Part III: Improving outcome for middle-income retirees

9 The policy reform framework

9.1 Overview

Despite the contentious political environment surrounding superannuation, the policy mix of a basic state pension and voluntary saving has broad popular support as outlined in chapter 2. Nevertheless, as described in chapters 3 and 5, there is a significant gap in income protection for middle-income people as they enter old age. The baby-boom cohorts will have almost zero opportunities for realistic annuitisation of additional wealth to supplement New Zealand Superannuation. Furthermore, there is little opportunity for this group to insure for long-term care costs. The unresolved policy issues around the removal of the asset test as outlined in chapter 4, suggest that imposing further costs on the working age population by funding more of long-term care from general taxation will be cost ineffective and inequitable especially in light of the growing wealth of the top deciles of the baby-boom cohorts.

The dependency model, as outlined in chapter 7 (section 7.2) is useful when thinking about shares between the old and the young. This model was implicitly endorsed by the Periodic Report Group (1997a) who argued for parametric adjustments, and rejected the need for radical changes to the structure of retirement income policies, such as the introduction of compulsory saving schemes or tax incentives. The investigations in chapters 6 and 7 into the case for a compulsory Pillar II and subsidies for saving did not unearth any new considerations that might change the Periodic Report Group's verdict. The economics is clear. Merely altering financing arrangements, that is, paying given pensions out of one pot of money rather than another, does not affect the real resource issue, nor does it affect the fact that between 2010 and 2030, the old will need a growing share of total output if their standard of living is to be maintained relative to those of working age.

The policy design challenge is to achieve fair resource shares between the young and the old while allowing for generational interdependency effects which imply that the needs and well-being of the old and the young are mutually determined (concepts of generational equity were detailed in chapter 7, section 7.5).[187] If the old are well supported, the young are relieved of the pressure to contribute to their parent's retirement directly. If the young are well supported, the old are likely to enjoy better quality services from a skilled workforce. On the other hand, if the old are given an income share greater than workers see as fair, adjustments might take the form of workers themselves demanding a greater share through higher wages. The share going to the old may hence be reduced through a fall in their receipt of dividends and profits, while that of the young rises.

If what the old are given is less than is fair, they may increase the draw-down of their assets and leave fewer bequests. On the other hand, the young may not be prepared to buy the assets from the old at expected prices, and falling asset prices will have other redistributional effects. While these adjustments can mitigate an unjust sharing arising from policy decisions for some, for others at the margins, such adjustments may worsen injustice. So the old who have no assets to sell, have no mechanism to mitigate an unfair pension, and will suffer ever-rising prices for the skilled services they need. Workers on low wages and without skills may find it hard to gain wage increases to offset the high taxes they must pay for the pensions of those they perceive as more wealthy. Thus they may also fall further behind. In order to minimise these undesirable distributional effects policies need to be carefully designed to give perceptions of fair treatment.[188]

It is clear that normative judgements cannot be avoided. While economists prefer to frame discussions in efficiency terms, equity issues are in fact fundamental to age-related policy design. Policies for the retired have a critical role in determining the

---

[187] The framework provided by generational accounts and generational equity in the sense used in the literature is explicitly rejected (see section 7.5).

[188] A confounding factor arises from expectations. That is, pensions may be fairly designed, but high expectations of living standards in retirement may generate demands on output at the expense of workers especially by the wealthy. An example might be in healthcare, where the wealthy old may appropriate resources in the health system, both private and public, at the expense of working age families.

shares of output between the old and the young. The impacts on the macro economy itself are of secondary importance, as discussed in section 7.4. Thus, as Aaron (1982) suggested, the decision about the shape of pension schemes needs to be made on equity grounds rather than on the grounds that one or other approach is likely to affect economic growth or incentives.[189] Following this conclusion, some possible and plausible objectives are outlined in section 9.2 below and some suitable criteria discussed.

Even if it was possible politically, or desirable in economic terms, there is insufficient time now to change the pre-retirement saving phase in New Zealand in order to influence outcomes significantly when the baby-boom generation retires between 2010 and 2030. Moreover, instigating change in New Zealand has a fraught political history as outlined in chapter 2. The Periodic Report Group is due to be convened in 2003 as required under the Retirement Income Act,[190] but with the demise of the Accord there is little chance of it providing a comprehensive and independent review of retirement income policies. At best, changes to restore neutrality in private superannuation will be discussed, but immediate implementation of any recommendations is unlikely. The parametric changes outlined by the 1997 Periodic Report Group with respect to the need for raising the age, changing the indexation formula, or reintroducing income testing will not be part of the terms of reference. This is because the current government believes the existing parameters are now an integral part of what is guaranteed under the New Zealand Superannuation Act 2001.

In this climate it is both possible and useful to refocus the debate on to the decumulation phase of the baby-boomers' assets, with a lead-time to allow for new products and policies to be offered from 2010. This new focus follows international trends where an appreciation is emerging that traditional retirement policies have determined the shape of pay-out profiles and, to date, have largely precluded objective policy design considerations.

---

[189] Aaron as cited in Barr 1998, p.231.

[190] As at the end of December 2002 there have been no formal announcements of this taskforce, but there is some indication that a group will be convened to examine the tax treatment of private provision.

> *Yet it is the retirement phase where many of the financial risks associated with the elderly, which cannot be adequately insured against in an unregulated private market, are confronted.* (Doyle & Piggott, 1999, p.1)

Once the current anomalies in tax are addressed (see section 3.4.1) and tax neutrality is again a reality, there will be a clean slate for the design of appropriate interventions at the point of retirement, enabling clear goals to be specified.

9.2 What are suitable objectives of pension policy?

There has been much debate in the literature about what pension policy is supposed to achieve. Characteristically there have been mixed and even competing objectives. In particular, the failure to prioritise among first and second order objectives has produced confusion in the minds of the public, politicians, and even economists at times. This is well illustrated in the case of the debate in New Zealand over compulsory superannuation, a debate revisited vociferously in each of the last three decades.[191]

In particular, the issue of provision of retirement income has become closely associated with the goal of increasing national saving. The advocacy of pension privatisation promulgated by the World Bank has also been associated with issues of improving capital markets and development.

In principle, national saving can be increased by a variety of mechanisms of which funded pensions may possibly be one. The discussion in chapter 7 did not suggest that pensions policy is a necessary, let alone a sufficient, tool for accomplishing an increase in national saving (see section 7.4.2). Rather, saving, investment and growth objectives can be met in a variety of ways. This is not to argue that pensions policy is not of importance. Pensions policy should be designed in order to ensure that as far as possible these goals are enhanced or at least not damaged. But it would be a mistake to tie achievement of these important macro goals closely to pensions design. This is true whether or not the issue is PAYG versus prefunding, public versus private, or privatisation of existing state PAYG schemes. The impact on national saving, growth and economic efficiency could be regarded as a second-order objective, or, as it is

---

[191] The debate in the mid 1970s is documented in Palmer (1977); Ashton & St John (1988) and St John (1992). The issue was revisited in the 1980s, as documented in St John & Ashton (1993), and again in 1997 documented in St John (1999b).

taken here, one of the criteria. Pension design, as far as possible, should enhance the likelihood of improved saving for individuals as well as nationally, and minimise impediments to growth.

A major purpose of retirement incomes policy is to assist consumption smoothing over time for individuals, in cost-effective ways that are not readily available in a purely private setting. The goals of pensions policy should be constructed in terms of achieving normative equity objectives of agreed relative income and well-being outcomes for the retired.

