Long-term Projections & Scenarios under an Ageing Population

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New Zealand Treasury
Projections versus forecasts

Projections and forecasts are not the same thing

Forecasts are a best attempt to predict the future, via comprehensive modelling & expert opinion

Projections are potential paths, using assumptions based on historical averages of growth or levels

Depend greatly on forecast base & assumptions used & often build in no response to unwanted outcomes
But one of the more predictable future outcomes is this – because a lot of these people are alive now...
I think others plan to say more about demography so I will simply point out that the two big causes of this are reduced fertility and increased longevity.

People living longer, healthier lives is a cause for celebration, but it brings with it some challenges.

The sooner we act, both to reap benefits & mitigate problems, the better prepared NZ society, business and government will be for this demographic shift.
The public pension, New Zealand Superannuation (NZS)

New Zealand Superannuation (NZS) expenditure (gross) as a percentage of Nominal GDP in history and projections

- Budget 2000 projection
- Budget 2009 projection
- Current projection

Year ended June

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A picture is worth a 1,000 words - well 2 important messages anyway

With NZS recipients (~ 65+ popn) growing faster than the labour force (LF) & NZS rates linked to average wage growth, projected NZS to GDP steadily rises

That story hasn’t changed since Treasury’s first Long-Term Fiscal Statement in 2006 and even earlier

But projected rise has reduced, mainly due to higher GDP, in outturns & future expectations, & increased older age group LF participation is a major factor
The other major expense type that an ageing popn impacts - Health

Core Crown Health expenditure as a percentage of Nominal GDP in history and projections

- History
- Projection

Percentage (%)

Year ended June

- Bottom-up growth model
- GDP growth +1% per year approximation
Why does an ageing population drive up health expenses to GDP?

Link of ageing popn to NZS is clear. Health spending more complex & would rise even without ageing. As countries grow richer, spending on health lifts.

But ageing plays a role. 65+ age group was 14% of popn in 2013/14 & received 42% of health spend. Under 25s were 34% of popn & got 16% of spend

Also increased longevity will likely lengthen average time in rest home & other care
Even so, doesn’t projection look exaggerated compared to history?

Health expenses, if annual average growth from 96/97 to 10/11 continued, would be 11.6% of GDP by 2060. The GFC led to slower increases in health spending but this is unlikely to endure. A 2013 OECD paper projects NZ’s health spending to be 12.7% by 2060.

Over last 2 decades health spending’s annual average growth ≈ GDP growth +1%. Applying this disregards ageing popn effect, but still reaches 8.5% by 2060 (similar to 8.8% OECD cost containment scenario).
Keeping health to GDP+1% & NZS unchanged, what’s the big picture?

Net core Crown debt as a percentage of Nominal GDP in history and projections

- History
- Projection

Year ended June
Is that really the future outlook?

Simple answer is “No”. If it were, interest costs would exceed NZS by 2060 in unrestrained health option!

It is not a prediction, it is a warning signal. Spending and/or tax settings, or both, will need to change

Unrestrained borrowing is not the answer

There are many options to avoid this, but the longer we delay potentially the more severe they become
What changes could be made to keep the public accounts in order?

There are many options, & educating the public and politicians about these is one of the major reasons Treasury produces Long-Term Fiscal Statements

Here is one potential set of options – lift long-run tax to GDP by 1%, raise NZS eligibility age to 67 by 2027/28, restrict health growth to GDP+1% & reduce other spending so net debt ≈ 20% of GDP.

This is illustrative only. It is not Treasury advice.
And how does that look?

Net core Crown debt as a % of Nominal GDP - 1% higher tax, NZS at age 67, health growth at GDP+1%, some other spending reductions.
What does it mean for expenses, as %s of GDP over time?

Core Crown expenses as % of Nominal GDP in history and different scenario projections

- NZS
- Non-NZS welfare
- Health
- Education
- Other operational expenses
- Interest costs

History 1997/98
History 2017/18
Unconstrained 2059/60
Stabilised 2059/60
Some points, general & specific, about the last 2 graphs

Core Crown tax to GDP in the 4 times/scenarios are:
30.1% in 97/98; 27.9% in 17/18; 28.3% & 29.3%

Actual expense & revenue changes would allow net debt to GDP to follow a more level path than the parabola graph – that’s just a modelling constraint

A big difference between the 2 scenarios is the size of interest costs – rising debt builds on itself this way, so keeping debt under control stops this accelerant
The options shown are not official Treasury advice, are illustrative only & are among many choices that society has to address fiscal pressures.

