The Policy Implications of Decumulation in Retirement in New Zealand

A background paper setting out the issues prepared for the Retirement Commission

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1 Background

While much attention has been directed towards the accumulation of assets for retirement, including the latest policy initiative 'KiwiSaver', to date, there has been little focus on the policy issues around the decumulation phase. KiwiSaver is structured to provide a lump-sum for example, with no concerns yet articulated as to how the money might be drawn down in retirement.

New Zealand has not been alone in focusing primarily on the accumulation phase. However New Zealand is a unique position in having perhaps the least proactive policy focus on decumulation in the OECD. Is this of concern? Are there improvements that can be made? What are the policy implications?

The purpose of this paper is to set out the issues and the framework for an examination of the decumulation phase by the Retirement Commission's working group, and for consideration in the 2007 Review.

Section 2 briefly documents the context of demographic factors, longevity improvements, and the distribution of wealth and income among those over 65.

Section 3 suggests some of the reasons why decumulation may be a pressing issue for New Zealand. It outlines how New Zealand is different internationally and discusses risks for the individual and for society as whole from the neglect of decumulation policy.

Section 4 sets out the current decumulation environment in New Zealand, the decline in pensions and the demise of the annuities market. The responses so far to the changing environment have been limited to advice from the 'Sorted' website and the private financial sector, and home equity release schemes. Is the emergence of home equity release products a sufficient response?

Section 5 together with material in the Appendix briefly discusses how annuities are treated in other countries.

Section 6 discusses some of the policy implications and policy directions.

Section 7 concludes by setting out the issues for New Zealand as a series of questions that need to be discussed and investigated further.

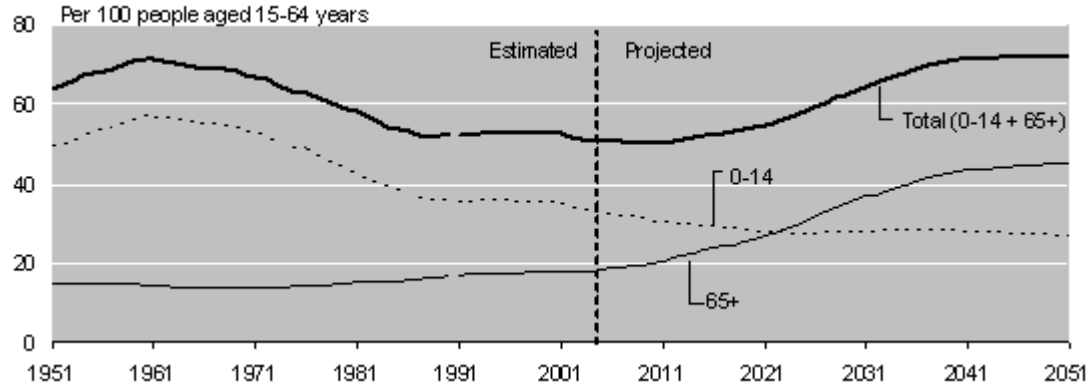
2 The context of decumulation

2.1 Demographic factors

The expected impact of ageing in New Zealand has been well documented.[1] The latest projections, at the time of writing, produced by Statistics New Zealand use 2004 as a base and take the mid-range projection 'Series 5' as the most suitable for assessing future population changes. These preferred assumptions reflect recent experiences in fertility, mortality and especially, higher migration.[2]

While New Zealand has a relatively young population compared to most other OECD countries, from 2010 as the baby boom generation enters retirement there are dramatic shifts in the demographic structure. By mid century the overall 'dependency' ratio as shown in Figure 1 is permanently higher.

Figure 1 : The dependency ratio 1951-2051



Source: (Statistics New Zealand, 2006a)

By mid century, the numbers aged over 65 are expected to increase by a factor of 2.7, from 490,000 in 2004 to 1.33 million. From this time the 65 years and over age group will make up about one-quarter of all New Zealanders, compared with 12 percent in 2004. As the baby-boomers move into this age group from 2011, the numbers aged 65-74 increase rapidly until about 2037. From 2031 the baby boom generation begins to enter old age, producing a rapid growth in the numbers aged over 85 (see Figure 2).

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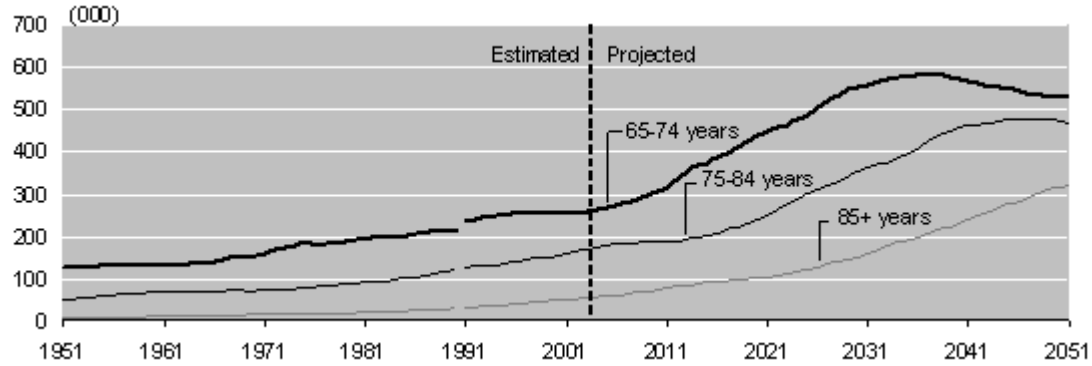
[1] See for a full discussion of the context (Davey, 2005)

[2] Series 5 assumes: the total fertility rate will decrease to 1.85 births per woman by 2016 and then remain constant. Life expectancy at birth will increase to 83.5 years for males and 87.0 years for females by 2051. Long-term annual net migration gain of 10,000 people from 2009.

Using the median projections (Series 5), the numbers over 85 increase from 54,000 in 2004 to about 320,000 in 2051, a six-fold increase, representing about one in four over 65 compared to just over one in ten in 2004. Under assumptions of lower mortality projections (series 7) the numbers could be as high as 390,000, representing a seven-fold increase. For this age group, a higher mortality for males is expected to produce a ratio of 70 males per 100 females by 2051.

Figure 2: The ageing of the elderly



Source: (Statistics New Zealand, 2006a)

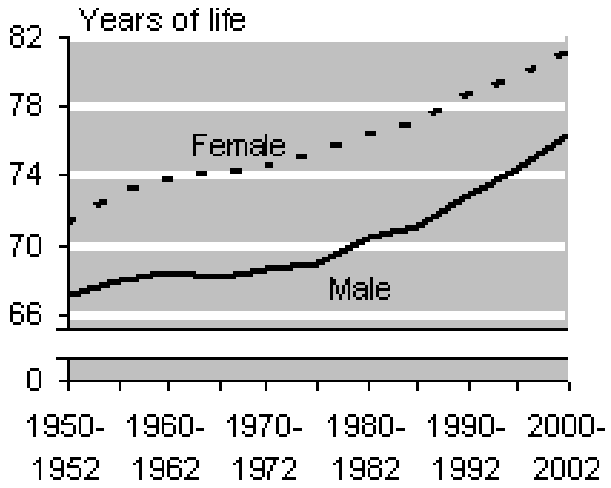
2.2 Longevity improvements

Population ageing has become a worldwide phenomenon as fertility rates and mortality rates have continued to decline. Some international researchers are however predicting a possible reversal of average gains (Olshansky et al., 2005). Other projections suggest that due to breakthroughs in genetic research and biomedicine, longevity gains may actually accelerate, not slow (Anderson, Shripad, & Nan, 2002; Lee & Haaga, 2002). [3]

There is no indication yet that the trend for increasing life expectancy at birth in New Zealand is levelling off (see Figure 3). The New Zealand Treasury, however use projections that assume the gains in life expectancy in the past 50 years will not continue at the same level in the next 50 years (Bryant, Teasdale, Tobias, Cheung, & McHugh, 2004).

[3]There is considerable scope for pessimism that current demographic projections of life expectancy based on medium estimates of fertility and longevity improvements under-estimate the likely impact of ageing. Lee & Tuljapurkar (2000) use a stochastic model for the United States to show that, instead of one projection, there is a plausible range of outcomes that suggest there will be from 30 to 80 older adults per 100 working age people by 2080. If the latter scenario plays out the 'old-age dependency ratio could quadruple within the lifetime of individuals born this year' (Lee & Haaga, 2002).

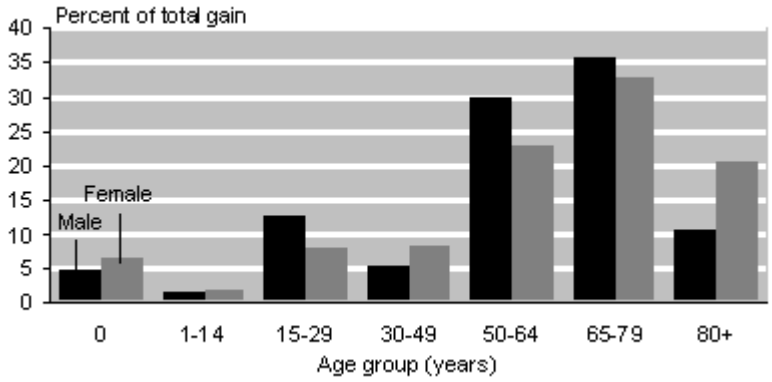
Figure 3: Life expectancy at birth



Source: (Statistics New Zealand, 2006b).