9.2.1 Possible normative objectives

The history of pension policy in New Zealand briefly outlined in chapter 2, illustrates the tensions between the goal of poverty alleviation (which implies a minimalist safety net approach) and income maintenance (which implies, to some degree at least, earnings replacement). The emergent flat-rate universal pension, with little other government involvement in private supplementation, may be viewed as a compromise between these goals.

Distilling the wisdom from the diverse range of reviews on superannuation, including the Royal Commission of Inquiry on Social Security in New Zealand, (1972) and the Royal Commission on Social Policy, (1988), and from recent efforts to find consensus such as the Periodic Report Group, (1997a), (1997b); Report of The Taskforce on Private Provision for Retirement, (1992); and the 1993 Accord, it is proposed that the following are suitable primary goals for New Zealand retirement policies:

- The access to resources enjoyed by older people should be, at minimum, enough to provide the ability to *participate and belong* in New Zealand society and to remain an active contributor to it in ways chosen by the retiree. [192]
- Income shares must be fair between working-age and older populations, that is, *intergenerational equity* must be one of the policy targets.

---

[192] The ability to 'participate and belong' is an important concept in the social welfare system dating from the 1972 Royal Commission. The words are included in the 1993 Accord appended to the Retirement Income Act 1993, but do not appear in the Retirement Income Act itself.

- Policies should facilitate consumption smoothing over-time and hence achieve a degree of income replacement for middle-income retirees with suitable protections.

- The cost of healthcare and long-term care should be equitably shared among the working age population, the older person needing care, and the retired population. The aim is to achieve both intergenerational and intragenerational equity.

In addition to meeting these policy objectives a policy mix may be judged against a range of design criteria. The following criteria are selected:

- Neutrality in terms of gender and marital status

- Fiscal sustainability

- Economic efficiency

- Impact on private provision

- Administrative efficiency and simplicity

- Transparency and accountability

- Political sustainability

- Transitional equity.

Looking at each of these criteria in turn:

Gender and marital status neutrality can imply that men and women, married or single should receive the same annuity for the same capital sum. Other interpretations are that where there is strong statistical evidence on life expectancy to justify different treatment, women should receive a lower annuity, thus equalising total expected lifetime payments with men. The first treatment implies redistribution from men to women, and carries significant worries of adverse selection in a voluntary annuities market. The second approach does not allow for the fact that the distributions of life expectancy for men and women have at least an 86 per cent overlap (Wadsworth et al., 2001, p.48). Treating all women as long-lived and all men as short-lived is far from justified. The criterion selected for the purposes of this thesis is that *men and women should be treated the same by getting the same annuity for the same capital*

217

sum. This already happens implicitly in New Zealand Superannuation, in the Government Superannuation Fund, and in many defined benefit company schemes.

Marital neutrality is already implicit in the tax system in New Zealand where there is no recognition of the spouse in a taxpayer's return.[193] While untrue of the broad welfare state where benefits are income-tested on a joint income basis, the marital unit is not the unit for New Zealand Superannuation. Each partner receives NZS in his/her own right at the same amount, taxed along with their other personal income, irrespective of their partner's situation. Even the surcharge, when it operated, was based on an individual not a joint income test. Different rates, however, do apply to a married person compared to a single person and a person who lives alone to recognise some economies of scale in co-habitation.[194] This system appears popular with New Zealanders, who have expressed little desire to follow the Australian old age pension model of joint income and asset testing. Women are better treated in New Zealand than in most other countries in having a pension by their own right (Ginn et al., 2001).[195]

Fiscal sustainability requires that goals be achieved without unsustainable rises in taxation. The ageing of the population suggests some rise in tax as a percentage of GDP is inevitable, but this principle stresses the need for cost-effective spending. It is important that the fiscal cost is not disguised: the true cost to the fiscal position is the total expenditure through the government's budget including any spending financed by the New Zealand Superannuation Fund, or by tax expenditures such as tax credits and tax concessions.

Economic efficiency implies that policies should not impede economic growth by introducing economic distortions and should, as far as possible improve national saving. Policies should have a *positive impact on private provision*. While the ultimate resource-sharing problem is unaltered by the origin of income in retirement,

---

[193] New Zealand is unusual for the purity of the individual base for taxation. There is some recognition of the presence of children.

[194] Only the living alone rate difference can be justified. The distinction between married and single person rates does not acknowledge that single persons can also have economies of scale when they live together (Periodic Report Group, 1997a).

[195] The analysis in chapter 10 is based on the individual rather than the married couple as the unit.

more private provision can make the need for explicit redistribution between generations less necessary. The more the private provision for example, the greater the ability of the retired to meet their healthcare and other costs directly. Attitudes, expectations, and behaviours can all be influenced by policy and the influence is best in the direction of making self-provision a desirable activity.

Administrative efficiency is crucial and nonproductive activity and management costs should be minimized. *Simplicity* is desired as far as possible, so that the system is easy to comply with and understand. Policies are best if they are transparent. *Transparency* requires clarity in objectives and the costs of policies. *Accountability* requires full disclosure and regular monitoring and evaluation.

Political sustainability implies a stable process for making and assessing policy that has widespread political and public support. *Transitional equity* requires that costs be not unfairly imposed on one generation with no warning. If there are transitional costs they must be shared fairly.

9.3 Assessment of the current policy mix

The current mix of policies falls short of meeting the objectives and criteria as set out above in various respects. There are concerns that New Zealand Superannuation at 65 per cent of the net average wage for a couple, while above other social welfare benefits, is now as low, relative to wages, as it was in the early 1970s when poverty among the aged was a real issue. This was illustrated in Figure 2.1 in chapter 2 of this thesis. While the living-standards survey, discussed in chapter 5, does not suggest that most older people are currently experiencing hardship, especially the older retired who are in good health and own their own homes, many low-income baby-boom retirees, especially those who have spent some time on income-tested welfare benefits, may have only the state pension as income in retirement. It is therefore essential that the basic pension provides a participatory standard of living. To achieve this, the floor of 65 per cent of the net average wage, must be protected and the level constantly monitored to assess its basic adequacy.[196] If this is not done the danger is that New Zealand will follow the UK pattern of ever increasing use of means-tested

---

[196] In more expensive parts of New Zealand additional income is likely to be essential.

top-ups to the basic pension amid growing dissension as to policy direction (Johnson, 1999).

Nevertheless, many of the about-to-retire baby-boom generation gained significantly in the 1990s and some are at the very top of the income and wealth distribution. There are no death duties, inheritance taxes or meaningful capital gains taxes to restrain the growing income and wealth inequality. The use of trusts as an avoidance mechanism to qualify for long-term care subsidies has increased, disguising the actual wealth position of many of the wealthy. Tax reductions in 1996 and the abolition of the surcharge in 1998 redistributed highly significant extra income to the highest income and wealthiest superannuitants. These gains have only marginally been recaptured by the imposition of the top tax rate of 39 per cent as outlined in section 5.7, chapter 5 of this thesis.

As discussed in section 5.9, a universal pension paid to all age 65 years, regardless of wealth or whether still working in the context of an otherwise tightly targeted welfare state does not achieve *intergenerational equity* in the sense of fairness in the standard of living between the old and the young. Policies initiated in the 1990s have operated against vertical equity by redistributing to the rich, and thus ultimately to their families via inheritances, further widening the income and wealth distribution gap. New Zealand has, however, successfully eliminated the regressive tax incentives that provide much pro-rich redistribution in other countries (see section 6.4.1).

