



TE TAI ŌHANGA  
THE TREASURY

# Te Tai Waiora: Wellbeing in Aotearoa New Zealand 2022

Launch of the first Wellbeing Report

Speech by Caralee McLiesh, Secretary to the Treasury<sup>1</sup>

24 November 2022

Tēnā koutou katoa. Greetings and welcome.

I am delighted today to launch *Te Tai Waiora, Wellbeing in Aotearoa New Zealand 2022*, the Treasury's first regular report on the state of wellbeing in Aotearoa New Zealand.

In April, I hosted a seminar to share some early findings from this work. Since then, we have been privileged to host seminars by many local and international wellbeing experts, who have contributed a range of insights from the forefront of the field.

Many of these seminars can be viewed on our website. We hosted people like Joseph Stiglitz and John Helliwell, top economists who have been influential in the development and use of wellbeing measures in many countries in recent years. As Professors Stiglitz and Helliwell and others made clear, wellbeing has always been at the heart of economics. The concept can be traced back at least two and a half millennia to Aristotle's teaching that the purpose of life was earthly happiness or human flourishing. The idea was then picked up by Classical economists and moral philosophers such as Adam Smith and John Stuart Mill two and a half centuries ago.

---

<sup>1</sup> I would like to acknowledge with thanks all those involved in preparing this speech. In particular, thank you to Diana Cook, Diego Cardona, Tim Hughes, Dominick Stephens, Max Christie, Giles Bollinger, Tim Ng, Chris Thompson, Bryan McDaniel and Michael Thomson.

The reporting of progress in a way that integrates traditional measures of economic performance with broader indicators of living standards is simply economics done well. We share that view with international organisations such as the OECD and the World Bank, who have been building the analytical foundations for wellbeing measurement for more than a decade. We also share it with other jurisdictions such as Canada, Finland and Scotland, who are also building wellbeing analysis into their policy work.

To help structure our analysis, we have used the Treasury's Living Standards Framework alongside He Ara Waiora, a more recently-developed framework that provides a Māori perspective on wellbeing. Both frameworks help conceptualise the things that matter for wellbeing.

The report responds formally to the new legislative requirement introduced into the Public Finance Act in 2020. The Treasury is now required to produce a wellbeing report at least once every four years. Using indicators, the report must describe the state of wellbeing in New Zealand, how that state has changed over time, and the sustainability of, and any risk to, wellbeing.

The work I will discuss today takes a long-term view. It looks back over the last 20 years to identify slower-moving trends, as well as forward to consider how wellbeing might evolve in future. This step back provides the broader context for us to consider today's challenges such as inflation, war and the lingering effects of COVID-19.

Te Tai Waiora provides a 'big picture' overview across many different topics relevant to wellbeing, such as health, housing, education, social connections and the environment. We have drawn on the insights and knowledge of experts within and outside the public sector. The report is intended to complement more in-depth reporting by specialist sector agencies, and research by subject matter experts. Our aim has been to join the dots and identify major themes about the state of wellbeing and its sustainability.

Te Tai Waiora focuses on outcomes. Durable improvement in outcomes depends on action being taken by many actors and sectors, including individuals, families, whānau, businesses, iwi, local governments, NGOs, and central government. Most of the trends we observe span decades, and can't be attributed to any single actor or event. The intent is to support a look forward and highlight issues warranting further discussion and choices facing our society.

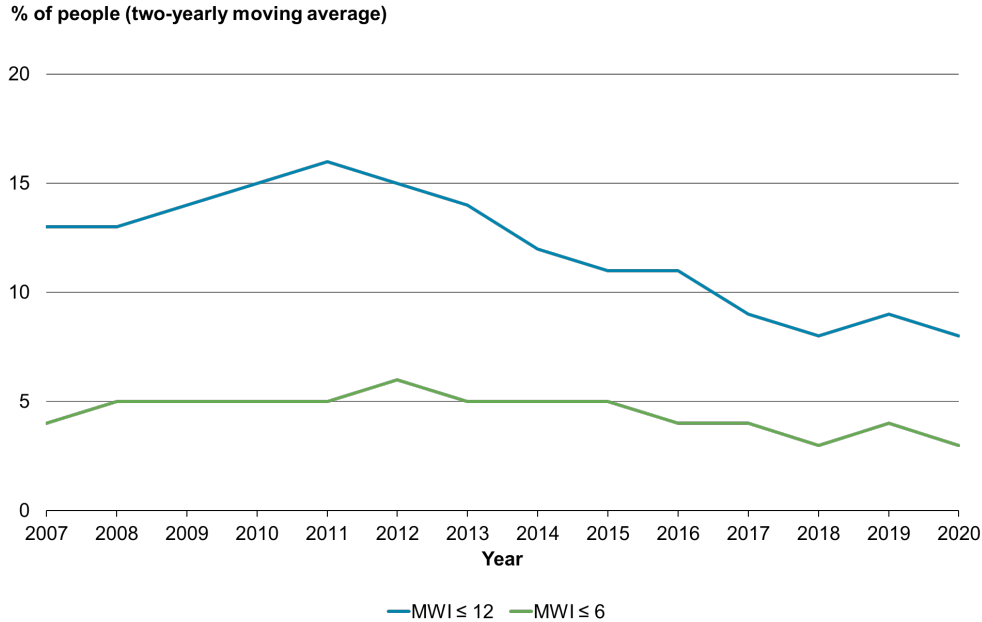
The wellbeing report and accompanying background papers provide a wealth of further detail and links to the literature. Today I want to highlight two key, related themes: intergenerational equity in wellbeing, and the need to build our resilience to future risks. First, I will cover the state of wellbeing and trends in wellbeing, then the distribution of wellbeing, including a summary of our findings on Māori wellbeing. This includes a look at intergenerational economic mobility. Then I will turn to the future, and discuss sustainability, risks and resilience.

# The state of wellbeing and its trends

The first part of Te Tai Waiora looks at how the state of wellbeing has changed over time in Aotearoa New Zealand.

In many ways, our wellbeing has improved over the past twenty years. Since the early 2000s, real average household incomes have increased by 47%. This has contributed to material hardship rates falling by about half over the past decade or so, and declining child poverty.

Figure 1 – Material hardship rates have halved in a decade



Source: Ministry of Social Development analysis of Household Economic Survey

Life expectancy at birth has increased from 78.4 to 82.3 years, and the road toll has fallen by 30%.

Our wellbeing is also high, in many respects, compared to other developed countries. Almost 80% of the working age population is employed, putting us near the top of the OECD. 95% of adults report they have friends or relatives to count on in times of trouble, placing us in the top quartile of OECD countries on this measure.

