Te Kura Kāwanatanga – School of Government, Te Herenga Waka – Victoria University of Wellington

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SPECIAL ISSUE

Demographic Change in Aotearoa New Zealand

The Future is Already Here: adapting to population change in Aotearoa
Tahu Kukutai and Richard Bedford 3

Te Ao Hurihuri: population change and the implications for policy
Michael P. Cameron and Paul Spoonley 11

The Next Population Census assessing its fitness for purpose and provenance
Len Cook 18

Māori Population Futures are Aotearoa New Zealand's Population Future
Moana Rarere 26

Population Change, Environmental Change and the Future of Health in Aotearoa New Zealand: why prevention and equity matter more than ever
Polly Atatoa Carr, Jesse Whitehead, Sughayshinie Samba Sibam and James Greenwell 35

The Fiscal Implications of Our Future Population
Susie McKenzie, Andrew Binning, Christie Smith and Hanna Vu 48

Transitions, Trade-offs and Long-term Stewardship in Retirement Income Policy
Patrick Nolan and Michelle Reyers 55

The Impacts of Climate Change on Migration
Kate McMillan and James Renwick 63

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Reconstituting the constitution of Aotearoa New Zealand

Aotearoa New Zealand's constitution is increasingly frayed, fraught and fragile.[1] It urgently needs revitalising and renewal. Fundamental questions, such as the constitutional status and policy implications of Te Tiriti o Waitangi, remain unresolved. Similarly, the case for a written, entrenched and justiciable constitution deserves proper debate.

Aside from this, at least five matters of direct relevance to our electoral system warrant close scrutiny and, ideally, reform.

The voting age: most countries, including Aotearoa, have a voting age of 18 or higher. But a growing number have reduced the age threshold to 16 or 17. Currently, for instance, 10 countries, including Argentina, Austria and Brazil, have a voting age of 16. Reducing the voting age to 16 in Aotearoa, coupled with better civics education for senior secondary school students, could enhance the political participation of citizens, improve voter turnout, and strengthen the overall credibility and legitimacy of our democratic system.

Compulsory voting: around 1.2 million potentially eligible voters chose not to participate in the 2026 general election. Consequently, voter turnout was among the lowest in the country's recent history. This is concerning for multiple reasons. One possible response would be to introduce compulsory voting, as in Australia and 26 other countries.

The case for compulsion is simple: it constitutes one of the fundamental duties of citizenship; it encourages a higher level of understanding by citizens of the democratic system; it reduces the need for political parties to spend money on encouraging enrolment and voting; it increases the legitimacy of electoral outcomes; and it reduces the scope for partisan efforts to discourage voter participation.

Overhangs and proportionality: given the large overhang generated by widespread split voting in the 2026 general election, reviewing the options for reforming our mixed-member proportional electoral system is imperative. Proportionality matters: it is fundamental to the integrity and fairness of our voting system.

There are many possible ways to eliminate an overhang or at least reduce its potential size and political implications. Unfortunately, some of these options have serious disadvantages, as evident from recent German experience.

One proposed solution, namely, to reintroduce a first-past-the-post electoral system, would be utterly counter-productive. Such systems often generate huge disparities between the proportion of votes that individual parties receive and the proportion of seats they win. For instance, in 1990 the National party won 48% of the vote but 69% of the seats. Similarly, in the British general election in 2024, the Labour party won 411 seats (or 63% of the 650 seats) but only 33.7% of the vote. These are massive disparities and, from the perspective of proportionality, very large overhangs.

A more desirable option to reduce the risk of a significantly disproportionate outcome would be to increase the overall size of our Parliament by substantially expanding the number of list seats. Currently, our Parliament is small by international standards. Many countries with a comparable population (i.e. around 5 million) have significantly more MPs. For instance, Denmark has 179; Finland has 200; Norway has 169; and Ireland has 234, if the 60 members of the Upper House are included.

A larger legislature would yield many other benefits. It would enhance the range and depth of talent available for ministerial selection and increase the capacity of select committees to undertake proper policy-oriented inquiries and review the performance of government departments and agencies. Improving the parliamentary representation of minority interests is also likely.

Political donations: the 2026 general election has, yet again, raised serious concerns over the integrity and fairness of our system of campaign finance. Currently, there are no limits on the total amount that individuals, businesses, unions and other organisations can donate to political parties and candidates. Many other countries, to protect the principle of political equality and reduce the influence of vested interests, have much tighter rules.

In Canada, for instance, contributions to political parties by corporations, unions, and associations are prohibited, and contributions by individuals to parties and candidates are limited to an annual cap of C$1,750. There is scope for reasonable people to disagree about the level of any such cap in Aotearoa, but the case for a cap of some kind is compelling.

Ministerial appointments: The remarkable outcome of the 2026 general election prompts at least one additional constitutional issue. Currently, Aotearoa is relatively unusual among democracies in restricting ministerial appointments to MPs. In many other countries, ministers do not need to be elected to their respective legislatures to serve in cabinet or other ministerial roles. That even applies to Prime Ministers. Given this situation, it is common for many non-MPs to be ministers. Such people, of course, have speaking rights in Parliament and can be held accountable by MPs, but they cannot vote.

If a PM in Aotearoa could appoint non-MPs to ministerial office, the potential loss of highly capable ministers, due to the outcome of a general election, would not arise.

It might be contended that such arrangements could give much power to the PM and the incentives for capable people to pursue parliamentary careers. A simple solution would be to limit the number (or proportion) of ministers who are not MPs that a PM can appoint.

Constitutions matter: they affect the sources, nature, use and control of public power. Hence, any reforms must be conducted carefully. Procedural fairness is vital. Key ingredients include clear principles, robust analysis, in-depth deliberation, extensive public engagement, and a rigorous weighing of the options.

Is Aotearoa capable of conducting the required constitutional conversations in a principled, open, non-partisan and meticulous manner? Sadly, recent debates over Te Tiriti o Waitangi provide little comfort. Let us hope that the 'better angels' of human nature, to which Abraham Lincoln famously referred in his first inaugural address in 1861, can prevail.

Jonathan Boston, Editor

1 An earlier version of this editorial was published in Newsroom on 18 November 2026. https://newsroom.co.nz/2026/11/18/five-fresh-ways-to-fix-our-frayed-constitution/

Tahu Kukutai and Richard Bedford

The Future is Already Here

adapting to population change in Aotearoa

Abstract

The primary purpose of this introduction is to set the scene for the seven articles which follow in this special issue of *Policy Quarterly*, all of which address aspects of long-run population change in Aotearoa New Zealand. Several important features of two key components of such change – falling fertility and population ageing – are introduced before we outline a series of activities over the past two years that have sought to put population change on the policy and political agenda in Aotearoa. These activities generated the momentum for the articles in this issue, and we conclude with a brief summary of their content.

Keywords falling fertility, structural change, population strategy, census, demographic dividend

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'Ka pū te ruha, ka hao te rangatahi' is a well-known whakataukīī (proverb) about renewal. Often translated as 'As the old net withers, the new net goes fishing', the saying carries several layers of meaning: as one generation passes, the next takes its place; each generation is responsible for carrying on the legacy it inherits; fresh perspectives help a community adapt and endure.

Beneath these readings is the shared assumption that, despite change, continuity across generations persists. This assumption captures something essential about demography. Vanhuysse & Goerres (2021, p. 5) describe populations as resembling 'massive, slow-moving elephants'. Population change is structural and gradual, so its potential outcomes and, to some extent, its impacts can often be anticipated long in advance. Indeed, the United Nations issued a prescient warning 70 years ago that falling fertility and population ageing would have dramatic impacts on labour supply and public

transfers to older people in high-income economies (United Nations, 1956). Demographic shocks, such as pandemic-related mortality, still occur, along with unpredictable volatile migration. But these do not change the elephant's pace and direction of travel. The core trends of falling fertility and population ageing unfold over decades and, to date, have proved largely irreversible (Max Planck Institute for Demographic Research, 2025).

Being visible in advance does not mean governments use that runway to plan wisely. In the articles in this special issue of *Policy Quarterly,* the respective authors argue in their own way that opportunities have been missed and that population planning needs to move onto the government's policy agenda with urgency. There is a clear sense that Aotearoa New Zealand is coming late to the game when designing policies to address the complex, multifaceted dimensions of an ageing population. As Cameron and Spoonley (in this volume) argue, 'we need to develop a more nuanced and detailed understanding of what is happening to Aotearoa New Zealand in a demographic sense and to invite a discussion about the appropriate policy framework that responds to new demographic realities'.

Elsewhere, across the world's most advanced economies, policy responses to demographic challenges are well established. Population contraction, very low fertility and rapid ageing are no longer confined to a few outliers. Population size has peaked in more than 60 countries and areas, including China, Germany, Japan and the Russian Federation (United Nations, 2024). Much of Europe now has populations that are in natural decline, with deaths outnumbering births (European Union, 2025). In these settings, migration is the main remaining lever for sustaining population size, yet it is politically contested and entangled with debates about national identity and social cohesion.

The implications of demographic change are profound. Labour supply, healthcare costs and geopolitical influence all depend on the size and age structure of a population. Ageing enlarges fiscal obligations for pensions and care while shrinking the working-age base that funds them. Countries with smaller, older populations, that are growing slowly, compete harder for skilled migrants, with consequences for national influence. Each of these trends is now shifting. Aotearoa is part of this global story rather than apart from it, and its policy choices are being made in a world where most comparable countries face similar pressures.

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Putting population on the policy and political agenda

This special issue is the latest in a range of efforts seeking to put population on the policy and political agenda in Aotearoa. The first was a series of expert perspectives assembled by the Royal Society Te Apārangi reflecting on how shifts in age and ethnic identity could affect the country's future.[1]

Victoria University of Wellington's Policy Hub hosted a series of expert-led population seminars earlier this year with support from the Ministry of Business, Innovation and Employment, the Treasury and the Population Association of New Zealand, among others. The series covered a wide range of topics, including the international drivers of migration, the conditions for good social outcomes, and population growth and infrastructure.[2]

In April 2026, Koi Tū Centre for Informed Futures published the report *People, Place and Prosperity: the case for a population strategy* (Lala et al., 2026). An independent think tank, Koi Tū focuses on long-term complex challenges, including social cohesion and social resilience, sustainability and the societal impacts of new technologies.

Koi Tū's report identified three key challenges linked with the country's rapidly changing demography. The first is labour shortages and skills gaps brought about by the combined effects of declining fertility and retirement from the workforce at a time when there is growing global competition for migrants to bolster growth in the domestic labour force. The second is the changing ratios of dependents to workers found in ageing populations, which place additional pressure on public finances when labour forces are shrinking. The third is taking advantage of the unique opportunities for innovation, creativity and problem-solving that come with greater ethnic diversity, at a time when underlying anxieties about this diversity are threatening social cohesion.

The report also made a persuasive argument for a 'coherent, consistent and bipartisan population strategy' (ibid., p. 4). Such a strategy would ensure alignment between workforce, infrastructure, public services, regional development, migration settings and the country's evolving population. The report generated significant media interest and commentary (see, e.g., RNZ, 2026; Newstalk ZB, 2026; Kukutai et al., 2026).

More recently, Te Ngira Institute for Population Research hosted a webinar series exploring the future of the census in Aotearoa (Te Ngira Institute for Population Research, 2026). The census is critical to conversations about demographic change, providing a key plank of the evidence base underpinning it, and the essential data needed to allocate resources, plan public services and infrastructure, and ensure equitable democratic representation. Experts were invited to explore the future of the census in Aotearoa from technical, constitutional, ethical, equity and te Tiriti o Waitangi perspectives.

In different ways, all these initiatives reflect a growing recognition that population change is a long-term strategic issue, one that needs sustained attention,

sound evidence and coordinated action across government, research, iwi and communities.

In addition to advocating for a population strategy, the Koi Tū report proposed that an independent population commission be established to develop it (Lala et al., 2026, pp. 25–26). The commission would operate with bipartisan support and commitment beyond three-year election cycles to help policymakers consider these interrelated issues as a whole rather than in isolation, as is happening currently. The proposal received strong support in a poll of 145 participants in the Policy Hub's seminar series.

This is not the first time the government has been called upon to take population seriously. In 1986 the New Zealand Planning Council published a report that raised many of the same issues, flagging the combined effects of slowing population growth, falling birth rates, net emigration loss of New Zealand citizens, and a dramatically changing population composition (Population Monitoring Group, 1986). That report went largely unheeded. In 1990 the Department of Statistics published *The Human Face of New Zealand: a context for population policy into the twenty-first century* as a key background document for population and social planning (Department of Statistics, 1990). This is yet another report that has had no lasting impact.

In 2003 the Ministry of Economic Development, Ministry of Social Development, the Department of Labour and Statistics New Zealand published *Population and Sustainable Development* as part of the government's Sustainable Development Strategy. 'The government's contribution to sustainable development is about making good policy decisions that anticipate future population changes', it stated (Ministry of Economic Development, 2003, p. 9). Whether and how that has translated into specific policy responses remains unclear.

This history suggests that a good dose of realism is essential when advocating government-led responses to long-term demographic change. Population trends respond to a wide range of factors, including economic conditions, housing costs, cultural norms and global migration patterns, which governments can influence only at the margins. Fertility in particular has proven stubbornly resistant to direct policy intervention. Migration offers more tractable levers, but with considerable uncertainty: governments can set immigration policy, but they cannot reliably predict how prospective migrants will respond (Kukutai et al., 2026).

A credible population strategy therefore needs to distinguish clearly between what can be shaped and what must simply be adapted to. The Treasury's periodic long-term fiscal statements already model population-related pressures, such as ageing, labour force participation and health expenditure, over a 40-year horizon. A population commission should build on this work rather than duplicate it, focusing on where intervention is genuinely feasible and where evidence-based adaptation is likely to be more fruitful (Kukutai et al., 2026).

Many countries have a long-term demographic view embedded in their policy machinery. Australia's Treasury has produced an *Intergenerational Report* at least once every five years since 2002, projecting the budgetary effects of ageing and population change over 40 years.[3] Singapore has a dedicated National Population and Talent Division within the Prime Minister's Office.[4] Established in 2011, it drives the formulation, coordination and review of government policies in support of its sustainable population objectives. South Korea has a standing Presidential Committee on Population (formerly the Presidential Committee on Ageing Society and Population Policy), and its law requires successive five-year basic plans. The government's new population strategy marks a radical shift from unsuccessful efforts to lift birth rates to a more holistic approach to demographic adaptation, including labour, welfare, employment, housing and education policy. These sorts of arrangements do not remove uncertainty, but they do put demographic trends on the agenda of whichever government is in power.

As is happening currently in Aotearoa, there is a tendency for public debate to focus on the immediate effects of low fertility, such as an older population, while the longer-term effects get far less attention. One poorly understood example is negative population momentum (Morse, 2024). A population shrinking by just 1% a year will halve in about 70 years. And once very low fertility has persisted long enough, the age structure itself becomes the main challenge, because there are too few people at reproductive ages; even a return to two children per woman would not stop the shrinkage for another 60 years. Decline is built into age structures, yet this is easy to overlook when attention is fixed on annual birth numbers.

As is happening currently in Aotearoa New Zealand, there is a tendency for public debate to focus on the immediate effects of low fertility, such as an older population, while the longer-term effects get far less attention.

The longer fertility stays well below replacement, the more severe and harder to reverse the consequences become. Recent projections from Eurostat, the EU's statistical agency, suggest that the bloc's population will be 11.7% smaller by 2100 on current trends, including ongoing immigration, falling to 399 million from 452 million today. That decline is modest compared with Eurostat's scenario without immigration, in which the population falls by more than a third, to 295 million, by 2100.[5]

Growing politial awareness of population challenges in Aotearoa

The various activities led by the Royal Society Te Apārangi, the Policy Hub, Koi Tū and Te Ngira, coupled with the efforts by participants to raise the profile of the issues in the public and political domain, have proved to be timely and highly relevant for several political debates that have gained momentum in the lead-up to the general election in November 2026. These debates are on population issues that have been attracting the attention of politicians for some time.

A major one concerns the fiscal implications of cohorts born during Aotearoa's prolonged post-war baby boom leaving the workforce and gaining eligibility for national superannuation at a time when Aotearoa-born labour force entrant cohorts are becoming smaller because of declining fertility since the 1970s. This has been an issue of concern at various levels of government since a compulsory national superannuation saving scheme was abandoned in the early 1970s.

It was not until the 2000s that the costs of that decision to future generations of taxpayers began to be fully appreciated by politicians and the wider public, despite considerable readily available evidence from demographers and economists. How to meet the cost of a national retirement income has become one of the most widely debated 'wicked problems' associated with population change in the 21st century and it is a problem that is referred to in all of the articles in this issue of *Policy Quarterly*.

A second long-standing issue of political debate and division relates to the volume and composition of international migration flows into and out of the country. Since the 1980s there has been a significant shift away from a focus on welcoming migrants as potential settlers in Aotearoa to seeking people on various types of temporary visas to meet specific business development needs. Various criteria-based selection systems have been used to screen potential migrants and, in some cases, quotas have been set to regulate the magnitude of the flows.

There continues to be broad public support for an immigration policy that places emphasis on temporary movement of people to fill particular gaps and needs in the labour market and economy, rather than encouraging large numbers of new settlers as a means of achieving population growth per se. That said, temporary as well as long-term migration from selected countries in Asia especially has been a source of political discord and debate since the 1990s. Given the role net international migration is assuming as the primary driver of population growth in Aotearoa, there needs to be a reassessment of the role and objectives of immigration policy in an era of sustained low fertility and eventual population decline.

A third contentious issue concerns persistent and, in some cases, widening gaps in incomes, health status, including life expectancy at birth, educational achievement, access to affordable housing, and general living standards of different groups in the population. Reducing the incidence of poverty in Aotearoa has proved to be a particularly challenging 'wicked problem' for successive governments.

Given the many dimensions to poverty, and the much greater incidence of material hardship in Māori and Pacific households, reducing poverty must be a core component of any long-term population strategy. Because of their much younger age structures, Māori and Pacific labour force entrant cohorts will become increasingly significant components of the country's workforce as the impacts of sub-replacement fertility progressively reduce the sizes of birth cohorts in other segments of the population.

Aside from passing acknowledgement of the country's changing demography, there has not been much reference to either the complex interdependence of the underlying drivers of fertility, mortality and migration in the dynamics of population change ...

The issues outlined above have tended to be addressed in isolation in both media commentary and political debate. Aside from passing acknowledgement of the country's changing demography, there has not been much reference to either the complex interdependence of the underlying drivers of fertility, mortality and migration in the dynamics of population change, or the reality of quite different demographic histories, contemporary situations and futures for some major subgroups within the population. It is these interdependencies and differences that need to be addressed and accommodated in any long-term strategy for Aotearoa's population in an era of low demographic and economic growth

Senior reporters working for major national and regional media outlets have picked up on the need for a coherent, consistent population strategy given rapidly changing demographic contexts at regional, national and international levels. The contemporary public debate about the country's demographic future in 2026 is richer, better informed and more sophisticated than it has been in the past. But this greater public awareness and commentary has yet to have much impact at a political level, at least as far as evidenced by the different parties' statements of priorities for action and investment over the next three years.

Two contributors to this special issue, Paul Spoonley and Len Cook, have been particularly active in drawing media attention to population issues. Spoonley, a sociologist with specialist expertise in

international migration and its impacts on social cohesion, is widely regarded amongst journalists in the print and broadcast media as a willing expert commentator on issues to do with a range of dimensions of demographic change, including impacts of declining fertility on the labour force and on the ageing of the population.

A senior fellow in Koi Tū, Spoonley has contributed extensively to a wide range of media-led debates on population issues, as well as to business and community events, over the past two years, emphasising the very different demographic context within which our economy and society will be evolving over the coming decades. Addressing the challenges of this changed demographic reality requires a much sharper focus on how economic and social policies will ensure prosperity for both current and future generations.

Cook, a former government statistician in Aotearoa and the UK, has consistently challenged proposals by Statistics New Zealand to progressively withdraw from census enumerations of the population and rely increasingly on administrative sources of data. He is adamant that we cannot afford to abandon our regular quinquennial census enumerations at a time of significant change in the age and ethnic composition of the country's population, and the increasing diversity of local and regional populations in an era of slow demographic and economic growth. He is not alone in his concerns: Polly Atatoa Carr (represented in this volume) has also been very vocal about the demise of the census and its implications for Māori and Pacific health equity.

The census is a critically important source of information for Māori and iwi, and for the Crown to meet its te Tiriti o Waitangi responsibilities (Kukutai & Cormack, 2020). It also serves members of numerous small ethnic and language groups, as well as the widely dispersed rural communities and small towns that are integral components of the national population.

The era of sustained long-run population growth is over and this reality, coupled with associated changes in age composition occurring at variable rates for population subgroups, calls for different strategies from those that rely heavily on continued expansion of the labour market and its contributions to economic growth and tax revenue. Developing these strategies requires reliable fine-grained census data to monitor and plan for an increasingly diverse mix of demographic trajectories for subgroups in the population.

Demographic change remains very much part of a wider context in terms of its implications for economic productivity and societal resilience rather than an explicit focus of attention in its own right. The articles in this issue of *Policy Quarterly* have been prepared to draw out policy implications of contemporary and future demographic trends with a view to ensuring that the case for a long-term population strategy for Aotearoa continues to be promoted and developed at a time of global economic, social and political tension and uncertainty.

> If Māori population futures are central to national prosperity, then the health of that population, and of Aotearoa as a whole, becomes a pressing test of whether policy can deliver on the opportunity.

The articles in this special issue

Cameron and Spoonley open the special issue by setting out the demographic changes reshaping Aotearoa: population ageing, declining fertility, immigration, and increasingly divergent regional trajectories and profiles. These shifts are not experienced evenly. Regions, as well as major subgroups within the national population, are on different paths, and so face different investment and funding challenges. They argue that maintaining economic and social wellbeing in a context of low rates of population growth or, in places, absolute population decline will require revisiting the mid-20th-century social contract. That means placing greater emphasis on productivity growth, broader labour force participation and public services adapted to changing local needs, rather than relying on continued population growth.

While acknowledging that population ageing and low fertility are becoming demographic norms internationally, they note that the policy challenge for Aotearoa is distinctive due to a combination of volatile international migration, divergent regional trends and the relatively youthful Māori and Pacific populations. The latter especially offer opportunities for future workforce development provided significant inequalities in health status are removed and education and employment pathways are strengthened.

If major subgroups in the population, as well as regions, are on divergent demographic paths and policy must be tailored to local needs, then the capacity to measure population change by subgroup and place becomes critical. Len Cook takes up this challenge, arguing that demographic changes demand evidence-driven policy, and that such policy depends on comprehensive, reliable population statistics. His central case is for retaining a periodic national census of population and dwellings. A census captures not only individuals but also the dwellings in which families and community groups live. Without this, researchers and policymakers cannot reliably connect people to the places, institutions and other people that matter to them. Administrative records, even when linked by a common personal identifier, offer only limited information on place and community structure unless a field-based census provides the backbone.

Cook notes the uncertainty surrounding the 2028 census, given the Justice Committee's conclusion that Parliament is unlikely to support the legislation needed to proceed with the planned transition to an annual administrative census. He stresses that these demographic shifts were foreseen well before this century, so the evidence base should not be allowed to erode now. He warns that discontinuing the census would seriously compromise population estimates, projections and other studies on which prudent policymaking relies. Finally, Cook calls for a rethink of traditional population measurement, including the capacity to integrate measures for any locality of differing granularity, frequency and quality.

Māori population futures is therefore central to the country's long-term social, economic and demographic wellbeing.

If Māori population futures are central to national prosperity, then the health of that population, and of Aotearoa as a whole, becomes a pressing test of whether policy can deliver on the opportunity. Polly Atatoa Carr and colleagues take up this theme, arguing that an effective future health system must prepare for an ageing population, ethnic diversification, volatile migration and environmental disruption. Meeting these needs requires action well beyond the health sector, anchored in prevention, health equity and accountability to te Tiriti o Waitangi. Such action would ease pressure on the health system, improve societal and economic outcomes, and build a resilient next generation. By contrast, policy that prioritises short-term administrative targets over the structural drivers of poor health will not reduce chronic disease or improve wellbeing and equity, and unaddressed inequities carry severe societal and fiscal costs.

If equity in health depends on action beyond the health sector, the question becomes how the public purse can sustain that action, and the wider costs of ageing, over the long term.

Demographer Moana Rarere argues that Māori population futures are increasingly bound up with the future prosperity of Aotearoa. As the population ages, Māori are projected to make up a growing share of the country's children, young adults and working-age people. Drawing on Natalie Jackson's (2011) concept of the 'collateral demographic dividend', Rarere argues that a benefit can arise not from change within a single population, as in the classical demographic dividend model, but from populations at different stages of demographic transition living side by side. The youthful Māori population is an advantage that few other countries can draw upon, but is underplayed in modelling focused on the fiscal costs of ageing. She argues that investment in Māori educational achievement, health and wellbeing, and economic participation yields benefits well beyond Māori communities. Supporting

The authors argue that analysing structural change through the lens of prevention, equity and trusted population data is more useful for planning than focusing narrowly on service demand. Age shapes health need, but an age-based aged care system lacking Māori- and Pacific-led evidence and culturally safe models of care will fail those populations. Ethnicity is a stronger marker of health need than age, sex, rurality or area deprivation. Future outcomes will depend less on individual care, demographic change or environmental impacts in isolation, and more on whether Aotearoa can create conditions for lifelong health equity. The authors read recent legislative amendments as a move away from Māori decision-making, prevention-focused resourcing and equity accountability, and conclude that prevention must become the guiding principle of health system planning, starting with the determinants outside the health sector.

If equity in health depends on action beyond the health sector, the question becomes how the public purse can sustain that action, and the wider costs of ageing, over the long term. McKenzie and colleagues ask how public policy can sustainably support an ageing population, focusing on fiscal sustainability, the economic consequences of policy responses, and intergenerational equity. Under current settings, spending grows faster than revenue. Treasury projects that, without policy change, net public debt will rise from around 40% of GDP in 2025 to approximately 200% by 2065. This gap is predictable, since lower fertility, rising longevity and population ageing are well documented. Closing it requires lower expenditure, higher taxation or both.

Using Treasury's overlapping generations (OLG) model, which captures both aggregate fiscal effects and the behavioural responses of individuals and firms, the authors assess alternative expenditure and tax options. Higher migration, improved fertility, or migration targeted at high-productivity individuals can ease the adjustment but cannot fully offset long-term pressures. Timing matters, as early action spreads the burden across more generations and avoids abrupt tax rises or spending cuts. Relying on a single policy lever would usually demand very large adjustments, so a combination of revenue, expenditure restraint, growth and migration measures is likely needed. Because fiscal policy is inherently intergenerational, the authors argue that gradual, signalled adjustments can balance sustainability with fair burden sharing across cohorts. Delay does not remove the need to adjust. Rather, it shifts the cost to later generations.

If fiscal sustainability requires deliberate adjustment, the next question is how that adjustment should be made, and

who bears its costs. Patrick Nolan and Michelle Reyers take up this question of 'how', arguing that retirement income reform should be judged not only by its preferred end state but by the transition path used to reach it. Timing and sequencing can matter as much as the policy settings ultimately chosen, because different policies reach people at different life stages and offer different opportunities to adjust. KiwiSaver reforms build private savings gradually, while changes to New Zealand Superannuation affect incomes more immediately. Policies that look similar in long-run fiscal terms can therefore have very different effects across cohorts and income groups. The challenge is not simply choosing a future system but building a credible pathway to it.

The authors argue that the key questions are not only how much a reform saves but who bears the cost, how behaviour may change, and whether people have a realistic chance to adjust. Aggregate figures can understate the exposure of some groups to transition costs, including many Māori, Pacific peoples and women. NZ Super will continue to be the system's principal income floor since stronger private saving is unlikely to displace it. Because KiwiSaver contributions track income, and earnings and paid-work patterns differ by gender, identical KiwiSaver settings can produce very different retirement outcomes. Finally, some options, such as pre-funding or gradual changes to indexation, lose effectiveness the longer decisions are deferred.

Having examined how Aotearoa might sustain an ageing, changing population, the issue closes by looking outwards, to a global force that could reshape who comes here and why. James Renwick and Kate McMillan connect climate change, global migration and the country's future population. They do this at a time when a series of changes to Aotearoa's responses to climate change under the current government have earned the country the unenviable reputation of being the winner, yet again, of the 'Fossil of the Day' award from Climate Action Network International at the COP31 climate conference in Türkiye in November 2026 (Newton, 2026).

Renwick and McMillan first review the state of the climate, what is needed to hold global warming within the Paris Agreement range, and the likely consequences for communities worldwide. Climate change has already eroded food and water security, and the effects are uneven. The tropics, especially tropical Africa and south Asia, face the sharpest loss of liveability, which can displace people from vulnerable places.

The authors then examine how climate change may shape global population movements. They stress that the relationship is highly complex, so estimating who will move, why, where, when and for how long poses serious methodological challenges. They argue that state and non-state actors should develop policies that help people in climate-vulnerable areas stay where that is viable and preferred, and move in a planned, lawful and rights-consistent way when it is not. They point out that mobility linked to climate change is happening as the post-Cold War geopolitical order gives way to tighter borders and more sophisticated enforcement technology.

Finally, they ask what climate migration means for population strategy, including growth, immigration and social cohesion. A key question is whether Aotearoa can, and should, treat exposure to climate vulnerability when choosing which migrants to accept to help address ageing, low fertility and weak productivity, particularly given its close ties to the Pacific. They suggest that those developing strategies for Aotearoa's future population and infrastructure might find it prudent to put climate change and its implications firmly at the centre of their planning.

Where to from here?

Demography does not simply respond to politics; it also shapes it. Attention tends to go to how policy responds to demographic change, rather than to population structure and change as a driver of politics in its own right (Vanhuysse & Goerres, 2021). In fact, the relationship runs both ways. As Robbins and Smith (2017) observe, counting births, deaths and fertility has always been closely tied to the urge to govern them, which makes population research a form of political research. Demographic problems cannot be solved by demographic means alone. The evidence shows that pronatalism or migration targets, pursued in isolation, will fail. Sustainable population development needs a holistic approach, grounded in an honest understanding of how numbers, politics and institutions interact.

