio is expected to continue to decrease, but the collectability of loans is improving, as repayments from overseas based borrowers has increased from 38 percent in 2015/16 to 46 percent in 2016/17.
- Student loan uptake and participation at tertiary education is counter-cyclical to the general economy. That is, as the labour market is expanding, participation at tertiary study decreases. As such, the future of the SLS is largely influenced by labour market trends.

PERFORMANCE INDICATORS



The uptake rate of borrowing has been decreasing Figure 1: Loan uptake and impairment rate





The average cost of lending per dollar has remained relatively stable

Figure 2: Overall cost of lending from 2008 - 2017



Source: Ministry of Education

OVERVIEW

Forward agenda: Significant milestones



Resilience

The SLS is highly sensitive to a range of economic factors...

- The loan scheme is exposed to risk through fluctuating repayment times, which are influenced by a variety of factors, such as government policy, the strength of the labour market, the type of study undertaken and whether borrowers move overseas.
- The value and the cost of lending a dollar via the scheme is subject to a number of economic variables, such as interest rates. For instance, rising interest rates increase the subsidy to students. Therefore, the government is exposed to events that sharply change these variables, such as economic shocks.

Adaptability

...and will come under increasing financial pressure from policy change and as population growth continues.

- Changes to tertiary education policy, population growth and changes in the labour market are likely to impact significantly on the SLS.
- The introduction of the first year feesfree scheme is also likely to impact the SLS, however, the true impact is unlikely to be known until enrolment trends become apparent over the next few years. There will be a direct reduction in lending to first-time borrowers.



Overseas-based borrowers are more likely to have overdue repayments

Figure 3: Age of overdue repayments by location at 30 June 2017





Ratio of carrying-to-nominal value has been decreasing

Figure 4: The loan scheme's impairment and the ratio of the carrying value to nominal value from 2006 - 2017



Distribution

Launched in 1992, the SLS was established with the intent to make tertiary education more affordable for all.

- Student loans provide funding for tuition fees as well as a contribution towards course-related costs and living costs for full-time students. Over the years, more than 1.2 million people have taken out student loans to support their studies, with more than 530,000 people having fully paid off their loans.
- The SLS has become the primary method of financing tertiary study, with more than two thirds of eligible students under the scheme applying in the latest financial year.
- The scheme was developed to ensure all those that qualify for tertiary study have the means to finance their study. Alongside the SLS, which has to be repaid, there is also the Student Allowance Scheme, which is a payment based on the financial and personal circumstances of the student and their family. The living costs portion does not have to repaid, ensuring that those from low-income backgrounds, who are more likely to not attend higher education, are supported while studying.
- Loan Repayments

Most New Zealanders repay their student loans within eight to 10 years:

- As noted, the forecast median repayment time for borrowers who left study in 2015 is 8.3 years and half of borrowers who remain in New Zealand after finishing study in 2016 are expected to repay within 6.8 years.
- Half of those who left New Zealand for some time (including borrowers based overseas) are expected to repay within 14.4 years.
- The average amount borrowed in 2016 was \$9,053.

Increasingly, New Zealanders meet their student loan commitments, in New Zealand and overseas:

- Since 1992, IR has collected over \$24.7 billion in repayments. Loan repayments through PAYE in 2017 were 6.2 percent higher than in 2016.
- Since 2010, IR has focused on overseas-based borrower repayments and has collected an additional \$419 million in repayments, which were unlikely without targeted interventions
- Over 90 percent of the student loan default balance as at 30 June 2017 was owed by overseas-based borrowers.

Refer to Figures 5 and 6 for access rates of the scheme by gender and ethnicity.

The Overseas Based Borrowers Initiative (OBBI):

- In 2016, the Government passed the Taxation (Residential Land Withholding Tax, GST on Online Services, and Student Loans) Bill, which includes an information-sharing agreement with the Australian Taxation Office to provide IR with the contact details of borrowers living in Australia. The majority of overseas-based borrowers live in Australia and initiative has already seen a marked improvement in these borrowers making arrangements to restart payments.
- Other measures include higher repayment thresholds for overseas-based borrowers, a border arrest system for the most non-compliant overseas-based borrowers with high levels of default on their student loan repayments and put in place ongoing information-sharing arrangements between relevant government agencies.

- Projected growth in the nominal value of the student loan scheme over the next four years presents a sustainability risk. Managing the carrying value of this scheme remains an ongoing challenge, primarily due to the subsidised nature of the scheme.
- There are risks to loan repayment rates from difficulties in collection from overseas-based borrowers, and the disincentives that the interest-free policy creates for early repayment of outstanding balances. For overseas-based borrowers, who in the year to June 2017 made up more than three quarters of all borrowers with overdue payments (and more than 90 percent of the amount overdue), interest is added to the outstanding balance, which contributes to an increasing loan balance.
- There is an opportunity to reduce the cost of the loan scheme. The introduction of the first year fees-free initiative in 2018 provides an opportunity to reassess current student support settings.
- The changing nature of work. With the labour market changing rapidly with the advent of new technologies and market demands, there is also an opportunity to plan for the future needs of the labour market, as the tertiary education sector is integral to developing human capital stocks and skills profiles.

CASE STUDY

More females are accessing the scheme than males, however, rates of participation are declining for both genders

Figure 5: Domestic participation rate of the population by gender from 2014 - 2016



Māori and Pasifika students have the highest rates of participation in the scheme

Figure 6: Domestic participation rate of the population by ethnicity from 2014 - 2016





Accident Compensation Corporation (Investments)

Description and Purpose

Accident Compensation Corporation (ACC) holds an asset portfolio to ensure the adequate financial provision for scheme liabilities for injuries already incurred. ACC seeks to maximise average investment returns, while minimising any unexpected mismatch between investment income and changes in the Outstanding Claims Liability (OCL); the actuarial estimate of the future expenditure relating to injuries already sustained.

ACC's five accounts are funded by levies and Crown appropriations sized according to their respective liabilities, and assets are managed accordingly. Investments are reflective of each account's individual risk profile. Strong investment performance can provide a contribution to limit new revenue collection.

Note: This performance assessment focuses on the investment performance of ACC. Please also refer to the ACC operations report.

Balance sheet profile



Source: The Treasury, ACC Note: Forecast based on Treasury Long-term Fiscal Model

Effectiveness

ACC's returns have consistently outperformed its benchmarks and expectations, which has helped reduce levy rates.

- Over the very long term ACC has recorded notable performance, with ACC's reserves portfolio outperforming its composite benchmarks for 24 of the past 25 years (see Figure 1).
- Table 1: ACC's annualised cumulative return over the past five years was 9.4 percent per annum, 0.9 percent per annum above its benchmark over the same period. The primary drivers for this strong investment performance have been ACC's large allocation to fixed interest assets (which benefit from declining interest rates) and strong equity markets.
- Figure 2: Levy revenue and investment returns increase funds under management (FUM). Since 2013, FUM has increased by \$12.52 billion, primarily due to strong investment returns.

Efficiency

The management costs of ACC's New Zealand investments are much lower than the external management costs of offshore investments.

- ACC measures the efficiency of its investment management by expressing total investment management costs as a proportion of the total funds under management. For 2017 this was 0.14 percent, or \$48 million, against a target of 0.15 percent.
- Approximately two thirds of ACC's investment assets are in New Zealand bonds and equities, all or which are all internally managed. This is significantly cheaper than would be the case for externally managed, offshore investments.

Sustainability

There remains a significant risk that future investment income will not match long-term growth in claims liabilities.

- ACC's best estimate is that future investment returns will average about 5 percent per annum (about half the historical average). A sustained low interest rate environment has the potential to limit ACC's long-term investment returns.
- The very long-term nature of ACC's liabilities can mean that there is difficulty in matching the term of investments with the liability due to the limited availability of very long-term investment options.
- Figure 3: ACC's focus on matching assets to the duration and risk of its liabilities leads to a higher weighting of lower-risk assets, such as bond investments and a preference for longer duration inflation-adjusted instruments.



Long-term returns have been favourable.

Figure 1: Fund return versus benchmark from



Funds under management have grown since 2013.

Figure 2: Funds under management between 2011Q1 and 2017Q4



Source: The Treasury, ACC

OVERVIEW

Table 1: Financial highlights

Measure		2017	2016	2013	5-year average
Opening Funds Under Management (FUM)	\$ billion	34.6	31.4	20.4	27.5
Closing FUM	\$ billion	36.6	34.7	24.1	30.8
Return	%	5.8	10.4	9.7	9.4
Objective/Performance Expectation*	%	4.6	10.2	8.9	9.0
Passive Benchmark	%	4.3	9.7	8.4	8.5
Fund Risk (Volatility)**	%	6.1	3.4	3.7	3.8

Source: The Treasury, ACC

* Returns are greater than 0.3 percent (after costs) above the benchmark

**Annualised standard deviation of quarterly returns. Indicative of expected variability in any one year

Resilience

ACC's financial performance is highly sensitive to external economic factors.

- Figure 4: ACC's Outstanding Claims Liability (OCL) is particularly sensitive to changes in real interest rates. If interest rates decline without a corresponding decrease in the inflation outlook, this leads to an increase in the assessed value of the OCL and a decrease in long-term expectations for investment returns.
- To help mitigate this, ACC holds a large weighting in long-term fixed interest and index linked investments. However, because of the duration mismatch, this only provides a partial offset to this risk.
- Technology will change the financial cost of treatments, which, in turn, will impact the OCL balance and the required assets.

Adaptability

Inflation and changes to service offerings put pressure on claims costs.

- Each year there are more people entering the scheme than leaving, meaning the scheme is not yet mature. This growth will continue for decades and continue to impact the size of the OCL.
- ACC's best estimate is that it will need to grow its reserves portfolios by about 4 percent per annum to keep pace with growth in the OCL, due to factors such as inflation.
- As a long-term investor ACC does not try to project short-term market swings and instead adopts a flexible risk profile, only taking more risk when the reward-for-risk is favourable.



The portfolio's composition has remained relatively stable since 2013.

Figure 3: Asset allocation from 2011Q1 and 2017Q4





The OCL is inversely related to interest rates.

Figure 4: Discount rate vs OCL and investment fund from 2012Q4 - 2017Q4



Source: The Treasury, ACC

Direct Investments

Managing the alignment of the ACC asset portfolio to the OCL is one of the major challenges that ACC faces. Matching assets with long-term liabilities is a particular challenge, given the relatively short maturity profile of New Zealand Government Bonds, which are ACC's largest asset class. Direct investments in selected assets can offer extra return per unit of risk and can also provide longer-term inflation protection. ACC's direct investments take the form of Property and Infrastructure or Private Equity, with the following key characteristics:

	Private equity	Property and infrastructure
Strategic objective	Broadens investable universe, higher-risk adjusted returns	Delivering high-quality lower-risk cash flows
Investment size	Minimum investment \$30 million	Minimum investment \$40 million, although lower minimums may be acceptable for lower-risk assets
Share of ownership	Generally owns <50% and seeks to appoint directors	Generally seeks to own 100% of property assets, <50% of infrastructure assets

There are four main economic and financial scenarios that could affect ACC's financial position and, consequently levy rates, and government appropriations. These are:

Declines in long-term real interest rates

- Declines in long-term real interest rates have the effect of raising the value of both the OCL and investment portfolio. However, as there is a duration mismatch, meaning an imperfect hedge, the OCL is more sensitive than assets to interest rates.
- The long-term projected return from the investment portfolio is estimated to be around 5.0 percent. However, if bond yields remain at or fall below current levels, it is likely these projected returns will fall.

Rises in future inflation

- The majority of long-term claims are prone to inflationary growth. However, a significant proportion of the investment assets are not protected from inflation.
- As the scheme continues to mature, more serious-injury claims are being added and these extend the average duration of the claim obligations. This tends to increase the exposure to the risk of a deterioration in the inflation outlook.

Adverse movements in share markets

 ACC invests a portion of its portfolio in shares, even though their returns tend to have little correlation with the valuation of the liabilities. This lack of liability matching is accepted because shares are expected to generate higher returns than bonds in the long term. If equity markets decline sharply this places upward pressure on levy rates and government appropriations.

Credit and other risks

- Credit risk refers to the risk that a counterparty will default on its contractual obligations, resulting in financial loss to ACC.
- Other risks include one-off events, such as a natural disaster in New Zealand, insolvency by ACC's financial custodian, or an Australasian banking crisis.

Selected Investment Case Studies

- Puhoi to Warkworth PPP NZ\$710 million Public-Private Partnership project to extend the four-lane Northern Motorway from Puhoi to Warkworth. 5-year construction period with 25year concession.
- Warehouse Distribution Centre Sale and lease back arrangement in relation to the Warehouse's North Island Distribution Centre in Auckland.
- The private equity portfolio has recently realised direct investments in Scales Corporation, Brew Group (formerly Bell Tea) and Icebreaker, allowing for further reinvestment in the private equity portfolio

Direct investments have increased as a proportion of funds under management.

Figure 5: Direct investment portfolio asset allocation from 2005 - 2017



Source: The Treasury, ACC

ACC's reserves portfolio has returned compound returns of 10 percent per annum for the past 25 years, this is higher than the returns that it could have achieved by passively investing in any significant investment market.

- ACC's strong investment performance in the past two decades may be partly explained by the fact that ACC is a long-term investor. It can choose to invest in a wider range of investments than a short-term investor might consider, including riskier and more illiquid investments.
- As a long-term investor ACC is able to adopt a flexible risk profile, adjusting the risk it takes according to the reward-forrisk available in investment markets from year to year. This sets it apart from many other large funds, that commonly fix their risk profiles.
- ACC has been able to retain a stable and experienced funds management team with very low staff turnover



Earthquake Commission

Description and Purpose

The Earthquake Commission (EQC) is responsible for administering New Zealand's natural disaster scheme under the Earthquake Commission Act 1993 (the Act). This involves providing insurance against natural disaster damage, collecting premiums payable for the insurance provided, administering the Natural Disaster Fund (NDF) and protecting its value, obtaining reinsurance and facilitating research and education on matters relevant to natural disaster damage. The NDF holds and invests all funds paid to EQC and is used to meet all claims liabilities and cover the costs of running the scheme, including the payment of EQC's reinsurance premium. The government guarantees that EQC's liabilities will be met if its assets are not sufficient to meet its liabilities. The outstanding claims liability (OCL) recognised by EQC is based on expected future claim payments.

Balance sheet profile



Source: The Treasury, Earthquake Commission

Effectiveness

EQC has settled 99 percent of claims from Canterbury earthquakes and has assessed 60 percent of claims from Kaikōura earthquakes...

- Following the Canterbury Earthquake Sequence (CES), EQC rapidly scaled up its operations to assess and resolve an unprecedented flow of insurance claims.
- This included undertaking repairs through the Canterbury Home Repair Programme (CHRP) established in 2010.
- EQC has now settled 99 percent of CES claims, paying out \$10 billion (from both the NDF and reinsurance) by 30 June 2017. However, remedial repair issues (from the CHRP) and final insurer liabilities are still to be resolved due to a high degree of complexity.
- The Kaikōura earthquakes have generated approximately 40,000 claims, of which approximately 60 percent have been assessed.
- Figure 1: The closing balance in 2017 for the OCL was \$1.6 billion, with Canterbury and Kaikōura claims expected to be largely resolved by the end of 2018.

Efficiency

...which has been in part supported by a conservatively managed NDF asset portfolio.

- EQC receives three primary revenue streams, which are invested through the NDF and used to meet claims liabilities: EQC levies, reinsurance receipts and investment returns.
- Table 1: EQC's five-year average investment return of 5.1 percent reflects the conservative management of the NDF post CES.
- Figure 2: Prior to the CES, EQC held between 20.0 percent and 30.0 percent of its portfolio in overseas equities (maximum of 35.0 percent) for growth purposes. Post CES the NDF assets needed to be managed against a significant claims liability. To limit short-term volatility of returns while drawdowns occurred, the portfolio's composition was altered so that by the end of 2012 it consisted solely of fixed income and cash assets.

Sustainability

However, insurance payments will mean the NDF will be largely depleted in 2018...

- Figure 3: NDF's 2017 closing balance was less than \$1 billion. As the balance of insurance claims are paid for the CES and Kaikōura earthquakes, the NDF may be depleted by December 2018, requiring a call on the government guarantee.
- Whilst the government guarantee will ensure that the costs of any future EQC claims can be met, it is important that EQC levies are set to ensure sustainability of the EQC scheme over the long term, including managing the potential government liability.
- To gradually rebuild EQC's financial resilience, the EQC levy was increased in November 2017 to 20c (up from 15c) per \$100 of cover.

The OCL peaked in 2011 and has since declined

Figure 1: EQC outstanding claims liability profile



The Portfolio's asset allocation has changed to consist of predictable and highly liquid assets Figure 2: Asset allocation





<u>overview</u>

Source: Earthquake Commission

Table 1: Financial highlights

Measure		2017	2016	2013	5-year average
Opening Funds Under Management (FUM)	\$ billion	1.3	1.4	3.1	1.9
Closing FUM	\$ billion	0.8	1.4	2.7	1.7
Return	%	1.4	5.5	1.4	5.1
Outstanding Claims Liability	\$ billion	1.6	2.3	2.8	3.6

Source: The Treasury, Earthquake Commission

Note: EQC's performance objective is to achieve an average rate of return of at least the rate of change in the ANZ 90-day Bank Bill Index for each financial year less 25 basis points.

Resilience

...which presents a risk should a significant event happen in the near future.

