

Reforms to New Zealand Superannuation Eligibility are they a good idea?

Introduction

The National-led government of Prime Minister Bill English recently announced changes to the eligibility rules for receipt of New Zealand Superannuation (NZS). In 2037 the age from which New Zealand residents become eligible to receive NZS will begin to rise – by six months each year – from the current age of 65 to reach 67 by July 2040. Residency requirements will also rise, to 20 years from ten (five of which must be after age 50).¹ This is a dramatic change for the new PM, who had been part of the previous Cabinet under Prime Minister John Key which, since 2008, steadfastly

refused to consider changing the eligibility conditions for NZS. Treasury projected that without such changes the fiscal costs of NZS would rise from 4.8% of GDP in 2015 to 6.3% in 2030, reaching 7.9% by 2060 (Treasury, 2016).²

This article addresses two key NZS policy-relevant questions. Is it sensible to raise the age of eligibility? And is the timing – delaying adjustments until 2037-40 – appropriate? Initial public debate on both these questions has focused on two aspects. First, is raising the age to 67 consistent with intergenerational equity? Second, by delaying the changes for another 20 years, has ‘the horse already bolted’? That is, does the future fiscal affordability of NZS require more urgent change? The next sections address each of those issues in turn.

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Table 1: Ageing, pensions and intergenerational equity

Ageing: generation	P/T _{i+1}			P/T _i		
	None	Longer retirement	Reform	None	Longer retirement	Reform
1	0.46	0.46	0.46	1.50	1.50	1.50
2	0.46	0.53	0.47	1.50	1.73	1.60
3	0.46	0.61	0.50	1.50	1.97	1.70
4	–	–	–	1.50	2.24	1.80

Intergenerational equity

The first problem with assessing impacts on intergenerational equity is defining it. Sidestepping the issue of what is meant by a ‘generation’, in the context of state pension provision, intergenerational equity is often represented as an equal contribution by each generation to fiscal balances (taxes paid and pensions received).³ This is usually taken to mean that currently working taxpayers, funding pensions for the previous generation of workers, now retired, should be able to rely on the same pension benefits when they retire, paid for by the next generation of working taxpayers.⁴ This is the basis of a so-called PAYGO (pay as you go) superannuation system, whereby current pensions are paid for out of current tax revenues.⁵ Coleman (2012) produced New Zealand estimates of net tax paid to fund pensions and the pensions received on average since 1976. These indicate that New Zealanders have typically paid taxes during their working (and retired) lives that amount to less than half the value of the pensions they receive.⁶

This may seem unsustainable, but need not be. Consider the New Zealand case, where the state pension is indexed to wages. In any accounting period pension expenditure, E_p, equals the average pension received, p, multiplied by the number of pension recipients, N_p:

$$E_p = pN_p \tag{1}$$

In a PAYGO system the tax revenue required to pay for pensions, T_p, is levied in the same period and can be described by:

$$T_p = atwN_w \tag{2}$$

where t is the average tax rate applied to wages, w, N_w is the number of taxpayers, and a is the fraction of tax revenue used to finance pension spending. (For simplicity it is assumed here that only workers

pay tax, and only non-workers receive pensions.) Setting (1) equal to (2) gives the tax rate required to finance pensions:

$$t = (1/a)(pN_p/wN_w) \tag{3}$$

Equation (3) can be thought of as applying to different cohorts or generations, illustrating the components contributing to intergenerational equity. In particular, intergenerational equity might reasonably be taken to imply that the tax rate, t, should be constant across generations. Similarly, the fraction of tax revenue used to finance pensions (and hence unavailable for other public spending), a, should remain constant. This leaves the term (pN_p/wN_w) on the right-hand side of (3) and raises the question of whether intergenerational equity requires that p/w is constant across generations – a constant average pension relative to the average wage – or requires that the ratio of total pension spending to total wages, pN_p/wN_w, is constant across generations, or both.

If there is no population ageing, then N_p/N_w is constant and the question is irrelevant. But with population ageing, N_p/N_w will increase over succeeding generations such that p/w would need to fall to keep pN_p/wN_w constant.⁷ Thus, should intergenerational equity require that each *individual* in each generation is treated equally or that each generation *as a whole* is treated equally? The former view (p/w constant) inevitably implies less private spending in the later, more aged generation, and/or less tax to spend on other public transfers or services. But this also seems inconsistent with intergenerational equity.

