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Aotearoa New Zealand in 2050
preparing our retirement income policy for the future

Abstract

New Zealand is expected to undergo significant demographic changes over the next 25 years, raising concerns about the sustainability of its retirement income system. As the population ages, the share of people over 65 will increase, driving up the costs of New Zealand Superannuation (NZ Super). Spending on healthcare and other public services will also grow, while a smaller share of workers will be available to fund these costs. Under current policy settings, these trends will result in rising taxes, reduced public services or growing debt.

This article explores what Aotearoa New Zealand may look like in 2050 and considers how retirement income policy may need to adapt. It argues that the current pay-as-you-go system is vulnerable to demographic change and that shifting to a more savings-based system – such as by strengthening KiwiSaver or raising contributions to the New Zealand Superannuation Fund – would make it more sustainable. The article is based on a recent report by the New Zealand Institute of Economic Research (NZIER), commissioned by the Te Ara Ahunga Ora Retirement Commission for the 2025 review of retirement income policies (NZIER, 2025).

Keywords population ageing, retirement income system, demographics, fiscal pressures

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Looking to the future

As the Danish proverb goes, 'it is difficult to make predictions, particularly about the future'. While there is considerable uncertainty about what New Zealand could look like in 2050, we can distinguish between future trends that we can be relatively confident about and aspects that are more uncertain.

This article draws on projections from Statistics New Zealand, the Treasury and other sources to sketch a picture of Aotearoa New Zealand in 2050. These projections are not forecasts, but illustrations of what could happen under certain assumptions informed by historical trends and expert judgement. They generally assume that current policy settings remain unchanged.

What we can predict with confidence

Slowing population growth

The first thing that we can be relatively confident about is that population growth will slow, as shown in Figure 1. New Zealand's population is projected to increase by 18% between 2025 and 2050, reaching 6.1 million (Statistics New Zealand, 2022b). By comparison, the population grew by 35% between 2000 and 2025.

The main reason why population growth is expected to slow is that people are having fewer children than they used to. New Zealand's total fertility rate – the average number of births per woman – has fallen below the replacement rate of 2.1 births per woman since 2013 (Statistics New Zealand, 2024). As the birth rate falls, migration will become the main driver of population growth. Migration is a key area of uncertainty which we will discuss later.

If trends continue, growth will continue to slow over the second half of the 21st century. Treasury modelling indicates that the population will converge to a steady state of 7.5 million by 2100 (Binning et al., 2024).

Ageing population

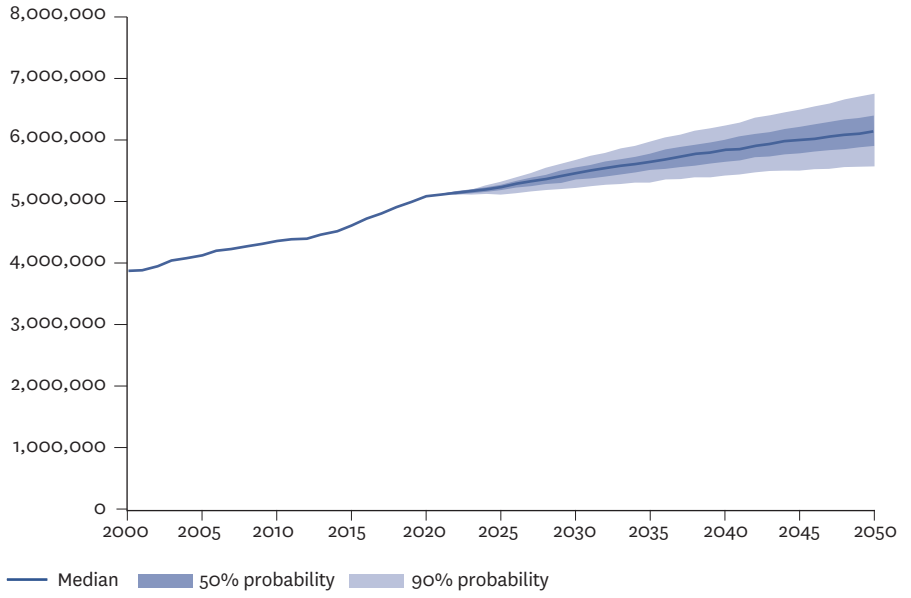
The population will be significantly older, as shown in Figure 2. In 2050, there will be approximately as many people under 40 as there are today (Statistics New Zealand, 2022b). However, the number of people over 40 will increase by a third, and the number of people over 65 will increase by about half. As a result, the median age will rise from 38.9 years in 2025 to 43.7 years in 2050.