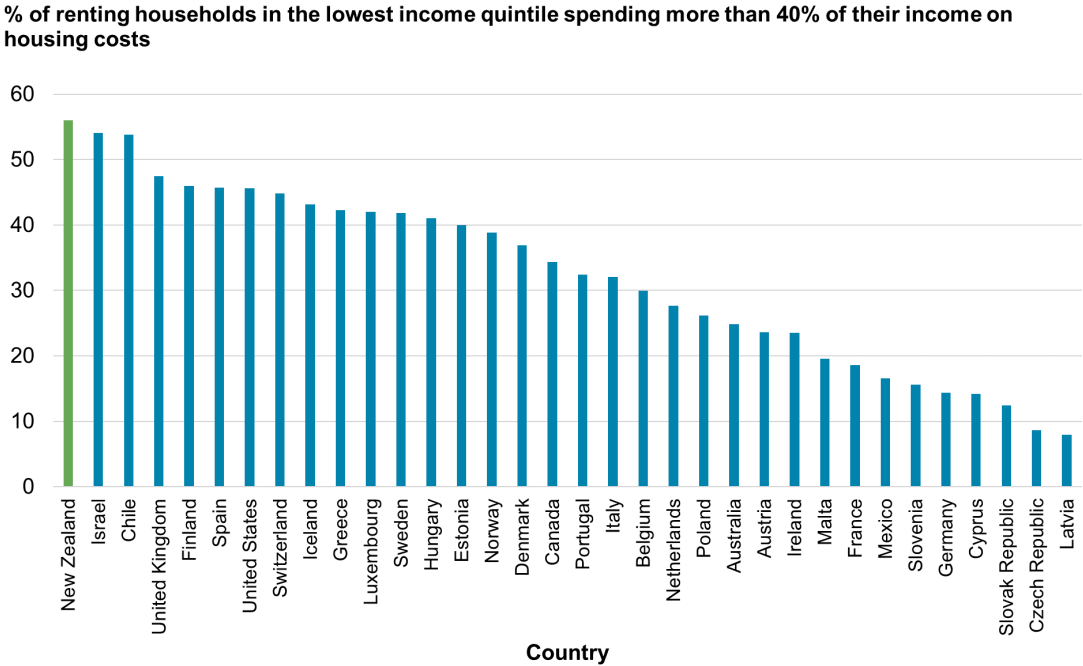
Our average life satisfaction is 7.7 out of 10, above the OECD average and ahead of countries including Australia and the UK. We are 13<sup>th</sup> in the OECD on this measure, higher than our rank of 19<sup>th</sup> for average household disposable incomes.

Wellbeing has held up well on average in recent years, despite the massive shock from COVID 19. Having said that, some effects may still be playing out, or not yet fully revealed.

Despite these positives, there are also grounds for concern about wellbeing in New Zealand. Despite many relatively objective aspects of life improving over time such as our incomes, we don't necessarily feel better off. Our average life satisfaction has been flat or slightly declining over the past two decades.

We highlight three priority areas: mental health, housing, and education. These three priority areas are aspects of wellbeing that have important links to future wellbeing. Poor outcomes in these areas disproportionately affect Māori and some other groups. They are also areas where we have some room to improve compared to our peer countries, where trends are going in the wrong direction, or both. For example, New Zealand has among the least affordable housing in the OECD, with more than half of low-income New Zealand households who are renting spending more than 40% of their income on housing.

Figure 2 – Low income households have very high housing cost/income ratios

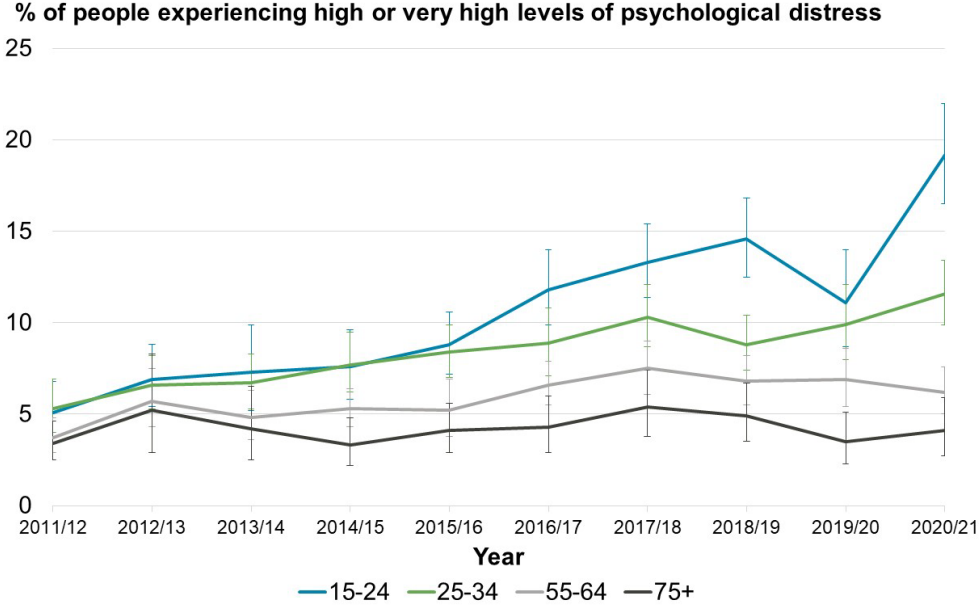


Source: OECD

According to CoreLogic New Zealand’s 2022 report, it now takes more than 11 years on average to save a house deposit, up from less than 7 years in 2011. Expensive housing affects a wide range of aspects of wellbeing, including by absorbing substantial disposable income. Poorly performing housing markets can also distort investment that could otherwise go to other productive types of wealth.

Looking at mental health, the situation is worsening, as it is in many other high-income countries.

Figure 3 – Psychological distress rates are rising

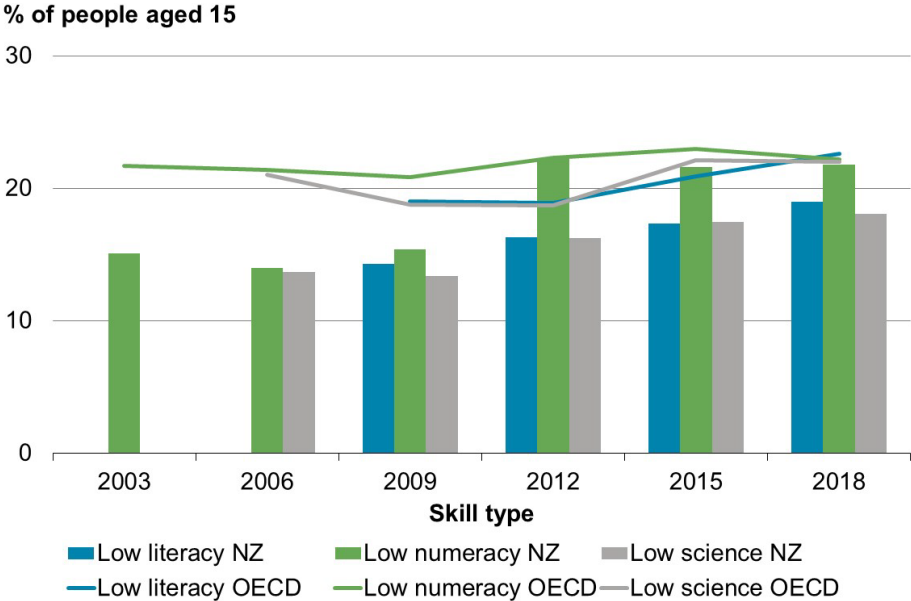


Source: Ministry of Health (New Zealand Health Survey), Stats NZ - Indicators Aotearoa

In the most recent New Zealand Health Survey, 19% of 15-24 year-olds were found to be experiencing high or very high levels of psychological distress, up from 5% just ten years ago. Our teen suicide rates are among the highest in the OECD and have been high for many years. Our bullying rates are also the highest in the OECD.

Finally, in education, there are long-standing trends in the wrong direction. Although the proportion of young people leaving school with NCEA qualifications is improving, average scores in reading, mathematics and science in the OECD's Programme for International Student Assessment (PISA) for New Zealand have been declining for 20 years. The proportion of children reaching age 15 without basic skills has been climbing too. Over 20% of 15-year olds lack basic numeracy skills.