Growing the economy via a more skilled, productive workforce using modern, efficient capital will also provide more income to cover higher expenses.

Living longer, healthier lives is a great outcome, but it brings both challenges & advantages. The sooner preparation for these begin, the better equipped we will be to reap the benefits & reduce the pressures.
How the realities of an ageing population inform the projections

Ngaire Kerse, Joyce Cook Chair in Ageing Well
School of Population Health
University of Auckland
Life Expectancy and Inequities

Life expectancy at birth (years)

- Maori females
- Non-Maori females
- Pacific females
- Maori males
- Non-Maori males
- Pacific males


Statistics New Zealand
The growing need

Approximately one-quarter of your retirement is expected to be “care years” where help may be needed with daily living activities.^

MALE LIFE EXPECTANCY (CURRENTLY AGED 65)

84.1 YEARS OF AGE

65 70 75 80 84.1

Without disability With some disability With severe disability

FEMALE LIFE EXPECTANCY (CURRENTLY AGED 65)

87.0 YEARS OF AGE

65 70 75 80 85 87

Without disability With some disability With severe disability

NZ population projection

Statistics New Zealand

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>85+</th>
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<tbody>
<tr>
<td>2016</td>
<td>83,000</td>
<td>85+</td>
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<tr>
<td>2038</td>
<td>214,000</td>
<td>85+</td>
</tr>
<tr>
<td>2063</td>
<td>384,000</td>
<td>85+</td>
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</table>
Māori and Non-Māori

Source: Statistics New Zealand – Māori ethnic group population by age and sex at 2015
Diversity of older people

Our older population is becoming more culturally diverse, and organisations will need to target more culturally appropriate information and services to older people.

- Our Māori and Pacific populations are much younger than our NZ European population. Therefore, most services for older people are aimed at NZ Europeans. **We will see large percentage increases in our older Asian, Māori and Pacific populations by 2026.**

Source: Statistics New Zealand population projections
Figure 2 Living arrangement, by sex and ethnic group.

Source: LiLACS NZ first wave of data collection

Note: living with spouse included partners

Source: LiLACS NZ

Note: Percentage of LiLACS NZ participants coded to each category. 'Critical' (assistance needed on a 24 hour basis or several times a day), 'Short' (daily assistance needed), 'Long' (assistance expected to be needed weekly), and 'Independent' (those not requiring any assistance on a weekly basis).
Figure 2: Proportion of LiLACS NZ participants with each interval of care need and their receipt of support services and residential care

Source: LiLACS NZ
Note: *Res Care - living in residential care at the time of the baseline interview
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Source: LiLACS NZ
Note: *Res Care - living in residential care at the time of the baseline interview
Estimated increase in population disability

**Māori**

245% incr critical
195% incr

**Non-Māori**

75% incr

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Figure 3: 2026 projections of Māori aged 80+ with critical, short or long interval care needs, as well as those who are expected to be independent.

Figure 4: 2026 projections of non-Māori aged 80+ with critical, short or long interval care needs, as well as those who are expected to be independent.

Source: LiLACS NZ 2010–11, Statistics NZ population projections 2011
Is it all down hill?
Stayed the same or improved

Women did better than men, Māori did better than non-Māori
No impact on HRQOL
Receiving support services

Informal care - daughters > sons

Closely associated with level of function
More women, more Māori received informal care
Support ratio 50-74/85+

Statistics New Zealand

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<tr>
<th>Year</th>
<th>Total 15:1</th>
<th>Women 7:1</th>
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<td>15:1</td>
<td>7:1</td>
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<tr>
<td>2033</td>
<td>8.8:1</td>
<td>4.6:1</td>
</tr>
<tr>
<td>2063</td>
<td>4.9:1</td>
<td>2.4:1</td>
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Hours of care/ week given to:

- Women
- Men
- Māori
- Non-Māori

The bar chart shows the average hours of care given to each group. The y-axis represents the hours, ranging from 0 to 40. The x-axis categorizes the groups as Women, Men, Māori, and Non-Māori.
Average yearly cost

Cost

$0
$5,000
$10,000
$15,000
$20,000
$25,000
$30,000
$35,000

<table>
<thead>
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<th>Women</th>
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<tr>
<td>Māori</td>
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<td>Non-Māori</td>
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THE UNIVERSITY OF AUCKLAND
FACULTY OF MEDICAL AND HEALTH SCIENCES
Trends in proportions of people aged 85+ in residential care.