Population ageing is mainly driven by falling birth rates, but it is also influenced by rising longevity. Although population ageing is accentuated by the large number of baby boomers – people born between 1946 and 1964 – moving into older age groups, this is not the main cause.

Falling birth rates will continue to drive population ageing over the second half of the 21st century. Treasury modelling indicates that the age structure will stabilise as the population approaches its steady-state level from 2100 (Binning et al., 2024).

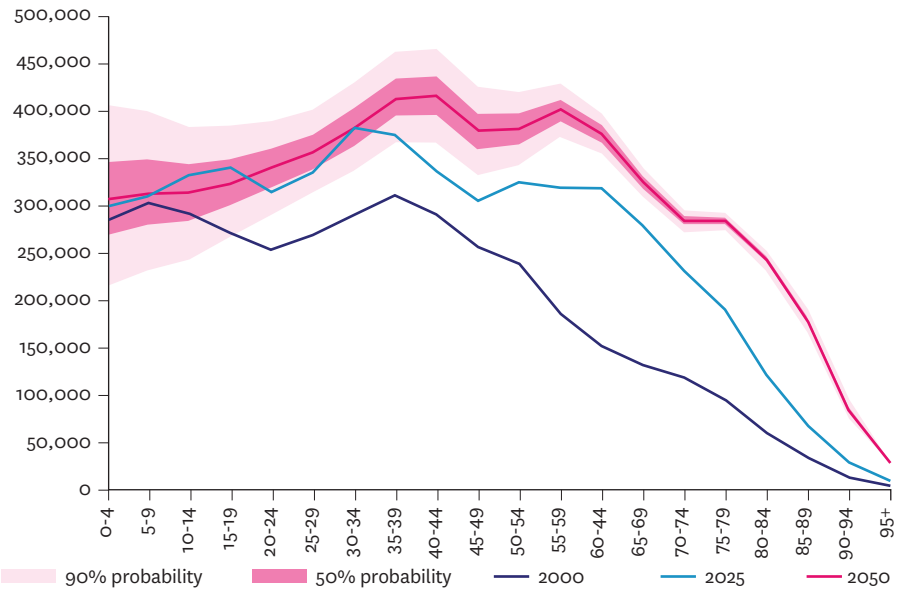
Due to population ageing, the old-age dependency ratio – the number of people aged 65 and over for every 100 people aged 15–64 – will rise from 27.7 to 37.9. While the old-age dependency ratio assumes a fixed cut-off age of 65, our perceptions of what counts as 'old age' could shift significantly over the next 25 years. To hold the old-age dependency ratio constant at 2025 levels, the cut-off age would have to increase by five years by 2050, as shown in Figure 3. By comparison, life expectancies are expected to increase by only about two years over the same period. This reinforces the point that population ageing is driven primarily by falling birth rates rather than rising longevity.

Figure 1: Population, 2000–2050



Source: Statistics New Zealand, 2022b

Figure 2: Population age distribution, 2000, 2025 and 2050



Source: Statistics New Zealand, 2022b

Increased ethnic diversity

A third factor that we can be relatively certain about is increased diversity. Statistics New Zealand has produced national ethnic population projections up until 2043 (Statistics New Zealand, 2022a), which show that migration and differences in birth rates will lead to a declining proportion of Pākehā/European people and a larger share of Māori, Pacific, Samoan, Asian, Chinese and Indian people. Minority ethnic groups are expected to grow particularly quickly among the population aged 65 and over.

Shrinking labour force

A final factor is the shrinking labour force. As a larger share of people will be retired, a smaller share will be available for work. As shown in Figure 4, the labour force participation rate will fall by around 2.6 percentage points, from around 69.2% today to 66.6% in 2050 (Statistics New Zealand, 2021).