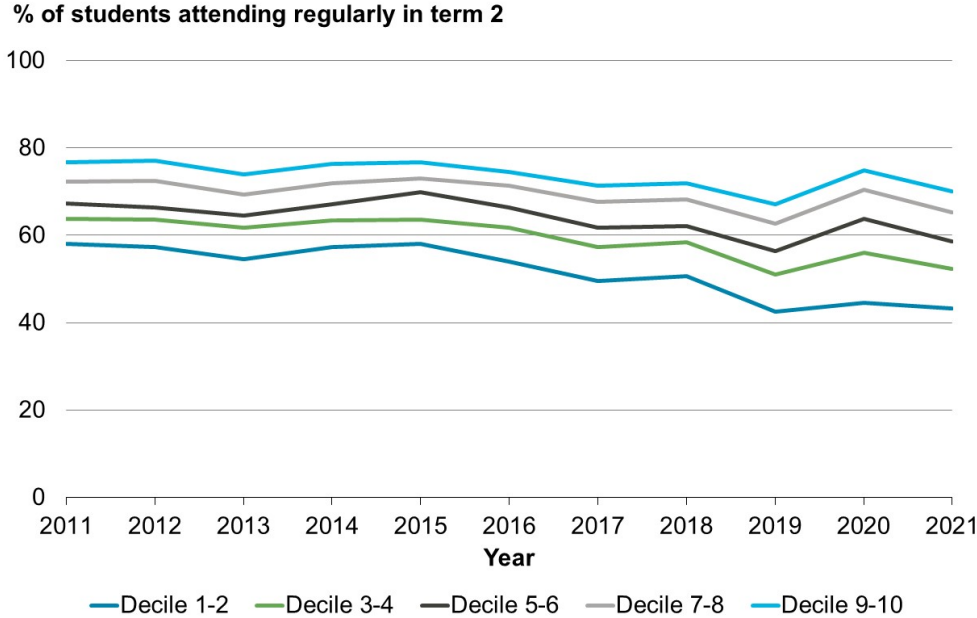
Figure 4 – Many 15 year olds lack basic numeracy, literacy and science knowledge



Source: OECD

In addition, attendance rates have been falling over the last decade. Less than half of students in decile 1-2 schools now attend school regularly. Research is clear that attendance is strongly related to achievement.

Figure 5 – School attendance rates have been falling



Source: Ministry of Education

## The distribution of wellbeing

### Intergenerational wellbeing

Let me turn now to our findings on the distribution of wellbeing.

First, there is a wide and growing gap between the wellbeing of older New Zealanders and that of younger New Zealanders. All three priority areas I just highlighted primarily affect young people. For example, in 2011 there was little difference in mental health between young and old, but the growth in psychological distress since then has been experienced almost entirely by young people. The physical and financial wealth of older New Zealanders has grown far ahead of young people's wealth and the gap has more than doubled in the last two decades. One of the main reasons is the rise in house prices over that time.

Poor outcomes in mental health, education and housing can affect other aspects of wellbeing and cast a shadow on future wellbeing, including that of future generations. For example, cold, damp housing can result in higher seasonal mortality rates and higher incidence of both cardiovascular and respiratory disease.<sup>2</sup>

The adverse trends in mental health and educational achievement suggest that as today's youth grow into adulthood, they may find it more difficult to support their own and others' wellbeing, compared to adults currently. Mental health problems and low skills reduce labour force participation and earnings potential, which in turn reduces the economy's ability to support wellbeing and living standards overall. For example, the labour force participation rate for people of working age with no qualification is just 46%. This is a full 40 percentage points below the 86% rate for those with post-graduate or higher qualifications.<sup>3</sup> Since the population is ageing, any future labour force problems stemming from slipping educational achievement today will increasingly affect the wellbeing of all generations.

### Wellbeing of Māori

Issues affecting youth disproportionately affect Māori. With a median age of 25.4 at the 2018 census, the Māori population is much younger than the European population, which has a median age of 41.4. Together with higher Māori fertility rates, this means that Māori are projected to make up 21% of the population by 2043, up from 17% in 2018. These numbers underscore the importance of Māori wellbeing to overall intergenerational wellbeing.

Te Tai Waiora includes a focus on Māori wellbeing from a te ao Māori perspective, using a Māori framework that helps us think about wellbeing, He Ara Waiora. We apply this framework with the guidance of Ngā Pūkenga, an eminent group of Māori thought leaders. Indicators to support the application of He Ara Waiora are still being developed, and there is much more to do to fully develop He Ara Waiora and its application. However, the evidence available points to a number of salient trends about Māori wellbeing.

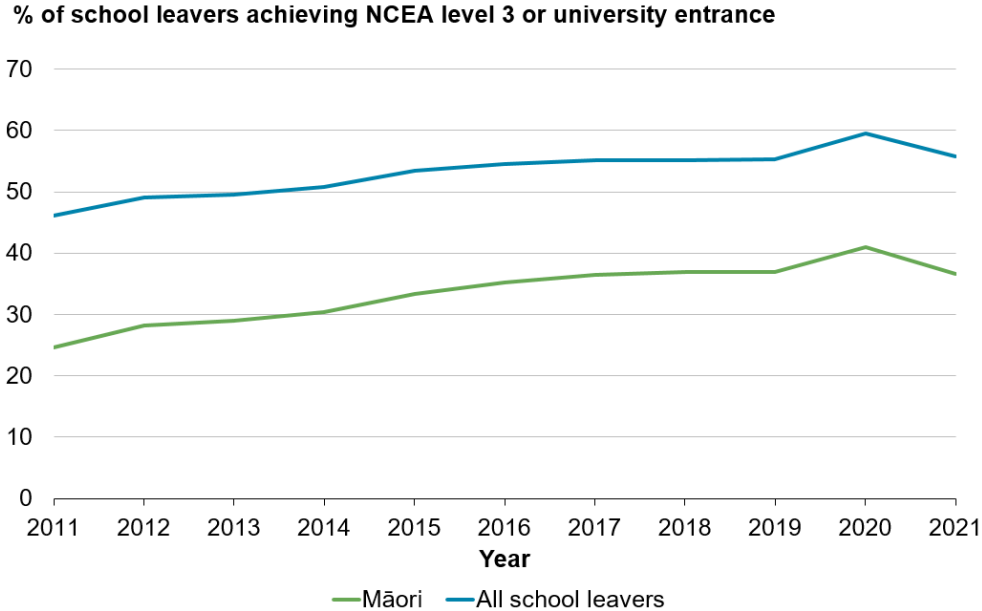
---

<sup>2</sup> [Housing in Aotearoa: 2020 \(stats.govt.nz\)](https://stats.govt.nz)

<sup>3</sup> [Labour market statistics: June 2022 quarter | Stats NZ](https://stats.govt.nz)

Māori experience high levels of cultural belonging, collective identity, and communal sharing and giving. Māori are showing a faster rate of increase in qualifications than other ethnicities, with the proportion of Māori leaving school with NCEA level 3 or university entrance climbing from 25% to 2011 to 37% in 2021.

Figure 6 – More Māori are achieving NCEA level 3



Source: Ministry of Education

There is also a growing proportion of Māori in higher-skilled employment and fewer whānau and children in hardship than in the past. Some indicators provide grounds for optimism about a revitalisation of te reo Māori, with the number of Māori who can speak te reo conversationally increasing from 130,000 in 2001 to about 160,000 in 2018. Participation in Māori culture helps sustain it for the benefit of future generations of all New Zealanders.

Measures suggest that the Māori economy has been growing faster than the wider economy, representing 6.8% of national GDP in 2018. Māori business is innovative, often endeavours to incorporate Māori values and has the potential to support wellbeing outcomes in a culturally grounded way.

However, there are some persistent challenges to Māori wellbeing. The experience and outcomes of Māori differ from those of non-Māori across a range of wellbeing domains such as income, material hardship, health, and housing. Although some Māori outcomes are gradually improving over time, the gaps are closing slowly at best. Māori are experiencing high and increasing rates of psychological distress and discrimination, and express relatively low levels of trust in key government institutions.



Māori concepts of human wellbeing view it as intertwined with that of Te Taiao, the complex living systems of the natural environment, of which humans are a part. Māori express higher rates of concern about environmental degradation than the rest of the population. Global and local environmental issues such as climate change and biodiversity loss pose an increasing threat to ancestral lands, Māori ways of life, cultural identity and prosperity. Māori economic interests are directly at risk, with Māori owning or controlling 50% of fishing quota, and 50% of exotic forests.

