

# **The role of annuities in the New Zealand retirement incomes policy mix**

**Susan St John**

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*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, Findlater & Boardman, 2001, p.3)*

Susan St John  
Senior lecturer  
Economics Department  
Auckland University  
Private Bag 92019  
Auckland  
New Zealand  
fax 09 373 7427  
ph 09 3737599 ext 87432  
[s.stjohn@auckland.ac.nz](mailto:s.stjohn@auckland.ac.nz)

# 1 Introduction

This report investigates the actual and potential role of life annuities within the New Zealand retirement income policy mix as a contribution to the six yearly retirement income review (Periodic Report Group 2003).

There are obvious and widespread ‘market failures’ that inevitably accompany this particular insurance product. In those countries where annuity markets are becoming significant the state always plays an important role. Thus there may be a variety of state guarantees, and/or regulations that 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.

The insignificance of the New Zealand annuities market clearly demonstrates what happens if there is no state support for the market whatsoever. The New Zealand reforms to the taxation of superannuation between 1988 and 1990 were introduced with the intention of treating all saving and saving products, including annuities, neutrally with respect to tax.<sup>1</sup> While there may be sound reasons for New Zealand to continue to pursue a tax neutral policy in the accumulation phase of saving, there are also strong arguments to treat the purchase of annuities in the decumulation phase differently.

The opportunity to purchase a properly designed life annuity to supplement New Zealand Superannuation has the potential to provide a welcome improvement in income certainty and security for many middle-income people. Over and above the gain in personal welfare, such annuitisation could have significant spillover benefits for society at large. Subsidisation can recognise such externalities and in turn, provide an appropriate mechanism to make annuities attractive to the purchaser, along with adequate regulations to ensure safety and security from both a prudential and client transparency perspective.

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<sup>1</sup> This intention has been difficult to realise as discussed in St John (2002).

Choosing the precise interventions and private/public arrangements that would be successful in revitalising the annuities market demands a sound framework for policy development and decision-making. It is especially urgent to make progress on this issue in light of the decline of company pensions and the imminent retirement of the baby-boom cohorts, but also in light of the pressures on the working age population to pay for increased demands for health care including expensive long-term care.

## 2 Pensions and annuities in the contemporary context

An *life annuity* is a lifelong income stream purchased from a Life Office by an individual while a *pension* is an income stream provided through a group scheme such as a company defined benefit superannuation plan. Both offer a certain income stream that supplements the basic state pension and protects against the risk of living longer than anticipated. Historically however, New Zealand has not enjoyed a strong tradition of annuitisation of private wealth on retirement. More recently, defined benefit schemes, i.e. ones that pay pensions, have been diminishing in the context of overall falling membership of employment-based superannuation, both for the private and public sectors (Table 1 and Table 2).

**Table 1: Active membership of occupational schemes**

Year	Private (000's)	Government (000's)	Labour force (000's)	Private % of Labour force	Total % of Labour force
1990	273	60	1,480	18.5	22.6
1991-2	-	-			
1993	273	61	1,475	18.5	22.6
1994	258	59	1,532	16.8	20.7
1995	254	58	1,608	15.8	19.4
1996	247	55	1,670	14.8	18.1
1997	244	52	1,731	14.1	17.1
1998	233	50	1,732	13.5	16.4
1999	222	49	1,741	12.8	15.6
2000	217	46	1,766	12.3	14.9
2001	218	45	1,806	12.1	14.6

Source: Government Actuary (2002a)

The (GSF) closed to new members in 1992 so that since then new public sector employees have no longer had access to a pension scheme. In total there are now only about 20,000 active contributors to the GSF (Government Actuary, 2002b). Membership of other defined benefit schemes has declined to around 48,000 active

contributors (Table 2). In 2001 the Association of Superannuation Funds of New Zealand, ASFONZ, surveyed private superannuation schemes and found that compared to 1998 significantly fewer were designed to pay out in the form of pensions (down to 25.3 per cent from 88.9 per cent) and of those that paid pensions, as many as 72.2 per cent allowed for a full conversion to a lump sum (Association of Superannuation Funds of New Zealand, 2001).

Women are far less likely to belong to any kind of superannuation scheme and when they do belong contribute far less than men (and hence receive far less in terms of employer subsidies). It estimated that only around 70,000 employed women have employment-based superannuation, or just 8 per cent of the employed female workforce. Only a very small proportion of this group will be in a scheme that pays a pension, although some women will be married to men in pension schemes and may some may eventually receive a spouse's pension.

The shift to defined contribution plans from defined benefit plans in New Zealand as shown in Table 2 reflects not just the changed tax environment, but also a OECD-wide trend (see for example Disney & Johnson, 2001). The debate in other countries now focuses on what to do with the lump sums generated in defined benefit schemes, driving increased attention to the annuities market.

**Table 2: Membership of defined benefit and defined contribution schemes\***

Year	Defined Benefit		Defined Contribution		Total	
	1990	2000	1990	2000	1990	2000
Total assets (\$m)	6,691	6,160	2,817	4,479	9,508	10,640
Total members	101,217	77,175	209,524	170,540	310,741	247,715

*Source: Government Actuary (2001)*

*\*Includes NPF but not GSF. Includes pensioners (28,600 in 2000) as well as active members.*

## 2.1 Current pensions in force

The majority of pensions currently in force in New Zealand (approximately 47,000) are from the Government Superannuation Fund (GSF).<sup>2</sup> Pensions paid to members of private occupational schemes fell to just under 30,000 in 2002, from nearly 36,000 in 1990. While there were also around 3000 pensioners in retail schemes, many of these

<sup>2</sup> Some of these are paid to younger dependents.

pensions have arisen out of National Provident Fund (NPF) public schemes and are of small value only (Government Actuary, 2002a).