While the *administrative efficiency* of the current simple pension arrangements is a clear advantage, simplicity has been achieved at the price of other goals. Policies fail to encourage at least some degree of income continuance above the level of New Zealand Superannuation to facilitate *consumption smoothing*. The next three decades portend compression in the distribution among middle-income retirees whose additional saving will not protect them adequately from increasing longevity, unanticipated inflation, and poor investments.

Healthcare is funded on a population-wide basis, but increasingly falls short of meeting all health needs of retirees. Without additional regular income to meet these costs, many may go without, impose costs on their children, or require means-tested top-ups from Work and Income New Zealand. Current policies do not ensure that the costs of long-term care are *equitably shared* between generations, nor among the

retired population as a group. Thus there are serious intergenerational and intragenerational equity issues that are set to intensify with the retirement of the baby boomers.

Current income and asset testing for long-term care is complex and does not achieve *gender or marital status neutrality.* Section 4.4.3 outlined some needed policy reforms with respect to the means test. The proposed removal of asset testing, on the other hand, has the potential to shift costs from well-off retirees to younger working-age taxpayers and thus further subsidise inheritances. *Fiscal sustainability* is affected especially as fiscal costs will increase progressively as asset testing is removed, to result in high costs just at the time the demographic change is having its most dramatic impact.

The combination of a simple universal New Zealand Superannuation and tax neutral saving in theory should have a low distortionary impact on *economic incentives*. In contrast, however, means testing for long-term care distorts economic behaviour in undesirable ways by encouraging the formation of family trusts and inappropriate divestment of assets.

The most recent policy intervention, the New Zealand Superannuation Fund, is controversial in its economic impact, (see section 2.7.1) and with the demise of the Accord (see section 2.5) gives rise to concerns for the *political sustainability* and *transparency* of superannuation policy.

9.4 New Zealand Superannuation as a life annuity

To address the problems outlined above, chapter 10 will propose substantial policy reforms to provide access by middle-income retirees to life annuities and long-term care insurance. New Zealand Superannuation (NZS) already provides a life annuity with many desirable characteristics. It is individually based, so that it is marriage and gender neutral. It is inflation-adjusted and reflects movements in living standards through the wage-band formula. It protects against the longevity risk and the investment risk but while it is an ideal source of income to pay for long-term care it cannot meet more than a small part of the cost.

The 2002 rates for NZS are given in Table 9.1 below, from which the maximum net annual amount for a married person of $9,552 is derived and used in the subsequent analysis.

Table 9.1: New Zealand Superannuation weekly rates as at 1 April 2002

Pension Type	Net Rate (Tax at 'M')*	Net Rate (Tax at 'S')*	Gross Rate
NZ Superannuation/Veteran's Pension (Standard Rates)			
Single Living Alone	$238.80	$227.83	$288.31
Single Sharing	$220.43	$209.46	$264.90
Married Person	$183.69	$172.72	$218.50
Married Couple (both qualify)	$367.38	$345.44	$437.00

Source: Ministry of Social Development
*Notes: * Tax at 'M' is for those whose income is only from NZS, Tax at 'S' reflects a higher tax liability at a flat 21 per cent. Those on higher marginal rates can elect a higher deduction.*

The wealth represented by New Zealand Superannuation is substantial. Table 9.2 gives some estimates of the underlying capital sum the pension represents for the married retiree on the lowest tax rate at age 65 assuming various post-tax rates of interest, and based on a life expectancy at age 65 for men of 16.4 years and women of 19.8 years (Statistics New Zealand, 2002c). The NZS annuity is a real annuity, so that a real discount rate is appropriate. In after-tax terms, the risk-free real rate of interest in 2002 is around 1.2 percent, and using this rate, NZS currently represents a capital sum of approximately $140,000 for men and $170,000 for women at age 65.

Table 9.2: Capitalised value of New Zealand Superannuation in 2002

Discount factor	0 %	2 %	4 %
Men at 65	$156,653	$132,439	$113,287
Women at 65	$189,130	$154,913	$128,957

Source: author's calculations, at 1999/2001 life expectancy figures
Note: 2002 married rate of net $9552 assumed.

Table 9.3 gives the capitalisation estimates for a specific case where a man lives 30 years from age 65 to age 95 and a woman lives 35 years to age 100.[197] In this scenario, current capitalisation of the real annuity would be approximately $240,000 for the man and $270,000 for the woman

The estimates above for the capital value of a real annuity at the level of today's NZS may be compared to the net worth data reported in Table 5.7 of chapter 5. The mean net worth of those aged 65 and over is $186,000 and the median is only $112,000.

---

[197] It should be noted that longevity is increasing at older age groups.

These wealth figures include the retiree's own home, but do not reflect the capital value of private pensions. The younger age group currently aged 45-64, have mean net worth of $221,000 and a median of $140,000, but as discussed in early chapters, this group is much less likely than the currently retired to be recipients of private pensions in retirement.

Table 9.3: Capitalised value of New Zealand Superannuation in 2002. Maximum longevity: men 95, women 100

Discount rate	0 %	2%	4 %
Men at 65	$286,560.00	$213,930.94	$165,173.50
Women at 65	$334,320.00	$238,786.81	$178,284.39

Source: author's calculations, at 1999/2001 life expectancy figures
Note: 2002 married rate of net $9552 assumed.

For many baby-boom retirees, a large portion of their total notional wealth is represented by New Zealand Superannuation and they may consider that this gives them an adequate amount of annuitisation. Nevertheless, this thesis argues that for middle-income retirees the current level of annuitisation of total wealth including the state pension is sub-optimal both for them and for society.

The lack of access to suitable additional life annuities from the private sector may also increase the need for subsidies for means-tested provision including those for long-term care. The rationale for state subsidisation of private life annuities can be viewed as partly paternalistic and partly related to the failure of the market to secure all the insurance needs of middle-income people. There is also an important argument that supplementary annuitisation might facilitate more intragenerational sharing of the costs of long-term care and save on other direct state expenditures for older persons. Indeed more attention to intragenerational sharing of the costs of ageing seems highly desirable as the retirement of baby-boom generation approaches. It is proposed in chapter 10 that the subsidy for the new annuities market should come from the reintroduction of a mechanism that re-coups all or part of the state pension from those at the top of the income and wealth distribution.

10 The Enhanced Life Annuity

10.1 Introduction

Early chapters to this thesis have identified various weaknesses in New Zealand's retirement income policies, especially for middle-income retirees. The lack of a market for suitable private life annuities has the potential to undermine the quality of retirement for many people. This issue is particularly important when private employment-based pensions are receding. As in other countries, the ageing of the population also raises urgent issues of who should pay for long-term care. It is surprising therefore that there is so little policy debate. While the New Zealand Superannuation Fund is a recent policy innovation that purports to make the state pension more secure for the future, it does not solve the increasing cost problems of the ageing population, nor can it guarantee certainty and security. Currently, there are no policies that address the decumulation phase of retirement saving, nor are there policy forums within which to plan how the quality of the baby-boomers' retirement may be improved.

The annuities market as it currently operates is unattractive and high cost, especially for the annuitant whose life expectancy is no more than the average in the general population. A larger pool of people would enable the cost to come down by reducing the adverse selection effect. In the case of long-term care insurance the market is virtually non-existent. In the context of recent political intentions to abolish the asset test for long-term care, this thesis has argued that the expectation for well-off people to contribute to their care, either from their assets if they are very wealthy or through opportunities to insure is hard to dislodge. While legislation to abolish the asset test is imminent in early 2003, the rationale for this policy reform has not been convincingly articulated.