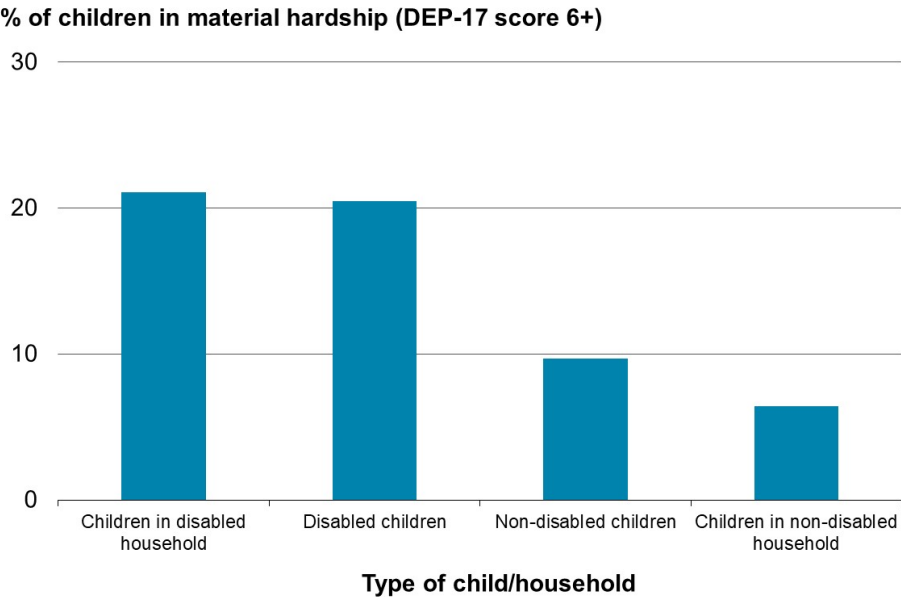
**Wellbeing of Pacific Peoples and other population groups**

In addition to Māori, there are many other population groups such as Pacific Peoples, Asian, MELAA and other ethnic groups, disabled people, sole parents, and rainbow communities that tend to have different experiences of wellbeing in Aotearoa New Zealand. The respective expert agencies produce detailed reports on these experiences, which we have drawn on to highlight some important inter-group differences.

For this report, the Ministry of Pacific Peoples has supported us to explore the wellbeing of Pacific Peoples. As with Māori, Pacific Peoples have lower wellbeing in many domains, and are a young and growing part of the population. Pacific Peoples have strong social connections and have a strong sense of belonging to New Zealand. However, their wellbeing is lower than the national average across many other areas, with poor housing and low incomes being two particularly salient issues.

Two other groups stand out in population group analysis: disabled people and sole parents. Only 65% of disabled people report high levels of life satisfaction, compared to 83% of non disabled people. Disability is strongly associated with several other aspects of wellbeing, such as rates of material hardship.

*Figure 7 – Hardship rates are higher for disabled children and children living with disabled people*



Source: Stats NZ (Household Economic Survey)

Just 63% of sole parents report being highly satisfied with their lives. This compares to 86% for couples with children, the most satisfied family type. 80% of sole parents are women.

**Multidimensional wellbeing and association with life satisfaction**

Comparing people between demographic groups can obscure the importance of variation within each group. For example, as I highlighted, there is a growing gap in some key domains between young and old, but some young people are doing very well and some older people are doing less well.

Also, wellbeing is not experienced one aspect at a time. Many individuals have a mix of good and bad experience across various aspects, and the aspects can interact. For example, some people may be healthy and well-educated, but have low income and feel socially isolated, while others may have good access to environmental amenity but feel that they lack political voice. This complexity of experience across individuals means that analysing several domains of wellbeing at once at the individual level may reveal additional insights, compared to single-domain averages.

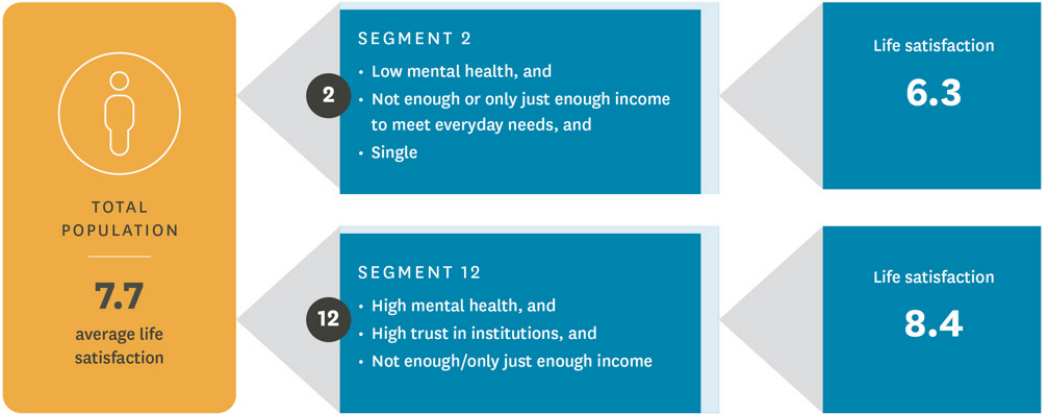
Te Tai Waiora presents new analysis of this sort, looking at the current distribution of wellbeing across New Zealanders. The analysis explores how various aspects of life are associated with subjective wellbeing. Subjective wellbeing is the number between 0 and 10 that survey respondents give when asked to rate their overall satisfaction with life. The analysis divides the population into segments sharing similar experiences across the aspects of life, linking those experiences with life satisfaction. This diagram presents the process schematically:

*Figure 8 – Population segments link experiences across the wellbeing domains with life satisfaction*



The analysis produced 13 population segments. The next diagram shows two of the segments to illustrate.

Figure 9 – Two examples of population segments



Source: Treasury calculations

Moving from left to right, we start with the whole population, which has an average life satisfaction of 7.7. Segment 2 is made up of people with low mental health who also report not having enough income or only just enough income to meet everyday needs, and who are single. People in this segment have an average life satisfaction of 6.3. Segment 12 is defined as people reporting high mental health, high trust in institutions, and not having enough or only just enough income. This segment has an average life satisfaction of 8.4.

Looking across the results for all 13 population segments, in addition to the two shown here, the analysis suggests several things. First, the factor most strongly associated with life satisfaction is mental health. This is followed by having enough income to meet everyday needs, and trust in institutions. Second, combinations of negative and positive factors can explain differences in life satisfaction. For example, people in segment 12 report having insufficient income, which is generally associated with low life satisfaction, but they also have high mental health and high trust in institutions, and are overall very satisfied with their lives.

The analysis can also shed light on the wellbeing aspects that might explain differences in life satisfaction between demographic groups. Disabled people and people in sole parent families, for example, are disproportionately in low life-satisfaction segments associated with low or very low mental health. People in sole parent families are, in addition, disproportionately in low life-satisfaction segments associated with insufficient income or problems with neighbourhood crime.

I should emphasise that this kind of analysis is based on statistical correlations, and does not prove causation. But it does at least suggest digging deeper into understanding exactly why mental health, for example, might be so strongly related to differences in life satisfaction between different population groups.

