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Retirement Policy and Research Centre

Decumulation: Time to act

Commissioned report prepared for the Commission for Financial Capability's 2019 Review of Retirement Income policies:

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“An Assessment of decumulation of retirement savings and other assets, including how the Government can ensure New Zealanders make the most of their money in the decumulation.”

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1. Introduction

This report focusses on the policy questions around how people can best draw on their savings to support their expenditure in retirement. Facing many unknowns, the 'decumulation' of retirement savings can be a daunting proposition. New retirees have to worry about how long their retirement savings will last, how long they will live, in what state of health, and whether inflation or poor investment will decimate their capital. We examine whether there is a role that government might play to ensure better support for the decumulation phase. A possible role in annuities is suggested.

Decumulation:

The process of running down savings in retirement. It may entail changing a capital sum or asset into an income stream via drawdown, annuity or pension.

Background to debate in New Zealand

This background paper builds on the previous contributions to these policy debates. A

Annuity

Exchange of a lump sum for an annual income stream that continues for life.

number of reports prepared since the early 2000s for various retirement reviews have examined the role of annuities as part of a decumulation strategy, (Berthold, 2013; Hurnard, 2007; Rashbrooke, 2006, 2008; St John, 2003, 2004, 2009). The Capital Markets Development Taskforce (2009) highlighted the need to find "a more comprehensive and efficiently priced range of products to help [the individual] in or close to retirement manage the risk that they will exhaust their savings before they die". Since then there has been a series of forums: the proceedings of a 2012 symposium of experts from New Zealand and abroad at the University of Auckland was published (Retirement Policy and Research Centre, 2012), and a second symposium in 2015 is summarised in Dale (2015). As part of the Retirement Interest Group, actuaries O'Connell et al (2015) provided a comprehensive overview of various proposals for streaming income, annuities and rule of thumb solutions. Since then two forums have debated decumulation: the 2016 Retirement Income Review (St John, 2016a), and the Financial Services Council conference (St John, 2018). In the meantime, although a fledgling private annuity product, Lifetime Income, has emerged, New Zealand still has no real annuities market.

The evidence of substantial state intervention in countries that have a viable annuities market reflects the obvious and widespread 'market failure problem' of annuities.³ Conversely, the demise of the New Zealand annuities market following the abandonment of tax breaks and policies that compelled life annuities from certain superannuation schemes demonstrates the reality of market failure when there is no explicit state intervention.

Against this background some argue there is an opportunity for the Government to step in and develop an annuities market, with intervention justified by the improvement in

³ For discussion of interventions for Netherlands, Denmark and Germany see Huang & Curtin (2019).

well-being in society. Beneficiaries of such annuities may be the individual, their family, and taxpayers. Others believe that the state pension, New Zealand Superannuation (NZS), provides a perfect annuity of sufficient size and that other drawdown products for retirees' other savings are more appropriate.

The rationale for retirement incomes policies

To assess whether retirement incomes policies in 2019 for decumulation can be

<p>What is the aim of Retirement Income Policies?</p>
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- | |
|--|
| <ul style="list-style-type: none">• To alleviate poverty?• To prevent poverty?• Belonging and participation?• Income continuance? |
|--|

improved it is helpful to clarify the intended outcome of current policies. A widely accepted goal of policy is that people should have an income adequate to their needs throughout their entire retirement. What does the aim of 'income adequacy' mean and for whom?

If the goal is to ensure that old age poverty is alleviated only when it occurs, then a means-tested benefit after need is established may be the obvious policy tool. To go further and prevent poverty from occurring in the first place, a universal basic price-adjusted pension might ensure that no-one falls into absolute poverty.

A more ambitious goal could be to ensure that all people have enough income to feel they belong to society and can participate in activities with their peers. Here, a universal, flat rate, wage-adjusted pension (like NZS) at a higher level than welfare benefits is a pragmatic policy.

Beyond this, a goal of 'income continuance' would aim to ensure a standard of living much like it was pre-retirement. Social insurance schemes, widely used in other countries, are based on earmarked contributions related to wages, and deliver earning-related income streams in retirement to help achieve this goal for many, (but not all) in the population.

The New Zealand retirement income framework has at its foundation a universal wage-linked pension, NZS, supplemented by KiwiSaver, voluntary savings and home ownership. We best know the values that underpin our policies by seeing whether they endure politically. The interpretation would be that even though NZS policy has been contentious, it has been remarkably stable, especially over the last two decades. New Zealanders appear to support policies that do much more than narrowly focus on poverty prevention. By setting the basic pension at a flat rate well above welfare benefits, providing it universally, and linking it to wages, New Zealanders have supported the goal of participation and belonging in retirement. While income continuance has not been included as a goal of NZS, KiwiSaver as a comprehensive voluntary savings plan has the potential to secure additional income to help meet this goal.

The question is, if a participatory and belonging standard of living for all is the foundational principle, are the current policies still adequate for all in 2019? Some low income retirees, especially if they own their own homes, find that NZS provides an adequate standard of living and some may even be better-off after they reach the qualifying age than before. It is also increasingly evident that there is a growing low-income group coming into retirement needing additional support, especially for housing, if they are to achieve a bare minimum standard of living (see St John & Dale, 2019). This group, maybe 20-30% of new retirees, have, for whatever reasons, accumulated little in the way of private saving. For them, a plan to secure an additional income stream from savings (decumulation) is not a relevant concern. Broader issues around pre-retirement policies and redistribution are needed to address the problems facing this group and their needs are not further discussed here.

Likewise, the wealthy are outside of the focus of this paper. The goal of participation and belonging is likely to be achieved very well by the top 20-30% of retirees, along with continuance of their pre-retirement standard of living from private accumulation without the need for government intervention.

This report focuses on the middle group, around 40-60% of retirees, most of whom own their homes outright. New middle-income retirees are reaching the age of 65 years with increasingly large lump-sums from KiwiSaver. They may also have other savings. Can this group all expect a full participatory and belonging standard of living that reflects their aspirations throughout their entire retirement? If not, can government policy assist? Do the benefits for the individuals and for society outweigh the fiscal costs of such intervention?

Section 2 provides some reasons for the policy interest in decumulation. Section 3 assesses the possible risks middle income retirees face; sections 4 and 5 describe the theoretical and practical problems of annuities and long-term care insurance; section 6 evaluates methods currently available in New Zealand for decumulation and their potential to protect middle income retirees; section 7 assesses the ability of insurance markets to provide the certainty people need and some blue skies thinking for a state-supported annuity. Section 8 concludes with some possible steps needed for the way forward.

2. Why is decumulation important for retirement policy?

Since KiwiSaver was introduced in 2007, the focus has been largely on how funds are accumulated. Little attention was paid at the beginning, or since, to the way in which the lump-sums, accessible at 65 years, would be decumulated. Nevertheless the 2006

KiwiSaver Act itself implies that the intent is for some degree of income replacement and its purpose states:

The purpose of this Act is to encourage a long-term savings habit and asset accumulation by individuals who are not in a position to enjoy standards of living in retirement similar to those in pre-retirement. The Act aims to increase individuals' well-being and financial independence, particularly in retirement, and to provide retirement benefits.⁴

While KiwiSaver⁵ is not yet mature, many new retirees have already accumulated worthwhile sums and may also have other forms of savings, including home equity. Over time, such savings will become very significant and must be managed over an uncertain lifespan, in an uncertain investment climate, including unknown levels of inflation.

KiwiSaver Statistics

The total number of KiwiSaver scheme members at June 2019 was 2,966,074. (KiwiSaver Stats, 2019)
The average member's balance in 2018 is \$17,130, an increase of 14.4% on 2017. (Financial Markets Authority, 2018)

There is a lack of obvious mechanisms for middle income retirees to manage the risks of decumulating their capital. Many people chose to self-manage, with or without advice. Self-management of modest levels of retirement savings however requires a high level of expertise. Many do not have the competency, financial literacy, interest, or the time. Even if they do, they do

not know how long they will live, in what state of health, or how the cost of living will change, making self-management a potentially high-risk and stressful option.

Historically, private and public sector defined benefit (DB) pension schemes in New Zealand provided many middle and high-income individuals a certain income stream to supplement the state pension (see St John & Ashton, 1993). The traditional company pension was sometimes inflation-linked, usually with the

Traditional pensions

Since the late 1980s, private supplementary pensions have not been encouraged by public policy (tax subsidies). There has been no clamour for such earnings-related Defined Benefit schemes to be reintroduced.

option of capitalisation of part of the income stream as a lump-sum, and a provision for a joint annuity if married. These DB schemes are now largely closed and will support a small minority only of middle-income retirements in the future. In 2015 there were only 51,730 of working age remaining in a DB scheme including 10,000 in the Government Superannuation Fund (GSF) for state employees. Pensions in payment are approximately 65,000, representing nearly 10% of the currently retired population. Two thirds of these have pensions from the closed GSF scheme for state employees (St John, 2016b).

The bulk of remaining employer company superannuation schemes are defined contribution (DC) schemes where the contributions from both employer and employee

⁴ <http://www.legislation.govt.nz/act/public/2006/0040/latest/DLM378378.html>

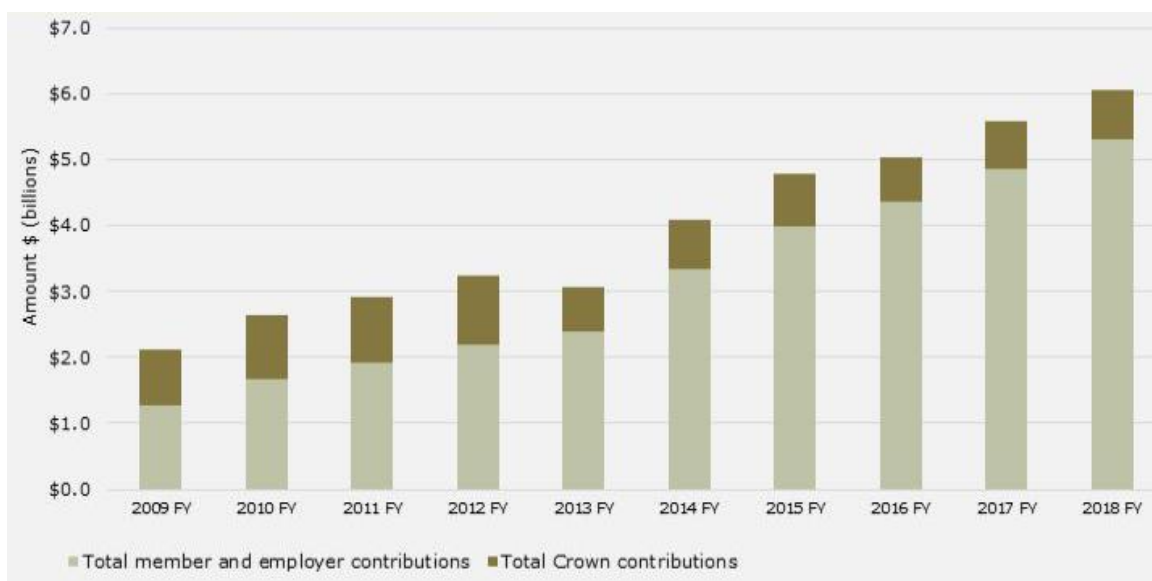
⁵ See for statistical overview: <https://www.kiwisaver.govt.nz/statistics/ks-stats-index.html>.

are accumulated to provide a lump sum. In the past employees may have been required to annuitise their lumpsum allowing a small inefficient private annuities market (St John, 2004, p. 63-73). From 2007, the DC KiwiSaver scheme began to supplant these old-style superannuation schemes (St John, 2016b). The old life annuities market eventually disappeared and today close to three million people have a KiwiSaver account, although for a large minority (over one third) regular contributions are not being made (Financial Markets Authority, 2018).

In countries where annuity markets are well established, the state has played a significant role. For example, the state may compel the annuitisation of either part, or all of certain tax-subsidised retirement savings. There may also be special tax advantages applied to the annuity itself, or some favourable treatment granted such as under the means test for a state pension in Australia.⁶

In the early years of KiwiSaver, the generous tax-based contributions from the Crown shown in Figure 1 could have been used to long-term advantage as the quid pro quo for rules to be set around decumulation.

Figure 1. The declining share of Crown subsidisation of KiwiSaver⁷



For example, annuitisation of the lump-sum at 65 might have been made compulsory to ensure a certain income for life. Twelve years on, in a voluntary system that people have signed up to expecting a lump-sum, it would be difficult, if not impossible, to make retrospective changes to compel annuitisation. Moreover the tax-based concessions

⁶ [from] July 2019 only 60% of an annuity's purchase price will be included in the assets test (reducing to 30% for people aged over 84), instead of the full purchase price. See <https://www.superguide.com.au/retirement-planning/peace-of-mind-at-a-cost-10-things-to-know-about-annuities#Annuities> and the [Age Pension recent legislative changes](https://www.kiwisaver.govt.nz/statistics/annual/contributions/).

⁷ <https://www.kiwisaver.govt.nz/statistics/annual/contributions/>.

have been largely removed and are a declining fraction of overall contributions as shown above in Figure 1.