Given the very tight fiscal parameters both major parties are proposing for the next three-year term of government, it is probably unrealistic to expect that there will be enthusiasm within an incoming government led by either major party for investing in an independent body to undertake the kinds of investigations that will be required to develop, implement and evaluate a coherent population strategy. What might be possible in the short term, however, to further the development of the evidence base for such a strategy and to ensure effective engagement by research institutions and civil society organisations in its development, is to have a high-level conference on our future population in 2027. The aim of such a conference, which would require support by parties in government as well as in opposition, would be to take the discussion about a national population strategy to the next level and to provide a broad framework for ensuring that the country's evolving demography is

Sustainable population development needs a holistic approach, grounded in an honest understanding of how numbers, politics and institutions interact.

at the centre of all major policy initiatives taken during the next three years.

There are precedents for such actions at times of economic, social and political uncertainty in Aotearoa. In 1997, at the time of the Asian financial crisis and following a contentious debate in 1996 about Asian migration to Aotearoa, the National government sponsored the country's first national population conference (Bedford and Ho, 1998). Many of the demographic issues that are currently posing significant challenges for planners, policymakers and politicians 30 years later were foreshadowed during this conference.

The biggest changes that came after the 1997 conference were in immigration policy, especially with regard to selection processes and the balance between settlers and temporary migrants in the flows of people into Aotearoa, and the establishment of the New Zealand Superannuation Fund in 2001 to assist in addressing the absence of a national superannuation saving scheme. Both have generally had broad bipartisan support over the past three decades. National population conferences can be more than talkfests. A lot of the groundwork for a very productive national event in 2027 that addresses a population strategy has already been completed by the activities sponsored by the Royal Society Te Apārangi, the Policy Hub at Te Herenga Waka Victoria University of Wellington, and in the articles prepared for this issue of *Policy Quarterly.*

1 Contributed by Professor Tahu Kukutai, Emeritus Professor Edwina Pio, Dr Samantha Heath, Distinguished Emeritus Professor Paul Spoonley, Len Cook and Emeritus Professor Murray Thomson, these expert perspectives can be accessed at: https://www.royalsociety.org.nz/expert-perspectives/changing-demographics/murray-thomson.

2 The four seminars covered: 1) Exploring New Zealand's future population: numbers, demographics, and location (Michael Cameron, Kate McMillan and Paul Spoonley); 2) Ensuring the wellbeing of New Zealand's future population (Jacques Poot, Dr Maja Krtalic' and James Renwick); 3) Affording and investing in New Zealand's future population (Julie Fry, Polly Atatoa Carr, Peter Nunns); 4) Future-proofing Aotearoa: preparing for the population changes ahead (Paul Spoonley and Maja Krtalić). Recordings of the seminars and copies of the Powerpoint presentations can be accessed at: https://www.wgtn.ac.nz/policy-hub/projects/current-projects/exploring-new-zealands-future-population-seminars.

3 https://treasury.gov.au/intergenerational-report.

4 https://www.population.gov.sg/.

5 https://ec.europa.eu/eurostat/web/population-demography/population-projections/database

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Michael P. Cameron and Paul Spoonley

Te Ao Hurihuri
population change and the implications for policy

Abstract

New Zealand is undergoing a long-term demographic transition characterised by low mortality, declining fertility, population ageing and an increasing reliance on immigration for population growth. These trends extend well beyond the ageing of the baby boomer generation and are increasingly evident at the subnational level. Immigration has also contributed unevenly to population growth and increasing ethnic diversity. Consequently, regions and centres face increasingly divergent demographic futures, ranging from continued growth to stagnation or decline. We argue that this heterogeneous demographic landscape requires a major policy rethink, as many current assumptions and delivery models reflect outdated 20th-century demographic circumstances.

Keywords demographic change, sub-replacement fertility, ageing, regions, immigration, population growth, population decline

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In the high-income world, and increasingly elsewhere around the globe, countries are entering a new stage of the demographic transition. This is normally described as moving from stage one, where there is both high mortality and high birth rates, through stages two and three, with high birth rates and falling mortality then falling birth rates and low mortality respectively, and then into the current phase of low mortality and low birth rates (Roser, 2019). New Zealand has seen a relatively rapid decline in the total fertility rate (TFR) since 2013, when it was last at the replacement rate of 2.1. By 2026, the TFR was at 1.51 (Statistics New Zealand, 2026a). We note that this does not adequately acknowledge that some ethnic groups, notably Māori and Pasifika, have different fertility stories.[1] But it is not simply that births are seeing a decline. Mortality has also declined, leading to an increase in life expectancy. Moreover, the subnational population trajectories vary substantially across the country. Internal migration also contributes to these subnational differences, redistributing population across regions without changing the national population. There is

a growing concentration of the population in Auckland and in the top half of the North Island, along with a number of other growth nodes, notably the Selwyn and Waimakariri districts in Canterbury and Queenstown-Lakes District. The final key element in population change is the role and nature of immigration, which contributes to population growth, albeit to different extents in different parts of the country, along with adding to cultural and ethnic diversity.

In this article, we briefly outline these changes before proceeding to a discussion of the policy implications and challenges. One of us has recently been involved in a call for a population policy which encompasses all these elements (Lala et al., 2026). There are local and national demographic dynamics that challenge a policy approach and framework that was developed in the very different demographic and political circumstances in the 20th century. Our essential argument is that we need to develop a more nuanced and detailed understanding of what is happening to Aotearoa New Zealand in a demographic sense and to invite a discussion about the appropriate policy framework that responds to new demographic realities.

Population ageing

New Zealand is experiencing both numerical and structural population ageing. Numerical ageing refers to an increase in the number of older people, while structural ageing refers to changes in the age distribution of the population. Longer life expectancy, larger post-war birth cohorts reaching older ages and low fertility have contributed to these changes. Uneven cohort sizes, particularly the post-war baby boom generation, have created pressures on, first, education, then employment and now retirement systems. However, these cohort-specific pressures are distinct from the longer-term population ageing driven by low fertility and increasing longevity, which will continue beyond the baby boom generation (Jackson & Cameron, 2018).

Between 2000 and 2026, the population aged 65 years and over has grown from 453,500, or 11.8% of the population, to 930,500, or 17.4% of the total population (Statistics New Zealand, 2026d). The number of older people has therefore more than doubled over that period (numerical ageing), while their population share has increased substantially (structural ageing). Ageing trends are projected to continue, with the 90% projection interval from Statistics New Zealand's 2024-base population projections indicating between 1.44 and 1.55 million people aged 65 years and over in 2051, representing between 21% and 24% of the population (Statistics New Zealand, 2025b).

One of the most significant demographic changes has been the growing level of childlessness ... which has meant that most OECD countries now have a total fertility rate that is below the replacement rate of 2.1 children per woman ...

The age distribution *within* the older population is also changing. The population aged 85 years and over is projected to increase from 95,000 in 2024 to between 275,000 and 322,000 in 2051 (ibid.). Consequently, a focus only on the proportion aged 65 years and over, while meaningful in terms of evaluating the fiscal effects of New Zealand Superannuation, is more limited in terms of understanding the full implications of population ageing. Alternative summary measures of structural ageing that better capture ageing over the full age distribution, such as the root-mean-squared-age (RMSA) measure discussed by Cameron (2023), are available. However, those measures reinforce the key point that New Zealand is experiencing a rapidly ageing population.

Regardless of measure, an ageing population has both demographic and economic consequences. Demographically, as larger cohorts reach older ages, the annual number of deaths can increase even while age-specific mortality rates continue to decline. Alongside sustained low fertility, this reduces natural increase (the difference between births and deaths) and makes continued population growth increasingly dependent on net immigration (Cameron, 2026). Economically, ageing can contribute to slower labour force growth while simultaneously increasing the expenditure on health care and New Zealand Superannuation relative to the size of the economy (Treasury, 2025). However, the economic consequences are not determined by age structure alone and the negative implications of population ageing may be mitigated by improvements in health, increased labour force participation and improvements in productivity, each of which influences the capacity of the economy to meet the needs of an older population.

Immigration is sometimes touted as a moderator of and potential solution to structural ageing. Although temporary migration can supplement labour supply, its longer-term demographic effects depend on the age profile of migrants, their duration of stay and subsequent emigration. Even sustained high net migration is unlikely to substantially offset the ageing already embedded in the population's age structure (Jackson & Cameron, 2018). The key policy challenge is therefore one of adaptation to the changing demands for health care, housing and retirement income, as well as ensuring that there is adequate support for older people's participation in employment and community life.

Declining fertility

One of the most significant demographic changes has been the growing level of childlessness (combined with delays in having children), which has meant that most OECD countries now have a total fertility rate that is below the replacement rate of 2.1 children per woman (over their

childbearing years). By 1980, many OECD countries had fallen below the replacement level, but New Zealand was one of a relatively small group of high-income countries that remained at or above the replacement rate into the 21st century.

In 2013, New Zealand was still at replacement levels, but over little more than a decade the TFR had dropped to 1.51 (Statistics New Zealand, 2026a). This national rate, however, obscures important ethnic and regional differences. Both Māori and Pasifika rates have declined but remain higher than for other ethnic groups, although both Pasifika (2.03) and Māori (1.92) are now just above or below the replacement rate (Statistics New Zealand, 2025a). At the subnational level, some regions, notably Northland and Gisborne, have remained above replacement rates, while Otago and Wellington have the lowest TFR (ibid.).

This has significant implications for the age profile and measures of structural ageing such as the old-age dependency ratio (the ratio of those aged over 65 to those of working age), although we would note that some of the thresholds and definitions need revision, along with terminology such as, in this case, 'dependency'. The impacts of declining fertility will be seen in the decline in school enrolments over coming years (see Gerritsen, 2026) and in the working-age population and labour supply in coming decades (Cameron & Baker, in press).

For policy discussions, the two key questions concern how best to understand the growing rate of childlessness and declining fertility and what the policy implications are and the responses should be. A useful summary of the literature and issues is provided by Kearney and Levine (2026). As they note:

> The decline in fertility likely reflects a complex mix of changing norms around work, parenting, gender roles, and leisure, shaped by evolving social and economic influences and an expanded set of nonchild activities and consumption. (Kearney & Levine, 2026, p. 908)

Their review acknowledges that economic factors remain important in fertility decisions, but, as the above quote indicates, the 'widespread de-prioritization of parenthood in people's lives' (ibid., p. 907) reflects substantive changes to social norms and gender roles and stresses cohort-specific experiences. In policy terms, there is little evidence that fertility decline can be reversed and the policy challenge is how best to adjust to this new demographic reality.

> … the role that immigration plays in adding to ethnic and faith diversity in New Zealand … and the need to pay attention to matters of social cohesion, given both domestic and global anti-immigrant politics and anxieties.

Immigration

Settler-colonial approaches and patterns of immigration were altered after a 1986 review of immigration policy and the adoption in 1987 of the points system that had been developed in Canada and Australia. The initial phase, with the increased arrival of immigrants from Asia, led to something of a moral panic and a negative political reaction epitomised by the establishment of New Zealand First and their appearance in the 1996–99 government. Major changes to the policy framework were made by the 1999 Labour government in the wake of four reviews in what Bedford (2004) refers to as a 'quiet revolution', overseen by the immigration minister, Lianne Dalziel. There was a greater focus on skilled immigrants and aligning approvals with labour demand. But, as Bedford also points out, these changes confirmed the very different source countries, as Asians now dominated most visa categories. And there was a much greater focus on assessing and ensuring positive outcomes. This was reinforced by a new policy focus on social cohesion (Spoonley et al., 2005).

Since then, immigrant arrivals, departures and the annual net gain have followed a pattern: a decline in arrivals and an increase in departures during moments when the New Zealand economy and labour market are soft (notably between 2008 and 2012, during the global financial crisis, and again after 2024), punctuated by spikes after 2013 and just prior to and then after the Covid-19 pandemic. The year to October 2023 marked the highest ever number of arrivals (234,818) and net gain (+135,538) historically (Statistics New Zealand, 2026c). Two years later, arrival figures had dropped by almost half to 131,008, while the net gain was 13,417, as headline economic indicators showed a sluggish economy and a soft labour market.

The changes introduced by Dalziel have largely set the overall policy framework, even if there have been quite significant subsequent developments, such as a greater role for employers in identifying potential migrants and then getting approval for their arrival. This can be seen in the accredited employer work visa (AEWV) which was announced in 2019 and introduced in November 2021. A major thrust has been to identify economic and labour market needs as the basis for selecting 'economic migrants', or, as one of us has described it, middle-class migrants who meet certain educational and job-related qualifications, who add to New Zealand's talent supply and who increasingly require a firm job offer (Spoonley, 2026). But, as the figures above indicate, flows are highly volatile, underpinned by the emigration of New Zealand citizens, which has been high over many decades (the exception being the Covid-19 years), and especially in recent years, when the numbers went from 0.44% of the population in 2021 to 1.35% in 2025 (Grant et al., 2026).

The New Zealand Productivity Commission's report on immigration (Productivity Commission, 2022) provides a useful summary of the policy implications, both positive and negative, of contemporary immigration settings, as well as addressing some myths and misunderstandings. The key policy aim is to ensure that New Zealand is able to secure the labour supply and the talent required in the economy, but there are a range of associated and complicating factors, including: the changing nature of New Zealand's demography and the role that immigration can – and should – play in this new demography; the role that immigration plays in adding to ethnic and faith diversity in New Zealand, especially alongside the growth of Māori and Pasifika populations, and notably in key regions or cities, specifically Auckland; and the need to pay attention to matters of social cohesion, given both domestic and global anti-immigrant politics and anxieties.

Different regional trajectories and profiles

A focus on national population trends can conceal substantial subnational differences. Ultimately, subnational population change reflects the combination of births and deaths, international migration (which changes the national population) and internal migration (which redistributes the population within New Zealand). The relative contributions of these components of population change vary across the country. Overall national population growth can therefore coexist with local stagnation or decline, while growth in a local population can occur alongside substantial population ageing in all three scenarios: population growth, stagnation or decline.

In recent times, population growth at the subnational level has been heavily concentrated in a small number of areas. The upper North Island 'golden triangle' encompassing Auckland, Waikato and western Bay of Plenty is one such area. Under Statistics New Zealand's 2023-base medium population projections, Auckland is projected to account for 44% of national population growth between 2023 and 2053. Together, Auckland, Northland, Waikato and Bay of Plenty are projected to account for 69% of all population growth for New Zealand. However, growth is not confined only to the upper North Island. In relative terms, the Selwyn and Queenstown-Lakes districts are projected to be the fastest-growing territorial authorities, with average annual growth of 2.3% and 1.7% respectively (Statistics New Zealand, 2025c).

Age-selective internal migration further affects regional trajectories. Younger adults often move for education or employment, while families and retirees may move to peri-urban or high-amenity destinations.

The geography of population ageing is related to, but not identical to, the geography of population growth. This is illustrated by subnational population projections that show the most rapidly ageing areas over the period from 2023 to 2053 to be Queenstown-Lakes District and Westland District. The former has among the highest population growth rates, while the latter is projected to decline. In general, at the territorial authorities and Auckland local board (TALB) level, main urban areas tend to be structurally younger than other areas currently, although the gap is projected to narrow over time. For example, the RMSA measure of population ageing (Cameron, 2023) was 40.96 for main urban areas in 1998, 44.31 in 2023, and projected to be 49.46 in 2053. That compares with 42.27 in 1998, 48.73 in 2023 and 53.28 in 2053 for rural and remote areas (Cameron, 2025).

Age-selective internal migration further affects regional trajectories. Younger adults often move for education or employment, while families and retirees may move to peri-urban or high-amenity destinations. Indeed, most New Zealand cities regularly record net internal migration losses, while many neighbouring districts gain internal migrants (Statistics New Zealand, 2024).

There are also substantial geographical differences in fertility. For births registered between 2022 and 2024, Northland and Gisborne had the highest total fertility rates, both at 2.14 births per woman, compared with 1.25 in Otago, 1.36 in Wellington and 1.60 nationally (Statistics New Zealand, 2025a). These contrasts are associated with differences in the timing of childbearing, with the median age of mothers being 29.2 years in Gisborne and 32.2 years in Otago. Large student populations contribute to lower fertility rates in regions such as Otago and Wellington, where many young women defer childbearing while studying. Overall, fertility has declined in every region between 2012–14 and 2022–24, demonstrating that the national trend is not confined to particular parts of the country (ibid.).

Natural decrease, where deaths exceed births, is another increasingly important dimension of local population change. Statistics New Zealand projects natural decrease in just over two-thirds of territorial authorities by 2053, even though 64 of the 67 are projected to have larger populations in 2053 than in 2023 (Statistics New Zealand, 2025c). The transition from natural increase to natural decrease is related to structural ageing, as well as fertility rates. Structurally, older areas tend to make this transition earlier, while areas with higher fertility may be able to delay the transition.

A related transition is already apparent in the working-age population. Cameron and Baker (in press) examined the contribution of cohort turnover (the difference between the size of young cohorts ageing into the working-age population and the size of older cohorts ageing out) to changes in the population aged 15–64 years across TALBs between 1998 and 2023. No TALBs experienced negative cohort turnover in 1998–2003, but by 2018–23 this position had reversed in

30 of the 87 areas. This happened despite continued growth in the national working-age population, for which net migration had become the dominant component of growth after 2013. Nevertheless, 24 of those 30 areas still experienced working-age population growth, illustrating migration's capacity to partially offset adverse labour force dynamics. That offset was not universal and working-age population growth is increasingly dependent on migration.

Policy implications and possibilities

Different regional trajectories create different investment and funding challenges. In rapidly growing cities and peri-urban districts, housing, infrastructure and services need to keep pace with demand. In smaller urban centres, support for local employment, training and connectivity may help attract or retain residents. In contrast, for those communities that are experiencing population decline, attempts to reverse the decline may be costly and ineffective and maintaining access to services through shared facilities, cooperation between neighbouring authorities and mobile services may be preferable (OECD, 2025). Unlike international migration, internal migration cannot be directly managed through immigration settings. While policy can influence decisions, it cannot determine where people live. These choices involve trade-offs between costs, accessibility and service quality. Planning for decline need not mean abandoning communities and population growth should not necessarily be treated as an end in itself.

At the national level, fiscal choices also have distributional consequences. The Treasury's (2025) analysis shows that adjustments to retirement income settings will have different effects on different generations and income groups. For example, changes to the age of eligibility for New Zealand Superannuation will have different implications, depending on the ability of people to continue working: an increase in the eligibility age will have a negative impact on those with health problems and those working in physically demanding occupations, for example. Such changes will also have differential effects on different regions, with retirement destinations being more adversely affected than main urban areas.

... the ability of local agencies, communities and political entities to determine immigration policies that are relevant to their needs is limited; immigration policies tend to be nationally decided even though there may be significant local impacts.

Housing policy also needs to be considered alongside retirement incomes. As more people reach older ages without mortgage-free home ownership, the adequacy of retirement incomes will increasingly depend on housing tenure and costs. Choices between intensification and greenfield development should also reflect changing age and ethnic profiles, including the need for accessible homes near services and housing suitable for larger or multigenerational households (OECD, 2015).

Changes to family policy may be an attractive option for increasing births, but it also has broader implications. The OECD (2024) identifies reducing child poverty, supporting child development, reconciling employment and caring responsibilities and enabling people to have the number of children they want as distinct but related objectives. Affordable childcare, parental leave and housing access can influence several of these outcomes simultaneously. However, the effectiveness of these measures in the long term is not well understood (Kearney & Levine, 2026).

Alongside family policy, the demographic implications for the care economy also need to be considered. Policy increasingly encourages longer working lives and supports ageing in place. However, this approach relies on a combination of a largely immigrant paid care workforce supplemented by substantial unpaid family care. Population ageing and immigration settings therefore need to be considered jointly.

In terms of immigration, it is important to consider both the capacity to accommodate arrivals and the opportunities available for both immigrants and local communities after settlement. The Productivity Commission (2022) proposed explicitly linking immigration planning to infrastructure, housing, public services and education and training. Its settlement analysis also identified English-language support and employment opportunities for immigrants' partners as relevant concerns. This suggests that regional workforce planning should also encompass developing the skills of existing residents and preparing successors for experienced workers. For the moment, the ability of local agencies, communities and political entities to determine immigration policies that are relevant to their needs is limited; immigration policies tend to be nationally decided even though there may be significant local impacts. As Cameron and Baker (in press) note, replacing the number of workers leaving does not necessarily replace their skills and experience. Recruitment, workforce development and settlement support therefore address different parts of the same process, rather than being interchangeable responses to labour shortages.

Uncertainty adds a further dimension and predictions about the future are necessarily uncertain. Statistics New Zealand is explicit in noting that population projections are only that, not predictions. Thus, using a common set of population projections across agencies, or across local and national government, would not remove uncertainty, but it may make

differences in planning assumptions more explicit. For example, the requirement for local authorities to submit long-term plans (the next are due in mid-2027) would benefit from a more considered and nuanced demographic component which makes clear what assumptions are being applied and which trajectories are anticipated. Policy proposals should be tested against both faster and slower population growth, including changes in the age structures and locations of relevant populations. Population change should also be explicitly incorporated into the monitoring and review of projects that are underway at all levels – national, regional and local. This would connect population analysis to actual budget and investment decisions, rather than treating projections as merely background information.

Although many high-income countries face population ageing and low fertility, the policy challenge for Aotearoa New Zealand is somewhat unique due to the combination of volatile international migration, divergent regional trajectories and the relatively youthful Māori and Pasifika populations. The latter offer opportunities for future workforce development, provided education and employment pathways are strengthened. A national population policy (Lala et al., 2026), coordinated through a population commission or existing central agency, has the potential to translate these changes into three priorities. First, education, health and care services need to adapt to changing local age structures. Second, retirement incomes need to be considered alongside housing tenure and costs. Third, immigration, skills development and infrastructure investment need to be better coordinated. Such policies must be flexible enough to work in communities experiencing growth, stagnation or decline, as well as uncertain population change, rather than assuming continued population growth everywhere and at all times.

Maintaining economic and social wellbeing will therefore require revisiting the social contract of mid-20th-century New Zealand, with greater emphasis on productivity growth, broader labour force participation and public services adapted to changing local needs …

Conclusion

In 2025, the McKinsey Global Institute produced a report, *Dependency and depopulation? Confronting the consequences of a new demographic reality*, in which they talk about the impacts of falling fertility (and, rather dramatically, 'population collapse' as a result), the inversion of age structures so that there are more older people than young, and the fact that there will be more older consumers and workers than young. They conclude that:

> In confronting the consequences of demographic change, societies enter uncharted waters. Absent action, younger people will inherit lower economic growth and shoulder the cost of more retirees, while the traditional flow of wealth between generations erodes. Long-standing work practices and the social contract must change. More fundamentally, countries will need to raise fertility rates to avert depopulation – a societal shift without precedent in modern history. (Madgavkar et al., 2025, p. 3)

We do not want to problematise the current demographic transition by using such dramatic language ('population collapse' or 'averting depopulation') in describing what is happening in New Zealand, but we do want to stress its significance in terms of the fundamental reshaping of our demography and the need to develop both a better understanding of the changes and more appropriate policy settings. There are economic drivers and consequences alongside major social and cultural dimensions. Deciding not to have children, or to have 'one and done', or to have children much later in life reflect major changes in the values and behaviours of millennials and Gen Zers compared with prior generations.

New Zealand has now left behind a long period when educational and working-age populations were constantly growing due to above-replacement fertility supplemented by net immigration. This population growth was associated with economic growth and a growing tax base that sustained welfare and public services. As the McKinsey report makes clear, 'this calculus no longer holds' (ibid., p. 4). Maintaining economic and social wellbeing will therefore require revisiting the social contract of mid-20th-century New Zealand, with greater emphasis on productivity growth, broader labour force participation and public services adapted to changing local needs, rather than reliance on continued population growth.

1 This is an important point that we want to emphasise. Māori – and Pacific peoples – demography deserves attention and colleagues have highlighted the nature and significance of these different demographic dynamics and stories (see Kukutai, 2011; Rarere et al., 2023).

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Len Cook

The Next Population Census

assessing its fitness for purpose and provenance

Abstract

New Zealand is witnessing a population storm. Existing policy settings, according to the Treasury, are leading to unsustainable fiscal imbalances. Public welfare programmes of all forms, and the tax base that funds them, are facing major changes. Any such policy changes need to be informed by comprehensive and reliable population statistics. With that context in mind, this article highlights why it is vital to retain a periodic national census that generates information not only about individuals, but also about the dwelling units within which families and community groups are clustered. Without the latter information, researchers and policymakers will lack the capacity to connect individuals to the places, institutions and persons of relevance to them with knowable reliability.

Keywords census, trust, enumeration, workforce planning, policy interdependence, labour market

Len Cook served as New Zealand's government statistician between 1992 and 2000, and subsequently as the national statistician of the United Kingdom between 2000 and 2005. Since 2006 his involvement in official statistics has included membership of the 2018 Census External Data Quality Panel and co-leadership in preparing a ten-year development plan for a Pacific statistical system (2013).

Moving beyond the current stalemate

In 2023 Statistics New Zealand made known a plan to discontinue the long-standing practice of conducting a regular census of population and dwellings, and to rely instead on information accumulated in various administrative records held within government departments. Subsequently, in June 2025, the government announced its intention to enact legislation to implement this change. These moves followed the costly failure of a hybrid model implemented in 2023 – a model that ministers had been assured would improve upon the enumeration failure of the 2018 census. In March 2026, the New Zealand Parliament voted to approve the first reading of two bills to amend the Data and Statistics Act 2022 and the Electoral Act 1993 with the aim of discontinuing the regular census of population and dwellings. The bills were duly sent to the Justice Select Committee for consideration.

While statisticians had, wisely, been thinking for nearly a decade about making greater use of administrative records in population statistics, there was deep concern over the idea of relying solely on such records to inform policymaking and undertake research. Nearly 200 submissions were received by the Justice Committee, many of which were extremely critical of the proposed reforms. Among other things, the submitters highlighted the many inadequacies in the consultation process undertaken by government officials prior to seeking ministerial agreement on the proposed legislative changes. Above all, ministers had not been adequately informed about whether those who depend on the scope and integrity of the population statistics system had confidence in the reliability of the proposed 'administrative data first' method. The statutory independence of the government statistician on methodology issues meant that ministers had to depend on a mix of economic arguments, a mantra of 'modernisation', and incomplete advice on international comparisons by the government statistician to explain where this would place New Zealand.

The Justice Committee concluded that Parliament was unlikely to pass either the legislation to support replacing the five-yearly census of population and dwellings, or the Electoral Act amendments, which required the support of 75% of MPs. Consequently, the existing statutes oblige the government statistician to undertake a census of population and dwellings in 2028, with statistical attributes of the form that have existed since 1851. Given that the 2026 population census of Canada obtained a 98.4% response rate, there must be a good prospect of returning the response rates of any 2028 population census in New Zealand to the levels obtained before 2018, if the enumeration were to be properly managed. Nevertheless, the situation regarding population statistics in New Zealand beyond 2028 remains uncertain. That uncertainty is unfortunate and needs resolution.

This article highlights the unique and vital contribution of a five-yearly census of population and dwellings to an understanding our evolving societal dynamics and the critical role of the information thereby generated for prudent planning and policy-making. At the same time, it underscores the fundamental limitations of an alternative statistical approach (i.e. the proposed 'administrative data first' method) that relies solely on administrative data. In so doing, this article illuminates how the structure, properties and content of a regular population census assists in disclosing our society's complex and evolving interdependencies, along with the nature, scope, scale and future shape of the policy challenges we face.

Why the long series of population censuses underpins planning and policy

The five-yearly census of population and dwellings counts everyone in New Zealand, through connecting them to where they are found on census day, as well as where they usually live. The statistics, analyses and policies that are informed by a population census affect everyone. Population censuses tell us not only who we are, but how we have changed, and how we will most likely change again. Each population census evolves from the previous ones, so that each census can help to identify what trends and issues are emerging.

Over the period to 2046, the shifting balance in the population of people of working age will lead to increased government expenditure and reduced market incomes (see other contributions to this special issue of *Policy Quarterly*). The net effect on the fiscal capacity of the current tax system means that taxes will fund barely 70% of the public spending that we have become used to, particularly for health, education, retirement incomes and welfare benefits (Cook, 2024).

Accurate population statistics are key to informing prudent policy responses. Population projections are the most reliable predictions we can make of the long-term future, and, unlike most predictions, we know their limitations. The rich analysis enabled by the breadth, depth and quality of population censuses and surveys will always be essential for evaluating policy options – especially when simplistic policy responses result from some supposed imperative to act. Trust in population statistics will be vital for the scale of policy change that has already become inevitable.

A decline in fiscal capability of such significance will inevitably prompt a major rethink of the welfare state, affecting the balance between family, community and market provision of services and support, the extent of working-life support from both training and retirement policies, and the nature of the tax base. The fiscal consequences of demographic change are already constraining health, education and housing policy options. Whether to change the policy settings of New Zealand Superannuation (NZS) is just one issue generated by an ageing population. As it stands, expert comment and political reactions tend to give primacy to reconsideration of eligibility and entitlement to NZS (Lala et al., 2026).

Over the period to 2046, the shifting balance in the population of people of working age will lead to increased government expenditure and reduced market incomes ...

Unless account is taken of the full scope of our policy challenges, we risk ignoring the options that might best address them, and their direct and indirect effects on who makes up the labour force and how they contribute. We need to understand where the continued and predictable ageing of the population can generate flexibility in managing such challenges. While the main changes to population structures and underlying dynamics were foreseen prior

to this century, the extent to which key thresholds might change (e.g., when people expect to retire) was less well understood.

The special importance of workforce, families, communities and places

The scale of the pressures on resources will require greater understanding of our complex and evolving societal interdependences and connectedness, such as the interdependence between the paid and unpaid work that occurs in families, across the community and over generations. Importantly, communities differ by place and ethnicity, by generational mix, and in the kinds of investment that are the most important to sustaining their economic base. Retirement provision, accident and injury insurance and unemployment benefits are collectively workforce enablers, in that how they are integrated determines how much they contribute to the efficiency of the labour market as an economic engine.

In health, education, housing and income support, the multiplicity of policy interactions is often ignored in one-off policy responses. Examples of where these sectors interact with not only labour market policy but with other policy domains include:

- health: ACC, eligibility criteria (benefit options, benefit unit), forms of care, access to care;
  education and training: access, dependence on family support, entrance criteria for programmes, tertiary fees, loan repayment thresholds and charges, apprenticeship models;
- housing: home ownership, family formation, family dissolution, the family economy, public housing eligibility, housing costs, housing stability;
- income support: eligibility criteria, including for retirement provision, form of benefit unit (individual, household, inclusions), abatement thresholds and rates, rehabilitation support.