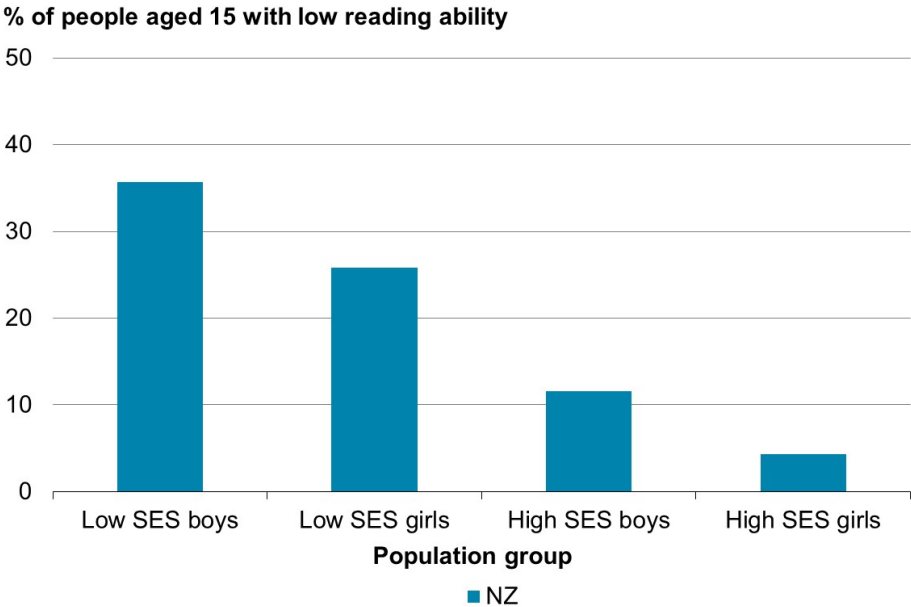
## Intergenerational economic mobility and opportunity

Another important topic when considering distribution is that of economic mobility across generations. Income and wealth typically increase over a person’s lifetime as they accumulate work experience and savings, and as their needs change. So low income for someone at a point in time is not necessarily evidence of a wellbeing problem. Low income that persists through life or across generations, however, is more likely to be an issue. It may indicate barriers to opportunity to acquire skills, earn higher income or save over time to meet needs in the future.

Research suggests that children of poor adults are more likely to become poor themselves in New Zealand, indicating less than perfect intergenerational economic mobility. Compared to other countries, our intergenerational income mobility appears to be middling, behind those with the highest mobility such as Denmark but ahead of a number of other high-income countries such as the USA. Recent Treasury analysis shows that children of parents in the top income quintile are nearly 20 percentage points more likely to be in the top income quintile themselves, than children of parents in the lowest income quintile.<sup>4</sup>

Education plays a major role in determining mobility and this is another reason we have highlighted education as a priority area. Children from disadvantaged backgrounds do much less well at school than more privileged children, with the gap in reading ability at age 15, for example, at more than 20 percentage points.

Figure 10 – Children from disadvantaged backgrounds do much less well at school than more privileged children



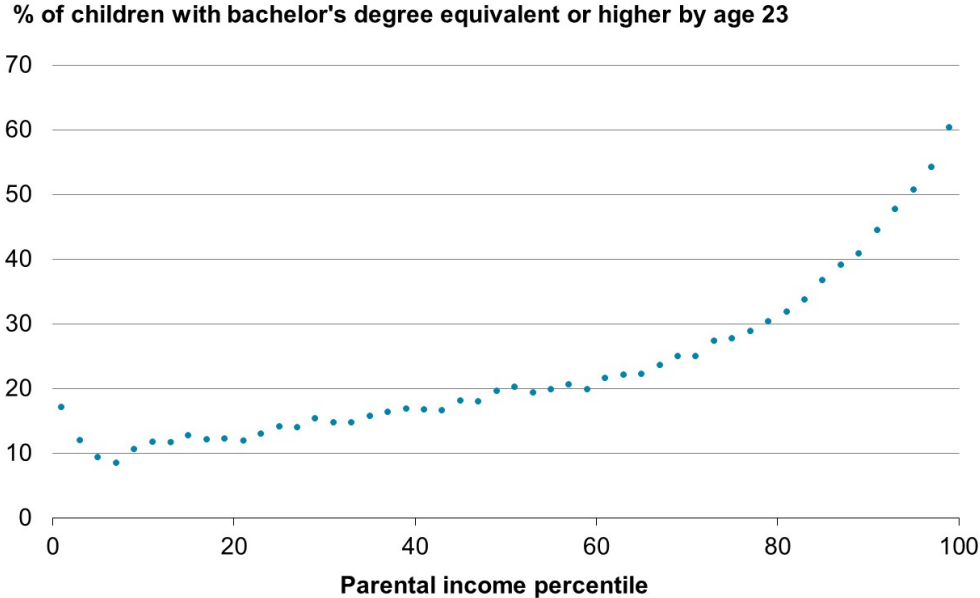
Source: OECD

<sup>4</sup> Brown, S. (2022). Intergenerational income mobility in New Zealand. *Policy Quarterly* 18(3), 24.

OECD analysis shows that many other countries do better than us at achieving good educational results for disadvantaged children. In an education system that fully counteracted disadvantage, none of the variation in student achievement would be attributable to socioeconomic status. While no country has achieved this, Aotearoa New Zealand is well behind the best-performing countries on this measure, such as Estonia, Iceland and Canada.

A lack of achievement at school has implications across people’s lives. One immediate consequence is that it makes tertiary qualifications more difficult to achieve, and data show that tertiary qualifications in New Zealand are highly concentrated among children raised by parents with the highest incomes.

*Figure 11 – Tertiary qualifications are highly concentrated among children raised by parents with the highest incomes*



Source: Brown, S (2022) Intergenerational income mobility in NZ. *Policy Quarterly* 18(3), 24

# Our future wellbeing

## A “wealth” approach to sustainability, risks and resilience

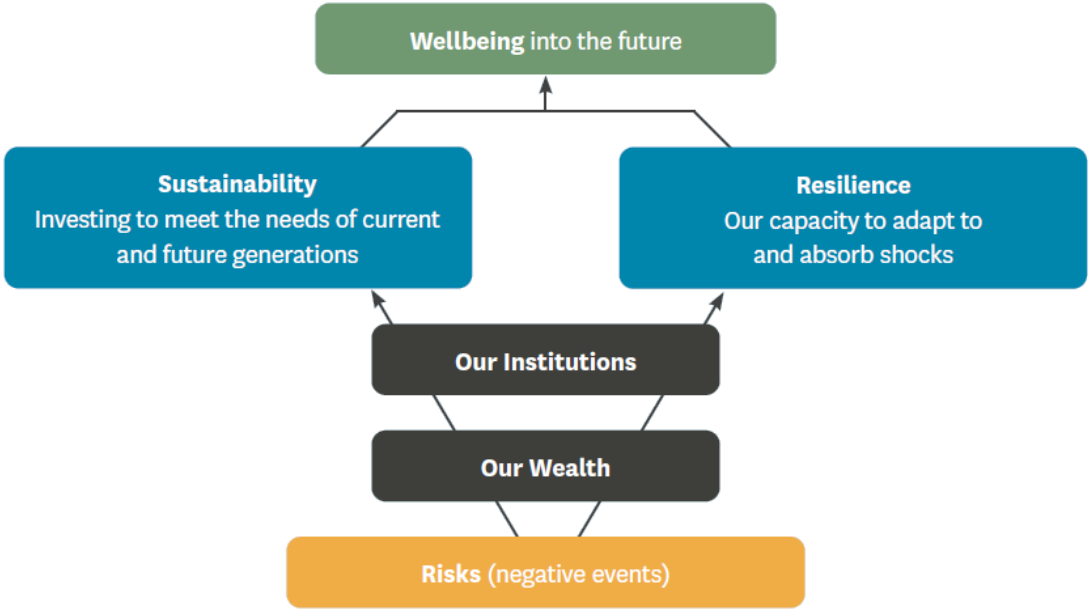
In the final part of Te Tai Waiora we consider whether our wellbeing is sustainable into the future. The sustainability of wellbeing depends on the wealth available to support it, the risks that lie ahead, our resilience to adverse events, and technological progress.

Our current wellbeing has been built on the wealth handed on to us by previous generations. Likewise, if we pass on to the next generation at least as much wealth as we have today, that will give them at least the same opportunities to meet their wellbeing aspirations, and capacity to deal with risks, as we have today. Technological progress and productivity, the ultimate sources of growth in living standards, can boost sustainability by making a given amount of wealth more effective at supporting wellbeing. This includes by, for example, creating new ways of generating income with less impact on the environment, or lifting incomes to enable more investment in better health, education and community services.