- Barring any large-scale natural disasters, the NDF is now projected to reach its current reinsurance deductible of \$1.75 billion within 10 years.
- Another event of the scale of the CES • or Kaikoura earthquake within that period may lead to a further call on the government guarantee.
- Figure 5 (see overleaf): EQC has increased its reinsurance cover, now \$4.8 billion (up from \$2.5 billion pre CES). This acts to reduce the risk to the government's balance sheet in the future and also supports the maintenance of an active reinsurance market in New Zealand.
- EQC is also actively involved in natural disaster risk mitigation activities through its research and education functions.

Adaptability

Opportunities exist in the modernisation of the EQC Act and risk transfer arrangements.

- There is an opportunity to build a stronger, more resilient organisation through the modernisation of the EQC Act and enhanced risk management procedures. The ongoing Act review seeks to more clearly articulate EQC's role in disaster recovery and to facilitate the optimisation of risk transfer arrangements between the government and EQC.
- Figure 4: The response to the Kaikoura event is a pilot where private insurers are acting as EQC's agents in assessing and settling claims. Results from the pilot will help inform EQC's future operating model by providing lessons around financial management and customer experience.



The NDF's balance has been largely depleted



The majority of new claims received in 2016 - 2017 are being managed by insurers

Figure 4: New claims received



Kaikōura

Following the CES of 2010 and 2011, EQC rapidly scaled up its operations to respond to and manage an unprecedented flow of claims under the EQC Scheme.

Taking the lessons that it had learned from its experience in Canterbury, EQC's response to the Kaikōura event of November 2016 centred on a new approach being piloted, with insurers acting as EQC agents. This meant making the best use of existing assessment, loss adjusting, engineering, claims management and other specialist resources. EQC has concentrated on simplifying the assessment and settlement process for those affected, starting with the areas that had the highest concentrations of the worst damage. The scale and volume of claims arising from the Kaikōura earthquake, which are less than 10 percent of the CES, have made Kaikōura an ideal event to pilot a new approach to event response and claims management.

Reinsurance Programme

The reinsurance programme is a core component of EQC's overall risk management strategy.

- The reinsurance programme managed by EQC has played a significant role in meeting the Canterbury claims liabilities:
 - As at 30 June 2017 about 90 percent of reinsurance recoveries totalling \$3.88 billion have been received and subsequently paid out to Canterbury claimants and a further \$184 million is expected to be recovered.
 - For the Kaikoura earthquake, EQC is not expected to make any reinsurance claims, as the cost of the event is expected to be less than the reinsurance deductible.
- The reinsurance programme has been successfully expanded post Canterbury:
 - Since 2010, EQC has continued to be able to successfully place its reinsurance programme and has been able to expand the cover provided by the programme to around \$4.8 billion, up from \$2.5 billion pre-Canterbury.
 - The programme provides for one fully paid reinstatement of cover, effectively allowing EQC to draw down on reinsurance a second time, should a second separate large-scale natural disaster occur in the same year.

A Memorandum of Understanding (MoU) was signed between EQC and eight insurers in early December 2016 to work together in good faith to more closely streamline the approach to manage customer claims. Time was then invested to align processes and train insurers on how the EQC Act is applied. Claims handling began in lower Marlborough, Hurunui and Kaikōura.

Under the MoU insurers agreed to act as EQC agents to receive, assess and settle home and contents claims for earthquake damage. One of the goals of this approach was to reduce the double handling of claims (by insurers and EQC) to make it easier for customers and to speed up settlement. The solution also needed to allow the worst affected customers to be dealt with first and to support the agreed community-led response.

- The continued renewal of EQC's reinsurance programme provides a clear signal of the confidence placed by the global reinsurance market in its understanding of New Zealand natural hazard risk.
- Investment by EQC in high-quality applied research and modelling, to better understand the impact of New Zealand's natural hazards, is a fundamental underpinning of its engagement with global reinsurance markets.
- EQC restructured its reinsurance programme in 2017 to anticipate temporal clustering of events:
 - One of the features of the 2017 reinsurance programme was the inclusion of a new product that provides a three-year, \$500 million 'aggregate' layer of cover with a \$1.00 billion deductible.
 - This new cover is designed to help limit EQC losses below its current excess of \$1.75 billion.
 - This product complements EQC's more traditional 'excess of loss' reinsurance programme that was successfully renewed. It was also considered a prudent policy, given New Zealand's history of seismic clustering.

CASE STUDY

As at 1 December 2017, 96 percent of building assessments and 74 percent of building settlements were complete, all within ten months of the lodgment deadline of 14 February 2017. The MoU between EQC and insurers has helped to remove duplication of effort and to make the most of resources across the industry. Many customers, particularly those with over-cap claims and additional cover under their private insurance policies, have as a result experienced a much simpler assessment and settlement process, with one party leading all the customer interaction.

With private insurers acting as EQC's agents, this left EQC to concentrate mostly on land-only claims and those claims relating to properties that already had open claims from a previous event. Together, this has totalled around 5,400 residential claims. As at 1 December 2017, 96 percent of EQC-managed claims had been resolved.

The response to Kaikōura is a pilot and as such will be evaluated by the Board of EQC. Different natural hazard events may require different operational models to ensure that EQC's customer needs are met in the best possible manner. Evaluation of the Kaikōura pilot is therefore critical to ensure EQC learns the lessons from this event and is able to build these into its planning for future event responses. This will include a careful evaluation of the financial implications of this model, including the cost to service this model for insurers and EQC, transparency of financial management arrangements, including settlements and claims handling costs, the timely flow of data and information between insurers and EQC, as well as regular customer satisfaction surveys to ensure the customer experience is also considered.

By maintaining a reinsurance programme of this nature and magnitude, EQC reduces the risk to the government balance sheet in the future, whilst also ensuring that the reinsurance market remains a key part of the insurance landscape in New Zealand. The reinsurance programme is just one element of EQC's risk financing strategy, which includes the future investment strategy for the NDF. The government continues to engage with EQC to determine the most appropriate and costeffective (over the long term) settings for risk transfer between the government and EQC and the management of risk through the scheme going forwards. An agreed risk financing strategy will be put in place that takes advantage of EQC's strong links and reputation within the international reinsurance communities. There are also potential opportunities for the government to leverage this for broader government balance sheet risk management.

EQC's reinsurance programme has been expanded post CES

Figure 5: Reinsurance programme before and after the Canterbury Earthquake



Government Superannuation Fund Authority

Description and Purpose

The Government Superannuation Fund (GSF) was established in 1948 to provide a way for State sector employees to save for their retirement. The Government Superannuation Fund Authority (GSFA or the Authority) is an autonomous Crown entity established in 2001 that manages the Fund and administers GSF member contributions. The government guarantees the GSF's pension obligations and meets the major share of them. The assets do not belong to the government but serve to reduce the size of the government's liability under the scheme. The scheme was closed to new members from 1 July 1992 in recognition of the risks a largely unfunded defined-benefit scheme posed to the government's finances. The Board of the GSFA and the Trustees of National Provident Fund (NPF) have formed a joint venture company, Annuitas Management Limited, to provide management and secretarial support for the scheme.

Balance sheet profile



Source: The Treasury

Note: Forecast based on GSFA Statement of Intent

Effectiveness

GSF is a closed, defined-benefit fund with a long but limited life.

- GSFA aims to contribute to an improvement in the Government's overall economic position by endeavouring to minimise the government's contributions to the fund.
- GSF has paid out \$14.32 billion to members since June 2001.
- GSF currently has 8,356 contributors (down from 11,464 in 2013) and 45,279 annuitants (down from 46,568 in 2013).
- Since 1996 the number of annuitants has exceeded the number of contributors. In 2017 annuitants represented 84 percent of total members.

Efficiency

GSF has been generating returns above its benchmarks and expectations...

- Table 1: Return and risk is measured relative to New Zealand Government Bonds and a Reference Portfolio (being a notional portfolio invested passively in global equities and bonds).
- GSF's return has exceeded the performance of its Reference Portfolio and New Zealand Government Bonds over the last five years.
- Over a 10-year timeframe return performance was impacted by poor global equity market returns in the 2008 global financial crisis but have since been recouped (see Figure 1).
- Since 2013 the value of GSF's assets have increased by \$0.89 billion.

Sustainability

...however, assets are insufficient to meet entitlements and require topping up from the government...

- Figure 2: GSF assets are insufficient to meet entitlements, primarily because successive governments did not make sufficient employer contributions to GSF when it was still open.
- Despite increased investment in growth assets (see Figure 3), to derive a higher return and partially reduce the level of GSF's unfunded liability, the unfunded shortfall (\$8.6 billion for 2017) is unlikely to improve in the future. The actual unfunded shortfall in any year is dependent on discount rate movements and the investment performance of GSF's assets.
- For 2017 the Government contributed \$0.69 billion to GSF to meet its share of entitlements.



2017Q1

The government meets the unfunded liability with a top up

Figure 2: Projected benefits paid and government contributions from 2017 - 2022



Source: The Treasury, GSFA

PERFORMANCE DIMENSIONS

Source: The Treasury, GSFA

Table 1: Financial highlights

Measure		2017	2016	2013	5-year average
Opening Funds Under Management (FUM)	\$ billion	3.99	4.02	3.02	3.64
Closing FUM	\$ billion	4.27	3.99	3.38	3.85
Return	%	13.9	2.1	17.4	11.5
Objective/Performance Expectation*	%	0.2	8.0	0.0	3.7
Passive Benchmark **	%	12.5	2.3	15.3	11.4
Fund Risk (Volatility)***	%	2.0	6.3	2.7	4.9

Source: The Treasury

*NZ Government Stock. The Authority aims to maximise the fund's excess return relative to this benchmark

with a one in four chance of underperforming it by a cumulative 10 percent measured over rolling ten-year periods. **The Reference Portfolio.

*** Annualised standard deviation of quarterly returns. Indicative of expected variability in any one year.

Resilience

... therefore, the government bears significant risk as a result of fund performance.

- There is the risk the government will be required to make higher contributions if GSF's liabilities increase (eq, changes in life expectancy and inflation rates can impact valuation) or if GSF returns are not as high as expected.
- Ninety percent of GSF's assets are invested internationally to avoid concentration risk in New Zealand assets. Hedging limits the foreign currency exposure to 20 percent, on average.
- The skew towards high-growth assets exposes GSF to greater volatility of returns. As a long-term investor, GSF has a greater-than-average ability to withstand this volatility.

Adaptability

Adaptability of investment management will become important as the fund's residual liabilities lessen.

- Over the long term, GSF's obligations are expected to decline (refer to Figure 4).
- At some point in the future, • consideration will be required on the optimal structure for managing a reducing pool of assets.



2058

2068

Dynamic Asset Allocation

The GSFA has a dynamic asset allocation (DAA) programme that applies to the major asset classes and which is based on medium-to-long term reversion to fair value. This programme allows variation of the Target Portfolio's asset allocation in a variety of asset classes through strategic tilting. Asset class weights are varied from normal weights when valuations of the relevant asset classes are considered extreme. DAA is essentially a strategy to exploit shifting market cycles by taking active positions at different points in time.

In 2016 the Authority conducted a review of the business case for DAA in the context of the GSF, its objectives and the investment beliefs of the Authority. The aim was to consider whether the DAA programme was fit-for-purpose or should be terminated or modified to better achieve the fund's objectives.

The review concluded that the DAA programme was fitfor-purpose and, based on the beliefs of the Authority, the programme implemented is consistent in terms of objectives and philosophy (ie, long term, contrarian, operating at extremes and maintaining a high hurdle for action). However, potential enhancements at each stage of the DAA decision cycle were identified. These included:

- bringing valuation indicators in-house
- developing a DAA correlation matrix to better inform risk assessment and decision-making
- exploring using a derivative overlay manager for implementation of non-currency tilts.

The GSFA Board approved the recommendations made in the review.

The GSFA takes a long-term view when developing its investment strategy because GSF is expected to pay entitlements for the next 50 years. It has adopted an investment objective and strategy that involves taking additional investment risk to improve the government's position compared to investing solely in New Zealand Government Stock.

The GSFA has defined its investment objective as "maximising GSF's excess return relative to NZ Government Stock (before New Zealand tax) with a one in four chance of underperforming NZ Government Stock by a cumulative 10 percent measured over rolling 10-year periods". Under current assumptions this level of risk is consistent with an expected excess return of 2.5 percent per annum over the next 10 years.

In meeting the investment performance objective, there are a number of variables the GSFA must consider:

- Increasing life expectancy. GSF's liabilities relate almost wholly to current and future pensioners. A future breakthrough in medical diagnosis or treatment, which leads to a significant increase in life expectancy, could increase GSF's liabilities and require increased employer and government contributions.
- Investment risk. A key risk is that investment returns earned on GSF's assets will not be as high as expected over the long term. If this risk eventuates, the government's share of entitlements might need to increase. There are limited opportunities to increase GSF's asset base, as withdrawals have begun and GSF's current asset allocation is already skewed towards growth assets.

- Inflation. The Government Actuary prepares a report on the actuarial valuation of the fund every year. The actuarial valuation calculates the net present value of the fund's commitments to pay future entitlements. Pension liabilities are linked to the Consumer Price Index and increases above those assumed in the actuarial valuation could lead to an increase in government contributions. Similarly, GSF's liabilities for active members are linked to salary and therefore a higher than expected rate of inflation could have a negative impact on the required contribution amounts.
- Other risks. The GSFA faces a variety of operational, legislative and other risks, which may in some circumstances lead to cost increases. There are also benefit options able to be elected by retiring contributing members and current pensioners that can increase benefit payments.
- Changing asset maturity profile. GSF's assets are expected to decline over time. Though not an immediate issue, in time greater consideration will need to be given to asset maturity and investment in illiquid assets.

CASE STUDY


New Zealand Debt Management Office

Description and Purpose

The New Zealand Debt Management Office (NZDMO) is a unit within the Treasury that oversees core Crown borrowing requirements, aiming to minimise borrowing costs over the long term with due consideration to risk.

It is responsible for managing core Crown funding risk and liquidity position. To support liquidity management the NZDMO holds portfolios of liquid assets.

The NZDMO provides financial market risk intermediation and advice to Crown entities, manages the Crown's core banking relationships, administers loans to Crown entities in accordance with government policy and manages the government's obligations to the International Monetary Fund.

The NZDMO manages financial market and operational risks associated with all these activities.

Balance sheet profile



Source: The Treasury F= forecast

Effectiveness

The NZDMO provides significant funding to government activities for enhancing wellbeing.

- The NZDMO has executed annual funding programmes of \$8 billion (see Figure 2), taking the total value of New Zealand Government Bonds (NZGBs) on issue, to \$76.6 billion. These funds support public service delivery.
- Management of lending to government agencies supports a wide range of economic and social activities. These include: the Reserve Bank of New Zealand (\$1.4 billion), Housing New Zealand Corporation (\$1.96 billion), KiwiRail (\$0.18 billion) and New Zealand Transport Agency (\$0.41 billion).

Efficiency

Borrowing is conducted in a cost-effective manner with due consideration for risk.

The NZDMO's funding strategy aims to minimise the government's borrowing costs over the long term. This has been achieved by:

- balancing a debt portfolio structure appropriate for the government balance sheet requirements with investor demand
- reshaping the debt portfolio and extending the average duration (see Figure 3)
- introducing long-dated Inflation Indexed bonds to reduce reliance on short-term debt instruments.

Sustainability

Debt issuance is strategic rather than tactical.

Sustainable government funding is delivered through:

- building and maintaining depth, diversity and confidence of the investor base to ensure ongoing market access to funding.
- ensuring the NZDMO's actions support secondary-market liquidity and well functioning New Zealand capital markets to minimise borrowing costs through time.



Recent annual funding programmes of \$8 billion

Figure 2: Annual outstanding total bonds outstanding (NZ\$ billions) from 1995 - 2017





Average maturity of NZGB portfoilio has increased

Figure 3: Average year to maturity (12-month moving average) from 2012 - 2017



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Source: The Treasury

The NZDMO represents a significant portion of the government balance sheet

Figure 1: Materiality of the NZDMO in comparison to other government investments



Source: The Treasury

Resilience

The debt management portfolio and operations are resilient to shocks that require sudden funding increases...

- Funding resilience is supported by the diversity of issued securities.
- New Zealand's strong credit rating and the NZDMO's reputation for transparency, even-handedness and consistency.
- The commitment by consecutive governments to maintain minimum levels of NZGBs and the cultivation of a diverse investor base (see Figure 4) also aids resilience.
- Recent investment replacing core technology platforms has enhanced business continuity resilience and significantly reduced operational risks.

Adaptability

NZDMO is well positioned to take advantage of opportunities and minimise risks.

- The NZDMO has reinvigorated its Inflation-indexed Bonds (IIB) issuance programme as well as adopted a syndication process for new bonds.
- In 2016 the NZDMO successfully implemented a large-scale technology upgrade. In future it may need to adapt to maintain a larger asset portfolio as a result of application of the Government's policy of maintaining a minimum level of NZGBs at 20 percent of GDP (see Figure 5).
- The NZDMO is alert to future developments in capital markets, regulation and technology.





NZGBs on issue will be maintained at not less than 20 percent of GDP

Figure 5: Bond programme (NZ\$ billion) and NZGBs (percentage of GDP) from 1995 - 2022



Source: The Treasury

Reshaping the debt portfolio

Over the last few years the debt portfolio has been substantially restructured, extending its average maturity and largely substituting Inflation Indexed Bonds (IIBs) for Treasury Bills (TBs). This has been driven by a traditional asset liability management approach to the management of the overall New Zealand government balance sheet. The average maturity of the debt portfolio was extended by approximately a year over a five-year period. From a whole-of-government asset/liability management perspective, extending the debt portfolio in this way to some extent offsets the interest rate sensitivity of the New Zealand government's balance sheet that arises from the government's material infrastructure and property holdings. The switch out of TBs into IIBs has been a core feature of the NZDMO funding strategy. From a total government balance sheet perspective the IIBs assist in reducing fiscal variability – with the cost of IIB debt providing a general offset for variability of inflation sensitive government income through economic cycles. A further significant benefit of the IIB strategy has been the diversification of the investor base.