Between the periods 1970–1972 and 2000–2002, New Zealand life expectancy at birth increased by 7.8 years for males and by 6.5 years for females (Statistics New Zealand, 2006b). The main contribution to recent improvements is from the reduction in death rates among late working ages (50–64 years) and retirement ages (65–79 years) (Statistics New Zealand, 2006b). As illustrated in Figure 4, for the period 1995–1997 to 2000–2002, nearly 80 percent of the gains in life expectancy (1.9 years for males and 1.4 years for females) result from improvements at ages over 50 years.

Figure 4: Age Contribution to Longevity Gain 1995–1997 to 2000–2002



Source (Statistics New Zealand, 2006b)

On current data, from age 65, a New Zealand female can expect to live another 20 years on average and New Zealand males can expect to live another 16.7 years. If

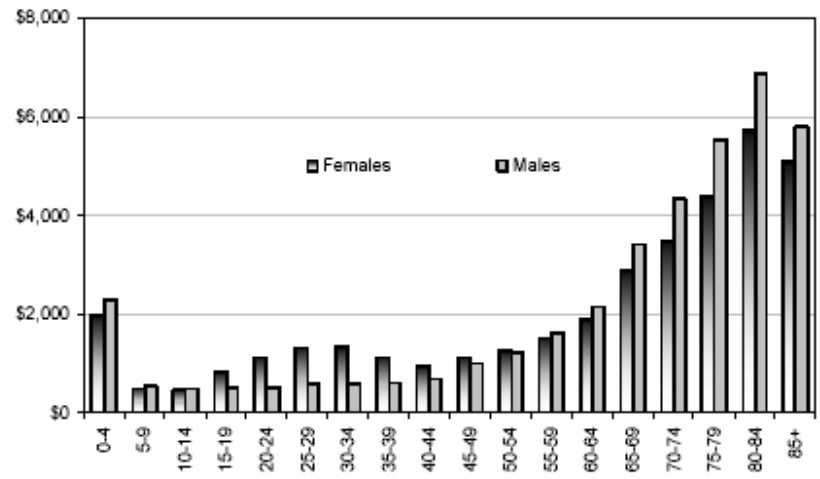
improvements in longevity continue, a 65 year old female could have another 22 years on average and a male another 18.2 years (Statistics New Zealand, 2006b).

If today's young, in fact, face reduced longevity and poorer health, while today's late middle age and older citizens expect to live ever longer, there will be even more of a strain on services for the frail elderly by mid-century.

2.3 Health care

Health expenditure is strongly age-related as shown in Figure 5. Drawing on (Bryant et al., 2004), Treasury's 2006 long-term fiscal projections explain that an increase in expenditure due to demographic factors alone could, in fact, be modest. This is based on a compression of morbidity associated with increased life expectancy. Thus people are expected to both live longer and have fewer years of bad health with lower disability rates. More significant drivers of health care costs increases may arise from cost increases from technology advances and elasticity of income demand factors (Rodway & Wilson, 2006).

Figure 5: Per capita personal health costs by age/gender in 2003/04



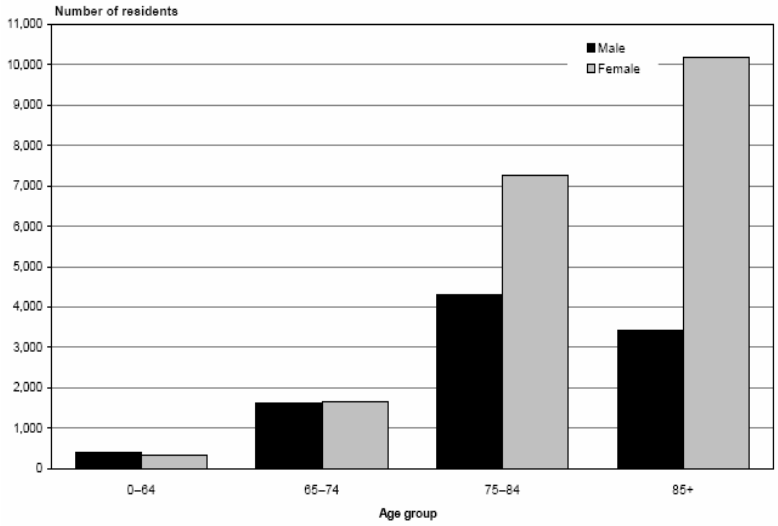
Source: Ministry of Health from (Rodway & Wilson, 2006)

Even if the rise in public health care expenditure to GDP is moderated by the expected compression in morbidity as the population ages, it can be expected that necessary personal expenditures, including those to simply remain well and out of the public system, will continue to loom large. Dental, elective surgery, unfunded medications, vision and hearing problems can all impose significant extra costs that may be uninsurable in the private sector for the bulk of retirees.

2.4 Long-term care

Of particular concern is the need for long-term care at the older age groups as shown in Figure 6 (Ashton & St John, 2005). In the next 20 years, the number of people requiring residential care is expected to approximately double (NZIER, 2004) with a rapid increase from 2031 to mid century. Some future demand may taken up by a shift towards services provided in the home, under 'ageing in place' policies (Age Concern, ; Dalziel, 2001; Dwyer, Gray, & Renwick, 2000; Ministry of Health, 2002). However, in spite of some evidence of a shift, expenditure on residential care is still more than twice the amount spent on home services and environmental support (Ashton & St John, 2005). Any substitution towards home care would therefore have to be both immediate and rapid to have any significant effect on the increase in demand for residential care beds, and the associated expenditure that is indicated by the demographic changes, especially from 2031. Even if there is a rapid shift to home care, this itself is no panacea and can be itself resource intensive, especially in dispersed living situations. Any cost advantage of home care can disappear for highly dependent retirees.

Figure 6: Estimated average number of residential care residents by age group and gender 2000/2001



Source: Ministry of Health (Ministry of Health, 2002,) p 93

2.5 The distribution of wealth and income among those over 65.

The first net worth survey (Statistics New Zealand, 2002a, 2002b) provides the most comprehensive view of the holding of wealth yet available. While the size of the survey precludes a detailed breakdown by age, the survey represents a benchmark and

provides a rough estimate of the liquidity and amount of assets people have in retirement and in the decades immediately preceding retirement.

Table 1 summarises this data and shows the percentage of those over 65 who hold assets in various bands of net worth. Half have net worth under $112,800. This is compared with the pre-retirement age group 45-64, to which it is not very dissimilar. For both groups the median is well below the mean, suggesting a concentration of wealth at the top end of the distribution.

While those in the 'middle income' pre-retirement group, say the fourth to eighth decile, have modest capital resources only, it may be possible for them to access capital in the range of $80,000-$200,000 ($2006) including, where appropriate, some of the equity in their own homes. The problem is that suitable and attractive mechanisms for translating such capital into income are not available.

Table 1: The net worth of those over 65 and those aged 45-64

Individuals	% Under $20,000	% $20,001-$100,000	% $100,001-$500,000	% Over $500,000	Mean $	Median $
Over 65	15.9	29.6	47. 3	7.2	186,400	112,800
45-64	14.5	25.5	50.8	9.2	220,900	140,000

Source: Statistics New Zealand *(2002b), Table 9.01*

While an analysis of household wealth in New Zealand has suggested that, on average households are saving enough to smooth consumption over the lifecycle (Scobie, Gibson, & Le, 2005), these tentative conclusions are based on a perfect annuitisation process. Even if the conclusions of this report that there is no overall saving 'problem' on average are correct, there remains a major issue of how people actually translate their optimal savings into an income to last an uncertain lifespan.

Data deficiencies

For the purposes of decumulation, it would be valuable to have a full wealth distribution of all cohorts as they turn 65. The best data so far is from the net worth survey. The new Survey of Family Income and Employment (SoFIE) is expected to provide a good data base on family and household circumstances, income, net worth and health (Statistics New Zealand, 2006c). SoFIE will track an initial 15,000 New Zealand 'economic units' over the eight-year period and can be expected to provide a wealth of data on which to better assess the financial health of older New Zealanders.