I have previously spoken about the importance of innovation and productivity growth as long-term drivers of wellbeing, so will not dwell on them here. Instead I will focus on New Zealand’s wealth, risks, and resilience. Wellbeing can erode slowly if our overall wealth is being steadily drawn down, or slump suddenly if wealth is not resilient to large and acute risks, such as a pandemic, earthquake, or financial crisis.

The links between these different concepts can be visualised in the following diagram.

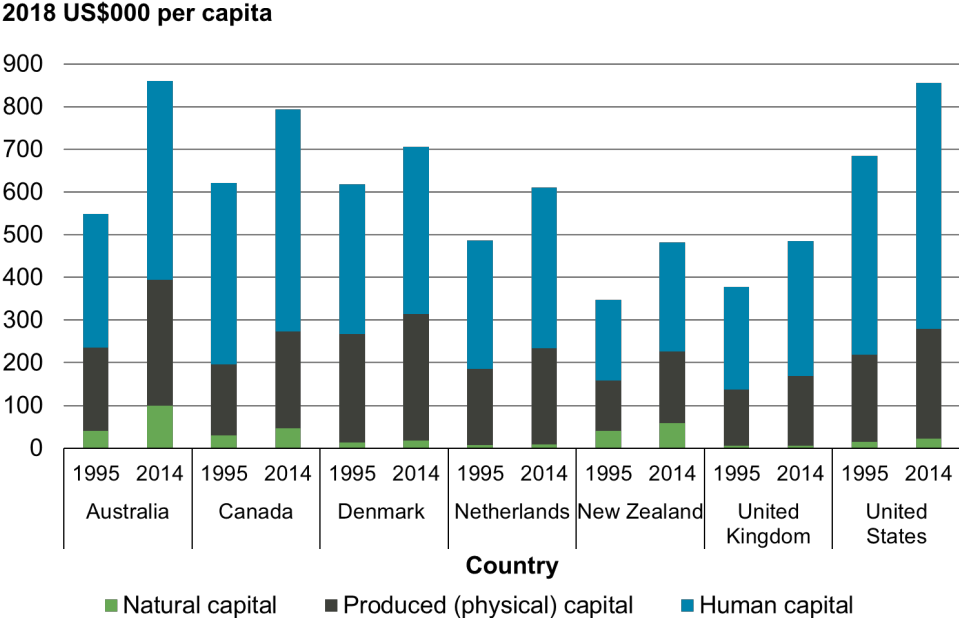
Figure 12 – Links between sustainability, risks, resilience and wealth



In line with our Living Standards Framework, we define wealth broadly to comprise physical and financial capital, human capability, the natural environment and social cohesion.

**Physical and financial capital** is probably the most familiar aspect of wealth to most people, both in tangible form such as buildings, machinery and infrastructure, but increasingly also in the form of intellectual property such as software and patents. Physical capital per capita in Aotearoa New Zealand is low compared to leading developed countries on this metric, such as Denmark, the Netherlands, Australia or the US.

Figure 13 – Our physical capital per capita is low compared to other developed countries



Sources: World Bank, Le (2022) for New Zealand human capital

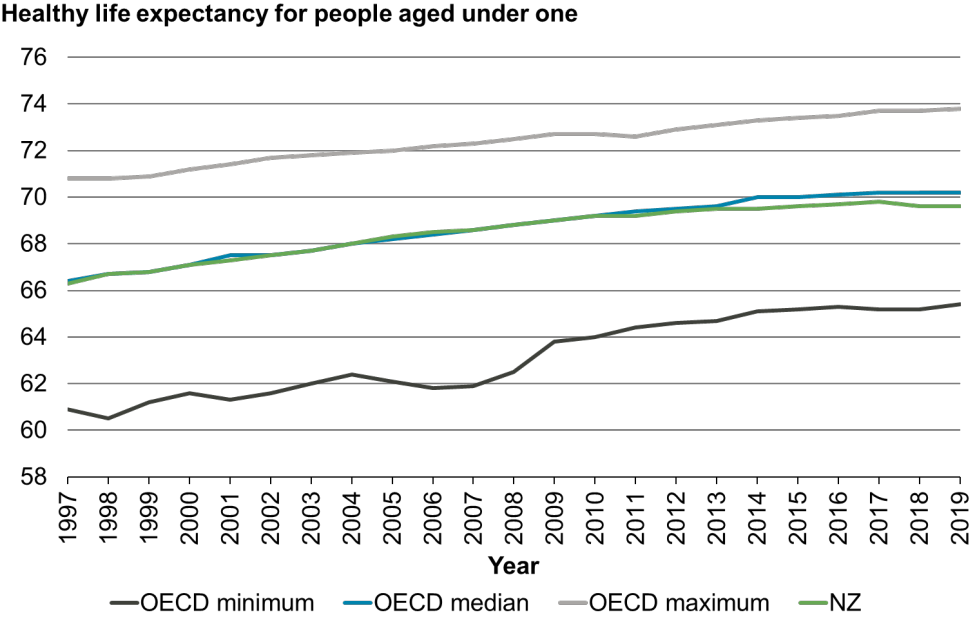
This is often referred to as New Zealand’s infrastructure gap or low capital intensity, and cited as a reason for our relatively low labour productivity and income levels. However, physical and financial capital has been growing steadily since the mid-1990s at a relatively high rate compared to these countries, which is positive for the sustainability of wellbeing.

**Human capability** is often measured in terms of projected earnings and labour force participation rates, at least for the purposes of comparison to other aspects of wealth. Treasury-commissioned research indicates that the value of New Zealand human capability is roughly one and a half times that of physical capital.<sup>5</sup> This underlines the importance of human capability to the economy and to sustainability. Compared to the other developed countries in this Figure though, our human capability per capita is relatively low, largely mirroring our relatively low incomes. Like physical capital, however, over the past two decades or so it has been growing at a rate above the other developed countries shown in the Figure.

Human capability supports wellbeing for a range of reasons besides labour market earnings potential of course. It includes physical and mental health and cultural knowledge and capability as well as formal education. Healthy life expectancy in Aotearoa New Zealand has been increasing over the last 25 years, although growth has levelled off recently.

<sup>5</sup> Le, T (2022), direct communication.

Figure 14 – Healthy life expectancy has levelled off recently



Source: OECD Health Statistics

A range of indicators suggest cultural capability is at least holding steady, if not improving in some areas such as increasing numbers of conversational te reo Māori speakers. Altogether, it seems likely that growing human capability, like physical and financial capital growth, is contributing to the sustainability of wellbeing. However, the educational achievement and psychological distress issues noted earlier point to some risks to this contribution.

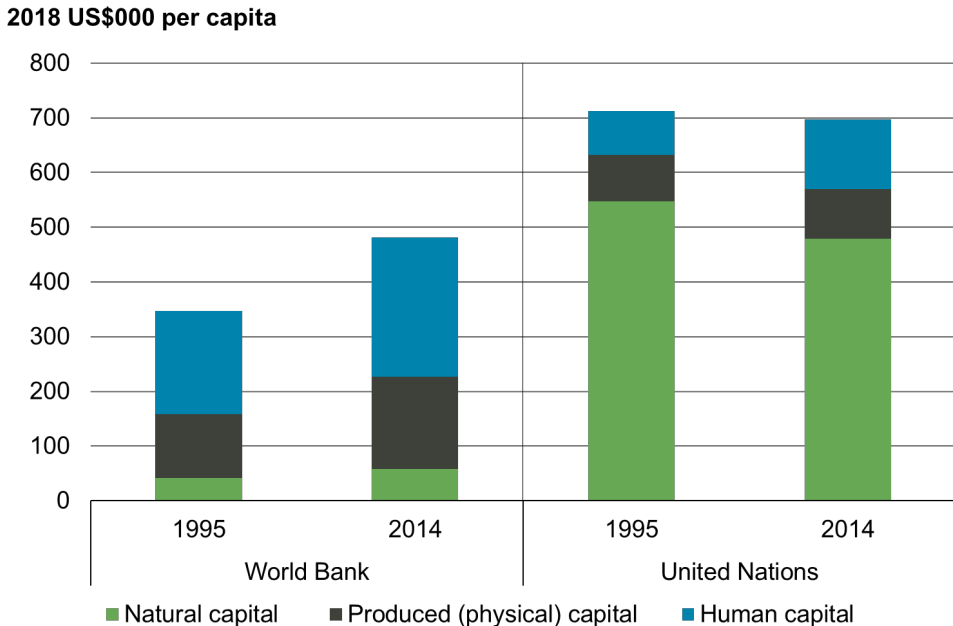
Turning to the **natural environment**, our country has an abundance of natural beauty and gifts from land and sea. The natural environment includes all aspects of nature that support life and human activity directly or indirectly, for biological, economic, cultural or spiritual reasons. We are only beginning to understand the complex earth systems involved, and how the benefits of nature support wellbeing.