Many economists favour annuities for the theoretical gains they can be shown to provide: their lack of popularity is often referred to as the “annuities puzzle” In the US for example there is a disinterest in the voluntary annuities market:

Have annuities been tried and failed, or have they not been tried? The right way to think about annuities is to go back to the days when defined benefit pension plans were common. Employers promised their workers lifetime income through pension plans after sufficient years of service. People loved having these pensions even though they are in fact financed by the workers themselves. In short, we think annuities were tried and succeeded. Unfortunately, the shift in institutional arrangements away from defined benefit plans also shifted worker perceptions about retirement assets, so that pension contributions were now seen as the property of the workers, as opposed to a free fringe benefit. As a result, people wanted to take control of the money, wanted to see high returns, and were unwilling to convert to annuities as an insurance strategy. If workers’ mindsets can shift again to see guaranteed lifetime income as an important goal of their retirement security strategy, then annuities will become a vital part of the retirement security toolkit. (Baily & Harris, 2019, pp. 18-9)

3. What are the risks faced by middle-income retirees?

Longevity Risk

Life expectancy at each age continues to increase. In 1961 a newborn girl was expected

<p>Life expectancy: Average number of years a person born in a given country is expected to live.</p> <p>Longevity: Relates particularly to living longer over time.</p>
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to live 73.8 years based on existing mortality rates (period life tables). Through her life, her cohort had improved mortality outcomes at each age. Using cohort tables that give more realistic lifespans, her life expectancy at birth is estimated to be 11 years higher.

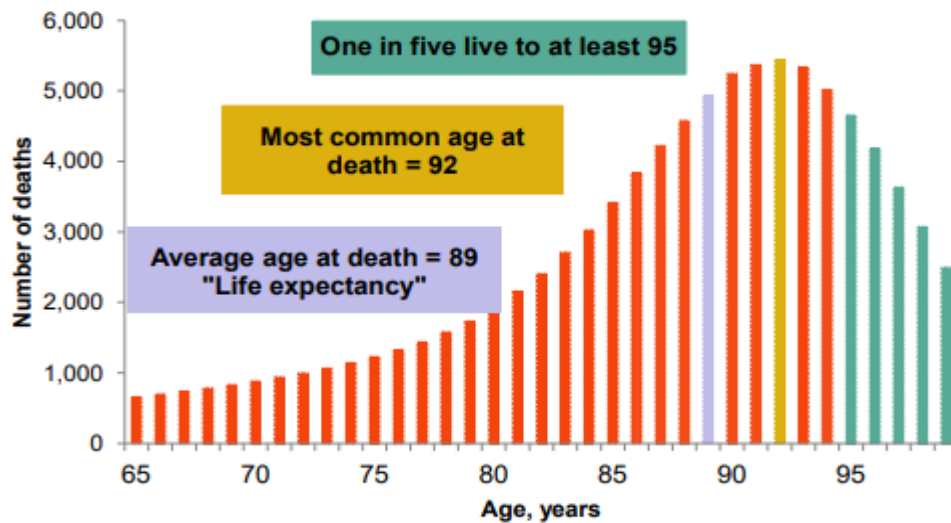
<p>Period life tables are used to estimate life expectancy by applying current mortality rates for all age groups. Cohort life tables are based on the actual mortality experience of each cohort.</p>
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Using plausible projections, cohorts who reach the age of 65 in 2016 (born in 1951) can expect another 20-22 years for males and 23-25 years for females on average.⁸ Roughly speaking, leaving paid employment at age 65 is likely to mean around 23 years of ‘retirement’ on average.

The high degree of variability of actual experience of mortality is illustrated in Figure 2. The spread of actual experience of life lived in retirement from 65 is from zero to around 40 years. As Figure 2 illustrates, for females using 2014 cohort data, once the age of average life expectancy as determined at 65 is reached, many of those still alive will survive well into their nineties. At age 95, 20% of the original cohort at 65 are still alive. At the far end of survival some may live well over 100 years.

⁸ <https://www.stats.govt.nz/information-releases/new-zealand-abridged-period-life-table-201618-final>
http://archive.stats.govt.nz/browse_for_stats/health/life_expectancy/cohort-life-expectancy.aspx.

Figure 2. Estimated number of deaths at each age for 100,000 female NZers who turn 65 in 2014 (O'Connell, et al., 2015, Fig. 6)

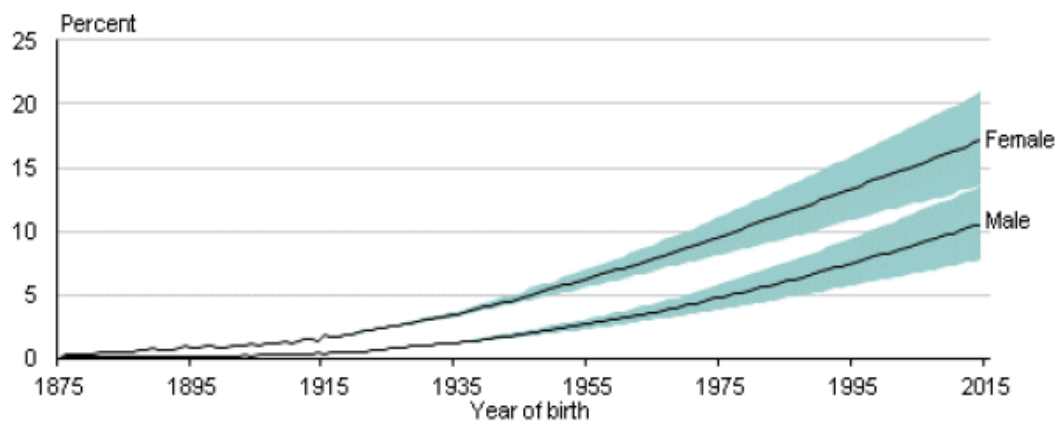


The older old

The population over 90 is the fastest growing population: from 10,900 males and 21,240 females in 2019, NZ Statistics population pyramid shows there is an expected 72,130 males and 114,450 females by 2067.⁹ The total number over 90 is expected to grow by a factor of 5.

Gender imbalance:
For the 'old' old over 90 years today, women outnumber men 2:1.

Figure 3. Chance of living from age 0 to age 100. Year of birth 1876-2014¹⁰



Note: Shaded fan indicates an estimated 50 percent chance that survival will be within this range.
Source: Statistics New Zealand

While estimates are uncertain, Figure 3 shows that a female born in 2015 has an estimated 17.5% chance of being alive at age 100, and men about an 11% chance with a wide band of variability around the median projections: the outcome could be a lot

⁹<https://www.stats.govt.nz/tools/interactive-population-pyramid-for-new-zealand>

¹⁰http://archive.stats.govt.nz/browse_for_stats/health/life_expectancy/cohort-life-expectancy.aspx

higher. Compared to the longevity of those born 100 years ago, this is a staggering increase with enormous future implications for residential and other forms of LTC.

How long will capital last?

The implication is that if a person uses up their capital by their average life expectancy age (shown as 89 for a female in Figure 1) they may live up to 16 years longer without additional income. Conversely, they may die in early retirement leaving most of their capital to their heirs.

New Zealanders are living progressively longer

*women live longer than men
*death rates continue to decline at all ages
*life expectancy increases further for each additional year we live.
Statistics NZ, 2019.

Three distinct phases of retirement with different needs for income in each phase can be identified (Cooper, 2014a, p. 516) although the duration of each of the three phases of retirement: *active*, *passive*, and *frail*, cannot be predicted for any individual. Each phase involves different opportunities and costs.

In **phase one**, the active phase, the person is likely to be healthy and in the earlier years may be in the paid work force. It is the time when expenditure is likely to be high as travel plans and other activities are enjoyed.

In **phase two**, the passive phase, workforce participation is unlikely. Expenditure may be markedly reduced and covered by regular basic income. However there may be large one-off expenses, for example related to eyesight needs and hearing aids, and for home maintenance and repairs.

In **phase three**, the frail phase, health costs may rise quickly, and support may be needed with daily living activities, leading eventually to expensive residential care. In the final stages of this phase, hospital-level care may be required.

The individual may plan to decumulate according to average time spent in each of the phases of retirement and then find they experience a shortening of the first and second phase with many more years spent needing expensive healthcare in phase 3.

In summary, the longevity risk faced by a middle-income retiree is predominantly the risk of outliving capital, spending it too quickly and facing years with nothing but the state pension. This fear may keep some from enjoying the first phase of their retirement and for some may result in unintended bequests if they die early having restricted their spending unnecessarily. If the capital is actually exhausted too soon, the last years of life may be spent dependent on the goodwill of family and, as discussed below dependent on the basic level of state assistance for old age care.

Investment risk, low interest rates, low inflation and insolvency risk

Despite their tendency to be risk-averse, Kiwis lost \$33 million to online scams and fraud in 2018.¹¹ Online safety organisation Netsafe reported that there were 13,000 instances of online scams and fraud in 2018, up from 8100 cases totalling \$10.1m in losses in 2017, and the average loss increased from \$10,771 in 2017 to \$21,140 in 2018, with the largest loss being \$5m. With regard to retirement, it is deeply concerning that 48% of those scammed were aged 65 or older.¹²

Older people who keep their retirement cash in the bank over an uncertain period of retirement forgo returns that may be possible in alternative more complex or risky investments. The mid-2019 official cash rate is 1.5% and a typical bank term deposit might offer no more than 3%. Taxes are levied on the gross interest received so that with inflation running at about 2%, after tax real returns can be very low or even negative. This, along with messages about how foolish it is to have money in the bank at such low rates, can precipitate unwise choices.

The investment risk has several dimensions: the older person may be exploited by unscrupulous institutions and individuals who offer higher interest rates but mask the risks involved. A recent example is Ross Asset Management which collapsed in 2012, after defrauding 700 clients of more than \$115 million in the country's largest Ponzi scheme, (GoodReturns.co.nz, 2019). The rise of Peer to Peer lending is another example where the intermediation provided by official financial institutions is bypassed for a direct transaction between the lender and the borrower that in effect transfers the risk of default to the lender.¹³ The advantages for the borrower of bypassing the official institutions for loans is the immediacy and simplicity of access to additional cash. For the lender higher rates of return go hand in hand with the risk of borrower default as the repayment is not guaranteed.

By far the dominant Peer to Peer lender in New Zealand, Harmony was licensed in 2014. Profits are made by fees charged to both borrowers and lenders. Harmony is aggressively marketed at peak TV viewing time ("Harmony is the place to go when you need to borrow money- chuckle"). Careful reading of the Moneyhub online review of

¹¹ See NZHerald 3 April 2019:

https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12218644.

¹² MBIE hosts 'Scamwatch', with information on how to recognise, avoid, and take action against scams, (including reporting the scam to Netsafe), protect personal information, and prevent identity theft both online and offline: <https://www.consumerprotection.govt.nz/general-help/scamwatch/>.

¹³ See <https://www.harmony.co.nz/investors>.

Harmony¹⁴ reveals the risks for investors who are “enticed by higher returns than anything comparative from a bank or finance company”.¹⁵

Prior to the global financial collapse, many seekers of higher returns invested in finance companies that also advertised aggressively (for example New Zealand retirees were hearing each night at peak TV time “you can’t rely on the weather but you can rely on Hanover Finance”). There were 24 finance company failures from 2006 to 2008, many of them taking small investors into irrecoverable crisis with them (NZHerald Business online, 2008).

Indirect investment in property has also been a trap for some. While the practice is illegal under the the Lawyers and Conveyancers Act (Lawyers: Conduct and Client Care) 2006 (Lawtalk, 2019), sometimes trusted lawyers act on both sides of the transaction- putting their clients into investments when they are also acting for the company concerned. The Auckland Mortgage Trust is an example where older investors were told in the mid-2000s they could not go wrong with investment in Auckland property market but ended up waiting ten years from official windup until 2019 for the final partial return of their capital.¹⁶

A second risk is that specific shares simply do badly. This risk may be mitigated with good advice. For example, pooled investments such as offered by passive managed funds are often suggested as a simple way to get the advantages of a diversified share portfolio (Holm, 2009, 2016).¹⁷ A third risk is that low rates of return on cash at the bank encourages older people to invest in real assets such as apartments and rental houses when these are not appropriate investments for many people as they age. The commodification of property for investment purposes has also wider ramifications for the affordability of housing in New Zealand.

Figure 4 shows that inflation as measured by the Consumers Price Index (CPI) is variable, but for most of the last two decades has been less than 2% per annum. While inflation has averaged under 2.5% since the 1990s, the average in the 1970s and 1980s was much higher at 11% (Reserve Bank, 2019). There is no guarantee that inflation will be permanently low in the future.

¹⁴ See <https://www.moneyhub.co.nz/harmony-review.html>.

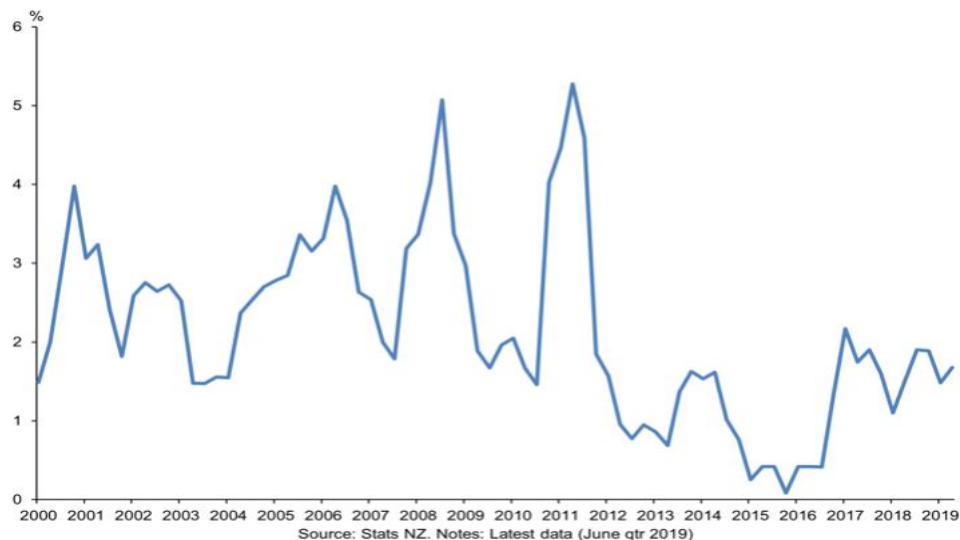
¹⁵ It is also of note that Harmony was fined \$292,500 in 2016 for misleading consumers into thinking they had been pre-approved for a personal loan. Anna Rawlings, of the Commerce Commission, claimed this practice relied on “misrepresentations to draw consumers into a sales process” (Parker, 2016).