The underdevelopment of the annuities market and the market for long-term care insurance raises the possibility that a combined product might both reduce costs and make these forms of insurance available to more people. Murtaugh et al., (2001) for example, estimate for US data that simulated single premiums of a combined product can be 3-5 per cent cheaper than stand alone premiums, and apply to more people. The literature that explores this possibility is both recent and limited as was discussed in section 8.6. Contributing a substantial portion of the emerging literature,

Warshawsky et al., (2002) outlined how the innovation of integrating 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)

As set out in equation 8.2 in chapter 8, an actuarially fair, fixed life annuity *y*, purchased from a given capital sum *K* is dependent on the probability of survival t periods from age *x*, tp_x, where *x* is the age of the annuitant at time of up-take, *t=0*. The maximum life span is given by *w* and the risk-free rate of return is given by *r*:

$$y = K / \sum_{t=1}^{w} \frac{tp_x}{(1+r)^t}$$
<div align="right">10.1</div>

A joint product requires that equation 10.1 includes the probability of needing long-term care, d_x, at age *x*, and factors in the necessary increases in the annuity on diagnosis of the need for such care. This can be expressed as:

$$y = K / \sum_{t=1}^{w} (tp_x + \Omega tp_x d_x) \frac{1}{(1+r)^t}$$
<div align="right">10.2</div>

where the annuity would increase by a factor of Ω when long-term care is required. In this chapter, a specific application of this joint risk product is explored to address the gaps in insurance for older New Zealanders.

10.2 The Enhanced Life Annuity

In order to distinguish the joint product under discussion in this section as one uniquely designed to meet the requirements of the New Zealand situation, I name it the *Enhanced Life Annuity* (ELA). The purpose of the ELA is to offer middle-income New Zealanders the opportunity to annuitise modest amounts of wealth on retirement to supplement the regular income provided by New Zealand Superannuation, and to insure against long-term care costs.

As noted in section 8.6, those who are likely to be excluded from private long-term care insurance on current medical grounds, are likely to be 'good' risks for life annuities. The ELA operates to widen the pool of those who are eligible, thus reducing adverse selection.

In principle it may seem to be in the interests of private suppliers to develop such a product. In practice there has been little evidence that the market is capable of developing this or any other annuity product for a mass market. Market failure explains the underdeveloped nature of the annuities market in New Zealand (see section 8.2) and why long-term care insurance is also non-existent (see section 8.4). Where private long-term care insurance is provided, such as in the US, it is expensive, based on annual premiums, excludes many on medical grounds and can be a poor investment as the appendix to chapter 8 described. Competing providers face large risks including the uncertain nature of the benefits guaranteed as the end product, suggesting that some elements at least of a social insurance approach is required.

It is assumed therefore that it is both necessary and legitimate for the government to be the catalyst for the development of the ELA. The history of New Zealand policies outlined in Part I suggests the carrot of subsidisation is an appropriate intervention as it is clear that under the tax-neutral voluntary saving regime, the ELA cannot be made mandatory. It is suggested that the appropriate government intervention will require taking a sophisticated view of social insurance, while not excluding private sector involvement.

10.2.1 The dimensions of the ELA

Currently the maximum that a resident for long-term residential care contributes is $636 a week or $33,000 per annum, with the government paying the fees above this. Had the cap been adjusted for inflation since 1994, its value in 2002 would be $750 per week or $39,000 per annum.[198] For purposes of the analysis, which is conducted in 2002 dollars, $39,000 is taken to be the required contribution under the cap. The aim of the ELA is to allow this capped contribution to be met comfortably by middle-income retirees.

---

[198] This adjustment is well overdue and is contributing to the fiscal pressures on this sector as discussed in chapter 4.

The ELA would be offered to all people at age 65 from a politically agreed date, such as 2010. Its form would be an immediate or deferred, gender-neutral, inflation-adjusted annuity based on a tax-free, real rate of return, with an added compulsory bonus of long-term care insurance. A guarantee period would normally apply, of 10 years if the annuity is paid from age 65, or 5 years, if commencement is at the age of 70. The market may however be segmented by offering the choice of a zero guarantee period for those who either have no wish to leave a legacy and/or expect to be long-lived (see section 8.2.1).

For the population as a whole, high incomes are strongly correlated with high net worth (Statistics New Zealand, 2002b, Table 3.05). By the time of retirement, however, some people may be asset rich and income poor, but those on high income will tend to also have high net worth.

The data are scanty, but based on the evidence discussed in section 5.4, and 9.4 one half of individuals aged over 65 have net worth over $112,800 and one half of those aged 45-65 have net worth of over $140,000. It can be assumed that housing accounts for most of the median net worth. For both those aged over 65 and those aged 45-64, median net worth is well below mean net worth, with about three quarters of both populations located in the range $20,000-$500,000. From Table 5.7, repeated below, some crude deductions of the target market for the ELA can be made.

Table 10.1: The distribution of 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)

The baby-boom generation's fortunes are likely to be similar to the age bracket 45-64 in Table 10.1 above. From this it might be surmised that very few from the lowest four deciles, with net worth less than $100,000, are likely to be interested in the ELA. The middle to upper group, that is, the 5-9th deciles comprising around 50 per cent of the population with net worth between $100,000- $500,000 are the obvious candidates for the proposed ELA. The top decile of net worth has a lower bound of $500,000, and a proportion in this decile could also be interested in the ELA. It is surmised that the really wealthy would prefer to self-insure.

It is proposed that the ELA should provide a real annuity of approximately $9000-$10,000. Joint annuities for couples would also be important products to develop, but the analysis here is all done on an individual basis.

It is possible that the target population of middle-income retirees may have higher than average life expectancy. In the absence of New Zealand data to support such life expectancy differentials, the estimates are based on the 1995-1997 Life Tables that in turn are based on the whole population, from which are derived the probability of survival at each age group (see Table 10.7 and Table 10.8 in the appendix to this chapter). [199]

Improvements in future longevity are also likely to be significant but in order to include this in the estimates, birth cohort mortality tables are needed that incorporate the expected gains in life expectancy for each age group (Mitchell, Bodie, Hammond & Zeldes, 2002). There are no birth cohort Life Tables for New Zealand, however between 1975-77 and 1998-2000, males have gained an extra 4.4 years and females an extra 3.2 years of life expectancy at age 65. This has obvious implications for pricing annuities and any continuation of this trend will need to be considered for future development of applications like the proposed ELA.

If the ELA is of the order of $9000-$10,000, a value of 2 for Ω would mean the total annuity would be trebled on diagnosis of the need for long-term care. The ELA together with NZS at current levels would then provide a sum of $36,000-$40,000, which should enable the capped fee for residential care to be met. Estimates of the Net Present Value of the ELA for different values of Ω, and different starting annuities are explored in Table 10.3.

The enhancement factor Ω may itself be adjusted in light of the development of costs of care. This may be appropriate for example if the costs of care increase faster than the rate of inflation, as is likely to be the case given the labour intensiveness of the industry. An element of choice may also be built into the size of the factor with a corresponding adjustment in initial annuity. For example, in order to secure full protection for long-term care costs when available capital is limited, a lower annuity with a higher enhancement factor may be appropriate.

---

[199] The 1998/2002 Full Life Tables are not yet available at the time of writing.