A longer version of this article, Gemmell (2017), illustrates these impacts of ageing using an overlapping generations simulation for a simplified case where a new (equal-sized) generation, i, is born

every 30 years, and each individual works for 40 years, retires at age 65, then lives for a further 20 years. All individuals earn wages and pay tax at a constant tax rate while working, then receive a pension but pay no tax when retired. The pension level, p, is set at a fraction of the current average wage, w. Based on setting the p/w = 0.25 for each i = 1 – 4, the model yields values for total pensions (P_i) and tax revenues (T_i). Table 1 shows the resulting ratios of generation i’s pensions to their own tax payments, and to the tax payments of the next generation (P_i/T_i and P_i/T_{i+1}).

The table shows three scenarios: no ageing; ageing in the form of two years’ longer retirement for each successive generation; and a ‘reform’ case where pension receipt for generations 2–4 is delayed by one, two and three years respectively. When there is no ageing both ratios remain constant across generations. However, with ageing (longer retirement), both ratios increase across generations and are inconsistent with intergenerational equity: later generations have to commit a higher fraction of their incomes to support the previous generation. The ‘reform’ case, however, moves the two ratios substantially towards the no-ageing case of P_i/T_{i+1} = 0.46 and P_i/T_i = 1.5, suggesting that suitable ‘tweaking’ of retirement ages in response to increased longevity can deal with those fiscal dimensions of intergenerational equity.

Finally, the above analysis assumes that policy continues to link future pensions to future wages. If this policy was to alter, for example by instead indexing pensions to price inflation, then, as equation (3) makes clear, there is greater potential for increased intergenerational inequity as p/w falls over time.

Non-fiscal intergenerational equity dimensions

Some recent arguments suggesting intergenerational inequities in current superannuation arrangements or the proposed reforms relate to other intergenerational equity dimensions. These include concern that baby boomers (born approximately between the mid-1940s and mid-1960s) have benefited from a particular generational advantage. They are a historically large cohort – due to the post-war ‘baby boom’ – which can afford to retire at or before age 65, and with expectations of a longer retirement period than previous generations. The allegation is typically that this advantage is at the expense of a larger burden on the current/next generation of wage earners to fund baby boomer pensions.

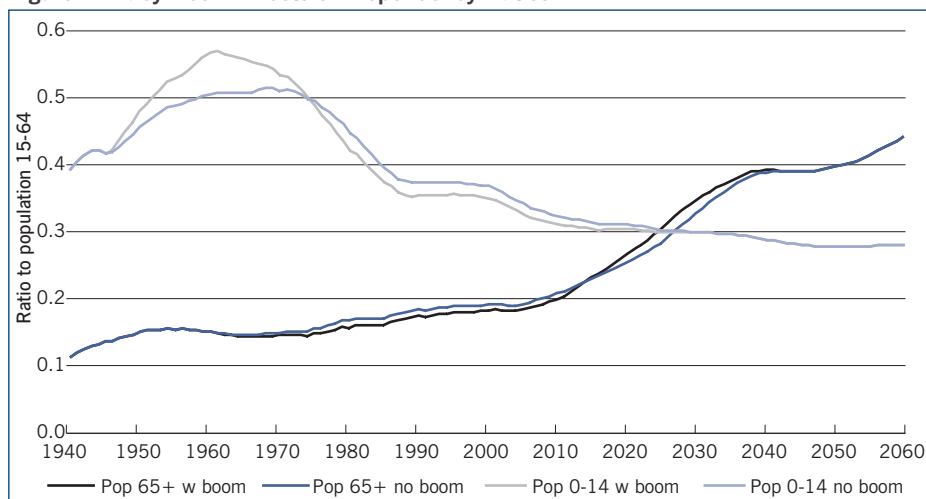
But this ignores two other important intergenerational equity dimensions. First, there are non-fiscal generational transfers *from* baby boomers *to* later generations. Second, most of the fiscal-related intergenerational equity phenomenon has little to do specifically with the baby boomer generation. Each of these argument is examined in turn below.

Transfers from baby boomers

The phrase ‘standing on the shoulders of giants’, used by Isaac Newton in 1676 to describe his scientific advances, also captures the externalities that each succeeding generation benefit from due to the advances (scientific, economic, social etc.) made by previous generations. Few would deny, for example, that the considerable sacrifices of the suffragette movement in the 19th century brought many and substantial benefits to later generations of women – and society more broadly – that far exceeded the benefits they themselves enjoyed from their efforts.