¹⁶ By 2014, 66% had been returned and only 80% by 2019.

https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11249945.

¹⁷ Mary Holm has written frequently on this issue – these are just 2 examples.

Figure 4. New Zealand Consumer Price Index (CPI) (Reserve Bank)¹⁸



Lump-sums invested in cash deposits at zero return lose real value even if inflation is low. An annual rate of inflation of 3% will halve the lump-sum in 24 years. A burst of inflation to an annual 7% will halve the lump-sum in 10 years and at 11% will halve it in under 7 years.

Inflation as measured by the CPI over a typical length of retirement may not reflect the true costs of living for a retired person. In a time when technological change is reducing the cost of many items especially electronic products, the things older people need to buy may go up more than the CPI.¹⁹ As low wages in the sector are improved over time, there will be inevitable rises in the cost of supply of care-giving services.²⁰

In countries with annuities markets, there is an insolvency risk when pension payments or annuities are promised to be paid annually for the lifetime of the annuitant. The institutions taking that money might not be around over what might be a 30-40 year period (OECD, 2018, p. 166).

In summary, the current low rates of inflation and interest rates hurt older conservative investors. When after-tax real returns are low or negative, unwise investment decisions may be encouraged, or an older person may be exposed to exploitation by those offering what looks like higher returns but turns out to be highly risky or fraudulent. Future unexpected inflation or a rapid increase in the costs of specific things older people need is possible, and may result in savings pots or fixed income streams eroding very quickly. There are no guarantees that financial institutions will have the required longevity to

¹⁸ See <https://www.rbnz.govt.nz/monetary-policy/inflation>

¹⁹ For example, electricity, food and transport tend to become more expensive.

²⁰ Baumol's cost disease theory suggests that over time we can expect labour intensive products such as care services to become relatively more expensive.

deliver on their promises, as the world was recently reminded by the global financial crisis 2007-2008.

Health and Cognitive decline

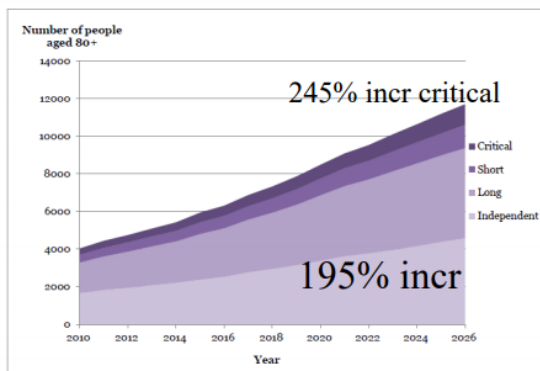
With an ageing population, the numbers of people living with long-term conditions are expected to increase. As highlighted above, the population aged over 90 years is set to increase dramatically over the next 40 years. Long-term issues can occur at any age, but the prevalence rises with age in older people. Currently one in six older New Zealanders are living with three or more long-term conditions.²¹

“The health care challenge of this century” “Long-term conditions include diabetes, obesity, cardiovascular and chronic obstructive pulmonary disease, cancer, asthma and other respiratory conditions, arthritis and musculoskeletal diseases, stroke, chronic pain, dementia, mental illness and addiction. Long-term conditions also include physical, sensory and intellectual disabilities.” (Associate Minister of Health, 2016, p. 33)

While New Zealand females have a higher life expectancy than males, they spend more of their life in poor health: in 2013 females required assistance for 16.7 years of their life, compared with 14.3 years for males (Ministry of Health, 2015). Some population groups, such as people with intellectual disabilities, and Māori and Pacific peoples, tend to have higher rates of long-term and age-related conditions at earlier ages. Figure 5 below shows the comparative rates of disability for Māori and Non- Māori populations.

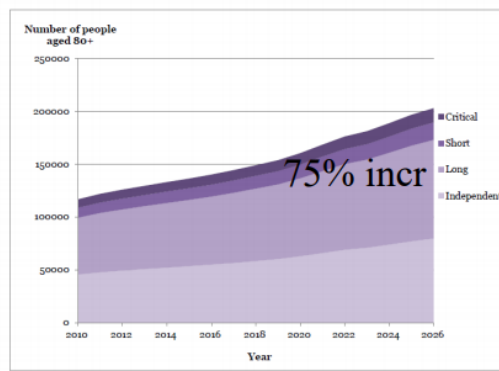
Figure 5. Estimated increase in population disability (Kerse, 2019, Fig.10)

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



Source: LILACS NZ 2010–11, Statistics NZ population projections 2011

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

The number of New Zealanders with dementia is expected to rise from an estimated 50,000 today to 78,000 by 2026, and to 170,000 by 2050 (Deloitte, 2017). While the incidence of dementia rises with age²² the degree of cognitive function is probably best viewed as along a spectrum: full blown dementia needing residential care at the one end, and mild cognitive impairment at the other. The progression from mild symptoms of

²¹ <https://www.health.govt.nz/publication/healthy-ageing-strategy>.

²² https://www.health.govt.nz/system/files/documents/publications/healthy-ageing-strategy_june_2017.pdf.

incapacity for independent living can vary, but even mild mental decline makes complex financial management less possible and exposes vulnerable older people to exploitation and fraud.²³

In Summary, management of property and investment income as people age can become increasingly problematic for them if they experience any cognitive decline. Instead of providing secure income and a peaceful retirement, lump-sums and real asset management can be a source of increasing, time-consuming stress. Cognitive decline may be gradual and picked up too late, in the meantime a person's assets may be at increasing risk.

Expensive long-term care

A major risk factor for middle-income retirees is that they may incur expensive end-of life-care. Before that state is reached, more income for home support services may be needed. New Zealand legislation provides for in-home support for those aged 65+ who need assistance but not 24-hour nursing/medical services (Connolly, Broad, Boyd, Kerse, & Gott, 2013), although care-workers are not always available to provide such support, and those needing care may not be aware that state-funded help is available.

<p>Long-term care (LTC): covers all the old care costs regardless of the place provided.</p> <p>Residential Aged Care (RAC): care provided in a residential institution.</p>
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At a point in time, around 31,500 persons are in a residential aged care (RAC) facility (Table 1) or about 4.4% of the over 65 population. This may seem like a small figure but over the course of retirement, the probability of being in residential care is much higher, and around one half the aged population will use residential care at some point (Broad et al., 2015).

Table 1 shows the proportion of older New Zealanders living in aged residential care has been decreasing over the past ten years. This may reflect strong growth in the younger healthier cohorts of baby-boomers entering retirement, and implementation of the strategy of 'ageing in place' (Dale, 2017). Nevertheless, demographic change means the absolute numbers in care are expected to increase by 72% from now until 2031, providing that the facilities are available to meet demand.²⁴

²³ <http://www.superseniors.msd.govt.nz/elder-abuse/>: As many as one in ten older people in New Zealand will experience some kind of elder abuse.

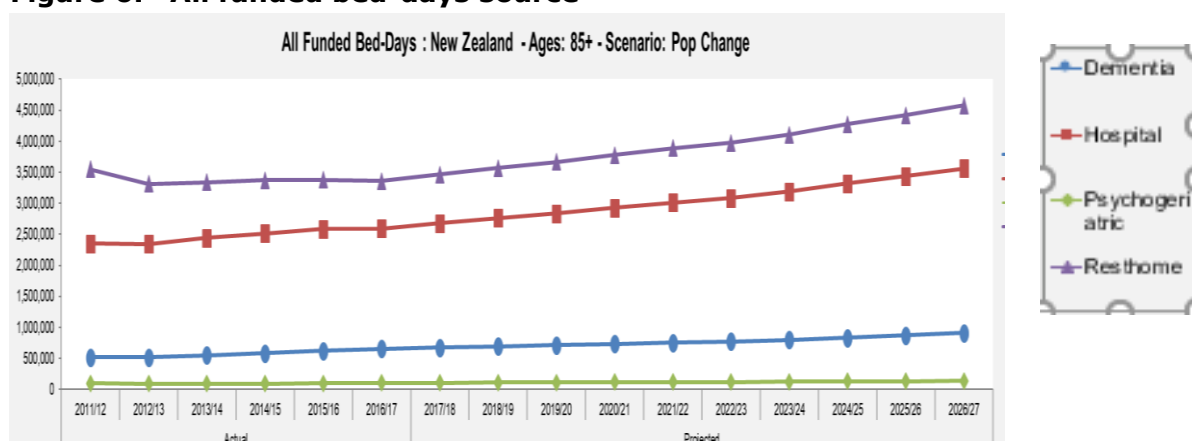
²⁴ <https://tas.health.nz/dhb-programmes-and-contracts/health-of-older-people-programme/aged-residential-care-funding-model-review/#Aged>.

Table 1. Reduced prevalence of use of residential care²⁵

	2016/17	2015/16	2014/15	2013/14
Number of older people aged 65+ requiring residential care	31,454	31,288	30,828	30,829
Proportion of older people aged 65+ requiring residential care	4.4%	4.6%	4.6%	4.8%

From 2035, the baby-boom bulge will all be retired and will begin to enter 85+ years age bracket where the demand for RAC can be expected to dramatically increase. Figure 6 shows funded bed days for different forms of geriatric healthcare as expected over time for those over 85 years to illustrate the coming demands.

Figure 6. All funded bed-days source²⁶



The expense of old age care is one that particularly affects women. As discussed above, at older age brackets, the dominance of female numbers over male numbers in the population becomes increasingly pronounced. Moreover, male partners are more likely to be looked after by their wives when care is required. When women themselves need care, RAC is more likely to be necessary. Table 2 below shows research in New Zealand (Broad, et al., 2015, Table 1) that found around 45% of females die in RAC compared to around 31% of males and that lifetime use of RAC is much higher at each age group for women than men.

²⁵ Table 1 shows the prevalence fell from 4.8% of the 65+ population to 4.4% in 2017. <https://www.health.govt.nz/publication/annual-report-year-ended-30-june-2018>.

²⁶ <https://tas.health.nz/dhb-programmes-and-contracts/health-of-older-people-programme/aged-residential-care-funding-model-review/#Aged>.

Table 2. Deaths & lifetime use of residential aged care in New Zealand 2006-2010

	Annual deaths registered in period			Estimations	
	Annual average N	Died in acute hospital %	Died in RAC %	Hospital deaths from RAC ^a %	Lifetime use of RAC ^a %
Men					
65-74 years	2,770	36.9	15.3	4.0	19.3
75-84 years	4,522	37.9	29.7	7.2	36.9
85+ years	3,273	34.1	46.7	10.9	57.6
Men 65+	10,565	36.5	31.2	7.5	38.7
Women					
65-74 years	1,988	38.9	18.7	4.8	23.5
75-84 years	3,903	37.6	36.7	9.0	45.7
85+ years	5,979	26.8	58.5	11.8	70.3
Women 65+	11,870	32.4	44.7	9.7	54.4

The public health system provides care for ordinary health emergencies such as a broken hip or heart attack free of charge. While specialists in the private sector may be expensive, GP visits are also subsidised. On the other hand, the residential costs of LTC are subject to a means test. These tests apply dollar for dollar, one dollar more of allowable assets or income means one dollar more of costs up to the cap must be paid.

A Means Test reduces an entitlement for both income and assets. Usually an exempt amount is allowed.

Table 3. Residential care ASSET TESTS, 2019²⁷

Years	Single person	Married couple with one in care	Married couple, both in care
2019 CPI adjusted	\$ 230,495	\$ 126,224, + house + car Or \$ 230,495 total	\$ 230,495

For residential care, first, costs must be met from a person's assets until they are exhausted to a low limit as shown in Table 3. After assets are reduced and the asset test for a subsidy is met, any income including almost all of NZS must be used to pay the cost up to a cap that varies by region, from \$60,020 in Auckland to \$55,357 per annum in Buller in 2019.²⁸ Self-funding high-needs people receive a top-up subsidy but do not pay more than the cap.

In addition to accessing funded home care, based on a Needs Assessment,²⁹ low income and asset people are fully subsidised into basic long-term RAC and retain a small amount of spending money from their NZS. High income people may pay the capped fee for long-term care from their income and may even continue to accumulate assets.

²⁷ <https://www.health.govt.nz/our-work/life-stages/health-older-people/long-term-residential-care/income-and-asset-testing>.

²⁸ <https://www.health.govt.nz/our-work/life-stages/health-older-people/long-term-residential-care/maximum-contribution>.

²⁹ <https://www.health.govt.nz/your-health/services-and-support/health-care-services/services-older-people/support-services-older-people>.

It is the middle-income group who face a rapid erosion of their capital and income under the draconian means test. This can impact on their family who either see their inheritances rapidly disappearing or must foot the bill.