In these and other policy domains, the interdependence of family, community, occupation and employment status may vary with generation, place and gender. Hence, the labour market, family, community and place are instruments of policy as much as they are the targets of policy.

> The recent inquiry into pay equity … put a spotlight on the extent to which the labour market has also increasingly become characterised by short-term, low-paid employment.

Recognising and valuing the connection between paid and unpaid roles

Given the scale of challenge, we will need to draw on the capabilities of all age groups over the next few decades. Investment in both human and social capital becomes a major lever in mitigating the economic effects of population ageing. Importantly, Māori and Pacific peoples now have age structures capable of delivering a strong demographic dividend, while the European population is rapidly ageing.

Traditionally, women have long been more experienced than men at managing the complexity of balancing family and community activity with paid workforce participation; this is generally the case for all in Māori and Pacific communities (Cook, 2024). A future labour market strategy would aim to facilitate the transition to and from such different forms of economic contribution. It would involve recognising as resources those practices that connect paid and unpaid work, whether work done in the formal labour market, in the community or in the household. These connections, directly or indirectly, enable the fullest economic and social contribution of the population at any time. They can involve high levels of reciprocity, which is usually at its strongest in communities defined by place or by a common societal characteristic. The way in which public organisations relate to the communities relevant to their activities and responsibilities will itself influence reciprocity within communities.

Informing an active workforce strategy

The nature of the population changes we now face is increasing the differences in the age mix of people among towns, cities and rural areas, so that decisions based on national averages and policies are of limited relevance in many places (Jackson, 2011). The diversity and scale of local economic change is becoming a more significant indicator of population change in some places than demographic drivers. For example, there was a sharp decline in sheep numbers on farms in the decades following the mid-1970s, but in some cases local populations have grown (e.g. because conversion to dairying has added to workforce demand), whereas in other cases the population has fallen (e.g. because of conversion to pine forestry).

Population projections and estimates for local authorities risk becoming less reliable unless traditional measurement approaches are revised. In particular, there is a need to integrate population measures for any locality with other measures, of different granularity, frequency and quality. These might include sources not yet rigorously connected, such as global weather effects, sea level rise, ecosystem integrity, transportation, and implementing a geospatial frame.

An active workforce strategy should span all types of work, and forms of reward that contribute to a person's welfare. This must range from informal childcare, to harnessing the potential of artificial intelligence, to ensuring equity of access to education wherever children live. In the face of static birth numbers and a series of economic shocks during the past three decades of growth in the workforce, the interdependence between population dynamics and labour supply has been managed by varying immigrant flows to counter the volatility of

emigrant flows and the domestic labour supply (see Cook, 2024, Figure 7).

The recent inquiry into pay equity (People's Select Committee on Pay Equity, 2026) put a spotlight on the extent to which the labour market has also increasingly become characterised by short-term, low-paid employment. At the same time, the workforce has become more highly qualified over the past three decades, not least because of the significant increase in workforce qualifications particularly of women (see Figure 1).

In increasing the capacity for wealth creation, the workforce is a major anchor point for a coherent wider policy framework. As noted above, such a framework must embrace taxation, health, education and housing, as well as NZS and the other income support options that apply across a person's lifetime.

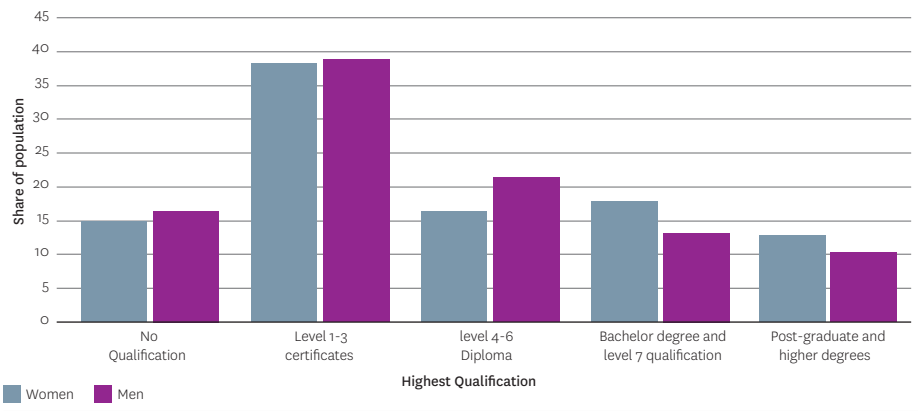
Raising investment in both the human and social capital of younger generations is potentially a major lever in mitigating the effects of ageing on the economic contribution of the paid workforce. A coherent strategy about this will require leadership akin to that of the New Zealand Infrastructure Commission, which has quickly become a powerful model for infrastructure oversight and planning. Another approach is Australia's National Skills Taxonomy (Job and Skills Australia, 2026), a new, evidence-based framework that provides a common language for describing the skills Australians gain, develop and use across education and employment.

The workforce transformation that is already under way

For some four decades the labour force has changed in capability and size without any articulated strategic direction. Alongside the net contribution of heightened immigration and emigration, we have seen the growth in the proportion of women, as well people aged 65 and over, remaining in the workforce, as well as the transformation in investment in education of women. Of particular significance:

- The number of women in the labour force now has come close to that of men, at all ages under 60 years.
- Women aged 20–59 years are now more highly qualified than men in this age group (see Figure 1). This followed the rapid growth since the late 1980s in the breadth of qualifications held by women when leaving high school.
- The increasing participation of men and women aged 65 and over in the labour market and in the community since the 1990s has been facilitated by the nature of NZS.

Figure 1: Highest Qualification by Men compered to women, 2023



Source: Statistics New Zealand

Despite these major changes in labour supply, migration flows have increased in volatility. This is the result of dysfunction in major health and education labour markets, along with a lack of recruits for semi-skilled basic jobs, such as truck drivers. Uniformed services, including the police, prison service and the military, have experienced recruitment and retention issues on a scale not seen for decades. Contributing to the imbalances in particular labour markets is the growing share of young people not in employment, education or training. Also, between 2013 and 2023 a majority of local authorities experienced a decline in the proportion of the population of usual workforce age.

The expanding mix of vulnerable occupations in the workforce is not limited to those which require years of training or experience. The recent pay equity inquiry outlined the huge interdependence between low-paid support staff and the skilled professionals they support.

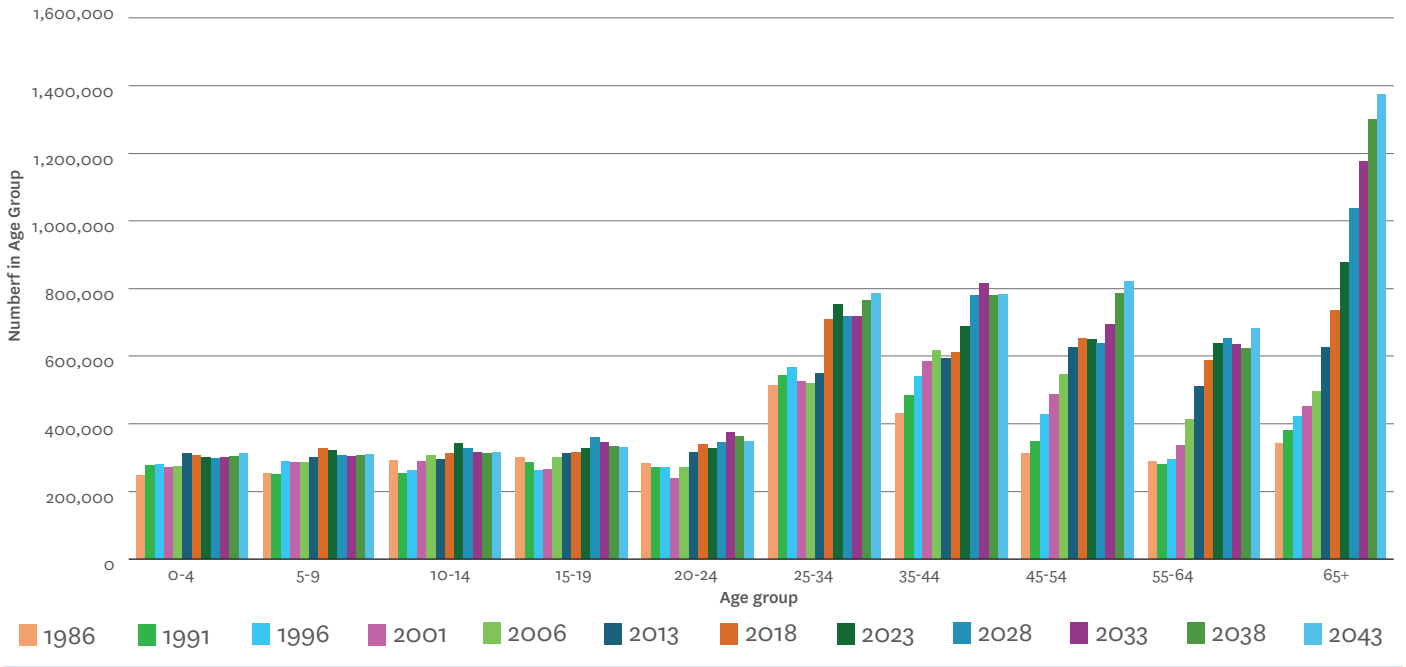
Population size, geographic location, age and family structure, education and population composition are all important influences on the future labour supply, whether it be for paid work or unpaid work, within the community or family. Consequently, no single demographic ratio is sufficient for predicting the effect on labour supply of population changes. An understanding of fertility patterns, including the age and geographic distribution of childbearing and mortality (including health and life expectancy), is also relevant. The rate of change in each of these elements is critical because they interact directly with the flexibility and resilience within the system. Over recent decades, for those parts of the labour market that have had to adjust to the growing need for people in paid and unpaid roles, adjustment has been enabled by large, volatile migration flows rather than planning.

Investing in the Māori and Pacific demographic dividend

While the non-Māori, non-Pacific population aged 15–39 years has stopped growing, the share of Māori and Pacific people in this age group is continuing to increase. From being 29% of 15–39-year-olds in 2026, they will rise to 32.5% by 2048 (see Figure 3). Hence, investing in the education and training of Māori and Pacific communities will be critical to the future prosperity of the country. The age distribution of Māori now is similar to the European age distribution in 1966. In the context of a rapidly ageing European population, Māori and Pacific peoples have age structures capable of delivering a future demographic dividend.

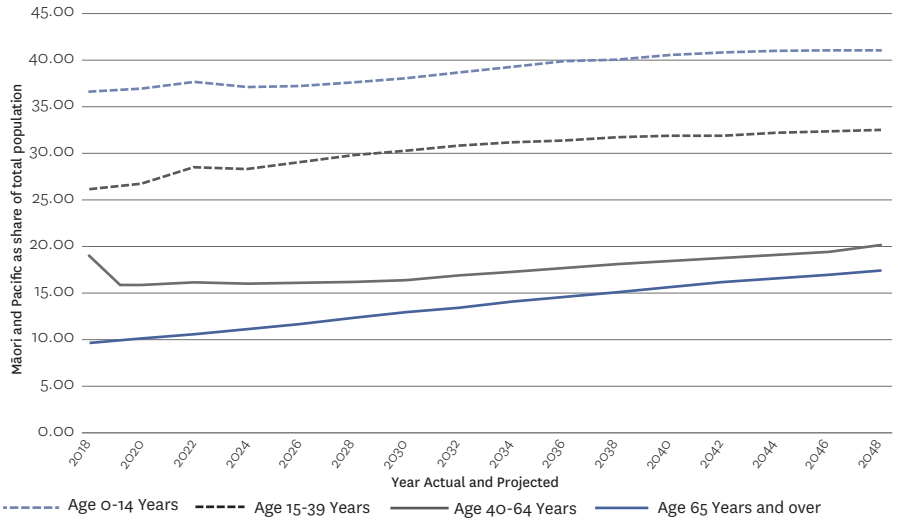
As Jackson (2011) noted, for this potential to be realised, the population structure must be matched by investment in education, training, employment, infrastructure, and regional opportunities. But the inequities in the distribution of education and training resources suggest that we are underinvesting in the education of many young people. Accordingly, to what extent governments invest in ensuring greater equality of educational

Figure 2: Change in aged structure 1986 to 2043



Source: Statistics New Zealand, author calculations

Figure 3: Proportion of the population which identifies as Māori and/or an ethnicity within the Pacific grouping of ethnicities



Source Statistics NZ and author calculations

opportunities will significantly affect the long-term performance of our labour force.

Placing retirement provision within a labour market framework

NZS was introduced to provide certainty of an income in retirement, regardless of gender, life expectancy, family form, and how materially successful people's working life outcomes had been. Eligibility is determined by age and length of residency. NZS provides a de facto annuity that the retirement savings schemes in both Australia and New Zealand (i.e. KiwiSaver) cannot. NZS improves fairness for women because it resolved the issue of women's longer life expectancy which affects savings schemes such as KiwiSaver, and because the entitlement has become to the individual, not the "head of household".

The adaptability of NZS to fiscal pressures was greater when there was a more progressive tax scale. While the progressiveness of the personal income tax scale has the power to be an effective means of targeting NZS, this is not the case currently.

The case for measuring connections among people and places

The census of population and dwellings records not only whom people live with and how those people relate to each other, but where they work or attend education centres, and how they get there. This variety of connections between people and place is a result of the methodology of the census. The enumeration of all dwellings by census day ensures that all the places where people live or could be is known by census night, and that wherever they are, they have a personal census form to complete. How people connect with each other, socially, economically and in the community, as well as with employers and educational organisations is recorded. For example, where people are mobile, census collection can include any enumerated dwelling whether this is a de facto residence of the person on census night or the person's usual residence, and will record how they relate to the residents who are usually present. Explicit efforts to make contact at census time with people who are not at their usual place of residence enable them to provide personal information, and to link back to their usual residence.

As with any statistical survey, the content of a census of population and dwellings will evolve every five years to meet needs that are foreseeable.

Administrative records are quite different from those obtained from people grouped in households and families, because they atomise the information that

is gathered about individuals at unrelated periods. There is generally no requirement to enquire about connections between individuals in the way that the census of population and dwellings can. It would be impractical for such information to be consistently obtained and recorded about all persons by any government department.

Without a field-based census as backbone, usable information on place and community structure drawn from administrative records, however integrated by a common personal identity, will be necessarily limited. For instance, the connections that people have amongst each other, with school and work, with the places they live and the communities around them are not ascertainable. In addition, administrative records adapt slowly to change that is required as policy needs and settings change.

These differences mean that the cessation of the regular census of population and dwellings will significantly affect all forms of information gathering that underpin the ability to develop policies appropriate for managing and responding to the evolving challenges and opportunities of ongoing population change.

Key concerns about the 'administrative data first' model

As argued above, the functioning of our welfare state rests on a coherent understanding of the interconnection between family, work, earnings and income support, and age, sex and generational shifts. To this end, and to ensure reliability and relevance, official statistics must meet clearly specified, internationally agreed, protocols and standards, including comparability over time, place, among communities and across countries. Any substitute for the current census as the central knowledge base that underpins population statistics will have to be constructed anew from administrative files. But relying on administrative data poses serious problems. The key concerns, as summarised in Cook & Gray (2026), include:

- an inability to apply common definitions and other methods that are key to designing in advance the effective integration of diverse statistical sources
- reducing the existing rich array of small area information
- ceasing using methods common to Australia, Canada and the UK which enable collective benefits from continuing innovation (e.g., propensity indexes)
- damaging the comparisons between past and future population and social statistical measures through statistically critical changes to methods and operational practices, particularly shifting from a household sampling frame to that of persons (Haslett & Seber, 2026).

Several of these concerns deserve amplification.

The vital importance of dwelling-based data

First, as noted earlier, the dwelling is the central statistical unit of an enumerated census of population and dwellings, and of most social surveys. Individuals in this context constitute sub-units. Not only does the dwelling enable a much richer survey frame compared with that of the individual, but the dwelling questionnaire content can identify the family and community groups that people are clustered in. Consequently, the connections identified at the same date with place and between people are of much richer and measurable quality than the administrative records of the Integrated Data Infrastructure (IDI) can provide. In comparison, what administrative records can do at present is simply to connect those who have in common their last known address.

Without the dwelling as the core statistical unit for population surveys and censuses, there is no way to directly connect individuals once every five years to the places and persons of relevance to them, with known reliability. Without this direct connection, regular, exact comparisons between censuses, for even small groups in the population, can no longer be made. In this context, the Deprivation Indexes are of special significance, as they depend on multidimensional analyses of surveyed variables being available at a finer level than the proposed alternative methodology could provide. These indexes also require variables that are not available in administrative records.

In short, without a census of population and dwellings, the following information will cease to be available in its current form and of the current quality:

- small area (meshblock) statistics
- deprivation indexes (Salmond & Crampton, 2001)
- a significant share of family, household and housing statistics
- information about occupation, and the workplace connection with residence;

In addition, the next electoral boundary review will have to fit electoral boundaries around population groups that are much larger chunks of the population (2,000+ people) than the meshblocks previously used enable (200–300 people).

Without the dwelling as the core statistical unit for population surveys and censuses, there is no way to directly connect individuals once every five years to the places and persons of relevance to them, with known reliability.

The absence of common standards across administrative records

A second concern relates to the lack of common design standards by the agencies whose records make up the IDI. The integrity of IDI-based statistical measures cannot be established by design but must be retrospectively determined. The population censuses of 2013, 2018 and 2023 are the only data sources in the

IDI designed to span all individuals in the population. This is why, in countries without a regular census, ensuring representativeness requires a population register, against which the percentage coverage of relevant groups can be validated. Representativeness will only result from administrative records if a population register, or some comparable registration system, were to be made compulsory by Parliament (RANZ, 2026).

For any individual in the IDI, the data that describes them at any particular point is formed by placing at that date the information of varied currency that is dispersed over a changing mix of reference periods. This lack of synchronicity, which is inherent in the IDI, means that the measure it provides for any specific period will be continually revised as the recency of contributing observations improves with each regular data update. The continued applicability of models and their fitness for purpose will need to be uniquely validated retrospectively for each application.

The integration of each five-yearly census of population with other IDI records has enabled a periodic uplift in the IDI's representativeness and a significant uplift in the meaningfulness of the content. Without this, the relevance and reliability of the IDI must generally reduce, and it will capture less of the life of peoples' families, places and communities. The current 'all or nothing' approach to change has missed opportunities from the more immediate capability of the IDI to support innovation seen elsewhere which improves enumeration of the existing census model, including response propensity indexes and a geospatial frame, and population estimates and projections.

Submitters to the Justice Committee noted that survey practices and standards for official statistics require that integrity is prospectively determined, and fitness for use known in advance of any application (Haslett & Seber, 2026). This is done by meeting tests of representativeness (being representative of target populations), randomness (knowledge of reliability and bias) and realism (obtaining information that meaningfully reflects individuals' societies and organisations). Because official statistics are measures that meet defined specifications and are of known quality, for many official statistics, the concepts, standards and definitions have been agreed internationally through the United Nations or the OECD.

The Statistics New Zealand protocols for tier 1 statistics, last revised in 2007, are the New Zealand standard. They note:

> Official statistics adhere to protocols for quality; frameworks, standards and classifications; respondent management; confidentiality, privacy and security; release practices; and management, documentation and preservation of statistical records.
>
> ...
>
> Administrative records are generally for operational purposes and not primarily for statistical reasons. However, when administrative data records are transformed into aggregate statistics, the principles and protocols apply in the production of those statistics. (Statistics New Zealand, 2007)

... the proposal to adopt an 'administrative data first' regime occurred in the absence of a rigorous independent review (i.e. external to StatsNZ) or a proper cost–benefit analysis.

The absence of a proper independent review of the issues and options

Finally, the proposal to adopt an 'administrative data first' regime occurred in the absence of a rigorous independent review (i.e. external to StatsNZ) or a proper cost–benefit analysis. Similarly, there has been no independent review of why the 2023 population census was so costly when compared with previous censuses (i.e. about twice the cost per person in real terms). It is unclear, therefore, whether these costs were justified.

Aside from this, it is evident that the extraordinarily poor responses to the 2018 and 2023 censuses were avoidable; they resulted from inadequate planning, poor monitoring and weak quality assurance (Gray & Heron, 2024). The fundamental elements of a properly run census of dwellings were ignored (including legal obligations). Before major and potentially irreversible changes are made to the way in which official statistics are collected and generated in New Zealand, a proper independent review of the issues and options is imperative.

Conclusion

The proposed cessation of the census of population and dwellings and its replacement with an 'administrative data first' regime would constitute the largest change in New Zealand official statistics since at least the 1970s. Understandably, this proposal has generated deep concern on the part of experts in demography, survey methods and survey practice. As argued in this article, the proposed change runs the risk of seriously impairing the scope, quality and reliability of population statistics (Cook & Gray, 2026). Currently, New Zealand is facing significant challenges from population change, not least fiscal ones. These challenges will require informed and robust policy responses. Such responses, in turn, will depend heavily on reliable population data and projections. Given this context, it would not be prudent to place the quality of such data at risk.

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Moana Rarere

Māori Population Futures are Aotearoa New Zealand's Population Future

Abstract

Māori population futures are increasingly intertwined with the future prosperity of Aotearoa New Zealand. As the population ages, Māori are projected to comprise a growing share of the nation's children, young adults and working-age population. Drawing on the concept of the 'collateral demographic dividend', this article explores the demographic trends shaping Māori population futures and considers their broader significance for an ageing society. It argues that investments in Māori educational achievement, health and wellbeing, and economic participation generate benefits well beyond Māori communities. Understanding and supporting Māori population futures is therefore central to Aotearoa's long-term social, economic and demographic wellbeing.

Keywords Māori population futures, collateral demographic dividend, population ageing

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Aotearoa New Zealand's present socio-economic and demographic situation is often discussed through the lens of addressing population ageing and its accompanying fiscal challenges. Understandably so. For decades, population ageing has been looming as an impending crisis, primarily driven by the increasing longevity of the New Zealand European/Pākehā baby boom generation (born approximately between the mid-1940s and mid-1960s) and their entry into retirement, and declining fertility (New Zealand Institute of Economic Research, 2025; Preston, 2008). With a relatively shrinking working-age population, Aotearoa is faced with the steep challenge of driving economic growth while also financing expanding pensions, health services and aged care facilities (Bell, 2021). Anticipated by demographers, economists and policymakers, this demographic challenge has prompted a range of policy resets and initiatives. In terms of directly addressing the retirement system, policy changes have included the establishment

of the independent advisory body Te Ara Ahunga Ora Retirement Commission under the Retirement Income Act 1993 (now the New Zealand Superannuation and Retirement Income Act 2001), which is tasked with reviewing retirement income policies, promoting financial capability and monitoring the retirement villages sector (Retirement Commission, n.d.; 2025). On top of institutional arrangements, the government introduced a series of reforms designed to strengthen both public and private retirement provision. The most significant of these were the establishment of the New Zealand Superannuation Fund in 2001 and the introduction of the KiwiSaver scheme in 2007. Since then, successive governments have occasionally adjusted retirement income settings to manage fiscal pressures.

Immigration policy has also played a key role in shaping Aotearoa's demographic and economic future. Although immigration settings have generally been motivated by economic considerations, such as the need to address labour and skill shortages (Spoonley, 2015; Spoonley & Bedford, 2008), immigration has had the additional effect of strengthening the working-age population and mitigating some of the immediate workforce pressures associated with population ageing and/or retirement (Rensburg et al., 2021).

There is little doubt that population ageing will continue to be a defining feature of Aotearoa's demographic landscape and dominate political agendas and public discourse (see Annear et al., 2026; Pelletier, 2025; Stuff, 2026). However, the overwhelming focus on addressing population ageing and retirement risks overshadowing another demographic reality which may prove equally consequential, and beneficial, for Aotearoa's future. While Aotearoa is ageing overall, this trend primarily reflects the age structure of the dominant New Zealand European/Pākehā population. In contrast, the Māori population remains comparatively youthful and is projected to comprise an increasing share of the nation's future population, particularly among younger adult age groups and those entering the workforce.

Thus, Māori population futures are not simply a matter of interest for Māori communities, iwi or hapū, but are also increasingly central to Aotearoa's social, economic and cultural future. Recent calls for a national population strategy similarly argue that Aotearoa's demographic future cannot be understood solely through the lens of ageing but must also engage meaningfully with the distinct demographic circumstances of Māori (Kukutai et al., 2026). Understanding what this means for Aotearoa, and whether current policy settings are equipped to realise the opportunities it presents, is the focus of this article. Central to this discussion is notable demographer Natalie Jackson's concept of the 'collateral demographic dividend', which suggests that Aotearoa's youthful and growing populations may provide broader social and economic benefits as the overall population ages (Jackson, 2011).

Māori occupy a distinctive place within Aotearoa, not only as tangata whenua or indigenous peoples, but also as a growing share of the nation's population, communities and workforce.

However, caution is warranted to ensure that Māori population futures are not framed solely in terms of their contribution to national prosperity, thereby risking the instrumentalisation of Māori aspirations, wellbeing and development. A te Tiriti/Treaty of Waitangi-led approach requires that Māori futures be grounded first and foremost in the rights, aspirations and development goals of Māori communities themselves. While the demographic, social, economic and cultural contributions of a youthful Māori population may have broader significance for Aotearoa New Zealand, any such benefits should be understood as complementary to, rather than primary justification for, investment in Māori wellbeing. Moreover, if wider society is expected to benefit from Māori population futures, principles of reciprocity suggest corresponding obligations to support equitable outcomes, including investment in health, housing, asset development, and meaningful Māori participation in decisions about how the benefits of future growth are realised and shared.

While Pacific populations exhibit similar patterns of population growth and youthful age structures, and Asian populations will account for an increasing share of Aotearoa's workforce, the focus of this article is on the Māori population. This focus reflects not only the demographic significance of Māori as the largest youthful population group, but also their status as tangata whenua ('people of the land'). However, while the discussion is therefore centred on Māori, many of the broader implications are just as relevant to Pacific and Asian and other immigrant populations.

Furthermore, while immigration can help alleviate immediate workforce pressures, it does not diminish the importance of investing in the capabilities of populations already living in Aotearoa. The demographic opportunities presented by Māori population growth suggest that investing in the Māori population, such as in education, training and workforce development, should be equally viewed as an important long-term response to Aotearoa's demographic change.

Māori: a population of strategic importance to Aotearoa's future

Māori occupy a distinctive place within Aotearoa, not only as tangata whenua or indigenous peoples, but also as a growing share of the nation's population, communities and workforce. To appreciate the significance of Māori population futures, it is first necessary to consider how Māori are defined and measured as a population for statistical and public policy purposes.

There is no single statistical definition of the Māori population. Rather, different measures of 'Māori' serve different purposes, reflecting the social, political and policy contexts in which population data is collected and applied (see Kukutai, 2011). The Māori descent population, for example, comprised around one fifth (978,246) of Aotearoa's usually resident population (of 4,993,923) in the 2023 census (Statistics New Zealand, n.d.-c). This measure is of constitutional and political significance because Māori descent determines eligibility to enrol on the Māori electoral roll and influences the number of Māori electorates. In contrast, Māori ethnicity, which is more commonly used in social policy, health, education and population reporting, accounts for around 17% (887,493) of the population (Statistics New Zealand, n.d.-a).

A third measure relates to iwi (tribal) affiliation – kinship groupings based on whakapapa (genealogy). As at the 2023 census, 83% (807,468) of the Māori descent population identified with at least one iwi (Statistics New Zealand, n.d.-b). Iwi affiliation data provides critical insights for iwi in planning and development, enabling them to better understand the characteristics, wellbeing and aspirations of their members and informing decisions regarding economic development, social investment, housing, education and cultural revitalisation (Statistics New Zealand, 2023, 2025a). Iwi data is also important for monitoring the Crown's commitments and responsibilities towards Māori, including those arising from te Tiriti o Waitangi, and provides an evidence base through which outcomes for iwi members can be assessed and tracked over time (Statistics New Zealand, 2023).

Although these three measures capture somewhat different populations (Kukutai, 2011), they point towards the same demographic reality: that Māori constitute a significant and growing component of Aotearoa's population.

Historically, Māori population growth has not always been straightforward. The overall trend has been one of remarkable recovery and expansion (see Pool, 1991; Pool & Kukutai, 2014). Following severe population decline experienced during the latter part of the 19th century, Māori numbers began to recover in the early 20th century, with sustained growth occurring throughout much of the post-World War II period. In recent decades this growth has accelerated. The Māori population increased from approximately 357,000 in 1976 (census night count) to 978,000 in 2023 (census usually resident count) – about a 174% increase in less than 50 years. This growth has increased both the numerical significance and demographic influence of Māori within Aotearoa's wider population.

… substantial growth has been driven primarily by natural increase, whereby births exceed deaths, with Māori maintaining higher fertility rates than the New Zealand European/Pākehā population for much of the 20th century and into the new millennium …

This substantial growth has been driven primarily by natural increase, whereby births exceed deaths, with Māori maintaining higher fertility rates than the New Zealand European/Pākehā population for much of the 20th century and into the new millennium (see Pool, 1991). However, Māori population growth reflects more than demographic factors alone. It has also been shaped by changing patterns of ethnic identification and corresponding changes in statistical definitions and measurement, from descent-based and blood-quantum classifications to self-identified ethnicity (see Kukutai, 2011). Increased willingness to identify as Māori has contributed to Māori population growth over time, highlighting the socially constructed and dynamic nature of ethnic affiliation (Carter et al., 2009; Kukutai, 2007; Statistics New Zealand, 2025b; Yao et al., 2025). Accordingly, Statistics New Zealand accounts for inter-ethnic mobility (i.e., shifts in ethnic identification patterns) in its Māori population projections (Statistics New Zealand, 2025d, 2025e). However, while these factors may complicate the interpretation of Māori population trends, they do not alter the broader demographic reality that Māori are an increasingly significant component of Aotearoa's present and future population.