3 Does New Zealand have a decumulation problem?

3.1 Current arrangements

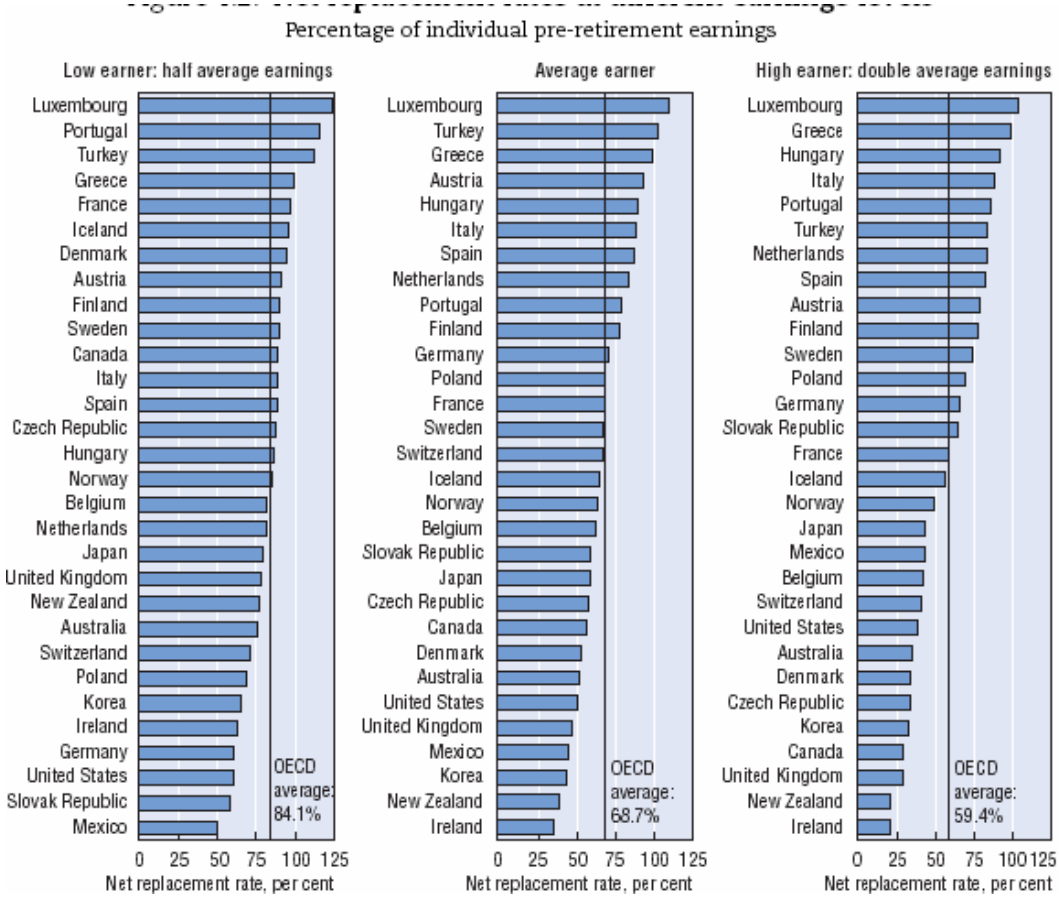
Currently, the implicit policy goals of New Zealand's retirement policies do not include an income replacement objective for middle income New Zealanders. The New Zealand scheme has been particularly successful enabling people with no other saving to participate and belong to society. Implicitly, there has been a judgement that any additional income provision for retirement should be entirely a private matter. More recently this has been modified with some policy initiatives for the accumulation phase of retirement saving, namely the proposed KiwiSaver. While certain statements round the introduction of KiwiSaver appear to reflect a concern that middle income people should have more *income* in retirement, the scheme is a pure lump-sum scheme.[4] It is also unlikely to have much impact on the imminent baby-boom retirement.

In discussions to date, there has been little appreciation of the market failure aspects of providing for a supplementary income in addition to New Zealand Superannuation. This is in contrast to other countries where income replacement is a much more explicit goal, both in state schemes and in additional private pensions.

Figure 7 compares the 'pensions promise' across the OECD. This includes not just the public pensions provided by the first tier and earning related PAYG schemes, but also mandatory secondary tier saving. While the difficulties of such international comparisons are acknowledged, some conclusions about New Zealand relative position can be drawn. Figure 7 shows the relatively high rate of replacement in New Zealand for low income earners in contrasts to the low rate for middle and high income earners (OECD, 2005b).

[4] See for example KiwiSaver documents on Treasury's web site: "Saving and investing is the foundation of the future wealth of New Zealanders as individuals and as a country. While New Zealand Superannuation (NZS) provides a base level of income, middle income New Zealanders will have to provide for their own savings to avoid a potentially significant drop in income during retirement." (http://www.treasury.govt.nz/kiwisaver/kiwisaver-det-info.pdf)

Figure 7 Net replacement rates at different earnings levels



Source: OECD (2005b)

Under current regimes, workers on average earnings will receive about 67 % net of their earnings on average, in contrast to 39.3% in New Zealand (OECD, 2005a). [5] Some contrasting pictures for Australia and Italy, provided in Appendix 1, demonstrate how much more quickly the replacement rates decline as income increases in New Zealand. It is likely that the picture understates New Zealand as an outlier as other countries have a much higher state involvement, including direct involvement in pay-related, defined benefit occupational pensions and generous tax concessions in the third pillar of additional private pensions.

While the perception in New Zealand may be that the wealth implied by the state pension, New Zealand Superannuation is large, New Zealand remains an outlier in this also in comparison with other countries. Table 2 shows that the net present value

[5] It should be notes that the OECD takes the living alone rate for the New Zealand calculations not the married and single sharing rates..

of the pensions promise is constant at 5.7 times the average wage for New Zealand across the income distribution.

Table 2: Gross pension wealth by earnings level, mandatory pension programmes, men
Multiple of average earnings

	Individual earnings, multiple of average					
	0.5	0.75	1	1.5	2	2.5
Australia	5.7	6.2	6.7	7.7	8.3	8.6
Austria	6.0	9.0	11.9	17.9	19.6	19.6
Belgium	5.5	5.5	7.3	7.5	9.4	9.4
Canada	5.5	6.0	6.5	6.5	6.5	6.5
Czech Republic	4.6	5.2	5.8	6.2	6.6	7.1
Denmark	7.0	7.2	7.4	7.7	8.0	8.3
Finland	6.3	8.4	11.2	16.9	22.5	28.1
France	7.6	7.6	9.5	13.7	17.1	20.5
Germany	4.3	6.2	8.3	12.5	13.7	13.7
Greece	6.3	9.4	12.6	18.9	25.2	31.5
Hungary	6.1	9.1	12.2	18.3	24.4	26.8
Iceland	7.1	7.8	8.4	9.9	12.6	15.3
Ireland	5.4	5.4	5.4	5.4	5.4	5.4
Italy	5.8	8.7	11.4	16.5	22.0	27.5
Japan	5.7	7.0	8.3	10.9	12.2	12.2
Korea	5.0	5.9	6.7	8.4	9.7	9.7
Luxembourg	10.3	14.3	18.3	26.2	34.1	40.2
Mexico	2.6	3.7	4.8	7.0	9.1	11.3
Netherlands	5.2	7.7	10.3	15.5	20.6	25.8
New Zealand	5.7	5.7	5.7	5.7	5.7	5.7
Norway	5.3	6.7	8.2	10.7	11.7	12.1
Poland	4.0	5.9	7.9	11.9	15.8	19.4
Portugal	7.9	7.9	10.2	15.1	20.0	24.7
Slovak Republic	4.0	6.0	8.0	12.0	15.9	19.9
Spain	6.1	9.1	12.2	18.3	23.0	23.0
Sweden	7.0	8.7	10.4	15.5	21.0	26.6
Switzerland	5.5	7.9	10.1	11.5	11.5	11.5
Turkey	6.1	8.5	11.0	15.9	18.2	18.2
United Kingdom	5.0	5.2	5.5	6.6	6.7	6.7
United States	3.5	4.5	5.5	7.1	8.0	8.9
OECD average	5.7	7.2	8.9	12.1	14.8	16.8
With voluntary schemes						
Canada	6.5	8.2	10.2	13.5	16.8	20.1
Denmark	9.3	10.2	11.2	13.1	15.6	18.6
United Kingdom	5.3	6.5	7.7	10.2	12.6	15.0
United States	5.9	8.0	10.0	14.2	17.3	20.4

Source: (OECD, 2005a), Table 6.2 p 63

New Zealand is at the average for the OECD only at very low levels of income. By twice the average income, pension wealth on average for the OECD is 16.9 times the average income, and up an astonishing 40 times for Luxenbourg with its generous earnings-related scheme.[6]

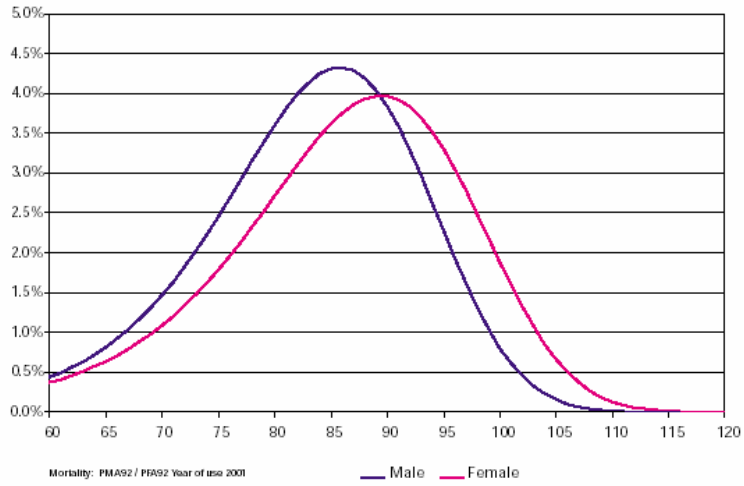
[6] The estimates reflect country specific life expectancy rates and age of eligibility.