The Government Actuary's 2002 analysis of private employer-subsidised defined benefit schemes showed an average pension was being paid of just \$3753 per annum. For the GSF, the average annual inflation-adjusted joint life pension for a retired male member is \$15,400 or a female is \$10,574. Average pensions paid to single people and to spouses in the GSF are smaller at \$7,650 for males and \$7,030 for females (Government Actuary, 2002b). These are not large amounts and the median can be expected to lie below the average.

With the closure of the GSF and the trends in company plans since 1990, far fewer New Zealanders will have even a modest pension in retirement in the future. This trend is already apparent. Table 3 shows that in the 2001 Census only 12.3 per cent of recent retirees aged 65-69 had income from an occupational pension scheme or a private annuity. This is less than those with such income for all age bands from 70 and over and supports the thesis that new cohorts entering retirement are less likely than previous ones to have pension or annuity income.

**Table 3: The receipt of income from private superannuation and annuities by age**

Numbers with income from private super/annuities									
age									
	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
Male	1,581	3,552	7,209	9,810	10,185	8,949	5,076	2,799	49,161
Female	924	2,211	6,363	5,922	6,360	6,024	4,518	4,143	36,465

  

Percentage of population in age group with private superannuation income									
	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
<b>Total</b>	<b>1.1</b>	<b>3.2</b>	<b>8.8</b>	<b>12.3</b>	<b>14</b>	<b>15.8</b>	<b>15.7</b>	<b>14.3</b>	<b>8.4</b>

Source: Census 2001

### 3 Annuities in New Zealand today

While diminishing in importance as described above, occupational superannuation has always had a place in New Zealand. In contrast, the place of individual annuities in the New Zealand retirement market has been ambivalent at best. Estimates from the Industry show that annuities-based funds account for only an estimated \$300m to \$400m or one percent out of an estimated \$40 billion of managed funds in New Zealand. Table 4 shows the minimal growth in the annuities market with just 5641 policies in force in 2001 with an average value of just \$4999. The main business has

arisen from superannuation schemes winding up and cashing out their pensions to provide purchased annuities. The latest ISI statistics for the quarter ended June 2003 show that the annuities per annum had fallen to \$27m, but there is no data now collected on number of policies.

**Table 4: Annuities in New Zealand 1987-2001<sup>3</sup>**

December Year	Value of annuities in force \$m	Policies
1987	22.4	3,522
1988	19.8	4,264
1989	22.8	4,846
1990	24.5	4,428
1991	34.4	4,694
1992	34.7	4,704
1993	39.6	5,521
1994	38.3	5,400
1995	39.6	5,297
1996	36.5	4,853
1997	28.1	6,079
1998	28.9	6,008
1999	28.7	5,896
2000	33.7	5,719
2001	28.2	5,641
2002	n/a	n/a
June 2003	27.0	n/a

*Source: Investment Savings and Insurance Association of New Zealand, 2002*

### 3.1 Analysis of annuity rates in New Zealand

Aon Consulting New Zealand Ltd collects statistics from the providers of annuities with data going back to 1993. Between 1993 and 2003, the numbers of active suppliers of annuities fell from 9 to only 3 companies. Typically, the annuities offered are life annuities with remaining capital repaid to the deceased estate if death occurs within ten years. However, individual companies also price tailor-made annuities. The usual variants are joint life and a fixed annual adjustment for inflation of say 2 per cent per annuity.

There is considerable variation in the annuity payable for a purchase price of \$10,000 and \$100,000. For any given month, rates differ markedly by

<sup>3</sup> Nine life offices have offered annuities 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.

- Size of contract
- Gender
- Company

Table 5 gives annuities for men and women aged 55 and 65 as at July 2003 from the three current providers, purchasable from a capital sum of \$10,000 and \$100,000 respectively. While it might be expected that \$10,000 would buy an annuity that is one tenth as large as one purchased for \$100,000 it is typically only round 93-96 per cent of this as shown in Table 5. This suggests that fixed costs of annuity provision are high and that small annuities are particularly unattractive to suppliers. On the demand side, it is hard to see what the market would be for a small annuity, as the better off, long-lived would spurn them, and the less wealthy; short-lived would find them a bad bargain.

There is considerable difference between the annuity paid to men and that paid to women for the same capital sum because women live longer on average. Table 5 illustrates the gender gap showing that mean annuities for women are around 88 per cent that for men at the same age.