There is extensive debate about how to measure the value of the natural environment and how it is changing over time. The World Bank and the United Nations Environment Programme have each produced measures for New Zealand in dollar terms. On both measures, and especially the United Nations measure, New Zealand has amongst the highest rates of natural capital compared to other developed countries.

However, the two measures are very different in terms of size relative to the value of physical capital, and also show different trends. The World Bank measure is about a third the size of physical capital and increasing, while the UN measure is five times the size of physical capital and decreasing.



Figure 15 – Valuations of New Zealand’s natural environment differ markedly in both size and trend



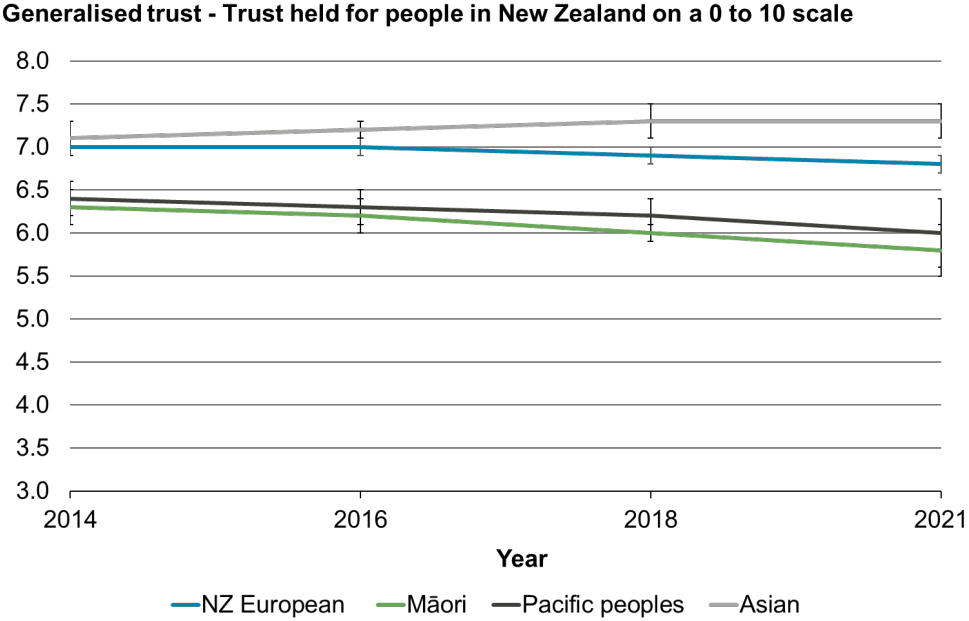
Sources: United Nations Environment Programme; World Bank (produced and natural capital), Le, direct communication, 2022 (human capital)

The difference reflects the two organisations counting different components of the natural environment, and using different techniques estimate the dollar values. Both organisations recognise that their measures are incomplete in a number of important respects, and that natural environment valuation methods are not yet well-settled or standardised.

Although these measures disagree on whether natural environment wealth is increasing or decreasing, a wider range of natural environment indicators suggests ongoing pressures in many locations in our country. These include nutrient runoff to coastal areas, pest prevalence and continuing threats to the existence of many species. Most significantly, the global climate is changing. There is strong international scientific consensus, elaborated in reports by the Intergovernmental Panel on Climate Change, that human activities may be pushing aspects of the global environment close to or beyond certain biophysical limits, in some locations at least. In New Zealand, the impact of climate change is already evident in a 20 cm rise in the average sea level over the past century. These trends suggest a clear risk ahead of declines in our natural environment wealth, if it is not declining already in many important respects.

Finally, wealth in the form of **social cohesion**, or the “fabric of society”, plays a key role in facilitating human connections and economic transactions. It is probably the hardest of all to measure in dollar terms, even though everyone recognises how important it is to wellbeing. We can still get a sense of how it might be changing. Survey measures of people’s trust in others and in the authorities, and satisfaction with political representation, have historically been strong in New Zealand. During our COVID-19 response, surveyed trust in others and in institutions was higher than the OECD average, at least initially.

Figure 16 – Trust in others is generally strong, but varies by ethnicity



Source: Stats NZ, General Social Survey

However, threats to social cohesion appear to be increasing around the world, and there are some signs of this emerging in Aotearoa New Zealand also. For example, evidence suggests increasing disinformation and abuse of minority groups and public figures on social media. We cannot assume we will be immune to these influences, and some measures of social cohesion such as loneliness are showing signs of moving in the wrong direction.

**How is overall wealth changing?**

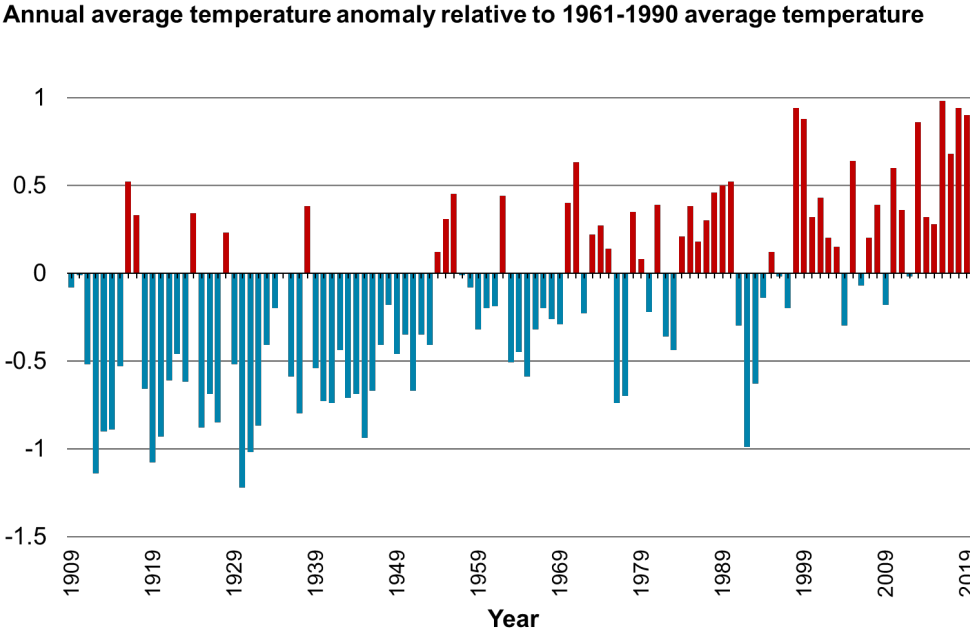
To sum up, our analysis of the evidence suggests that physical capital and human capability are increasing, but there are signs that the natural environment is deteriorating in some important respects, while social cohesion appears broadly stable for now.