Countries with voluntary tiers also have high implied wealth at higher income levels as Table 2 also shows.[7]

3.2 Risks faced by individuals

The first major risk facing a retiree is that of outliving capital. Basing decumulation strategy on one's average life expectancy may be risky as approximately 50 percent of those aged 65 will live longer than the average. Moreover, use of average life expectancy disguises the wide spread of mortality outcomes as shown in Figure 8 (Wadsworth, Findlater, & Boardman, 2001). Figure 8 also demonstrates that for roughly 80% of the population, mortality is not gender specific, yet gender based discrimination is allowed in insurance products for those over 65 in New Zealand.

Figure 8: Mortality spreads



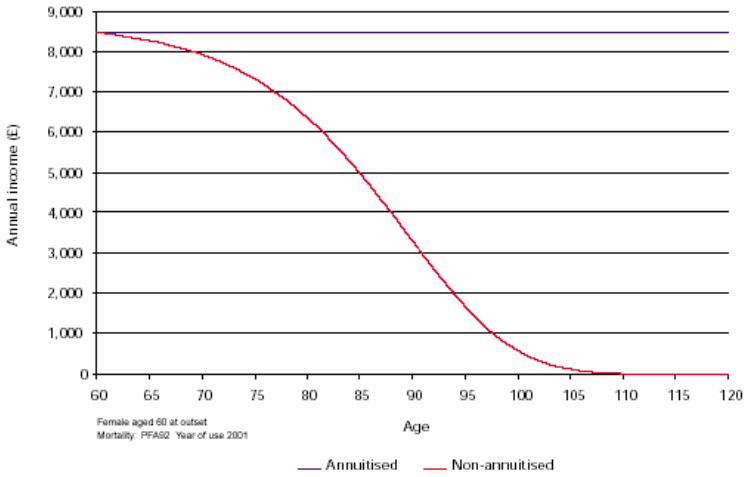
Source (Wadsworth et al., 2001)

New Zealand Superannuation provides some gender-neutral protection for the longevity risk, but only at a basic income level. Managing a capital sum with a drawdown product to last for a lifetime whose length is so uncertain may result in a seriously diminished annual income for those who live a long time as illustrated in Figure 9. Thus, drawdown products based on average life expectancy can be a very poor solution for those who live longer than average and bear mortality risk directly.

[7] This picture ignores patterns of private wealth that may differ in different countries, for example, the home ownership rate in Switzerland is only 35% while. In New Zealand, about 75% of retirees have a debt-free home.]

Moreover as life expectancy continues to improve there is a moving goal post effect. While the drawdown can be changed as health and investment returns change it can simply mean eking out a residual amount for a longer time period.

Figure 9: Annuitisation v drawdown by longevity



Source: (Wadsworth et al., 2001)

There are few, if any, suitable New Zealand annuity products to meet the risk of outliving additional capital. While private pensions can be helpful, fewer companies are offering these as noted below and fewer again of these pensions provide protection from the erosion of inflation.

The second major risk faced by a retiree is the possibility of needing to meet the cost of catastrophic healthcare including expensive end of life, long-term care. While New Zealand has a public heath system and subsidies for residential care, there are non-acute health conditions that are not funded, or which the public system may not perform in a timely manner, including most dental, specialist and eyesight conditions. The subsidies for residential care are tightly means-tested (Ashton & St John, 2005).

Private health insurance has already become unaffordable for many over 65 due to the adoption of age related bands for premiums. In July 2006, Southern Cross raised its premiums by 17% for 70 year-olds, 16% for 60 year-olds and 12.5% for 50 year-olds,

while cutting the rates by 27.4% for 20 year-olds (NZ Herald 4th May 2006). In contrast, in Australia, age-related premiums are disallowed.[8]

For long-term care there are no suitable private insurance products to meet the long-term care risk. The market failure aspects are outlined in Appendix 2. In countries such as the US where long-term care insurance is available, it is expensive and tends to exclude those who need it most (Johnson R & Uccello, 2005; St John, 2004; St John S & Chen, 2005).

3.3 Risks faced by Society

The risks to society are difficult to quantify but no less real for that. In a world of potentially myopic individuals and a state provided safety net, it is likely that those who live a long time/and or need care, will run down capital too early, and the costs of supplementary income top-ups, long-term care, and other age-related health expenditures will fall on the working-age population, either through higher taxes or as the families concerned meet the costs of their parents either directly, or through receiving lower bequests.

Means testing can lead to inappropriate divestment of assets too early in retirement and/or the setting up of trusts to disguise income and wealth. Thus the impost of long-term care falls unevenly and unfairly on the unsophisticated, while the trust mechanism allows cost shifting to the working-age population. Older people who die early may pass remaining assets down to the next generation, but the distribution of these bequests is likely further to widen the income and wealth distribution.

There is a clear case of market failure, both in the provision of suitable annuity products to meet the longevity risk, and in the provision of private insurance for long-term care, and other catastrophic costs. Thus, without insurance to overcome these two risks, the impact on the working-age population is arbitrary and inequitable. Long-term care insurance is unlikely to arise from the private market unaided as there are too many aspects of market failure, implying a role for the state (see Appendix).

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[8] Private insurance operates in a different slightly context with Medicare, a public insurance programme.

4 Decumulation policy in New Zealand

Defined benefit pension schemes, i.e. ones that pay pensions for the life-time of pensioner and maybe his or her spouse, have been diminishing in the context of overall falling membership of employment-based superannuation, both for the private and public sectors. This reflects an OECD-wide trend in which the risks are shifted from employers to employees (see for example Disney & Johnson, 2001). The debate in other countries is slowly turning to use of the lump sums generated in defined contribution schemes, driving increased attention to the annuities market.

In New Zealand company pensions and the Government Superannuation Fund pensions will be increasingly rare for new retirees (St John, 2003a). Between 1990 and 2004, the number of current pensioners in private registered schemes fell from 35,747 to 27,476 or from 6.5% to 4.5% of all members and pensioners. Assets in defined benefit (DB) employer-sponsored schemes fell over this period by 28%, in contrast to the growth of assets in defined contribution (DC) schemes of 89%. Membership also fell 31% in DB schemes, while staying almost the same in DC schemes (Government Actuary, 2005; St John, 2003a).

By far the greatest number of pensioners are in the Government Superannuation Fund where pensioner numbers have remained fairly static over the past five years at around 47,600. The numbers of contributors have however fallen 6-7% each year to around 22,000 in 2005 (Government Superannuation Fund Authority, 2005). The percentage of the labour force covered by a defined benefit pension plan is now approximately only 4%.

As more retirees come into retirement without pensions, they may look to the annuities market. Unfortunately, the annuities market in New Zealand is a classic study in what happens when the state plays no role at all in annuity provision. Nine life offices offered annuities in 1993 but only four: AMP, Sovereign, Royal & Sun Alliance and Tower were actively selling them in 2002. By 2003, there were only three providers, Tower, AMP and Fidelity Life. In 2004 there were just two providers, AMP and Fidelity Life. Today just one company, Fidelity Life, offers annuities, but cannot be described as actively selling them. In short the market has collapsed.

When the market operated there was considerable variation in the annuity payable for the same purchase price (St John, 2002, 2003b). Rates differed markedly by

- Gender
- Company
- Timing of purchase

The vast majority of potential annuitants were on a 21 per cent marginal tax rate rather than the 33 per cent that applied to the annuity fund. Thus the product was not perceived by the industry to offer value for money for its clients although there were many other contributing factors.

Table 3 gives annuities for men and women aged 55 and 65 as at June 2004 from the two providers in the market then, purchasable from a capital sum of $10,000 and $100,000 respectively. This data was the last collected by Aon Consulting as the market withered away.

Table 3: Annuity rates June 2005

	ANNUITY PER YEAR FOR $10,000 AND $100,000 PURCHASE PRICES RESPECTIVELY, PAYABLE FOR –			
	Male Lives Aged		Female Lives Aged	
	55	65	55	65
AMP	442.32	594.48	395.88	531.12
	4,946.76	6,432.48	4,494.96	5,809.68
Fidelity Life	488.88	608.64	463.08	562.92
	5,247.82	6,532.68	4,969.92	6,041.64

	5 Years	10 Years
Benchmark Interest Rates	5.71%	5.63%

Source: Aon Consulting 2004

Women receive annuities that are around 7 per cent less than men's, for the same capital sum but collect them for longer on average. Because they live longer, they were affected for longer by the consequences of buying the annuity at the wrong time or from the worst priced company.

The disappearing annuities market can be seen as the end result of many aspects of market failure in the economic sense. The removal of tax barriers *alone* is unlikely to do a great deal for annuities and home equity products as many other features of the current environment militate against annuities. These include the powerful adverse

selection effect,[9] lack of inflation protection, the lack of understanding of these products, their administrative cost, and the uncertainty of the longevity risk with improving life expectancy (St John 2003).

