

How much will New Zealand Superannuation really cost?

RPRC *PensionBriefing* 2010-4

This *PensionBriefing* looks at the Treasury's 2009 estimates of the long-term cost of New Zealand Superannuation. Is this new information? Do we really have a problem?

In summary

On a regular basis, the Treasury estimates the long-term fiscal position for future governments over coming decades. The Treasury's 2009 report (The New Zealand Treasury, 2009) is the latest such review. It reports a significantly worse overall fiscal position since the 2006 review, partly as a consequence of the global economic crisis.

Fiscal deficits mean increased current borrowing so that more future government spending will need to be focussed on interest payments and debt reduction. Also, an ageing population will mean that the spending on those aged 65+ will approximately double (under current settings).

However, what matters when discussing the future affordability of, for example, expenditure on the old is whether New Zealand's economic output grows sufficiently to support the increasing claims of the growing aged population. Showing costs as a proportion of New Zealand's future economic output is one way of expressing that connection. That presents a less alarming picture.

New Zealand Superannuation in brief

New Zealand Superannuation (NZS) is a universal, taxable pension, funded largely on a 'pay-as-you-go' (PAYG) basis from general taxation. It is paid to nearly all New Zealanders who are over age 65 and who have completed relatively modest residence requirements. The net married couple's rate is set between 66-72.5% of average 'ordinary time' earnings.

The NZS amounts depend on whether the person is married, single or living alone. From 1 April 2010, NZS at the married rate is \$14,592 p.a. before tax or \$29,184 in total for the couple. For a single person living alone, the annual before-tax pension is \$19,425 a year. NZS is taxed on an individual basis and is paid without regard for other income¹ or assets.

The New Zealand Superannuation Fund (NZSF) was established in 2001 to partially pre-fund future payments of NZS. The government has temporarily suspended contributions to the NZSF and has recently advised that it intends to resume those from 2019.

“Contributions to the Fund suspended until 2017/18. Contributions begin again in 2018/19, and are consistent with the New Zealand Superannuation and Retirement Income Act 2001.” (The New Zealand Treasury, 2010)

¹ Except where there is an analogous pension paid by another government.

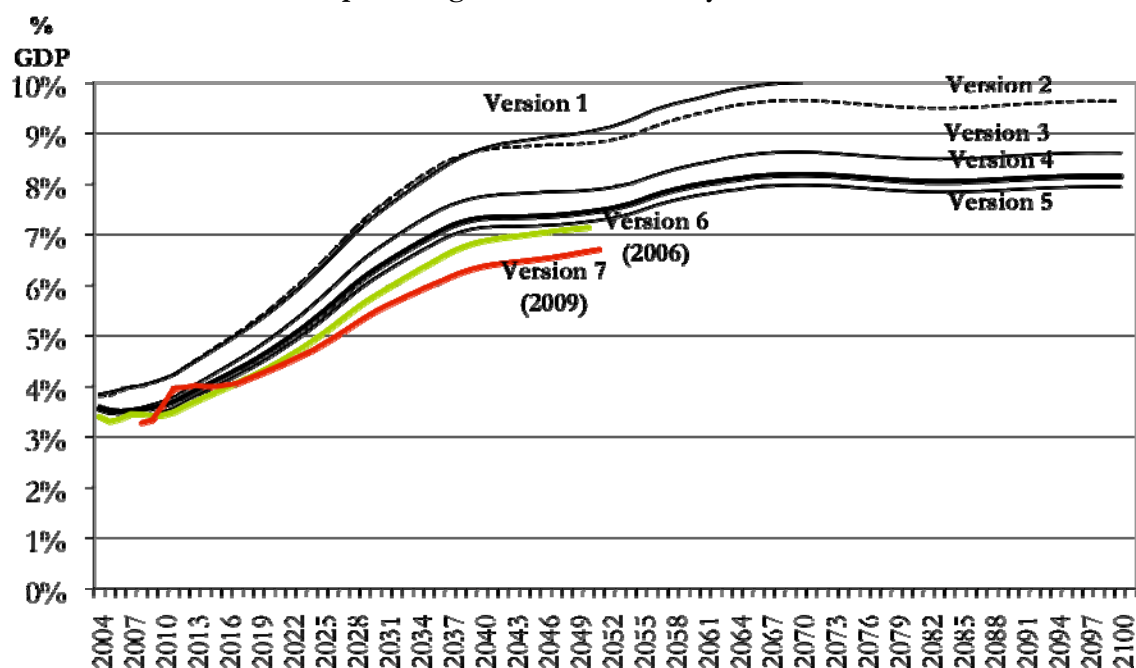
The presence of the NZSF does not affect the cost of NZS, the topic of this *PensionBriefing*, but will modestly affect the incidence of that cost. This generation of taxpayers has effectively been setting aside financial assets to help meet the future NZS outgo². Whether the NZSF will actually lower future taxes during the drawdown is a separate issue and will depend on political decisions at the time. There can be no assurances that it will. Taxes will be higher when contributions to the NZSF resume; there can be no guarantee they will be lower during the drawdown than would otherwise have been the case in the absence of the NZSF. A future government could simply raise overall taxes.