What is more uncertain

Migration levels

Migration will likely play an important role in driving population growth and maintaining the labour force. What migration will look like in the future – and hence exactly how quickly population growth will slow – is an important area of uncertainty. Based on the results of an expert elicitation survey and historic trends, Statistics New Zealand assumes a median net migration of 25,000 from 2026 onwards. It is worth noting that migration has exceeded expectations over the past 25 years, prompting Statistics New Zealand to successively revise its population projections upwards (Stephens, 2024).

With the global population aged 65 and over expected to increase from 10% in 2025 to 16% by 2050, the demand for migrants will rise. New Zealand's migration levels will depend on its ability to attract skilled workers amid growing competition.

Working later in life

A second area of uncertainty is whether people will work later in life as they live longer. According to Statistics New Zealand projections, labour force participation will increase for older age groups, as shown in Figure 5. Among people aged 65–69, labour force participation will rise from 47% today to 52% in 2050. Counterintuitively, the overall labour force participation rate for people aged 65 and over will be lower (22% in 2050 compared with 24% today), due to increasing numbers of people in older age groups.

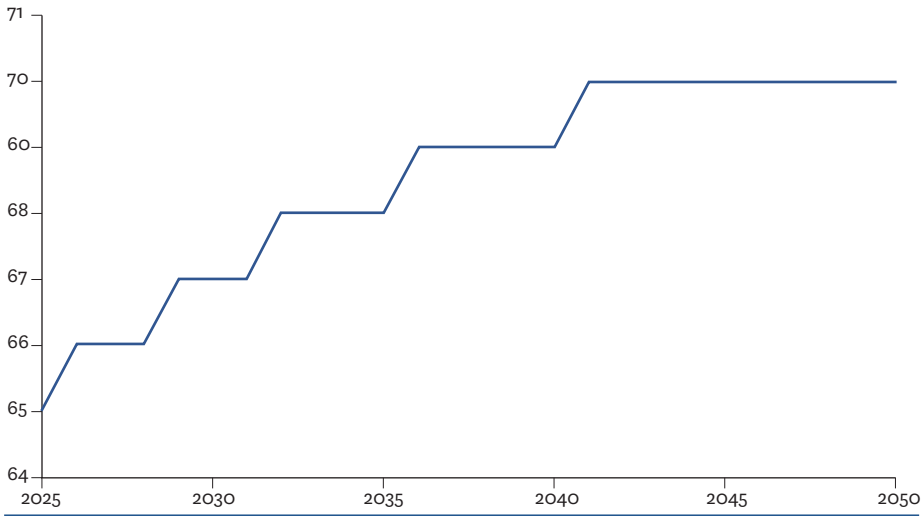
Although labour force participation is projected to rise in older age groups, it is not projected to keep pace with longevity. While people aged 65 will expect to live around two years longer in 2050 than they do today, Statistics New Zealand projects that labour force participation in the 67–71 age group in 2050 will be lower than labour force participation in the 65–69 group in 2025 (41% compared with 47%).

Over the past 25 years, labour force participation in the 65–69 age group has risen rapidly from 16% to 47%, much faster than was predicted at the start of the century (Stephens, 2024). As a result, New Zealand now has the fourth-highest age 65–69 labour force participation rate in the OECD (OECD, 2024). Changes in government policy – particularly relating to the retirement income system – are thought to have played an important role. If this trend continues, then labour force participation in older age groups may rise faster than Statistics New Zealand projects.