In addition there may be valid concerns over the financial stability of insurance companies that are supposed to provide life annuities for maybe 30 years or more. A recent survey of attitudes to annuitisation in the UK revealed that, along with a loss of flexibility, a mistrust of institutions was a major factor in negative perceptions of annuities (Gardner & Wadsworth, 2004). In part, the mistrust of insurance companies in New Zealand may be driven by a poor regulatory environment, for example, the Life Insurance Act 1908 is almost 100 years old and has not been updated. Effectively, it treats policyholders as unsecured creditors. New Zealand is the only developed Western country that does not provide specific protection for policyholders. In addition, there are effectively no disclosure requirements to protect the consumer and neither is there a requirement to disclose the financial position or credit rating of the life insurer.[10]

4.1 Home equity release schemes.

There are now some emerging new products that allow decumulation of housing wealth, (Davey, 2005; St John, 2005b). Are they designed to meet the risks that have been identified above?

The purpose of the home equity release loans to date appears largely to enhance the lifestyle options of the retiree rather than to prepare for, say, future health costs. It contrasts with the view expressed by experts in the US who see home equity release more in the context of the growing health costs of the elderly.

> *The need for spendable cash among retirees is likely to increase, as more and more individuals in the baby boom generation face the risk of long-term care in the next several decades. Converting home equity would seem a means that can satisfy several desires. It can augment the income needed for*

[9] In the voluntary annuities market the key market failure arises from adverse selection. This may arise in cases where the individual better knows his/her longevity risk than the insurance company. Even if the company knows the risk, discrimination based on expected longevity is not usually feasible except in the case of gender. The result of adverse selection is that the pool of annuitants has a better longevity profile than the population at large. For this reason life insurance companies use their own annuitant mortality tables to price annuities, rather than whole of population life tables and annuities appear expensive to the average-lived annuitant.

[10] Nevertheless, increased regulation will not necessarily solve the problem as the UK system demonstrates. There, failure of Equitable Life despite regulation has had major repercussions.

health and long-term care or other needs or desires in later life. It can enable older adults to stay in their own homes, providing substance to the often-repeated ideal of "aging in place." It elevates the role of personal savings as part of retirement security. And it gives meaning to the principle of self-reliance.(Chen Y-P, 2003)

The recent growth of home equity release products might address the following concerns:

- Dying after an unnecessarily restricted retirement due to the inaccessibility of money in the home and leaving unintended bequests.
- Entering rest-home care and losing capital that may have been used to make retirement more pleasant (ie avoiding the mean test).
- Having mortgage payments reduce current living standards (where there is still an undischarged mortgage).

The following concerns may not be addressed:

- The need for regular ongoing income for the whole of life. The use of home equity early in retirement, together with high interest rates and low house price inflation may preclude any further draw-downs.
- The protection for longevity is limited to protection against negative equity. That is, if the home equity purchaser lives longer than expected, they will never owe more than the value of the house but they have no ongoing income protection.
- The unforeseen need to move earlier than expected to different accommodation.
- A compounding interest with no explicit guarantees that this is fixed tightly to the floating rate (or any external benchmark). Rising interest rates that reflect rising inflation and falling or stagnant house prices can make an initial lump sum spent early in retirement very expensive.

For society, there are risks that arise from the fragmented policy making for the retired. In particular, the use of home-equity release schemes may intentionally or unintentionally, diminish the size of the housing asset to the point where the government becomes liable for the rest home subsidy in full. There is no gifting

involved so the government's ability to reduce the subsidy to care in a rest home on current rules as a result of home equity drawdown is limited.

Sentinel Limited has been exploring an annuity home equity release product but the tax effects are adverse for most clients, and annuity products are unlikely to be made available in the short-run (St John 2003). Without an annuity, there is no protection from increased longevity and the need for extra income for the extra years, and no regular source of income for long-term care and other medical expenses.

In an unregulated market here is a clear danger that home equity is accessed too early in retirement for lifestyle purposes. The impact may fall on the individuals themselves, who find for example they have insufficient equity to shift to more suitable housing, including retirement villages. But it also falls on society at large, when society incurs costs of necessary healthcare that the retiree can no longer fund from drawing down home equity. These products clearly have a place for those who may not expect to live a long time in retirement but can be dangerous for others (Davey, 2005).

4.2 The 'Sorted ' website http://www.retirement.org.nz/

The main thrust of the information provided by the Retirement Commission in this area is to face middle income people with the reality of the need for *asset decumulation* over their retirement.

In short, the choices for those with limited capital are

1. to live off interest only and have a relatively restricted retirement;
2. to divide the capital by the year of expected longevity and draw down so as to exhaust capital by expected age at death;
3. to draw down more in early years and less in later years .

There is no advice as to what to invest in, or how to protect the investment capital (and/or the income) against inflation. A net real rate of 2% (to allow for both tax and inflation) is assumed to allow individuals to calculate their situation The individual is still unprotected from:

- poor returns
- excess longevity

- catastrophic uninsured health costs

On home equity release schemes, the Sorted web page offers useful and prudent advice, which counteracts the media hype surrounding these products. Some of this hype exhorts the purchaser to use the funds for whatever is wanted such as a new car and is aimed at those as young as 60.

4.3 Advice from the private financial sector

The private planning advice sector has no problem with providing advice on decumulation for its wealthy clients. If people are going to live 30 or more years in retirement, they need to be invested in growth assets to protect living standards against unexpected inflation. Other advice may be based on a model that shifts the balance back to the cash end of the 'cash, bonds, shares spectrum' over the course of the retirement. (see also discussion at http://www.sorted.org.nz/index_60plus.html)

5 International approach to decumulation

> *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)*

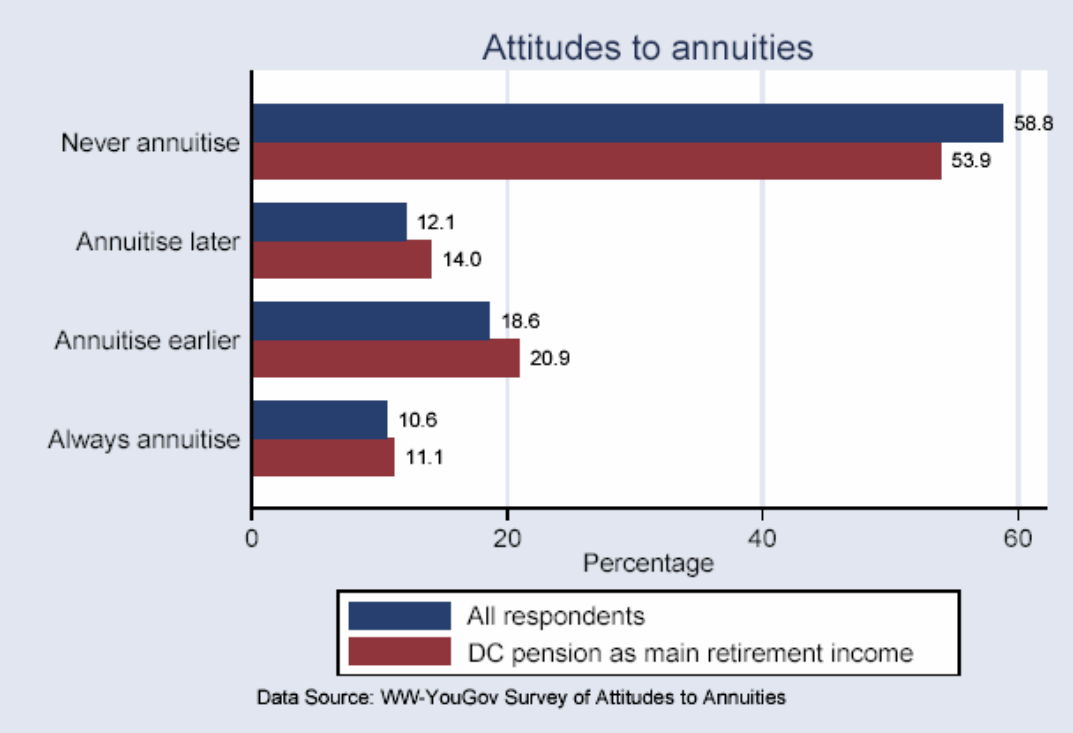
Appendix 3 provides some information about the annuities market in other countries. In general, where other countries have tax-favoured or compulsory accumulation, the decumulation phase can be more readily proscribed.

Unfortunately, simply compelling annuitisation, without attention to design simply forces people to take unsuitable products. It can be argued this has been the case in the United Kingdom, where annuity rates have been falling for many years and annuities are highly unpopular. Pressure to move away from compulsory annuitisation has forced a policy change so that from 2006, the pensions accumulation does not have to be annuitised by age 75. Nevertheless, the absence of suitable drawdown products for modestly well-off people means that annuitisation is still the only option. Annuities are seen as a lottery, with the size of the annuity critically dependent on the

time of annuitisation, the gender of the retiree, and the way in which inflation impacts on the real value of the annuity.