One of the advantages of linking both risks in the ELA is to overcome the reluctance to buy annuities when the bequest motive is strong. The ELA offers protection for family heirs against the erosion of their parent's assets if the parent needs long-term care. On the other hand, if the need for long-term care falls within the guarantee period of the ELA, the enhanced portion that is paid could be subtracted from any final payout to the estate.

The successful development of the new product requires that it is made clear to new retirees from the introduction of the programme that they are expected to use their assets and income to help pay for long-term care, up to a capped level indexed to the Consumer Price Index. Over and above the cap, the costs of more expensive care should be carried by the state. An education programme would also be necessary to inform the target group of retirees the advantages of certainty and security the subsidised ELA would provide.

10.2.2 Coverage of the ELA

As discussed in section 10.2.1 above, low-income retirees in the bottom 3-4 deciles of the net worth distribution have little by way of financial assets, and are also likely to have little income in addition to NZS. If they need long-term care they are likely to qualify for existing long-term care subsidies. There may be some who do own significant but illiquid home equity however and who could take advantage of the ELA. High-income and wealthy people may opt to buy the ELA, but may prefer to meet the costs of long-term care from their own resources. Clearly the latter are not income-constrained through the lack of annuities and can comfortably manage the long-term care risk through self-insurance.

Retirees, mainly from the middle-income, middle-wealth deciles could purchase the ELA with their cash saving, supplemented in suitable cases by an equity share of their owner-occupied home (see discussion in section 10.2.3 below). There could be a range of ELAs offered but any one person would be able to buy only up to the maximum permitted, because as developed later in this chapter the ELA requires subsidisation. Variable annuity products might be attractive to those who want a higher expected rate of return than mere inflation protection, joint annuities within the ELA frame work would also be possible but are not explored here.

Some plausible probabilities of being in long-term care at various ages can be derived from Figure 4.3 and are given in Table 10.2 below. Table 10.3 shows the possible impact on the Net Present Value of a $10,000 annuity once the probability of needing long-term residential care is incorporated, beginning at p = 0.02 from age 75.

Table 10.2: Probability (approx) of being in care at each age

Age	Male	Female	Average* Combined
	(1)	(2)	(3)
70	0.01	0.01	0.01
75	0.02	0.02	0.02
80	0.04	0.06	0.05
85	0.08	0.11	0.10
90	0.18	0.30	0.25
95	0.30	0.50	0.45
100	0.31	0.60	0.53

Source: 1996 Census
*weighted to reflect the higher proportion of women in the population at older ages

A gender-neutral annuity is proposed, so the ELA can be provided on the same basis to both men and women. This will involve some subsidisation of women by men, but, as discussed in section 9.2.1 is a great deal fairer for the majority of both men and women. The estimates of the ELA in section 10.3 have been conducted for men and women separately, but the results are also averaged to give a gender-neutral premium.

10.2.3 Use of home equity

To augment the capital people have on retirement for the ELA purchase, it is proposed that the provider could take an equity share, say up to 50 per cent of an owner-occupied dwelling in lieu of cash. Such a 'home reversion' is a property transaction rather than a reverse mortgage. As discussed in Caplin (2002), such products are at the innovative end of discussions on home equity release products and there are few international examples of such arrangements. They have a number of features that make them attractive. Among these is the potential to reduce the moral hazard problem that can plague traditional reverse mortgage products where the owner has no incentive to maintain the total value of the house. The return to the provider on this investment 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). While capital appreciation on the house may well exceed the rate of inflation, the share of the annuity financed by the home equity share might be given a zero real rate of interest for the purpose of the annuity calculation. The impact would be to raise the purchase

price compared to an all cash purchase reflecting that in the meantime the asset is an illiquid one for the provider.

There are many different considerations and risks. While home reversions have been discussed in some policy circles (for example, the UK Royal Commission on Long-Term Care, 1999) they have not yet been developed in the manner suggested here. One of the impediments is the complex tax treatment of housing in other countries. In having a very simple tax regime for housing and saving in general, it may be more straightforward for New Zealand to consider this innovation of home reversion schemes.

10.2.4 Interest rates, inflation and tax treatment

When an annuity is backed by inflation-adjusted instruments, such as inflation-indexed government bonds that give a full, or substantial, inflation adjustment to the principal, annual inflation protection can, in principle be offered. The alternative of using the current, long-term, risk-free rate of interest and applying an escalation factor of 2 per cent per annum is a poor proxy for an inflation adjustment (see section 8.2.4).

Current annuities are life insurance products that come under the same tax treatment (TTE) as superannuation schemes. The insurance is purchased out of tax-paid income, while earnings on investments are taxed at 33 per cent as a proxy for the marginal tax of policyholders. In other countries an EET regime applies, so that the analysis is quite different for New Zealand where a tax-free annuity would be paid. For the ELA discussed in this section, all purchases are out of after-tax income so the first (T) stays, consistent with saving for retirement being TTE. As discussed below, the government itself would be the initiator and provider at least in the first instance and under such an arrangement, there would be an assumed real rate of return.

In the event of the private sector supplying equivalent ELAs, the tax treatment could be formally modified, for example, the rate of return could be tax-free, so that the ELA is TEE. If the annuity is to be inflation-adjusted and thus based on a real rate of return, a higher real rate could hence be used than if companies had to use an after-tax rate. This tax concession can be viewed as one of the ways that government underpins this market and offers an incentive for participation.

On withdrawal the annuity is tax-free capital, but as when the old surcharge used to apply, one half of any annuity or reverse mortgage payment would be considered to

be income for purposes of an *intragenerational contribution* outlined below in section 10.4 Just as with the old surcharge provisions, if there was no other income, annuity income for a couple would have to exceed $32,000 before they were liable for any intragenerational contribution at all.[200]

10.3 Estimates of the ELA

Tables 10.3 and 10.4 summarise the estimates for the ELA derived from Table 10.7 and Table 10.8 in the appendix to this chapter. These tables in turn provide estimates of the model outlined in equation 10.2 above. It is clear that the value of the ELA is not particularly sensitive to assumptions about the enhancement factor Ω. The results are, however, sensitive to the assumed rate of return, and highly sensitive to gender.

Table 10.3: Expected value of a real $10,000 annuity, 10 year guarantee, with long-term care insurance

Male	1% real	2% real	3% real	6% nominal
Standard life annuity	148,000	136,000	124,000	98,000
With long-term care insurance				
$\Omega = 2.0$	156,000	142,000	130,000	102,000
$\Omega = 2.5$	158,000	144,000	131,000	103,000
$\Omega = 3.0$	160,000	146,000	133,000	103,000

Female	1% real	2% real	3% real	6% nominal
Standard life annuity	173,000	156,000	141,000	108,000
With long-term care insurance				
$\Omega = 2.0$	194,000	173,000	155,000	116,000
$\Omega = 2.5$	200,000	177,000	159,000	118,000
$\Omega = 3.0$	205,000	182,000	162,000	120,000

Source: Based on equation 10.2, Life Tables 95-97, Author's calculations
Note: Figures are rounded to nearest '00.

With a real rate of return of 2 per cent and $\Omega = 2$, a man would face an actuarially fair premium of $142,000 for an inflation-adjusted ELA of real value $10,000 at age 65.[201] On needing long-term care his annuity would treble to $30,000, which together with

---

[200] This exemption is at the level that applied to the surcharge at the time of its abolition, adjusted for inflation.

[201] The estimates are all in 2002 dollars.