There are a range of factors that underpin the strength of NZDMO operations. These include:

Institutional settings

 The institutional framework and Public Finance Act 2004 enshrine prudent fiscal management in legislation.

Economic performance

 New Zealand's solid economic performance, combined with the current relatively low level of net-debt-to-GDP has contributed a strong sovereign credit rating.

NZDMO structure and principles

- NZDMO follows best practice organisational form for entities managing significant financial risks by segregating front, middle and back-office functions. This structure comprises clearly defined responsibilities and accountabilities, procedural controls and clear segregation of duties.
- Principles of transparency, even-handedness and consistency underpin all undertakings and this further underpins the confidence of investors and intermediary participants in the NZGB market.
- A structured approach to investor relations activities ensures deep relationships with investors that are diverse by type and product preference.

Product diversification

- The range of securities offered (nominal and IIBs and Treasury Bills with maturities from 2019 to 2040) has helped to diversity the investor base, increasing resilience of access to funding.
- The NZDMO has focused on gaining greater depth of understanding of the existing investor base to allow more targeted investor-relations activities with a view of supporting existing investors and building greater diversification over time.
- Continue to assess new debt products in the market for applicability to meet the Government's funding needs.

Risk Management Framework

• Establishment of an Auckland office to further enhance Business Continuity Planning (BCP) capability and reduce risks of a regional crisis event.

CASE STUDY



Figure 6: The changing composition of the NZDMO debt portfolio



A number of scenarios have the potential to affect the NZDMO's ability to manage the core government funding risk and liquidity position. These include:

Global and market volatility

 Global financial markets also present risks to NZDMO's ability to cost-effectively fund the government. A spike in volatility due to an adverse global economic or political event could reduce investor's appetite for NZGBs and impact the ability to tender as required.

Technology

- Although significant technology investment has reduced business continuity and operational risks, the NZDMO remains exposed to a regional natural event, given the concentration of staff in Wellington.
- Innovations could change the platforms through which the NZDMO accesses investors.

Regulatory

 The impact of increasing regulation on intermediaries and banks could impact their ability and willingness to support the NZGB market.

Reputation

 Investor confidence in the New Zealand economy and the Government's commitment to prudent fiscal management is paramount. Any event that undermines confidence could increase the risk premium applied to government funding.

Specialist skills

 Effective management of the NZDMO requires staff have a combination of financial market skills (such as portfolio management and risk analysis) and public policy skills. Any constraint in accessing such skills could limit the NZDMO's effectiveness.

New Zealand Superannuation Fund

Description and Purpose

New Zealand Superannuation Fund (the fund or NZSF) prefunds part of the future cost of New Zealand Superannuation (NZS) by investing government contributions and generating returns on that investment over the long term. The fund is managed and administered by the Guardians of New Zealand Superannuation (the Guardians), a Crown entity charged with investing the fund on a prudent, commercial basis and in a manner consistent with best-practice portfolio management. The Guardians must also invest the fund to maximise return without undue risk, and avoid prejudicing New Zealand's reputation. The fund began investing in 2003 and is diversified across regions and asset classes.

Balance sheet profile



Source: NZSF, The Treasury Note: 2021 figures based on v37 of the NZSF model

Note: The chart includes the restart of contributions from 2017 onwards

Effectiveness

Funds under management has increased significantly since 2013, building the capacity to contribute to future NZS costs...

- Table 1: FUM have increased by \$11.53 billion or 50.2 percent since 2013. As government contributions were suspended from 2009 to the end of 2017, growth is attributable to the accumulated post-tax investment returns, net of costs.
- In 2009 the then Minister of Finance directed the Guardians to identify and consider opportunities to increase the allocation of New Zealand assets in the fund. The fund's New Zealand assets have grown in value from \$3.4 billion (2013) to \$4.9 billion (2017) but have reduced as a proportion of the fund from 21.3 percent to 14.6 percent over the same period.

Efficiency

...with the fund consistently outperforming its Reference Portfolio...

- On an annualised basis, the fund has returned 10.2 percent since its inception in September 2003. This is higher than other Crown Financial Institutions (CFIs) and reflects a greater exposure to higher risk-and-return assets in its benchmark (see Figure 1).
- Figure 2: The fund has outperformed its board-selected benchmark (the Reference Portfolio, which was introduced in 2010). This outperformance is attributed to efficient implementation and active investment strategies, in particular, the strategic tilting, timber, active collateral and infrastructure strategies.

Sustainability

...using its inherent advantages, such as a long-term investment horizon,...

- The NZSF has no specific liability to manage against and so it can focus on long-term returns. The fund takes advantage of its endowments, including its long-term investment horizon, known cash flow and limited need for liquidity in its investment approach. The fund's endowments allow for an asset allocation weighted towards growth and give the ability to ride out short-term market movements. The fund is not expected to require near-term liquidity for drawdowns as withdrawals are not projected to occur in a sustained way until the 2050s, (see Figure 3).
- Figure 4: The fund is projected to peak in size as a percent of GDP at about 40 percent in the 2070s.
- The Government has recommenced contributions to the fund.



The NZSF has outperformed its Reference Portfolio and fund expectations Figure 2: Fund return versus benchmark from 2003 - 2017



OVERVIEW

Measure		2017	2016	2013	5-year average
Opening Funds Under Management (FUM)	\$ billion	29.53	29.52	18.97	25.49
Closing FUM	\$ billion	34.50	29.53	22.97	28.76
Return	%	20.7	1.9	25.8	16.5
Objective/Performance Expectation*	%	4.5	5.2	4.9	5.1
Passive Benchmark**	%	16.3	1.4	18.5	13.2
Fund Risk (Volatility)***	%	1.6	8.5	3.6	5.6

Source: The Treasury

* New Zealand Treasury Bill return +2.7 percent p.a. (+2.5 percent prior to 1 July 2015)

**The Reference Portfolio

***Annualised standard deviation of quarterly returns. Indicative of expected variability in any one year

Resilience

...which expose it to sharp market falls that could be a source of performance risk as markets mean-revert.

- The fund has a higher proportion of growth assets than other CFIs (as represented by the Reference Portfolio's 80:20 growth/fixed-income split). Growth assets can be volatile, particularly in the short term. For example, during the GFC the fund posted a loss of 22.1 percent in 2009. The fund's endowments give it the ability to ride out short-term market movements.
- The fund is positioned as a contrarian investor and has a systematic approach to increasing allocation to selected asset classes judged to be undervalued. This means that, as markets recover from a GFC-type downturn, the fund should outperform as it will be overweight in those oversold asset classes.

Adaptability

The Guardians has made improvements in how the government's capital is invested.

- Since 2013 the fund has internalised some of its investment mandates, reducing external manager fees (relative to the overall size of the fund) and increasing internal capability by employing some additional staff.
- The Guardians recognised climate change as an undue investment risk and took steps to reduce the fund's exposure to it.
- The Guardians commenced implementation of a new risk platform to replace existing models across a range of investment risk areas.





The Fund peaks as a percentage of GDP in the 2070s

Figure 4: Fund size and NZS expenditure from 2018 - 2100



Source: The Treasury

Climate Change Investment Strategy

In October 2016 the Guardians announced a climate change investment strategy for the fund. The strategy is designed to mitigate what the Guardians view as the significant investment risks presented by climate change.

The foundation of the strategy required significant research on:

- where carbon emissions and carbon reserves were concentrated in the fund
- · how best to reduce exposure and carbon risk in the fund
- what low-carbon and climate-resilient investments meet risk-adjusted return expectations.

The Guardians believes that government, technology and society are driving energy transformation and, as such, the global economy will transition away from fossil fuels. Some fossil fuel-related assets may become 'stranded', rendered uneconomic by proper pricing of the carbon pollution externality, made obsolete by new technologies or face dwindling markets as consumers alter buying decisions.

The fund has a number of natural advantages inherent in its purpose and framework. These advantages or endowments help guide investment decisions.

Endowments

- Long investment horizon. The fund's long horizon allows it to focus on risk-adjusted returns consistent with its investment horizon, the ability to act as a contrarian investor during market declines and to invest in a wider selection of assets, such as illiquid assets, than short-term investors.
- Liquidity. As withdrawals are not projected to occur in a sustained way until the 2050s, the fund does not need to manage any near-term liquidity requirements with respect to drawdowns, enhancing its ability to invest over a long horizon.
- Investment autonomy. The Guardians administer and manage the fund on behalf of the government. As an autonomous Crown entity, the Guardians have autonomy to make investment decisions independent of the Government of the day.
- Sovereign status. The fund has sovereign status that allows it to pay lower tax in some jurisdictions and is often viewed favourably by co-investors.

The Guardians uses these endowments in pursuit of outperformance on a risk-adjusted basis. It compares its returns to the Board-established Reference Portfolio to determine whether it has outperformed.

The Reference Portfolio

The Reference Portfolio is a shadow or notional portfolio of passive, low-cost, listed investments, which would be the default portfolio if no opportunity to add active value existed. It has an 80:20 split between growth and fixed-income investments and its foreign currency exposures are 100 percent hedged to the New Zealand dollar. The Guardians invests the majority of the fund's assets (two thirds in 2017) in line with its Reference Portfolio.

Active investment

The Guardians takes advantage of the fund's endowments, including its sovereign status and long-term horizon, to actively add value. While it invests the bulk of the fund in the Reference Portfolio, it selectively deviates from it, employing active investment strategies, where it has a high degree of confidence that doing so will generate better risk-adjusted returns. For example, the fund invests in non-listed assets, such as forestry, private equity and property, which are expected to provide useful diversification benefits and deliver a return premium over time. Other active investments include insurance-related securities, credit investments and the Strategic Tilting programme, whereby the Guardians periodically adjusts the fund's exposure to various asset classes that it assesses to be mispriced. The Guardians assessed that financial markets currently underprice carbon risk over a long-term horizon, the timeframe that matters for the Guardians' investment purposes. Taking the view that it is no longer an 'if' that change will occur but rather a 'when', allows the Guardians a degree of confidence that the fund will capture the benefit at some stage over its investment horizon. The Guardians has taken a staged approach to reducing climate change-exposed assets in the fund. The first stage, which achieved the most benefit rapidly, has been implemented over the passive part of the portfolio, where the majority of the fund's climate change risk was. The active part remains a source of ongoing focus.

Performance characteristics of the fund

New Zealand assets

In 2009 the Minister of Finance directed the Guardians to identify and consider opportunities that would increase the fund's investment in New Zealand assets, targeting a proportion subject to the legislative requirement to invest the fund on a prudent and commercial basis. At 30 June 2017, \$4.9 billion (about 14.6 percent of the value of the fund) was invested in New Zealand assets. These included New Zealand listed equities (\$1.6 billion), private equity/venture capital (\$800 million), timber and rural properties.

Risk and return

The returns performance of the fund has been strong, both in absolute terms and relative to its Board-established benchmark. The fund's proportion of growth assets, as represented in the Reference Portfolio, has driven performance, as global asset markets have generally experienced strong returns over the last five years. On a relative basis, the fund has outperformed its benchmark.

The Guardians' ensures that the estimated market risk of the fund (excluding Strategic Tilting) is held to the same level as the Reference Portfolio. This is accomplished via a proxy system designed to look through the underlying risks of new investments introduced into the portfolio. Once strategic tilting is incorporated, the estimated risk of the fund and the Reference Portfolio can differ. In addition to market risk, the fund has exposure to non-market risk. The fund's use of derivatives and illiquid assets can introduce additional liquidity, counterparty and credit risk. Operationally, the fund has robust policies in place to manage non-market related risks, such as liquidity risks arising from illiquid assets, and counterparty risk arising from derivatives.

Long-term versus short-term

Long-term focus can expose the government to sharp downside corrections in the short term. The fund's long-term objective may expose the government balance sheet to significant short-term losses. Given the size of the fund, a GFC-style market event could cause a 20 percent+ (\$6.9 billion+) loss for the government. Short-term losses would be exacerbated by the fund's contrarian approach and subsequent recovery is dependent on market mean-reversion.

Market corrections present an opportunity for a long-term investor. Should the fund experience a short-term loss, the Guardians, as a long-term contrarian investor without near-term withdrawals, has a systematic approach to tilt to growth assets in a downturn so as to benefit more when markets recover. This over/underweighting of asset classes has been a source of outperformance for the fund to date.

Reserve Bank of New Zealand

Description and Purpose

The Reserve Bank of New Zealand (RBNZ or the bank) is New Zealand's central bank and has three main objectives: maintaining price stability; maintaining a sound and efficient financial system; and meeting currency needs. To achieve these objectives, RBNZ has a wide range of functions that includes providing liquidity to New Zealand's banking system, managing the country's foreign reserves, issuing official currency, setting and maintaining monetary conditions, regulating and supervising large parts of the financial sector and overseeing/operating efficient payment systems. Financial market operations, which RBNZ undertakes to achieve its objectives have a direct impact on its balance sheet. While not discussed in detail, RBNZ also holds physical assets, such as payment system infrastructure and its building.

Balance sheet profile



Source: RBNZ, The Treasury

Effectiveness

RBNZ has used medium-term inflation targeting to conduct monetary policy since 2002, which supports economic prosperity...

- RBNZ's balance sheet supports financial stability and monetary policy implementation through effective use of its balance sheet components to manage liquidity in the banking system and maintain crisis intervention capacity.
- The bank ensures short-term market interest rates are consistent with the official cash rate (OCR).
- Foreign reserves are managed for use in times of financial distress and/or when foreign exchange intervention is needed for monetary policy purposes.

Efficiency

...and when the bank has intervened, it has been successful.

- The OCR is an interest rate set by RBNZ. It influences all other interest rates and is, in effect, the wholesale price of borrowing or lending money in New Zealand. As a result, market interest rates are generally held around RBNZ's OCR level.
- RBNZ is responsible for making sure market wholesale interest rates (NZD overnight foreign exchange (overnight foreign exchange (FX) swap rates) trade around the OCR. When the wholesale short-term interest rate is maintained at levels close to the OCR (as is evident in Figure 1), this reflects positive performance (ie, that the OCR is effective in influencing wholesale interest rates).

Sustainability

Operations have been sustainable and the bank has maintained stable levels of cash in the financial system.

- For 2017 RBNZ had net revenue of \$0.16 billion that maintained adequate levels of capital and supported consistent dividends.
- Following economic shocks, RBNZ can also inject liquidity, which has successfully supported the banking system in the past (see Figure 2 yellow areas are periods of liquidity injection). Overnight Indexed Swaps (OIS) less bank bill spreads, are an indicator of banking system stress.
- RBNZ maintains stable levels of cash in the financial system (see Figure 3), with settlement cash of between \$5.6 billion and \$9.6 billion since 2009. This ensures that banks and the government can meet daily transactional obligations.







Lower OIS-bank bill spreads following RBNZ intervention highlights the success of liquidity injections

Figure 2: NZ 3-month bank bill - NZD 3-month OIS from June 2012 - June 2017



Source: Thompson Reuters, RBNZ

Source: Thompson Reuters

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Measure		2017	2016	2013	5-year average
2-year inflation expectations	%	2.17	1.64	2.03	2.02
RBNZ Settlement Cash (average)	\$ billion	7.50	7.93	7.20	7.61
Dividend	\$ billion	0.15	0.14	0.18	0.20
Risk-weighted capital	\$ billion	2.30	2.30	2.30	2.30
OCR (year-end)	%	1.75	2.25	2.50	2.50
Foreign Currency Intervention Capacity (year-end)	\$ billion	9.99	10.27	9.10	9.63

Source: RBNZ, The Treasury

Resilience

The bank has significant assets on hand in case of a shock and lends only on a secured basis.

- The RBNZ holds foreign reserves to intervene in currency markets in the case of severe market disorder. If well managed, intervention should be low cost or even profitable over the longer term.
- Foreign reserves were maintained at target levels (totalling \$22.2 billion) for 2017, including \$9.5 billion held as part of the bank's domestic market liquidity operations. Foreign intervention capacity stood at \$10.0 billion with an unhedged position of \$2.9 billion (see Figure 4).
- Foreign reserves are 75 percent hedged, to minimise interest rate and exchange rate risk.

Adaptability

A growing economy will mean that the Bank will need to hold higher levels of capital.

- RBNZ needs to retain sufficient capital to reflect the risks of its activities. As the New Zealand economy grows the RBNZ's level of capital may need to reflect higher demands and therefore higher risk with its operations.
- RBNZ's risk framework minimises the possibility that balance sheet risks and/ or financial market conditions could cause the Reserve Bank to run short of capital and report negative equity (see case study).

Source: RBNZ



Banking system liquidity has performed well in recent years

Figure 3: System liquidity from July 2012 - June 2017





Foreign intervention capacity has been

-FX Intervention Capacity (LHS) -Unhedged Reserves (RHS)

RBNZ Capital

RBNZ's capital is provided by the New Zealand government, consistent with the Reserve Bank of New Zealand Act 1989. RBNZ makes annual dividend payments to the government in accordance with the following principles:

- 1 RBNZ should maintain sufficient equity for the financial risks associated with performing its functions.
- 2 Equity in excess of that required to cover those risks will be distributed to the government.
- 3 In general, unrealised gains should be retained by RBNZ until they are realised in New Zealand dollars. However, RBNZ may recommend the distribution of unrealised gains where RBNZ believes that the probability of the gain being realised is high.