We thus can't be certain whether overall wealth is stable, let alone increasing. Measures are uncertain and incomplete, particularly for the natural environment and social cohesion. This should give us pause about the sustainability of wellbeing, and about how our current patterns of activity may be affecting the wealth we leave for future generations. In the past in New Zealand, as in many other countries, we ran down or transformed aspects of natural capital as part of a process of building physical capital and human capability. But biodiversity loss and other kinds of environmental deterioration, exacerbated by climate change, cannot continue indefinitely without undermining future wellbeing. All four aspects of wealth need to work together to support wellbeing.

### Risks and resilience

One of the functions of wealth is to provide a buffer, or resilience, against risks. We face a wide range of risks to future wellbeing. As already mentioned, perhaps the most significant of these is climate change, which is already being felt here in the form of higher temperatures and a rising sea level. Over the last two decades or so, New Zealand has had almost ten record-beating years for warmth.

Figure 17 – Temperatures in Aotearoa New Zealand are rising



Source: Stats NZ

As this continues, changes to weather patterns and the responses of biological systems will increasingly threaten ecosystem integrity and their ability to support the economy and wellbeing. Resilience in this context means adapting both to the direct impacts of climate change, and to the far-reaching shifts in lifestyles, technology and economic structure needed to achieve much lower greenhouse gas emissions.

The importance of resilience in New Zealand is underscored by our position on the Pacific Ring of Fire. Our geology skews our risk profile towards rare, but sudden and potentially catastrophic natural disasters. We face greater catastrophic risk than most high-income countries, amplified in part by our small population compared to the exposed land area. Lloyds of London estimates that we can expect to lose 0.6% of GDP, or \$2.3 billion a year on average from natural disasters, a share of GDP second only to Bangladesh and over twice that of Japan.

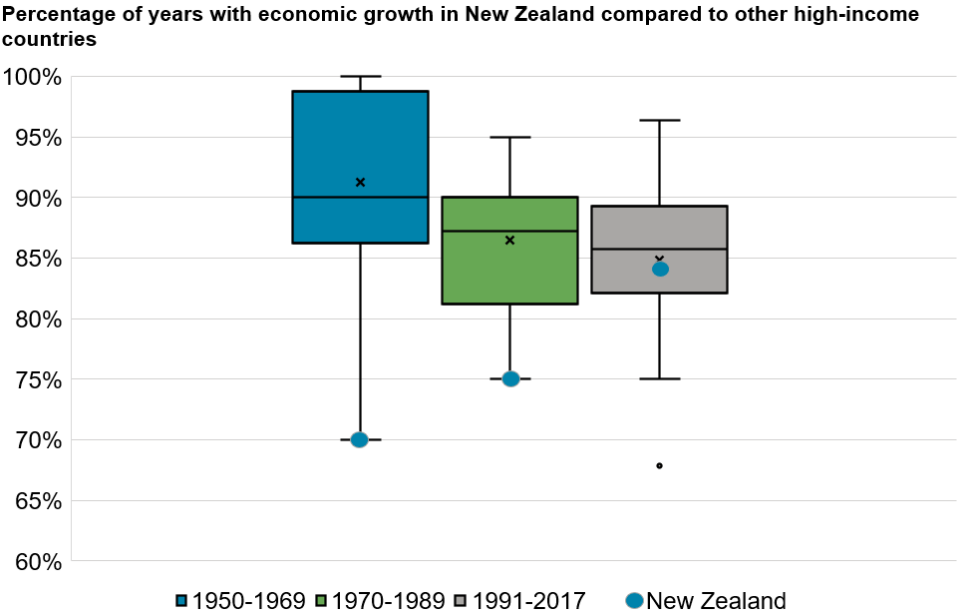
Finally, some slower-moving risks can have long-lasting impacts. The effects of psychological distress and falling educational achievement among young people are likely to undermine human capability, which is a key contributor to resilience.

There are some notable areas of strength in our wealth that boost resilience in New Zealand. For example, earthquake insurance for housing, at 95% in 2014, is very high compared to other regions with high earthquake risk such as Japan and California. The quality of the responses from a range of levels of society to COVID-19 and other sudden shocks such as the Canterbury and Kaikoura earthquakes also suggests deep resilience. Decision-making institutions were nimble, and high levels of social cohesion and readily available assets facilitated the responses.

Important assets included the ability for the Government to borrow at short notice because public debt levels were low. Successive New Zealand Governments have been perceived as highly creditworthy over recent decades, with New Zealand’s long-term foreign-currency credit rating at AA or above since 1995. Community-led responses, for example marae-based support for people displaced by the earthquakes, and Pacific community groups supporting the COVID response, also illustrate resilience across society.

One measure consistent with our resilience improving over time is that the economy is much less volatile now than it was from the 1950s to the 1990s.

Figure 18 – The economy has been much less volatile in recent decades



Source: Penn World Tables; Treasury calculations

While many other countries have also become less volatile, we have improved more than most. Having said that, it is also true that our economy has changed a lot over the period, moving away from relatively volatile industries such as agricultural commodity production and towards services.

From central government through to local authorities, community organisations, businesses, families and whānau, resilient institutions are those that invest in the capability both to pre-empt or anticipate adverse events, and to respond when they actually occur. Strong institutions and social cohesion help national and local government agencies, industry and communities transmit and transform knowledge and information, enabling both an effective response to crises and effective use of resources for daily life.

But building resilience, like anything else, is seldom free. Resources spent on spare capacity, for example, could be spent elsewhere, including on funding measures to improve wellbeing now. Striking the right balance is also not straightforward because resilience benefits may take time to accrue, and only become evident in hindsight after an actual event.

## Next steps

Let me now wrap up. Te Tai Waiora takes a broad perspective on our overall wellbeing experience and outlook. We hope it provides, in one place, a high-level evidence base and insights to support wider discussion and understanding of wellbeing. Improving wellbeing means more than just increasing income, although that is of course important. It also means attention to the other things that make life worthwhile – good health, strong social networks, and a clean environment to name just a few.

Our findings suggest a number of areas of strength to leverage, as well as issues to address. Some findings present fairly clear challenges to us as a nation, while others are more open to dispute and debate. Once again, we acknowledge all those who have helped us navigate the large territory we have attempted to cover, and who have more in-depth expertise on specific aspects of wellbeing.

Our findings have implications not just for governments as they make decisions about high-level spending, investment and regulatory priorities, but for all of us. Our ability to build and sustain wellbeing depends on responses across society. The challenges are longstanding and the problems are complex, and addressing them durably will require broad action by many actors and institutions at many levels.

Given the risks to our wealth I have noted, the material foundation of our wellbeing needs to change, if we want to ensure that our tamariki and mokopuna have the same, or better, opportunities as we have to meet our respective wellbeing aspirations. The decisions we make as a society should prioritise activities where the long-run wellbeing benefits most exceed the costs. To underpin future wellbeing, this may include investment in innovation to reduce the resource intensity of human activity, while strengthening institutions and social cohesion to support resilience and enable us to better solve collective problems.

Te Tai Waiora also points to areas for further research and analysis inside and outside of the public sector. Many strands are already underway. This includes better understanding the causal drivers underlying the issues we have highlighted, improving data collection and dissemination for the analysis of wellbeing, and applying the work to the nuts and bolts of policy. By helping us to think broadly and for the longer term, including about distributional issues within and across generations, we hope the report will strengthen collaboration across the public service on our common challenges.

As always, economics is about choices. In a world with limited resources, increasing our understanding of the things that make the greatest difference to people's lives now and in the future is essential. Te Tai Waiora provides such an analysis, to inform better choices for current and future generations.

I'd like to finish this speech now with a whakataukī.

Mā te whakaatu, ka mōhio,  
mā te mohio, ka marama,  
mā te marama, ka matau,  
mā te matau, ka ora.

With discussion comes knowledge,  
with knowledge comes light and understanding,  
with light and understanding comes wisdom,  
with wisdom comes wellness.

Tēnā tatou katoa.