The exemption levels shown in Table 3 are indexed to the CPI and are well below the growth in housing prices. There are some astonishing anachronisms such as the treatment of couples in care vs the treatment of singles with the same low asset exemption for both. Few assets are excluded. These are primarily pre-paid funeral expenses, personal belongings such as clothing and jewellery, and household furniture and effects. Assets that are included are:

- cash or savings
- bonus bonds
- investments or shares
- life insurance policies with a surrender or cash asset value
- loans made to other people (including family trusts)
- boats, caravans and campervans
- investment properties
- Assets given away in the last 5 years over \$6,500 of assets per individual or couple when one is in care. Both in care, the exempt gift amount doubles.
- Assets given away over five years ago above \$27,000 a year regardless of whether one or two of a couple are in care.

The income test now excludes the earned income of the spouse not in care. Any investment income over \$1,005 a year for single people, \$2,009 a year for a couple when both need care or \$3,013 a year for a couple where one partner needs care is counted in the income test. A woman whose spouse enters care may find their joint financial assets quickly eroded.

The public cost of RAC is around \$1 billion per year with a further \$800 million contributed by residents under the means test.³⁰ Over and above this contribution, residents may have to meet 'premium' charges and other expenses such as for personal, specialist, dental and podiatrist care (Jones, 2019).

With such a severe means test in place, including looking at past gifting, there is a danger that people structure their affairs early to qualify for means-tested long-term care subsidies in later retirement. This may lead to alienation of assets to family members who won't necessarily act to protect the interest of the older person who requires care and finds that only a bare minimum is provided by the state.

The retention of a small amount of NZS will not pay for dental care, glasses, hearing aids or better amenities in the aged-care facility, and a large drop in living standards might have to be endured.

³⁰ <https://tas.health.nz/dhb-programmes-and-contracts/health-of-older-people-programme/aged-residential-care-funding-model-review/#Aged>.

Discussion

The risks faced by middle income retirees are largely uninsurable in the private sector. The risks of investing badly or unanticipated inflation, low interest rates, or living longer than expected, of dementia and finally of expensive long-term care, are difficult risks for private insurance companies to price accurately. For ordinary risks, insurance can draw on statistical data and charge annual premiums for cover and make a profit eg fire, burglary, annual health costs, car damage, loss of income for a fixed period, and unexpected death (life insurance). Each year the premiums can be re-assessed in light of emerging statistical information. For the kinds of longer-term risks that older middle income people face, insurance either becomes unaffordable as they age (eg health insurance with high age-related premiums), or private insurance companies simply cannot offer even limited protection (eg for inflation proofing of investments or long-term care insurance).

A risk involves a known probability of the event occurring to the individual.
Uncertainty is a systemic risk for which there is no data to determine the probability.
Insurance markets can price risk but not uncertainty.

Market failure occurs when there are risks that are unable to be assessed statistically and insurance products that people desire cannot be priced and sold. Such *market failure* in insurance markets arises because, rather than statistically-determinable 'risk', the real world issues involve 'uncertainty'.

If middle-income people are to have insurance for the uncertainties they face, public policy intervention is likely to be required. Social insurance can overcome some of the limitations of private insurance. While a public health system and a basic wage-indexed state pension provide a large degree of protection, the question is will they be sufficient for the next 40 years or more, or are other state-interventions required?

Social insurance: New Zealand has two social insurance programmes:
A public health system and
A basic state pension.
Are they sufficient or are other state-interventions required?

4. Longevity protection and annuities

In theory, free markets in conditions of certainty and perfect knowledge, achieve desirable or optimal economic outcomes (for any given income distribution). If people want, and are willing to pay for protection from the risks they face, in theory, private insurance markets ought to provide the product.

The longevity risk:
is insurable in theory, based on mortality data. In practice, life annuities face a range of problems, e.g unforeseen longevity improvements.
Long-term care insurance faces similar uncertainties around future demand for care and costs of care.

If there is an insurable risk, private insurance markets can be expected to provide the certainty people need. For example, individuals face uncertainty in knowing when they will die, but there is sufficient data on the whole population for insurance companies to

offer life insurance at a given premium based on the statistically determined probability of death. Those who die early are subsidised by those who live longer, and annual premiums can be set so that the insurance company covers its obligations and makes a profit for the shareholders. Whether all who wish to be insured can afford the premiums is a separate issue.

In practice there are serious barriers to the development of both insurance products that protect against the longevity risk, and the LTC risk.³¹

Barriers to annuities market

- **Taxation:** Providers have frequently claimed that customers avoid annuities because annuity levels look unattractive compared to bank returns. In part this reflected the life office tax rate on investment income at the company rate (annuity is tax-paid), which was often higher than the purchaser's marginal tax rate. While the taxation of annuities was neglected for a long time (Investment Savings and Insurance Association (ISI), 2008), the Lifetime Income product discussed in section 6 suggests that the use of PIE rates can now be used to overcome this barrier.

However, taxation is unlikely to be the major reason for the lack of traditional annuities. Rather there are systemic market failure issues that arise in a voluntary annuities market:

Even if the Government made the basis of taxation on annuities similar to that on investment products, annuities would remain relatively poor value for money because the small size of the market implies relatively high risk, marketing and administration costs. (O'Connell, et al., 2015)

- **Adverse selection:** An individual may know better his/her longevity risk than the insurance company. If she expects to live longer than the average of mortality rates of the entire population on which annuities are priced, she will find annuities more attractive than those who might expect to have a shorter life span. Ex post, premiums would have to rise if the insurance company is to remain solvent. Life insurance companies can use their own annuitant mortality tables to price annuities, rather than whole of population life tables. This subsequently decreases the attraction for those with a shorter life expectancy, and their demand drops further. The company is left with the 'lemons' or bad risks (the long-lived). Eventually it may no longer be viable for the insurance company to stay in the market. The greater the adverse selection, the higher the premium cost of a given annuity, and the greater the total welfare loss for society.³²

³¹ This section draws on St John 2009.

³² Meaning that members of society are less well off than they would be with the security of insurance if they could buy it on actuarially fair terms.

Life insurance companies are permitted to discriminate between risk classes where there is robust statistical evidence. For example, because the average life expectancy of women is higher than for men, they can pay a lower annuity to a woman than a man for any given lump-sum. The problem here is that sex is not a good risk discriminator. About 80% have an indistinguishable experience, making gender a crude discriminator (Wadsworth, Findlater, & Boardman, 2001). It is very difficult to discriminate between long-lived and short-lived **people** as two separate groups. Gender can be and often is readily used, but it is a poor proxy

- **Mortality risk:** Higher than projected longevity outcomes, or 'excess longevity', is regarded by many as the main annuity market failure problem (Antolin, 2008). If people live longer on average than the mortality experience factored into annuity prices, the insurance company could become insolvent. In general, improvements in mortality are not predictable and represent more of an uncertainty than a risk. Improvements in longevity may occur randomly through simple measures such as an 'aspirin a day' to prevent cardiovascular disease. This makes pricing an annuity much harder. If insurance companies make allowance for probable improvements in longevity, their products are likely to be perceived as poor value by purchasers who may not understand the risk they face. In the case of data in New Zealand, the pattern has been increasing longevity improvements, with the gains being concentrated at older age groups. The question is whether these trends will continue.
- **Inflation risk:** Typically, a traditional annuity is priced on the day of purchase with reference to expected nominal interest rates, thus locking in both purchaser and provider. While the interest rate used will reflect expected rates of inflation, fixed nominal annuities will fall in real value over time. In principle, indexed annuities are possible but the provider must achieve the assumed real rate of return to remain solvent. For the purchaser the initial annuity level will be lower and hence less immediately attractive. It is not usually feasible for a provider to guarantee full indexation however as future real interest rates are uncertain and inflation, like improvements in longevity, is a systemic not a stochastic risk.³³
- **Investment risk:** An annuity may lock in a conservative investment strategy. Over time, as living standards improve with economic growth, the nominal annuity falls relative to both prices and wages. If an annuity is to keep pace with improving living standards, the investment policy should favour growth assets. In particular, 'participating annuities' which allow annuitants to participate in the profits earned by

³³ A stochastic or random event experienced by an individual is insurable, as opposed to an event such as unanticipated inflation that is experienced widely ie is systemic.

insurance companies are available in some countries. These profits may arise from better investment results, more administrative efficiency, or changes in longevity that are favourable compared to assumptions.

- **The bequest or precautionary motive:** other reasons for maintaining non-annuitised wealth may include the wish to retain a lump-sum to leave to children, or to fund possible expensive medical costs, especially LTC in the absence of social or private insurance. The fear that annuitisation will penalise inheritors if the annuitant has an early death was typically addressed in traditional life annuities by a 10 year guarantee. For example, if the annuitant died after five years, five years of annuity payments would be made to the estate. This of course makes the annuity relatively more expensive.
- **Informational failures:** Include underestimating the probability of extended life expectancy; ignorance; mistrust of insurance companies; inflexibility of products and their variability; and suspicion about the financial standing and viability of the insurance provider over what could be a lengthy retirement. In a country the size of New Zealand, competing insurance markets have a small pool of potential annuitants and little reliable actuarial data on annuitants' mortality on which to base their pricing.
- **High overheads:** The Net Present Value (NPV) of a given annuity stream using population-wide mortality data is lower than the actual cost of the annuity. The ratio of the NPV, i.e. the actuarially fair price, to the actual capital cost of the annuity, the Money Worth Ratio (MWR), was of the order of 70-80% for New Zealand annuities when the market was operational (St John, 2005). The low MWR reflects both adverse selection and high overhead costs. If improvements in longevity have been underestimated however the MWR can be higher in hindsight for an individual annuitant.

Cultural aspects

New Zealand does not have a culture of annuitisation as found in other countries. Many older people may have a strong desire to protect their capital to hand on to the next generation. "Living off capital", or surrendering capital for an income stream, even when there is plenty, for them is a scary idea. Yet the purpose of saving for retirement is to have extra income in retirement. When asked about whether an annuity would be welcome as an option, people express suspicion about the idea of alienating their capital and not trusting the provider. A more positive framing of the issue reveals that there is interest in the idea of a protected income that lasts as long as they do so long as it is not called an annuity (Bateman, 2009; OECD, 2018).

With a general lack of appreciation of the value of annuities, we know very little about how those who have benefited from DB schemes in New Zealand view their pension or annuity. A survey of the annuitant population to find out how recipients feel about their private pensions might confirm anecdotal evidence that those, especially those with a GSF inflation adjusted pension highly value the certainty and simplicity it offers as they age (St John, 2018).

There is also a dearth of information in New Zealand about what actually happens when people retire with lump-sums, although ASB's poll of people with money in KiwiSaver found 17% planned to use their nest eggs to have holidays or go travelling when they retired.³⁴ The Australian Productivity Commission (2015) found in their 2015 investigation that only around 16% of all Superannuation Guarantee savings (super) is taken in lump-sum payments, with the majority of that money used to pay off home loans, renovate, buy a new property, invest or clear other debts.³⁵

Challenger's 2013 survey of 3,500 members of National Seniors Australia revealed that the highest priorities for retirees are: health considerations; outliving their savings or longevity risk; peace of mind that emerges from a regular, dependable income in retirement; and protection against inflation (Cooper, 2014b).

Brown (2008, p. 205) highlights the value of inculcation of an income mentality during the accumulation phase so that people are not so sensitised to giving up control over their wealth. If annuitisation remains voluntary, it could be made a default option as explored in John, Gale, Iwry, & Krupkin (2019) and the OECD (2018), and further discussed in section 7 .

Overcoming market failure

From the individual's point of view, traditional annuities are illiquid, inflexible, poor value for money products that offer little room for movement when circumstances change. From the provider point of view, they are low profit and unattractive products to price accurately. The systemic risks of inflation and excess longevity are unlikely to be insurable in private markets.

The New Zealand experience shows clearly that when the state withdraws from the annuities market, it becomes unviable. Market intervention can take many forms. The obvious one is compulsion. If all are compelled to be in the pool the good risks (those that die young) subsidise the bad risks (those that live a long time) and overcome

³⁴ See <https://www.stuff.co.nz/business/money/107439098/kiwisaver-is-a-governmentsubsidised-holiday-fund-to-many>.

³⁵ And see <https://www.pc.gov.au/inquiries/completed/superannuation>.

adverse selection. Overheads can be lower especially if the state itself is the sole provider as expensive marketing and commissions will not be required.

Regulations could also be used to force provision of gender-neutral annuities: unisex pensions are required in some countries. NZS, and pensions from the Government Superannuation Fund are gender neutral. (see discussion St John (2004, pp. 217-218). To address unexpected inflation, the Government could provide inflation-indexed long bonds.³⁶ Indexation of annuities becomes possible as the Government carries the cost of uncertainty.

To argue that there is a role for the state in either facilitating and/or in subsidising the provision of annuities requires a demonstration of social advantage. For an individual such advantages of certainty and simplicity may be obvious especially when there is cognitive decline. But there are also social advantages that justify subsidisation. Where there has been tax-subsidisation of the accumulation it is legitimate to ask for a return of some kind to society. One potent argument is that annuitisation prevents the consumption of the lump-sums too early in retirement and provides for ongoing income to meet future healthcare costs, including long-term care that may otherwise become a cost to the state.