NZS would enable him to meet the capped fee. If he could not afford an ELA of this size, he could take a lower annuity with a higher enhancement factor. For instance for an actuarially fair premium of $109,500 and an enhancement factor $\Omega = 3$ the annuity would be $7500, which, on being diagnosed in need of long-term care, would also rise to $30,000.

With a real rate of 2 per cent and $\Omega = 2$, a woman would face an actuarially fair premium of $173,000 for an inflation-adjusted ELA of real value $10,000. On needing long-term care her annuity would treble to $30,000, which together with New Zealand Superannuation would enable her to meet the capped fee. If she could not afford an annuity of that size, she could take a lower annuity with a higher Ω factor. For instance for an actuarially fair premium of $136,500 and an enhancement factor $\Omega = 3$, the annuity would be $7500, which, on being diagnosed in need of long-term care, would also rise to $30,000.

Table 10.3 presented the expected NPV of an ELA of value $10,000 and gives the actuarially fair price. Table 10.4 presents the same information, but shows the annuity that can be purchased with a given sum of $100,000 to allow for comparisons with the annuities currently on offer in the New Zealand market as was outlined in section 3.6.

Table 10.4:Expected value of annuity, purchase price $100,000

Male	1% real	2% real	3% real	6% nominal
Standard life annuity.	6,757	7,353	8,065	10,204
With long-term care insurance				
$\Omega = 2.0$	6,410	7,042	7,692	9,804
$\Omega = 2.5$	6,329	6,944	7,634	9,708
$\Omega = 3.0$	6,250	6,849	7,519	9,709

Female	1% real	2% real	3% real	6% nominal
Standard life annuity.	5,780	6,410	7,092	9,259
With long-term care insurance				
$\Omega = 2.0$	5,155	5,780	6,452	8,621
$\Omega = 2.5$	5,000	5,650	6,289	8,475
$\Omega = 3.0$	4,878	5,495	6,173	8,333

Source: Source: Based on equation 10.2, Life Tables 95-97, Author's calculations.

Women live longer on average and are more likely to be in care in old age than their male counterparts. They are also less likely to have a substantial capital sum to purchase an annuity and are more likely to have spent years of their life care-giving for other elderly people including their own spouse. Moreover as discussed in section 8.2 most women do not have a mortality experience that is significantly different to most men. The approach suggested in this thesis is that the ELA should be gender-neutral. Table 10.5 estimates the gender neutral ELA, by a process of simple averaging.

Table 10.5: Expected value of gender neutral annuity, purchase price $100,000

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

Source: Based on Table 10.4, Author's calculations

The averaging in Table 10.5 is clearly helpful to women in this market. Moreover compared with actual value of annuities on the market, as was set out in section 3.6, the results for the real ELA in Table 10.5 are attractive, even if just the initial annuity is considered. In December 2001 a female at age 65 could buy a nominal annuity of only about $6360 for $100,000 without any add-on protections for inflation or long-term care.[202] With an assumed real interest rate of 2 per cent and an enhancement factor, $\Omega = 2.0$, her actuarially fair ELA is also approximately $6400. For men, the average annuity purchasable in December 2001 is $7140, which is higher than the ELA for an assumed real interest rate of 2 per cent and an enhancement factor, $\Omega = 2$ in Table 10.5. However, the compensation for men is that the ELA offers much superior benefits.

The implicit price of long-term care insurance from Table 10.5 is the difference between the estimated standard annuity and the enhanced annuity. At an assumed real interest rate of 2 per cent and an enhancement factor, $\Omega = 2.0$, the costs of long-term

---

[202] By February 2003, based on a benchmark before tax interest rate of around 6 per cent the average annuity for a female had fallen to $5975 (Aon Annuity Surveys).

care insurance is just $470 per annum or less than $10 a week. This price might be compared to annual ongoing costs for the annual returns for a family trust.

Of course there are several factors to take into account in making the observation that the ELA appears to offer good value for money. The estimates presented here do not allow for:

- The costs of marketing or overheads.

- The purchasers of the ELA are likely to have a better mortality profile than the average for all aged 65 and over that has been assumed.

- The Life Tables relate to 1995-97 and will be superseded by the 1998-2000 Life Tables in 2003. It is expected that increases in longevity will need to be factored in by using birth cohort mortality tables.

- The assumed real rate of return is an after-tax or net rate. The nominal annuity in Table 10.5 is based on a rate of 6 percent net, while currently available annuities are priced using an after-tax rate.

- The cost of inflation protection depends on being able to guarantee the real rate of return. The cost of not meeting the rate of return might be met from a subsidy from the Crown, or there might be protection by use of inflation-adjusted bonds that pay a real after-tax return of the required per cent. The use of indexed bonds is not costless, however, and in this case the costs of unexpected inflation is borne by the taxpayers.

- There is no factoring in of likely expected increases in the relative costs of long-term care.

10.4 The intragenerational contribution

This section addresses the issue of the source of the subsidy that would be required to supply the ELA as estimated above and also assist with funding the long-term care costs for the 40 per cent of the population who have insufficient assets to buy an ELA product.

Various social insurance options are possible for funding at least part of long-term care costs as was discussed in section 8.5. For Australia, McCallum (1998) has suggested a tax on all those over 25 earning over $15,000. A broad-based social insurance scheme funded largely by the working age population has the advantage of

a very wide pool of contributors. A disadvantage is that intergenerational unease is likely as workers perceive their higher taxes are funding the wealth accumulation of the older well-off population. The higher contributions of skilled workers may be shifted forward on to higher wages and the long-run distributional implications may be adverse.

Chen (see section 8.5.2) advocates more intragenerational financing of long-term care, suggesting a flat-rate contribution of 5 per cent on social security pensions for a social insurance scheme to partially fund long-term care. If the pension is only at the minimum adequacy level, exemptions for low-income people will be needed. The problem of how to phase in the contribution when there is other income is not straightforward especially when, as is the case in New Zealand, so many appear to have only modest amounts of extra income.

Data in chapter 5 do not suggest that the current rate of pension provision is too generous for those with nothing else to live on; indeed there may be problems of insufficiency emerging. Thus imposing a direct levy for this purpose on New Zealand is unlikely to be acceptable. Rather it is proposed here that contributions should involve a strong degree of intragenerational progressivity. The previous surcharge mechanism lends itself to adaptation for this purpose. This has the potential to raise as much, if not more, revenue, more fairly than a flat-rate levy on NZS itself.

In essence, it is proposed that better-off superannuitants (those in the top two deciles of the income and wealth distribution) provide the funding for the subsidisation of the Enhanced Life Annuities (ELAs) and contribute also to the other costs of long-term care. This reform improves the intragenerational income and wealth distribution of the over-65 year olds as a group. For the ELA itself, those who die early subsidise those who live the longest time. At the same time, the pro-rich distribution that this implies is mitigated by the highly progressive funding of the subsidy. The social pay-off of the proposed approach is multi-fold. For the individual, the uncertainty about future expenses for care is eliminated, and they gain enhanced consumption smoothing and additional protection from the risks associated with longevity. At the same time, the concerns of the working-age population that they will have to shoulder an increasing and unfair burden are alleviated.

10.4.1 Adapting the surcharge to provide the Intragenerational Contribution

Given that the right to universal pensions is now virtually guaranteed by the New Zealand Superannuation Act 2001, any proposal to reintroduce a surcharge for general tax purposes would be politically difficult, if not suicidal. The advantage of the package proposed here is that the evident gains for older people might result in political support. This is particularly likely when the fiscal costs of long-term care are acknowledged and it becomes clear that to a large degree, means testing for long-term care must remain.