Likewise, the post-World War II decades witnessed increases in per capita incomes in New Zealand such that average real income in 2013 was around 2.5 times average real income in 1950.⁸ Reliably identifying the sources of this income growth is a complex exercise, but it undoubtedly arose in part in response to the entrepreneurial activity, innovation and investment by the post-1950 generation.

Figure 1: Baby Boom Effects on Dependency Ratios



Source: NZ Treasury (2013a, p.18)

Much of this would involve sacrifices of current consumption to generate higher future incomes which both reward the investing generation and provide a higher platform of living standards (the giant’s ‘shoulders’) that later generations can enjoy and from which they can launch further income growth. The baby boomer generation has therefore in some sense ‘bequeathed’ an externality of higher living standards on future generations, and from which their state retirement incomes are funded.

A baby boomer-specific problem?

Despite much popular rhetoric, the intergenerational ‘fiscal transfer’ due to population ageing is associated only to a limited extent with the baby boomer phenomenon. This is illustrated by Figure 1, from Treasury (2013a). This shows two forms of age dependency ratio: the population aged 65+, and the population under 15 years, both as ratios of the population aged 15–64 years. The figure covers the period from 1940, with future years based on Statistics New Zealand’s median demographic projections to 2060.

Two profiles are shown for each dependency ratio, based on (1) actual data (‘w boom’); and (2) a hypothetical ‘what if’ scenario assuming no baby boom in post-war birth rates (‘no boom’). It is clear from Figure 1 that, although there was a substantial boost to the under-15 age group in the mid-40s to mid-60s period, the impact of this 40–50 years later on the 65+ dependency ratio is relatively small.

The increasing upward trend in the 65+ ratio from around 2010 is not substantially due to the earlier baby boom. Rather, it is due to the various medical and other advances, especially in the post-war period, which raised the survival rates of children and the longevity of the elderly. Combined with a steady decline in fertility rates over this period, the outcome is a sharp rise in the 65+ age ratio which is first evident from the 1970s and is expected to continue for at least several decades into the future.

Debate over retirement income policy reform could, therefore, usefully focus more on how to deal fairly with a general and persistent ageing phenomenon (which, of course, brings many benefits to future generations), and less on whether baby boomers have gained some form of unfair generational advantage.

Educational (dis)advantages?

A commonly heard intergenerational equity argument regarding an especially favoured baby boomer generation relates to their state-funded education, particularly at the tertiary level. Whereas the costs of baby boomer tertiary education were generally heavily subsidised by the state, this is much less true for recent cohorts of tertiary students who have to privately fund a larger fraction of their tertiary education. With expectations of delayed retirement (via an increased age of eligibility for NZS), it can seem that current and future generations of young people are being fiscally squeezed at both ends of the life cycle, compared especially to baby boomers.

There is some merit to this argument. The growth in public spending in the post-World War II period was associated with unsustainably rising public debt, especially from the 1970s. It provided a sizeable subsidy to those 18–25-year-olds who entered tertiary education, but was progressively withdrawn from later cohorts when governments began to recognise the need for greater fiscal restraint in the 1980s.

However, before concluding that this post-1980s restraint represents an inter-generational inequity, it is worth noting two pertinent aspects. First, the fraction of the student-age cohort entering tertiary education has been steadily rising over the 20th century. As a result, the *total subsidy*

be argued that concerns about intergenerational equity should not simply focus on whether a given generation is treated fairly relative to *future* generations, but also with respect to *past* generations. By its nature economic growth necessarily treats early (relative to late) generations ‘unfairly’ by virtue of the lower living standards the former experience. Since this ‘inequity’ cannot be corrected *ex post*, it begs the question whether, with growing incomes, policy should aim to favour each current generation to some degree by utilising resources that would otherwise accrue to future generations. Of course, difficulties identifying how much favouring is appropriate and how inevitable

the especially rapid increase in the over 65s occurs around 2010–40. But changes to any pension arrangement require a reasonable lead time to give those approaching retirement opportunity to adapt to reduced future incomes. The best time to act – or at least to consider it seriously – was therefore well before 2010 so that suitable funding arrangements could be put in place and the relevant trade-offs addressed.