**Table 5: Tax paid annuity per year (10-year guarantee), purchase price \$10,000 and \$100,000; July 2003**

\$/ year	Male Lives Aged		Female Lives Aged	
	55	65	55	65
AMP*	442.32	594.488	395.88	531.12
	4,946.76	6,432.48	4,494.96	5,809.68
Fidelity Life	562.92	692.76	504.00	608.648
	6,041.28	7,434.12	5,408.76	6,532.20
Tower Employee Benefits*	508.49	626.71	453.49	551.77
	5,269.53	6,483.88	4,704.63	5,714.10

*Source: Aon Consulting New Zealand Ltd.*

*Benchmark interest rates: 5 years 5.09 per cent, 10 years 5.40 per cent.*

*Purchase price \$10,000 and \$100,000 respectively.*

Historically, the spread between companies at a point in time has been large. Table 6 shows for a male aged 65 the largest difference in annual annuity between companies in December 1993 was \$546. This represents around \$8,400 over 15.5 years of average life expectancy. For women for the same month, the difference between the largest and smallest annuity was \$554, or over \$10,500 for 19 years of an average life expectancy.

Timing of purchase is also very important. Over the period Dec 1992-July 2003, the worst a 65 year-old male would have done is to buy from AMP in July 2003 (annuity of \$6,432) and the best is to buy from AMP in October 1994 (annuity of \$9,786). The difference in annual annuity is \$3,354 or \$51,987 over 15.5 years average life expectancy. For a 65 year-old female the worst is \$5,714 in July 2003 from Tower, the best is \$8,874 from AMP in October 1994. The difference in annual annuity is \$3,160 or \$60,040 over 19 years of average life expectancy.<sup>4</sup>

Women receive annuities that are around 11 per cent less than men's, but collect them for longer on average. Because they live longer, they are affected for longer by the consequences of buying the annuity at the wrong time or from the worst priced company.

**Table 6: Gender and company variability of annuities provided in New Zealand, purchase price \$100,000, age 65, December 1993**

Company	Men \$ pa	Women \$ pa	Difference \$ pa
AMP	8,360	7,430	930
Colonial Mutual	8,800	7,839	961
Metropolitan Life	8,439	7,544	895
GRE	8,321	7,335	986
National Mutual	8,461	7,495	966
NZI Life	8,547	7,604	943
Prudential	8,254	7,285	969
Sun Alliance Ltd	8,623	7,623	1000
Tower Corporation	8,597	7,608	989
<b>mean</b>	<b>8,489</b>	<b>7,529</b>	<b>960</b>
<b>median</b>	<b>8,461</b>	<b>7,544</b>	<b>917</b>
<i>Standard deviation</i>	<i>171</i>	<i>168</i>	

Source: Aon Consulting New Zealand Ltd, Aon Annuity survey 1993.

## 4 The reasons for a disappearing life annuity market

### 4.1 Tax

Discussions with providers during the writing of this paper have revealed a very strong view that the prevailing tax treatment has been the death knell of annuities.<sup>5</sup> The major reason is that the vast majority of potential annuitants are on a 21 per cent

<sup>4</sup> Figures are unadjusted for inflation.

<sup>5</sup> I am grateful to discussions on these issues with Simon Swanson, Ian Perera, Ross McEwan, (Sovereign); Craig Beveridge (AMP); and Daryl Hayes (Tower).

marginal tax rate rather than the 33 per cent applied to the annuity fund. Thus the product is not perceived by the industry to offer value for money for its clients. Sovereign for example did not sell any annuities at all in 2002 and the cost of continuing to produce a prospectus for this product could not be justified. Their withdrawal from the market in 2003 leaves only three companies from which an annuity purchase is possible.

But as well as tax considerations, the industry is aware of other features of the current environment that mitigate against annuities such as the lack of long-term bonds, a powerful adverse selection effect as discussed below, and the uncertainty of the longevity risk with improving life expectancy.

### **Money worth ratios**

It is interesting to ask what an average member of the population would be prepared to pay for a given annuity. The actuarially fair price (net present value), based on a risk-free rate of return, a 10-year guarantee and average population longevity, can be compared to the actual price that must be paid. This gives the Money's Worth Ratio (MWR).<sup>6</sup> The excess price over the net present value of an annuity must cover profits and overheads, but part of the excess is also the outcome of the adverse selection process described below.

Estimates show a \$100,000 contract costs approximately \$20,000 over the net present value of the annuity stream, giving rise to an average 'Money's Worth Ratio' (MWR) of about 80%. This does not mean that annuities are unduly over-priced for the annuitant pool itself, as the price must reflect higher life expectancy of those who actually buy annuities. It is the average member of the population, with average life expectancy, who is likely to regard annuities as expensive. If a 21 percent tax rate is used to determine the net present value of the income stream rather than 33 percent, the MWR falls to about 75 per cent. (St John, 2003b, 2003 forthcoming).

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<sup>6</sup> This analysis is based on the Money's Worth Ratio methodology (eg Doyle, Mitchell & Piggott, 2002; Mitchell, Poterba, Warshawsky & Brown, 1999),

## 4.2 Market failure

Classic failures of insurance markets revolve around the two phenomena: adverse selection and moral hazard. In the voluntary annuities market the key market failure arises from adverse selection.

### Adverse selection

Adverse selection arises when the individual better knows his/her longevity risk than the insurance company. If an insurance company offers annuity payments based on the average mortality rates of the entire population, it would soon run into difficulties as those who expect to live longer than average would find annuities more attractive than those who might expect to have a shorter life span.<sup>7</sup> Ex post, premiums would have to rise if the insurance company is to remain solvent. This subsequently decreases the attraction for those with a shorter life expectancy and demand by them drops further. The company is left with the ‘lemons’ or bad risks.<sup>8</sup> Eventually it may be no longer viable for the insurance company to stay in the market. The greater the adverse selection, the higher premium cost of a given annuity, and the greater the total welfare loss for society.<sup>9</sup>

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. This was the effect identified in the MWR calculations discussed above.