The cost of New Zealand Superannuation will increase

As the baby boomers move beyond the state pension age (age 65), NZS will cost taxpayers more. Approximately 522,000 New Zealanders now receive NZS at a cost in 2009 of \$7.7 billion, before tax. The number of pensioners is expected to be 1.3 million by 2050 (The New Zealand Treasury, 2009, p. 53).

The Treasury has been publishing regular estimates of the rising cost of NZS since 2000³. Chart 1 plots the results of seven different versions of the 'Long-Term Fiscal Model' (LTFM). They show the estimated net cost of NZS, expressed as a percentage of Gross Domestic Product (GDP) in the year of payment. Whereas Versions 2-5 showed the position through to 2100, the two most recent Versions 6 and 7 look at the period only to 2050.

Chart 1: Net cost of NZS as percentage of GDP – Treasury models 2000-2009⁴



Between Version 6 and Version 7, the 2050 end-point fell from an estimated 7.13% of GDP in 2006 to 6.70% in 2009, an apparent reduction of 6%. As the chart shows, the most recent 2009 estimates are from about 2018 lower than all previous six estimates.

² Whether the NZSF has been effective to date, or even whether it is an appropriate strategy for the country to adopt should be the subject of review: see Littlewood (2010).

³ The current (2009) Long Term Fiscal Model (LTFM), a spreadsheet, is available at <http://www.treasury.govt.nz/government/longterm/fiscalmodel/index.htm>.

⁴ Source: author's own calculations from data extracted from each model.

These estimates take no account of any drawdowns from the NZSF. As mentioned, the cost of NZS in each year is the total of NZS payments in that year. For this purpose, it does not matter from which ‘pocket’ the government takes the amount required.

Comments on the Treasury’s model

Given the uncertainties that accompany a projection of only one or two years in the government’s annual Budgets, looking 40 or more years out seems ambitious, to say the least. However, for the reasons discussed below, the government’s policy advisers attach considerable significance to these kinds of projections so they (and their limitations) need to be understood.

Chart 1 plots the LTFM’s projections based on:

- The ‘numerator’ being estimates of the after-tax amounts of NZS payable to the estimated number of New Zealanders then aged over 65, based on further estimates of the then after-tax national average wage (on which NZS is based);
- The ‘denominator’ being estimates of New Zealand’s economic output (GDP) in each of the years concerned.

There is a connection in this analysis between the numerator and the denominator used in each year to calculate the estimated cost of NZS. In 2008, approximately 44% of New Zealand’s GDP was represented largely by the wages that are then used to calculate NZS. As the wage share of the denominator in the equation changes, so too does the numerator (NZS). If, for example, the proportion of GDP represented by wages grows then, because NZS is linked to wages, the proportion of GDP represented by NZS will also grow.

In fact, employees’ compensation as a proportion of GDP has fallen from about 55% in the early 1980s to less than 45% in the 2000s: 44% in 2008 (Statistics New Zealand, 2008). Based on the 2008 proportion, guesses about the other 56% of the economy have considerable potential to change the shape of Chart 1.

The seven versions of the LTFM illustrate significant changes in both the possible costs of NZS and the size of the New Zealand economy.

The models’ estimates of the cost of NZS – the numerator

Table 1 shows the cost of NZS in ten-year intervals from each of the seven versions of the LTFM.