RBNZ's balance sheet reflects its policy needs and objectives, and is different from commercial banks. RBNZ is however, subject to some of the same risks as commercial banks, namely market risk (profit or loss arising from changes in interest rates and foreign exchange rates), credit risk (arising from financial market derivative contracts and debt investments), and operational risk.

Although RBNZ is not subject to regulatory capital requirements, it must ensure it maintains adequate capital to manage those risks. RBNZ utilises a risk-based capital allocation framework involving continuous monitoring of daily Value at Risk (VaR) to calculate the optimal level of capital through economic and market cycles. Specifically, RBNZ employs an economic capital framework that ensures RBNZ

- A weakness of a 'cashed-up' banking system (in which New Zealand's commercial banks hold deposits at the central bank) is the increase in liabilities held by RBNZ, increasing the size of the balance sheet. The increase in liabilities is offset by the increase in foreign assets held on RBNZ's balance sheet.
- Owing to the nature of New Zealand's financial markets, RBNZ's domestic markets framework is limited. Unlike Australia, where the Repurchase Agreements market is large and liquid, New Zealand's Repurchase Agreements market is much smaller, reflecting the small number of local banks.
- Being a small, indebted, open economy with a free floating currency, and a relatively narrow export base, New Zealand is susceptible to changing perceptions of its risks. As a result, there are limitations to the level of influence RBNZ can have in the event of a major currency shock. Additionally, the level of reserves held across the government need to complement other measures that improve the economy's resilience to potential adverse events.
- One of the challenges for RBNZ is determining the appropriate level of reserves to hold. Whilst there is no specific number, a range is determined by examining international peers, the turnover of the NZD in international markets and the costs of funding foreign reserves in NZDs. As such, the level of foreign reserves can fluctuate, however, there is a minimum level that RBNZ maintains.
- Excessive or insufficient liquidity in financial markets has the potential to undermine the implementation of monetary policy by tightening or loosening interest rates in ways that may contradict current and intended monetary policy settings. At present, a lack of liquidity is leading to periods of increased volatility, especially in short-term interest rate markets. Recently, a more rigid regulatory environment appears to have had an impact on the behaviour of market participants and therefore market liquidity. In some instances, market participants have been reducing activity and exiting markets where the cost of regulation-based activity is deemed to exceed any potential return. The risks associated with banking system liquidity are failed settlements between banks. As the banking system is dependent on payments being made, failed settlements can cause a 'domino effect' resulting in a liquidity squeeze.

CASE STUDY

is unlikely, within a 99.9 percent confidence level, to suffer a financial loss through credit, market or operational risks that would result in negative equity.

RBNZ may also consider adding an additional capital overlay or buffer on top of the risk-based capital calculation, using a set of forward-looking volatile scenarios or stress tests, to assess whether the results of the risk-based capital modelling are adequate. RBNZ will also allow for correlation benefits that may offset risks calculated in stressed VaR modelling. An example of a recent break down of the major components making up the total RBNZ capital held is shown Table 2.

Table 2: Combined risk-based capital

Capital model	Result (NZ\$ billion)
Market Risk VaR	0.43
Market Risk Stressed VaR	1.35
Credit Risk VaR	0.35
Credit Risk Stressed VaR	0.90
Operational Risk	0.05
Proposed Capital	2.30
Source: RBNZ	

- Financial risk is mitigated through stringent criteria for foreign-exchange intervention, which reduces the scale and frequency of actions. Specifically, the criteria are when the exchange rate is exceptionally high or low, the exchange rate is unjustified by economic fundamentals, intervention is consistent with the Policy Targets Agreement (monetary policy) and conditions in markets are opportune to allow intervention a reasonable chance of success.
- A key strength of the 'cashed-up' banking system is that cash is easily accessible for commercial banks. This is one of the reasons the New Zealand banking system performed well during the GFC.
- Strict criteria for managing risks associated with its domestic market financial operations. To become a participant in the Open Market Operations, counterparties must meet several criteria. Further, RBNZ determines what instruments can be used as part of its Open Market Operations. For example, RBNZ will not lend on an unsecured basis and any secured lending is secured by collateral that must meet criteria set by RBNZ.
- RBNZ utilises several instruments (foreign exchange swaps, repurchase agreements, RB bills) to implement monetary policy. Similar small open advanced economies typically have developed comparable frameworks to RBNZ. RBNZ's existing framework is considered international best practice.
- The Reserve Bank is consulting on an enhanced mortgage bond standard aimed at supporting confidence and liquidity in the financial system. This follows a review of domestic and international mortgage bond collateral standards. Mortgage bonds are a key form of eligible collateral in many countries, with RBNZ first accepting them in response to the GFC when its lending to the banking system increased significantly. In New Zealand mortgage bonds are not generally traded. RBNZ believes that a more standardised and transparent framework for mortgage bonds would improve their quality and make them more marketable. RBNZ has developed a proposed new format for mortgage bonds, called Residential Mortgage Obligations (RMO).
- Implement the roadmap for best practice central bank balance sheet and financial management. RBNZ treasury systems support two key policy functions: foreign reserves management (including currency intervention) and the implementation of monetary policy (liquidity management). Systems requirements have evolved significantly since the GFC and the bank needs to update key functionality. The bank will implement an agreed Treasury Systems (Roadmap) Strategy to enhance management of risks and returns and aid decision-making by providing market-standard trade valuation, position and collateral management and enhanced risk and performance reporting.

Air New Zealand Limited

Description and Purpose

The primary commercial objective of Air New Zealand (Air NZ) is to deliver returns to its shareholders. Air NZ's core business activity is the transportation of passengers and cargo on an integrated network of scheduled airline services to, from and within New Zealand. Air NZ operates over 3,400 flights, flies more than 15 million passengers a year and flies to 21 domestic ports and 31 international destinations in 19 countries. Air NZ is the dominant domestic airline in New Zealand (approximately 80.0 percent market share). Air NZ currently operates in joint venture or codeshare arrangements on key international routes to Asia, Australia, Pacific Islands, and North America. Air NZ is dual-listed on the New Zealand (NZX) and Australian (ASX) stock exchanges. As at 30 June 2017 the government owned 51.9 percent of the voting shares in the company with a market value of \$1.90 billion.

Balance sheet profile



Source: Air New Zealand, The Treasury

Effectiveness

Air NZ increases connectivity within New Zealand and with international destinations.

- In 2017 total passenger numbers (international and domestic) increased year on year from 15.16 million per annum to 15.95 million per annum (a 5.2 percent increase) due to an expanded network (eg, Houston, Buenos Aires, and Tokyo Haneda airport) and increased capacity (a 6.3 percent year on year increase). Since 2013 Air NZ has increased passenger numbers by 18.9 percent.
- Domestic passengers carried increased from 9.73 million in 2016 to 10.38 million in 2017.
- Figure 1: Domestic and International passenger numbers continue to increase; up 19.4 percent and 18.1 percent, respectively, since 2013. Fleet simplification, including the use, on average, of larger planes has contributed to the available seat kilometres increasing by 27 percent since 2013.
- In 2017 Air NZ had the #1 Top Corporate Reputation in Australia and New Zealand.

Efficiency

Air NZ increased operating efficiency through cost reduction programmes...

- Since selling down its ownership in November 2013 from approximately 73.4 percent to 51.9 percent, the government has received a total of \$0.53 billion in dividends and the market capitalisation of Air NZ has increased by \$1.85 billion to \$3.66 billion as at 30 June 2017.
- Figure 2: The margin between RASK (revenue per average seat kilometre) and CASK (operating cost per average seat kilometre) fell 6.4 percent yearon-year due to demand (revenue seat kilometre) slightly lagging capacity growth.
- In 2017 Air NZ made controllable CASK improvements outside of foreign exchange and fuel including fleet simplification, scale and other cost savings initiatives.

Sustainability

...however, it has faced revenue pressures from increased competition, particularly in Asia.

- Air NZ has achieved 14 years of consecutive profitability (including 12 years of consecutive dividends) and 2017 earnings before taxation, of \$527 million, was the company's second highest.
- Air NZ has signalled it expects continued growth in the Americas and Japanese markets.
- The cargo business in 2017 faced strong competitive pressures, with revenue down 0.6 percent, year on year (excluding foreign exchange).
- Figure 3: Gearing of 51.8 percent has increased by 3.2 percentage points since 2016 and 12.5 percentage points since 2013. The twelve-month delay in delivery of A320neo and A321neo aircraft is expected to keep gearing within the target range (45 percent to 55 percent).

Seat kilometres increasing more quickly than passenger numbers

Figure 1: Domestic and international passengers and available seat kilometres from 2013 - 2017





Margin between RASK and CASK declined in 2017

Figure 2: Revenue and costs per average seat kilometre from 2013 - 2017



<u>overview</u>

Source: Air New Zealand, The Treasury

PERFORMANCE INDICATORS

Source: Air New Zealand, The Treasury

Measure		2017	2016	2013	5-year average
Total Shareholder Return (TSR)	%	78.1	(9.7)	80.9	46.4
Dividend Yield (total)	%	17.6	8.8	5.6	9.5
Return on Equity (ROE)	%	18.6	22.7	10.4	16.6
Revenue	\$ billion	5.11	5.23	4.62	4.91
EBITDAF*	\$ billion	1.03	1.19	0.72	0.91
Operating Margin	%	20.1	22.7	15.5	18.5
Operating Cash Flow (OCF)	\$ billion	0.90	1.07	0.75	0.91
Net Profit After Tax (NPAT)	\$ billion	0.38	0.46	0.18	0.32
Gearing (net)**	%	51.8	48.6	39.3	47.0
Interest Cover	Х	13.3	12.4	8.5	10.6

lease commitments multiplied by a factor of 7) less net funds on deposit and unrealised gains/losses on open debt derivatives

Resilience

The airline industry faces demand risks associated with specific events impacting confidence...

- All airlines face the risk of fuel price ٠ fluctuations. Air NZ hedges this risk through a variety of fuel swap and fuel option contracts and is increasing its hedge position for 2018. However, the risk remains that increasing fuel prices will ultimately flow through to ticket prices and adversely impact demand (particularly in the leisure travel segment).
- Event risks (eg, an ash cloud preventing Air NZ from flying particular routes, terrorism risks/events or natural disasters) or safety risks may impact demand for air travel or access to key locations.

Adaptability

...but a young and efficient fleet leaves Air NZ relatively less exposed to longterm trends in fuel prices.

- Figure 4: Average fleet age decreased from 9.2 years (2013) to 7.0 years (2017) and is forecast to remain below 8.0 years with investment of approximately \$1.50 billion in the fleet over the next four years.
- Air NZ's average fleet age is significantly below the industry average and is consistent with improved fuel burn efficiency relative to competitors. Greater efficiency improves Air NZ's relative competitiveness should oil prices increase.



Gearing has increased with fleet purchase but remains within target range

Figure 3: Current and forecast gearing 2013 - 2017





Fleet age has decreased since 2013 and forecast to remain below eight years

Figure 4: Aircraft fleet age from 2013 - 2021F



Source: Air New Zealand, The Treasury

Source: Air New Zealand

Electricity Generator Retailers

Description and Purpose

Genesis Energy (Genesis), Mercury NZ (Mercury), and Meridian Energy (Meridian) are integrated electricity 'generators and retailers' (gentailers) and are Mixed Ownership Model (MOM) companies that the government is required by legislation to own at least 51.0 percent of. As at 30 June 2017, the government owned 51.2 percent of Genesis' shares, 52.0 percent of Mercury's shares, and 51.0 percent of Meridian's shares. The remaining shares are listed on the NZX and ASX and owned by a range of investors. The three gentailers own and operate a variety of power stations across the North and South Islands. Mercury and Meridian generate from renewable plants, including hydro, geothermal and wind. Genesis Energy generates using hydro and wind, as well as gas and coal, and has a holding in the Kupe oil and gas field. All three have a significant retail presence in New Zealand. Meridian also has overseas generation and retail assets in Australia and the United Kingdom (UK), and Genesis and Mercury retail gas to New Zealand customers.

Balance sheet profile



Source: The Treasury

Effectiveness

The MOM gentailers have maintained their generation share of the electricity market although their combined retail share has reduced due to competition.

- Figure 1: In 2017 the three MOM gentailers generated 27,270 GWh or 69.9 percent of New Zealand's total electricity supply. This share has risen slightly since 2013 due to the closure of certain thermal plants in New Zealand not owned by the MOM gentailers. MOM gentailer combined generation has increased 1.2 percent year on year since 2013.
- Figure 2: The combined retail market share of the MOM gentailers has decreased since 2013 from 61.0 percent to 57.4 percent in 2017 due to strong competitive pressures, in particular, from small and mediumsized retailers that have entered the market offering niche products. However, the gentailers' generation earnings significantly outweigh those retailers' earnings.

Efficiency

Each MOM gentailer has improved its operating margin in recent years.

- Since being listed, the MOM gentailers have paid \$1.47 billion in dividends to the government and their total combined market capitalisation as at 30 June 2017 was \$14.46 billion (Meridian \$7.46 billion; Mercury \$4.57 billion; Genesis \$2.43 billion). TSRs and Dividend Yields have improved since listing.
- Table 1: The combined operating margin of 25.9 percent in 2017 has experienced 4.9 percent compound annual growth since 2013. This was driven by improvements in the energy margins across the gentailers and cost-efficiency initiatives. Individual operating margin year on year improvements in percentage points were: Meridian +6.6 percent; Mercury +4.2 percent; Genesis +1.3 percent.

Sustainability

The MOM gentailers have predominantly renewable generation plants with long remaining useful lives.

- Table 1: Combined OCF (Meridian \$0.47 billion; Mercury \$0.37 billion; Genesis \$0.25 billion) increased year on year from 2016. The combined NPAT (Meridian \$0.20 billion; Mercury \$0.18 billion; Genesis \$0.12 billion) improvement was driven by efficiency initiatives and improved profit margins.
- Growth in electricity demand has been flat in recent years due to energy efficiency in the residential sector and declining industrial demand.
- Interest Coverage (EBITDAF/Interest paid) improved from 4.9x in 2013 to 6.7x in 2017 due to growth in EBITDAF offsetting increased gearing. S&P reaffirmed BBB+ (stable) ratings across all three gentailers (Figure 3 depicts the consolidated capital structure).

The MOM gentailers generation volumes have remained stable and in line with New Zealand demand

Figure 1: Generation from 2013 - 2017





Retail market share of the MOM gentailers has declined due to increased competition from smaller new entrants

Figure 2: Energy retailers market shares from 2003 - 2017



OVERVIEW

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Measure		2017	2016	2013	5-year average
Total Shareholder Return (TSR)	%	17.8	25.3	(4.0)	10.2
Dividend Yield (total)	%	6.5	7.4	2.2	5.8
Return on Equity (ROE)	%	4.8	5.2	5.3	4.9
Revenue	\$ billion	5.87	5.95	6.15	6.17
EBITDAF*	\$ billion	1.52	1.48	1.31	1.43
Operating Margin	%	25.9	24.9	21.3	23.2
Operating Cash Flow (OCF)	\$ billion	1.04	1.00	0.93	1.00
Net Profit After Tax (NPAT)	\$ billion	0.50	0.53	0.51	0.49
Gearing (net)	%	24.8	23.0	21.8	23.0
Interest Cover	х	6.7	6.3	4.9	6.0

Source: Air New Zealand, The Treasury *Earnings before interest, taxes, depreciation, amortisation and fair value adjustments

Resilience

MOM gentailers manage business risks, though some risks remain.

- A diversified generation portfolio reduces exposure to business risk, eg, fuel volume and price volatility and plant failure.
- Dry-year risk and wholesale electricity price volatility are managed through prudent hydro and coal storage management, a variety of hedge contracts with other gentailers, and sales from their retail customer base.
- Table 2: A New Zealand Aluminium Smelter (NZAS) closure would free up around 13 percent of New Zealand's electricity supply, temporarily suppress wholesale prices and lead to increased retail market competition until demand growth absorbs the surplus or marginal generation plants close.
- Earthquakes and climate change represent risks to key assets and operations.

Adaptability

Disruptive technology and niche retailers have entered the market. MOM gentailers are responding.

- The MOM gentailers could be impacted by disruptive technology, such as distributed generation and batteries. In response, the gentailers are exploring new technologies and business models (see case study).
- This includes investment in innovation projects, such as the Local Energy Project (Genesis), Mercury Solar (Mercury) and investment in Powershop (Meridian).
- The retail market is becoming increasingly competitive with a number of niche retailers entering. The gentailers are adopting different retail strategies to compete.



Gentailer debt has risen since 2013 due to Genesis acquiring Nova Energy and a greater share of the Kupe gas field. Debt levels are still modest

Figure 3: Change in combined gearing from 2013 - 2017



Source: The Treasury, Meridian, Genesis and Mercury Energy



Retail market share of the MOM gentailers has declined due to increased competition from smaller new entrants

Table 2: Relative risk from key system features

Company	HVDC exposure	Emissions trading exposure	Dry-year risk (including hedge contracts)	Marginal cost to generate	Exposure to NZAS closure	Generation diversification
Genesis	Low	Moderate	Low	High	Moderate/ High	Moderate
Meridian	High	Low	Moderate	Low	High	Moderate
Mercury	Low	Low	Moderate	Low	Moderate	Moderate

Source: The Treasury

The Impacts of Disruptive Technology

Risks

electricity.