Residential care – the beds

How low can we go?
The people in the beds

Dementia epidemiology NZ

Chart c: Prevalence projections by ethnicity, 2016 to 2038

Source: Deloitte Access Economics calculations
360 patients newly diagnosed with dementia by CMDHB memory service between 2013 and 2016.

142 NZ European (mean age: 79.2, SD 7.4)
43 Māori (mean age: 70.2, SD 7.6)
126 Pacific (mean age: 74.3, SD 7.6)
49 other ethnicities (mean age: 78.0, SD 8.5)

Difference adjusted for gender and dementia type:
Māori 8 years younger than NZ Europeans
Pacific 5 years younger than NZ Europeans

Cullum et al, 2018
Will we be more healthy?

30% reduction in prevalence of dementia 1988- 2011 *(CFASII 2017 Lancet)*

- 8.8% of 65+ (65,800 NZ 2016)
- 6.8% of 65+ (88,630 NZ 2038)

Severe disability may decrease and moderate disability increase

Disability in care will increase

Absolute numbers of 85+ with disability will increase

Most nations investing in prevention in midlife.

Realising the Longevity Dividend

Science for:
- Brain maintenance
- Reducing frailty
- Enabling environments
- Enhancing social support
LILAC study: Life and living in advanced age, the cohort study
Te Puāwaitanga O Ngā Tapuwae
Kia ora Tonu
n.kerse@auckland.ac.nz


make a donation at
The New Zealand Retirement Income Eco-system

Judith A. Davey, Senior Associate
Institute for Governance and Policy Studies. Victoria University of Wellington
The 2016 Review of Retirement Income Policy recognised the wider implications of an ageing population, and suggested -

“the retirement income framework is an eco-system, meaning ‘a complex network’ or ‘interdependent system’. The all-dominating subject of age of eligibility (for NZS) cannot be addressed without also acknowledging the interdependencies: the ageing workforce, the role of Kiwi Saver, decumulation options, and more.”
Retirement Income Eco-system –

What contributes to adequate retirement income?

Retirement Income Eco-system - What contributes to adequate retirement income?

**Govt. Policies**
- NZ Super (NZSF)
- KiwiSaver
- Health services
- Housing services

**Self-funding options**
- Earnings
- Savings
- Inheritance
- Medical insurance
- Decumulation
  - Downsizing
  - Retirement village
  - Equity release

**Social Trends and Attitudes**
- Longevity
- Home ownership
- Views on inheritance
- Views on savings
- Entitlement
Kiwi Saver (KS)

- The pros and cons of compulsion.
- Flexibility in contribution rates and timing.
- Impact of contribution gaps and early withdrawals.
- Options for the use of mature lump sums.
- And, looking further into the future - how will NZS and KS interact? Will KS put pressure on NZS? Could a two-tier system emerge with NZS as a “safety net”? 
Other government spending on retirement incomes

- Health Services - free hospital treatment, subsidies for GP consultations and residential care
- Accommodation Supplement
- Winter Energy Payment
- Super Gold Card
- Total Mobility Scheme
- Disability Allowances
- Targeted rent and rates rebates and some subsidies for hearing and other aides.
Decumulation/Self-Funding

- People contribute to retirement incomes from own resources – from earnings, savings and investments and by running down these assets.

- Given the need to supplement NZS to achieve an adequate income in retirement and the growing pressure on government support, decumulation may become a more important part of the policy mix.

- Influence of social trends and attitudes.
How to decumulate

- Invest KS lump sums and other savings, use returns for current needs, leave the capital for a “rainy-day”, or bequest.
- Draw down capital and interest regularly, based on a target income.
- Trade-down on housing or move into a retirement village.
- Commercial equity release schemes, mainly reverse mortgages.
- Commercial annuities.
Retirement Income Eco-system

Govt. Policies
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Social Trends and Attitudes
Entitlement and expectations
Home ownership
Inheritance
Extending working life
Longevity