International use of annuities

Some countries, for example Singapore, make it mandatory to annuitise lump-sums from lump-sum tax- favoured retirement savings schemes. In the UK, until 2014, at age 75 retirees were compelled to buy an annuity with such retirement savings. Annuities were very unpopular and seen as poor value for money so that in 2015, the UK government gave pensioners complete freedom to draw down as much or as little as they want from their 'pension pots'. Purchase of annuities fell dramatically, and existing annuitants had the opportunity to sell their contracts for a taxable lump sum.³⁷ The outcome of 'pensions freedom' has been greeted with alarm with many commentators predicting the loss of the annuities market over time and an unfortunate loss of secure regular income in older age.³⁸

In contrast to the decline of interest in annuities in the UK, interest in Australia has increased. Australia's Financial System Inquiry, Final Report, (2014), made recommendations on five specific themes, including "Lift the value of the superannuation system and retirement incomes". The Inquiry's recommendations to strengthen the

³⁶ Bonds whose returns are inflation-adjusted.

³⁷ See *The Guardian*: <http://www.theguardian.com/money/2015/mar/21/selling-annuity-good-cash-deal>.

³⁸ <https://www.bbc.com/news/business-41199150>.

superannuation system aimed to set a clear objective for the superannuation system to provide income in retirement:

The superannuation system is not operationally efficient due to a lack of strong price-based competition. Superannuation assets are not being efficiently converted into retirement incomes due to a lack of risk pooling and over-reliance on individual account-based pensions. (The Australian Government the Treasury, 2014, p. xviii)

They recommended that superannuation trustees be required to pre-select a comprehensive income product for members' retirement (The Treasury Australia 2014, p. 117). While a 'comprehensive income product' falls short of being an annuity, there has been a growing interest in providing longevity protection.³⁹ In November 2014 at the RPRC's forum on decumulation, Jeremy Cooper, Chairman of Retirement Income at Challenger Limited, Australia, explained Challenger's new, simple annuity product that guaranteed income for life, access to capital, and low product fees.⁴⁰ In 2018, Cooper was part of the Australian Government group developing a MyRetirement framework that proposed requiring super providers to offer an annuity product. While it was not proposed as a default option, the fact that a trusted provider was offering it signalled it was worth thinking about seriously (Macalister, 2018).

Since their introduction in 2010 Challenger's own annuity products have proved popular: annuity sales have increased to around 60,000 customers through management of more than \$18 billion in assets (as at 31 December 2018).⁴¹ In the 2017/8 financial year, in Australia, Challenger wrote A\$1 billion (\$1.07b) of lifetime annuities and A\$3b in term annuities.⁴² The tax concessions seem an important driver for that change as shown in a 2013 Retirement income survey, where tax effectiveness was the most important feature of retirement income products for pre-retirees (Cooper, 2014b).

5. Long Term Care: inter- and intra-generational cost-sharing

In the 21st century, no country can afford not to have a comprehensive system of long-term care. The central goal of these systems should be to maintain a level of functional ability in older people who have or are at high risk of significant losses of capacity, and to ensure that this care is consistent with their basic rights, fundamental freedoms and human dignity. This will require acknowledging their continuing aspirations to well-being and respect. (World Health Organisation, 2015, p. 16)

³⁹ See also <https://www.abc.net.au/news/2019-06-17/superannuation-retirement-savings-issues-inquiry-may-review/11215512>.

⁴⁰ See <https://cdn.auckland.ac.nz/assets/business/about/our-research/research-institutes-and-centres/RPRC/Decumulating-the-savings/2%20Cooper%20Decumulation%20Challenger.pdf>

⁴¹ See <https://www.challenger.com.au/-/media/Challenger/Documents/Guides/Talking-about-annuities.pdf?la=en>.

⁴² See <https://www.goodreturns.co.nz/article/976506364/nz-annuities-market-will-grow-challenger.html>.

As high-income countries face the combined challenges of ageing populations, decreasing numbers of informal carers, and increasing need for formal LTC and RAC, there is more attention given to the way long-term care is financed. For many of the reasons discussed on the failures of the annuities market, private long-term care insurance (LTCI) is unlikely to be the answer.

By the time older persons and their families realise that they are likely to need LTC, their age is such that the risks are too high for affordable premiums. Unlike insurable risks such as Life Insurance, the premium depends not only on the risk of requiring LTC but on how long a person will need that care for. In countries that do have LTCI, there are limits on what can be claimed. For example, the US has a social insurance means-tested programme under Medicaid to pay for old age care with those better-off funding their own care, including for some, the use of private LTCI. However the LTCI is expensive and limited (Stark, 2018).⁴³ New Zealand has never had a private LTCI market.

In many respects the US system is similar to New Zealand. Brown and Finkelstein (2011) found about one-third of LTC expenditures are paid for directly; 60% are paid from the means-tested public programme Medicaid, and only about 4% from LTCI. Yet 35% to 50% of 65 year-olds will use a nursing home at some point in their remaining lives, and 10 to 20% will live there more than five years indicating a large risk for some.

Long-term care expenditures constitute one of the largest uninsured financial risks facing the elderly in the United States and thus play a central role in determining the retirement security of elderly Americans. (Brown, J. R. & Finkelstein, 2011, p. 119)

Brown and Finkelstein attribute the small size of LTCI to private market imperfections and the availability of public long-term care insurance through Medicaid.

Although there are potential welfare gains if people can purchase LTCI, Barr (2010, p. 359) concludes that supply-side and demand-side problems mean “social insurance is a better fit” (Dale, St John, & Hanna, 2012, p. 6). The New Zealand market is too small to encourage competition among multiple private providers pointing to a fundamental role for the state in provision as well as regulation.

General tax funding of LTC implies an intergenerational sharing of the costs on a Pay As You GO (PAYGO) basis: today's workers pay taxes to fund today's use of LTC by the older population. As the pressures and costs grow with the ageing of the old, more attention might be paid to intragenerational cost sharing where there is more sharing of the costs within the older population itself.

⁴³ See also <https://www.reuters.com/article/us-usa-insurance-reserves/long-term-care-policies-loom-over-us-life-insurance-results-idUSKCN1N01FG>.

Long-term care social insurance approaches

International comparisons are difficult as the pension environment in each country largely determines the form and value of long-term care (LTC) and LTCI:

The extent of expenses covered by public assistance varies from country to country; for example, assistance for activities of daily living (ADL) comes under the umbrella of LTC, yet there is a large observed variation in provision. In some countries, only the LTC costs of health services are state-funded, and expenses such as board and lodging must be met by the individual out of their public pension and/or their personal savings. This system puts extra pressure on the health system which becomes the substitutable option for LTC for those ineligible for full assistance. (Dale, et al., 2012, p. 12)

Japan

In Japan there is approximately one person aged 65 and over for each person aged 15–64 in the labour force (Miyazaki, 2018, p. 1). All persons aged 65 and over can access benefits from LTCI. To fund this care, all persons aged 40 and over contribute by paying a LTCI premium that varies according to income, and all LTC services incorporate a 10% to 20% co-payment structure (Lim, 2018).

To manage the increased share of older persons in the population, Japan has been moving from institutionalisation towards a home and community-based integrated care system through cooperation with LTC facilities. Providers range from for-profit companies to non-profit companies, but fees for services are established by the federal government and are reviewed once every three years.

The design of the [Japanese] system successfully created a competitive provider market and facilitated a wholesale shift in care responsibilities, from families and individuals to society as a whole. (Curry, Castle-Clarke, & Hemmings, 2018, p. 2).

Germany

Compulsory LTCI for all was introduced in Germany in 1995, funded by payroll tax and run as PAYGO social insurance, it provides assistance on four levels for home care and well as nursing homes.

Germany is one of the few countries with an established public LTC system and where government and private solutions coexist. In 1995 the public LTC insurance scheme was introduced as the last of the five pillars of social insurance in Germany. Coverage is compulsory, and people are usually insured through their health insurer. The financing of the scheme is based on a pay-as-you-go system. The contribution rate has increased from 1% of gross income at the outset to the current 3.05%, and is shared equally between employee and employer. Those without children pay a surcharge of 0.25 percentage points (Link, 2019)

Until law changes in 2016, eligibility criteria were based solely on measures of physical need, essentially ignoring people with cognitive impairment. In 2017, as well as raising levels of individual benefits, the new definition of “need for care” aimed to ensure equal

access to LTCI benefits whether the source of the need is cognitive, psychological or physical (Blümel, Spranger, & Busse, 2018).

Summary

Provision of private LTCI is difficult to price, and just as for voluntary annuities, adverse selection and overheads could add another 20% to a purchase price. Actuarially-based insurance cannot address uncertainties associated with LTCI, including the information problems facing both providers and potential purchasers.

6. How do middle-income retirees in NZ decumulate today?

Choosing the best way to convert retirement savings into a stream of income is one of the most complex financial decisions individuals have to make. (John, et al., 2019, p. 13)

Decumulation may involve drawdowns over as many as 30-40 years, so self-management requires careful consideration of assets, aspirations, risk tolerance and time. "Practical and relevant financial guidance will become ever more critical." (O'Connell, et al., 2015). However, even with promotion of financial literacy, and online budget tools, it is an unrealistic task for most middle income people to acquire sufficient financial expertise to manage all the investment steps needed to get to their pension goals, and then to manage the distribution of their assets or decumulation over the three phases of retirement.

Financial advice on decumulation can come at a cost. The Retirement Incomes Interest Group (2015, p. 45) surveyed advice providers and found an average cost of less than \$1,000 for a one-off advice session. An online advertisement from a large company shows the establishment fee for ongoing management of a portfolio could be around \$500, and for portfolios valued between \$100,000 and \$500,000; annual management fees can range from 1.53% on \$100,000 to 1% on \$500,000. There is not yet a culture in New Zealand for advice purely on decumulation, perhaps reflecting the lack of available products and a suspicion of the financial sector.

Rules of thumb

Simple instructions abound on the internet and from financial advisers. For example, "Leave up to (say) \$100,000 in the bank. Drawdown (say) 1/20 of original balance each year" (O'Connell, et al., 2015, p. 43). Or: divide up the lump-sum into pots of money—some for short term spending, others for longer term, and invest accordingly.

Given the uncertainties of the retirement phase, the diversity of needs, and the increasing size of the retiring population, O'Connell et al (2015) recommended ensuring simple, approved "rules of thumb" are freely available as well as access to simple, approved, independent financial guidance. These two options would be sufficient for most people with modest KiwiSaver balances, while for those wanting more detail, web-

based tables or calculators could be developed. The four 'rules of thumb' suggested by O'Connell et al (2017) are shown in Table 4.

Table 4. Four rules of thumb (O'Connell et al., 2017)

Rule of Thumb	Most suitable for	How it works
6% Rule: Each year, take 6% of the starting value of your retirement savings.	People who want more income at the start of their retirement, to "front-load" their spending, and are not concerned with inheritance.	You receive the same nominal amount each year – but the length of time you receive it for varies.
Inflated 4% Rule: Take 4% of the starting value of your retirement savings, then increase that amount each year with inflation.	People worried about running out of money in retirement or who want to leave an inheritance.	You receive the same real amount (ie inflation adjusted) each year but the length of time you receive it for varies.
Fixed Date Rule: Run your retirement savings down over the period to a set date – each year take out the current value of your retirement savings divided by the number of years left to that date.	People comfortable with living on other income (for example New Zealand Superannuation) after the set date. Those wanting to maximise income throughout life, not concerned with inheritance.	The amount you receive each year varies but the length of time you receive it for is known.
Life Expectancy Rule: Each year take out the current value of your retirement savings divided by the average remaining life expectancy at that time.	Those wanting to maximise income throughout life, not concerned with inheritance.	You receive a payment each year until you die but the amount varies.

Simple "rules of thumb" are available in other countries, offering guidance that helps to frame good practice for a consumer. However:

Developing rules of thumb, other tools and guidance in New Zealand would need input from a range of experts, including actuaries. We are concerned, in particular, to ensure that individuals are informed about longevity, mortality, credit, inflation and investment risks and uncertainties around costs including medical and long-term care needs. (O'Connell, et al., 2015, p. 45)

Some banks and the 'Sorted' website provide online software to assist the savings calculations and organising personal finances prior to retirement. The 'Sorted' website,

based on published assumptions now facilitates comparisons of the outcomes of different savings options in the context of risk tolerance and income requirements.⁴⁴

Real estate

A preferred system of self-management remains direct investment in property, including rental property, as the absence of a capital gains tax makes this a tax-favoured investment and it provides a hedge against inflation as rents tend to grow in line with general growth in the economy. However, while a rental property enables accumulation, it is not the full answer to decumulation and can prove to be a poor choice as people age and suffer cognitive decline. It is also a poor choice for society as investment demand for housing as a commodity puts upward pressure on house prices crowding others out of the home ownership market (see, for example Coughlan, 2019).

Managed income drawdown

A managed drawdown is offered by many financial service providers, KiwiSaver providers and banks, including AMP, ANZ, ASB, BNZ, Fisher, Kiwibank, Westpac, Mercer, Milford, and SuperLife.

Term deposits issued by banks typically mature in less than five years and the investment can be structured to allow the investor to access a regular income stream. KiwiSaver accounts may be retained after age 65 and regular monthly drawdowns, at the level the member decides, can be made from many managed funds to a bank account. The balance of the savings account continues to be invested with all the standard investment options and flexibility. At Superlife for example, the managed income can be changed or stopped at any time, and lump sums can be added or withdrawn at any time and for any reason.⁴⁵

While the interest on investments is taxed, the managed drawdown from a PIE or similar vehicle is not taxed as it is a return of tax-paid capital. Each product also provides a level of flexibility with different fees applying to different products and providers.