Falling costs of disruptive technology represent both an opportunity and a threat to the gentailers. Widespread adoption of solar photovoltaics (PV) and electric vehicles (EV) technology could see customers meeting more of their own energy needs, whereas EV adoption could boost gentailer sales and earnings.

Opportunities

- Widespread market penetration of EVs in New Zealand will boost demand for grid electricity, providing opportunities to generate and retail more electricity by the gentailers.
- As solar PV falls in cost it becomes more attractive to consumers, which presents a new sales opportunity for gentailers or an opportunity to align with consumers in the management of their energy needs.

The main performance considerations for the gentailers in the near term include:

- Increasing retail competition. Low barriers to entry, relatively low customer switching costs, improved hedge products and the commodity nature of electricity have increased the number of market participants, increasing competition and customer churn in recent years (see Figure 2).
- Flat electricity demand. New Zealand's electricity demand has been flat for several years and, consequently, investment in new generation plant has been limited. Flat electricity demand has resulted from the loss of some industrial load and improved efficiency of the residential sector outweighing the large recent demand increase from population growth. A number of new generation opportunities exist that have been consented and are at different stages of readiness to meet demand should it increase.
- Hydrological risk. Around 60 percent of New Zealand's electricity generation comes from hydro, which is subject to volatility of inflows. However, the sector and individual companies hedge amongst themselves and there is sufficient spare thermal generation that can be used in dry years. Climate change could increase the volatility of rainfall in hydro catchment areas. In addition, there is uncertainty surrounding the allocation of water over time.
- NZAS. The smelter uses around 13 percent of New Zealand's electricity. Uncertainty around its potential closure acts to discourage investment in new generation. At its extreme, this could compromise security of supply in future dry years, however, this is currently managed by the Huntly power plant acting as a backup generator. A smelter closure would significantly reduce electricity demand and temporarily suppress wholesale electricity prices. This could potentially trigger increased competition for retail customers and possibly reduce retail profit margins. It could also prompt older and marginal generation plants to close and temporarily strand some South Island generation output until transmission capacity to the North Island is expanded.

Widespread uptake of distributed generation, such as Solar

demand and reduce gentailer earnings.

PV, could slow growth or even reduce grid-sourced electricity

If distributed generation were coupled with battery technology

 – either at the household level or at an electricity distribution level – excess electricity generation could be stored for peak

demand times; further reducing demand for grid-sourced

- The Transmission Pricing Methodology (TPM) review. The outcome of the TPM review could see a reallocation of Transpower's transmission charges (around \$950 million per annum) around the sector to better match costs with benefits. As a result, some gentailers may benefit whilst others may incur higher costs.
- Decarbonisation. Opportunities exist to replace carbonintensive industrial and commercial activities with electrical power. This could support new generation investment by gentailers, possibly based on renewable generation. Conversely, the Government's aim of ceasing coal-based generation by 2030 presents a challenge; not only to those gentailers using coal but all gentailers, given the security of supply that coal generation provides during a hydrological dry year.



In the long term disruptive technology could simultaneously strain MOM gentailers' traditional business models and provide growth opportunities:

- **Technology risks.** There is a risk that technological innovation (particularly in distributed generation and battery storage) could disrupt the electricity sector's current business model (see Figures 4 and Table 2). This technology could significantly impact the residential sector, which constitutes approximately a third of total electricity demand and is a key driver for winter peak demand. Cost pressures from the distribution and transmission sectors could put upward pressure on electricity prices and undermine the cost competitiveness of the current business model, relative to alternative disruptive technologies.
- Cost competitiveness. The gentailers hold large-scale, lowcost diversified generation assets throughout New Zealand. Their generation sources are also largely renewable, which all act in gentailers' favour when competing against new technologies.
- Maturity of sector. The New Zealand electricity sector is relatively mature and stable. Its regulation regimes have largely been embedded. The wholesale market also offers a number of hedge products to manage wholesale trading risks and encourage competition. These factors also act in gentailers' favour when competing against new technologies.

- Opportunities to utilise technology advances. Opportunities exist from technology developments for the MOM gentailers to boost electricity consumption and provide new sales opportunities. These include:
 - Electric Vehicles growth in uptake will increase electricity demand, which could spur wholesale electricity prices and drive investment in generation assets.
 - Batteries grid-installed batteries could also help reduce peak demand risks and be used for energy arbitrage.
 - Solar PV potential to manage the installation and maintenance of solar products and electricity trading on behalf of consumers.

Kiwi Group Holdings Limited

Description and Purpose

Kiwibank was set up in 2001 as a subsidiary of New Zealand Post. Registered as a bank by the Reserve Bank of New Zealand, Kiwibank provides banking services with a branch network largely shared with New Zealand Post. Its core activities are the provision of retail and banking products and services to individuals and small to medium-sized businesses. The other major business in the Kiwi Group is KiwiWealth, which provides KiwiSaver funds and private wealth. In 2016 New Zealand Post sold 47.0 percent of the Kiwi Group (Kiwibank's parent company) to the NZSF (25.0 percent) and ACC (22.0 percent).

Note: There have been reporting changes as a result of this transaction. Kiwi Group's 2017 results here are based on the whole group, whereas previous years are based on the banking group (which excludes KiwiWealth).

Balance sheet profile



Source: Kiwi Group Holdings, The Treasury

Effectiveness

Kiwibank has established itself as a key provider of banking services in New Zealand...

- Kiwibank has more than 1 million customer relationships of which 434,000 individuals identify Kiwibank as their main bank.
- Kiwibank has grown its balance sheet as a result of strong growth in the housing market.
- At the end of 2017, Kiwibank held \$15.96 billion in customer deposits and \$17.80 billion in loans, up since 2013 by approximately 38 percent and 43 percent, respectively.
- For 2017 market share for mortgages and small-to-medium enterprises (SME) business banking was
 6.9 percent (7.0 percent in 2016) and
 8.0 percent (8.4 percent in 2016), respectively. Since 2013 Kiwibank's combined mortgage and SME business banking market shares have grown by approximately 15 percent.

Efficiency

...but Kiwibank's net interest margin has fallen due to higher funding costs and increased competition...

- Total shareholder return has averaged 10.36 percent since 2013. ROE has declined since 2013 due to market saturation and increasing competition for customers. In 2017 the ROE decreased substantially due to an equity injection from shareholders of \$247 million to mitigate temporary regulatory issues.
- Figure 1: For 2017 net interest margin was down on the previous two years. The decrease was driven by increased funding costs, regulatory issues and increased competition. Overall, the net interest margin has risen since 2013.
- Arrears balances have been decreasing since 2010 in response to enhanced credit management controls and a benign credit environment.

Sustainability

...and operating costs have increased, reducing profits.

- Table 1: Group underlying NPAT for 2017 was \$0.12 billion, down
 1.6 percent from 2016, due to lower margins and a temporary cessation of new wholesale funding as regulatory issues were resolved.
- Table 2: The operating income mix has remained steady over the year.
- For 2017 the balance sheet grew, with increases in customer loans (by \$1.13 billion or 6.8 percent) and deposits (by \$1.20 billion or 8.1 percent). Kiwibank's core business – residential lending – grew as demand was buoyed by rising house prices, which have now levelled off. Refer to Figure 2 for Kiwibank's capital structure.
- Kiwibank's credit ratings for long-term senior unsecured obligations payable in New Zealand dollars, were stable (S&P: A; Moody's: A1; Fitch: AA) as at 30 June 2017.



Net interest margin has fallen between 2015 and 2017

Figure 1: Net interest margin for the banking group from 2013 - 2017





Kiwibank's operating income mix remained stable year on year

 Table 2: Proportions of revenue source for Kiwibank

Revenue stream	2016	2017
Banking group	86%	88%
Kiwi Wealth	9%	7%
Kiwi Insurance	2%	1%
New Zealand Home Loans	3%	4%
Total	100%	100%

PERFORMANCE INDICATORS

PERFORMANCE DIMENSIONS

Source: Kiwi Group Holdings

Measure		2017	2016	2013	5-year average
Total Shareholder Return (TSR)	%	2.8	12.1	18.6	N/A
Dividend Yield (total)	%	0	2.7	0	N/A
Return on Equity (ROE)*	%	3.7	10.5	13.3	N/A
Operating costs	\$ million	384	328	240	N/A
Revenue	\$ million	563	477	446	N/A
Net Interest Income	\$ million	375	378	276	N/A
Net Profit After Tax (NPAT)**	\$ million	58	124	97	N/A
Net Interest Margin	%	1.92	2.05	1.83	N/A
Total capital ratio	%	13.4	12.9	12.6	N/A

Source: Air New Zealand, The Treasury

⁴ Given the changes in reporting between 2017 and earlier years, the 5-year average is not a meaningful indicator of performance for Kiwi Group Holdings *Return on Equity in 2017 decreased due to the capital injection by shareholders of \$247 million ** NPAT in 2017 was affected by a \$90 million write down of investment in the CoreMod software platform. Underlying NPAT was \$129 million

Resilience

Kiwibank is exposed to fluctuations in the housing market but liquidity risks are mitigated.

- Table 3: Capital ratios were all above their regulatory minimums +2.5 percent for 2017.
- Owing to concentration in the residential mortgage market, a significant downturn in the residential property market represents a major risk for Kiwibank (and the wider financial system).
- Improvements to credit processes and the uncalled capital facility from the government, which provides \$0.30 billion in capital, mitigate liquidity risks in the face of a stress event.
- Kiwibank maintains a diversified wholesale funding mix.

Adaptability

Disruptive technologies and scale present both opportunities and threats to Kiwibank.

- Kiwibank is reviewing its strategy to see how it can best meet the future demands of its customers.
- Kiwibank is reconsidering its digital plans, with the former core banking modification project halted, resulting in a \$90 million write down in 2017.
- Kiwibank is reducing its physical presence reflecting the increasing preference of customers to bank through the internet and their mobile applications. This will lead to a reduction in operating costs, which are currently substantially higher than the four Australian banks (ANZ, ASB, Westpac, and BNZ).



Lending and deposits both continue to grow contributing to ongoing increases in the value of equity

Figure 2: Lending and deposits from 2013 - 2017



Sources: Kiwi Group Holdings, The Treasury Source: Kiwi Group Holdings



Capital ratios for the banking group are well above regulatory requirements

Table 3: Capital ratios for Kiwibank

Percent	Regulatory minimum +2.5% buffer	2013	2014	2015	2016	2017
Common Equity Tier 1	7	8.4	9	9.3	9.1	12.3
Tier 1 capital	8.5	10.4	10.4	11	10.7	12.3
Total capital	10.5	12.6	13	13.4	12.9	13.4

Sources: Kiwi Group Holdings, The Treasury

Kiwibank's Branch Network

Kiwibank experienced strong asset growth (and market share gains) over the five years to 30 June 2017, with total assets reaching \$20.6 billion – a compound growth rate of 7.0 percent per annum. However, Kiwibank's profitability lags that of its major competitors with only TSB (the 7th largest bank) achieving a lower return on equity. Kiwibank's relatively high cost structure is an impediment to better returns. Its operating cost to operating income ratio has, on average, been 68 percent greater than that of the four largest banks.

Operating expenses have been a key focus for Kiwibank management over recent years and this has resulted in the execution of initiatives that have reduced annualised operating costs by about \$20 million per annum. However, competitors have also been reducing costs and with new technologies changing the ways customers interact with their banks, having a large physical footprint is increasingly becoming a drag on bank profitability. Kiwibank has a very large branch network – both in an absolute sense and relative to its size. This branch network arose as Kiwibank first 'piggybacked' on NZ Post's network in New Zealand and then shared its costs. While appropriate at the time, the business environment for both NZ Post and Kiwibank has since changed dramatically. NZ Post faces declining demand for many services (especially letters) and is progressively shifting to a franchise model for its points of service. This increasingly leaves Kiwibank with responsibility for the full costs of its branch network. Kiwibank is considering the number of branches it should have, ensuring these are best located to serve banking customers (rather than the previous default co-location approach) and that it provides those services that are most sought by customers. It appears inevitable that Kiwibank's network will be significantly reshaped over the next few years.

There are opportunities for future growth that will need to be managed carefully...

- Evolving technologies present an opportunity to improve operating efficiencies and to broaden Kiwibank's product offering. Early financial technology adopters are likely to achieve significant cost-efficiencies relative to competitors due to the rapid scalability of new technologies.
- There is scope to improve net interest margin through diversification of activities and reduced operating costs, such as transitioning from physical branches to more digital services.
- · There are several prospects for growth:
 - In wealth management and wholesale business (especially small-to-medium enterprises).
 - Partnerships and alliances with other organisations, especially those who can take Kiwibank's products to a wider audience than they are currently able to reach.
 - While the company has significant growth opportunities, these need to be managed carefully in a highly competitive market and where access to capital is relatively constrained when compared to major competitors.

- A strong, well-marketed brand has created customer loyalty and a strong presence in the retail market. Kiwibank has the highest Net Promoter Score of the main banks and received the Consumer New Zealand 2017 People's Choice award for banking.
- Strong presence in the retail market through its geographically diverse branch network, and a leading residential lender with a high market share.

... but Kiwi Group Holdings is also faced with risks from disruptive technology, cyber risks, exposure to the housing market and regulatory constraints.

- New Zealand's regulatory regime favours common equity, which constrains Kiwibank's ability to expand in comparison with competitors as Kiwibank is limited in the sources of equity investment it can access under wider government ownership.
- A higher cost structure than major competitors is largely the result of a costly physical network and greater reliance on retail funding. Kiwibank's transition to digital will be essential to lower costs and remain competitive.
- Kiwibank has a less advanced core technology platform than major competitors. Redefining its strategic objectives during the current financial year will determine the nature of Kiwibank's IT infrastructure (including the core). This also reflects the need for Kiwibank to have the right systems in place for adapting to disruptive changes.

Table 4: Branch and assets for the major banks

(As reported in 2016)	Assets (NZ\$ billions)	Branches	Branches/ assets
ANZ	160.8	199	1.24
BNZ	92.5	174	1.88
Westpac	86.3	163	1.89
ASB+CBA	81.6	124	1.52
Kiwibank	19.4	266	13.71
TSB Bank	6.4	25	3.91

Source: KPMG Financial Institutions Performance Survey 2017

- The limited scale of Kiwibank compared to major rivals means that Kiwibank's access to the leading edge of banking business may be less than international banks.
- A narrow market base with high concentration in residential and retail compared to the big four banks, including less developed wholesale and international markets for funding, creates liquidity risks if the New Zealand housing market sees a sustained down turn.
- For all banks, cyber security is an increasingly important threat. Threats to cyber security present both financial risk and reputation risk for Kiwibank.
- The ongoing disruption of the retail banking sector nationally and internationally from new technologies (eg, digital wallets, cryptocurrencies etc.) and operating models (eg, peer-to-peer lending) and new entrants presents a challenge to traditional banking models. In 2017, 57.0 percent of customers engaged digitally with Kiwibank, which is expected to increase going forward. High margin products being targeted by disruptors include transactions, payments and lending services. Banks globally are entering into relationships with third-party providers to retain data either through equity investment or partnerships.

KiwiRail Holdings Limited & New Zealand Railways Corporation

Description and Purpose

KiwiRail Holdings Limited (KiwiRail) owns and operates a national rail network. It provides for the transport of freight; provides and supports rail passenger services in metropolitan areas and long distance services for both domestic and tourist markets; operates a fleet of ferries providing passenger, vehicle and freight services between the North and South Islands, plus it manages and develops property holdings for rail operations and appropriate third party land use. The New Zealand Railways Corporation (NZRC) owns the 18,000 hectares of land that lies beneath the rail network. KiwiRail leases this land from NZRC for a nominal lease fee and then owns, maintains and operates the 3,500 kilometres of track and related infrastructure on that land that supports rail operations. The government owns all of the shares in KiwiRail.

Note: This performance assessment focuses on the performance of KiwiRail



Source: KiwiRail, The Treasury

Effectiveness

KiwiRail connects people and supply chains across New Zealand, especially heavy goods, supporting economic growth.

- Per annum, KiwiRail facilitates
 24 million passenger journeys, moves
 18 million tonnes of freight (16.0 percent of New Zealand's freight market share) and transports 25.0-30.0 percent of New Zealand's exports (see Figure 1).
- KiwiRail removes 1.1 million truck movements from New Zealand roads, reducing congestion and the country's carbon footprint, diverting 188,939 tonnes of carbon emissions and avoiding 70 million litres of fuel consumption.
- On Time Performance for premium freight trains improved by 20 percent year on year to 89 percent.

Efficiency

KiwiRail's recent financial performance has been compromised by the Kaikōura earthquake.

- KiwiRail's recent financial performance is being masked by the effect of the Kaikōura earthquake. Normalising for the Kaikōura earthquake would see the 2017 operating margin rise to 14.5 percent, versus a target of 13.0 percent.
- KiwiRail's financial performance is also complicated by the treatment of grant funding. Grants contribute to EBITDAF, NPAT and Interest Cover but not to the other measures shown here.
- The decline in KiwiRail's revenues is due to the loss of coal volumes and KiwiRail's exit from providing metro passenger services. Normalising for those two events shows KiwiRail growing its other revenue lines.

Sustainability

Rail is an environmentally efficient mode of transport but KiwiRail requires equity injections from the government.

- Figure 2: Freight hauled by diesel locomotives generates only one-third of the greenhouse gas emissions than if the same freight were transported by road. Freight hauled by electric locomotives generates only one-third of the greenhouse gas emissions than if the same freight were hauled by diesel locomotives. Therefore, the largest environmental gains are achieved from moving road freight to rail, even if that rail is serviced by diesel locomotives.
- KiwiRail's freight, tourism and ferry operations are profitable but these profits are insufficient to cover the investment needs of the rail network infrastructure. The government makes regular equity injections to allow KiwiRail to maintain and improve its asset base (see Figure 3 and 4).