One obvious way to reduce adverse section is to discriminate by gender because the average life expectancy of women is higher than for men. In some countries discrimination by gender may not be permitted, making the task of insurance more

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<sup>7</sup> One factor balancing this conclusion is that women who have a longer life expectancy on average are also poorer and less likely to be able to afford annuities.

<sup>8</sup> (Akerlof, 1970)

<sup>9</sup> Overcoming adverse selection by making annuities compulsory, also runs the risk of welfare losses as those who are compelled to buy may find they are over-annuitised. While voluntary annuities are unambiguously welfare-enhancing because they are voluntary, they fall short of the ideal to the extent they are not based on full information and adequate risk discrimination.

difficult. New Zealand does allow discrimination by gender, but even with gender discrimination, the wide variations within gender are also possible sources of adverse selection.

### **Moral hazard**

The change in behaviour after the sale of the insurance policy which increases the probability of the event insured against occurring, or the cost when it does occur, is called *moral hazard*. The concept is of lower relevance for annuities, but may occur if the annuitant changes his or her lifestyle habits and lives longer than previously expected by the insurer. Compared to the life insurance market, the incentives of the insurer and the insured work in opposite directions. In the life insurance market, both the insurance company and the insured individual want the insured to live a long and healthy life. By contrast, an annuity insurer would like the insured to die early.

Annuity insurers cannot provide any incentives that entice people to behave in the insurers' favour. Other insurance contracts, like health or fire insurance, require co-payments by the insured to limit moral hazard. If a catastrophe occurs, the insurance company does not finance the full cost of the damage; instead, the insured are required to bear a certain percentage of the cost. Also, if the terms of the contract are violated, the insurer may withhold compensation altogether. Such arrangements increase the incentive of the insured to reduce the risk of damage. However, those kinds of incentives do not work for annuity insurance because the insurer cannot entice the insured to die early or live recklessly by means of a co-payment.

While strict moral hazard effects are therefore limited, other forms of moral hazard that impact on state provision may apply. In a voluntary market where there is a means-tested state payment, the decision to annuitise at all could be affected, and the timing of annuitisation may depend on the means-test rules.

### **Inflation risk**

So long as the provider achieves the assumed real rate of return, inflation adjustments to the annual payment are possible. It is not usually feasible for a provider to

guarantee full indexation, however, as future real interest rates are uncertain.<sup>10</sup> In some countries, private annuity markets do provide indexed annuities, but at high cost. If the government provides inflation-indexed long bonds, indexation of annuities becomes possible but, in this case, the government carries the cost of uncertainty.

New Zealand Life Offices provide only nominal annuities. While these may be designed to increase a set amount each year, escalating annuities are likely to be unattractive in terms of the starting annuity value. Escalating annuities do not address the danger of unanticipated inflation. With no formal capital gains tax and high short-term interest rates, there are other avenues for hedges against inflation in New Zealand such as the residential property market or short term roll over deposits (Watt & Reddell, 1997). Nevertheless, there is some on-going discussion about the need for new, more favourably taxed retail inflation-linked bonds in light of the government's concerns about increasing retirement saving (Gordon, 2002).

### **Investment risk**

Typically, an annuity is priced on the day of purchase with reference to prevailing interest rates, thus locking in both purchaser and provider. Thus, while an annuity should protect the income position of the retired person for as long as they live, they may also 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 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.

### **Mortality risk**

If people begin to live longer on average than the mortality experience factored into annuity prices the insurance company could become insolvent. If insurance companies

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<sup>10</sup> Barr distinguishes between risk, for which probabilities can be attached, and uncertainty, for which no statistically reliable estimates can be made. Many of life's contingencies especially in later life are of the uncertain kind rather than the risky.

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 general, improvements in mortality are not predictable and represent more of an uncertainty than a risk. This makes pricing an annuity much harder. In the US a variable annuity called the College Retirement Equities Fund (CREF) annuity, passes on the aggregate mortality risk to annuitants by varying the annuity payouts with the mortality experience of the annuitant pool (Congressional Budget Office, 1998). Pooling of the longevity risk between companies is another option (James & Vitas, 2000).

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 latest abridged life tables for the period 1999–2001 show that there have been longevity gains of 3.1 years for males and 2.2 years for females since 1990–92, largely due to the reduction in mortality rates in late-working age and the first decades of retirement (Statistics New Zealand, 2001). The question is whether these trends will continue.

### **4.3 Other factors**

Adverse selection, investment, mortality and inflation risk are not the only explanations for an underdeveloped annuities market. The bequest motive may be another significant factor. It could be that the leaving of a bequest may bring utility rewards for its own sake, but there may be an expectation that a bequest may elicit the desired caring family behaviour towards the older person.

The expectation of expensive medical costs may be another reason for maintaining non-annuitised wealth, especially long-term care in the absence of social or private insurance (Wallister, 2000). Other reasons include individual myopia with people largely ignorant as to the probability of extended life expectancy; ignorance; mistrust of insurance companies; inflexibility of products and their variability; suspicion about the financial standing and viability of the insurance provider over what could be a lengthy retirement; the ‘luxury good’ nature of annuities; tax policies that favour lump sums and public pensions that crowd out the need for private annuities.