New Zealand information on costs associated with managed drawdowns is elusive (O'Connell, et al., 2015, pp. 26-27). Indications of UK costs, albeit in a different tax environment, suggest an overall 1% to 1.5% if the fund is small value after tax-free cash is taken. For larger funds this could be under 1%.⁴⁶ The costs of drawdown arrangements over long retirement, may be good for providers profits but may be a deterrent to this form of decumulation.

⁴⁴ See <https://sorted.org.nz/tools/retirement-planner>.

⁴⁵ See <http://www.superlife.co.nz/managed-incomes.html>.

⁴⁶ See https://www.sharingpensions.co.uk/income_drawdown.htm.

Drawing on the equity in one's own home

A Home Equity Loan, also called 'Home Equity Release' and 'Reverse Mortgage', are possible ways for superannuitants to access funds tied up in their own, often mortgage-free home. Such a product is not for everyone but may be useful for retirees who are asset rich but have no other means of accessing cash. The drawdown of home equity may allow such retirees to continue to live independently in their own home while maintaining it.

The advance against the net capital value of the home may be taken as a lump-sum (home equity loan) or as a regular amount (reverse mortgage). The outstanding amounts are accumulated with the interest charged by the provider, usually with a guarantee that the outstanding sum will never drive the home-owners into negative equity where the loan exceeds the value of the house.

Such products have not been very successful in New Zealand. Reverse mortgages were introduced in New Zealand around 2003 by insurance company Dorchester Life, finance companies, and Sentinel (Davey, 2007), but many of these providers soon became inactive. In 2010, the ASB became the first major New Zealand bank to offer reverse equity mortgages,⁴⁷ but this scheme too was abandoned in 2015. Existing customers are charged a variable interest rate of 7.2%, well above current low mortgage rates (Edmunds, 2015).

The most recent provider is Heartland New Zealand Limited (HNZ), the parent of Heartland Bank. In 2014, Heartland Bank purchased the home equity release businesses of Sentinel and Seniors Money International, expecting that the home equity market would enjoy significant growth through greater product awareness and credibility, demographic changes, and increased retirement funding needs.

Heartland's guarantees for home equity release include: lifetime occupancy, the amount required to repay the loan will never exceed the net sale proceeds of the property, and no requirement to make any loan repayment until the end of the loan.⁴⁸ There is a cooling-off period of only 30 days after taking out the loan, but if a client changes their mind, they can pay off the loan and the application fee is refunded in full.

While rising property prices can partially offset the cost of the accumulating loan or mortgage, interest rates are higher than the standard floating mortgage rate, fees are high, and compounding interest without repayments can see even a modest loan snowball.

⁴⁷ See http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10668939.

⁴⁸ See <http://homeequityrelease.co.nz/about-home-equity-release/the-heartland-bank-promises/>.

Heartland provides the example of a customer aged 71, beginning with an asset worth \$400,000 15 years ago, borrowing \$75,000 over those 15 years, no repayments, and still having an asset worth almost the original value of \$400,000.⁴⁹ However the example relies on escalating property prices, and a falling or stagnant market would produce a very different outcome.

Heartland options include a regular advance of a minimum of \$300 per month, \$625 a quarter or \$2,500 annually for up to 10 years. Another option is a cash reserve that can be accessed as a lump-sum for emergencies and not attract interest until drawn down. A range of fees apply with initial set up and valuation fees up around \$2,000.⁵⁰

Despite the costs and the critiques, Heartland's reverse mortgage business in New Zealand has grown 11.4% since June 2018 to \$561.2 million, and in Australia, growth over the same period was 24%, to \$757.6 million (Ruth, 2019).

However in Australia, home equity release has not been particularly successful with various routs and scandals plaguing the private market. A small reverse mortgage scheme, called the "Pension Loan Scheme", is offered by the Government to those under pension age, which charges a lower interest rate than the banks. Fortnightly instalments are paid to the borrower, creating a secure income stream for the small number who apply and qualify. Real dangers have been identified for those whose net equity is run down through these products leaving little to draw on for long-term needs.

Any suggestion that retirees will need to draw on the equity in their homes needs to involve the government either running the scheme or heavily regulating it. Banks should be kept well away and the recent financial advice scandals underscore that. (Thieberger, 2015)⁵¹

The long-term risk for borrowers is that, because of the impact of compound interest, they may seriously compromise their future retirement lifestyle and ability to afford expenses such as aged care accommodation, medical treatment and day-to-day living expenses. (Bowerman, 2018)

Annuities- Lifetime Retirement Income

An innovation on the decumulation scene in New Zealand is an annuity-like product that delivers for life a set 'income' of 5% of the capital invested at age 65. Investors can withdraw capital at any point and any balance is paid to their estate when they die.

⁴⁹ See the Heartland calculator at <http://www.heartland.co.nz/calculators/home-equity-loan/>.

⁵⁰ https://www.heartland.co.nz/Uploads/Seniors/Resources/seniors_finance_fee_schedule.pdf.

⁵¹ See http://www.businessspectator.com.au/article/2015/4/30/national-affairs/reverse-mortgage-risky-business?utm_source=exact.

Ralph Stewart,⁵² the instigator of this new product, saw that people wanted certainty and security of income but that traditional annuities are too unappealing. He believed that

"Lifetime Income products are completely different [to annuities] always leaving the capital under the ownership of the investor, earning returns based on the performance of an underlying portfolio of balanced passive funds, offering liquidity for the investor or the estate at any times and paying regular income for life free of tax." Ralph Stewart

the problems of tax inefficiencies, no liquidity, low returns, no flexibility, high withdrawal costs and poor profitability, could all be over-come (Stewart, 2012).

The development of a product with these characteristics required a dedicated effort over many years. The Lifetime Income (LI) (formerly the New Zealand Income Guarantee) was finally launched in 2015 and in 2019 is attracting a growing interest from its fledgling beginnings.

LI falls under the definition of a variable annuity and is subject to rules set by the Reserve Bank. The provider (Retirement Income Group Limited) was required to become a licensed insurer and meet stringent solvency standards to ensure adequate capital. A range of other complex criteria are also required to be met such as having variable annuity risk strategy, including hedging and independent actuarial reports (Reserve Bank of New Zealand Prudential Supervision Department, 2015).

Variable Annuity: a life policy with unit linked or managed fund investment characteristics and optional benefits for the policyholder. The benefits are calculated by reference to the value of the units allocated to the policy, but the benefits may exceed the value of those units in specified circumstances.

The longevity risk is insured with a separate company. This means the income stream can continue for as long as the investor lives even when the original capital is exhausted. The cost of this is an annual fee of 1.35% (single investor) or 1.75% (joint investor levied on the protected income base)⁵³ (Lifetime Asset Management Limited 2017). There is a binding ruling from the IRD that the income stream is untaxed: the underlying investments are taxed at the PIE rate of the investor.

The aspects of the LI and how it differs from traditional annuities is shown in Table 5. One of the key attractions of LI is that it addresses the distaste for old style annuities that did not give access to the remaining capital. The capital remaining diminishes as payments are made and fees are levied, although unanticipated gains on the underlying investment may also improve the position.

⁵² Ralph Stewart is the founder of the NZIG supported by well-known figures on the board of directors including Sir Michael Cullen. For background see <https://www.goodreturns.co.nz/article/976503608/the-birth-of-the-retirement-income-group.html>.

⁵³ The base is the initial investment less withdrawal. It can rise if investments do better than expected but it will never fall.

Table 5. Lifetime Income in a nutshell⁵⁴

Historical retirement income products	Lifetime Income
<ul style="list-style-type: none"> • Tax inefficient • No liquidity • Low returns • No flexibility • Expensive • High withdrawal costs 	<ul style="list-style-type: none"> • Regular income payments tax free • Redeemable at any time • Net income rates of 4.5% p.a. at age 60, and rising with start age • No contractual term • Maximum fees 2.35% (single life) • No withdrawal costs

The LI is now incorporated in the Simplicity KiwiSaver Scheme (launched 24 October 2017) providing the first variable annuity in a KiwiSaver scheme, and in the Britannia Superannuation Scheme (launched 22 March 2018). Business may also extend over time into the management of certain defined benefit superannuation schemes. Retirement funds under management for 2019 financial year were \$200 million, with forecasts of \$571 million by 2023. The capital base is contributed by investors who expect to eventually make a profit as shareholders (Retirement Income Group Limited, 2019).

The LI offers flexibility in timing of purchase. Purchases can be made at younger ages for a reduced guaranteed return or retirees can defer accessing the LI and receive a higher annual payment. A 65-year-old who deferred payments until s/he reached 67 could be guaranteed a 5.4% per annum return, and a 6% per annum return if s/he deferred till they were 70 rising to 7.5% at age 90.⁵⁵

Lifetime Income Customers 2019

- Customer numbers for variable and fixed annuities: 1,100.
- Male: 31%, female 35% and joint lives 33%
- 85% take income immediately, 15% defer to the future, average deferral period 6 years
- Average age 68
- 66% of new business aged between 65 and 75.

(Ralph Stewart, personal communication, 23 August 2019)

Critics of the LI have observed that a 5% return on a capital sum from age 65 could be provided more simply through self-management (see for example discussion in MCA NZ Limited, 2019). Thus \$100,000 invested today could be drawn down at \$5,000 a year for 20 years even disregarding the interest earned. Nevertheless the LI takes away the anxiety of personally managing the capital sum in the bank and offers longevity protection. A more critical problem is that regardless of what happens to inflation the income stream remains fixed, and even low amounts of inflation can have a substantial impact on the value of a fixed income stream⁵⁶.

⁵⁴ <https://www.lifetimeincome.co.nz/media/2182/2018-information-memorandum.pdf>.

⁵⁵ <https://www.moneyhub.co.nz/lifetime-retirement-income.html>.

⁵⁶ Lifetime offers indexation but the fixed indexed annuity is only 76% of the unindexed one. This has not proved popular: purchasers may find it hard to see how in times of low inflation how that would be good value.

The LI is an interesting and welcome innovation into the decumulation scene. Its introduction demonstrates however how difficult it is for a private firm to launch such a product. The LI has been widely advertised, suggesting the marketing overheads are high. While there is a growing interest as evidenced from well-attended seminars, the number of policies sold is small so far in comparison to the potential middle-income retiree market. The stringent regulations guarantee policy holders that their variable annuity payments will continue for as long as they live, but there is no state subsidisation to make the product more attractive, for example, the state may offer protection against inflation. Nor is LI developing in a climate of wide acceptance of annuitisation or concerted efforts to change public attitudes.

The following section offers some blue skies thinking to offer a way forward around how to best to protect for the all the major risks that middle-income people face, including longevity, inflation and long term care.

7. Integrating the risks of ageing in New Zealand

In the international pensions world, New Zealand stands out as a country with little formal support for middle income retirement above the basic NZS at 33% of the average wage for a married person and 40% for single sharing.

Most other OECD countries have social insurance for tier two pensions on top of the basic pension, and/or a culture of annuitisation to allow for some secure continuance of economic status for middle income retirees.⁵⁷ In addition, as OECD populations age there is increasing attention given to the growing costs of Long Term Care (LTC). New Zealand's financial arrangements for middle income New Zealanders do not involve wide cost sharing. For both longevity and LTC risks, more cost sharing among older people themselves may enhance security and take the pressure off the working age population.

Converting assets to income in an orderly fashion will become an increasingly important issue for the ageing populations and economies of many nations. Conventional annuities have many weaknesses, not least a diminishing supply of long bonds from governments. However, without a sharing of longevity risk the task of achieving a satisfactory income in old age will become impossible for many. Furthermore, it is likely that such sharing will have to become intra rather than intergenerational (as it is now) if it is to be workable in the future.
(Wadsworth et al., 2001, p.3)

Income and assets of older New Zealanders aged 55-74

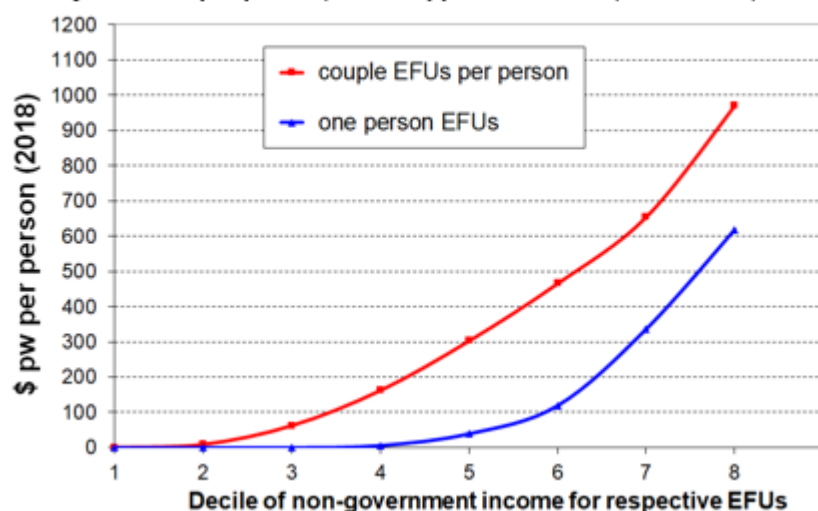
Data on income and assets of middle income older New Zealander is limited: especially lacking is a breakdown by deciles of income and assets for pre-retirement age cohorts (54-64) and early retirement age cohorts (65-75).

⁵⁷ These earning-related income streams may be indexed to wages or prices.

Perry (2019 forthcoming) notes that in 2018, over and above government transfers, around half of older New Zealanders had incomes of less than \$200 per week and around 40% had less than \$100 per week. The proportion of total income from employment is now much larger from decile 5 and for “younger” older New Zealanders (aged 66-75 yrs); the share rising from 23% in 2001 to 42% in 2018. Figure 7 shows how individuals in couples above the first deciles⁵⁸ have much more weekly income than one person households aged 66+.