Economic growth

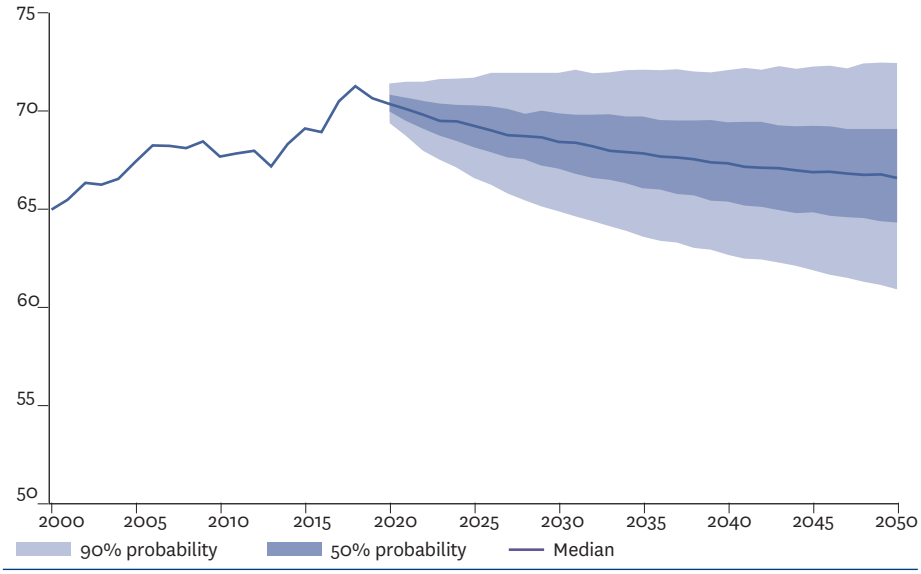
Uncertainty about economic growth is driven by uncertainty about productivity growth. Productivity refers to how

Figure 3: Dependency-stabilising age, 2025–2050
Cut-off age that stabilises the old-age dependency ratio at 2025 levels



Note: This figure is based on a figure presented in Binning et al. (2024) but has been recalculated from Statistics New Zealand projections. Although we use 2025 rather than 2020 as the base year, the dependency-stabilising age increases more slowly, suggesting methodological differences.
Source: NZIER analysis based on Statistics New Zealand, 2022b

Figure 4: Labour force participation rate, 2000–2050
Percentage of population aged 15 and over in the labour force



Source: Statistics New Zealand, 2021

efficiently inputs (like labour, capital and raw materials) are converted into outputs (such as goods or services). The main factor driving productivity growth is the rate of global technological progress, which is largely outside the government's control. However, productivity growth also depends on how well New Zealand can keep pace with the global frontier and how well innovation diffuses across the domestic economy, which many different government policies, such as education, research and regulation, can influence.

To obtain a picture of what the size of the economy could be, we developed GDP projections using Treasury's fiscal strategy model (Treasury, 2024a). We extended the model forward from 2038 to 2050 and incorporated three productivity scenarios.

The Treasury assumes labour productivity growth of 1.0%, in line with historical labour productivity growth over the past 30 years (1993–2023). This forms our 'medium growth' scenario. Treasury notes that the world has been experiencing a productivity slowdown (Cook, Devine and Janssen, 2024). Over the last 20 years (2003–23), New Zealand's labour productivity grew at an average rate of just 0.7%. Our 'low' growth scenario assumes that labour productivity growth remains at 0.7%

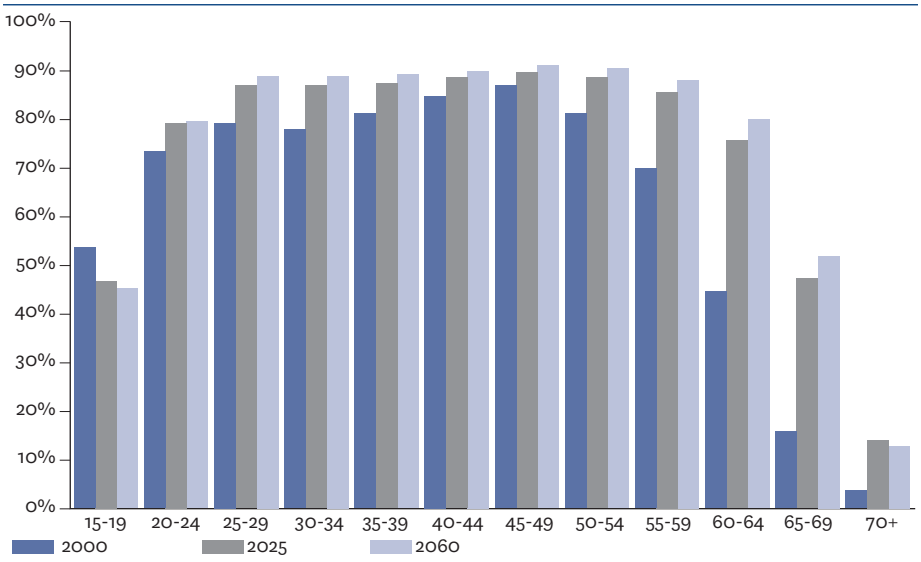
There is a chance that technological progress will cause labour productivity growth to return to higher levels. For example, the OECD estimates that artificial intelligence could cause annual US labour productivity growth to increase by 0.4–0.9 percentage points over the next ten years (OECD, 2024). Our high-growth scenario assumes labour force productivity growth rises to 1.3%.