In part the “mistrust of insurance companies” is 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.

In a country the size of New Zealand, competing insurance markets have a small pool of annuitants and little reliable actuarial data on annuitants' mortality on which to base their pricing. Moreover New Zealand's basic inflation and wage-adjusted NZS provides a relatively generous flat-rate annuity and may be a factor in the lack of interest in annuities. The rate of NZ Superannuation (65 percent of the net average wage for a married couple) is now however at its lowest relative level since the early 1970s. It remains to be seen if it will continue to be perceived to be an adequate hedge against longevity for many middle-income people.

#### **4.4 Policy responses to market failure**

In the UK, annuitisation of 75 percent of tax-subsidised retirement saving before the age of 75 is mandatory. Compulsory annuity purchase is not the only possible approach to adverse selection in private annuities however, and, in any case, is inapplicable in the New Zealand situation where saving for retirement is voluntary and not tax subsidised in any way. In the absence of compulsion there still remain a range of policy issues to consider.

One policy question concerns how annuity providers are to be regulated with respect to charges and investment and how far annuities should be guaranteed to overcome the risk of company failure without engendering moral hazard. Other questions concern to what degree inflation-protection should be mandatory and what role the state should play in facilitating indexation of annuities.

The current body of literature largely concludes that the state must play a significant role in the future of the annuities market (for example Mitchell & McCarthy, 2002). In practice, a number of countries have adopted various interventions designed to facilitate a viable annuities market as briefly summarised in the appendix for selected countries.

## **Gender-neutral annuities**

One controversial policy issue is whether insurance companies should be permitted to discriminate on grounds of gender. While such discrimination may reduce adverse selection, the state may require that all people be treated equally under Human Rights obligations. It is well accepted that the state pension is gender neutral, but also so are most company pensions and all pensions paid from the GSF.

While women on average out-live men, people are individuals, and experience death individually. Only a group of about 14 per cent, comprising short-lived men and long-lived women, can be regarded as having a statistically determined different probability of dying than the total population of men and women (Campbell & Munnell, 2002). Nevertheless, that 14 percent cannot be identified and if a voluntary annuities market is regulated to use unisex pricing, adverse selection may become even more of a problem.

If there are social arguments for treating men and women equally, the industry itself, or maybe the government may have to provide some reinsurance for individual companies to cover any excess longevity experience arising from a disadvantageous mix of genders.

## **5 The advantages of annuities**

There are broad gains for society from encouraging annuities that are often overlooked. If people have income for as long as they live, they have some means of contributing to their costs of care in old age should they require it (for discussion of these issues see St John, 2003a, 2003b).

Private annuities that augment New Zealand Superannuation in a realistic way may have wider social benefits. 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, annuities provide an transparent income stream which can help meet the costs of old age care, including long-term care, thus reducing the pressure on general taxpayers.

## **Design of a ‘good’ private annuity’**

A state pension itself provides the quintessential example of a ‘good annuity’ New Zealand Superannuation overcomes: adverse selection by including everyone in the pool; the inflation risk by CPI indexing; the investment risk by linking to average wages; the mortality risk by general tax funding. It also has the cost advantage that the balance of the annuity does not go into the estate pool on the early death of the annuitant, as there is no guarantee period. Moreover the annuity is gender neutral and treats men and women equally thus allowing for the wide range of longevity experience within the broad gender classifications.

Pensions from the now closed GSF also have had some very attractive features, providing an inflation-adjusted life annuity to men and women on the same basis. For many retired public sector employees this pension has made all the difference to the quality of their retirement.

The middle-income group of the baby-boom generation now face risky markets in which to invest their modest capital for what might be a long and expensive old age, raising prospects of unnecessary insecurity and welfare loss. The current tax environment has encouraged them to invest in owner-occupied housing which is relatively illiquid in retirement. An attractive annuity product 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.

## **5.1 For whom would an annuity be of benefit?**

Those at the top of the distribution can always look after themselves. In particular they can cushion themselves against times of high inflation and rapid growth in living standards. At the other end, many low-income people will find that after a lifetime of low wages and/or benefit income New Zealand Superannuation provides a satisfactory replacement income. They will also qualify for subsidies for long-term care if they need them in older age. In contrast, many middle-income people are likely to find under current policy settings that their living standards fall precipitously during retirement. The capital they have saved to supplement New Zealand Superannuation must be eked out to last for the whole of their future lifetime when that period is now often as long as the time spent saving it while in the workforce. The extra income that their capital provides is exposed to the risks of inflation, poor and volatile investment returns, and mismanagement. They may be tempted to invest super-conservatively even though the period of their retirement could be 30 or more years and may be a time of rapid economic growth and rising living standards. They run the risk that they either outlive their capital, or have a needlessly restricted retirement while dying with assets intact. They and their families are also exposed to the risk of running down their assets if long-term care is needed, in spite of the recent proposed changes to the asset test (St John, 2003a).