Figure 7. Income from non- governmental sources for those aged 66+. Perry (2019 forthcoming)⁵⁹

Income from non-government sources for one person and couple EFUs (66+): weekly amounts per person, decile upper boundaries, deciles 1-8, HES 2018



Derived from Stats NZ, (see Appendix 1), Table 6 shows average and median net worth of individual older New Zealanders. About 2/3rds of median net worth for those aged 55-74 is in owner occupied housing, however this information is not broken down by deciles of wealth.

Table 6. Individual mean and median net worth 2018

Net Worth	Age 55-64 (\$000)	Age 65-74 (\$000)	Age 75+ (\$000)
Mean	727	797	595
Median	323	416	337

Each year around 54,000 people become eligible for NZS.⁶⁰ swelling the ranks of younger superannuitants aged 65-74, the middle group of whom may have \$100-300,000 (including home equity for some) to manage for their retirement. KiwiSaver lumpsums will be a very significant and growing part of this asset base over time.

⁵⁸ These deciles are not based on a ranking of the whole population. “Older New Zealanders are clustered more strongly in the lower four deciles of the population income distribution (35% were in the lower two deciles in 2012.” (Perry, 2019)

⁵⁹ An EFU is an economic unit as opposed to a household unit.

⁶⁰ For the year ended March 2019, there were 53,832 new grants of NZS made to those aged 65-74. Of this group 6,452 died and 212 left NZ (MSD personal communication.)

How much do middle income retirees need?

O'Sullivan & Ashton (2012) showed in a School of Population Health research project that NZS plus \$6,000 to \$8,000 per annum in 2012 was needed to maintain a healthy lifestyle. Other evidence from a 2018 Massey survey (Table 7) suggests for a one-person household in the city, a No Frills budget would require \$31,000 annually, and a Choices budget would need \$61,800. Compared with the single living alone rate of NZS (\$20,800) there is a gap of \$11,000 and \$40,000 respectively (Matthews, 2019).

Table 7. The gap between total expenditure and NZS in 2018

		TOTAL WEEKLY EXPENDITURE	NZ SUPER	GAP IN 2018	GAP IN 2017	CHANGE IN GAP 2017 – 2018
One-person households	No Frills - Metro	598.45		-\$197.58	-\$200.24	(-1.3%)
	No Frills - Provincial	569.43	\$400.87	-\$168.56	-\$170.84	(-1.3%)
	Choices - Metro	1190.13		-\$789.26	-\$784.97	(0.5%)
	Choices - Provincial	834.27		-\$433.40	-\$433.96	(0.1%)
Two-person households	No Frills - Metro	885.31		-\$268.59	-\$271.92	(-1.2%)
	No Frills - Provincial	630.03	\$616.72	-\$13.31	-\$21.18	(-37.1%)
	Choices - Metro	1417.85		-\$801.13	-\$799.42	(0.2%)
	Choices - Provincial	1118.92		-\$502.20	-\$504.48	(0.5%)

The two-person household in Table 6 is made up of two people irrespective of marital status. St John and Dale (2019) have argued that over time the single sharing and married rates should be aligned.⁶¹ Using the married rate to also encompass all single sharing, each person in a two-person household needs another \$6,700 on a No Frills budget, and \$20,800 on a Choices budget.

For purposes here, a sensible goal for a top up annuity for middle income retirees might be an additional \$10-15,000 per annum. The figures above suggest that many younger retirees may be achieving this through paid work, but eventually that will come to an end with few working past age 75 (St John and Dale, 2019). There is a high probability that a person will need LTC at some stage before death, although the duration and level of that need will vary across a wide range. The top-up annuity would help pay for this but as discussed in section 3, the 2019 capped fee is around \$55-60,000 annually, so that in 2019 dollar terms, with the net married rate of \$16,500, an extra sum of around \$40,000 of income must be found. In addition to the capped fee, funds for a range of other expenses while in care, including spectacles, hearing aids and dental care, may also be required.⁶²

The New Zealand experience clearly shows that when state support is absent or withdrawn, the traditional private annuities market, along with home equity release and LTCI are no longer viable. Innovative thinking around annuities may enable some of the

⁶¹ The single rate would be frozen or only price indexed until the married rate caught up. This section assumes there has been an instantaneous adjustment to the married rate.

⁶² See "While the person is in care, what individual services/items do they have to pay for that are not covered by Government funding (the residential care subsidy)?" at <https://www.health.govt.nz/our-work/life-stages/health-older-people/long-term-residential-care/residential-care-questions-and-answers>.

drawbacks to be addressed, but as Stewart's experience with the LI product has shown, it can be a costly and time-consuming path to develop new, profitable annuity products. If others step into this market, the extreme complexities may make competing products almost impossible for individuals to evaluate. As with home equity release and LTCI, there is little chance of consistent, stable annuities market that can provide meaningful protection for most middle income people without substantial state involvement.

Characteristics of a desirable annuity

An attractive annuity product to supplement NZS for middle income New Zealanders might have all or most of the following features:

- Be good value for money; low overheads;
- Be inflation-protected;
- Provide flexibility including special consideration of impaired life/deferred annuity options;
- Be much less of a lottery than has traditionally been the case;
- Allow, in suitable cases, the use of part of the equity in owner-occupied housing for the annuity purchase;
- Be gender neutral, given that the majority of both men and women do not experience the extremes of longevity;
- Include insurance for catastrophic care costs;
- Insure to some degree against growth in living standards.

NZS itself is a quintessential example of a perfect annuity: gender neutral, inflation and wage linked, full longevity and investment risk protection, very low overheads and compliance costs and its universal coverage eliminates adverse selection. There is no guarantee period or need to provide a payment to the estates of those who die young. Its funding from general taxation allows coverage of all, regardless of whether contributions are from paid or unpaid work. It enables escape from the strictures of actuarial insurance: there are no actuarial reports needed, no complex oversight of investments, and the results can be highly redistributive to meet society's values and goals. The security lies not in a complex insurance contract but in the power of the social contract supported by the democratic process.

Actuarially fair pensions:

An annuity based on statistically determined longevity and assumed returns payable from a given lump sum. Actual purchased private annuities are of lower value and they must be priced using an allowance for overheads.

If the net NZS payment was a private annuity, in theory, it could be purchased at an actuarially fair price as there are no private insurance overheads. To illustrate the importance of NZS in a person's net wealth: a female with a life expectancy of 24 years at age 65, would need to find a lump sum of around \$400,000 to buy an actuarially fair inflation-linked annuity equal to the married net rate of NZS of \$16,500 pa. If she lived to age 100, the effective value of her actual net NZS payments would be in the range of \$600,000. (A zero real rate of return is assumed)

The problem is that NZS alone is not enough for middle income retirees to maintain something approaching their pre-retirement lifestyle. As a solution, retrospective change to require compulsory annuitisation of KiwiSaver lump-sums is not a feasible option, nor can the private sector insurance/annuity infrastructure be created quickly if wide coverage is the aim. If each KiwiSaver provider was required to offer an annuity option for example, to avoid costly duplication in New Zealand's very small market, there might be more integration with the LI product already established just as KiwiSaver provider Simplicity has done.

Even so, voluntary annuitisation of KiwiSaver lump-sums may require tax reform, state subsidisation, inflation and longevity underwriting, regulation or even state provision to be attractive.

One of the advantages of the tax neutral approach to retirement saving accumulation is that it leaves open the possibility of transparent government subsidisation of the decumulation phase to meet explicit social goals. Rather than concentrating on pre-retirement saving, a re-invigorated annuities market including a method of releasing home equity is required. A strong role for the state is implied to help the older population manage the risks they face in retirement. (St John, 2004, p. 78)

State involvement is critical and may have wide support: the RPRC's 2014 decumulation forum posed these questions: What would it take to get appropriate decumulation products to the New Zealand market? What are the critical characteristics of decumulation products? Would there be a role for the state? What is the role of consumer education? The forum found it would take some or all of:

- State mandating or compulsion of some kind, and/or
- Some form of tax break, and/or
- Some form of regulation, and
- A state guarantee.

Among state options that have been considered, Mercer (2009, p. 42) argue that allowing the purchase of an increment to the life annuity NZS itself at an actuarially fair price may be a cost-effective and attractive policy. Berthold (2013) examined this idea and concluded that it would be too difficult to integrate taxable NZS paid at various rates with a tax-paid annuity. St John and Dale (2019) however suggest a basic income approach to NZS that would see each superannuitant paid the same basic non-taxable grant, with other income taxed on a separate, progressive scale. This would allow full integration of the top-up and the enhanced basic income could be indexed at the same percentage as NZS.

Berthold's (2013) preference was for a separate state scheme that would offer a top-up annuity on actuarially determined grounds but would be administered separately from NZS. There is a precedent: New Zealand had a compulsory savings scheme (the NZ

Superannuation Fund) in the 1970s, where the person's final accumulated sum (less an allowed 25% capitalisation) was used to purchase an actuarially fair annuity from the annuity account in the Fund (Milne, 1977, p. 151). In today's circumstances, rather than a separate entity like ACC, the scheme might be run as a subsidiary of the NZSF, taking advantage of the Fund's long-term investment horizon to underpin the value and security of the purchased annuities.

In contrast to tax incentives for the accumulation phase of retirement saving, subsidisation of annuities may offer attractive social advantages. One of these may be the opportunity to include a rider for LTC.

Just as St John and Dale (2019) argue for more of the costs of the basic income NZS to be borne by the better-off retired themselves, the same is true of the need for more intra-generational sharing of the costs of LTC. Currently, the RAC subsidies for those who have run out of assets and income for the last years of their life are paid for largely by the working age taxpayers. For those affected by the means test, the cost is borne by the lower lifestyle of the individual and by the families who get less inheritance based largely on the randomness of having a parent living too long and needing LTC for a significant length of time.

To share the risks more equitably, the costs need to be shifted from the taxpayers in general onto the older population itself. More intragenerational cost sharing of the longevity risk shifts resources from those who die early to those who live a long time, and for LTC from those who do not require LTC to those who do. This combination provides a natural hedge and can reduce adverse selection. So, for example, someone who expects reduced longevity may not be interested in an annuity with a price based on average longevity, but they may expect an early need for LTC and if LTCI was parcelled with an annuity purchased at 65, they may find that attractive. From the insurers' point of view, those with extreme longevity are poor annuity risks but if healthy, they may be good LTC risks as the need for such care is likely to be 30 or 40 years away. The more that are in the risk pool the better for pricing.

The development of a state sponsored scheme to cover the risks of ageing, combining a limited value gender-neutral life-time annuity with LTCI is explored next.

KiwiSpend- a blue skies proposal

The following idea is proposed for development and debate. It utilises the KiwiSaver framework that has been admired by other countries and capitalises on its strong features of branding, opt-out culture, defaults and oversight.

In exchange for a lumpsum, a limited, gender neutral, annuity, of say, \$12,000, named here ***Kiwispend*** could be provided that combines a regular income with LTCI. Provision would be from a subsidiary of the NZSF whose capital assets and state backing allow for long-term investment strategy, full CPI indexation, with the possibility of wage indexation.

KiwiSpend characteristics:

- the same annuity for the same lump-sum for men and women
- low cost administration,
- protection from inflation, and/or wage linked.
- Add-on LTCI

KiwiSaver providers would be obliged to default members into this scheme with a suitable opt out period to allow for advice to be taken and assessment of alternatives. The default of annuity purchase would apply to all KiwiSaver funds held with an exemption of 25% up to a maximum of \$25,000 per person. Critically, the KiwiSpend annuity would be limited in size to a maximum, here assumed to be \$12,000. If there is not enough in the applicant's KiwiSaver account, it would be possible to top this amount up with other savings and possibly a home equity share so that a \$12,000 annuity can be purchased. Holders of small KiwiSaver funds can always opt out, as can more wealthy holders of large KiwiSaver funds who may self-insure. The state is the obvious provider of a home reversion loan for all the reasons around the failure of the home equity release markets discussed earlier. If a portion of home equity was used, allowance in the calculation of the KiwiSaver could be made for the lower liquidity.

KiwiSpend would be paid from the subsidiary NZSF but its effect is to add to the basic NZS (non-taxable under a basic income approach as described in St John and Dale 2019). Annual indexation could be to the integrated sum. In a basic income approach, the annuity is part of the basic income meaning that the cut out point for the clawback for that person will be higher. That may dissuade very high-income people from buying this annuity, but, it is not designed for them.

KiwiSpend purchased at age 65 would take advantage of the wide pooling of risk and have a LTCI add-on: if RAC is required, the annuity of \$12,000 could treble to \$36,000 annually. That add-on (the enhanced KiwiSpend) plus NZS would meet the majority of the annual RAC cost around \$55-60,000. A higher enhancement factor could be used if more protection is required.

KiwiSpend would relieve some of the public and private burden of the costs of the ageing population, without creating hardship or unfair asset stripping. Under KiwiSpend, individuals would enjoy the peace of mind of the guaranteed income stream in addition to NZS. A top-up annuity with a long-term care rider would spread the risk more fairly away from families who see the parental assets rapidly eroded under the RAC subsidy means test, to the older population more broadly. It may overcome the resistance to the

alienation of capital in traditional annuities as family could see that their assets were protected by the LTC add-on. For this reason it may not be necessary for KiwiSpend to have a 10 year guarantee, but that could be offered as a choice.