Figure 6 shows projected real GDP growth under each of the three scenarios. Under the medium-growth scenario, GDP will increase by 56% between 2025 and 2050 after adjusting for inflation, rising from $431 billion to $672 billion. Under the high-growth scenario, it will increase by 66%, rising to $715 billion. Under the low-growth scenario, it will increase by 48%, rising to $637 billion.

A portion of this increase in projected GDP is due to population growth. Real GDP per capita helps us distinguish the component of GDP growth that results from productivity growth rather than population growth. Under the medium-growth scenario, real GDP per capita will rise by 32%, from $80,000 to $105,000. Under the high-growth scenario, it will increase by 40% to $112,000, and under the low-growth scenario, it will rise by 25% to $99,000.

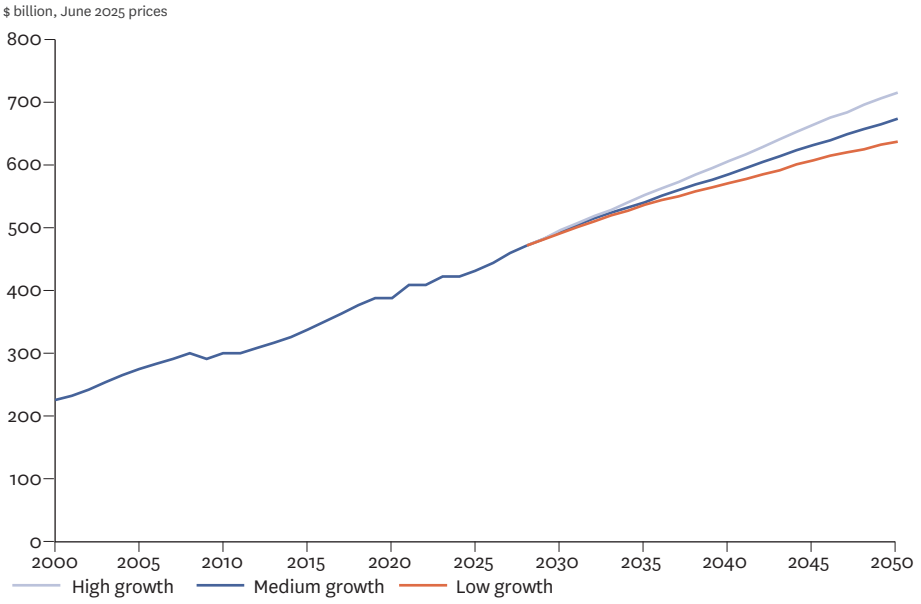
As GDP rises, incomes will also rise. Productivity growth will allow workers to produce more or better goods and services in the same amount of time, making their work more valuable to companies and enabling them to earn higher wages. Average gross weekly earnings are projected to rise from $1,619 per person in 2025 to $2,084 in 2050 in the medium-growth scenario after adjusting for inflation, an increase of a third. This compares with $2,217 in the high-growth scenario and $1,975 in the low-growth scenario.

Figure 5: Labour force participation rate by age, 2025 and 2050



Source: NZIER calculations based on Statistics New Zealand, 2021, 2020

Figure 6: Real GDP, 2000–2050



Source: NZIER extension of Treasury's Fiscal Strategy Model (Treasury, 2024b)

Economic inequality

It is difficult to draw conclusions about how economic inequality may change in the future. While some measures of income and wealth inequality have been stable over the past 25 years, gender and ethnic pay gaps appear to be trending downwards. The drivers of these trends are complex, and it is not clear how they will play out in the future.

Implications for retirement income policy

What do these trends mean for New Zealand's retirement income policy?

Under current policy settings, the system will continue to provide similar living standards as today. However, the costs of the system will rise alongside other forms of government revenue, raising questions about its fiscal sustainability.