In light of these observations it is surprising that the potential role of annuities in the retirement policy mix in New Zealand has barely been raised in discussions on superannuation to date. Given knowledge of average life expectancy, an individual could plan to divide income and capital between the years that he or she is expecting to live after retirement and draw this amount down each year. ‘Allocated annuities’ such as available in Australia are designed to facilitate this. The risk is high however, as much as 50 per cent, that the individual will live longer than the allocated period and may spend the last years of life in penury. Thus it is doubtful whether the term ‘annuity’ should really apply to this product.

The exact location of the middle-income group to be the focus of policy attention here is deliberately vague as there are many combinations possible, such as high assets/low

income, low assets/high income. The income distribution becomes much flatter after retirement, due to the equalising effect of New Zealand Superannuation, and the loss of employment income. But the true distribution is understated by failing to account imputed income, and because the use of trusts can disguise individual income. With those caveats in mind, the middle may be thought of as those located in approximately deciles 5-9 of the income and wealth distribution.

### **The wealth distribution**

Holding of net assets by those over 65 are, on average, only modest. A living standards survey of older New Zealanders conducted in 2001 provided some limited information about assets for ‘core economic units’, or CEUs (Ministry of Social Policy, 2001).<sup>11</sup> This survey Table 7 shows that three quarters of single CEUs have financial savings and investments less than \$37,500 and the median is only \$7,500. For partnered CEUs, the figures are higher, as would be expected, but more variable: nearly three quarters have assets (apart from their own home) of less than \$100,000 and the median is \$37,500.

*The findings indicate a population with relatively low levels of financial resources. (p. iii)*

**Table 7: Estimated total value of savings and investments of CEUs, (excluding own home)**

Value (\$000)	% Single	% Partnered
<1	30.6	20.9
1-5	13.7	7.8
5-10	11.6	7.6
10-15	7.3	5.5
15-25	8.6	9.2
25-50	9.0	12.3
50-100	7.3	9.7
100-150	3.3	6.0
250-200	2.3	4.1
200-250	2.0	3.6
250-300	0.7	1.9
300-350	0.9	2.7
350-400	0.7	1.6
400+	2.1	7.0
<b>Median value of investments</b>	<b>\$7,500</b>	<b>\$37,500</b>

*Source: Ministry of Social Policy (2001, p.52)*

<sup>11</sup> The unit is based on the status of the individual or couple, not the household they live in.

Table 8 shows the median value of homes for those who own their own homes is \$125,000 (singles) and \$175,000 (couples).

**Table 8** Government valuation of home: for CEUs owning their home

Value (\$000)	% single CEUs	% partnered CEUs
<25	0.3	0.2
25-50	3.0	1.8
50-100	23.8	14.6
100-150	30.2	21.3
15-200	18.4	21.4
200-250	12.2	15.6
250-300	6.6	11.9
300-350	1.5	4.8
350-400	0.8	3.0
400+	3.2	5.3
<b>Median</b>	<b>\$125,000</b>	<b>\$175,000</b>

*Source: Ministry of Social Policy (2001)*

These data, and figures from the 2002 dedicated wealth survey discussed next corroborate the story of a low mean and median net worth and an unequal distribution.

The net worth survey (Statistics New Zealand, 2002a, 2002b) provides the most comprehensive view of the holding of wealth yet available. The survey interviewed 2,392 individuals and 2982 couples. Weighted up to the whole population these represent 930,900 individuals and 855,900 couples. While the size of the survey precludes a detailed breakdown by age, and some of the cells in the tables have very high margins of error, 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 9 summarises data from the net worth survey 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.

**Table 9** 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)*

While those in the ‘middle income’ group have modest capital resources only, it may be possible for them to access capital of in the range of \$60,000-\$150,000 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 have not been available.

## **6 Policy considerations**

This paper has argued for suitable annuities to supplement New Zealand Superannuation for middle-income people. A possible policy response might be to design a product that delivers an annuity of up to, but no greater than, the state pension, i.e. around \$10,000 per annum. By limiting the size of the annuity, the costs of subsidisation are controlled and their impact largely restricted to middle and lower income groups. The incidence of the subsidy falls heaviest on those middle-income people who live the longest, in contrast tax incentives levied during the accumulation phase where the highest income earners appropriate most of the benefits.

### **Tax**

While not providing any argument for their re-introduction, the lack of tax incentives of any kind in the accumulation of savings in New Zealand means that annuitisation cannot be compelled. In the debate over the past decade there has been little acknowledgment that tax incentives, by allowing regulations, could be used to secure wider social goals. This may be because New Zealanders are reluctant to revisit that world of rules and regulations. Thus there has been virtually no discussion of how tax incentives if accompanied by appropriate regulation might exert a socially beneficial influence on the nature of the retirement saving. Indeed the power to ensure regular income as opposed to lump sums may be the only economic justification.

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. One possibility is that the state’s role may include the direct provision of annuities. Another option is private sector provision with the state providing a judicious mix of regulation, monitoring, reinsurance, guarantees, and tax subsidisation. For example, the tax on the annuity fund could be reduced to zero, or state could provide long-term indexed bonds with a

taxation regime that guarantees a realistic net real return (see below). Some underwriting of the excess longevity risk 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 encourage the kind of annuities that are of most benefit to middle-income people.