Although Māori fertility has slowly declined over the last decade or so, it remains a key driver of Māori population growth and future demographic change (Statistics New Zealand, 2025c, 2026). This is particularly important in a national and international context characterised by declining birth rates and, in many cases now, sub-replacement fertility (fewer than 2.1 births per child-bearing-age woman) (United Nations, 2025). Aotearoa has experienced sub-replacement fertility since 2014, and now records a historical low of 1.5 births per woman (Statistics New Zealand, 2026). Yet Māori fertility remains higher, at around 1.9 births per woman (Statistics New Zealand, 2026), and is coupled with a youthful age structure, the reasons for which are not yet fully understood. Together these characteristics generate demographic momentum that will continue to shape Māori population futures.

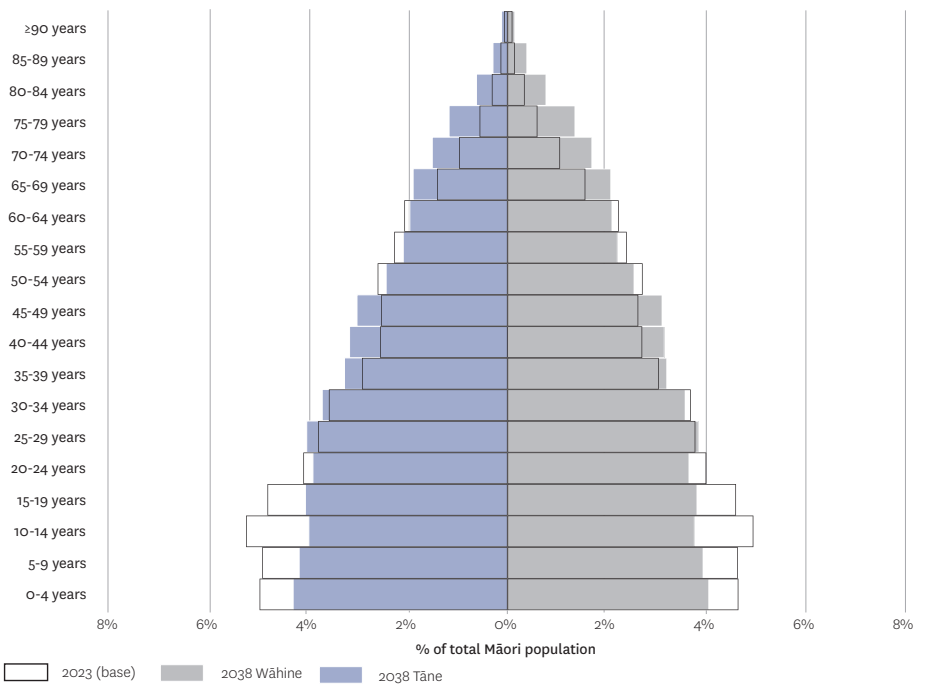
Looking ahead, the Māori share of the population is expected to grow further over coming decades (Statistics New Zealand, n.d.-d). This growth reflects both the comparatively youthful age structure of the Māori population and the demographic momentum generated by larger cohorts of tamariki (children) and rangatahi (teens and young adults) moving through the life course (Figure 1). As a result, Māori will comprise an increasingly important share of children, young adults, workers, parents and future leaders.

These demographic trends have implications that extend well beyond population statistics. They raise fundamental questions about whose futures are being considered in long-term policy planning and investment decisions. If Māori are projected to make up an increasing share of future generations, the policies concerning education, housing, employment, health, infrastructure and environmental stewardship are, quite significantly, policies about Māori futures. Beyond the Crown's obligations under te Tiriti o Waitangi, Māori wellbeing has broader implications for Aotearoa's future social, economic and cultural development.

While Māori are projected to comprise an increasing share of the population, Aotearoa's demographic future is also being reshaped by international migration. Continued reliance on immigration to support population growth, labour force participation, productivity and economic development is contributing to a more diverse population than at any previous point in the country's colonial history. For policymakers, this means planning for a future that is simultaneously more multicultural and more Māori. Acknowledging Māori as tangata whenua alongside an increasingly diverse population presents both opportunities and responsibilities, requiring policy frameworks that are attentive to indigenous rights, demographic change and social cohesion.

On the other hand, any consideration of Māori population futures must also account for the ongoing trans-Tasman migration and Māori diaspora, which redistributes people, skills, resources and whānau networks. Of course, these movements affect both the size and composition of Māori populations and highlight the transnational nature of contemporary Māori demographic change, with implications for identity and whānau wellbeing on both sides of the Tasman (see Brown et al., 2025).

Figure 1: Age & sex structure of Māori estimated resident population, 2023(base) projected to 2038



Source: Stats NZ, National ethnic population projections, by age and sex, 2023(base)-2048 (50th percentile / median scenario)

Māori youthfulness and Aotearoa's ageing society: a collateral demographic dividend

As argued above, Māori population futures warrant attention because they are increasingly intertwined with the future wellbeing and prosperity of an ageing Aotearoa, the majority of whom are of European descent. It is within this context that Natalie Jackson (2011) proposed the notion of a 'collateral demographic dividend', arising not from demographic change within a single population (under the classical 'demographic dividend' model) but from the coexistence of populations at different stages of the demographic transition. In an international context characterised by sub-replacement fertility and population ageing, Aotearoa's comparatively youthful Māori population represents a demographic asset that relatively few countries can draw upon.

The concept of a collateral demographic dividend invites a reframing of how Māori population change is understood within contemporary Aotearoa. Rather than viewing Māori demographic growth solely as an indigenous demographic phenomenon, Jackson's framework highlights its wider societal significance. While Māori remain comparatively youthful, the predominantly European population is substantially older and advancing more rapidly through the process of population ageing. Jackson argues that these contrasting age structures collectively form an 'economic dividend system' (p. 66), creating opportunities that extend beyond Māori communities to the wider national economy.

It is important to note here that while Jackson clearly locates the first demographic dividend within the context of the Māori demographic transition (1960s–70s), she was less definitive about the timing of the collateral demographic dividend. Rather than providing a discrete period, she presents it as an emerging opportunity associated with the coexistence of a relatively youthful Māori population alongside a structurally older and increasingly ageing European-origin population. The collateral dividend is therefore best understood not as a bounded demographic phase, but as a set of opportunities arising from the growing demographic interdependence between younger Māori populations and an ageing national population – which is happening right now.

More than a decade after Jackson first articulated the concept, the relevance of the collateral demographic dividend arguably extends beyond workforce replacement alone. As Aotearoa confronts the fiscal, social and economic implications of population ageing, the significance of Māori demographic vitality becomes increasingly apparent. A youthful and growing Māori population contributes not only to future workforce renewal, but also to the tax base, productivity growth, innovation, community resilience, and the

provision of services and care upon which older populations depend. In this sense, Māori population growth and Māori wellbeing are central to the long-term sustainability of an ageing Aotearoa.

Against the background of an ageing Aotearoa, which primarily reflects the age structure of the New Zealand European/Pākehā population, the demand for healthcare, aged residential care, income support and other age-related services and infrastructure is expected to significantly increase; indeed, this is unfolding right before us. Meeting these demands will require a sufficiently large, skilled, healthy and productive workforce capable of supporting the needs of older generations. Demographically, the future workforce that will sustain Aotearoa's economy, services and ageing population will be increasingly Māori and increasingly diverse. Ensuring that these populations can thrive is therefore not simply a matter of equity or Treaty obligations, important though these are; it is also central to Aotearoa's long-term social and economic resilience.

Māori population futures are also intrinsically linked to the future growth of the Māori economy (te ōhanga) and iwi development. The Māori economy has become an increasingly significant contributor to Aotearoa's economic prosperity, driven by a diverse asset base spanning primary industries, property, tourism, fisheries and various other sectors. In 2023, the Māori economy contributed $32 billion (8.9% of GDP) to Aotearoa, up from $17 billion (6.5% of GDP) in 2018 (Schulze et al., 2024). These estimates should be interpreted with some caution, as they depend on how the 'Māori economy' is defined and measured, and may not fully reflect the broader social, cultural and environmental value created by Māori communities. Rangatahi Māori will play an increasingly important role in sustaining economic growth, innovation and productivity. Investments in Māori education (including te reo Māori), skills development and wellbeing are therefore critical not only for supporting individual and whānau aspirations, but also for strengthening the Māori economy and advancing the long-term development aspirations of iwi and Māori communities.

From the perspective of Māori population futures, Pūhoro is just one compelling example of how demographic potential can be transformed into demographic advantage.

Pūhoro STEMM Academy: a model of investment in rangatahi Māori and a future-focused Aotearoa

One contemporary example of strategic investment in Māori population futures, and Aotearoa's population future, is the Pūhoro STEMM Academy. Established in 2016, Pūhoro (now a charitable trust) was created to address the historically low participation rates and under-representation of Māori within the science, technology, engineering, mathematics and mātauranga Māori (STEMM) fields by supporting rangatahi through secondary school and tertiary education, and into employment. Its kaupapa (purpose) is founded on strengthening engagement and achievement in STEMM while simultaneously affirming Māori identity and mātauranga Māori (Māori knowledge systems). Through partnerships with schools, tertiary institutions, iwi, industry and government agencies, Pūhoro seeks to improve educational outcomes, increase participation in high-value STEMM careers, and create pathways through which Māori can contribute to both Māori and national development aspirations (Pūhoro, n.d.-b, n.d.-c).

Importantly, Pūhoro's approach extends beyond conventional educational interventions. By integrating mātauranga Māori with the modern science disciplines (i.e., STEM), and providing mentoring, hands-on learning experiences, internships, scholarships and ongoing pastoral support, the programme aims to ensure that rangatahi are not only prepared for tertiary study and employment, but are equipped to become future leaders, innovators and knowledge holders. In doing so, Pūhoro directly addresses the type of human-capital investment that the 'demographic dividend' theory identifies as necessary if youthful populations are to realise their full economic, social and cultural potential:

> By empowering rangatahi to take up STEMM pathways and bridging the underrepresentation gap in the STEM workforce, Māori can feel inspired and supported to demonstrate the interconnections between mātauranga Māori and modern science. (Pūhoro, n.d.-a)

The success and impact of Pūhoro over the last ten years demonstrates the substantial returns that can arise from investing in Māori capability. From an initial cohort of just under 100 students, the programme has expanded to support thousands of rangatahi across numerous regions, schools and iwi throughout Aotearoa (Pūhoro, n.d.-c;). An independent impact report (Whitehead & Hingston, 2021) found that Pūhoro participants achieve significantly improved educational outcomes and are five times more likely to transition into tertiary education and STEMM-related pathways than other Māori school leavers (Pūhoro STEMM Academy, 2022).

Economic assessments of the programme have further indicated that these educational gains generate benefits extending well beyond individual participants. A 2024 cost–benefit analysis estimated that every dollar invested in Pūhoro generates positive economic returns, with total net benefits exceeding $123 million across its secondary and tertiary programmes. The analysis further concluded that Pūhoro contributes to regional economic development, employment creation and wider social benefits, including enhanced wellbeing,

increased civic participation, and improved long-term life opportunities for participants and their whānau (Environmental Science Research et al., 2024). Programmes such as Pūhoro align closely with the current government's science and research aspirations as articulated in the *Science Investment Plan 2026–2036* (Ministry of Business, Innovation and Employment, 2026). This plan outlines the current government's national strategic priorities and long-term investment profile for the science and innovation system around four pillars: technology for prosperity; primary industries and bioeconomy; environment sustainability and resilience; and healthy people and a thriving society.

From the perspective of Māori population futures, Pūhoro is just one compelling example of how demographic potential can be transformed into demographic advantage. As Jackson's notion of the collateral demographic dividend suggests, the benefits of investing in youthful Māori populations extend beyond Māori communities themselves. In a society characterised by population ageing and increasing demand for highly skilled workers, programmes such as Pūhoro strengthen the future workforce, expand the stock of human capital, and enhance the productive capacity upon which the wellbeing of an ageing population ultimately depends. Pūhoro therefore illustrates how strategic investment in rangatahi can simultaneously advance Māori aspirations while contributing to the broader social and economic resilience of Aotearoa.

Public policy implications

The example discussed above underscores an important lesson from the demographic dividend theory: population trends create opportunities, but policy enables whether those opportunities are realised. Nevertheless, the capacity of policy to shape demographic and economic outcomes is neither unlimited nor unconstrained, being contingent on prevailing economic conditions, fiscal capacity and competing political priorities. For this reason, demographic change should not only inform programme design but continue to prompt periodic reassessment of the policy and budget settings that govern public investment. Just as long-term fiscal and overlapping-generations modelling has been used to evaluate the implications of population ageing for future public expenditure, changing Māori population dynamics warrant similar strategic consideration. Revisiting current settings through a demographic lens may help identify investments that generate benefits not only for Māori communities but also for Aotearoa's longer-term economic and fiscal wellbeing.

> At a time when labour shortages, population ageing and skills constraints are becoming more pronounced, underinvestment in Māori human capital – both tamariki and rangatahi – risks weakening one of Aotearoa's most significant demographic advantages.

The Treasury's 2025 long-term fiscal statement (Treasury, 2025) rightly identifies population ageing as one of the most significant long-term fiscal challenges facing Aotearoa, with increasing expenditure on superannuation and healthcare expected to place growing pressure on public finances over coming decades. It also emphasises the importance of improving productivity and strengthening future economic performance as part of maintaining fiscal sustainability. However, while considerable attention is devoted to the fiscal costs associated with demographic ageing, comparatively little attention is given to the demographic opportunities arising from the changing composition of Aotearoa's population, particularly the growth and youthful age structure of the Māori population. This omission is notable given that, as discussed, Māori are among the youngest population groups in Aotearoa and will make an increasingly important contribution to future labour force growth, economic participation and tax revenue generation.

Yet the benefits associated with Māori demographic youthfulness are not automatic consequences of age structure alone. Rather, they depend on sustained investments in education, training, employment pathways, health, housing, and broader forms of social and economic infrastructure. In this regard, the Pūhoro STEMM Academy is an example of how demographic potential can be translated into tangible educational, economic and social outcomes. Importantly, Pūhoro demonstrates that the realisation of a collateral demographic dividend is dependent not solely on the scale of government expenditure, but also on the ability of institutions to work collectively towards shared long-term goals. Through a model of multi-agency investment and partnership, Pūhoro aligns resources and expertise from government agencies, iwi, industry, education and community stakeholders to support rangatahi aspirations and achievement. This collaborative approach illustrates how demographic opportunities can be converted into long-term gains in ways that are both effective and fiscally sustainable.

Against this backdrop, recent changes to funding and support for workforce development programmes raise important questions about Aotearoa's preparedness for its demographic future. While the National-led government has committed $69 million in Budget 2026 to expand trade academy placements, there appears to be little direct commitment to targeted initiatives such as Māori trade training programmes (Treasury, 2026). In contrast, the Labour Party has proposed investing $21 million annually in

Māori-led skills training (New Zealand Labour Party, n.d.). These policy choices matter because growing evidence suggests that Aotearoa's future economic resilience will increasingly depend on the success of younger people entering, remaining in and contributing to the domestic workforce. Equally important, however, is the availability of meaningful employment opportunities. Investments in education and skills development can only realise their full value if accompanied by labour market conditions capable of retaining talent and providing pathways into productive employment. Failure to align these elements risks undermining precisely the forms of capability development that demographic dividend frameworks, including Jackson's 'collateral demographic dividend', identify as critical for converting youthful population structures into sustained economic and sociocultural gains. At a time when labour shortages, population ageing and skills constraints are becoming more pronounced, underinvestment in Māori human capital – both tamariki and rangatahi – risks weakening one of Aotearoa's most significant demographic advantages.

More broadly, the demographic realities outlined in this article suggest a need to place population considerations at the centre of policymaking. Regardless of the political composition of future governments, there is a strong case for adopting a longer-term population strategy that recognises the importance of Māori population futures to Aotearoa's collective wellbeing (Kukutai et al., 2026). Such an approach would move beyond short electoral cycles and acknowledge that investments made today in the education, health, skills and wellbeing of rangatahi will shape the nation's social and economic capacity for decades to come. If Māori demographic vitality represents a strategic national asset, as Jackson's notion of the collateral demographic dividend suggests, then supporting Māori population futures should be viewed not simply as a matter of indigenous development or social justice, but as an essential component of Aotearoa's response to population ageing and long-term demographic change.

As Aotearoa continues to experience sustained sub-replacement fertility, understanding the demographic processes shaping future population growth and wellbeing becomes increasingly important. To date, policy responses to workforce and labour market pressures have relied heavily on immigration. While migration will undoubtedly remain an important component of population and economic policy, the demographic trends discussed in this article suggest that greater attention should be directed towards nurturing the capabilities and contributions of populations already present in Aotearoa. In this context, investment in Māori population futures should be understood not as a competing priority, but as a complementary and strategically important response to the demographic challenges and opportunities that lie ahead.

For several decades, demographic evidence has pointed to an ageing population, changing labour force dynamics, increasing ethnic diversity, and the growing strategic importance of Māori as a comparatively youthful population.

Conclusion

This article has argued that Māori population futures are not peripheral to Aotearoa's demographic futures; they are central to it. While other contributions to this issue of *Policy Quarterly* examine population challenges through the lenses of health equity, migration, climate change, fiscal sustainability, retirement income and population data quality, this article has highlighted the importance of viewing the future through a Māori demographic lens. Together, these diverse perspectives reinforce a common message: demographic change will profoundly shape Aotearoa's future sociocultural, economic and fiscal wellbeing. Māori population futures are a critical part of that story, alongside the youthful trajectories of Pacific populations and the increasing diversity generated through international migration. Responding effectively to these changes requires more than broad-brush policy approaches. It requires a population-informed perspective that recognises the distinct demographic trajectories, opportunities and challenges unfolding across communities, regions and generations.

For several decades, demographic evidence has pointed to an ageing population, changing labour force dynamics, increasing ethnic diversity, and the growing strategic importance of Māori as a comparatively youthful population. The challenge for policymakers, public officials, and governments of all political persuasions is therefore not whether these trends should influence policy, but how best to respond to them. Policies informed by demographic realities rather than short-term political priorities are more likely to position Aotearoa to act proactively rather than reactively, enabling the country to anticipate future challenges while capitalising on emerging opportunities.

The case of Māori population futures illustrates both the opportunities and risks associated with demographic change. Although Māori remain one of the youngest populations in Aotearoa, future growth is expected to moderate as fertility rates continue to decline and the Māori population itself ages, based on current life expectancy assumptions. A more pressing issue, though, is achieving equity in healthy life expectancy. Meanwhile, the number of older New Zealanders, particularly among the New Zealand European/Pākehā population, will continue to increase. These trends suggest that the demographic advantages associated with Māori youthfulness cannot be assumed

to persist indefinitely. As Jackson (2011) observed, demographic dividends are best understood as windows of opportunity rather than permanent conditions. Whether the collateral demographic dividend is already unfolding, or whether some of its potential has been diminished through historical underinvestment in Māori capability and wellbeing, is ultimately less important than recognising the opportunities that remain. The critical question is whether policymakers will act upon them.

Ultimately, demographic futures are not predetermined. Population trends shape the opportunities and constraints that societies face, but their outcomes are influenced by the choices governments, institutions, communities and individuals make in response. If Aotearoa is serious about addressing population ageing, sustaining economic productivity, supporting regional development and strengthening social wellbeing, then Māori population futures must occupy a more central place within demographic and policy discussions. Investment in Māori education, health, housing, skills, science, innovation and employment pathways should not be viewed solely as an indigenous policy concern. Rather, it should be understood as a strategic investment in Aotearoa's long-term demographic, economic and social resilience.

As Aotearoa enters an era of sustained sub-replacement fertility and population ageing, understanding the demographic forces shaping the country's future becomes increasingly important. The demographic evidence presented in this article suggests that Māori population futures represent both a significant opportunity and a national responsibility. Whether Aotearoa realises the benefits associated with that future will depend not only on demographic trends themselves, but on the willingness to recognise Māori population potential as a cornerstone of the nation's collective prosperity and wellbeing.

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Polly Atatoa Carr, Jesse Whitehead,
Sughayshinie Samba Sibam and James Greenwell

Population Change, Environmental Change and the Future of Health in Aotearoa New Zealand

why prevention and equity matter more than ever

Abstract

For Aotearoa New Zealand's health system to be effective in the future, it must prepare for an ageing population, ethnic diversification, volatile migration patterns and environmental disruption. These demographic and environmental pressures interact directly to determine future health service needs, exposing the unsustainability of a purely reactive, treatment-focused health model. Meeting these future needs demands action beyond the health sector, driven by a focus on prevention and health equity, which in turn requires political and fiscal trade-offs. Meaningful action on the broader determinants of health and accountability to te Tiriti o Waitangi will not only advance health for the population and reduce health sector strain but will also optimise societal and economic outcomes and support a resilient next generation able to manage the expected and unexpected challenges of the future.

Keywords health equity, population change in Aotearoa New Zealand, environment and health, determinants of health, prevention activities to improve health outcomes

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Aotearoa New Zealand's health system remains caught in a cycle of chronic restructuring, workforce strain, and public debate over systemic access barriers, the 'post code lottery' of healthcare provision, unequal outcomes and poor performance (Hamblin & Plimmer, 2023; RNZ News, 2026). Policy responses typically focus on immediate pressures such as financial sustainability and waiting lists, as demonstrated by the current government directives. These focus on financial restraint alongside five performance targets: emergency department (ED) transit times, cancer treatment, childhood immunisation, first specialist assessment, and elective surgery waiting lists. Alongside these operational targets sits a stated priority to address five major non-communicable (or chronic) conditions: cancer, cardiovascular disease, respiratory disease, diabetes and poor mental health (Ministry of Health, 2024a). Although these chronic conditions drive the largest share of illness and premature mortality in Aotearoa New Zealand, the policy response remains predominantly focused on managing hospital patient flows. Treating health system performance primarily through hospital waiting lists, ED transit times and access to primary care for childhood immunisations risks mistaking the symptom for the cause. Decades of evidence confirms that policy settings prioritising short-term administrative targets over tackling the structural drivers of poor health will neither address the underlying prevalence of chronic disease, nor improve population wellbeing or health equity (Public Health Advisory Committee, 2025).

An effective and sustainable health system requires looking beyond immediate and future service demand. It requires an enhanced understanding of demographic shifts, health inequities and environmental challenges, which in turn depends on accurate and appropriate population data at a level of granularity and currency that enables this understanding.

In this article we first describe the health inequities experienced in Aotearoa New Zealand, and present the evidence for the key demographic and environmental influences shaping Aotearoa New Zealand's health outcomes. We argue that analysing structural changes through the lens of prevention and equity provides a useful framework for future health system planning. By viewing demographic and environmental changes through a lens of prevention, equity and the interconnection of health determinants, we highlight the urgency of the need to build a resilient and evidence-based health system.

Māori adults report more unmet primary care need than non-Māori adults, while one in five Pacific adults in the 2023/24 New Zealand Health Survey reported missing a visit with a general practitioner (GP) because of cost ....

Health equity in Aotearoa New Zealand

Health inequities are systemic, avoidable and unjust differences in health outcomes (Braveman & Gruskin, 2003). In Aotearoa New Zealand, inequities have persisted for Māori, Pacific peoples, those experiencing socio-economic disadvantage, and other communities exposed to systematic discrimination and structural failure (Robson & Harris, 2007; Talamaivao et al., 2020). Differential health outcomes are evident throughout the life course, including in early childhood and adolescence, which are critical periods for lifelong development, and are also sensitive to effective intervention (Morton et al., 2022; Theodore et al., 2023; Ministry of Health, 2024b, 2025a).

Māori and Pacific infants and children experience higher rates of respiratory infections, communicable diseases and preventable hospitalisations compared with non-Māori, non-Pacific children, with inequities also evident in mortality from severe respiratory and infectious diseases (Environmental Health Intelligence New Zealand, 2025a; Cure Kids, 2026). Māori youth have substantially worse mental health compared with non-Māori youth (Fleming et al., 2014) and young people experiencing poverty and socio-economic deprivation are also at greater risk of poor chronic disease and poor mental health outcomes (Denny et al., 2016). In adulthood, health outcomes for both infectious and non-infectious diseases are patterned most strongly by ethnicity (Loring, 2024). Māori experience higher rates of cancer, diabetes, cardiovascular disease and asthma (Ministry of Health, 2024b). Pacific peoples face a particularly high burden of obesity, gout and diabetes (Ministry of Health, 2025a). Ethnic inequities for Māori and Pacific are also evident in cancer mortality and survival (Harris et al., 2021; Teng et al., 2016). Compounding the burden of disease, Māori adults report more unmet primary care need than non-Māori adults, while one in five Pacific adults in the 2023/24 New Zealand Health Survey reported missing a visit with a general practitioner (GP) because of cost (Ministry of Health, 2024c). Consequently, significant ethnic life expectancy gaps remain (Health New Zealand Te Whatu Ora, 2024a). In 2022–24, Māori life expectancy was 7.6 years lower for males and 6.4 years lower for females than for European/other people; the corresponding Pacific gaps were 6.4 and 5.5 years respectively (Ministry of Health, 2026).

These inequitable health outcomes are structural and institutional, rather than the result of 'personal choices', 'individual misfortune' or 'cultural deficits'. They stem from differential access to power and privilege, disproportionate exposure to adverse determinants of health, and unequal access to timely, culturally safe and high-quality care (Cormack et al., 2020; Matheson et al., 2026; Public Health Advisory Committee, 2025). Failure to address persistent Māori health inequities and to give effect to Māori tino rangatiratanga in the health system is also a breach of te Tiriti o Waitangi (Waitangi Tribunal, 2023).

Leaving health inequities unaddressed also carries severe societal and fiscal costs. Using data from more than a decade ago,

health inequities between Māori and non-Māori adults have been estimated to cost over NZ$800 million per year (Reid et al., 2022). Health inequities between Māori and non-Māori children have been conservatively estimated to cost between $62 million and $200 million per year (Mills et al., 2012). While these costs are substantial, they are likely to be significant underestimates, as cost-of-illness approaches typically cannot fully capture effects of health inequity on whānau wellbeing, unpaid caregiving, accumulated disadvantage, or broader participation in social and economic life.

Demographic change

Action to address these persistent and costly health inequities is increasingly urgent in light of future changes to our population. Effective planning for future health service delivery in Aotearoa New Zealand requires understanding the key demographic changes we face. By 2050 the population will look fundamentally different. Over the next 25 years, an additional 1.2 million people are expected through continued but slowing population growth (falling below 1% per annum by 2033) and international migration. By 2058, deaths are expected to outnumber births, and international migration will become the only contributor to population growth at a national level (Statistics New Zealand, 2025a).

Population ageing

Increasing life expectancy and falling birth rates are contributing to rapid population ageing in Aotearoa New Zealand. Close to one quarter (24%) of the population is projected to be aged 65 years or more by 2051 (compared with 17% currently), and approximately 300,000 people (5% of the total population) are projected to be aged 85 years or more (ibid.). While this reflects continued increases in life expectancy, and in many cases living well for longer, there are important health implications of this population shift. Population ageing will increase the number of people living with disability and chronic conditions such as diabetes, cancer and poor mental health. This will intensify the demand for high-quality primary, community, specialist, aged care and mental health services, and create substantial workforce pressures (Aged Care Ministerial Advisory Group, 2026).

Age is a primary determinant of health need and health system utilisation varies substantially across the life course. The broad pattern is that young children and older adults use more health services. The 2023/24 New Zealand Health Survey found that three-quarters (75.6%) of adults and two-thirds (66.6%) of children had visited a GP in the previous twelve months (Jeffreys et al., 2024). The highest capitation payments for primary care are also provided for those under the age of 5 years and over the age of 65 years (Health New Zealand Te Whatu Ora, 2025). While utilisation is only one indicator of health need (and access barriers can also be patterned by age), this pattern is also reflected in the disproportionate health spend, particularly in tertiary healthcare, for the older population. Those aged 85 years or over (the fastest-growing demographic group) are most likely to experience multi-morbidity and frequent and extended inpatient hospitalisation, and have complex support needs from the health sector (Ministry of Health, 2025b). The Aged Care Ministerial Advisory Group (2026) has recently reported that structural reform is required to manage the escalating and future costs of aged care in the public sector.

Importantly, the implications of population ageing often mask within-population variation that carries major health equity implications. While the Māori and Pacific populations are also ageing, Māori and Pacific community members are much less likely than their non-Māori, non-Pacific counterparts to access community-based aged care, despite experiencing poorer health, disability and complex needs earlier in the life course (Hikaka et al., 2026). Access inequities are compounded by higher rates of material hardship, lower home ownership and housing instability, which also increase the levels of unmet need experienced by Māori and Pacific older people. Further, increased reliance on whānau caregiving, and aged care services that do not fit Māori or Pacific family requirements and aspirations, exacerbate the health inequities experienced (Ministry of Social Development, 2025). An aged-care health system organised around age-specific eligibility without Māori- and Pacific-led evidence and culturally safe models of care will fail to address the needs of the future Aotearoa New Zealand population.

An aged-care health system organised around age-specific eligibility without Māori- and Pacific-led evidence and culturally safe models of care will fail to address the needs of the future Aotearoa New Zealand population.

Responding to population ageing does not mean that health services for the elderly should come at the expense of children and young people. While a smaller proportion of the population will be aged 0–14 years in 2048, the absolute number of children in Aotearoa New Zealand will remain steady at just under 1 million (Statistics New Zealand, 2025a). Because children (particularly infants under the age of 5 years) also more frequently interact with the health system, child health services must continue while becoming far more effective at achieving equitable outcomes. This will require specific action to achieve maximal health and wellbeing for Māori and Pacific children, who will make up an increasing proportion of the youth population over the next 10–15 years. By the 2040s, approximately one third of children will identify as Māori, and one in five as Pacific (Statistics New Zealand,

2025b). Investing in maternity, child and youth services, and particularly those led by and for Māori and Pacific peoples, is therefore essential.

Population migration and geographic location

Domestic and international migration patterns in Aotearoa New Zealand are highly volatile, resulting from a range of influences, such as national-level immigration policy settings, housing affordability and employment opportunities. Residents of Aotearoa New Zealand are also residentially mobile (Morton et al., 2024; Marek et al., 2023) and the geographic distribution of our population is likely to shift significantly in the future. Long-term population growth is already increasingly concentrated in major metropolitan centres and specific northern regions such as Auckland, Waikato and the Bay of Plenty, as well as the Canterbury and Tasman regions, while rural districts face relative population loss (Statistics New Zealand, 2026).