This was indeed the driving force behind the ‘Cullen Fund’ set up in 2001, to pre-fund the expected increase in NZS due to ageing, although substantial payments *out of* the fund are not expected until the 2050s at the earliest. So, there is an argument that the age of eligibility for NZS should have been raised some time ago to make it more fiscally affordable and to improve intergenerational equity. At least *notification* some time ago of an increase around 2020 would have made sense, enabling eligibility changes to better match the post-2010 boost in NZS spending. But, having delayed the decision to 2017, the proposed 20-year lead time before implementation represents a compromise between tackling the imminent fiscal ‘problem’ while giving those currently aged in their 40s and 50s enough time to prepare for delayed NZS receipt.

Gemmell (2017) compares the proposed lead times between announcement and implementation for NZS changes with similar reforms in various OECD countries. This suggests that the New Zealand government has selected one of the longer lead times for its NZS eligibility increase. Given the imminent sharp increase in the 65+ population noted above, arguably a shorter period before implementation could have been justified.

In summary, the ‘NZS ageing’ horse hasn’t bolted. Persistent population ageing will require continued scrutiny (and probably upward adjustment) of the age of NZS receipt. But, by delaying a decision to 2017, with implementation from 2037, recent New Zealand governments have bequeathed to future governments an imminent, rapidly growing fiscal commitment for NZS payments. This will undoubtedly lead to more difficult trade-

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for earlier cohorts of students may be much less than that for recent and current cohorts. For example, data on university enrolment and population by age group shows that the ratio of enrolled students to all 15–24-year-olds rose from 4.2% in 1951 to 28.5% in 2013, and trebled from 1971 when most baby boomers were in the relevant age group.⁹ So, even if *per capita* real state subsidies to tertiary education are more limited for recent student cohorts, the *total* real tertiary subsidy seems likely to be greater. In addition, with greater numbers entering tertiary education recently, working life begins later, on average, for those cohorts.

Finally, it was argued earlier that, like generations before them, the baby boomer generation ‘bequeaths’ a positive externality on future generations in the form of higher living standards. However, it could

uncertainties surrounding future generations’ economic conditions should be treated render these intergenerational equity judgements extremely difficult in practice.

Has the horse already bolted?

Even if, in principle, raising the age of eligibility for NZS represents a move towards greater intergenerational equity, is the proposal to delay it to 2037–40 sensible?

As is well known, Prime Minister Key refused to consider increasing the NZS age when seeking election in 2008 despite Treasury showing that there was a strong case for considering it (Treasury, 2006). Labour finance minister at the time Michael Cullen was also rumoured to have dismissed the 2006 report as ‘alarmist tendentious nonsense’. As Figure 1 shows,

offs over the next 10–20 years over how far taxes should rise to pay for this increased fiscal burden, and how far to compromise on other public spending objectives potentially impacting disproportionately on those under age 67. However, both retired and working individuals over this period will be likely to face the consequences of those choices. Inevitably there is no single ‘best choice’ here. Decisions of whether and when to raise the age of NZS eligibility involve several interpersonal and intergenerational trade-offs where preferences and value

judgements legitimately vary across individuals.

- 1 Details of the changes and the case for change are set out in New Zealand Government (2017).
- 2 A cut of around 1% of GDP by 2060 is projected if the age of eligibility for NZS is increased to age 67 in the 2020s.
- 3 There are, of course, much wider definitions of intergenerational equity beyond fiscal dimensions. For example, environmental debates often focus on the intergenerational impacts on natural capital stocks: see Gemmell (2017) for more details.
- 4 How ‘the same pension’ is defined is often unclear in intergenerational equity debates. It could be defined as constant in real dollar terms, relative to the wages earned by retirees when they were working, or relative to the wages of the current workers paying the wages of current retirees.
- 5 The alternative is a SAYGO (save as you go) system, where each cohort of workers pays for its own future pensions through age-related savings schemes, usually involving some tax-favoured status. See Creedy and Van De Ven (2000).

The New Zealand system is essentially PAYGO with a small recent SAYGO element through KiwiSaver.

- 6 Coleman’s ‘pension-financing taxes’ are based on assuming that all the value of pensions paid in a given year are effectively entirely tax-funded, i.e. ignoring the allocation of any public deficit-financed expenditures.
- 7 Note that if the population ages purely via people living longer, this can be represented as a population increase for the additional years in which the relevant individuals now remain alive: see below.
- 8 See <https://data1850.nz>.
- 9 Census age groups are 15–19 and 20–24: see Gemmell (2017).

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