The KiwiSaver framework would include KiwiSpend and take advantage of the strong branding and enhanced trust that people have that a long-term investment of their funds is secure. Over time it is hoped it would enjoy wide support and act as a kick start to begin to change the culture around annuities in New Zealand. LI and other products would still be sold either as alternatives with access to state subsidies especially for inflation protection, or as additional annuities for those for whom \$12,000 is not enough. These top-ups could be exempt from being counted as income for the claw back if the basic income idea is adopted, and like KiwiSpend would be treated as net additions for the basic income.

Like NZS, KiwiSpend would not require marketing or selling costs, and the opt-out provision reduces adverse selection problems as does the coupling of longevity and LTC risks. Private annuities are reduced by around 20% of their actuarially fair value to allow for these costs.

Some preliminary modelling based on research by St John (2004) described in Appendix 2, suggests some ball-park figures for actuarially fair inflation-adjusted, gender-neutral life-annuities purchased at age 65, for a \$100,000 lumpsum. Using these figures, an actuarially fair price for the \$12,000 KiwiSpend without residential care needs, assuming a 2% real discount rate, would be \$174,400, or \$158,300 assuming a real rate of 3% (which may be quite realistic for the NZSF who will invest the assets).

An enhanced KiwiSpend is based on the probability of being alive at future dates and the probability of needing residential care at those dates. If KiwiSpend trebles to \$36,000 when LTC is required, the enhanced KiwiSpend has an estimated price of \$187,200 at a 2% real rate and \$169,700 at a 3% real rate.

If a trebling is insufficient, high enhancement factors can be used at an additional small cost. These estimates also are inflated by the 10 year annuity guarantee, but the guarantee may not be so necessary if private alternatives such as LI are also available. Many other variants are possible including extending coverage for at home care.

Further research is required: the estimates are indicative only and need to be updated for more recent mortality experience and new data on the probability of needing care at each age. More sophisticated modelling would also allow for the fact that many in LTC are there for far less than a full year.

8. Discussion

The development of decumulation products in New Zealand is slow and fragmented. Drawdown products of various kinds are becoming more readily available, but they, and home equity release products, do not provide protection against the risk of outliving savings. The need for safe, fair, affordable decumulation products is clear.

The risk is that, rather than engaging with the complexities of decumulation, the Government will sidestep the issues by putting its faith in better professional advice or guidance, further individualising the problem of decumulation.

Given the serious market failure in the voluntary annuities space, most pension experts and economists would argue for state intervention. State provision of longevity bonds to allow providers to take on the risk of increasing longevity, and long-dated indexed government bonds to protect against inflation, are the stock in trade recommendations for correcting market failure. Typically, the discussion stops at this point. The New Zealand experience shows that the state needs to grasp a much bigger vision for there to be meaningful annuity options. The state can act as a catalyst in five important ways:

First, the state must provide more resourcing to retirement policy development with much more attention to overseas experience. New Zealand seems behind especially in its awareness of the looming crisis in LTC. It is difficult to see how three yearly reviews can ever be an adequate response. A dedicated on-going well-resourced Commission on Ageing⁶³ is required as is the collection of more, appropriate and reliable data on income and wealth, and on behaviour and attitudes. Much more effort is needed to find political consensus around long-term issues of policy.

Second, debate must be more inclusive. We rely on poor surveys and one-sided opinions too much. For example, New Zealand has little information on the benefits provided by the certainty of annuities. While anecdotally, access to an inflation-linked pension enhances the retirement experience for those fortunate to still have one, and is very good for their families too, the annuitant population is fast diminishing in New Zealand and time is running out to explore this. For many women, managing money after retirement, often when they are on their own, is daunting. Knowing how much they can spend each year and not run out of money is critical. A change in culture is needed if annuities are to become a trusted part of the decumulation framework.

Third, the bias towards using property as a retirement asset requires radical reform. Under current tax rules, property wins every time: returns are hedged against inflation

⁶³ Alternatively, the Commission could be named the Commission for Intergenerational Equity, or the Commission for the Future. The critical point is the focus on the issues created by demographic and environmental change.

and the asset generally grows in real terms. But there are so many downsides to middle income people using this vehicle as a defacto or synthetic annuity, especially as they age and the management of rentals becomes problematic. For society it is really undesirable as well as home ownership and affordability of housing worsen because of investor demand. The catalyst is to remove this advantage with wide housing tax reform perhaps along the lines of the McLeod Review in 2001 to tax total net equity over a base amount held in housing (McLeod, 2001). Furthermore, the use of equity in homes to help pay for the costs of ageing (for example a contribution to the capital cost of KiwiSpend as described here) requires a strong government lead.

Fourth, the state could grasp the huge opportunity it has to build on the success of KiwiSaver and the KiwiSaver provider infrastructure. What is needed is a limited-value, gender-neutral, annuity product with generic branding, with oversight by the Financial Markets Authority (FMA), and default provisions. Here we have called such a product KiwiSpend and in time it could be an accepted part of the retirement incomes mix. Using the experience of KiwiSaver, members could be defaulted into KiwiSpend with an opt-out provision for a limited time. There is widespread, if reluctant acceptance, that to offer a life annuity product requires a strong role for the state that may also include provision.⁶⁴ A public education campaign for KiwiSpend, similar to the KiwiSaver promotion, could enable a similar adoptive and adaptive response.

Fifth in contrast to tax incentives for accumulation common in most OECD countries, subsidies for decumulation for a limited annuity can be well-designed with clear social benefits in sight. The cost of subsidies would be limited by a cap on the size of annuity that could be bought. High income people generally benefit disproportionately if there are traditional subsidies to the accumulation phase.

Finally, in the New Zealand context the point that Barr makes about political sustainability cannot be stressed enough:

Reform does not end when the legislation is passed, but needs continuing commitment from government, both for technical reasons, to ensure necessary adjustments to reform proposals as events unfold, and for political reasons, to sustain continuing political support. Reform which is regarded as a single, once-and-for-all event runs the risk of neglect, discredit and eventual reversal. A third element is the depth of political support. It is not enough for the top echelons of government to understand the reform proposal. The idea and its implications must be shared and understood throughout government and administration. Without that depth of shared understanding, the original plan risks being implemented badly or, at worst, actively subverted by lower levels of government or administration. (Barr, 2000, p. 25)

⁶⁴ For example: "the only feasible provider is the state". See <https://cdn.auckland.ac.nz/assets/business/about/our-research/research-institutes-and-centres/RPRC/Decumulating-the-savings/decumulation-group-1-workshop-notes.pdf>.

Appendix 1

Appendix 1 Individual assets and liabilities – mean value by age.									
Source Household net worth statistics: Year ended 30 June 2018									
Asset or liability type ⁽¹⁾	Age group (years)								
	(\$000) ⁽²⁾	Percentage change (2015–18)	(\$000) ⁽²⁾	Percentage change (2015–18)	(\$000) ⁽²⁾	Percentage change (2015–18)	(\$000) ⁽²⁾	Percentage change (2015–18)	
Year ended 30 June 2018									
	15–24		25–34		35–44		45–54		
Assets									
Owner-occupied dwellings	211	35.1	267	27.2	312	27.9	332	21.3	
Other real estate	162	-18.4	309	46.8	249	7.5	353	41.1	
Other non-financial assets ⁽³⁾	10	17.2	25	-14.7	47	-1.8	62	4.2	
Total non-financial assets	17	10.7	107	12.9	213	13.6	290	18.9	
Currency and deposits	4	-20.1	10	-14.0	13	-17.9	29	-26.4	
Pension funds	5	20.8	17	38.8	30	41.8	47	40.2	
Other household financial assets ⁽⁴⁾	53	-47.3	128	-45.4	373	27.8	610	35.8	
Total financial assets	9	-27.0	43	-40.0	137	-1.2	295	21.3	
Total individual assets	21	-8.7	144	-3.9	343	13.9	574	27.3	
Liabilities									
Owner-occupied residence loans	162	12.4	188	21.5	174	24.8	146	26.5	
Other real estate loans	5	346.8	214	25.4	204	15.7	281	86.4	
Education loans	22	10.1	22	20.4	17	-3.4	17	13.8	
Other loans and liabilities ⁽⁵⁾	6	56.4	11	54.0	12	14.9	10	-9.4	
Total individual liabilities	28	23.2	84	15.4	120	10.3	124	33.0	
Total individual net worth⁽⁶⁾	7	-26.9	81	-15.3	245	11.1	476	23.6	
	55–64		65–74		75+		Total		
Assets									
Owner-occupied dwellings	350	29.4	374	42.7	343	27.5	333	28.8	
Other real estate	403	9.0	374	42.5	403	-6.9	345	21.9	
Other non-financial assets ⁽³⁾	64	-4.6	71	0.1	67	12.3	48	-0.6	
Total non-financial assets	319	8.9	348	36.9	313	21.8	224	17.7	
Currency and deposits	51	-26.6	66	-22.4	63	-27.8	29	-31.9	
Pension funds	61	26.6	101	-0.1	210	37.8	37	23.5	
Other household financial assets ⁽⁴⁾	728	35.4	799	43.6	613	11.8	567	30.7	
Total financial assets	420	12.1	461	14.5	301	-6.4	217	4.5	
Total individual assets	727	18.2	797	35.8	595	16.7	421	18.2	
Liabilities									
Owner-occupied residence loans	111	17.4	119	62.8	29	-39.4	151	24.3	
Other real estate loans	278	43.4	186	17.3	177	39.7	244	42.0	
Education loans	12	30.0	8	-89.2	14	167.7	21	10.4	
Other loans and liabilities ⁽⁵⁾	8	-36.6	5	-33.9	5	-14.9	9	-0.2	
Total individual liabilities	84	-11.6	42	-17.7	14	-34.2	86	8.8	
Total individual net worth⁽⁶⁾	668	20.3	770	37.9	588	18.5	359	21.0	
1.	Excludes assets and liabilities held in a business or trust unless mentioned.								
2.	Values are rounded to the nearest thousand.								
3.	Includes consumer durables, valuables and other household non-financial assets.								
4.	Includes bonds and other debt securities, equity in own unincorporated enterprises, shares and other equity, mutual funds and other								
5.	Includes consumer durable loans, other investment loans, and other loans and liabilities.								
6.	Total includes a small number of individuals with no assets or liabilities.								
Note: Mean values for assets and liabilities are for those who had that particular asset or liability.									

Table 7.01

Individual assets and liabilities – median value

By age group

Year ended 30 June 2015 and 2018

Asset or liability type ⁽¹⁾	Age group (years)			
	(\$000) ⁽²⁾	(\$000) ⁽²⁾	(\$000) ⁽²⁾	(\$000) ⁽²⁾
	Year ended June 2018			
	55–64	65–74	75+	Total
Assets				
Owner-occupied dwellings	280	292	274	267
Other real estate	258	224	249	229
Other non-financial assets ⁽³⁾	48	55	47	33
Total non-financial assets	236	253	214	104
Currency and deposits	4	12	11	3
Pension funds	31	32	192	15
Other household financial assets ⁽⁴⁾	122	249	175	100
Total financial assets	52	63	30	17
Total individual assets	379	431	343	168
Liabilities				
Owner-occupied residence loans	79	49	13	122
Other real estate loans	189	149	101	177
Education loans	8	3	5	15
Other loans and liabilities ⁽⁵⁾	2	1	1	2
Total individual liabilities	19	2	1	21
Total individual net worth⁽⁶⁾	323	416	337	92

Appendix 2⁶⁵

An actuarially fair, fixed life annuity y , purchased from a given capital sum K is dependent on the probability of survival t periods from age x , tp_x , where x is the age of the annuitant at time of up-take, $t=0$. The maximum life span is given by w and the risk-free rate of return is given by r :

$$y = K / \sum_{t=1}^w \frac{tp_x}{(1+r)^t} \quad 1$$

A joint product requires that equation 1 includes the probability of needing long-term care, d_x , at age x , and factors in the necessary increases in the annuity on diagnosis of the need for such care. This can be expressed as:

$$y = K / \sum_{t=1}^w (tp_x + \Omega tp_x d_x) \frac{1}{(1+r)^t} \quad 2$$

where the annuity would increase by a factor of Ω when long-term care is required. For example $\Omega = 2$ corresponds to a trebling of the annuity.

Table 7. Expected value of gender-neutral annuity, purchase price \$100,000, 10 year guarantee

	1% real	2% real	3% real	6% nominal
Standard life annuity.	6,269	6,882	7,579	9,732
With long-term care insurance				
$\Omega = 2.0$	5,783	6,411	7,072	9,213
$\Omega = 2.5$	5,665	6,297	6,962	9,092
$\Omega = 3.0$	5,564	6,172	6,846	9,021

Source: Author's calculations St John 2004,

The estimates presented here do not allow for:

- The costs of marketing or overheads.
- The purchasers are likely to have a better mortality profile than the average for all aged 65 and over that has been assumed.
- The Life Tables relate to 1995-97. Increasing in longevity will need to be factored by using birth cohort mortality tables.
- The assumed real rate of return is an after-tax or net rate.
- The cost of inflation protection depends on being able to guarantee the real rate of return. The cost of not meeting the rate of return might be met from a subsidy from the Crown, use of inflation-adjusted bonds that pay a real after-tax return
- There is no factoring in of likely expected increases in the relative costs of long-term care.

⁶⁵ Source St John, S. (2004). Managing the risks of ageing: the role of private pensions and annuities within a comprehensive retirement policy for New Zealand. (PhD), University of Auckland, Auckland, Part 111.

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