### **Inflation adjusted bonds**

The lack of instruments such as long-term indexed bonds makes inflation-adjusted annuities less likely (TIAA-CREF Institute, 2002). Inflation-indexed bonds, (IIB), were first available in New Zealand in the period 1977-1985. Wholesale IIBs were for were reintroduced by the Reserve Bank of New Zealand in 1995 with a coupon rate of 4.5 per cent and maturity in 2016. IIBs have been relatively illiquid, limited in application and have not been used to back insurance products (Watt & Reddell, 1997). Full inflation protection is not possible in any case as income tax is levied on the gross return (real plus inflation adjustment). Events of the late 1990s including a lesser need to borrow because of state-owned assets sales, saw the New Zealand government suspend issuance of these bonds (Gordon, 2002).

The reinstatement of tax effective IIBs is urgently needed if inflation-proofed annuities are to be a reality. If an annuity is priced using a given real rate of return, for example 2 percent, the issues currently surrounding the timing of purchase disappear. To improve intragenerational equity, the implicit subsidy for the inflation-proofing might be derived from the reintroduction of a surcharge or affluence type of income test on the state pension (St John, 2003 forthcoming).

### **Reverse home mortgages**

New Zealanders have traditionally had a very high proportion of their assets in owner-occupied homes, in part because home ownership is treated more favourably for tax purposes than are other investments. Unfortunately one's own home is not usually a source of readily accessed liquidity that can be drawn on to finance the additional costs of retirement. As with the almost non-existent annuities market, home equity release schemes are rarely used.

The insurance company Invincible Life Assurance (now S.A.I Life Limited) was New Zealand's first, and to date, only company to offer reverse annuity mortgages. Under

a RAM, a mortgage is raised over the home of the older person and used to provide an annuity. The fees and costs are all deferred until the mortgage is discharged.

Given the propensity of New Zealanders to save in the form of owner-occupied housing, methods of translating a portion of this capital into an income stream deserve more exploration. Unlocking a portion of this equity by allowing it to be part of the purchase price of the proposed annuity product is a possibility, but may require state provision of the annuity or some reinsurance arrangements with the private sector, given the illiquidity of this asset.

### **Coupling with long-term care insurance**

The proposed life annuity could also be coupled with long-term care insurance. Thus the life annuity would increase once long-term care becomes necessary to enable the bulk of the fees to be met. The cost is built into the level of the annuity. It may be made compulsory feature of the new annuity and provide a trade-off for the subsidies involved. In contrast, most health insurance premiums are annual, providing opportunities for providers to reassess the risk with the outcome of diminishing the security of retirees. For example, the major health care insurer in New Zealand has recently adopted an age-related premium, which has made such insurance far less attractive and less affordable to older age persons (St John, 2003b, 2003 forthcoming).

It is logical that a product that insures a large pool of people well before they can be expected to need long-term care is likely to be cheaper to provide. There is merit however in confining the purchase of insurance to older age groups when there is less reluctance to consider the problem than at younger ages, without leaving the purchase too late (Warshawsky et al., 2002, p.210). It is possible that a life annuity plus long-term care insurance purchased with a single premium at age 65 or 70 might capture a wide pool of annuitants even if it is non-mandatory. Those who die early and do not need care, along with those who live into old age but do not need long-term care (the vast majority of those who survive), subsidise the ones who do need care. The younger the age of purchasers, and the greater the numbers who purchase, the greater the pool for the sharing of risk. Those whose health status make them poor risks for long-term care insurance are good risks for life annuities, so that linking the two risks is likely to increase long-term care coverage of the population at the same time as reducing adverse selection in the annuities market.

There may be other attractions to a joint product. The coupling of the life annuity with insurance for long-term care may mitigate a perceived disadvantage that there may be a loss of inheritable wealth from the purchase of a life annuity (Warshawsky et al., 2002, p.210). Family members may feel that they have some protection against the erosion of the older person's assets if viable long-term care insurance is in place.

There is some interest in this kind of product from some providers of annuities emerging world-wide, but Warshawsky et al., (2002) find no actual product has emerged to date. Nevertheless, preliminary estimates for the UK by Life Company Watson Wyatt show that worthwhile income increases could be paid once long-term care became necessary for modest reductions in the initial annuity. They see the demand for purchases for such annuities arising later in retirement, at above 70 years (Watson Wyatt, 2002). Warshawsky et al., (2002) outlined how the innovation of integrating of the life annuity and long-term care insurance might work in the US. They conclude that the idea is viable but much more research is needed:

*The tax treatment of this combination could be improved, and the product design issues must be considered carefully. Furthermore, additional research is required to look at more recent data and different permutations of the product as well as a more refined analysis of population groups who might utilize it. A favourable public policy environment, including tax and insurance regulations is needed to encourage this innovation, and insurance companies must be creative in exploring the possibility of improving the financial security of current and future retirees. (p.217)*

There are several issues to consider in designing a life annuity with long-term care insurance.

- The age at which the policy is to be purchased, and the role of deferral of purchase.
- The nature of the costs to be covered, the policy may either indemnify the actual costs or pay a specified amount for an assessed condition. For the latter, once the highest level of dependency is diagnosed, the annuity increases by a given factor regardless of the nature of the care chosen.
- The size of policy and whether maximums should apply. This may be important if there are significant subsidies or government guarantees to this product.
- The kind of inflation adjustment that applies and who pays for it.

- The source of the purchase price. Whether it includes home equity and, if so, on what basis.