For the exposition here it is proposed that the re-introduction of a mechanism to facilitate an intergenerational contribution should apply to all retirees from the introduction of the ELA. As observed above, in the case of New Zealand ideally this reform should be in place from 2010 to meet the beginning of the retirement of the baby-boom generation.

It is important for presentational and political purposes that the intragenerational contribution is not simply seen as the re-imposition of the old and much reviled surcharge (see section 2.6). What is required is a generational form of social insurance tax from which a real benefit is derived for the generation that pays. To understand how this might operate it is instructive to examine how the surcharge operated and show how such a mechanism may be adapted.

Between 1985 and 1998 the surcharge operated to claw back New Zealand Superannuation from the top 15-30 per cent of retirees (see Table 5.11).[203] If the exemption for the surcharge had not been abolished in 1998, and it had been indexed, by 2002 the married person exemption would be around $8,000 per annum.

---

[203] If the parameters of the proposed surcharge replacement paralleled those for the year ended 1998, only about 16 per cent of those aged over 65 would be affected. The gains in revenue would be substantial and would increase over time in line with increasing affluence among the highest income retirees.

Table 10.6: The impact of an abating tax credit or negative income tax with same effects as the 1998 surcharge

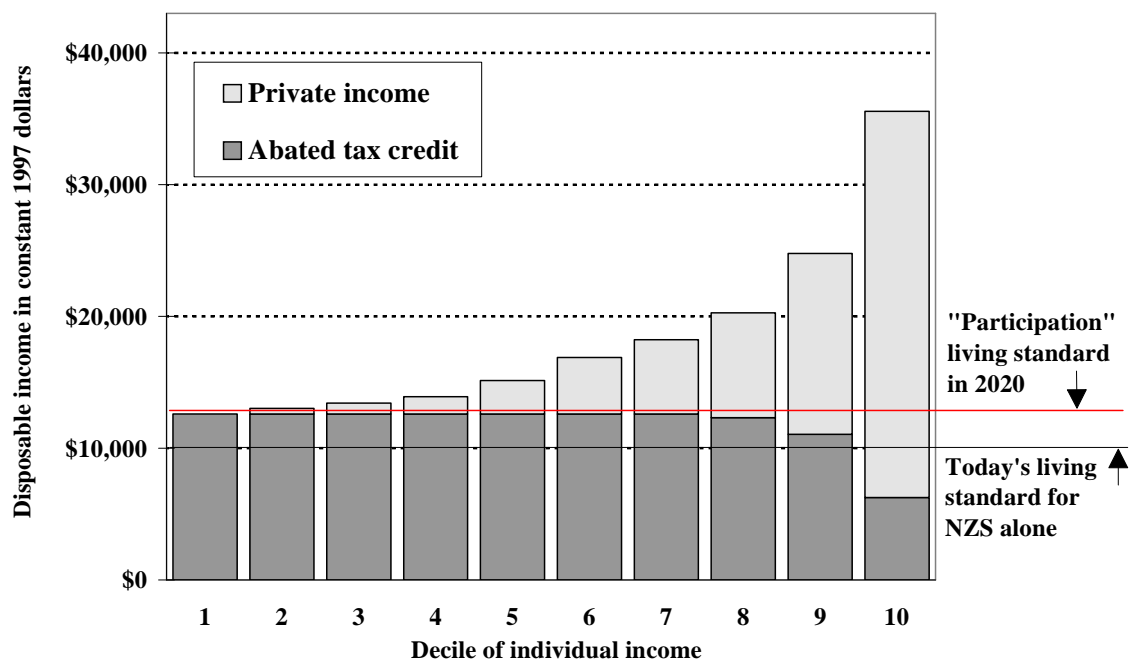| Other income (1)	Disposable income without NZS 2002 tax rates (2)	Disposable income with NZS* without surcharge (3)	Net advantage from NZS (4)	Disposable income NZS, with 25% surcharge, exemption $8000 (5)	Loss from introduction of surcharge (6)	Disposable income with tax credit abating from $8000 (7)	Annual gains and losses Surcharge v tax credit (8)	Disposable income Negative income tax rate 46% $4000 exemption (9)	Annual gains and losses surcharge v NIT (10)
0	0	9,546	9,546	9,546	0	9,546	0	9,546	0
2,000	1,700	11,126	9,426	11,126	0	11,246	-120	12,466	-1,340
4,000	3,400	12,706	9,306	12,706	0	12,946	-240	13,546	-840
6,000	5,100	14,286	9,186	14,286	0	14,646	-360	14,626	-340
8,000	6,800	15,866	9,066	15,866	0	16,346	-480	15,706	160
10,000	8,470	17,446	8,976	16,946	500	17,516	-570	16,786	160
15,000	12,420	21,396	8,976	19,646	1,750	20,216	-570	19,486	160
20,000	16,370	25,346	8,976	22,346	3,000	22,916	-570	22,186	160
25,000	20,320	29,296	8,976	25,046	4,250	25,616	-570	24,886	160
30,000	24,270	32,843	8,573	27,343	5,500	28,316	-973	27,586	-243
35,000	28,220	36,193	7,973	29,443	6,750	31,016	-1,573	30,286	-843
40,000	31,930	39,543	7,613	31,930	7,613	33,476	-1,546	32,986	-1,056
45,000	35,280	42,893	7,613	35,280	7,613	35,576	-296	35,686	-406
60,000	45,330	52,261	6,931	45,330	6,931	45,330	0	43,786	1,544
70,000	51,430	58,361	6,931	51,430	6,931	51,430	0	49,186	2,244
80,000	57,530	64,461	6,931	57,530	6,931	57,530	0	54,586	2,944

Source: Author's calculations
* 2002 married person rate of New Zealand Superannuation

Table 10.6 estimates the adjusted surcharge for the 2002 rate of married pension of gross $11,362 per annum (see Table 9.1), a 25 per cent rate of surcharge, and the Consumer Price Index adjusted exemption of $8000 per annum. The 5th column shows the disposable income at different levels of other income with the adjusted surcharge for 2002. The annual losses each income level would experience compared to the current, 2002, no surcharge situation is given in column 6.

It is possible to duplicate the outcomes of the surcharge using a tax credit approach as first suggested by the Periodic Report Group (1997b), so as to be simple and more acceptable. Figure 10.1 shows the distributional impact of the tax credit that has broadly the same effects as the 1997/98 surcharge. In the tax credit approach, the net rate of pension is paid as a tax credit.[204]

Figure 10.1: The tax credit mechanism duplicating the surcharge: 1997/98

Source: Periodic Report Group (1997b, p.80)

The former tax credit was abated at 25 cents for each dollar of income above $7,500 (1998 figures) so that the effective marginal tax rate on incomes up to $38,000 of

---

[204] Figure 10.1 also compares the 'participation living standard in 2020' of the pension if the tax credit is adjusted in line with growth in average earnings, as it would be if the wage band floor is always triggered. This is contrasted with the level of income if the pension was only price-adjusted, ie. if the absolute rather than the relative level of New Zealand Superannuation was maintained.

other income was 46 per cent and 53 per cent beyond $38,000, until the tax credit was fully abated away, which occurs just beyond the 95 percentile (effect not shown in Figure 10.1).