KiwiRail has become steadily more environmentally efficient

Figure 2: Grams of CO₂ per net tonne kilometre for 2015 - 2017



OVERVIEW

Source: KiwiRail Holdings

Measure		2017	2016	2013	5-year average
Total Shareholder Return (TSR)*	%	N/A	N/A	N/A	N/A
Dividend Yield (total)	%	0.0	0.0	0.0	0.0
Return on Equity (ROE)*	%	N/A	N/A	N/A	N/A
Revenue	\$ billion	0.59	0.69	0.73	0.69
EBITDAF**	\$ billion	0.08	0.11	0.29	0.16
Operating Margin	%	8.8	10.9	14.9	11.5
Operating Cash Flow (OCF)	\$ billion	0.05	0.08	0.08	0.07
Net Profit After Tax (NPAT)	\$ billion	(0.2)	(0.19)	(0.17)	(0.2)
Gearing (net)	%	18.2	13.9	15.7	18.2
Interest Cover	х	0.2	3.0	15.1	6.7

Source: The Treasurv

* Financial reporting standards require KiwiRail to write off their rail network capital expenditure in the financial year that it occurs. This write-off distorts KiwiRail's financial results which impacts financial metrics such as TSR and ROE. **Earnings before interest, taxes, depreciation, amortisation, and fair value adjustments

Resilience

Although KiwiRail's track network is highly exposed to natural disasters, it responded well to the Kaikoura earthquakes.

- KiwiRail's assets are exposed to a • range of physical risks. For example, the Kaikoura earthquake caused extensive damage to 700 sites along the Main North Line. The operational response included the formation of the Blenheim Freight Hub, Interislander operating two ships within 24 hours and NZ Connect launched to offer coastal shipping between Auckland and Christchurch.
- Referring to Figure 1, there was • an overall slight decline in freight volumes from 2016 - 2017, following the Kaikoura earthquake, indicating a successful operational response to the earthquake.

Adaptability

KiwiRail's asset base is recovering from a long period of underinvestment.

KiwiRail is seeking to engage in a locomotive refresh programme to replace outdated locomotives in its fleet. Benefits being sought would include efficiency gains.



2014

2015

Year ended 30 June

Crown equity Crown grant

2016

2017



Government funding supports KiwiRail's capital expenditure programme

Figure 4: KiwiRail's capital expenditure from 2013 - 2017



2013

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value (0.20

Book

Response to Kaikoura Earthquakes

KiwiRail's Main North Line (MNL) between Picton and Christchurch was severed when a 7.8 magnitude earthquake struck just after midnight on 14 November 2016. The earthquake triggered more than 90 slips and landslides across the rail line and damaged nine bridges and 21 tunnels. A KiwiRail freight train travelling south from Picton to Christchurch was trapped between two large slips north of Kaikōura. Reinstating the MNL is the biggest rail build since the MNL was first completed just after World War II. The reinstatement work is progressing via two stages. In Stage I the slips were cleared and interim repairs and reinstatements put in place to allow a limited freight service to resume. This interim service ran during the night only, with reinstatement work continuing during the day. Stage I was completed in October 2017. In Stage II KiwiRail will progressively revisit the interim repairs sites to put permanent repairs in place. The permanent repairs will bring the network back to the configuration in place before the earthquake. There is no current intention to make material improvements on that pre-earthquake configuration. Stage II is scheduled to be completed in June 2019.

The Strategic Role of Rail

Rail freight lends itself to moving large concentrated volumes over long distances. In the New Zealand context, rail's strengths are most visible in connecting the ports with the inland sources and/ or destinations of freight. In this role rail freight brings three main benefits:

- It avoids a large number of truck movements, reducing road congestion and improving road safety.
- Rail allows ports to respond to larger vessels. Most ports have limited on-wharf storage. Rail can collect and/or deliver large shiploads over a relatively short period of time. A road-based system would see cargo delivered to the wharf at a lower rate and need a significant increase in on-wharf storage.
- Rail's flexibility allows the economy to respond to changing shipping timetables. Rail provides a 'land bridge' service that enables freight customers to reconfigure their supply chains to respond to changing shipping routes and timetables, while accessing the more efficient and cheaper port and shipping services offered by the larger vessels and aggregated port volumes.

Historically, rail has been an enabler of New Zealand's major industrial sites, such as the Kawerau and Kinleith pulp and paper plants, the Glenbrook steel mill, dairy factories, meat plants and plantation forests. Rail acts as a 'conveyor belt' for these sites, bringing in key raw materials and carrying the finished products towards their end markets.

Rail's Economic Reality

KiwiRail makes an 'above rail' operating surplus but the profits to be made 'above rail' are insufficient to cover the full investment needs of the underlying rail network. This reflects rail's high 'below rail' fixed costs, relative to the positive variable operating margin that is earned 'above rail'. The lack of economies of scale in the New Zealand rail context was also the cause of difficulties through the period of private rail ownership from 1993 - 2008. This core problem, and the options KiwiRail has to remedy them, are similar to the private-sector owners who also were unable to make a commercial return from rail freight in New Zealand.

Rail requires a subsidy over the foreseeable future to remain viable. A private-sector owner cannot justify that subsidy. But the Crown is more able to recognise and benefit from rail's broader social contribution. However, how this subsidy is delivered needs to be better linked to the broader benefits. The worst affected portions of the MNL are the segments on the coastal strips both north and south of Kaikōura. The reinstatement work in those areas is being coordinated with the reinstatement of State Highway 1, with both the road and rail corridors being moved further away from the coastal hills to provide more protection from future slips and earthquakes.

To date more than 1,500 people have been involved in the MNL reinstatement works. More than 12 kilometres of track has been rebuilt, with more than 5 kilometres of this rebuilt on completely new track alignments. At least five bridges and one tunnel will need to be completely replaced before full rail service can resume.

Much of the cost of the MNL rebuild will ultimately be met by KiwiRail's insurers. However, the government will meet the uninsured portion of the reinstatement costs and will cover the costs of the reinstatement works while the insurance claim process is progressed.

The Social Benefits of Rail

Rail provides valuable social benefits. Most of these social benefits accrue to road users. Rail:

- Reduces road congestion. Rail freight and passenger services reduce the volumes on the road network and so reduce the need to invest in further road capacity to maintain congestion at acceptable levels.
- Improves overall transport safety. Rail ensures a lower volume of road accidents, largely due to rail reducing the number of heavy commercial vehicles on the road. This is partly offset by increased rail-related accidents, such as at level crossings. But overall transport safety is improved by having passenger and freight traffic travel by rail.
- Reduces the overall transport network maintenance costs. The cost of maintaining the rail network is proportionally lower than the cost of maintaining the road network, particularly with regards to freight movements. If all rail freight movements were to be transferred to the roads then the combined national spend on road and rail network maintenance would rise.
- Reduces the environmental effects of transport. Rail has lower environmental emissions per passenger or per tonne of freight than its road-based equivalents. Very roughly, freight hauled by road has three times the environmental emissions of that same freight hauled by a diesel locomotive, which in turn has about three times the environmental emissions of that same freight hauled by an electric locomotive.



Landcorp Farming Limited

Description and Purpose

The Landcorp Group (Landcorp) consists of Landcorp Farming Limited and its subsidiaries; Landcorp Estates Limited, Landcorp Holdings Limited, Landcorp Pastoral Limited, and Focus Genetics Limited Partnership.

Landcorp is New Zealand's largest farming business. Its primary revenue streams are from the production of milk, lamb, wool, beef, venison and velvet. It operates 373,500 hectares (ha) across a combination of owned and leased farms totalling 125 locations around New Zealand and manages 1.5 million stock units. The government owns 100 percent of shares in Landcorp.

Balance sheet profile

Source: Landcorp Group



Effectiveness

Landcorp provides raw materials across New Zealand's agribusiness supply chain, contributing to a key industry in the economy.

- Landcorp operates 125 farms, of which 158,652 ha is owned and 214,842 ha is managed. Landcorp manages 1,480,620 stock units (refer to Figure 1) that in 2017 produced 9,519 tonnes of sheep meat, 7,665 tonnes of beef, 1,995 tonnes of venison and 20.3 million kg of milk solids.
- Top-line revenue has grown from \$210 million in 2016 to \$234 million in 2017 (a 11.2 percent increase) mainly due to a rebound in milk prices (refer to Figure 2).
- Landcorp accounts for approximately 1 percent of New Zealand's annual milk, sheep meat and beef production.

Efficiency

Returns have improved on the back of improved market prices...

- Since 2013 the government has received a total of \$32 million in dividends. In line with a dividend policy that prioritises debt reduction, no dividends were paid in 2016 or 2017. Historically, Landcorp's main source of value generation has been from capital gains on land held. But a fall in commercial value in 2016 and 2013 explains those years' negative TSR results.
- Table 1: Operating margin for 2017 was 15.2 percent up from 12.1 percent in 2016 due to higher revenue from recovering milk prices and higher market pricing of red meat (higher demand in the United States); revenue for 2017 was up 11.2 percent on the previous year.
- Farm working has decreased in 2017, however, total expenses have increased.*
- 2017 average stocking rate was reduced 3.0 percent to 2.52 cows per hectare and lambing was down slightly to 139.0 percent, although this was above the national average.

*Note: total farm cash expenditure, including labour, stock, feed, other working expenses and overheads.

Sustainability

...however, paying down debt has been favoured over dividends...

- Table 1: The recent OCF increase was driven by higher receipts from Livestock and Milk revenue streams. With increased exposure to dairy, Landcorp is well placed to capitalise on recovering milk prices. Landcorp's 2017 NPAT was up \$40.0 million from 2016 (a 351 percent increase). This was largely due to higher revenue from livestock (\$4 million), milk (\$26 million) and a \$20 million increase in the value of livestock reflecting strong market prices.
- For the revenue mix, refer to Figure 3.
- Refer to Figure 4 for Landcorp's capital structure.

Hectares farmed and stock units per FTE are declining

Figure 1: Hectares farmed and stock units from 2011 - 2017



S R

Milk prices have recovered but are likely to remain volatile

Figure 2: Fonterra total milk price (payout + dividend) from 2010 - 2018F



Source: Landcorp Group

Source: Fonterra

PERFORMANCE INDICATORS

Measure		2017	2016	2013	5-year average
Total Shareholder Return (TSR)	%	3.8	(6.8)	(0.1)	0.8
Dividend Yield (total)	%	0	0	0.4	0.2
Return on Equity (ROE)	%	0.4	0.1	3.6	2.8
Revenue	\$ million	233.5	210	203.1	223.6
EBITDAF*	\$ million	35.6	25.5	37.5	36.8
Operating Margin	\$ million	15.2	12.1	18.5	16.3
Operating Cash Flow (OCF)	\$ million	32.3	7.5	13.4	25.8
Net Profit After Tax (NPAT)	\$ million	51.9	11.5	(18.1)	16
Gearing (net)	%	14.1	13.6	13.7	13
Interest Cover	х	2.95	2.22	3.48	3.4

Source: The Treasury *Earnings before interest, taxes, depreciation, amortisation, and fair value adjustments

Resilience

...although exposure to commodity prices and a range of climate and physical risks remain key risks to Landcorp...

- Exposure to climate (eg, dry year) and biosecurity risks (eg, disease) are mitigated through a diverse farm portfolio across New Zealand.
- Commodity risk (eg, milk prices) is mitigated through fixed-price contract terms achieved through scale, deepening of partnerships, and hedges, such as milk futures.
- Regulatory risk (eg, environmental sustainability) is addressed by a continued focus on sustainable operations. Landcorp continues to explore alternative land uses

Adaptability

...and it will need to adapt to these challenges if it is to remain a leader in the sector.

- Landcorp is driving innovation in its farming practices and implementing the core Farm Management System across all farms in anticipation of changing operational dynamics in farming (eg, need for transparency and uses of data to improve productivity).
- Breeding and genetics programmes are seeking to improve the productivity and quality of livestock.
- The fencing of waterways continues as well as 852 hectares of new forestry plantings (Landcorp owns own 5,875 hectares of post-1989 forests).

Revenue is skewing towards generally higher margin dairy products







Landcorp's capital structure has remained relatively stable since 2013

Figure 4: Capital structure (NZ\$ millions) from 2013 - 2017



Source: Landcorp Group

Pāmu Safety Academy

Farming is a sector that carries a high degree of safety risks. According to Landcorp, agriculture is the highest risk industry for workplace fatalities in New Zealand, with, on average, 20 workplace fatalities a year in farming. Following three staff fatalities over a six-month period, Landcorp re-evaluated its approach to safety. The result was the development of a safety programme targeting the agriculture and other higher-risk sectors.

In 2018 Landcorp, along with Wilson Consulting of Australia, launched the 'Pāmu Safety Academy'. The academy will share learnings and tools developed by Landcorp to protect its staff, contractors and visitors. Landcorp plans to offer one- and two-day courses to farmers and industry leaders around New Zealand. These courses will focus on safety best practices and safety culture leadership, where participants will learn new skills that will help them change attitudes towards safety. The current curriculum covers the following five core areas: Industry Safety Competency Framework, Industry Critical Risk Management, Industry Contractor Induction, Industry Wellbeing and Industry Safety Leadership.

Landcorp will continue to face risks associated with farming, including volatility in commodity prices, as well as increasing regulatory compliance and supply chain transparency...

- Regulatory risks in relation to environmental sustainability. The challenge for Landcorp will be to proactively manage these issues and respond to regulatory compliance without compromising potential economic returns.
- Volatility in earnings from commodity markets or climate. Commodity-driven volatility may increase in response to higher exposure of dairy in the revenue mix. Climate-driven volatility (eg, droughts) can reduce earnings year to year. Large year to year earnings fluctuations, which aside from carrying downside risk, make business planning more difficult. Uncertainty about long-term trends from climate change may increase short-term volatility and reduce long-term earnings.
- New competitive pressures from plant-based products as a substitute for animal-based products. This trend is in response to greater focus on healthier and sustainable sources of food production. A reduction in the market size for animal-based food products may require Landcorp to focus on producing higher-margin animal-based goods (that enable farmers to remain profitable in the face of a shrinking market and increased compliance costs from carbon emissions) or to shift focus from animal-based production to plant-based production.
- Need for greater transparency across the supply chain (need for visibility and food safety for globally traded products). This trend is driving investment in disruptive technologies.

Landcorp is pursuing sustained reduction in injuries on Landcorp Farms and its notifiable injury and incident rate was down from 18 in 2015, to 11 in 2017 (Figure 5).

The commercial model of the The Pāmu Safety Academy initiative is yet to be proved up but is potentially a good example of how a State-owned enterprise might leverage its scale and reputation to demonstrate leadership in the sector.

- High maintenance costs from a large asset base. While the rate of return over the long term has been favourable, these are generally long-term fixed assets for which cash operating returns have been volatile and generally modest; the bulk of potential return has been through capital appreciation of farm land.
- Exposure to milk commodity prices. More recently its profitability has been hampered by a significant downturn in milk prices, which has coincided with an increasing exposure to dairy as its Wairakei farms become fully operational.
- Capital and property portfolio constraints. Capital is only released at the point of sale. Additionally, sale of land in the North Island, even when deemed as having low commercial or strategic value, is constrained by regulation that states that some land must first be offered to settle Treaty of Waitangi claims.
- Landcorp has limited opportunities to directly influence downstream consumer demand, given its position as a supplier of raw materials to manufacturers (eg, Fonterra and Westland Milk).
- High costs from compliance with environmental regulation to reduce carbon emissions will impact future profitability and constrain land use.

CASE STUDY



Figure 5: Notifiable injury and incident rate from 2015 - 2020

Source: Landcorp Group

...however with its scale and diverse farm portfolio, Landcorp is reasonably placed to tackle these challenges.

- Economies of scale. Landcorp is the largest farming business in New Zealand. This should enable Landcorp to achieve better contracting terms with customers and suppliers by exercising its buying power, and to achieve operating cost-efficiencies by spreading fixed overhead costs across more farms. Scale also enables the defence of margins using fixed-price contracts.
- A diverse portfolio. Landcorp's diverse set of revenue streams reduces its business risk. The diversity of its land portfolio also allows for greater coordination and flexibility from climatic events.
- Continued exploration of highest and best use of land, such as differentiation in milk production, including the current push into organic milk. Landcorp is also seeking to develop its genetics to help produce these higher margin products. While this strategy offers the potential for diversification from normal farming risks, it will also create new risks that will need consideration and careful management.
- There is an opportunity to explore alternate uses of land or property sales (if it is identified that a land parcel has a higher non-farming value). Funds generated through this could be used to reduce debt or paid to the government as a dividend.

- Investigate new technology and innovations to assist in the reduction of emissions and nutrient loss. Additionally, there is an opportunity to better leverage data from the Farm Management System, to improve decision-making and to drive operating efficiencies.
- Continued reduction in wastage from reductions in stock deaths.
- The US market is demanding more New Zealand grassfed, and hormone and antibiotic-free beef, and Landcorp is working with various parties on opportunities for paddock-to plate supply into that market. For example, expansion in Pāmu venison supply to meet growing US demand for grass-fed game meat through established in-market partners.

OVERVIEW

PERFORMANCE DIMENSIONS

New Zealand Post Limited

Description and Purpose

New Zealand Post - Tukurau Aotearoa (NZ Post) provides mail, parcel and logistical services. NZ Post also owns 53 percent of Kiwibank's parent company Kiwi Group Holdings Limited (KGHL), having sold 47 percent of its investment in KGHL to ACC and NZSF on 1 November 2016 for \$494 million.