As seen with population ageing, the overall picture typically hides important intra-population differences. For example, in 2024–25 Kirikiriroa Hamilton was the fastest growing territorial authority in the country, largely through international migration and births, while neighbouring Waipā grew the fifth fastest through internal migration. Rural Thames-Coromandel has experienced six consecutive years of natural decrease balanced by net migration to become an already 'super-aged' older community where nearly 34% of residents are 65 or older (ibid.).

Rural communities remain an important population group who often face intersecting challenges with respect to health outcomes (Davie et al., 2026). More than 900,000 people live rurally in Aotearoa New Zealand and these people tend to be older (19.5% aged 65 years or more), more likely to live in areas of high socio-economic deprivation, and more likely to identify as Māori (22%) compared with urban residents (Whitehead et al., 2024). The majority (73%) of Māori who live in the most remote locations of Aotearoa New Zealand experience the highest area-level socio-economic deprivation (Crengle et al., 2022). People living in rural areas are less likely to utilise public hospital services, and the centralisation of key health services such as cancer treatment has been described as increasing access barriers for those living rurally and in socio-economically deprived areas (Gurney et al. 2024). Such unmet healthcare needs and access barriers lead to poorer health outcomes for rural populations in comparison with their urban peers, including higher rates of mortality from a range of causes (Nixon et al., 2024; Whitehead et al., 2023). Improving healthcare accessibility is an identified priority for improving rural health in the recently published Rural Health Strategy (Ministry of Health, 2023b). However, as our population ages, and rural communities continue to age more rapidly than urban centres, distinct health services delivery challenges are exacerbated. Delivering care closer to home requires responsive regional networks rather than centralised models that ignore local context. Meeting the needs of both rapidly growing urban centres and dispersed rural populations will require flexible, community-embedded models of care. Anticipating these demographic movements is essential for health services to match shifting regional demands, rather than relying on static, centralised assumptions.

> While targeted services such as kaupapa Māori, Pacific-specific and other focused health initiatives are critical for advancing health outcomes and health equity, every part of the health system must be equipped to meet the needs and aspirations of an ethnically diverse population …

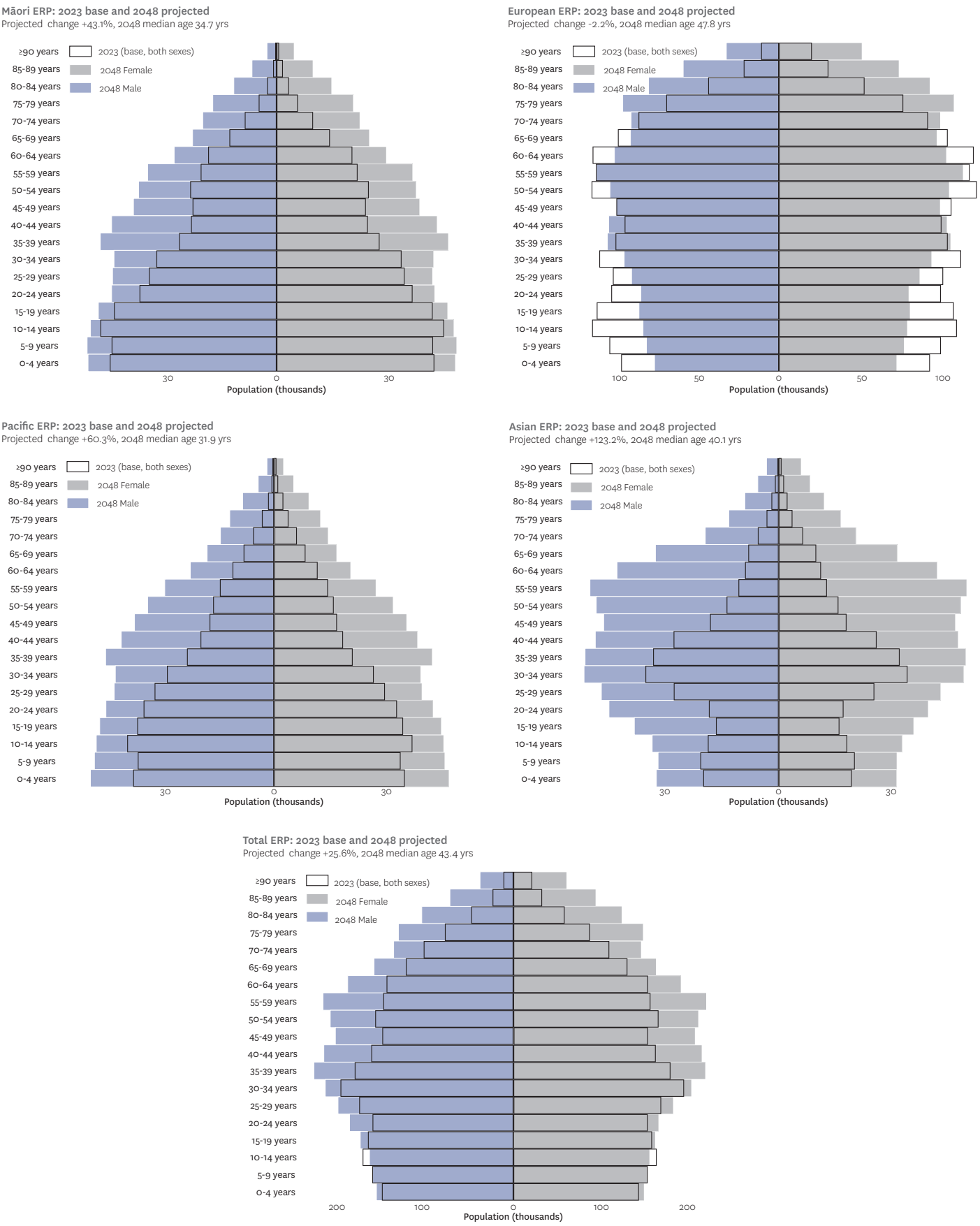
Increasing ethnic diversity

The youthful age structure of the Māori and Pacific populations will see an increasing representation of these communities in the future. All broad ethnic groups other than 'European' are projected to grow as a result of higher natural increases (more births than deaths) and/or more migrant arrivals compared with departures. Projections estimate that by 2048 the Māori population will have increased to 1.20–1.41 million (from 0.91 million in 2023), the Pacific population to 0.66–0.83 million (from 0.46 million), and the Asian population from 0.97 million in 2023 to between 1.99 and 2.36 million. The 'European or other' population is projected to reduce from 3.49 million in 2023 to 3.25–3.59 million by 2048 (Statistics New Zealand, 2025b).

Figure 1 presents the current (2023) and projected (to 2048) population pyramids of the four broad ethnic groups – Māori, European, Pacific, Asian – and the total Aotearoa New Zealand population. This demonstrates both the projected population size and projected age structure over time. For Māori, Pacific and Asian populations, most age groups are projected to increase over time, while the European population is projected to decline. For each broad ethnic group, the greatest proportional growth occurs in the oldest age bands; however, the Māori, Pacific and Asian populations retain a younger overall age structure in comparison with the European population.

Highlighting these specific ethnic shifts is important for maximising health service effectiveness and equity, particularly because ethnicity is a stronger marker of health need than other commonly used sociodemographic characteristics, such as age, sex, rurality or area-level deprivation

Figure 1: Population pyramids for Māori, European, Pacific and Asian ethnic groups and the total Aotearoa New Zealand population, 2023 (base) and 2048 (projected)



Outlined bars show the 2023 base estimated resident population; filled bars show the 2048 projection (50th percentile), with males in blue (left) and females in grey (right). Note that each panel is plotted on its own horizontal scale to represent the age structure of each group; panel widths are therefore not comparable across groups and absolute population sizes need to be read from the axis. Ethnic groups are total response, so individuals identifying with more than one group are counted in each.

Source: Stats NZ, National ethnic population projections, by age and sex, 2023(base)-2048 (50th percentile / median scenario)

(Loring et al., 2024). The over-representation of Māori and Pacific communities across all indicators of poor health status is clear. However, disaggregation of data for the broad ethnic groups is critical to understand sub-population differences in health outcomes and to most appropriately design and deliver services. For example, the health status of the Asian population in Aotearoa New Zealand is usually reported as relatively high compared with that of other broad ethnic groups across a range of health indicators. However, this overall reporting obscures significant health burden for communities within the Asian category (Wu et al., 2024). The Indian population is projected to increase from 0.34 million in 2023 to between 0.68 and 0.88 million (approximately 12% of the total Aotearoa New Zealand population) in 2048 (Statistics New Zealand, 2025b). Indian communities in Aotearoa New Zealand have very high rates of non-communicable disease such as cardiovascular disease, cerebrovascular disease and type 2 diabetes mellitus (Selak et al., 2025). This disease burden has important implications for the most appropriate and effective chronic disease prevention strategies, health promotion activities, and the provision of quality care for these communities to reduce the future burden on individuals, families and the health system (Ministry of Health, 2026a).

Ultimately, ethnic-specific understanding is a prerequisite for the delivery of culturally safe and appropriate care. While targeted services such as kaupapa Māori, Pacific-specific and other focused health initiatives are critical for advancing health outcomes and health equity, every part of the health system must be equipped to meet the needs and aspirations of an ethnically diverse population (Ministry of Health 2024b, 2025a; Wu et al., 2024). This requires a workforce that reflects the population, as well as one that can critically examine its own biases and structural positions to advance health equity (Curtis et al., 2019). Further, the youthful age structure of current and future non-European populations, and particularly Māori and Pacific, requires cross-sectoral attention. These children and young people provide the potential demographic dividend to sustain the future workforce and economy (Jackson, 2011). Realising this opportunity will require sustained investment not just in health, but also in education, housing, social support and employment.

Safeguarding Aotearoa New Zealand's future requires governance frameworks that account for the shared determinants of human, animal and environmental wellbeing.

Environmental change

Investments must also be made in the context of escalating climate-related hazards and degradation of the environmental conditions that sustain health, shape health service demand and influence health equity (Public Health Advisory Committee, 2025). Climate-related health risks are rising globally and within Aotearoa New Zealand (Lenihan-Ikin et al., 2025; Royal Society Te Apārangi, 2017; World Health Organization, n.d). Extreme temperatures, storms, flooding and coastal inundation will intensify over coming decades, compounding existing pressures such as declining ecosystem health, water contamination and biodiversity loss (Romanello et al., 2025).

The health consequences of this environmental degradation are already apparent, ranging from loss of life and injury to infectious diseases and mental health impacts (Lenihan-Ikin et al., 2025). As environmental risks increase, displacement and disrupted access to services will compound environmental impacts on wellbeing and health equity (Health New Zealand Te Whatu Ora, 2026). Failures in transport, communication systems, secure housing, education and employment infrastructure will place heavy burdens on already stretched communities (Pincham et al., 2024, 2025; Whitehead et al., 2026).

Intersecting environmental and climate pressures demonstrate that human health cannot be understood in isolation from ecological integrity (World Health Organization, 2026). With approximately 60% of emerging human infectious diseases originating as zoonoses, and extreme weather events heightening the risk of waterborne illness through infrastructure and catchment contamination (Esposito et al., 2023), treating human health separately from ecological disruption introduces a critical policy vulnerability. Safeguarding Aotearoa New Zealand's future requires governance frameworks that account for the shared determinants of human, animal and environmental wellbeing. Consequently, building a climate-resilient health system requires proactive planning for surges in environmental and zoonotic disease risks, rather than waiting for acute system overloads.

Intersection between demographic and environmental influences

Beyond introducing new health challenges, climate change will have an impact on core demographic processes and exacerbate existing health inequities. Climate pressures and environmental exposures like heat stress and air pollution can directly impair reproductive health and pregnancy outcomes (Casey et al., 2019; Segal et al., 2022). Environmental changes also drive both internal and international migration patterns, with important geographic and contextual variation observed (Hoffmann et al., 2020). Climate pressures and the impact of climate change on Pacific people, islands, atolls and economies are already resulting in increasing inward migration to

Aotearoa New Zealand from neighbouring Pacific nations, placing additional demands on local Pacific communities (Ghosh & Orchiston, 2021). Sea level rise, erosion and flooding are also having an impact within Aotearoa New Zealand, with coastal, riverine and low-lying regions increasingly becoming uninhabitable. One response to this scenario is community-negotiated relocation prior to impact to avoid exposure to harm and to minimise the consequences after disaster strikes (Lawrence et al., 2020). However, displacement has differential impacts on populations that are unable to relocate, and the health impacts of climate change and the strategies to respond to climate change effects are not evenly shared.

Environmental degradation has specific implications for Māori due to disruption of whakapapa (ancestral) relationships to land, waterways and resources, compounding the harm of dispossession through colonisation (Jones et al., 2014; Jones, 2019). Infants, older adults, and people with chronic illnesses or disabilities face heightened access barriers during extreme weather and infrastructure failures (Environmental Health Intelligence New Zealand, 2025b). Similarly, low-income households and those in insecure housing are less likely to have the resources to adapt to environmental changes quickly (Mason et al., 2021; Li et al., 2025). As already described, these characteristics are also more likely for Māori and Pacific communities in Aotearoa New Zealand and therefore climate-related harm significantly risks widening existing health inequities.

Prioritising prevention strategies and maximising equity

Population change, environmental change and the intersection between them have significant implications for health outcomes and future health system requirements. Workforce and service capacity planning are important components of the response, including anticipating the workforce needed to meet changing demand for primary care and aged care, and acknowledging the influence of demographic and climate change (Health New Zealand, 2024b). However, planning a sustainable future health system requires more than projecting individual treatment requirements and expanding capacity to meet them. It also requires consideration of whether Aotearoa New Zealand can create conditions that enable lifelong health equity.

Creating these conditions requires a focus on prevention activities (population-based and targeted or community-specific, within and outside the health sector) and building a healthy and resilient population. Pro-equitable prevention activities must start with the broader determinants of health, because these are the conditions that create and distribute health risks.

Non-health sector action on the determinants of health

The greatest opportunity to advance health outcomes and health equity lies in the social, economic, cultural, commercial and environmental determinants of health that sit outside the health sector. The evidence is strong that these determinants translate into measurable health outcomes. They include: adequate incomes, secure employment and income support across the life course; access to affordable, warm, dry, uncrowded and climate-resilient housing; high-quality early-childhood education and schooling; food security; urban design that includes safety, walkability, public transport, and access to green and blue space; social cohesion; cultural identity and connection; a strong regulatory environment, particularly to support action on the commercial determinants of health, such as the marketing and availability of tobacco, alcohol and unhealthy food; and action on greenhouse gas emissions (as described in international programmes of work such as the Commission on the Social Determinants of Health (2008) and as recently reviewed for the Aotearoa New Zealand context by the Public Health Advisory Committee (Public Health Advisory Committee, 2025).

Social determinants shape exposure to illness, health behaviours or 'lifestyle choices' and the ability to access timely healthcare. They are also interconnected and support circular development of resources within a population and across generations. For example, income is directly related to food security, the ability to invest in education and training, access to transport, safe and secure housing, and the ability to buffer against the stress of acute financial hardship. Good health is also critical for escaping socio-economic disadvantage.

Unequal distribution of these determinants of health is also responsible for the inequitable health outcomes currently experienced in Aotearoa New Zealand, and the likelihood that these inequities will increase as population and environmental conditions change.

Unequal distribution of these determinants of health is also responsible for the inequitable health outcomes currently experienced in Aotearoa New Zealand, and the likelihood that these inequities will increase as population and environmental conditions change. In turn, this unequal distribution is associated with the ongoing effects of colonisation, institutional practices and systemic and structural racism, and the perpetuation of vicious cycles of socio-economic disadvantage (Ahuriri-Driscoll et al., 2022; Braveman, 2022; Reid et al., 2019; Talamaivao et al., 2020). Our laws, policies, funding arrangements, service models and

decision-making processes do not consistently recognise nor support Māori governance and self-determination, equitable access to resources, or culturally safe service delivery.

Therefore, pro-equity prevention must include structural anti-racism: Māori authority and decision-making, equitable and sustained resourcing of kaupapa Māori, Māori-led and Pacific-led services, improvement of culturally safe practice, routine monitoring of outcomes by ethnicity and deprivation, redistribution of resources, and accountability for reducing inequities (Harris et al., 2022; Came et al., 2018). Taking these actions and enabling equitable access to the determinants of health is necessary for creating a healthy and resilient population that can withstand the future impact of demographic and environmental changes. These actions are also consistent with Aotearoa New Zealand's obligations under te Tiriti o Waitangi and the rights of Indigenous peoples, including Māori rights to tino rangatiratanga, participation in decisions affecting hauora, freedom from discrimination and equitable health outcomes (Came et al., 2024; United Nations, 2007; Waitangi Tribunal, 2023).

Health sector action towards prevention and health equity

Action on the determinants outside health must be matched by a health sector that is itself preventative, equitable and climate resilient. This includes through appropriate design, delivery and governance.

The current legislative framework for health in Aotearoa New Zealand, particularly the Healthy Futures (Pae Ora) Act 2022, requires the development and delivery of a range of strategies relevant for health promotion and prevention activities. These include the New Zealand Health Strategy, population-specific frameworks (such as Pacific health, mental health, rural health and disability strategies), attention to te Tiriti o Waitangi, and the (re) establishment of the Public Health Advisory Committee. In the Act, prevention and equity are stated purposes of the health system. However, recent changes to this legislation in response to shifts in political priorities have not aligned with this direction. These changes include adding a core focus on timely access to quality care, required implementation of action towards the six specific health targets, increases in the sector's focus on infrastructure, and the disestablishment of Te Aka Whai Ora (the Māori Health Authority). This latter move was evaluated and strongly criticised by the Waitangi Tribunal for the loss of Indigenous health governance and misalignment with Crown obligations (Waitangi Tribunal, 2024). These amendments signal a move away from Māori decision-making, prevention-focused resource allocation and accountability to equity. While the reference to prevention in the legislation is retained, the reality is a system that is continuously under-funded (Tenbensel and Lorgelly, 2025) and that prioritises treatment, short-term targets and individual behaviour over the broader determinants of health. This focus enhances the vulnerabilities of the health sector in the face of population ageing, increasing ethnic diversity and environmental change.

Against this legislative and policy context, comprehensive primary care provides a critical test of whether prevention and equity are being realised in practice, rather than simply remaining stated purposes of the health system. Comprehensive, equity-oriented primary care is an important foundation to buffer against the impact of future population change. However, recent evidence suggests that primary care in Aotearoa New Zealand is not consistently meeting these indicators of success due to barriers of cost, appointment availability, enrolment challenges and workforce capacity constraints. These barriers are not felt equally, with Māori, Pacific peoples, disabled people, those living rurally and people living in the most deprived areas more likely to face lower primary care access, and have lower enrolment and vaccination uptake, compared with more advantaged groups, despite greater health need (Jeffreys et al., 2024; Liepins et al., 2024; Ministry of Health, 2024d; Pledger et al., 2023; Sheridan et al., 2023; Whitehead et al., 2022). Funding and capacity constraints also result in the need to prioritise attempts to manage acute presentations over comprehensive preventative activities such as proactive outreach, risk assessment, screening follow-up, whānau support and holistic long-term care, including by Māori and Pacific providers, who are often also managing multiple short-duration contracts, which can further undermine continuity and sustainability (Irurzun-Lopez et al., 2025, Ryan et al., 2025; Sheridan et al., 2023). The Waitangi Tribunal has also found that the Crown has breached te Tiriti o Waitangi by failing to design and administer primary healthcare in a way that actively addresses persistent Māori inequities or protects tino rangatiratanga in health (Waitangi Tribunal, 2023).

A future population requiring care across ageing, multi-morbidity and climate-related risk will need the health sector to embed te Tiriti o Waitangi obligations in governance, commissioning and resource allocation; routinely monitor service access, treatment, experience and outcomes by ethnicity, deprivation and other equity indicators; remove financial, geographic and administrative barriers; and strengthen kaupapa Māori and other community-led services. Health systems will also need climate-resilient facilities and services, heat-health surveillance and warning systems, and continuity plans for people with complex or ongoing care needs (Ministry of Health, 2024d; Public Health Advisory Committee, 2025; Sheridan et al.,

A future population requiring care across ageing, multi-morbidity and climate-related risk will need the health sector to embed te Tiriti o Waitangi obligations in governance ...

2023). These actions must be developed and implemented in ways that uphold te Tiriti obligations and equitable access to care for Māori (Waitangi Tribunal, 2023). Cultural safety, anti-racism and equity accountability should be treated as core dimensions of clinical quality and safety, with performance assessed through patient and whānau experience, equitable access and outcomes, and demonstrable action on institutional racism (Curtis et al., 2019; Medical Council of New Zealand, 2019; Talamaivao et al., 2020).

Conclusion

Planning a sustainable future health system to meet the needs of the next generation in Aotearoa New Zealand cannot focus solely on increasing treatment and workforce capacity according to current patterns of illness and demand. Population ageing, ethnic diversification, migration, rural and urban change, and environmental disruption will alter both the distribution of health need and the conditions in which care is delivered. These changes intersect, and will not affect all communities equally. Māori, Pacific peoples, rural communities, those living in socio-economic disadvantage and those in climate-vulnerable environments will experience greater exposure to health risks and more barriers to prevention and care.

Prevention must become the key principle of health system planning and delivery, beginning with action on the determinants outside the health sector. Secure incomes, healthy housing, education, food security, safe environments, social connection, culturally connected communities and effective regulation of commercial health risks will prevent future illness and buffer the negative impact of key demographic and environmental changes. This must be supported by a comprehensive, equitable and climate-resilient health service. Climate adaptation itself should be treated as public health prevention (Ministry of Health, 2024d; Pourzand et al., 2023).

Priorities of prevention and the broader determinants of health are not new considerations. They are visible in longstanding efforts by policymakers, public health practitioners, researchers and leaders to orient the health system towards longer-term outcomes and health equity. Examples of such efforts include: the Primary Health Care Strategy; Smokefree Aotearoa; the Healthy Eating Healthy Action approach; attempts to embed health in all policies, and health impact assessments within routine decision-making across government; and explicit reference to wider determinants of health in key policies such as the New Zealand Health Strategy 2023. Efforts to consider health outcomes and equity have also been made in non-health sector policies, such as the Kāinga Ora – Homes and Communities Act 2019, which includes operating principles and goals of providing healthy rental housing and supporting public rental tenants' wellbeing.

This policy and strategic work deserves recognition, but protecting and implementing prevention-specific, cross-sectoral and pro-equity strategies remains a challenge, and many of these described policies and approaches have been removed, reduced, repealed or reversed before their intended benefits have been realised. Often this reversal occurs as a result of political pressure, and/or the fiscal requirements to embed longer-term preventative measures in an underfunded system that must also focus on increasing demand for treatment services. A sustainable future health system therefore requires not only effective policy design, but political commitment (including cross-party), resourcing and accountability that can be maintained across electoral cycles for the long term. Decisions to prioritise prevention strategies therefore also require difficult fiscal and political trade-offs to manage re-allocation of resources away from often costly innovative treatments.

The success of our prevention strategies should be measured not through operational targets such as waiting times or tertiary hospital procedures but by the achievement of less avoidable illness, injury and mortality, improved wellbeing, earlier intervention, reduced access barriers, the provision of quality care and the elimination of inequities. Achieving these goals will require taking evidence-informed action, and monitoring progress using high-quality numerator and denominator population data that is trusted, appropriately governed and able to be disaggregated by, with and for relevant communities.

> Ultimately, embedding equity is necessary to sustain the health system, to manage fiscal constraints, and also to meet obligations under te Tiriti o Waitangi and Indigenous rights frameworks.

Ultimately, embedding equity is necessary to sustain the health system, to manage fiscal constraints, and also to meet obligations under te Tiriti o Waitangi and Indigenous rights frameworks. A future-focused system must embed Māori authority in governance, resource allocation, commissioning, data sovereignty and service design, while ensuring that Pacific, ethnic, disabled, rural, migrant and other communities have access to resources, power and decision-making, and can shape the services that affect their health. We must avoid carrying current avoidable inequities forward to add to the burden of the future.

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Susie McKenzie, Andrew Binning,
Christie Smith and Hanna Vu

The Fiscal Implications of Our Future Population

Abstract

New Zealand's ageing population creates a fiscal gap between government spending and revenue under current policies. The main fiscal pressures arise from New Zealand Superannuation, health expenditure, and an increasing old-age dependency ratio reducing the number of workers relative to retirees. Using an overlapping generations model, we examine expenditure and tax policies that could close this gap. Our analysis highlights the fiscal, economic and distributional implications of these alternative policies. We illustrate the importance of careful policy design to achieve fiscal stability and to balance the welfare (wellbeing) of current and future generations.

Keywords fiscal sustainability, New Zealand Superannuation, health, retirement policies, demographic ageing

New Zealand is facing a significant demographic transition. Its population is ageing due to increased life expectancy and sustained low fertility rates. Growth in the working-age population is slowing, while demand for public services, particularly health and income support to people of older ages, continues to rise. These trends are gradual, but their fiscal implications are significant and are becoming increasingly evident. They raise a central question: how can public policy sustainably support an ageing population?

We discuss three dimensions of this issue: the design of policies to achieve fiscal sustainability (consistent with the principles of responsible fiscal management in the Public Finance Act 1989); the economic consequences of those policies, including the behavioural responses of people to tax and superannuation policies; and intergenerational equity (how the costs of government services and transfers are distributed across current and future generations).

These dimensions are closely linked. Demographic change can increase spending pressures while slowing growth in the tax base, creating challenges for fiscal sustainability under current policy settings. Policy responses may involve higher taxes, lower spending, increased borrowing, or a combination of these approaches. Each option has different consequences for economic incentives, and the distribution of costs and benefits across generations.

In this article we examine these issues through the lens of demographic change and fiscal policy. Drawing on insights from an overlapping generations (OLG) model developed by the New Zealand Treasury, we explore how population ageing affects government spending and revenue, and

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what this implies for long-term fiscal sustainability (Binning, Özbilgin & Smith, 2026).

The analysis highlights that the fiscal pressures are structural and persistent, and that they cannot be fully offset through economic growth, migration or more favourable demographic outcomes alone. Maintaining fiscal sustainability in an ageing society requires explicit policy choices.

Demographic change and why it matters for public finances

Population ageing occurs when the age structure of the population shifts towards older ages. It is driven by three broad trends: increased life expectancy, sustained low fertility and changes in migration.

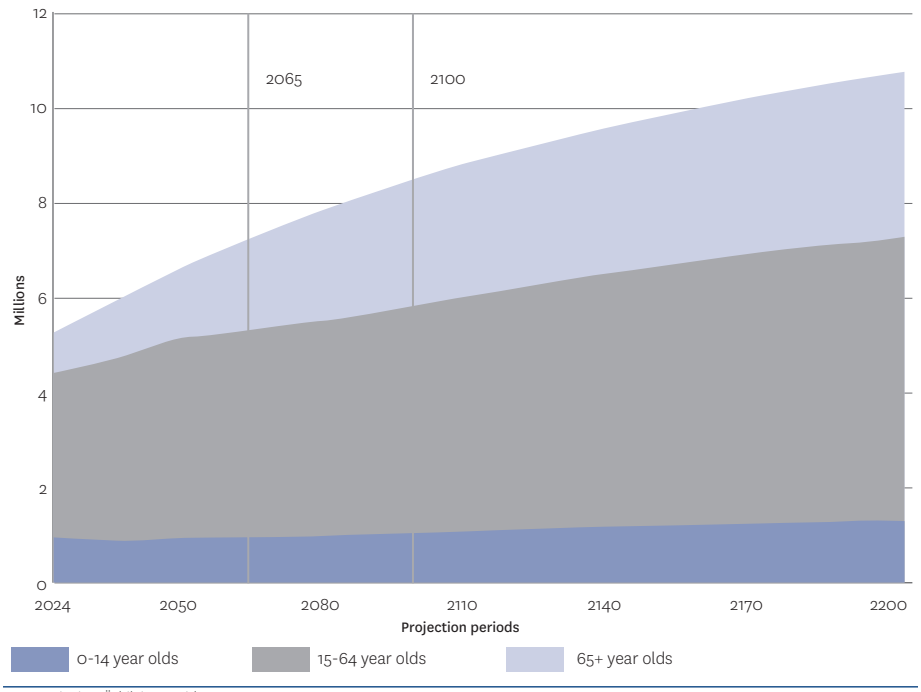
Life expectancy in New Zealand has been steadily improving due to decreasing smoking rates, improvements in medical treatments, and disease prevention (Statistics New Zealand, 2025). At the same time, fertility rates in New Zealand have been gradually declining, with a substantial decrease in recent years. From 1980 to 2010 total fertility rates varied between 1.9 and 2.1 over an average woman's lifetime, but since 2013 they have consistently fallen below 2.1, and in the last two years below 1.6 (see Binning et al., 2024).

Net migration also influences demographic outcomes, but these effects tend to be realised over multiple years, since the flows relative to the population are relatively small, on the order of 1% or less per year, with occasional spikes higher. Net migration gradually alters the age profile of the population because migrants tend to be of working age – it is relatively rare for older generations to move from one country to another. The current (base year 2024) assumptions in Statistics New Zealand's median population projections assume that annual net migration will result in a net gain of around 49,300 per year by the end of the projection horizon (Statistics New Zealand, 2025). But net migration is volatile and difficult to project and so the contribution of migration to future demographics is reasonably uncertain.

In New Zealand and many other advanced economies, the combination of these three factors is leading to a higher share of older individuals relative to those of working age. The old-age dependency ratio (which conventionally represents the number of people aged 65 and over for every 100 working-age people) has increased gradually from 14 in the mid-1960s to 25 in 2022, and according to projections developed by the Treasury could reach 57 by 2100. By the end of the century, the proportion of people over the age of 65 is expected to have doubled, implying significantly fewer workers supporting a larger share of retirees (Binning et al., 2024). Figure 1 provides a visual representation of how the different age groups in New Zealand are set to evolve from 2020 until 2200. The age group that is increasing most is people aged 65+.