NZ Super

New Zealand Super rates are indexed to the consumers price index (CPI) and are adjusted so that the couple rate remains between 66% and 72.5% of the net average wage. Assuming indexation does not change, NZ Super rates will continue to rise in line with wages.

While NZ Super payments will be higher in absolute terms, the living standards of retirees will still depend on their level of private savings and expenses. Evidence suggests that for many retirees, costs exceed NZ Super payments, making it necessary to rely on additional income sources or savings (Matthews, 2023). Some commentators, such as the Financial Services Council (2019), argue that there is a gap between NZ Super payments and the amount needed for a comfortable lifestyle. This gap is likely to persist in 2050, as perceptions of a comfortable lifestyle tend to rise with average wages.

The role of KiwiSaver

People retiring in 2050 will have had KiwiSaver for almost all their working lives. Those who have consistently contributed will have had time to accumulate much larger balances, making a greater contribution towards their retirement incomes. However, those who have not been in paid work for their full working lives (for example, due to caring responsibilities, ill health or disability) will have relatively lower balances, resulting in growing inequalities in retirement incomes.

The Retirement Income Interest Group of the New Zealand Society of Actuaries has estimated that contributing KiwiSaver members aged 45 in 2021 (who will turn 65 in 2040 or 2041) will have a median balance of $156,900 in 2021 dollars, or $188,800 in 2025 dollars (Retirement Income Interest Group, 2022). Balances will continue to increase through to 2050 as KiwiSaver matures.

As KiwiSaver grows, it will play a more important role in providing income in retirement. Someone retiring with $200,000 in 2050 who follows the '4% rule' (withdrawing 4% of the starting value of their retirement savings each year) would gain an income of $8,000 a year, or $154 a week. Compared with the projected $525 net per person weekly NZ Super couple rate, this would increase their income by around a third. Under current policy settings, KiwiSaver balances will provide a helpful supplement to NZ Super income, but NZ Super income will remain the main source of income for most retirees.

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Rising fiscal costs

Government spending could rise significantly over the next 25 years. According to the Treasury's 2021 Long-Term Fiscal Model, if future governments act in line with historic trends, then total Crown expenses could reach 48% of GDP by 2050. The deficit will grow over time from around 2% of GDP today to around 12% by 2050.

The Treasury's model assumes that as spending rises, future governments will respond by borrowing more. Rising debt raises interest costs, causing debt to rise even faster. By 2050, core Crown debt will reach 111% of GDP – a level not seen since World War II. This assumption is probably unrealistic. In reality, future governments may look for ways to control spending, causing debt to rise more slowly.

However, the model is still useful for understanding the areas where government costs are expected to rise. According to the model, health spending will increase by 51% between 2025 and 2050 (from 6.0% of GDP in 2025 to 9.1% in 2050). NZ Super spending will rise by 33% (from 5.1% to 6.8% of GDP), and education spending will increase by 15% (from 5.1% to 5.8% in 2050).

In 2001, the government established the New Zealand Super Fund to smooth the rising costs of NZ Super over the 21st century. The fund's balance is currently around 18% of GDP and is expected to reach 28% of GDP by 2050. Despite this, capital withdrawals are expected to remain low until 2050 as the fund will need to maintain high balances to cover ongoing increases in NZ Super expenditure over the second half of the 21st century. After accounting for NZ Super Fund contributions and withdrawals along with the tax paid on NZ Super income, the increase in NZ Super spending between 2025 and 2050 falls to 17% (from 4.7% in 2025 to 5.5% in 2050).

The ageing population is a major factor driving changes in government expenditure. An increasing proportion of people aged 65 and over leads to higher NZ Super spending. It also leads to rising spending on health and residential care, as older people tend to have higher health needs. If home ownership declines among those aged 65 and over, this could lead to more people requiring accommodation support.

Another important factor driving changes in expenditure is rising costs in service sectors, such as health and education. This can be explained by the Baumol effect – higher productivity growth in goods-producing sectors leads to price increases in labour-intensive service sectors (Helland and Tabarrok, 2019).

The challenge posed by rising costs is exacerbated by a shrinking tax base. As labour force participation falls, tax revenues will need to be raised from a smaller share of workers. Coupled with higher health spending, this will make it more challenging for the government to afford the rising cost of transfers and services.