The partial sale of KGHL has resulted in the deconsolidation of KGHL's banking assets and liabilities from NZ Post's balance sheet from 1 November 2016. As a result KGHL's performance has been excluded from this analysis, though its prior consolidation impacts past financial metrics (with prior years in Table 1 reflecting the consolidation of KGHL). In Table 1 2017 Operating Cash Flow excludes net operating cash flows from discontinued operations.

Balance sheet profile



Source: NZ Post, The Treasury * 2017 excludes investments in joint ventures

Effectiveness

NZ Post supports businesses and households through physical deliveries.

- NZ Post's operations underpin the supply chain for many New Zealand businesses. It provides postal services, delivering more than 0.60 billion items a year to around 1.98 million delivery points (0.24 billion tonnes of parcels and letters).
- In 2017, 70.7 million parcels (8.5 percent year-on-year increase) and 514.5 million letters (12.3 percent yearon-year decrease) were processed and delivered to New Zealand addresses or to international destinations.
- Figure 1: The percentage of letters delivered to standard was 89.1 percent for 2017 (a target of 95 percent), down year on year from 94.5 percent in 2016 (a target of 96.5 percent) as a result of change processes in some areas of operation and the impact of the Kaikoura earthquake.
- NZ Post met other delivery requirements with 99.97 percent of delivery points receiving three days or greater delivery (99.88 percent required).

Efficiency

Profitability has been boosted by oneoff items and investments.

- Dividends paid to shareholders spiked in 2017 due to the partial sale of KGHL (resulting in a \$0.10 billion special dividend to the government).
- Table 1: NZ Post's 2017 operating margin reflects the relatively low margin it currently earns in its mail and parcels businesses. The operating margin in prior years includes earnings from KGHL.
- Table 1: Net profit in 2017 was down on 2016, in part reflecting lower profits from KGHL (and a reduced ownership stake). NPAT 2016 includes a \$43 million gain on sale on the disposal of Converga. NPAT 2017 includes a \$24 million gain on the partial sale of KGHL.

Sustainability

Future profitability will be largely driven by parcel growth and eCommerce associated activity.

- NZ Post is increasingly focusing on the parcel market as a key source of revenues (referring to Figure 2). This market is highly competitive but parcel volumes have experienced strong growth, particularly international parcels (which grew 18 percent year on year).
- Underlying profit of \$4 million was up on the prior year's loss of \$8 million. This partly reflects cost-efficiency programmes, lower labour costs following restructuring and growth in parcels.
- However, the profitability of letters will remain under significant pressure (see Figure 3) as letter volumes are forecast to decrease at double-digit rates. Several cost initiatives have helped to stem the decline in letter profitability but these do not address the underlying trends towards digital communication.

The percentage of letters delivered to standard has been above 85 percent since 2012

Figure 1: Percent of letters delivered to standard from 2013 - 2017





NZ Post's revenue mix is shifting towards parcels Figure 2: Revenue mix from 2014 - 2017



Measure		2017	2016	2013	5-year average
Total Shareholder Return (TSR)	%	-17.2	9.7	1.8	7.9
Dividend Yield (total)	%	8.2	0.4	0.5	2
Return on Equity (ROE)	%	7.3	11.9	13.6	11.4
Revenue	\$ billion	0.89	1.49	1.69	1.47
EBITDAF*	\$ billion	0.04	0.23	0.22	0.19
Operating Margin	%	3.9	15.8	12.8	12.4
Operating Cash Flow (OCF)	\$ billion	0.01	0.15	0.18	0.1
Net Profit After Tax (NPAT)	\$ billion	0.09	0.14	0.12	0.12
Gearing (net)	%	8.8	N/A	N/A	N/A
Interest Cover	х	7.4	N/A	N/A	N/A

Source: The Treasury, NZ Post *Earnings before interest, taxes, depreciation, amortisation, and fair value adjustments.

Resilience

NZ Post has taken action to adjust its cost base as mail volumes fall.

- There was limited disruption to postal services following the Kaikoura earthquake. Similarly, NZ Post managed repairs to its electric Paxster delivery vehicle fleet in 2017 with little impact on users.
- NZ Post invested to improve its ability ٠ to meet the needs of customers over the peak season leading up to Christmas 2017.
- Figure 4: Following the partial sale of KGHL in 2017, NZ Post reduced debt to below its level of cash and equivalents (previously having net debt of \$0.09 billion). Standards & Poor's recently reaffirmed NZ Post's A+/ stable/A-1 credit rating.

Adaptability

NZ Post is undergoing a digital transformation to respond to disruptive technologies

- NZ Post is growing its digital offerings, such as YouShop, which experienced 27 percent growth in 2017.
- NZ Post launched Parcel Delivery Choices in response to the trend of consumers demanding increased customisation and flexibility of services. This allows customers to choose how and where they receive parcels (220,000 users in 2017).
- NZ Post has invested in cloud-based information technology (Mosaic) to support third-party logistics services.
- NZ Post is exploring, in partnership, blockchain solutions for authenticating products sent to China





The rate of letter decline has increased

Figure 3: Rate of change in letter and parcel volumes from July 2013 - June 2017





Debt has been reduced and cash increased following the partial sale of KGHL

Figure 4: Key elements of capital structure from 2013 - 2017



Business Transformation

Facing ongoing significant mail decline, NZ Post has undertaken a number of initiatives as part of its business transformation programme to reduce its cost base and position it to leverage growth in eCommerce and increasing digitisation. These changes include the integration of mail and parcel delivery services, a number of operational changes, targeted investments in technology and a rationalisation of assets.

NZ Post has made a number of changes to the frequency of delivery, including moving to alternate day delivery in urban areas and adjusting delivery frequency in rural and provincial areas. NZ Post has reduced the number of mail processing centres to three and invested in mixed mail sorting machines, beginning by integrating these in Auckland. NZ Post has invested in electric Paxster delivery vehicles as part of its plan to roll out 450 of these vehicles nationwide and is also investigating the use of electric vans as, well as reducing electricity use in its buildings. It has also opened a new parcel processing facility in Christchurch.

NZ Post (whose retail network strategy is distinct from Kiwibank's) continues to move to an agency model for its retail presence as a way of reducing cost and allowing customers access via other stores they may frequent (some of which may have longer operating hours). NZ Post has sold a number of non-core logistics assets, including 35 percent of Datacom in 2013, Couriers Please in 2014, Converga in 2016 and 47 percent of KGHL in 2017 as well as property assets (see Figure 5).

NZ Post has grown the number of users of its YouShop service, allowing New Zealanders to purchase from a number of countries outside New Zealand via NZ Post. It has also allowed customers to tailor their deliveries with 220,000 users of parcel delivery choices. Further, it has trialled the use of a subscription-based eCommerce delivery service, Shipmate, in partnership with the Warehouse Group brands. It has also invested in cloud-based information technology (Mosaic) to support third-party logistics services.

NZ Post faces a number of risks and challenges...

- The significant decline in mail volume (which is a common trend internationally) is expected to continue as uptake of digital alternatives increases.
- NZ Post incurs a high level of fixed costs in its delivery network. Further, New Zealand's low population density serves to increase the effective delivery cost per unit.
- Continued digitisation means that customers are expecting greater flexibility and tailoring of services. This includes delivery time windows, same or next day delivery, item tracking, and redirection options.
- NZ Post faces some complexities in its ability to respond to profitability pressures in its mail business:
 - Contractual commitments (including international agreements) and elements of the Deed of Understanding with the Government set certain service levels, and in some cases pricing, commitments. These make some of the pricing and service changes that NZ Post might consider more complex or difficult to implement in practice.

- NZ Post operates in a deregulated market, with the challenge that some competitors will focus on the more profitable areas, placing pressure on the sustainability of NZ Post's nationwide universal service.
- Price changes are likely to accelerate the mail volume decline (with the potential to hasten the shift by key customers to digital alternatives).
- NZ Post's growth area of parcels is highly competitive, with low barriers to entry or switching costs. Parcel revenue is likely to continue to make up an increasing proportion of NZ Post's revenue mix. The parcels business is highly competitive, placing pressure on the prices NZ Post is able to charge. As the market matures, this could intensify further. Parcel volumes are also sensitive to demand in adjacent industries, such as retail, which can be volatile in times of economic downturn. There is also a risk of the potential entry of fully vertically integrated online retailers or low-cost technology-enabled offerings. The scale of the New Zealand market may limit the attractiveness of market entry from large global disruptors but any entry is likely to focus on areas of greatest population density, placing pressure on NZ Post.

NZ Post has accessed capital through sale of non-core assets holdings

Figure 5: Value of asset realisations from 2013 - 2017



Source: NZ Post, The Treasury

... however, NZ Post is well placed to benefit from growth opportunities in the parcels market.

- NZ Post is a well-recognised and trusted New Zealand brand. It was one of the top 20 companies in Colmar Brunton's 2017 Corporate Reputation Index and top 10 in terms of trust. Brand favourability in 2017 was the highest since 2014 (New Zealand Post 2017 Integrated Report).
- It has network scale advantages as the largest mail service provider in New Zealand with the most extensive network (including rural New Zealand), assets and retail and community presence (with 1.98 million delivery points and 982 service points). Its parcel service standard also compares favourably with competitors.
- Strong international links. Under the Deed of Understanding, NZ Post is the sole designated postal administrator for New Zealand and member of the Universal Postal Union. This assists in achieving international revenue and developing commercial international partnerships and trade agreements with a range of domestic and international businesses partners.
- Advanced core systems. Investment in its systems is allowing NZ Post to improve its operational efficiency and enhance its service offering to customers, such as inventory and third-party logistics (contract logistics) services.
- NZ Post retains cash reserves and a 53.0 percent shareholding in KGHL. NZ Post has over \$200 million of cash and short-term investments on its balance sheet.

Transpower New Zealand Limited

Description and Purpose

Transpower New Zealand Limited (Transpower) is a Stateowned Enterprise that owns and operates New Zealand's high voltage electricity grid. This grid connects electricity generators to electricity distribution companies and certain major industrial users. Transpower's network consists of over 11,000 kilometres of transmission lines and 169 substations.

Transpower also acts as the System Operator, which coordinates the real-time demand and generation dispatch of electricity across the grid.

Transpower's grid management and System Operator roles are regulated by the Commerce Commission and the Electricity Authority, respectively. This regulation is designed to protect consumers against Transpower's monopoly position but it also provides Transpower with stable earnings and relatively low business risk.

Balance sheet profile



Source: Transpower, The Treasury

Effectiveness

Transpower's grid has demonstrated performance across reliability and safety metrics, generally exceeding targets.

- Around 91 percent of New Zealand's consumed electricity is routed through Transpower's national grid. This makes the effective and reliable transmission of electricity across its grid vital to the performance of the economy.
- Transpower exceeded its key performance indicators (KPI) targets in relation to grid availability and overall safety in 2017 (refer to Table 2), however it did record one serious injury in 2017.
- The ability to work with stakeholders has been key to mitigating community and environmental concerns about the location and scale of activities.

Efficiency

Transpower is making efficient use of its capital.

- Between 2013 and 2017, Transpower paid \$1.1 billion in dividends to the government. Total shareholder return has averaged 12.1 percent over the same period. This was driven by growth in its earnings and growth in the valuation of Transpower's business.
- Table 1: Transpower's ROE was 18.6 percent for 2017. This was supported by Transpower's relatively high debt levels leveraging up shareholder returns.
- Table 1: Operating margin has risen slightly year on year to 2017 due to modest revenue growth and stable operating expenses.

Sustainability

Its operations are sustainable, with revenues covering operating costs.

- Transpower operates within a mature regulatory framework that provides it with a stable earnings stream (refer Figure 1).
- The latest Statement of Corporate Intent (SCI) forecasts a 6.5 percent return on capital over the next three years (Transpower's regulated cost of capital is currently 6.4 percent).
- Given its stable earnings stream, Transpower is able to hold a relatively high level of debt (see Figure 2).
- To sustain the operations of its heavy infrastructure business, Transpower spent \$0.41 billion in 2017 on maintenance, replacement and enhancement of assets or approximately 38.6 percent of revenue.
- Transpower met its financial targets for 2017 (see Table 3).



Transpower generally meets its self set nonfinancial targets

Table 2: Transpower operational targets

Financial targets	2017	Target
Number of fatalities or injuries causing permanent disability	1(injury)	0
Total Recordable Injury Frequency Rate per million hours worked	5	< 8.0
HVDC circuit availability (%)	98.60	98.50
Key HVAC circuits availability (%)	99.00	98.70



Transpower usually meets or exceeds its self set financial targets

Table 3: Transpower financial targets

Financial targets	2017	Target
Free funds from Operation (FFO)/Interest paid (x)	3.4	3.2
FFO/debt (%)	16.70	15.80
Debt/Net debt + equity (%)	68.00	70.00
Return on capital (%)	7.00	6.90

Source: Transpower SCI FFO: Cash Flow from Operations +/- changes in working capital, plus interest costs and implied depreciation on operating leases, divided by interest costs. Return on Capital: Earnings before interest, tax and changes in the fair value of financial instrucments (EBITF) less tax expense (adjusted for interest tax shield), divided by average capital employed.

Capital employed is made up of current assets (excluding derivatives) plus fixed assets (excluding works under construction), less current liabilities (excluding current debt, derivatives, interest payable and income in advance).

OVERVIEW
Table 1: Financial highlights

Measure		2017	2016	2013	5-year average
Total Shareholder Return (TSR)	%	17.6	11.8	21.3	12.1
Dividend Yield (total)	%	10.6	11.8	21.3	13.3
Return on Equity (ROE)	%	18.6	13.1	18.1	14.6
Revenue	\$ billion	1.06	1.03	0.91	1.01
EBITDAF*	\$ billion	0.77	0.75	0.62	0.72
Operating Margin	%	72.9	72.5	67.6	71.3
Operating Cash Flow (OCF)	\$ billion	0.52	0.49	0.35	0.47
Net Profit After Tax (NPAT)	\$ billion	0.27	0.18	0.26	0.21
Gearing (net)	%	66.9	69.1	66.8	66.8
Interest Cover	х	3.7	3.4	3.1	3.3

Source: Transpower, The Treasury

*Earnings before interest, taxes, depreciation, amortisation and fair value adjustments

Resilience

Transpower must manage downstream demand fluctuations and physical risks.

- Transpower has limited ability to influence electricity demand at peak times. Peak demand dictates the scale of the national grid and, ultimately Transpower's cost structure.
- Transpower's grid is exposed to physical risks, often at sites of significant supply criticality (eg, at Haywards or Benmore substations). These critical sites are engineered to high standards of resilience.
- Transpower has considerable contingency planning and insurance should a significant adverse risk eventuate. This mitigates, but does not eliminate, operational and financial impacts.

Adaptability

Disruptive technology trends may impact Transpower's longer-term business model in the future.

- Transpower is maintaining close attention to disruptive technology and its potential to disrupt its business.
- Transpower's long-term strategy document 'Transmission Tomorrow' examines disruptive technology and has concluded the national grid will remain relevant and viable into the future.
- Transmission Tomorrow also sets out Transpower's approach to dealing with disruptive technology. This includes remaining as efficient and effective an organisation as possible, playing an active role in shaping industry developments and trying to match its grid investment to demand – neither under or over investing.



Transpower's earnings have been stable, consistent with a regulated monopoly







Transpower has a high degree of leverage in its capital structure

Figure 2: Change in gearing from 2013 - 2017



Source: Transpower, The Treasury

The Future of the Transpower Grid

Transpower's strategic planning document "Transmission Tomorrow" examined the long-term future needs expected of its grid. For this study it identified a number of trends that will drive change to its business:

Climate change policy – drive towards electrification and decarbonisation of New Zealand's economy.

- 1 Distributed storage battery capacity and costs are improving.
- 2 Energy use changes Electric Vehicles, Solar Photovoltaic (PV).
- 3 Smarter Grid offers a more efficient supply chain.
- 4 Urbanisation could lead to greater pressure on rural consumers.
- 5 Electrification scope for increased electricity use.

Scenario testing

Based on the identified trends, Transpower developed a suite of future-looking scenarios based around demand growth and technology uptake. Although these scenarios are considered 'extreme' they are credible and they set upper and lower bounds.

The main finding was that even under the most extreme negative scenario the grid is still required in the future.

The main performance considerations for Transpower in the near term include:

- The Transmission Pricing Methodology (TPM). Should the Electricity Authority propose a relatively complex TPM, it could result in an operationally difficult model to implement and maintain for Transpower and also present ongoing industry disagreement.
- Auckland reconductoring and the lack of an historical dedicated transmission corridor. Transpower has a large programme of replacing overhead conductors in and around Auckland. This programme is both large in scale and also technically difficult as it is over built up residential and commercial areas. This difficult situation has arisen partially due to Transpower not always having a dedicated transmission corridor, particularly in dense urban areas such as Auckland. This has left Transpower vulnerable to under-build in and around its infrastructure.
- The Tiwai Point Aluminium Smelter. A Tiwai smelter closure would trigger significant investment designed to reroute surplus electricity northward. This could represent a major financial and operational commitment. In addition, the uncertainty around the smelter's future may discourage new generation investment. This could compromise security of supply in future years; a risk Transpower must manage as System Operator. This risk is currently managed by the Huntly power plant acting as a thermal backup generator in dry years.

Transpower's future states

Overlaying the key trends and the scenarios, Transmission Tomorrow developed three sequential states of evolution in the grid.

- 1 Evolving generation (now-2025).
- 2 Changing load (2025-2040).
- 3 Extensive battery storage (2040-onwards).