Table 1: The net cost of NZS measured in dollars of the LTFM's Version year						
	2010 bn	2020 bn	2030 bn	2040 bn	2050 bn	% change 2010-2050
V1 - 2000	\$6.61	\$12.02	\$21.37	\$33.26	\$45.63	+590%
V2 – 2000	\$6.70	\$12.40	\$22.23	\$34.42	\$46.95	+601%
V3 - 2003	\$6.51	\$12.65	\$23.83	\$38.75	\$55.53	+753%
V4 - 2004	\$6.63	\$12.84	\$24.28	\$38.79	\$57.46	+767%
V5 – 2005	\$6.51	\$12.61	\$23.83	\$39.04	\$56.34	+765%
V6 – 2006	\$6.43	\$12.55	\$24.06	\$40.62	\$60.29	+838%
V7 - 2009	\$6.92	\$12.46	\$23.50	\$39.28	\$59.40	+758%
% change 2000-2009 – nominal \$	+4.7%	+3.7%	+10.0%	+18.1%	+30.2%	-
% change 2000-2009: 2000 dollars	-17.8%	-18.6%	-13.7%	-7.3%	+2.1%	-
% change 2006-2009: 2006 dollars	-0.4%	-8.2%	-9.7%	-10.5%	-8.9%	-

Each of the seven versions of the LTFM shows the nominal dollar cost of NZS increasing by about 6-8 times over the 40 years to 2050 (the final column in Table 1).

However, that rate of increase need not necessarily be alarming. That is because each year's NZS actually represents a claim on New Zealand's total economic production in that year. So, regardless of the dollar cost of NZS in any year, what really matters is the size of the economy in that year because that will determine the *relative* cost of NZS.

It is important to emphasise that the dollars in Table 1 are not comparable between each year's LTFM Version. Each row of the table is expressed in dollars of the year in which that Version was run. For example, V1–2000 gave the 2010 cost of NZS as \$6.61 billion.

Based on the Reserve Bank's *New Zealand Inflation Calculator*⁵, \$6.61 billion in mid-2000 (V1-2000) is the same in real terms as \$8.42 billion in mid 2009 (when V7-2009 was run). Despite what the dollar estimates in Table 1 suggest (an apparent increase from \$6.61 billion to \$6.92 billion), the real cost of NZS in 2010, measured against changes in the Consumer Price Index over the nine years to 2009, has actually fallen by 17.8% over that period.

It is only in the 2050 column that the expected cost for 2009 exceeds the real cost of the V1-2000 estimate (+2.1%).

It is worth noting that, even measured in nominal dollars, the 2000 estimate (V1-2000) of the \$6.62 billion expected cost of NZS 10 years after the calculation (in other words, for 2010) is relatively close to the actual cost expected in 2009 of \$6.92 billion (+4.7%).

⁵ <http://www.rbnz.govt.nz/statistics/0135595.html>

The models' estimates of the size of GDP – the denominator

Because the 'affordability' of given dollar values of expected NZS benefits will be driven by New Zealand's capacity to pay retirees those benefits (economic output), it is important to understand what the LTFMs have said about expected estimates of output over the nine years.

Table 2 shows the LTFMs' estimates of Gross Domestic Product or GDP. The table gives ten-yearly GDP numbers from each of the seven LTFM Versions. Again, the dollar values in each row of Table 2 are expressed in dollars of the year in which that version was run.

	2010 \$bn	2020 \$bn	2030 \$bn	2040 \$bn	2050 \$bn	% change 2010-2050
V1 - 2000	\$159.26	\$219.94	\$289.16	\$382.27	\$506.39	+218%
V2 – 2000	\$161.61	\$224.45	\$296.56	\$396.85	\$532.76	+230%
V3 - 2003	\$175.68	\$256.20	\$355.56	\$499.76	\$704.71	+301%
V4 - 2004	\$182.85	\$273.52	\$384.32	\$542.99	\$771.62	+322%
V5 – 2005	\$185.96	\$275.48	\$387.32	\$546.42	\$776.14	+317%
V6 – 2006	\$187.58	\$286.63	\$414.94	\$591.52	\$845.18	+351%
V7 - 2009	\$175.05	\$282.80	\$420.35	\$613.44	\$886.32	+406%
% change 2000-2009: nominal \$	+9.9%	+28.6%	+45.4%	+60.5%	+75.0%	-
% change 2000-2009: 2000 dollars	-13.7%	+0.9%	+14.1%	+26.0%	+37.4%	-
% change 2006-2009: 2006 dollars	-13.7%	-8.7%	-6.3%	-4.1%	-3.0%	-

A number of observations can be made about the results in Table 2:

- a) **GDP up in each Version:** As a whole, the results across all of the LTFM Versions show that New Zealand's GDP in 2050 is expected to be between 3-5 times the 2010 values (the final column in Table 2).
- b) **Not necessarily in real terms across Versions:** Whereas across all seven Versions there was a significant increase in the nominal values from 2000 to 2009, again what matters is the change in inflation-adjusted dollars. On this measure, the 2009 estimate of 2010 economic output (\$175.05 billion) is expected to be about one seventh lower than was expected by the 'V1-2000' LTFM to be in 2010 (the third row in Table 2), nine years after the 2000 estimate was run. That reduction in the value of the denominator potentially makes NZS in 2010 look more expensive than the 'V1-2000' LTFM expected.
- c) **2009 significantly down:** More significantly, for our purpose, is the significant reduction in GDP estimates in the three years between 'V6 2006' and 'V7 2009'. At each of the ten yearly measurement points to 2050 in Table 2, the LTFM now estimates that the size of the economy will be less in real terms (V7-2009) than V6-2006 guessed that it might have been.