Tough fiscal choices

If future governments do not act to address these pressures, they will be left with three choices:

- *Raise tax revenue*
  As a rough indication, revenue in 2050 would have to increase by around 3% to cover the projected rise in NZ Super, and the tax borne by each worker would have to increase by around 4% to make up for the projected fall in labour force participation. Further increases would be needed to meet rising health costs. These tax increases would significantly reduce living standards for the working-age population and distort incentives to work, save and invest.
- *Reduce spending*
  The government could consider reducing spending on other public services outside the retirement income system. However, achieving large enough reductions could be challenging, particularly as health costs are also expected to rise. Unless services become much more efficient, reduced spending would result in lower service provision and lower living standards for many New Zealanders.
- *Accumulate debt*
  The government could abandon its long-term fiscal objectives and allow debt to increase, reaching over 100% of GDP by 2050 – without accounting for economic shocks. This would undermine the efforts of successive governments since the 1980s, which have worked to keep debt at sustainable levels. Although many developed countries – including Japan, the United States, the United Kingdom, Italy, France and Spain – have levels of public debt nearing or exceeding these levels, it is not a sustainable solution. In New Zealand's case, relatively high private debt constrains the country's ability to shoulder high public debt. As debt rises, the country's risk premium may increase, driving up interest rates, interest costs, and overall vulnerability to economic shocks and crises.

Successive increases in revenue, reductions in spending or increases in borrowing will be required to respond to ongoing changes in the population age structure throughout the next 25 years and beyond.

As the number of retirees rises and the number of working-age people falls, each worker will need to contribute more to sustain the system.

How the retirement income system could adapt

There are a range of options the government could explore to address the challenges of population ageing, from supporting higher birth rates and increasing migration to raising the rate of productivity growth.

Focusing on retirement income policy, the government could explore ways to reduce the costs of NZ Super. Potential policies include raising the eligibility age in line with life expectancy (or more quickly), indexing payments to CPI inflation rather than wages, and introducing means-testing. A combination would likely be required.

Making changes to NZ Super is likely to be politically challenging. In a 2018 report, NZIER explored attitudes on retirement incomes using a survey, and found that New Zealanders were reluctant to contemplate major changes to NZ Super. Among the options presented, means-testing was the most popular.

An alternative approach would be to change the system to reduce the pressures created by demographic change. This can be achieved by pre-funding more of the increase in costs and transitioning from the current pay-as-you-go system to a more savings-based system. In a pay-as-you-go system, retiree incomes are funded by taxes on current workers. As the number of retirees rises and the number of working-age people falls, each worker will need to contribute more to sustain the system. In a savings-based system, a greater share of retiree incomes is funded by savings accumulated over their working lives. This means that population ageing does not affect the amount each generation has to contribute.

Benefits of a savings-based system

In addition to being less vulnerable to demographic change, a savings-based system has three main advantages.

First, it benefits from compounding returns, making it cheaper to operate. In a savings-based system, retirees' incomes are funded by savings that earn returns, which compound over time. Assuming the return on capital is higher than the growth rate of the economy (as is typically the case in advanced economies like New Zealand), this means that lower contributions are required to achieve the same level of retirement income compared to a pay-as-you-go system (Coleman, 2024).

Second, it improves incentives to work and save. The pay-as-you-go system involves high taxes on workers, which creates labour market distortions. Higher tax rates discourage labour supply by reducing incentives to participate in the labour force, work extra hours, search for better jobs or invest in education and skills. Under a savings-based system based on a contributory pension or a private savings scheme, individual contributions directly translate into higher retirement incomes, removing these distortions.

The third advantage of a savings-based system is that it can help to develop capital markets and support productivity growth. It would generate a large pool of retirement savings, supporting investment, capital accumulation and economic growth.

Private vs public savings

A savings-based system could take a range of forms. One option is to place more emphasis on private savings by strengthening KiwiSaver through higher contribution rates and expanded coverage. The costs of the New Zealand Super Fund could then be reduced through the policies mentioned above.