The 'Changing Load' stage represents the greatest risk and uncertainty. To assist navigating through these stages, the following strategic priorities were developed:

Strategic priorities for guiding Transpower

- 1 Reduce costs and evolve services to stay competitive.
- 2 Play an active role in shaping the industry's future.
- 3 Sustain Transpower's social licence to operate.
- 4 Match Transpower's infrastructure build to need over time.
- 5 Improve asset management.
- 6 Develop organisational effectiveness.

Transpower's long-term strategic planning document, Transmission Tomorrow, considers that Transpower's national grid will still be relevant and viable in the medium- to long-term owing to various factors:

- The grid is cost-competitive for supplying electricity. Transpower has estimated that distributed generation is currently more costly than grid-sourced energy. However, as solar PV and battery technology becomes more efficient, this gap is expected to narrow.
- The grid provides reliable access to largely renewable energy. The average availability of Transpower's grid is typically around 99.96 percent. In addition, the electricity that Transpower transmits over its grid is around 80 percent renewable.
- National balancing of supply and demand. The transmission grid facilitates regions with surplus generation to export to regions with excess demand, lowering the cost of electricity across New Zealand.

FOCUS AREAS



For more information: https://www.transpower.co.nz/about-us/transmission-tomorrow

Disruptive technology could strain Transpower's traditional business model. Conversely, it could provide growth opportunities, improve asset utilisation and secure its business model:

- Technological improvements in distributed generation could bypass the grid. Advances in solar PV could reduce electricity demand from the grid or even see consumers disconnect completely. Transpower's position in the value chain removes it from the end consumer and limits its ability to influence consumer choices.
- Conversely, technological change and disruption may provide growth opportunities. Battery storage could be utilised to store electricity from the grid for use at later times when demand is high. This could flatten electricity demand profiles, improve Transpower's asset utilisation, defer capital investment and improve grid reliability. Similarly, smart grid and digitisation technology could improve asset management, through the better use of data and information allowing predictive analytics and the use of automated control.
- Growth in the downstream electricity demand. Continued electrification (such as increased uptake of electric cars) would increase electricity demand and the continued use of Transpower's grid and mitigate the risks of disruptive technology.

COMMERCIAL

Conclusion: The road ahead

In Section one we presented an analysis of the changes to the balance sheet, and its macroeconomic function as a cushion to the economy and society against large adverse events of various sorts. That discussion highlighted the importance of considering expected future government assets and liabilities, which informs fiscal strategy and policy judgements about prudent levels of debt.

The state and trajectory of human, social and natural capitals need to be included in such aggregated balance sheet resilience and fiscal space analysis. It is easy to imagine how, for example, threats to physical capital from natural hazards, to human capital from the changing nature of work, or to natural capital from climate change, could significantly impact the economy and hence the government's balance sheet from changes in revenue. And on the liability side, threats to New Zealanders' wellbeing, such as natural hazards, financial crises and disease outbreaks have historically led to government responses that may need to be funded by issuance of material amounts of debt. A strong and resilient balance sheet allows adaptation to substantial, known trends such as climate change and the ageing population.

These kinds of extensions to government balance sheet analysis would form part of a more comprehensive, wellbeing-oriented approach to assessing the cushioning function of the government balance sheet in future Investment Statements. In Section two (and the detail in section four) we looked at the performance of government assets and liabilities using the five dimensions of effectiveness, efficiency, sustainability, resilience and adaptability. Reviewing these dimensions suggested that while there are clearly elements of non-financial outcomes-focused reporting that can be done and are being done, the general tendency is to focus on rather narrow and traditional financial and operational metrics. These metrics, such as financial rate of return and asset utilisation and condition, reflect their importance for transparency, auditability and comparability with private sector and historical benchmarks.

But from a wellbeing perspective the reporting is clearly incomplete. Government asset management decisions should explicitly be driven by their contribution to wellbeing, compared to the alternatives available. The assets and activities of the Department of Conservation are an obvious example. Its land holdings are valued in financial statements at 'rateable' value, which probably relates mostly to their market value as unimproved land. This reporting approach largely misses the point of the department's asset management activities, to the extent that it ascribes a value of close to zero to the biodiversity, water quantity and quality, erosion control and existence values (to name but a few) of the conservation estate.

The quick review of the state of the indicators for natural capital both shows the possibilities available to fill these gaps, and the range of important data that are missing or incomplete. Filling these gaps would help move between current practice and a more mature, explicitly wellbeing-oriented presentation of the Investment Statement. But also to be further developed are the analytical tools to identify and refine how government activities, including asset management, contribute to wellbeing outcomes, and the institutional arrangements to support agencies to work together towards greater wellbeing.

The Treasury intends to do further work, along with others, with the Living Standards Framework to support more comprehensive government accounting, performance and project assessment and reporting.

Appendix 1

Table A.1: The government balance sheet by Portfolio

Social Portfolio			
Public	Crown Law Office	Ministry for Primary Industries	Ministry of Social Development
Service	Department of Conservation	Ministry for the Environment	Ministry of Transport
	Department of Corrections	Ministry for Vulnerable Children, Oranga Tamariki	New Zealand Customs Service
	Department of Internal Affairs	Ministry for Women	New Zealand Security Intelligence Service
	The Department of the Prime Minister and Cabinet	Ministry of Business, Innovation and Employment	Serious Fraud Office
	Education Review Office	Ministry of Defence	Social Investment Agency
	Government Communications Security Bureau	Ministry of Education	State Services Commission
	Inland Revenue Department	Ministry of Foreign Affairs and Trade	Statistics New Zealand
	Land Information New Zealand	Ministry of Health	The Treasury
	Ministry for Culture and Heritage	Ministry of Justice	
	Ministry for Pacific Peoples	Ministry of Māori Development	
Non-Public Service	New Zealand Defence Force	Office of the Clerk of the House of Representatives	Parliamentary Service
	New Zealand Police	Parliamentary Counsel Office	
Crown Entities	Accident Compensation Corporation	Fire and Emergency New Zealand	New Zealand Qualifications Authority
	Accreditation Council	Health and Disability Commissioner	New Zealand Symphony Orchestra
	AgResearch Limited	Health Promotion Agency	New Zealand Tourism Board
	Approx 2,416 schools (including Te Aho o Te Kura Pounamu – The Correspondence School)	Health Quality and Safety Commission	New Zealand Trade and Enterprise
	Approx. 150 Crown entity subsidiaries	Health Research Council of New Zealand	New Zealand Transport Agency
	Arts Council of New Zealand Toi Aotearoa	Heritage New Zealand Pouhere Taonga	New Zealand Venture Investment Fund Limited
	Broadcasting Commission	Housing New Zealand Corporation	New Zealand Walking Access Commission
	Broadcasting Standards Authority	Human Rights Commission	Office of Film and Literature Classification
	Callaghan Innovation	Independent Police Conduct Authority	Pharmaceutical Management Agency
	Children's Commissioner	Institute of Environmental Science and Research Limited	Privacy Commissioner

		Civil Aviation Authority of New Zealand	Institute of Geological and Nuclear Sciences Limited	Radio New Zealand Limited
		Commerce Commission	Landcare Research New Zealand Limited	Real Estate Agents Authority
		Crown Irrigation Investments Limited	Law Commission	Retirement Commissioner
		District Health Boards (20)	Maritime New Zealand	Social Workers Registration Board
		Drug Free Sport New Zealand	Museum of New Zealand Te Papa Tongarewa Board	Sport and Recreation New Zealand
		Education New Zealand	National Institute of Water and Atmospheric Research Limited	Takeovers Panel
		Electoral Commission	New Zealand Antarctic Institute	Te Reo Whakapuaki Irirangi (Māori Broadcasting Funding Agency)
		Electricity Authority	New Zealand Artificial Limb Service	Te Taura Whiri I Te Reo Māori (Māori Language Commission)
		Energy Efficiency and Conservation Authority	New Zealand Blood Service	Tertiary Education Commission
		Environmental Protection Authority	New Zealand Film Commission	The New Zealand Institute for Plant and Food Research Limited
		External Reporting Board	New Zealand Forest Research Institute Limited	Transport Accident Investigation Commission
		Families Commission	New Zealand Lotteries Commission	WorkSafe New Zealand
		Financial Markets Authority	New Zealand Productivity Commission	
	Wider State Sector	Tertiary Education Institutes		
Public Finan	Public Finance Act	Agricultural and Marketing Research and Development Trust	New Zealand Fish and Game Council	Pacific Island Business Development Trust
	Organisations	Asia New Zealand Foundation	New Zealand Game Bird Habitat Trust Board	Reserves Boards (20)
		Fish and Game Councils (20)	New Zealand Government Property Corporation	Te Ariki Trust
		Game Animal Council	New Zealand Lottery Grants Board	The Māori Trustee
		Leadership Development Centre Trust	Ngai Tahu Ancillary Claims Trust	
		National Pacific Radio Trust	Pacific Co-operation Foundation	
Pu Fin Scl Co	Public Finance Act	City Rail Link Limited	Ōtākaro Limited	Tamaki Redevelopment Company Limited
	Companies	Crown Asset Management Limited	Predator Free 2050 Limited	The Network for Learning Limited
		Crown Fibre Holdings Limited	Research and Education Advanced Network New Zealand Limited	
		Education Payroll Limited	Southern Response Earthquake Services Limited	
	Offices of Parliament	Office of the Ombudsmen	The Controller and Auditor-General	The Parliamentary Commissioner for the Environment
	State-owned Enterprises	Electricity Corporation of New Zealand Limited	New Zealand Railways Corporation	
1				

Financial Portfolio			
Crown Financial Institutions (CFIs)	Accident Compensation Corporation (ACC) Investments	Government Superannuation Fund Authority (GSF)	New Zealand Superannuation Fund (NZSF)
	Earthquake Commission (EQC) – Natural Disaster Fund (NDF)	National Provident Fund (NPF) Note: NPF has been excluded from the performance analysis	
Financial Stability and Funding	New Zealand Debt Management Office (NZDMO)	Reserve Bank of New Zealand (RBNZ)	
Commercial P	ortfolio		
Commercial	State-owned Enterprises	Crown Companies	Crown Entities
Priority Companies	Airways Corporation of New Zealand Limited	Christchurch Airport (25%)	Public Trust
	Animal Control Products Limited	Dunedin Airport (50%)	
	AssureQuality Limited	Hawke's Bay Airport (50%)	
	KiwiRail Holdings Limited	Fairway	
	Kordia Group Limited	Television New Zealand Limited	
	Landcorp Farming Limited		
	Meteorological Service of New Zealand Limited		
	New Zealand Post Limited (incl. Kiwi Group Holdings Limited)		
	Quotable Value Limited		
	Solid Energy New Zealand Limited (selling-down assets)		
	Transpower New Zealand Limited		
Listed		Air New Zealand Limited (51.9 %)	
Companies		Genesis Energy Limited (51.2 %)	
		Meridian Energy Limited (51.0%)	
		Mercury NZ Limited (52.0%)	

Appendix 2: Glossary

Term	Definition
Asset	A resource controlled as a result of past activities which is expected to deliver future benefits.
Balance Sheet	A statement of assets, liabilities and net worth, also known as the Statement of Financial Position.
Book Value	The value at which an asset is recognised after deducting any accumulated depreciation (amortisation) and accumulated impairment losses thereon. Also known as carrying value.
Capital Employed	Interest-bearing debt plus share capital plus retained earnings. Equity should be adjusted for International Financial Reporting Standards (IFRS) fair-value movements but not adjusted for revaluations.
Capital Expenditure	Expenditure which purchases or upgrades an asset.
CFI	Crown Financial Institution, a Crown entity that has specific responsibilities relating to the management and investment of significant Crown financial assets. This group includes: ACC, EQC, GSF, and NZSF.
Commercial Priority Companies	Companies that operate as commercial enterprises. Some of these are partially owned by the Crown.
Commercial Value	This is the board's estimate of the current commercial value of the Crown's investment in the Group as per the company's Statement of Corporate Intent.
Compound annual growth rate (CAGR)	The mean annual rate of return of an investment over a specified period of time longer than one year. The calculation is: (Valueend/Valuebeginning)^(1/number of years)-1
Comprehensive Balance Sheet	The addition of the fiscal balance sheet to the GAAP balance sheet. The fiscal balance sheet represents the stock in today's dollars of future spending and revenue.
Comprehensive Net Worth	The difference between the assets and liabilities of the comprehensive balance sheet.
Contingent Liability	A cost the Crown will have to face if a particular uncertain and not probable event occurs. Typically, contingent liabilities consist of guarantees and indemnities, legal disputes and claims, and uncalled capital.
Core Crown	The core Crown is represented by departments, Offices of Parliament, the Reserve Bank of New Zealand, and the New Zealand Superannuation Fund.
Crown	The term Crown Includes all Ministers of the Crown and all departments, but does not include an Office of Parliament, a Crown entity, or a state enterprise.
Crown Entities	The term Crown entity covers a wide range of different organisations that collectively undertake a range of different functions: regulatory, advisory, service delivery, devolved purchase and ownership. Most Crown entities exist under their own governing legislation. They form part of the Crown reporting entity, but are not part of the Crown itself.

Department	A government department is an organisation responsible for the administration of a particular area of government.
Depreciation	The wearing out, consumption or other loss of value of assets. Allocated as an expense over the estimated useful life of each asset.
Dividend Payout	The proportion of net operating cash flows paid out as a dividend to the shareholder. The calculation is: Dividends paid/Net cash flow from operating activities.
Dividend Yield	The cash returned to the shareholder as a proportion of the value of the company. The calculation is: Dividends paid/Average commercial value. Dividends paid during the year are used, not dividends declared for the year.
EBITDAF	Earnings before interest and taxation, depreciation and amortisation and fair-value adjustments.
Equity	Total shareholders' equity taken from the balance sheet, adjusted for IFRS fair- value movements but not adjusted for revaluations.
Fair-Value Adjustments	Includes unrealised fair-value gains/losses on derivatives or all fair-value gains/ losses on derivatives where the entity does not separately identify unrealised items. Also includes changes in the fair value of biological assets and investment properties.
Fiscal Policy	The government's policy relating to its spending, revenue and balance sheet.
Functional Leaders	Means those individuals or business units appointed by the State Services Commissioner to give effect to functional leadership. Functional leadership is leadership of an aspect of business activity, on a cross-agency or cross-system basis, aimed at securing economies or efficiencies, improving services or service delivery, developing expertise and capability across the Public Service, and ensuring business continuity.
GAAP	Generally Accepted Accounting Practice, describes the assumptions and rules applied when preparing and presenting financial statements. In New Zealand the Financial Reporting Act 1993 requires most reporting entities in both the private and public sectors to comply with GAAP.
GDP	Gross domestic product, a measure of the value of all goods and services produced in New Zealand.
Gearing Ratio (Net)	Measure of financial leverage for debt. The ratio of debt (liabilities on which a company is required to pay interest) less cash, to debt plus equity.
Government	The party or parties that command a majority of the House on confidence and supply matters; also used to mean the Executive.
government	The concept of government as opposed to referring to any particular Government at a point in time.
Interest Cover	The number of times that earnings can cover interest. The calculation is: EBITDAF/Interest paid.
Investment-Intensive Agencies	Tier 1 and tier 2 agencies that manage large or service-critical portfolios, programmes or projects. The list of tier 1 and tier 2 agencies is approved by Investment Ministers.
Investor Confidence Rating	A rating based on evidence that reflects the level of confidence in the agency or sector in which investments may be made.

Liabilities	Obligations arising as a result of past transactions which are expected to result in an outflow of benefits in the future.
Listed Companies	Companies listed on the New Zealand Stock Exchange (NZX) that the Crown holds a majority shareholding in.
Multiple Objective Companies	Companies that have primarily commercial objectives as well as non-commercial objectives.
Net Core Crown Debt	Represents gross sovereign issued debt less core Crown financial assets (excluding advances and financial assets held by the NZSF).
Net Worth	Assets less liabilities (also referred to as Crown balance or equity).
NPAT	Net profit after tax.
Operating Cash Flows	Cash flows from operating activities less cash flows to operating activities.
Operating Margin	The profitability of the company per dollar of revenue. The calculation is: EBITDAF/Revenue.
Outcomes	Impacts on or consequences for the community of the outputs or activities of the government.
PP&E	Property, plant and equipment.
Retained Earnings	Profits retained in the business (ie, after dividends to the shareholder).
Return on Capital Employed	The efficiency and profitability of a company's capital from both debt and equity sources. The calculation is: EBIT adjusted for IFRS fair-value movements/ Average capital employed.
Return on Equity	How much profit a company generates with the funds the shareholder has invested in the company. The calculation is: NPAT/Average equity.
Return on Equity Adjusted for IFRS Fair- Value Movements and Asset Revaluations	Return on equity after removing the impact of IFRS fair-value movements and asset revaluations. The calculation is: NPAT adjusted for IFRS fair-value movements (net of tax)/Average of share capital plus retained earnings.
Revenue	Revenue from the operations of the business. Interest revenue should be excluded. For the electricity generators, this should be net revenue.
Schedule 4A Companies	Are companies under the Public Finance Act 1989, and are not required to be 100% owned by the Crown
Share Capital	The amount of capital originally invested by the shareholder and any subsequent equity injections.
Total Shareholder Return (TSR)	Performance from an investor perspective. TSR measures the combined return from dividends and growth in the value of the company. The calculation is: (Commercial Value _{end} less Commercial Value _{beg} plus dividends paid less equity injected)/Commercial Value _{beg} .
Whole of Life Costs (WOLC)	Means the present value of total cash costs of an investment over its life cycle

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