A survey in the UK reported in 2004 that annuities were poorly perceived, with just over half the sample saying they would not annuitise, given the option. A further 12-14 % would prefer to do it later or earlier as shown in Figure 10.

Figure 10: Willingness to annuitise



Source (Gardner & Wadsworth, 2004)

Pensions reform discussion in the countries such as the UK is slowly putting more emphasis on decumulation. The Pensions Commission was criticised however by the actuarial profession for not giving it more attention in its 2005 report (The Actuarial Profession, 2006).

6 Policy directions

Are there broad gains for society from encouraging annuities, rather than access to one-off lump sums early in retirement? While there is a place for home equity release products, especially for cash-strapped individuals for whom staying in the family home is a critical consideration, do they represent a partial and fragmented response to a major problem?

Possible benefits of suitable annuities include:

- A more secure middle-income retirement reduces the pressure on workers to provide more directly for their parents.
- Annuity wealth cannot be gifted away or tied up in trusts, and it is possible to achieve much more intragenerational sharing than would be possible with individual saving.
- Annuities share the costs of retirement among the retired as a group, as those who die early subsidise those who live the longest.
- While capital itself can be gifted way, or spent early, annuities provide a transparent income stream which can help meet the costs of old age care, including long-term care, thus reducing the pressure on general taxpayers.

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

- Be good value for money;
- Be inflation-proofed;
- Provide flexibility and be less of a lottery than is currently 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.

It is evident that the industry cannot provide a product that meets most or all of these criteria on their own. Examination of annuity markets and reverse mortgages overseas reveals that the state usually plays a substantial role in the successful development of these markets (for example Mitchell & McCarthy, 2002). The successful home equity release schemes abroad also have tended to have a high degree of state involvement (Davey, 2005).

More intragenerational sharing of the longevity risks and health costs through a social insurance approach or a combined public private insurance partnership paid for by the older generation themselves, may genuinely relieve the pressure by reducing consumption of the newly retired in particular.

6.1 Specific roles for the state

One of the advantages of the tax neutral approach to retirement saving accumulation in New Zealand is that it leaves open the possibility of transparent government subsidisation of the decumulation phase to meet explicit social goals. One possibility is that the state's role may include the direct provision of annuities, including allowing some portion of home equity as part of the purchase price. Such a shared appreciation, or home reversion approach has the potential to reduce the moral hazard problem that can plague traditional reverse mortgage products because the owner has an incentive to maintain the total value of the house. The return is the capital gain on the equity share over the lifetime of the insured for as long as they live in the house or until they sell (Caplin, 2002).

Another option is private sector provision with the state providing a judicious mix of regulation, monitoring, reinsurance, guarantees, and even direct subsidisation. For example, the state could provide long-term indexed bonds with a taxation regime that guarantees a realistic net real return (St John 2003). Some underwriting of the excess longevity risk such as through survivor bonds (Blake & Burrows, 2001), and support for gender-neutral annuities are others. The advantage of this approach is that subsidies and their impacts can be made transparent, and can be designed in ways that limit any regressive impact.

Other options might include a packaging of insurance. Thus subsidised annuities may also include a long-term care rider. Life insurance may also be coupled with life

annuities, reducing concerns over bequests. Other combinations including the use of home equity could be considered.

6.2 Buying an add-on to New Zealand Superannuation

Another option might be allowing individuals to purchase a top-up to New Zealand Superannuation.

Table 4 calculates the Net Present Value of the net married rate of New Zealand Superannuation ($9986 pa) at different real rates of discount at age 65, using life expectancy of 16.7 years for men and 20 years for women.

Table 4: Capital value of NZS at age 65 at different real interest rates

Average longevity men 16.7, women 20, MR $9,886 pa			
discount factor	0%	1.20%	2%
men at 65	$166,766.20	$150,305.81	$140,593.95
women at 65	$199,720.00	$176,625.36	$163,285.41

Source: St John (2006)

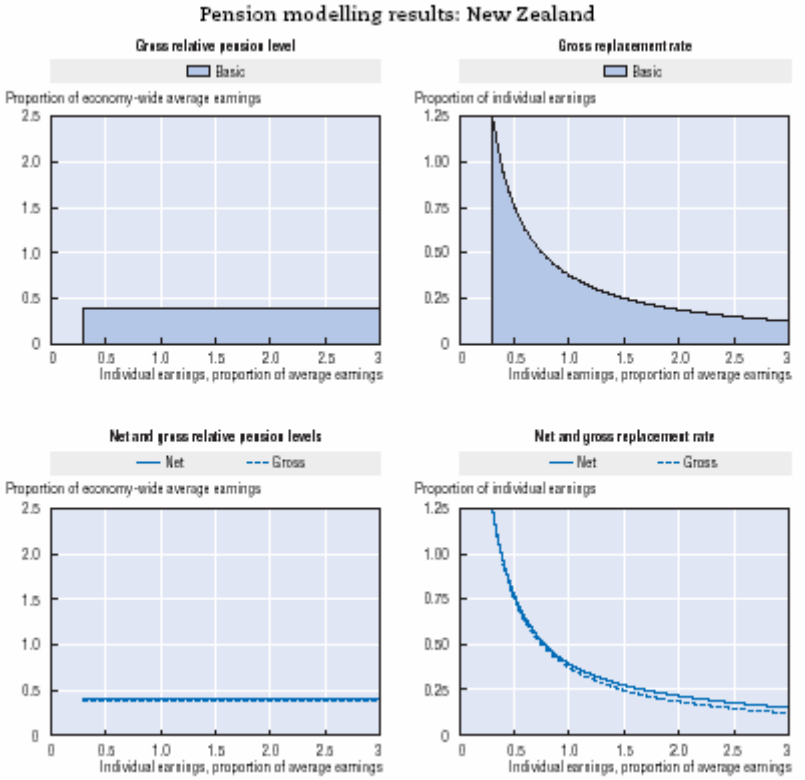
Today the married rate of pension of nearly $10,000 p.a. net is approximately 32.5% of the net average wage. Assuming that the real rate of return on invested assets equals the real rate of increase of net NZS, it might be fair to discount at net real rate of 0% (see Table 4). Thus an additional replacement rate of 32.5% could be valued at $167,000, $200,000 for a man and woman respectively at age 65. A gender-neutral equivalent would be approximately $183,000.

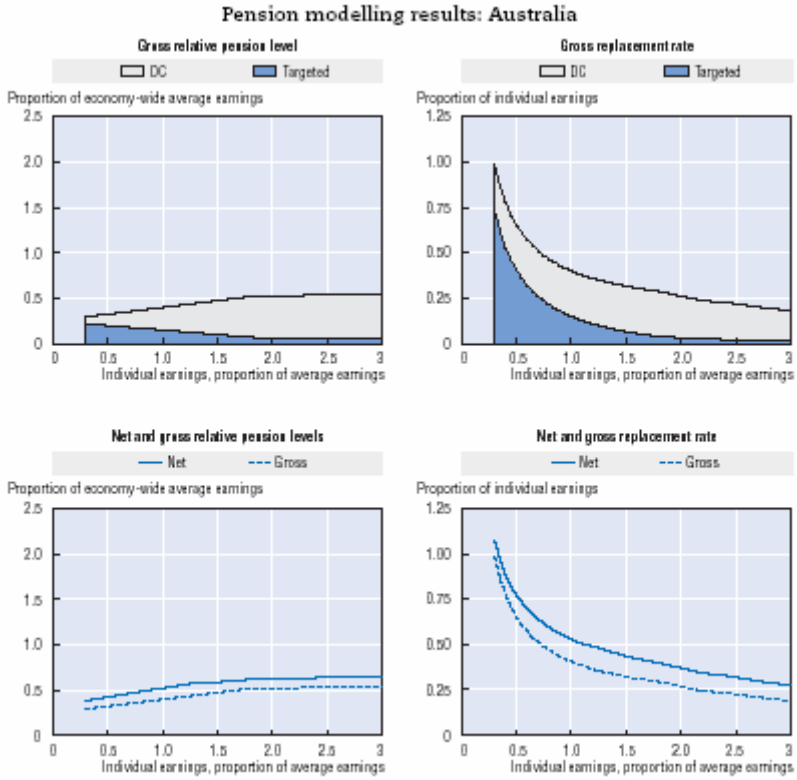
A range of issues would arise, including whether the top-up would be tax-free or whether it would be grossed up and made taxable. Is there a case, on social policy grounds to look at a different regime for decumulation, such as TET? Who would invest the funds? Should there be a cap on the amount any one person can purchase? What about offering different prices at different ages? What degree would there be a subsidy from the state? What are the equity, efficiency and administrative simplicity aspects?