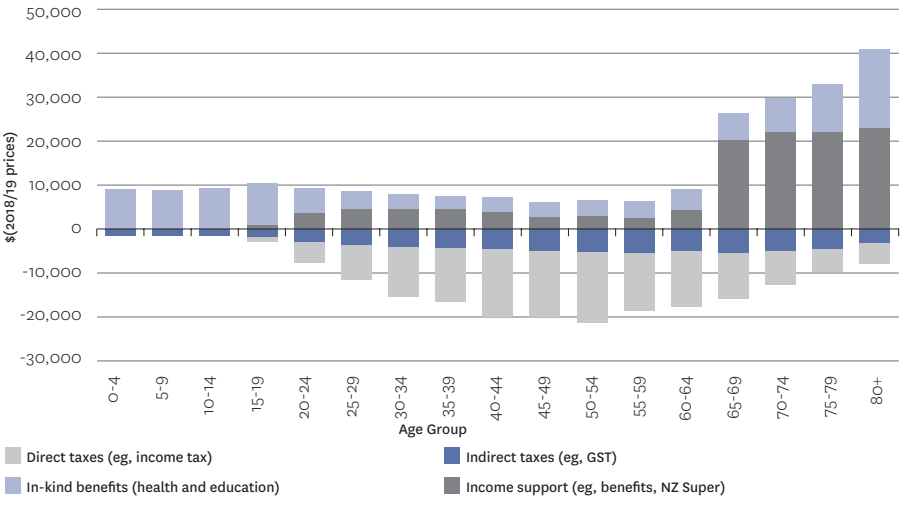
These demographic shifts directly affect both sides of the government's budget. On the spending side, an older population increases demand for age-related expenditure, particularly pensions and healthcare. On the revenue side, a smaller and more slowly growing workforce relative to the total population limits the growth of taxable income and, therefore, government revenue. As seen in Figure 2, individuals typically follow a life-cycle pattern in which they are net recipients of public resources in childhood, net contributors during their working years,

Figure 1: Population structure



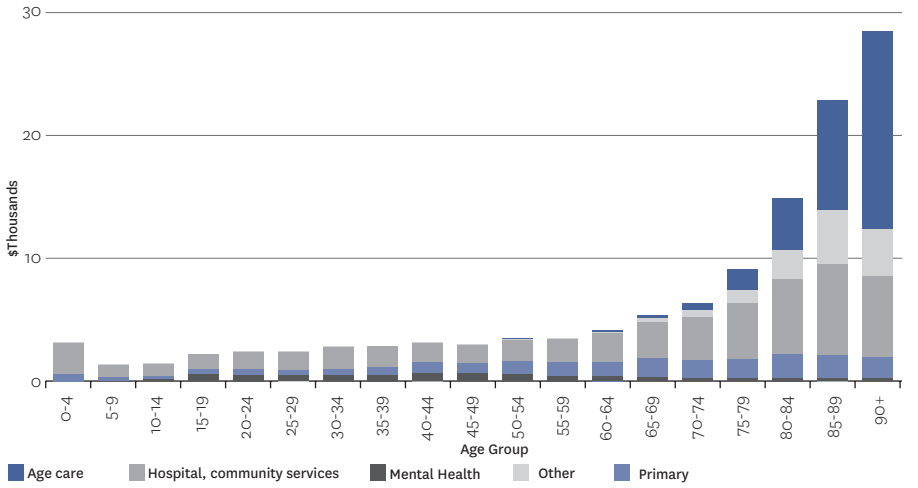
Source: Binning, Özbilgin & Smith, 2026

Figure 2: Life-cycle pattern – average government tax and transfer by age group in New Zealand



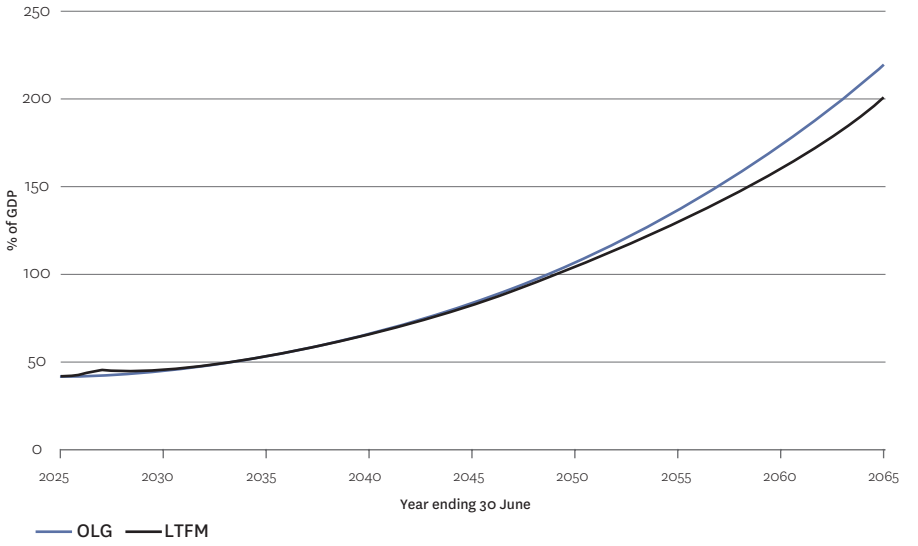
Source: Treasury, 2025, Figure 14

Figure 3 Health expenditure by age group (per person per year)



Source: Treasury, 2025, Figure 17

Figure 4: Net core Crown debt projections



Source: Treasury, 2025, Figure 20

and again net recipients from age 65+. It is the balance between contributors and beneficiaries that affects overall budget outcomes, and this balance depends on the age profile of the population.

Our analysis focuses on the age profile of the population because it is particularly important for the fiscal pressures associated with health and pension expenditure. Our OLG model also includes exogenous types of people with different income profiles, because people with different income levels interact with the tax system in different ways, and the importance of pensions to lifetime income profiles varies depending on how much people earn. Our OLG model does not incorporate ethnicity or sex, so we do not comment on outcomes associated with either dimension, though we note that there are differences in income, health and longevity across ethnicity and sex that would be interesting to explore. The Treasury has a microsimulation model that is better aligned to exploring such differences, but we focus this article on broader macroeconomic and fiscal outcomes.

Why ageing creates fiscal pressures

Population ageing generates sustained fiscal pressure through a combination of spending-side and revenue-side effects, resulting in a persistent fiscal gap under current policy settings.

Spending-side pressures

The most significant spending pressures arise from New Zealand Superannuation (NZ Super) and public healthcare, both of which are highly sensitive to the age structure of the population.

NZ Super is a universal, publicly funded pension de facto indexed to wages and payable from age 65. As the population ages, a growing share of individuals becomes eligible for this entitlement, increasing expenditure. Expenditure on NZ Super was 3.9% of GDP in 2006, 5.1% in 2025, and if current policies are maintained is expected to grow to around 8% of GDP by 2065 (Treasury, 2025). Because payments are linked to wages,[1] NZ Super grows not only with the number of recipients but also in real terms per person.

Health expenditure also rises with age. Per capita healthcare costs increase steeply for older age groups, reflecting higher utilisation of services and more complex care needs. As the share of older individuals increases, so too does aggregate health spending. Projections from the Treasury's 2025 long-term fiscal statement suggest that health spending could rise from 7.1% of GDP in 2025 to around 10% in 2065 if policies are left unchanged (ibid.). Figure 3 illustrates how average health expenditure per person increases with age.

Revenue-side pressures

As the population ages and the old-age dependency ratio increases, a smaller share of the population will be of prime (25–54) working age. While the labour income tax base is projected to remain broadly stable as a share of GDP, population ageing will increase age-related expenditure, particularly on pensions and healthcare. This will require a greater share of economic output to be devoted to these costs and may increase the tax burden required to maintain fiscal sustainability.

The fiscal gap

The combination of spending and revenue pressures results in a fiscal gap. Under current policy settings, government spending increases more rapidly than revenue, leading to persistent deficits over the long term. Treasury projections suggest that, in the absence of policy change, these ongoing deficits would drive net public debt from around 40% of GDP in 2025 to approximately 200% by 2065, illustrating the scale of the underlying imbalance (see Figure 4).

This fiscal gap is predictable. The underlying demographic trends of lower fertility, increasing longevity and gradual ageing of the population are already well

understood and well documented. This imbalance would have to be addressed through lower expenditure, higher taxation or a combination of both to avoid the accumulation of debt that would otherwise be passed on to future generations. The projected rise in debt per capita – from around $34,600 today to almost $238,000 by 2065 (ibid.) – highlights the long-term burden of inaction. Some policy adjustment is required, but exactly what depends on an assessment of the costs and benefits of the alternatives.

Insights from the OLG model: what the projections show

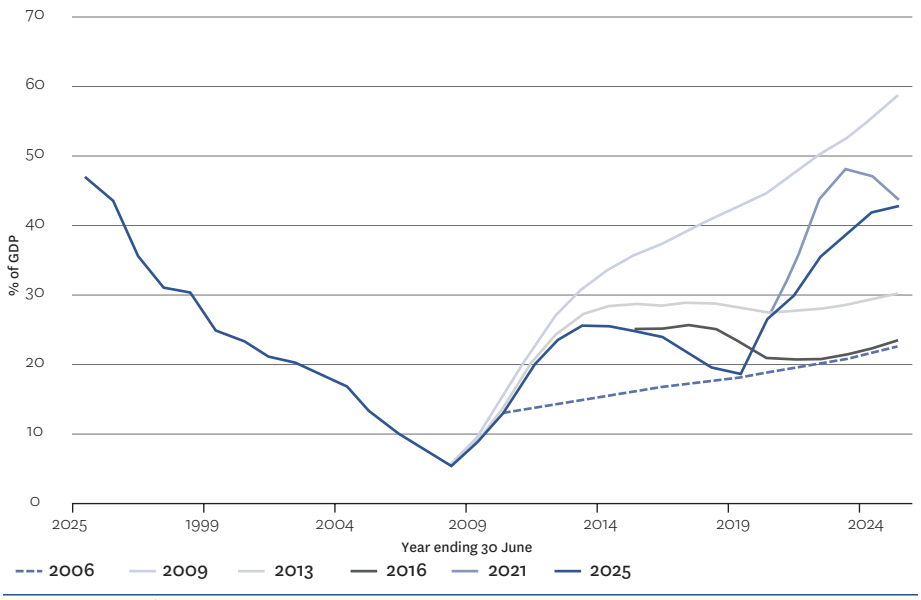
This article draws on insights from the Treasury's overlapping generations model used to quantify the fiscal implications of demographic change and explore potential policy responses. The model incorporates demographic projections, life-cycle behaviour and fiscal policy settings to produce long-term projections of spending, revenue and macroeconomic outcomes. The OLG framework captures both the aggregate fiscal effects of ageing and the behavioural responses of individuals and firms, allowing for a more comprehensive assessment of long-term sustainability.

We draw on the analysis reported in Binning, Özbilgin, Smith and Vu (2026a, 2026b, 2026c) and Binning, Smith and Vu (2026). These four papers consider two broad changes to taxes and two policy adjustments that would moderate the growth in superannuation expenditure. The tax papers consider using alternative taxes (or tax bases) to fund the expenditure and consider the implications of different levels of labour tax progressivity. The superannuation papers consider changes to the age of eligibility – progressively raising the age at which people receive NZ Super – and alternative forms of indexation, which governs the speed at which NZ Super increases over time. These are not the only possible forms of fiscal adjustment, but they do provide plausible options that should be considered against alternatives.[2]

Baseline projection

Under a baseline scenario calibrated to the median demographic projections from Statistics New Zealand,[3] the OLG model produces a clear and consistent result: population ageing leads to a sustained rise in government expenditure relative to GDP, driven primarily by NZ Super and health spending. In our baseline scenario, labour taxes increase to meet these expenditure pressures. In the absence of policy change, the increased spending is not matched by a corresponding increase in revenue as tax revenue remains broadly stable as a share of GDP in the long run. The fiscal consequences of these spending pressures are reflected in the Treasury's long-term debt projections (Figure 5). Across successive long-term fiscal statements, population ageing contributes to rising debt trajectories over the coming decades, indicating that current policy settings place increasing pressure on fiscal sustainability.

Figure 5: Net core Crown debt projections by long-term fiscal statement publication, assuming no change to policy



Source: Treasury, 2025, Figure 8

The role of economic growth

Stronger productivity growth can expand the range of choices available to future generations, enabling higher consumption and living standards while maintaining fiscal sustainability. In the model, higher productivity raises wages, output and tax revenues. Higher productivity and output expands the scope for increased consumption and government expenditure.

However, accelerating economic growth by increasing productivity does not materially reduce the fiscal pressures in the model given that both health and pension expenditures are explicitly or de facto indexed to productivity. Even under more favourable productivity assumptions, the increase in age-related spending continues to outpace revenue growth.

More favourable demographics alleviate, but do not resolve, fiscal pressure

Alternative demographic scenarios, such as higher net migration or more favourable population age profiles, can also influence the fiscal outlook. Increased migration boosts the working-age population, expands the labour force, and improves the balance between contributors and beneficiaries. Higher fertility also increases the working-age population, although these effects emerge only after several decades. These demographic changes can moderate fiscal pressures and delay their onset by supporting labour force growth and reducing the pace of population ageing. However, while such changes can materially improve fiscal outcomes, they do not fully eliminate the underlying fiscal challenges associated with population ageing. Migrants themselves age over time, and population ageing continues to place upward pressure on age-related expenditure.

More favourable demographic outcomes – such as high migration and improved fertility rates, or migration policy targeted at bringing high-productivity individuals into the country – can ease the adjustment required but do not fully offset the long-term fiscal pressures associated with ageing in the

scenarios considered in the Treasury's long-term fiscal statement (Treasury, 2025).

Pre-announcing policy changes can moderate their adverse effects

The Treasury's OLG modelling shows that the timing of policy adjustment matters significantly. Because fiscal pressures emerge gradually but persist over long horizons, delaying response allows deficits to accumulate and compound over time. As debt accumulates, rising interest costs amplify fiscal pressures, increasing the scale of the eventual adjustment required. By contrast, earlier policy action allows the fiscal burden to be spread across earlier generations and avoids the need for more abrupt increases in taxation or sharper spending cuts in the future.

Importantly, the Treasury's OLG analysis shows that pre-announcing changes in policy can help to moderate the welfare (wellbeing) effects of policy adjustment. People adjust their work and consumption behaviour in response to policy changes. Providing people with advance warning of the changes they will face means they can adjust more of their lifetime behaviour. For example, as Binning, Özbilgin, Smith and Vu (2026c) discuss, people can adjust more of their lifetime work and saving behaviour if they are provided with advance notice that their pension eligibility will be delayed, which helps to moderate the adverse effects they experience from such a policy.

Policy choices: how could New Zealand respond?

Maintaining fiscal sustainability will require deliberate policy adjustment. This section sets out several of the policy levers available, emphasising that no single approach is sufficient. Rather, a portfolio approach, combining revenue, spending and growth-oriented measures, is likely to be needed.

Revenue options

Labour income taxes currently form the largest component of the tax base. Raising these taxes provides a relatively predictable source of additional revenue, but such increases can also generate broader economic effects. In the OLG framework, higher labour income taxes reduce after-tax wages and therefore weaken labour supply incentives. This can reduce labour supply and economic activity relative to a lower-tax scenario. The model captures these effects explicitly, showing that tax policy changes influence labour supply, saving and investment decisions across cohorts. As a result, increases in labour taxation generate less than proportional increases in revenue, reflecting the behavioural responses and economic distortions embedded in the model (Binning, Özbilgin & Smith, 2026).

> … earlier policy action allows the fiscal burden to be spread across earlier generations and avoids the need for more abrupt increases in taxation or sharper spending cuts in the future.

Alternatively, there could be a shift towards greater reliance on consumption taxes, such as the goods and services tax (GST). GST is generally considered less distortionary because it is a flat, broad-based tax that applies uniformly across consumption, spreading the tax burden over a wide base. In the OLG framework, this results in more limited effects on employment and output compared with increases in labour income taxes and primarily affects intertemporal choices, influencing the timing of consumption and saving over the life cycle. In this GST strategy, GST is doing the heavy lifting in raising revenue and households face lower labour income tax rates relative to the OLG baseline. Consequently, the GST strategy strengthens incentives to work and increase labour income. (In part the different incentives reflect the progressivity of labour income taxes.) Higher after-tax wages also increase pension payments, resulting in higher pension costs as a share of GDP. In addition, these efficiency gains come with distributional trade-offs: because consumption taxes fall on spending rather than income, they place a relatively higher burden on lower-income households and shift the tax burden across cohorts.

Another avenue is to broaden the tax base to include the taxation of capital income, land or other tax bases.[4] In the OLG framework, such measures may improve efficiency by reducing reliance on distortionary taxes on labour, allowing revenue to be raised with smaller effects on labour supply and output. However, they introduce important trade-offs: taxes on capital income can reduce saving and investment in the model, affecting capital accumulation and long-run growth, while taxes on land and assets may influence asset prices and the distribution of wealth.

Adjustments to public expenditure

Public expenditure could be adjusted by making changes to the eligibility age or indexation of NZ Super. In the OLG framework, increasing the eligibility age reduces the number of beneficiaries while extending labour force participation, but a large increase in the age of eligibility is required to meaningfully reduce pension costs. Similarly, modifying indexation (such as linking NZ Super payments to prices rather than wages or to some average of prices and wages) reduces the growth of benefit payments over time, lowering the lifetime value of transfers received by retirees. The model captures both the labour supply and fiscal effects of such policies, showing that such reforms can substantially improve long-term fiscal outcomes. However, they also have important intergenerational implications, as they shift the burden of adjustment towards current or near-retirement cohorts while improving fiscal sustainability for future generations.

In the health system, policy adjustments are less straightforward, as spending is

driven by both demographic pressures and underlying demand for services. However, there remains scope to improve efficiency, manage demand and influence the trajectory of costs. This could involve investments in preventative care, changes in service delivery models, or greater use of pricing and prioritisation mechanisms.

Growth-oriented strategies

Higher productivity raises output and incomes, which expands the tax base and improves the government's revenue in dollar terms. In the OLG model, stronger productivity growth leads to higher wages and increased tax revenues, partially offsetting the rise in age-related spending. However, as discussed above, growth alone is insufficient to eliminate the fiscal gap. This does not diminish the importance of growth-enhancing policies, but it suggests that such policies should be viewed as a complement to, rather than a substitute for, fiscal adjustment.

Migration

Migration policy can also influence the fiscal outlook, by affecting the size and composition of the population. Higher net migration increases the working-age population, expands the labour force, and strengthens the tax base in the short to medium term. In the OLG framework, this leads to improved fiscal outcomes by increasing the number of contributors relative to beneficiaries, slowing the projected decline in the worker-to-retiree ratio. However, as with growth, migration does not provide a permanent solution to ageing-related fiscal pressures. Migrants age over time, and unless inflows continue to increase indefinitely, the long-run demographic structure will still shift towards an older population. As a result, migration can delay and moderate fiscal pressures but cannot eliminate them; it acts primarily as a mechanism for smoothing the adjustment path rather than resolving the underlying imbalance.

A portfolio approach

The Treasury's 2025 Long-term Fiscal Statement suggested that a portfolio of simultaneous policy adjustments would likely be required to achieve fiscal stability. Our OLG modelling shows that if a single policy lever is employed to meet the totality of fiscal pressures, then the adjustments will often be very large. For example, Binning, Özbilgin, Smith and Vu (2026c) show that the age of eligibility for NZ Super would need to be increased to around 72 years of age by 2065 to stabilise expenditure on NZ Super. Similarly, Binning, Özbilgin, Smith and Vu (2026a) show that, in the long run, if labour tax rates were used alone, they would need to increase by about 20 percentage points to fund the projected increase in expenditure. Using the goods and services tax as the sole form of adjustment would require the GST rate to increase by about 35 percentage points.

Each approach involves trade-offs between economic efficiency, distributional outcomes and political feasibility. Given that projected age-related spending is expected to rise by around 4–5 percentage points of GDP by 2065, a combination of policy measures across revenue, expenditure restraint, growth and migration is likely to be required. Distributing the adjustment across multiple policy channels reduces the economic distortions associated with relying heavily on any single policy instrument.

> The combination of rising longevity, slower labour force growth and increasing demand for age-related spending creates a predictable and persistent source of fiscal pressure.

Intergenerational fairness: who bears the cost?

The pressures associated with population ageing raise questions not only of fiscal sustainability, but also of distribution. Specifically, how are the costs of adjustment shared across generations?

The intergenerational nature of fiscal policy

The underlying policy choices have important implications for who pays, when they pay, and how those burdens evolve over time. The OLG model shows that fiscal policy is inherently intergenerational. Government spending and taxation link different cohorts through time, redistributing resources not only within generations but also across them. In the OLG model, different fiscal strategies, whether based on higher taxes, lower spending or increased debt, shift the burden of adjustment across generations in distinct ways.

Trade-offs across timing

The timing of policy adjustment plays a critical role in determining intergenerational outcomes. Fiscal pressures build gradually but persist for an extended period, so governments face a choice between early and delayed action. This intertemporal trade-off highlights that 'doing nothing' is not neutral. It represents a policy choice that implicitly transfers costs to later generations, in ways that may be opaque since fiscal accounts do not clearly identify the contingent liabilities associated with the provision of health expenditure and NZ Super.

Early adjustment spreads the costs of ageing across current and future generations. Gradual increases in taxes or phased changes to spending programmes allow multiple cohorts to share the burden, reducing the need for abrupt policy changes later. This approach can smooth the transition and provide individuals with time to adapt their behaviour, such as adjusting savings or labour supply decisions. By contrast, delaying adjustment shifts a larger share of the burden to future generations. Persistent deficits accumulate into higher public debt, which must eventually be addressed through higher debt-servicing costs, higher taxes and/or

reduced public spending. In the OLG model, this results in future cohorts facing both higher tax rates and lower after-tax incomes, alongside the need to finance obligations incurred in the past.

Policy framing

Different policy instruments imply different fairness considerations. Revenue-based adjustments tend to place greater weight on working-age populations, while spending-based adjustments can affect retirees and those approaching retirement. Some retirement policies, like increasing the age of eligibility, shift the burden of adjustment to specific generations, while other policies, such as amending NZ Super indexation, share the burden across both current and future retirees.

Our OLG modelling highlights the difficulty of finding a Pareto-improving adjustment that leaves everyone better off. Usually, policymakers will have to make decisions that trade off the welfare of different groups. Every policy response involves choices about who bears the cost of adjustment and when those costs are realised. Making these trade-offs explicit is therefore an essential part of designing a credible and sustainable fiscal strategy. Given the predictability of demographic change, there is an opportunity to implement gradual and signalled adjustments that balance fiscal sustainability with equitable burden sharing across cohorts.

Conclusion: making the choices explicit

Population ageing will reshape New Zealand's fiscal landscape over the coming decades. The combination of rising longevity, slower labour force growth and increasing demand for age-related spending creates a predictable and persistent source of fiscal pressure. As the analysis in this article has discussed, the pressures arising from demographic change will require some form of fiscal adjustment.

Under current policy settings, government spending is projected to grow faster than revenue, generating a sustained fiscal imbalance. Stronger productivity growth does little to alleviate fiscal pressures but nevertheless improves welfare or wellbeing. More favourable demographic outcomes can improve fiscal outcomes temporarily, but additional adjustment is likely to be required in the long run. In this sense, there is no passive solution. Without policy change, future generations will face a higher debt burden and will be more constrained in their ability to spend public resources that meet their needs for health, education and other government transfers and services.

Governments must choose how to respond, drawing on a combination of revenue measures, spending adjustments and growth-enhancing policies. Each of these levers comes with trade-offs, affecting not only economic performance but also how the costs of adjustment are distributed across individuals and generations.

Decisions about when and how to adjust fiscal settings determine who bears the burden: current workers, retirees or future taxpayers. Delaying action does not remove the need for adjustment; it simply shifts the cost to later generations, often requiring more abrupt and concentrated responses later. Conversely, earlier and more gradual changes allow costs to be shared more broadly across cohorts and provide greater certainty for households and firms.

The question of whether New Zealand can 'afford' its future population is not purely a matter of fiscal arithmetic. It is a question of policy choices and societal preferences. A sustainable path will require transparent decisions that balance fiscal sustainability with intergenerational fairness, recognising that the trade-offs involved cannot be avoided.

1 Section 15 of the New Zealand Superannuation and Retirement Income Act 2001 determines how pensions are indexed to prices and wages.

2 St John (2025), for example, considers using the tax system to implement a form of means testing. The Treasury is also considering how means testing might influence outcomes in its OLG model.

3 In the OLG model's 'baseline scenario', labour income taxes increase through time to meet the increased expenditure pressures associated with health and NZ Super. We assume non-tax policies remain unchanged. The demographic projections broadly align with Statistics New Zealand's median national population projections, which can be found in the Aotearoa Data Explorer: https://explore.data.stats.govt.nz/.

4 We have not (yet) incorporated land into our OLG model. Doing so would complicate the production or consumption structure of the model.

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Patrick Nolan and Michelle Reyers

Transitions, Trade-offs and Long-term Stewardship in Retirement Income Policy

Abstract

Debates about retirement income usually focus on where the system should end up. This article argues that how we get there matters too. Reforms affect people at different times in their lives and in different circumstances. Policies that appear similar in fiscal terms can have very different consequences, depending on when change begins and who they affect. Reforms are less likely to endure if the transition places unreasonable demands on the people affected. The challenge is not simply choosing a future retirement income system but developing a credible pathway to it.

Keywords pension reform, retirement savings, fiscal sustainability, transition design

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Retirement income debates often start with a choice between settings. Should KiwiSaver become compulsory? Should contribution rates increase? Should the age of eligibility for NZ Super rise? Should it be income tested? And so on. These are important questions, but they focus on the destination: what the future retirement income system should look like. In retirement income policy, the pathway matters too. When change begins, how quickly it is phased in and how much time people have to adjust can be as important as the destination itself.

This matters because retirement income reforms affect people at different points in their lives and in different circumstances. A higher KiwiSaver contribution rate introduced today may help a 40-year-old build additional retirement savings, but it does little for someone already close to retirement. Changes to New Zealand Superannuation (NZ Super) work on a different timetable: a higher eligibility age, income test or indexation change can affect people much sooner.

Policy debates can also be too quick to treat options as interchangeable if they produce similar fiscal outcomes. Fiscal sustainability is an important consideration, but it is not the only one. Policy options that generate similar fiscal savings can have very different distributional and economic consequences. Assessing these consequences requires attention to equity both between and within generations, including how different policy choices and transitions affect different groups.

For instance, three commonly discussed approaches to reforming NZ Super are raising the eligibility age, changing indexation and introducing income testing. While all may reduce projected expenditure, they distribute costs among people in different ways. A dollar saved through a higher eligibility age is not the same as a dollar saved through lower indexation or income testing. The key policy questions are not only how much a reform saves and what benefits it creates elsewhere in the system, but who bears the cost of those savings, how behaviour may change in response and whether people have a realistic opportunity to adjust.

This is not an argument for maintaining current settings indefinitely. Some degree of change will be necessary as the population ages and patterns of work and retirement continue to evolve. The question is not simply whether reform should occur, but how it should occur.

Answering that question requires consideration of how the costs of reform are distributed. Much of the debate focuses on the incidence of different policy designs and who gains or loses once a reform is fully in place. The transition itself, however, also matters. Reforms affect people at different life stages and in different circumstances, meaning that the costs of adjustment do not fall equally. Two reforms with the same long-run incidence can have quite different distributional consequences depending on how they are introduced. This article focuses on these transition and adjustment dimensions.

The 2025 Review of Retirement Income Policies highlighted this stewardship challenge. It emphasised the need for safe policy change, long-term stewardship and a roadmap covering NZ Super, KiwiSaver and retirement planning. The case for reform is not only that future costs need to be contained, but that change should be managed in a way that means the system continues to be fit for purpose given the changing needs of the population.

> … additional spending on NZ Super will require some combination of higher taxes, increased borrowing, lower spending elsewhere, or changes to retirement income policy settings …

The challenge is not just a fiscal one

Population ageing will place pressure on public finances. Statistics New Zealand projects that the population aged 65 and over, estimated at 0.87 million in 2024, has a 90% probability of reaching between 1.44 million and 1.55 million by 2051 (Statistics New Zealand, 2026b). At the same time, declining fertility rates mean growth in the working-age population is slowing. The result is a shift in the age structure of the population, with fewer people of working age relative to the number of older people. As the population ages, expenditure on programmes such as NZ Super is projected to increase relative to other demands on public resources, increasing pressure on public finances (Katz, 2025).

The fiscal implications of demographic change depend on a range of factors, including labour force participation, earnings growth and migration. These factors may offset some of the effects of population ageing for a period. Nevertheless, the broad direction of demographic change is clear, increasing the importance of decisions about how retirement income costs are shared across generations.

However, the issue is not simply whether higher spending can be afforded. Public resources are limited and additional spending on NZ Super will require some combination of higher taxes, increased borrowing, lower spending elsewhere, or changes to retirement income policy settings (Treasury, 2025). There is also a question about when these costs should be met, including whether greater pre-funding could reduce reliance on future taxation or debt and distribute the costs of population ageing more evenly across generations (Hughes, 2026). The challenge is as much one of policy choices as affordability. Different choices distribute costs differently across taxpayers, retirees and future generations (Bayly et al., 2026).

There is also a legitimate debate about the extent to which future costs should be contained. Some people favour reforms that would lead to retirement income spending being broadly flat as a share of GDP over time. Others accept retirement income spending rising as a share of GDP, while seeking to keep that increase below the levels projected under current settings. In both cases, retirement income spending must be considered alongside other demands on public resources. How that balance should be struck is ultimately a political choice (Te Ara Ahunga Ora Retirement Commission, 2024).

This article does not seek to determine the preferred future path of retirement income spending. Rather, it focuses on a related question: if reform is undertaken, how should it be introduced? Whatever view is taken about the desired level of future spending, the issues of timing, sequencing and who bears the cost of adjustment remain central.

New Zealand starts from a relatively strong position. NZ Super is simple, has broad coverage and provides an effective retirement income floor (Te Ara Ahunga Ora Retirement Commission, 2025). KiwiSaver has also become a major savings institution, with more than 3.5 million members and around $140 billion in funds

under management (Reyers, 2026b), which is equivalent to around 30% of New Zealand's gross domestic product (Statistics New Zealand, 2026a).

The question is whether current settings will continue to meet their objectives as the population, labour market and housing system change. As retirement circumstances become more varied, reforms need to be assessed not only by their effect on total expenditure, but also by how costs fall across people with unequal resources and opportunities to respond.

Timing and the incidence of reform

The start date and implementation period of a reform help determine who bears its costs. Two reforms that lead to the same final settings can have different effects if one is introduced quickly and the other after a long lead time. Consider an increase in the NZ Super eligibility age. Announcing a change today to begin in 2045 gives affected people who are currently in mid-life around two decades to adjust their saving, work and retirement plans. Introducing the same change in 2030 would place more of the immediate burden on people already approaching retirement. The final eligibility age may be identical, but the cohorts bearing the transition costs are different, as illustrated by the policy scenario modelling discussed in Box 1.