This option has pros and cons. On the one hand, it avoids the economic distortions that arise when retirement incomes are funded through general taxation. It also gives

people greater clarity about their financial resources and makes it harder for governments to divert savings for other purposes. On the other hand, it reduces NZ Super's redistributive and risk-pooling effects, making retirement incomes more closely linked to lifetime earnings and more exposed to market and longevity risk.

A second option for achieving a savings-based system would be to pre-fund more of NZ Super using the New Zealand Superannuation Fund. This would involve maintaining NZ Super and KiwiSaver as they are today, but significantly raising contributions to the NZ Super Fund to cover more of the expected increase in future NZ Super costs. This option would avoid tying retirement income to earnings from working life, but could involve larger economic distortions.

A third option would be to design a new system that combines the strengths of both KiwiSaver and NZ Super but avoids their weaknesses. One way to do this would be to introduce a new compulsory savings scheme that links retirement incomes to individual contributions, but also pools market and longevity risks. This could become the foundation of the system, encouraging people to work and save while ensuring that no one outlives their savings or is left exposed to market downturns. NZ Super could be turned into a pre-funded safety net, providing a minimum income for those who are unable to save enough. KiwiSaver could remain as a voluntary scheme that supports people to accumulate additional savings and achieve a higher living standard in retirement.

Change is manageable

While the fiscal challenges appear daunting, there are reasons to think that adapting New Zealand's retirement income system may not be as difficult as often assumed.

The country is starting from a relatively strong position. Population ageing will not be as severe as in other OECD countries. New Zealand currently has a relatively young population compared with many other OECD countries, and the old-age dependency ratio is projected to remain relatively low (UN Department of Economic and Social Affairs, 2024). In addition, public pension spending is projected to remain below the OECD average (OECD, 2023).

As the population continues to age and the costs of NZ Super rise, the current settings will become more entrenched, making it harder to implement reforms without significant disruption.

New Zealand has successfully managed demographic change before. The post-war baby boom of the 1940s–60s dramatically increased the number of children (Bryant, 2003), straining the education system and driving government spending in areas such as family support, housing and healthcare. While the old-age dependency ratio in 2050 will be higher than ever before, the total dependency ratio – including both children (0–14) and older people (65 and over) – will be similar to 1960 (ibid.). Just as a younger population in the mid-20th century put pressure on the education system, an older population in the late 21st century will raise challenges for the health and retirement income systems. In many ways, the past 50 years have been the anomaly, providing a temporary demographic boost as the baby boom generation moved through the workforce.

Finally, New Zealand has experienced shifting from pay-as-you-go to savings-based models. In the 1980s and 1990s, the Accident Compensation Corporation (ACC) operated on a pay-as-you-go basis, where levies covered only annual claims, with no reserves for future costs. In 1999, ACC began shifting to a fully funded savings-based model, and levies were progressively increased to accumulate reserves. By 2019, ACC's main accounts were fully funded.

The importance of planning ahead

Moving towards a savings-based retirement income system poses a major challenge: it inevitably results in a squeezed generation, who must bear a 'double burden' as they pay for current retirees as well as pre-funding their own retirement. The more the population ages, the greater this burden will become.

New Zealand should begin work on designing a retirement income system that is fit for the future. This will involve exploring several unresolved questions:

- How effective is KiwiSaver at raising total retirement savings, and how can it be improved?
- What are the costs of transitioning towards a savings-based system, and how can they be minimised?
- What is the optimal balance between savings-based and pay-as-you-go, given the transition costs?
- How can a system combine the strengths of private and public savings while addressing their weaknesses?

Answering these questions will require a range of analytical tools, such as natural experiments to evaluate past changes, randomised controlled trials to test behavioural responses, microsimulation to assess distributional outcomes, and macroeconomic models to estimate impacts on growth and fiscal sustainability.

Whatever path New Zealand chooses to take, planning should start now. Acting soon allows for a smoother transition, reducing the risk of abrupt or disruptive changes in the future. As the population continues to age and the costs of NZ Super rise, the current settings will become more entrenched, making it harder to implement reforms without significant disruption.

Retirement income policy settings affect people's consumption and savings decisions over their lifetimes, so changes should be gradual and signalled far in advance. It is important to make a credible commitment to a durable system, as frequent policy changes and reversals create uncertainty and undermine confidence. A stable and predictable policy environment will help people to adapt to change and prepare for the future.

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