7 The framework for discussion

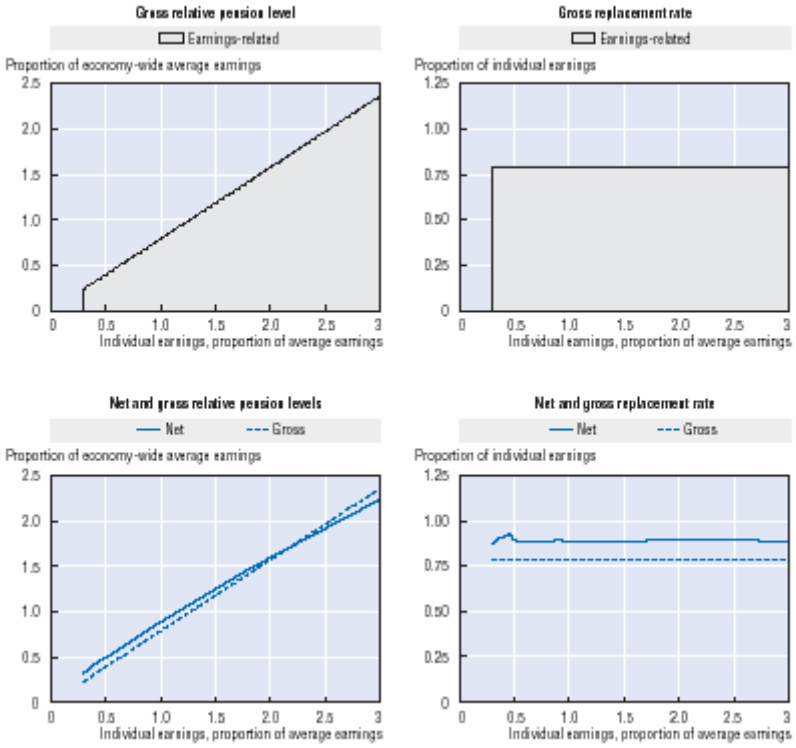
- **Is there a decumulation problem?** New Zealand is unique in providing a minimum 32.5% net average wage indexed, wage linked annuity at age 65 that is set above the unofficial poverty line and ensures more than subsistence and prevention of absolute poverty. Is this enough for the state's role of income provision or facilitation of income replacement goals for middle income people?
- If there is a decumulation problem, for whom is it a problem?
- If there is a decumulation problem for, say, the middle income groups, how big is this problem?
- Is it also a problem for society? How big is this problem?
- Does the market alone have the potential to solve the problem?
- If not what is the nature of the necessary government intervention. Is it holistic or piecemeal. If piecemeal will anything change?
- **What combination of insurance risks might be packaged together?** For example, long-term care, healthcare, life insurance, longevity insurance. What role might home equity play in financing combined decumulation products?
- **If add-ons to New Zealand Superannuation** are considered what maximum rate would be offered? Could there be different arrangements for different age groups? Who would invest the funds? Who bears the risks? What are the equity, efficiency and administrative simplicity aspects?

Appendix 1 Contrasting NZ, Australia and Italy (OECD 2005b)





Pension modelling results: Italy



Appendix 2: Why the long-term care insurance market fails

In New Zealand, long-term care insurance is virtually non-existent. Private insurance works best for annually renewable contracts, such as car insurance. The problem is that the purchase of a long-term care policy may be as much as 30-40 years in advance of needing it. Annual renewable contracts are possible, but require a great deal of trust that the company will not only remain in business but also not increase premiums unfairly. Using annual premiums leaves purchasers exposed to rising costs as they approach the age where they need long-term care. The multiple uncertainties for suppliers are high and significant loading charges are likely to make the insurance unduly expensive (Fenn, 1999).[11]

Barr (2001) outlines some of the difficult questions to be addressed for the supply of private long-term care insurance:

- How will the care be allocated? How much, what type and on what basis?
- How might costs and types of care be affected by new technological developments?
- Can premiums rise if the patient becomes more risky (older, or unwell)?
- Will there be a ceiling on reimbursement of the cost of care?
- Is there a maximum duration over which benefits are paid, if so what happens if the individual lives beyond this period?
- How will wage and price inflation affect the cost of care?
- How are disagreements/bankruptcy of the insurer to be dealt with?
- How much insurance is adequate, i.e. should there be any minimum level?
- How integrated is it with existing public funding and/or provision for long-term residential care and what if policy changes?

In light of these difficulties, and others, it is clear that any all encompassing contract will be nearly impossible to draw up. On the insurer's side, problems arise because uncertainty, rather than risk, makes probabilities indeterminate. Moreover:

- There is no accurate data to predict the probability with which future cohorts of retired will require care.
- Insuring from a young age gives more insurance protection because of the wide pooling, but the costs of uncertainty are higher.

[11] This section draws on (St John, 2004)

- The condition of independence of probabilities does not hold. Medical advances that prolong life may place everyone in a similar situation.
- It is not clear, for example, whether predicted future increased longevity will in turn increase the average period spent in long-term care.
- The relative cost of care is likely to continue to rise over time (Baumol's cost disease), but the extent of this is uncertain. [12]
- Adverse selection problems are high
- Moral hazard may arise from several sources. The obvious one is that the person concerned may be more likely to demand care, but there are also worries that family likewise may push older relatives into care if there is insurance.

The UK Royal Commission report on long-term care cited by Barr (2001, p.83) concluded that private insurance without state intervention was never likely to become significant in the UK. In the US private long-term care contracts have severe short-comings as might be predicted.

There are many dilemmas unresolved by private long-tem care insurance in the US:

- Many people find the premiums become unaffordable with cost the main deterrent to purchase.
- The younger the purchaser, the lower the premium, but the less the need is perceived and the longer time premiums may be paid.
- There is a deductible period. The longer the period, the lower the premium, but the coverage is lower.
- If an indefinite period is chosen for the benefit period, and a high daily rate, the premium will be higher.
- Inflation protection is vital but expensive.
- Rates vary significantly from one company to another and according to geographical location.
- Exclusions can apply on application but renewal once the policy is granted is guaranteed. Premiums for the class not individuals may increase.

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[12] The theory known as Baumol's cost disease, that costs would rise relatively faster in the public sector than the private sector, because the nature of the output was labour intensive and not as amenable to productivity changes was first outlined by William Baumol in "Macroeconomics of Unbalanced Growth," American Economic Review 62 (1967): 415-426

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8 Appendix 3: Annuities in practice

Chile

In Chile there is a choice between an annuity or phased withdrawal over an expected lifetime for decumulation of funds from the compulsory savings scheme. These payments must be indexed (World Bank, 1994). The annuities market is voluntary, but only 25 per cent of retirees in Chile take a lump sum. A life-time annuity is purchased by 44 per cent of pension beneficiaries, the rest use phased withdrawals. This high percentage reflects the government's role in subsidising the annuities market and the sparse nature of the first pillar. All participants are guaranteed a minimum pension, even those who choose a phased withdrawal (so government assumes a good portion of the longevity risk). Insolvency of pension providers is also insured by the state and pension funds are regulated as to returns and investments. Thus although a 'privatised' scheme, the role for the state remains both extensive and expensive. The gross returns in Chilean pension schemes were high initially, but fell dramatically in the 1990s and the scheme is regarded as having higher administration costs than the PAYG schemes of other countries. There are marketing costs for example driven by competing private funds.

Problems have arisen from

- Lack of ability to compare options.
- High commissions.
- One time purchase exposes buyer to risk of poor expected returns.

Australia

Australian Pillar II compulsory superannuation is not regulated to require that the final payout be in the form of an annuity or pension. Including the public sector employees, more than 80 per cent of superannuation benefits are received as lump sums.

Life annuities are not popular products, with Australians in general preferring to manage their own lump sums. Life annuities may be indexed or subject to a steady percentage increase over time and once in force cannot reduce in value. They may be

payable for life or for the life expectancy of the retiree at purchase. No commutation is possible and no residual value is paid to an estate except to cover any fixed guarantee period. Over time they do not provide an income that keeps up with general growth in the economy. If they are fully indexed, the implied real rate of return is likely to be less than 1 per cent, making such annuities expensive and unattractive (Doyle & Piggott, 1999, p.12).

While the life annuities market is small, allocated pensions provided by superannuation funds, or allocated annuities from Life Offices are increasing in popularity. Allocated annuities are regular annual payments made within limits prescribed by government. The intent is to provide a maximum that will just exhaust the fund by age 80 and a minimum, which is the account balance divided by life expectancy in that year. A set of factors to determine the maximum and minimum withdrawals are produced for each age from age 60 (Knox, 2000, p.4).

Allocated annuities are perceived to be more flexible and offer better returns than life annuities. The investor can choose the investment strategy from a range of products and the value of the fund moves with the underlying investment. They do not however compensate for more than average longevity (Knox, 2000).

Knox provides an example for a retiree age 65 with a balance of $150,000. The next year aged 66, the retiree can draw down a minimum of $9550 ($150,000/15.7) or a maximum of $18,520. At age 75 the fund less annuity payouts has grown to $125,000 and the minimum withdrawal is $11,060 ($125,000/11.3) and the maximum payment is $29,070 ($125,000/4.3).[13].

Another leverage that the Australian government has used to influence the purchase of annuities is tax. Thus annuities have been favourably treated for tax purposes compared to the tax treatment of superannuation pre-retirement. However recent announcements in the 2006, when enacted, will tend to remove that advantage.