The example in Box 1 focuses on differences between cohorts. However, timing does not affect everyone within a cohort equally. Even where people are given the same notice period, their capacity to respond may differ. Higher-income households may be able to save more, work for longer or draw on other assets, while others face constraints linked to income, health, caring responsibilities, housing or the nature of their work. Aggregate figures can understate how exposed some groups are to transition costs, including many Māori, Pacific peoples and women (Ministry of Social Development, 2025). Impacts may therefore differ by gender, ethnicity and family or household circumstances, including where adjustment costs are potentially shared between partners.

The choices available to policymakers can alter these distributional outcomes. Long lead times, gradual phase-ins, grandparenting and additional support can alter the distribution of these transition costs, but none of these approaches is costless. Grandparenting protects people close to retirement but delays fiscal savings. A phased change spreads adjustment over time but creates different rules for different cohorts. Additional support can protect adequacy but reduce the net fiscal savings. Transition design involves significant choices about how the costs of reform are distributed across and within generations. The responses expected of people may also have wider economic effects, including through changes in labour supply and current consumption.

KiwiSaver and NZ Super operate on different time horizons

The discussion so far has emphasised that the timing of reform affects who bears the costs of adjustment. Sequencing matters as well, because KiwiSaver and NZ Super operate on very different time frames. They are components of the same retirement income system, but they perform different functions and respond to policy changes at different speeds. KiwiSaver builds private assets through contributions and investment returns over a person's working life. NZ Super provides a current income floor that does not depend on earnings, regular contributions or investment performance.

Stronger KiwiSaver settings take decades to affect retirement incomes because higher balances must first be accumulated through additional contributions and investment returns. Modelling of case studies by the Retirement Commission illustrates this point. Holding earnings paths, contributions, investment returns, fees and tax constant, moving from combined employee and employer contributions of 4% plus 4% to 6% plus 6% materially increases projected balances (Nolan, 2026). The increase is larger for a 40-year-old than for a 50-year-old because a younger person has a longer contributions window and has more time for returns to compound.

Changes to NZ Super, in contrast, can affect retirement incomes much sooner. A higher eligibility age removes payments during the period between the old and new eligibility ages. An income test can reduce

Box 1: Policy scenarios that illustrate timing trade-offs

The Retirement Commission used a policy scenario modelling tool to compare two pathways to increasing the NZ Super eligibility age to 67, one beginning in 2030 and one in 2045.[1] The 2030 scenario assumes a shorter phase-in period and earlier implementation, while the 2045 scenario assumes a longer phase-in period, with greater protection for people approaching retirement.

In both scenarios the eligibility age is increased gradually from 65 to 67, with the difference being the date at which the transition begins and the cohorts affected within the model horizon. Both scenarios are modelled over the same 2026–65 horizon and do not incorporate behavioural responses such as changes in labour force participation or saving.

The modelling shows that while the policy end-state is identical (with the projected cost of NZ Super falling from 7.8% to 7.2% of GDP in 2065), the timing of implementation changes both fiscal outcomes and who bears the costs of adjustment.

The earlier pathway produces around $87 billion in fiscal savings over the projection period to 2065, compared with around $44 billion under the later pathway. This difference reflects both the earlier implementation date, which means more people are affected as the higher eligibility age is introduced sooner, and the fixed 2065 end point used in the modelling. By reducing expenditure earlier, the earlier pathway also lowers the accumulation of public debt and the associated cost of servicing that debt.

With a 2030 start date, an illustrative person aged 55 in 2026 would need an additional savings balance of around $62,500 by age 65, expressed in 2026 dollars, to offset the expected loss of two years of NZ Super (based on the single, living alone rate). Under the 2045 pathway, the same person would not be affected because they would already have qualified for NZ Super before the higher eligibility age was introduced.

Table 1: KiwiSaver contribution rates and sources of income at retirement

Contribution setting	Replacement rate	NZ Super share of income at 65
4% + 4%	63.2%	79.5%
6% + 6%	68.1%	73.8%

Source: Nolan, 2026

Table 2: Savings rates needed to replace NZ Super

Current age	Required balance at 65 (real)	$50,000 income	$72,800 income	$80,000 income	$120,000 income
35	$1.06m	47.1%	32.4%	29.5%	19.6%
45	$0.91m	70.7%	48.6%	44.2%	29.5%
55	$0.79m	141.4%	97.1%	88.4%	58.9%

Source: Nolan, 2026

Table 3: Factors with greatest influence on retirement outcomes by age

Current age	Main influences on retirement outcomes
35–44	KiwiSaver contribution rates, contribution continuity, investment returns and long-run NZ Super settings as there is sufficient time for policy changes to accumulate and for people to adjust.
45–54	Both KiwiSaver and NZ Super settings matter. There is still time for additional saving, but transition risks begin to become more important.
55–59	NZ Super settings, particularly eligibility age and indexation, become increasingly important. There is less time for KiwiSaver changes to alter outcomes materially.
60–65	Outcomes are dominated by NZ Super settings, transition arrangements and decumulation decisions because there is little time to respond through additional saving.

Source: Nolan, 2026

payments as soon as it takes effect, while a change to indexation progressively alters income throughout retirement. These effects may begin well before higher KiwiSaver contributions have generated substantial increases in balances.

As noted above, whether KiwiSaver can offset such changes depends not only on time, but also on people's capacity to accumulate savings. KiwiSaver balances are shaped by earnings, regular contributions and time in paid work. Higher contribution rates can improve outcomes for regular contributors, but they do less for people with low earnings or extended periods outside paid employment.

Further, even where higher contributions produce substantially larger KiwiSaver balances, the effect on retirement income can be more modest. Retirement balances must be converted into a stream of income that lasts throughout retirement. With an annuity that provides a fixed real income, an additional $50,000 of savings at age 65 could provide around $2,000–$3,000 of additional income each year over retirement.

This difference between balances and income helps explain why NZ Super will continue to play a central role in the retirement income system. As Table 1 shows, in the case of a 40-year-old earning $80,000, increasing combined employee and employer contributions from 8% to 12% will increase replacement rates (retirement income as a proportion of pre-retirement earnings) and reduce the share of retirement income coming from NZ Super, but NZ Super will still account for nearly three-quarters of income at retirement. This assumes continuous contributions to age 65, so for people who have gaps due to time out of paid work the role of NZ Super will be larger. This suggests that stronger private saving can improve retirement outcomes but is unlikely to displace NZ Super as the system's principal income floor.

This can be illustrated by estimating the saving required to replicate NZ Super through private savings alone. As shown in Table 2, a 35-year-old earning $80,000 would require a total saving rate of around 30% to fund an equivalent stream of retirement income. The required rate is much higher for someone aged 55 and is also higher for lower earners, as for these people NZ Super represents a larger proportion of pre-retirement income.

None of this implies that stronger KiwiSaver settings are not worthwhile. Rather, it shows that if private saving is expected to carry a larger share of the retirement income system, stronger accumulation needs to precede any reduction in public support. And even then, some groups will not have enough time or earning capacity to absorb a reduction in support. The relative importance of different policy settings also changes across the life course. Table 3 summarises the factors that are likely to have the greatest influence on retirement outcomes at different ages.

How KiwiSaver performs now

The preceding section showed that private saving can support adjustment to reform, but that its effectiveness depends on how much people can accumulate and the time available to do so. Current KiwiSaver data shows that this capacity varies considerably across the population (Reyers, 2026b).

Around 70% of members contributed during the year to December 2025. Contributions were strongly related to income: around 90% of members earning more than $50,000 contributed. Non-contributors were concentrated among people with low incomes, weak labour market attachment or not in paid work (Reyers, 2026a). Differences in contributions are naturally reflected in balances. Contributing members held average balances of about $50,700, compared with about $19,600 for non-contributors. At ages 61–65, the average difference exceeded $62,000 (MJW, 2026).

However, the data also shows that the same contribution rates can produce very different dollar outcomes. Women were slightly more likely than men to contribute and on average women and men tend to contribute similar percentages of pay, but average male balances remain about 24% higher (Reyers, 2026b). The gap reflects differences in earnings and paid work patterns rather than a simple difference in willingness to save (Chen & Baddley, 2025).

Self-employed members are also less likely to contribute regularly than employees, reflecting the absence of employer contributions and the greater variability of self-employment income. Many people contribute intermittently, while others prioritise business investment, debt

reduction or household spending ahead of retirement saving (Te Ara Ahunga Ora Retirement Commission & Hnry, 2025). As a result, self-employed people can reach retirement with materially lower balances despite long periods of labour force participation, highlighting the importance of KiwiSaver participation and regular contributions alongside contribution rates.

The same KiwiSaver settings can therefore produce very different retirement outcomes for different people. Lower earners accumulate fewer dollars at any given contribution rate, while interruptions to saving and lower investment returns further reduce balances. Higher earners generally benefit more from earnings-based saving because larger dollar contributions are invested over time.

Investment strategy also matters. Retirement Commission modelling found that, for a 40-year-old, the difference between investing in conservative funds and growth funds produced changes in projected retirement balances of a similar order of magnitude to increasing total KiwiSaver contributions from 8% to 12% (Nolan, 2026). This highlights how improving financial capability and supporting better fund-choice decisions may be as important as changes to contribution settings for some groups.

Retirement outcomes therefore reflect the interaction of earnings, regular contributions, investment returns and time, rather than contribution rates alone. For groups with lower average earnings, lower rates of home ownership or more variable employment, including many Māori, Pacific peoples and women, these differences can compound over a person's working life and become more visible in retirement (Te Ara Ahunga Ora Retirement Commission, 2025). This suggests that policies aimed at improving retirement outcomes should focus not only on contribution rates, but also on participation, regular contributions and investment performance, while recognising that different policy instruments serve different purposes.

Recent work by the New Zealand Society of Actuaries highlights that the contribution rate which maximises retirement balances is not necessarily the contribution rate that should be set as a default (New Zealand Society of Actuaries, 2026). Their analysis suggests that while higher contribution rates may improve retirement outcomes for some groups, they may lead to excessive saving for others, particularly some lower-income earners. The role of a default is therefore to provide a workable setting that most people can sustain over time, including when their financial circumstances are constrained. People who can contribute more or choose a different investment approach should be able to do so, but the default needs to support broad and sustained participation rather than assume that all members can consistently meet a higher standard.

The government contribution performs a different role. Defaults are primarily a way of supporting participation and regular saving across the membership. Government contributions are better suited to addressing gaps that arise because some people have less capacity to contribute. This distinction matters because a broadly applied subsidy may have only a limited effect on total saving, while more targeted support may help prevent inequalities during working life from being carried into retirement.

The way fiscal savings are made matters

The preceding sections have focused on the timing of reform, people's capacity to adjust, and the different roles played by NZ Super and KiwiSaver settings. However, timing and sequencing are only

Box 2: The way savings are achieved matters

The Retirement Commission used a policy scenario modelling tool to run a range of illustrative scenarios that generated similar levels of fiscal savings of around $170 billion over the projection period to 2065. These were:

- CPI-only indexation from 2027;
- an age of eligibility for NZ Super of 69 introduced from 2027; and
- an income test with an abatement rate of 100% applying to annual non-NZ Super taxable income over $900.

The age and income-testing settings may be unrealistically severe as practical policy options, but that is partly the point: indexation is such a powerful fiscal lever that very substantial changes to other settings are required to produce an equivalent net present-value saving.

Required retirement balances are used here as an illustrative measure of the private adjustment needed to offset the loss of NZ Super under each reform. The modelling estimated the additional savings balance needed at age 65 to offset the expected loss of NZ Super under each scenario, expressed in 2026 dollars.

For an illustrative 35-year-old median earner, the required age-65 balance is around $252,000 under CPI-only indexation, compared with around $149,000 under the eligibility-age scenario and around $76,000 under the income-test scenario.

For an illustrative 55-year-old median earner, the corresponding balances were around $117,000, $124,000 and $76,000 respectively.

The differences in required balances reflect who is affected and for how long. CPI-only indexation affects a broader group and generates larger adjustment requirements for younger cohorts because the gap between CPI-indexed NZ Super and the current formula widens over time. By contrast, the income test affects only people with taxable income above the threshold. As many people have relatively little taxable income outside NZ Super, its impact on the illustrative median-income person is smaller than the headline policy settings might suggest.

The timing of fiscal savings also differs across the scenarios. Indexation changes begin affecting expenditure immediately and generate savings throughout the projection period, whereas eligibility-age increases and income testing generate savings through different mechanisms and with different distributions across affected groups. Similar cumulative savings therefore do not imply similar fiscal, distributional or individual adjustment outcomes over time.

Further details of the modelling assumptions, scenario specifications and results are available in Reyers (forthcoming).

part of the story. The form that reform takes also matters. A higher eligibility age, income testing and changes to indexation may all reduce projected expenditure, but they distribute costs differently across different people. This is illustrated in Box 2. The sections which follow consider in more detail how these reforms allocate adjustment costs in different ways.

Raising the eligibility age

Raising the NZ Super eligibility age illustrates how a particular reform can allocate adjustment costs across the population. If eligibility begins at 67 rather than 65, people who retire at 65 receive no NZ Super for two years and must bridge the gap through continued employment, private savings, a partner's income or other forms of assistance.

The costs of this adjustment are concentrated on the cohorts directly affected by the higher eligibility age. People already above the eligibility age experience no direct effect, while those approaching retirement when the change is introduced may face a substantial reduction in expected retirement income. As a result, even where an eligibility-age increase delivers fiscal savings similar to other reforms, those savings are generated by imposing larger adjustments on a narrower group of people.

Differences also exist within affected cohorts. Some people may be able to remain in employment for longer and maintain earnings during the additional years before eligibility begins. Others may face constraints arising from health conditions, caring responsibilities, labour market disadvantage or the physical demands of their occupation. The same increase in the eligibility age can therefore have markedly different consequences depending on a person's household circumstances and opportunities.

A higher eligibility age may also increase labour force participation and encourage additional private saving among some groups, contributing to fiscal savings through both reduced NZ Super expenditure and higher economic activity.

These distributional considerations also affect fiscal outcomes. Robust estimates of the net fiscal savings from raising the eligibility age should take account of any associated increases in other forms of income support, including supplementary assistance, hardship assistance or other transfers. The overall fiscal effect depends on both lower NZ Super expenditure and any offsetting increases elsewhere in the income-support system.

One of the strengths of the current NZ Super system is its simplicity and predictability. Income testing requires additional rules, reporting arrangements and compliance activity to determine eligibility and payment levels.

Income testing

Income testing illustrates a different way in which the costs of change can be allocated. Rather than concentrating the effects of reform on particular age cohorts, income testing targets reductions in NZ Super towards people with higher levels of private income or other resources in retirement (St John, 2025).

The effects of an income test depend heavily on its design.[2] Thresholds, abatement rates, income definitions, the treatment of employment and investment returns, and whether entitlement depends on a person's own income or on that of their partner all influence who is affected and by how much. Reforms that appear similar in principle can therefore have materially different distributional consequences.

In broad terms, income testing directs public support away from people with greater private resources and towards those with fewer other sources of income. People with little additional income may experience little change, whereas others may receive a reduced payment or lose entitlement altogether.

Targeting, however, introduces trade-offs of its own. Abatement reduces the net gain from additional private income because increases in resources may be partially offset by lower NZ Super payments. Where employment income is included, the financial return from continued work may be affected relative to a universal system.[3] Where investment income is included, saving and portfolio decisions may also be affected.

Administrative considerations also become more important under a targeted approach. One of the strengths of the current NZ Super system is its simplicity and predictability. Income testing requires additional rules, reporting arrangements and compliance activity to determine eligibility and payment levels. These features may improve targeting, but they also increase complexity relative to a universal system.

Changing indexation

Changing indexation illustrates a third way in which the costs of change can be shared. Rather than concentrating the effects of reform on particular cohorts or on people captured by an income test, changes to indexation spread adjustment more broadly across retirees and over time.

A shift from the current wage-linked framework towards price indexation would not reduce NZ Super payments immediately in nominal terms.[4] Retirees would continue to receive NZ Super and its purchasing power relative to consumer prices would be maintained. However, payments would grow more slowly than average wages, causing the relative value of NZ Super to decline over time.

The adjustment burden created by this reform is therefore cumulative. The effect may be relatively modest in the early years following retirement, but it grows as the gap between price and wage growth widens.

Fiscal savings are achieved not through a large adjustment for a particular group, but through a gradual reduction in the relative value of payments across a large part of the retiree population.

Because the adjustment is cumulative, its effects are distributed unevenly. People who spend longer in retirement experience the change for more years, while those who rely primarily on NZ Super have less capacity to offset any decline in its value relative to broader community living standards. By contrast, retirees with substantial private income or assets may be less affected by changes in the relative value of NZ Super.

The effects also vary across cohorts. Because indexation changes accumulate over time, younger people who are many years from retirement will experience a larger reduction in the future value of NZ Super than people already close to retirement. As a result, while indexation spreads adjustment more broadly than other reforms, it may generate particularly large adjustment requirements for younger generations.

Stewardship, roadmaps and trust

The preceding discussion suggests that retirement income reform is not simply a matter of choosing between policy options. Different reforms affect different people in different ways, and many of their effects will not become apparent for years. This creates a practical challenge for policymakers: how should major changes be developed, tested and introduced when their effects may take time to emerge and differ substantially across the people affected?

New Zealand has grappled with this issue before. The final report of the Periodic Report Group (an expert advisory group established to review retirement income policy) in 1997 recommended multi-party discussions to develop agreed principles for retirement income policy before moving to detailed policy design (Todd, 2008). Importantly, it did not argue for a single prescribed policy. Instead, it proposed agreement on a restricted set of parameters within which political differences could still be expressed. The aim was to provide greater stability while preserving democratic debate.

A related point was that major long-term changes should only proceed after politicians and the public have had an opportunity to work through the options and their trade-offs. Decisions about retirement income policy ultimately involve choices about saving, work, who bears the costs, and how much time people have to respond to change. Good evidence can help make those choices clearer.

One implication is that assumptions should be visible and open to challenge. Publishing models and evidence allows policy choices to be assessed against a common set of facts and assumptions. Equally important is testing those assumptions against the experience of the people affected. Many reforms rely on behavioural responses that may not be realistic for everyone. Engagement can help identify practical constraints, distributional impacts and transition risks before decisions are made.

This challenge is not unique to retirement income policy. Boston (2016) argues that governments often struggle to govern for the future because the benefits of long-term action are diffuse and distant, while the costs are immediate and visible. Institutions that strengthen long-term thinking, improve transparency about future risks and encourage public deliberation can play an important role in helping policymakers manage complex intergenerational issues. Retirement income policy is one example of this broader challenge.

This is one reason the Retirement Commission's *2025 Review of Retirement Income Policies* proposed a roadmap for retirement income policy. The value of a roadmap is not that it determines future decisions in advance. It is that it creates space to develop evidence, test assumptions and examine trade-offs before major decisions are taken.

Some reform options also become less effective the longer decisions are deferred. Policies such as pre-funding or gradual changes to indexation derive much of their effectiveness from being implemented over long periods. Delaying consideration of these options may therefore narrow the range of available adjustment mechanisms. It may also increase the cost of adjustment by allowing public debt to accumulate. As debt-servicing costs rise, the same reduction in future NZ Super expenditure may deliver a smaller improvement in the overall fiscal position.

This is particularly important where reforms may affect different people in very different ways. Demographic change will continue regardless of whether policymakers engage with these issues. Early consideration of potential reforms gives households, employers and governments more time to adjust. Delaying decisions will not avoid change, but it will reduce the time available to prepare for it, narrow the set of available policy responses, and increase the risk that future adjustments need to occur more abruptly.

> A well-designed transition matters not only because it affects who bears the costs of reform, but because it influences whether reform endures.

Conclusion

Retirement income debates often focus on the long-run shape of the system. This article has argued that the path to any reform matters as well. Reforms affect people at different points in their lives and in different circumstances. Options that appear similar in fiscal terms can therefore have very different consequences. When change occurs, and how much time people have to respond, can be as important as the final policy settings.

This has practical implications for policymaking. Any major reform should be accompanied by analysis of who gains, who loses and how these effects are distributed among the people affected. This assessment should consider equity both between and within generations, including differences by gender, ethnicity and family or household circumstances.

Reforms should also recognise that the capacity to adjust depends in part on people's financial capability. Participation, regular contributions, investment choices and the design of defaults and government support can have as much influence on retirement outcomes as changes to headline contribution rates, and as retirement approaches, decisions about how savings are used and managed become more important.

Major change in the retirement income system has already started, and demographic change will continue regardless of when decisions are made. A well-designed transition matters not only because it affects who bears the costs of reform, but because it influences whether reform endures. Changes that are seen to place unreasonable demands on particular groups are harder to sustain, and may be reversed before their benefits are realised. Early consideration of reform also preserves a wider range of options and gives households, employers and governments more time to adjust.

The choice is not between change and no change, but between changes that are anticipated and managed and changes that arrive with less warning.

1 Results for policy scenarios are drawn from a deterministic retirement income policy model developed for Te Ara Ahunga Ora Retirement Commission by Heuser | Whittington. The model assesses the fiscal, distributional and illustrative individual impacts of alternative retirement income policy settings. The results are scenario comparisons based on a number of assumptions rather than forecasts and do not model behavioural responses. The retirement income examples elsewhere in this article draw on a separate retirement income calculator (Nolan, 2026), which projects KiwiSaver balances, NZ Super and retirement income for illustrative households under alternative policy settings. The two models serve different purposes: the Heuser | Whittington model is used to examine fiscal and distributional outcomes, while the Retirement Income Calculator is used to examine illustrative individual retirement outcomes. More details are available in Reyers (forthcoming) and Nolan (2026).

2 Income testing has generally received greater attention in New Zealand policy debates than asset testing and is used here as an illustrative example of a targeted approach to NZ Super.

3 Theoretically, the effect of income testing on incentives to work can be ambiguous, as there can be conflicting income and substitution effects. This question thus requires empirical modelling.

4 NZ Super rates are adjusted annually for changes in consumer prices. The after-tax rate for a qualifying couple must also remain between 66% and 72.5% of net average wages. Because wage growth has generally exceeded price growth, this floor has often meant NZ Super increases broadly in line with wages

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Kate McMillan and James Renwick

The Impacts of Climate Change on Migration

Abstract

This article brings together conversations about climate change, its effects on global migration, and Aotearoa New Zealand's future population. It discusses the current state of the climate and how different climate change scenarios might affect migration, and asks how different possible climate migration futures might feed into immigration and population planning in Aotearoa New Zealand.

Keywords climate change, extremes, sea level rise, climate migration, forced migration

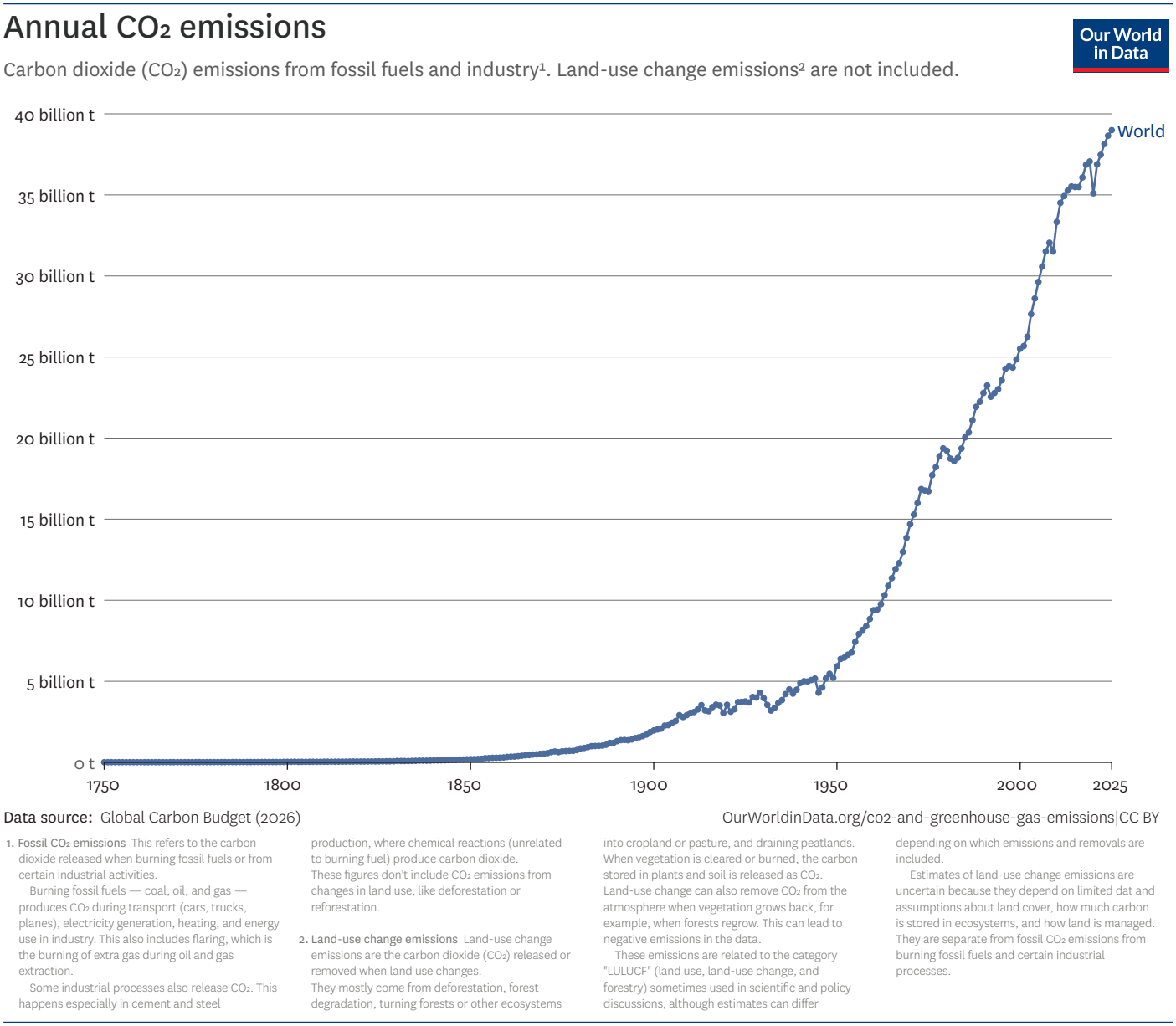
The changing climate is modifying all human life support systems, from food production to living conditions and water availability. Life as we know it is being reorganised and climate change is 'pulling the rug out' from under our collective lives and lifestyles. As a result, a large fraction of the global population will potentially have to relocate, either voluntarily or through what is termed 'forced migration'. The sizes of the many migration cohorts and the speeds at which they relocate depends strongly on how quickly global society can decarbonise, along with the regional influences of global geopolitics.

James Renwick is a climate researcher of long standing. He has served as a lead author for the Intergovernmental Panel on Climate Change (IPCC) over the last 20 years, was a climate change commissioner during 2019–24, and was awarded the Prime Minister's Science Communication Prize in 2018. **Kate McMillan** is a political scientist at Te Herenga Waka Victoria University of Wellington. Her research and teaching interests focus on the politics of international migration.

At the same time as a warming climate is displacing populations across the world, Aotearoa New Zealand is facing its own demographic challenges. An ageing population combined with declining birth rates present it with the risk of having too few workers to generate the economic activity needed to support its population's needs. Lala et al. (2026) are among those who identify the need for Aotearoa New Zealand to have a long-term 'population strategy'. They identify immigration as one of the key policy responses a future population strategy will need to consider. This article brings together conversations about climate change, its effects on global migration, and Aotearoa New Zealand's future population.

The first section provides a survey of the state of climate change, what action must be taken to limit global warming to within the Paris Agreement range, and what the consequences of climate change are likely to be for regional communities worldwide. The second section examines some expectations about climate change's

Figure 1: Global annual emissions of carbon dioxide from fossil fuel burning and industry, from 1750 to 2024.



Source: Our World in Data, https://ourworldindata.org/co2-emissions

effects on global population movements, and how the international community has responded. Finally, it asks how a population policy might take these findings into account.

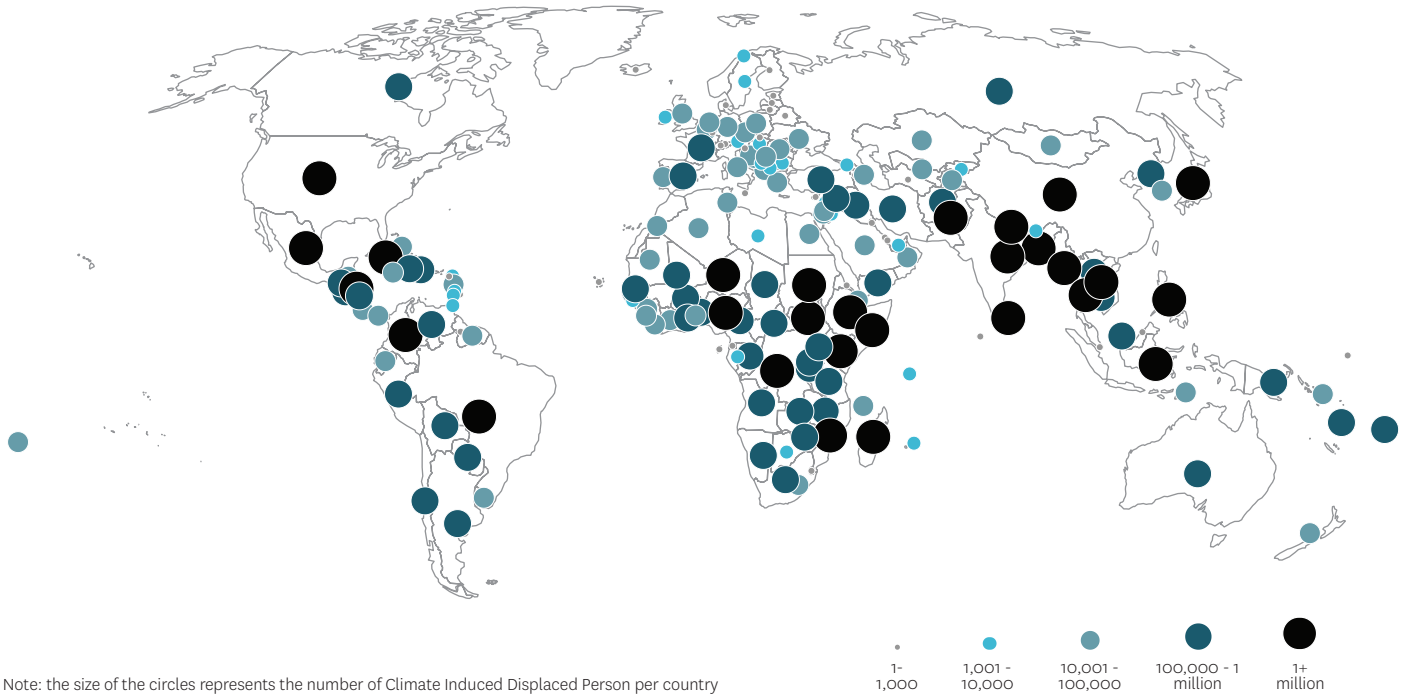
Climate change background

The climate is warming because of the addition of greenhouse gases to the atmosphere through human activity, mostly through the burning of fossil fuels. The rate of emissions of carbon dioxide, the key and longest-lived greenhouse gas, has increased steadily over the past century (see Figure 1), with half of the total human emissions since 1750 having been emitted since 1990. There is no sign yet of decreased global emissions, beyond a few brief downturns. That said, the rate of increase has slowed significantly in recent years.