## **7 Summary and recommendations**

A lack of support for middle-income retirees has been identified in this paper. The suggestion is that middle-income people be offered attractive but limited life annuities up to a suitable ceiling, possibly coupled with insurance for long-term care costs. The issues are complex and may require that a taskforce or Royal Commission with a long-term perspective is given the task of investigating the way forward.

### **Recommendations**

- A suitable framework for investigation of long-term retirement saving issues is established with representation from government, unions and industry.
- Within this framework the respective roles of private providers and the state are discussed with attention to:
  - The role of a suitable, limited-value annuity product;
  - The justification for subsidisation with an assessment of private and social benefits;
  - The nature of the tax changes required, including not only the removal of existing tax distortions, but an examination of the case for removing tax altogether on the annuity fund;
  - The issuance of inflation-adjusted saving bonds that guarantee a suitable real rate of return after tax;
  - The way in which home equity could be used for part of the purchase price;
  - The justification for making the annuity product gender neutral;
  - The potential link with long-term care insurance.

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## **Appendix: What other countries do**

Many of the factors discussed in section 4 constitute a genuine market failure problem, where various forms of government intervention may be appropriate to improve social outcomes. In every country where there is a significant annuities market, government plays a substantial role in mitigating market failure. Typically, adverse selection may be overcome by making annuities compulsory, although risk differentiation, such as between men and women, may still be permitted.<sup>12</sup> The welfare losses from forcing some people into sub-optimal (for them) annuitised products needs to be balanced against the welfare gains for others from minimising adverse selection.

In Chile, for example, the annuities market is voluntary but the government subsidises the annuities market. The perceived need for an annuity is greater as the basic pension coverage (analogous to New Zealand Superannuation) is sparse. All participants are guaranteed a minimum pension hence the government assumes a good portion of the longevity risk. Insolvency of pension providers is also underwritten by the state and pension funds are regulated as to returns and investments. Thus although Chile has a privatised scheme, the role for the state is both extensive and expensive. For example Smetters (2002) raises concerns with respect to the costs of the guarantee and argues that it may prove to be a lot more expensive than hitherto realized (for more detail see St John, 2003 forthcoming).

To date the life annuities market in Australia has been limited, largely because government's role has also been limited. Importantly, their compulsory private superannuation is not regulated to require that the final payout be in the form of an annuity or pension. Including public sector employees, more than 80 per cent of superannuation benefits are received as lump sums. The problem with life annuities is seen to be the comparative loss of control, and the locking in of initial investment decisions or interest rates. The life annuitant also risks falling behind general rises in living standards because savings are in a capital guaranteed product. Nevertheless, the government is attempting to make life annuities and allocated annuities more

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<sup>12</sup> In the US sex and racial characteristics however are not permitted categories for employment-related pensions or life insurance.

attractive by assigning them favourable tax treatment than pre-retirement superannuation (Knox, 2000). The investment earning for annuities is tax-free where as for superannuation funds tax is levied at 15 per cent. Other offsets apply to the tax on the final annuity, and interactions with the means test for the age pension (see St John, 2003 forthcoming).

The Australian industry is increasingly drawing attention to the reality that life annuities do not protect from the investment risk, and allocated annuities do not protect for the longevity risk. In addressing the 2001 Superannuation Colloquium in Sydney, the Managing Director of AMP Financial Services, Andrew Mohl warned of the impending crisis. It was suggested that if the baby boomers shift into capital guarantee products to reduce the longevity risk there may be serious implications for the equities market. The management of lump sums by the baby boomers, some of whom are already beginning to retire under the Superannuation Guarantee at age 55, will be a potential problem for themselves and for the state:

*My key message today is that there is a gap in the market place because you cannot buy a lifetime pension that is backed by growth assets. Such a product doesn't exist in Australia, although it could easily do so if the right regulatory and market conditions existed. (Mohl, 2001)*

On the other hand, provision of suitable variable annuities may mean all kinds of better outcomes including an improved sharemarket; lower state age pension support; fewer unintended bequests; and increased industry activity.

*...this is a policy issue that is too large and the future consequences on the Australian society too grave to shift back to government alone. We need collectively - and that includes the superannuation and funds management industry - to seriously rethink the tax and compliance regime that almost forces people into safe, low risk, low return products that do not suit their real needs. (Mohl, 2001)*

The constraints imposed by regulation on the types of investment Life Office may make for life annuities is inhibiting the development of new more appropriate products. Australian academics and the industry are currently exploring policy options including the case for mandatory annuitisation with suitable regulations that might offer better protection for individuals and taxpayers alike (Doyle & Piggott, 1999).

The annuities market in the US is small but relatively well developed. With proposals to create individual accounts within social security, there has been a renewed interest in the need for flexible annuity products. Annuitisation is seen as necessary for a

range of reasons, including reducing moral hazard effects that arise from incentives to spend assets now and fall back on state assistance later, adverse selection, a lack of financial sophistication, and the 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 policy approaches might stress such factors as tax incentives, education, advice, and the like (Brown, Mitchell, Poterba & Warshawsky, 2001; Mitchell & McCarthy, 2002).

A contrast is provided by the UK example where the purchase of annuities from pension plans is mandatory no later than age 75 with at least 75 per cent of the pensioner's fund assets. This is, however, raising concern about their design and appropriateness of the annuities on offer and actuarial interest is focusing on redesigning annuity products.