[13] At age 66 life expectancy is 15.7 years and at age 75 is 11.3 years.

The income stream from annuities is captured under the income test for the old age pension. However a deductible amount is allowed equal to total purchase price divided by the life expectancy at the date of purchase.[14]

The unattractiveness of life annuities compared to allocated annuities is mitigated a little by the differing treatment under the asset test for the old age pension. Life annuities are usually exempt from the asset test, provided they cannot be commuted to a lump sum. Allocated annuities are different because the individual has more control over withdrawals and the balance of the fund on death goes to the retiree's estate (Knox, 2000).

The means-tests arrangements for the old age pension are very important making life annuities attractive. But allocated annuities are still more popular, even though the purchaser carries the longevity and investment risks. The problem with life annuities is the comparative loss of control, and the locking in of initial investment decisions or interest rates. The life annuitant risks falling behind general rises in living standards because savings are in a capital guaranteed product.

It has been possible to buy an allocated pension allowing considerable control over the draw-down for 15 years and a deferred annuity with partial or full inflation protection starting at age 80. The longevity protection provided by the deferred annuity costs about 10 per cent of the accumulation for a male at age 65 (Doyle & Piggott, 1999). The cheapness arises because the money is committed a long time in advance, the probability that death occurs before 80, the build up over 15 years offers some protection against inflation, the low life expectancy at age 80, and a lower initial payout.

Some commentators are very critical of the emphasis on allocated annuities. As Wakeling (2001) says, in past times society worried about life insurance for the breadwinners of young families. As that fear has receded, with the improvement in health and two-earner families being the norm its place is likely to be taken by the new fear of living too long. The fear is compounded by the expectation that the state pension will only provide a limited standard of living.

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[14] Knox gives the following example: If $100,000 is used to purchase a level life annuity for a male aged 65 with an annual payment of $8405 (typical), the amount of income that would be used in the income test equals: $8405 – 100,000/15.41 = $1916, where 15.41 is the life expectancy for a male aged 65.

> *If today's retirees had a means of protecting themselves against their exposure to longevity risks they could better use their available income drawings for their genuine purpose- retirement living - thereby maximising retirement lifestyles and minimising the wastage of their tax advantaged saving. (Wakeling, 2001, p.10)*

The industry has drawn attention to the reality that life annuities do not provide protection from the investment risk, and allocated annuities do not provide protection from the longevity risk. Australian academics and the industry have been exploring policy options including the case for mandatory annuitisation with suitable regulations that might offer better protection for individuals and taxpayers alike (for example Doyle & Piggott, 1999).

USA

Private pension coverage has traditionally seen annuities provided through group pension plans. Over time however there has been a marked shift into 401(k) plans, away from defined benefit plans (Munnell, Sunden, & Lidstone, 2002). These 401(k) plans typically only pay out a lump sum and most plans do not even offer the possibility of a life annuity (Brown & Warshawsky, 2001). Retirees can then go to a life office to buy an annuity if they so wish. Participation in a 401(k) plan is voluntary and both employer and employee can make pre-tax contributions. The trend to 401(k) plans is expected to continue reflecting that defined benefit plans have diminished in number and importance.

In contrast to traditional defined benefit pension plans, 401(k) plans have advantages of greater portability (the individual can move accumulated funds from job to job) which is appealing to a young and mobile workforce. They have greater transparency, so contributors can see their funds growing and take responsibility for how to invest the assets. There is some ability to access funds before retirement giving more control. Employers like them because the investment risk is shifted to the individual and they are less costly to operate. 401(k) plans have risen to about 80 per cent of defined contribution plans as a whole, but overall coverage in pensions plans has remained virtually unchanged, reflecting the fall off in defined benefit plans (Munnell et al., 2002).

The annuities market in the US is small but relatively well developed. Both single premium individual annuities (SPIA) and flexible payment annuities are offered. In

the latter, ongoing contributions, regular or irregular are permitted. Annuities may be fixed or variable. Fixed annuities have a fixed interest rate for a given period similar to term deposits. A new interest rate is set for the next period. There are no government guarantees, however, unlike the deposit insurance that applies for bank deposits. A 'participating' fixed annuity provides a guaranteed minimum payment and additional dividend payments that depend on the performance of the insurance company's investment portfolio.

Variable annuities have more features and hence higher fees than fixed annuities. They may or may not include a fixed component and usually offer a range of investment options e.g., stocks, bonds and money market instruments so that the return varies. Neither the principal nor return is guaranteed. This option should, in normal circumstances, allow the annuitant to benefit from growth in the economy and offer some degree of inflation protection.

Variable annuities are not common. A factor may be the principal-agent problem with people unwilling to hand over a large amount of money irrevocably to an institution that may not act in the investor's best interests (James & Vittas, 2000, p.18).

Deferred annuities provide a way to accumulate money in a tax deferred way for retirement. There are no taxes on earnings until money is withdrawn. But there are fees to pay, and the tax benefits can be less in total than these fees for some people in saving in this way. There is usually a 10 per cent tax penalty for withdrawal before age 59½. As well, surrender fees charged by the company may apply for early withdrawals. The deferred annuity can be taken as a lump sum or annuitised with tax payable on the earnings component.

The marketing costs of annuities may be substantial and are controlled by regulation:

> *The state of New York mandates that marketing costs including commissions not exceed 7 per cent of the annuity premium for licensed insurance companies (Congressional Budget Office, 1998)*

When annuities are provided from private pension plans they come under federal labour law and are not permitted to use gender as the basis of risk discrimination. In 401(k) plans, lump sums are provided and individuals purchase their own annuities from Life Offices which come under State insurance law. In most states (except Montana), this law allows variation of premium rates and benefits by sex. Campbell

and Munnell (2002) note how this is changing the relative price of annuities for men and women.

More recently with proposals to create individual accounts within social security, there has been a renewed interest in the need for flexible annuity products. Annuitisation is proposed as necessary to reduce moral hazard (i.e. incentives to spend assets now and fall back on state assistance later), social responsibility, adverse selection, lack of financial sophistication, trend away from life annuities in private pensions plans (Warshawsky, 2001). Mandatory annuitisation from individual accounts is seen as probably necessary to overcome the inherent disadvantages in the voluntary annuities market, but other approaches might stress tax incentives, education, advice, etc., (Brown, Mitchell, Poterba, & Warshawsky, 2001; Mitchell & McCarthy, 2002).

UK

In the UK, where purchase of annuities from pension plans is mandatory, the debate is intense. Regulations until 2006 have required annuitisation of defined contribution pension accumulations no later than age 75, with at least 75 per cent of the assets. This has increased demands for annuities and highlighted deficiencies in existing products (Orszag, 2000). Brown and Warshawsky (2001) note the intent of this requirement is to limit moral hazard.

The pension annuity business has grown through bulk-buyout business from the winding up of occupational pension schemes. Before age 75, draw-down products may be utilised and have tended to be the prerogative of those with the most accumulated saving. The idea is that pension purchase can be deferred with the possibility of buying an annuity at a later date on better terms (Wadsworth et al., 2001, p.4). This period of draw-down however does not permit any sharing of the mortality risk. The changes in 2006 are likely to favour better off annuitants who now do not have to annuitise at age 75, while others may find their options are limited.

Purchased life annuities (PLA) are only about 5 per cent of the premium volumes of pension annuities. PLAs have the attraction that they can be purchased from either a mortgage loan or equity release based on domestic property. In the UK, actuarial interest has been increasing in redesigning annuity products (Wadsworth et al., 2001, p.3).

Conventional annuities are generally regarded as inflexible, and their price highly variable between companies and over time. The antipathy may also be due to the perception that they are not suitable investment products, although innovations, such as with-profit, unit-linked annuities, are emerging. If a conservative investment path gets locked in on purchase, the annuitant has no scope to adopt a different asset allocation that might be more suited to the long time frame of retirement. Indexed or increasing annuities are available but require a lower starting annuity and are less popular especially with those whose life expectancy is below average. From the provider's perspective, uncertain improving life expectancy makes annuities risky products.

Mandatory purchase of annuities in an uncompetitive annuities market may encourage profit taking at the expense of annuitants. From the government's perspective, delayed annuitisation has a tax revenue cost, the taxation of annuities is one way to recoup some of the tax advantage of the pre-retirement phase.

Wadsworth et al., (2001) identify a significant market gap for middle-income people who are not affluent enough to go for income draw-down, and thus are locked into inflexible annuities from an early date. Within the existing UK framework, they propose a new product, called the 'annuitised fund', based on both equities and bonds. The initial annuity would be calculated on current investment and mortality data, but reviewed periodically to reflect changes, until at a higher age a guaranteed annuity would be locked in. At this point the asset backing would switch to 100 per cent bonds. It is argued that at the higher age the risk of wrongly predicting improved life expectancy is low because the remaining life expectancy is low. The annuitised fund utilises the concept of survivor credits in which the subsidy from those who die early to the longer lived is made explicit. This makes the product more transparent and less vulnerable to the criticism that the insurance company retains the funds on death.

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