The current state of the climate system and how it is changing is summarised clearly in the assessment reports of the Intergovernmental Panel on Climate Change (IPCC). The most recent sixth report (AR6), published in 2021–23, finds that human activities have unequivocally caused climate change, and that the climate has already warmed by more than one degree Celsius compared with pre-industrial conditions. Given current rates of emission of greenhouse gases, and the pledges currently made under the Paris Agreement, the globe is on track to warm by around 3°C by the end of the century (IPCC, 2023). Yet the Paris Agreement itself, which almost all countries are signatory to, specifies that nations will take action to contain warming to 'well below 2°C above pre-industrial levels', while 'pursuing efforts' to stop warming at 1.5°C.

The United Nations Environment Programme (UNEP) recently reported that 1.5°C warming is inevitable (UNEP, 2026), and states that stopping at 2°C will require extremely strong action to be taken over the coming few decades: for instance, emissions of carbon dioxide would need to be reduced to zero over the coming 50 years (i.e., by the 2070s) (Friedlingstein et al., 2026). It is an open question whether such action will be taken. As it stands, the global community has fallen well short on

Figure 2: Climate Induced Displaced Persons (both internal displacements and those displaced across national borders)



Note: the size of the circles represents the number of Climate Induced Displaced Person per country

Source: Othering & Belonging Institute, UC Berkeley, https://belonging.berkeley.edu/climatedisplacement/climate-displacement-and-resilience-database

the action needed to rein in the changing climate.

The United Nations secretary-general, António Guterres, said at the time of release of the AR6 synthesis report that the projected global warming by 2100 (around 3°C above pre-industrial levels) 'spells catastrophe' and that the report represented a 'survival guide for humanity' (Earth.org, 2023).

What Guterres meant was that extreme events could easily overwhelm human systems if warming continues beyond 2°C. Humanity does not feel climate change through the background gradual warming of the atmosphere. It feels the effects of climate change through its role in changing extreme weather events (IPCC, 2021). Such extremes, including heatwaves, droughts, fires, intense cyclones and floods, combined with sea level rise, put pressure on food and water security and on the habitability of some regions (IPCC, 2023). The IPCC also notes that '[h]uman influence has likely increased the chance of compound extreme events since the 1950s, including increases in the frequency of concurrent heatwaves and droughts (high confidence)' (ibid., A2.1).

Pressures

The 2022 Global Food Security Index report concludes:

> The scores in the 2022 GFSI reflect a fragile global food system that is under immense pressure and facing some of its worst outcomes ever. Food prices and hunger are hitting record highs, while affordability is plummeting as shocks like the covid-19 pandemic, armed conflict and climate change compound systemic stresses. (Economist Impact, 2022)

The IPCC notes that climate change has already reduced food security and affected water security (IPCC, 2023). The price volatility of staple crops such as wheat and rice has increased in response to regional changes in climate (Bezner et al., 2022), affecting agricultural livelihoods as well as food supply and security.

Such pressures are distributed unevenly around the world, with tropical regions, especially in Africa, often experiencing the highest pressures. That pattern is likely to continue through this century, as climate change continues to exacerbate existing inequalities between countries and regions.

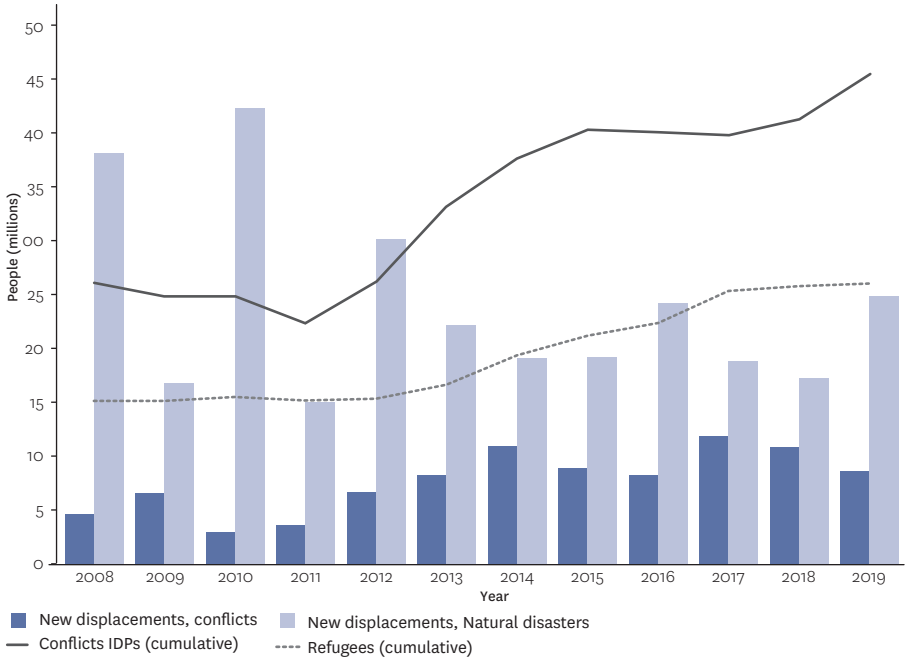
There is also pressure on liveable land, from areas either becoming uninhabitable or the land itself being lost to sea level rise. These all put pressure on communities and on society in many countries, leading to regional conflict over basic resources, and potentially the breakdown of the rule of law in some countries or regions (International Committee of the Red Cross, 2020; Mosello & Steinkraus, 2025).

Such pressures, and the collective response to them, lead to the displacement of populations from vulnerable locations. The regions of the world most exposed to decreasing liveability as a result of climate change are generally in the tropics, especially in tropical Africa and south Asia (see Figure 2). As the climate continues to warm – for example, to 3°C above pre-industrial levels – larger sectors of the global land area are projected to become uninhabitable. Currently, over 40 million people are displaced as a result of conflict, persecution and climate change (Figure 3), among other issues. In a 3°C warmer climate, based on increased pressure on liveability and food security (Figure 4), there is the potential for hundreds of millions of people to be displaced, both within countries and across national borders.

What does this mean for future migration?

Climate change's potential effects on migration can vary enormously. It can be the primary cause of migration or it can exacerbate existing drivers of migration. It can take the form of temporary migration

Figure 3: Global rates of disaster- and conflict-induced displacement and stocks of global refugees and internally displaced people (IDP) between 2008 and 2019



Source: Internal Displacement Monitoring Centre; https://science4sustainability.wordpress.com/2020/11/09/people-on-the-move-migration-as-an-adaptation-to-climate-change/

due to fast-onset disasters (e.g., violent storms or floods), or permanent migration as a result of slow-onset environmental changes (e.g., chronic food insecurity caused by desertification). Some effects, such as inundation, make particular locations entirely uninhabitable; others, such as more frequent heatwaves, reduce habitability. People might move within their own country, most commonly from rural to urban areas; others will cross borders but stay within their geographic region. Still others may move inter-regionally. Such migrations can be more or less voluntary, planned or spontaneous, legal or irregular. Those who move may be poor and uneducated or wealthy and highly skilled, although many scholars have recognised that the poorest members of society often have insufficient resources to move. Indeed, where climate change increases poverty it can decrease the ability of impoverished populations to move (Nabong et al., 2023).

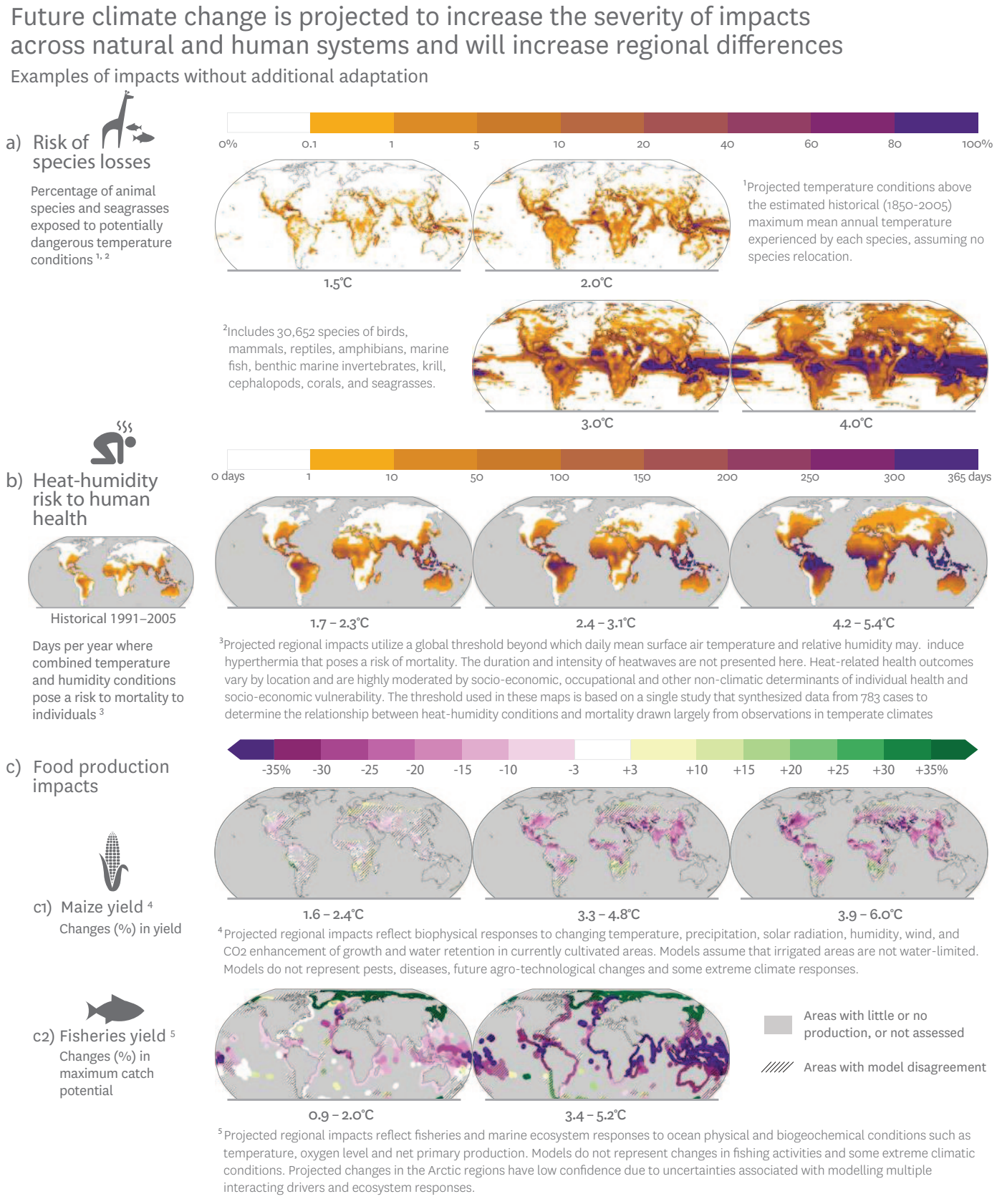
Various terms have been applied to those for whom climate change forms part or all of their reason for moving: 'climate migrants', 'environmentally displaced people', 'climate refugees'. None of these terms is legally meaningful: no international law provides protection specifically for those displaced for climatic reasons. Many such migrants additionally fit into other legal or administrative categories. Those who have crossed a border due to persecution will meet the legal definition of a refugee, while those who have not suffered persecution will not. Those who stay within their own borders are defined as 'internally displaced persons' or IDPs but also are often included within estimates of future climate 'migration'. Those who find work in other countries as part of a climate change adaptation strategy will also be understood as 'labour migrants' (whether skilled or unskilled), while many who cross a national border in search of a more hospitable climate without a visa may simply be understood as illegal migrants. Distinguishing 'climate migrants' from migrants in general may become increasingly difficult as climate change acts as an accelerant of other factors precipitating migration.

All of this is by way of saying that terms such as 'climate migrant' are capacious and tell us little about the circumstances of those who migrate. Waters (2025) suggests a typology of climate migration that distinguishes: *disaster migration*, as a response to rapid-onset disasters; *strategic migration*, as individual decisions to voluntarily migrate in the face of slow-onset climate change; *managed retreat*, in which whole communities are relocated away from locations that have or will become uninhabitable; and *trapped populations* who lack the resources or viable migration pathways to migrate in the face of climate change. This heterogeneity is important to bear in mind when examining estimates of the impact of climate change on future migration.

Those estimates vary considerably (for surveys of climate migration modelling, see Ghosh & Orchiston, 2022; Hoffman et al., 2021; Schewe & Beyer, 2025). The most commonly cited numerical estimate is that of the World Bank's 2021 *Groundswell* report, which estimated that 215 million people would be internally displaced due to climate change by 2050 across six regions, although the authors estimated the number could be considerably lower if global temperatures can be minimised (Clement et al., 2021). Burzyński et al. (2021) estimated that between 45 million and 97 million working-age migrants will move across borders due to climate change over the 21st century, depending on how much the planet warms. Clements (2024) puts the number of climate migrants at over 500 million by 2050, while Xu et al. (2020) estimate that, under extreme warming, 30% of the land mass currently inhabited by humans will fall outside the 'human ecological niche' conducive to human life by 2070, meaning 3.5 billion people may need to move over the next half century.

The relationship between climate change and migration is, however, highly complex (Nabong et al., 2023), so efforts to estimate how many people will move, for what reasons, from where to where, over what period, for how long, and with what effects are plagued by methodological challenges. The lack of accurate data concerning migration in some of the world's most climate-vulnerable countries, future global population, and the extensive range and dynamic nature of relevant variables affecting migration, each of which will interact with the rate and level of climate change, all explain the wild discrepancies among estimates of climate migration (Hoffman et al., 2021; Schewe and Beyer, 2025; Schewel et al., 2024). Perhaps the most that can be said with any confidence is that the more catastrophic

Figure 4: Projected effects of climate change upon ecosystems (panel a) and aspects of human life (panels b and c) as a function of global warming



Source: IPCC, 2023

climate change proves to be, the more people will be forced to migrate.

As for where migration is most likely to occur, and why, the IPCC's 2023 report argues that climatic effects on migration are likely to 'vary by region and over time', mediated by a range of demographic, political and other factors. They find evidence that floods, extreme storms, droughts and extreme heat will drive internal, regional and international displacement across Asia and Africa; floods

will drive internal and regional displacement in Europe; floods, tropical cyclones, tornadoes and wildfires will drive internal and regional displacement across the Americas; wildfires will cause internal displacement in Australia and Aotearoa New Zealand; extreme storms will drive internal and regional displacement across the Pacific. Increases in sea level rise will affect low-lying coastal areas around the world, with risks ranging from storm surges and groundwater contamination to inundation (Cissé et al., 2022). If the planet breaches climatic tipping points, the nature and extent of the migratory effects of climate change are likely to be even more widely spread and extreme (IPCC, 2023, B.3.2).

disproportionate influence in a range of bodies that set the direction of global and regional migration policies. Such policies need accurate data, not only about the migratory consequences of climate change, but also on the consequences of migration for climate change. In the absence of accurate data, narratives of overwhelming climate migration are easily popularised, creating demand for restrictionist migration policies that may not in fact be the most effective responses to either climate change or climate migration.

Indeed, some recent efforts to incorporate different global, regional and national migration policies into climate migration modelling suggest restrictive migration policies may make both climate and migration outcomes worse. Benveniste et al. (2020), for example, compare the effects of open and restrictive border policies on climate migrants and the communities they move from and to. They find that when people in climate-vulnerable areas are able to migrate, remittances increase. Access to remittances expands the resources available to climate-vulnerable communities for adaptation policies, reducing the global inequality that creates pressures for migration. Conversely, restrictive policies trap people in conditions of exposure and vulnerability and increase global inequality, thus driving the demand for international migration (Benveniste et al., 2020; McLeman, 2019; Nabong et al., 2023).

Which kinds of migration policies, then, are likely to create the best outcomes for those displaced by climate change, the communities they come from, and the communities they move into?

Here, as with migration policies more broadly, some general rules are helpful. First, rather than wanting to migrate, most people prefer to stay home or close to home, as long as conditions allow (Castro and Sen, 2022). Second, when people do move, they prefer to move shorter rather than longer distances (Ravenstein, 1889), and historical migration routes that have led to settled communities of people who share a putative migrant's cultural, linguistic and religious traditions will likely be preferred (Massey et al., 1993). Third, migration is most likely to lead to positive outcomes when that migration is voluntary from the perspective of both migrants and host societies, when migrants and host societies have time to plan for the migration, and when migration occurs through legal pathways that respect the human rights and dignity of all concerned. Conversely, migration that is involuntary, unwanted, unplanned, violates human rights, and takes place through irregular or illegal means can be expected to be less successful.

To maximise the chances of good outcomes for all, then, state and non-state actors need to be developing migration policies that assist people in climate-vulnerable areas to stay home if that is viable and preferred, and to move in a planned, human rights-consistent and legal manner if movement becomes necessary.

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International, regional and domestic responses to climate migration

The prospect of catastrophic climatic change invites dystopian migration visions. For governments and populations in those countries likely to remain hospitable to human life as the planet warms, the possibility of tens or hundreds of millions of climate migrants clamouring to cross their borders might feel apocalyptic, the literal embodiment of climate change's existential threat. Such a possibility will be even less appealing for those likely to be displaced: ancestral lands, homes, livelihoods may all be lost, while life in a new location may lack security, prospects and dignity.

Nightmarish forced migration scenarios have the potential to stimulate defensive and restrictive responses in the wealthy, global north countries. These are the countries with the most resources to respond to climate change, and with

Both international and unilateral policies influence the availability of legal pathways for those forced to move by climate change. International cooperation can establish legal norms and protections that can guide states as they develop policies concerning climate migration, while unilateral state policies will shape the migration pathways available to those who wish to move. Below we sketch a few of the most significant international, regional and unilateral responses to climate migration to date.

The international response to climate migration

Thus far, there is no international legal convention that specifically addresses the protection needs of those displaced by climate change. As noted earlier, unless they can also demonstrate a fear of persecution

in their home country, climate migrants do not meet the legal definition of a 'refugee' under international law. The international norm of 'non-refoulement' that prohibits all states from sending a person back to their home country if that person fears persecution has not been understood to apply to those who fear for their safety back home due to climate-related impacts. A possible change to this understanding came with the 2020 decision by the UN Human Rights Committee in *Ioane Teitiota v New Zealand* (UNHCR, 2020). The committee found that a state would be breaching the International Covenant on Civil and Political Rights if it sent a person back to a country where climate change impacts create a real risk of violating their right to life. While the committee did not find in Teitiota's favour, their decision has been hailed as a new potential, if untested, avenue for international protection for those displaced by climate migration (McAdam, 2021).

Notwithstanding the lack of a clear international legal response to climate migration, there have been growing numbers of non-legally binding initiatives to plan for climate migration. Most significant, perhaps, is the 2018 Global Compact for Safe and Orderly Migration. This is a non-binding international instrument signed by 164 countries (including Aotearoa New Zealand), under which signatory states agreed to 'enhance the availability and flexibility of pathways for regular migration' (United Nations General Assembly, 2018). The provision of such pathways, however, remains entirely at the discretion of signatory states.

Other UN-led initiatives include the recognition of migration as a response to climate change within the United Nations Framework Convention on Climate Change during COP16 (paragraph 14(f) of the Cancun Framework), and inclusion of forced displacement due to climate change under the Loss and Damage Fund established at COP19. The 2015 Paris Agreement, signed during COP21, established the Taskforce on Displacement, which in 2024 published guidelines for how state parties could develop national action plans to respond to climate displacement (United Nations Climate Change Secretariat, 2024). The Sendai Framework for Disaster Reduction 2015–2030, adopted by UN members in 2015, recognised climate as a driver of displacement and encouraged states to incorporate climate displacement into their disaster reduction and response planning. Similarly, the Sustainable Development Goals, also adopted by UN member states in 2015, committed states to achieving a series of targets by 2030, among which are several relating to climate change and its consequences, including migration.

A non-UN system initiative is the 2012 Nansen Initiative, a bottom-up, state-led consultative process led by Switzerland and Norway. One outcome of the Nansen Initiative is the 'Protection Agenda', designed as a toolbox for states wanting to prevent and prepare for disasters, including those caused by climate change. In 2015, 109 states endorsed the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change, leading to the establishment of the Platform on Disaster Displacement.[1]

Regional and bilateral responses to climate migration

Regionally, initiatives in the most climate-vulnerable parts of the world include those in Africa (African Union, 2026), South America (Navarro, 2026) and Southeast Asia (ASEAN, 2024, pp. 15–17).

The most developed regional initiatives come from the highly climate-vulnerable countries of the Pacific. Their Pacific Regional Framework on Climate Mobility, adopted at the 52nd Pacific Islands Forum leaders meeting in 2023, identified 'staying in place, planned relocation, migration and displacement' as possible responses to climate change, emphasising the importance of cultural appropriateness, national sovereignty and collaboration. In 2026, Pacific governments launched the Pacific Regional Guidance on Planned Relocation, and they continue to work with the International Organization for Migration, the International Labour Organization, other UN bodies and the New Zealand government on both of these plans.

Bilateral initiatives responding specifically to climate migration are rarer than those at the international or regional level. A recent innovation is the Australia–Tuvalu Falepili Union treaty, signed in 2023. This is a legally binding treaty under which Australia makes a number of Australian permanent visas available to Tuvaluans per year, with the number negotiated annually. In return, Tuvalu agrees to 'mutually agree with Australia any partnership, arrangement or engagement with any other State or entity on security and defence-related matters in Tuvalu' (Australian Department of Foreign Affairs and Trade, 2024).

Despite the numerous international commitments to facilitate safe and legal pathways for migration, as detailed above, there are very few examples of states creating new legal and safe pathways for climate migrants.

National responses to climate change migration

In the absence of any binding international or regional legal protections and conventions specifically for climate migrants, states' unilateral immigration policies assume enormous significance for the experiences of those moving across national borders due to climate factors. Despite the numerous international commitments to facilitate safe and legal

pathways for migration, as detailed above, there are very few examples of states creating new legal and safe pathways for climate migrants. An exception is Argentina's humanitarian visa for people displaced by disasters, including climate disasters, in the Caribbean, Central America and Mexico, although it is not clear how many, if any, people have benefited from this visa to date (Huang, 2023).

Instead, most states have been tightening their borders against irregular migration, restricting access to asylum, and deploying increasingly sophisticated surveillance technologies to enforce border controls (McLeman, 2019; Waters, 2025). States of the global north, including the United States, Italy and a number of other EU member states, Australia and the United Kingdom, are exploring or have already implemented arrangements whereby asylum seekers and others looking for protection are sent to third countries for processing or repatriation. Additionally, such states have been providing financial support to neighbouring countries to bolster those countries' border controls. The European Commission, for example, has been providing northern African countries with billions of euros to strengthen those countries' capacity to prevent migrants from leaving their shores in an attempt to enter Europe. There is extensive evidence to show that migrants who have been detained, deported or constrained from moving under these arrangements have suffered a range of human rights violations (see, for example, United Nations Office of the High Commissioner for Human Rights, 2026a, 2026b). Such violations, along with the profoundly dangerous journeys irregular migrants take in the absence of safe and legal migration pathways, form part of what Fitzgerald (2020) calls 'an architecture of repulsion', aimed at deterring people from seeking asylum.

Collectively described as 'externalisation', such responses to irregular migration have been developed in a global context characterised by a radical shift away from the geo-political order of the post-Cold War era. Instrumental in this shift has been the second Trump administration's 'America First' strategy, which has seen the United States withdraw from many institutional forms of international cooperation established following World War II, as well as the Intergovernmental Panel on Climate Change and the Global Forum on Migration and Development (White House, 2026). In 2025 it suspended both its own refugee resettlement programme and the USAID programme, which provided support for many refugee camps around the world (Refugees International, 2026). It removed temporary protection status from over 1.5 million people granted such protection under previous administrations. Most dramatically, it initiated a highly publicised campaign of mass deportation of migrants, including some who were in the country legally, via an increasingly militarised Immigration and Customs Enforcement force (Kerwin et al., 2026).

Immigrant detention and deportations are not, however, the sole preserve of the global north countries. Pakistan and Iran, for example, have been conducting mass deportations of Afghani refugees in the last couple of years, despite an inability to ensure that the returnees will be safe upon return (Girotto, 2026; Human Rights Watch, 2026). Tunisia, Algeria and Libya have been expelling sub-Saharan African migrants and subjecting them to human rights abuses (MENA Rights Group, 2025; Speakman Cordall, 2024; UN News, 2025). India has been returning Rohingya refugees to Myanmar (Human Rights Watch, 2026), which continues to deny Rohingya citizenship and safety.

This is the political atmosphere within which discussions of climate change and its effects on migration are currently taking place at both the national and international level. A particularly challenging characteristic of this environment is the political ascendancy of actors who simultaneously oppose efforts to reduce carbon emissions and efforts to develop pathways for the safe and legal mobility of those who are already, and will in the future be, affected by climate change.

Affected communities need to be actively engaged, and risks should be managed proactively rather than after a particular community has already experienced devastating damage

Implications of climate migration for an Aotearoa New Zealand population strategy

In their 2026 case for a population strategy, Lala et al. (2026) identify uneven regional population growth, immigration and social cohesion as core issues for any future population strategy to consider. In this section we identify ways in which these three issues intersect with climate migration, along with some questions that such intersections raise for future policymakers.

First, because climate change is projected to affect every aspect of human life, the drafters of any future population strategy will need to plan for the wide spectrum of effects on Aotearoa New Zealand's own population, as well as on the natural and built environment that supports it. Ideally, this will include careful preparation for the 'planned relocation' of populations that currently live in regions that are vulnerable to climate-related natural hazards, such as sea level rise and flooding due to extreme weather events.

As Boston has argued, any adaptation measures, including planned relocation, require a thorough process of risk assessment that takes account of 'multiple, compounding and cascading risks, and of how risk profiles may change over time'. Affected communities need to be actively engaged, and risks should be managed proactively rather than after a particular

community has already experienced devastating damage (Boston, 2024). One question for those considering how to proactively deal with climate-vulnerable communities in Aotearoa New Zealand might be how to extend these same considerations to climate-vulnerable communities in other countries.

Second, unless there is a radical change in policy, immigration is undoubtedly going to be part of any policy response to Aotearoa New Zealand's ageing population and declining birth rates. A future population strategy might consider, then, whether Aotearoa New Zealand can and should include exposure to climate vulnerability as a consideration when making decisions about which migrants will be a part of Aotearoa New Zealand's solution to ageing and declining fertility and productivity.

There has already been a great deal of scholarly and government work on how Aotearoa New Zealand might respond to climate migration from the Pacific.[2] Successive governments have identified Aotearoa New Zealand as having a particular interest in and responsibility for the Pacific, and New Zealand has been working with Pacific as well as Asian partners on climate mitigation and adaptation (Ministry of Foreign Affairs and Trade, n.d.). To date, however, no new migration pathways have been created specifically for climate migrants from the Pacific or elsewhere. How might future immigration policies combine Aotearoa New Zealand's desire for migrants with climate migrants' need for somewhere to move to? Which climate-vulnerable regions, beyond the Pacific, might Aotearoa New Zealand want to focus on when developing such policies?

Third, social cohesion within Aotearoa New Zealand's ethnically diverse society relies on broad public support for immigration and immigrants, something that could be challenged by the threat of mass climate migration. A population strategy that wrestles with questions of how Aotearoa New Zealand might strengthen its own social cohesion will need to ask how public support for immigration can be sustained in the event of large-scale climate migration. The European experience since the so-called 'migration crisis' of 2015–16, illustrates how large-scale forced migration can trigger popular opposition to immigration and immigrants. The effects of such opposition are rarely confined to the domestic realm of immigration policymaking. To use the European example again, the nationalistic logic of radical anti-immigration parties across Europe has led such parties to also oppose international cooperation, including on climate action, and in international as well as domestic arenas.

A population strategy might usefully consider which narratives about climate migration will be most helpful in maintaining support both for immigration, and for the international cooperation needed to prevent catastrophic climate change. Data based on models of climate migration that include different migration policy scenarios will be important here.

Conclusion

It is clear that climate change is going to radically reshape where and how people live on planet Earth, even under the least terrible global warming scenario. The more warming there is, the more migration there will be. The more catastrophic the effects of climate change are, the more that migration will be forced, unplanned and irregular. The effects of mass forced migration can be highly consequential for both domestic and international politics. In this sense, every country's climate policies are also their forced migration policies, just as climate policies are also their food security, their infrastructure, their foreign and their population policies. Reducing global greenhouse gas emissions is, of course, the most significant effort the international community can make to reduce irregular migration. A final question for those planning for Aotearoa New Zealand's future demography and infrastructure might therefore be how to put climate change reduction at the heart of that future planning.

1 https://disasterdisplacement.org/the-platform/our-response/

2 See, for example, the thematic papers published by Auckland University: https://www.pacific-climate-research.auckland.ac.nz/product-catalogue/, and the University of Waikato: https://www.waikato.ac.nz/research/research-enterprise/pacific-climate-change-mobility-research-tonga-and-samoa/; also Ghosh & Orchiston, 2022 and Neef & Benge, 2022.

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