Drawing the estimates together

The results shown in Chart 1 show the combined effect of changes in the estimated costs of NZS expressed as a proportion of the estimated size of New Zealand's future

economy. In 2009, the Treasury expressed concerns about the effect of demographic changes on New Zealand's future economy:

“The main issue with NZS is its long-term affordability. Shortly after the present pension system was introduced in 1977 (accompanied by a lowering of the eligibility age from 65 years to 60 years, and a rise in the payment from 65% of the average wage to 80%), the fiscal cost rose to around 8%⁶ of GDP. The subsequent lowering of the relativity with wages and raising of the age of eligibility through the 1990s, fewer retirees and a growing economy have brought the ratio of total payments of NZS to GDP closer to 4%. But the accelerating ageing of the population suggests that by mid-century the ratio will return to 8%, or more. Unless there is policy change or an acceptance that this would mean increasing public debt, funding this would require cutting other expenditure, or lifting tax rates.” (The New Zealand Treasury, 2009, p. 54)

In this context, the Treasury raised options for the future of NZS such as:

- lifting the state pension age (currently age 65);
- shifting the annual review from increases that are based on changes in wages to reviews based on inflation;
- income-testing, such as in Australia.

Whether or not these are issues that New Zealand should discuss, it is clear from Chart 1 that the expected future real cost of NZS measured in the nine years covered by the LTFM calculations has actually fallen, benchmarked against GDP. In fact, the 2050 estimate of the expected net cost of NZS has reduced from 9.0% of GDP in V1-2000 to 6.7% of GDP in V7-2009 (a reduction of 25.6%). Most of that is attributable to the real improvement in GDP (+37.4% in 2050 as shown in Table 2). While it is true there is an “accelerating ageing of the population”, this had been expected in earlier estimates of the costs of ageing.

What has changed between just 2006 and 2009 is the LTFM's estimates of the size of New Zealand's economic output (GDP). That is now estimated to be about one seventh less in 2010, improving gradually, but still a 3% reduction even by 2050. However, even by 2020, inflation-adjusted GDP is expected to be higher than the 2006 estimate (+0.9% as shown in Table 2).

This emphasises the importance of economic output and, for the security of today's and tomorrow's pensioners, the importance of increasing that output at a faster rate than the latest version of the LTFM presently projects. For many more reasons than just the affordability of NZS, how to make New Zealand more productive should be at the centre of discussions about the economic implications of an ageing population.

NZS not the only concern

NZS is not the only significant cost issue presented by an ageing population. The Treasury's 2009 report also described the likely future increases in health costs. The government's expenditure on health is expected to increase from 6.9% of GDP (\$12.9 billion) in 2009 to about 10.7% of GDP in 2050 (The New Zealand Treasury, 2009, p. 37). A lot of that expenditure is naturally related to older people.

“Challenges and Choices”

An ageing population presents challenges for future governments but the information presented in the Treasury's 2009 report is not new.

⁶ This is before income tax – the after-tax cost is somewhat lower at 6.7% - see Chart 1.

On the issue of NZS, not much has changed since the report of the Task Force on Private Provision for Retirement nearly 18 years ago (Task Force on Private Provision for Retirement, 1992). The expected expenditure patterns shown in Chart 1 echo what the Task Force called ‘the wavy blue line’ (the chart shown at page 37 of the report).

What has not changed is New Zealand’s seeming unwillingness to talk about the implications of the expected, and now closer, outcomes. That seems at least to be the position of all the political parties. Much political blood has been spilt on this issue over the last 35 years so we should not be surprised at this reticence. However, based on the present government’s statements, probably not much will change in the next few years.

For comments on this briefing paper and for further information please contact:

Michael Littlewood
Co-director, Retirement Policy and Research Centre
University of Auckland
Private Bag 92 019
Auckland 1142
New Zealand

E Michael.Littlewood@auckland.ac.nz

P +64 9 92 33 884 DDI

M +64 (21) 677 160

<http://www.rprc.auckland.ac.nz>

<http://www.PensionReforms.com>

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