The old surcharge was an income test applied to income other than New Zealand Superannuation income until the net pension was clawed back. The pension itself was treated as an addition to gross income rather than being a tax rebate. In contrast there are advantages in treating NZS as an abating tax credit. First it is clearly different to the despised social welfare benefit abatement system (see section 2.6). Second, it is administered by the Inland Revenue Department (IRD) and is based on individual not joint income. It may be simpler to administer than was the complex and unpopular surcharge, and, after a time, it should be easier for people to understand, remembering the old surcharge was so complex many people had to get the IRD to calculate it for them (St John, 1991). Third, the accounting presentation of government expenditure on the pension comprising a net rebate rather than a gross pension means the costs of pensions can appear lower.

Most people would receive the full net amount of the tax credit, and there would be no need for any adjustments. This is because they either have no extra income or, if they do, it is under $8000 (the exemption estimated for 2002). Any pension income from a private scheme is counted in this model as 50 per cent income, so that pension income of $16,000, well above an average private pension, is exempt. For those who are affected by the abatement (from about the 85th percentile), the tax credit could be paid as an estimated weekly sum with an end of year reconciliation, or else the whole tax credit could be taken as an end of year adjustment. Table 10.6, column 7, shows the effect of paying the 2002 net rate of NZS as an abating tax credit with a 25 per cent abatement. Column 8 gives the annual difference between the surcharge and an abating tax credit. At each income level, the abating tax credit is better for the individual than the surcharge, but for most incomes levels, this is only about $10 a week. The reason is that the pension adds to gross taxable income in the case of the surcharge, more quickly pushing people into higher tax brackets.

When the top tax threshold was moved to $38,000 in 1997/8, the surcharge had fully clawed back all the net pension before the 33 per cent tax rate was reached. Thus the effective marginal tax rate never became 53 per cent. This means that over all of the range of additional income the effective marginal tax rate was 46 per cent. This makes

it relatively simple to go further than suggested by the Periodic Report Group (1997b) and transform the abating tax credit option into a negative income tax (NIT), (St John, 1991).

If the intragenerational contribution is paid through taking a NIT approach, the net pension is paid as a negative tax from the IRD and a constant 46 per cent tax rate is applied to all other income. To have a similar impact to the surcharge, there needs to be an exemption of about $4,000. Once again for those with little or no extra income, the full net amount of pension ($9,546) is paid as the negative income tax. For those with other income, a new tax code would make sure that all income is taxed at 46 per cent. At very high incomes, repayments under the NIT would begin to exceed the net pension. For example, as Table 10.6 shows, at $70,000 there would be a refund due at the end of year reconciliation. Those with large incomes may choose to retain the standard tax scales for their earned income and take an adjustment, if any, as an end of year tax refund.

The final two columns of Table 10.6, show how a NIT set at the net rate of pension of $9,546 and an effective flat rate of tax of 46 per cent on income over $4,000, closely duplicates the impact of the surcharge. Gains and losses over the surcharge situation are recorded in the final column. As with the tax credit option there are marginal differences, whose impact can be adjusted by adjusting the exemption level. With the NIT rate and exemption set as per the table, there are gains for those on very low-incomes compared to the surcharge case (column 5). This may be a selling point for the acceptability of the policy by the retired as a group.

The cost saving from the surcharge was estimated to be around 10 per cent of the net cost of NZS (Periodic Report Group, 1997a). In 2002, the intragenerational contribution funded by a NIT replacement for the surcharge, if fully implemented for all retirees might also save 10 per cent, or around $400m. One half of the proposed ELA as with all other private pensions would be counted for purposes of determining liable income. With the costs of NZS expected to rise to a net $9.5 billion by 2030, providing the leakages discussed below are addressed, a saving of $950m can be expected. If the large younger baby-boom cohorts stay longer in the workforce as labour shortages may demand, the saving via the intragenerational contribution may grow to be even higher.

Only the intragenerational contribution from new retirees from the date of introduction of the ELA would subsidise the provision of ELAs. The impost on those who retired prior to 2010 could also be rationalised as a social insurance contribution however, as it could provide the funding for the removal of asset testing for this group (as they have been promised). Thus for all new retirees from 2010, a requirement to use income and assets for long-term care should be retained, subject to reforms outlined in section 4.4.3 to provide an additional incentive to annuitise and protect with long-term care insurance.

10.4.2 Income sheltering

A critical element in both this proposition and in the design of a reformed means test for long-term care is how trusts and tax paid funds are to be treated. Despite the removal of income testing for New Zealand Superannuation, the spectre of the need for expensive long-term care and perhaps the fear that death duties may be reintroduced has fueled a growth in trusts among those about to retire. Trusts can be however a two-edged sword. On the one hand if gifting to trusts is left too late, Work and Income New Zealand may decide that there has been deprivation of assets and income for purposes of circumventing the means test. On the other hand, if setting up the trust takes place early, an older person may lose control of personal assets at too young an age. There are also the not inconsiderable costs of the setting up and administrating the trust that should be balanced against the perceived protection the trust affords

In New Zealand, asset testing has not been used for New Zealand Superannuation and is to be abolished for long-term residential care subsidies. There has therefore been little official attention to the issue. Frawley (1995) argued for a 'look through rule', especially for discretionary trusts where control and enjoyment of the assets is retained. Under this rule income and assets held in trusts would be attributed to individuals for purposes of the means test. If this could be clarified it may also act as a brake on the lucrative industry that has arisen around setting up trusts. Indeed if control by the settlor is maintained over the assets in the trusts, there is always the risk that the rules will change one day along the lines that Frawley has suggested. Such a change could be achieved by changing the administrative rules, without the need for the time delays associated with new legislation.

The Australians have had a much more stable history of income and asset testing and are reviewing the treatment of trusts:

> *This proposed new treatment has been prompted by the increased use of private trusts and private company structures to gain social security entitlements. A primary aim of the proposal is to forestall the continued growth in the use of this strategy.*
>
> *It also seeks to avoid a loss of public confidence in the system, which could be expected if well-off and even wealthy people are receiving taxpayer-funded income support when they have the means to support themselves.*
>
> *The proposed new means test treatment is seen by the Government as helping to ensure an affordable, sustainable social security system through continued targeting of benefits to those most in need.* (Newman, 1999)

The Australian discussion is very much in the direction of improving the integrity of the means test:

> *Interposed structures — private trusts and private companies — allow people to transfer legal ownership of assets and associated income without giving up control of the assets and the income. This enables them to circumvent the means test.*
>
> *The Government proposes to use specially designed tests to "look through" these interposed structures and identify who controls them and the source of their assets. These source and control tests would enable 'ownership' of the assets and income to be attributed to individuals for the purpose of the means test.* (Newman, 1999)

What is being proposed in the ELA and the intragenerational contribution is a major reform with wide ramifications. The next section considers the way in which the scheme could be administered and the possible role the private sector may play.

10.5 Institutional arrangements

The general discussion in previous chapters suggests that without state intervention the annuities market almost certainly will not develop. There are some historical precedents for the state acting as annuities provider in New Zealand as outlined in sections 2.3.1 and 3.1 and it is time to reactivate that concept. Because the ELA in effect marries private insurance principles with a social insurance approach, a separate Crown Entity is proposed. A precedent of this type of Crown Entity is the Accident Compensation Corporation (ACC), which is managed by a board and has its own funding source. Just as for ACC, private sector involvement in the long run as the

243

scheme develops would not be precluded. The Crown Entity for purposes here is named the 'Enhanced Life Annuities Corporation'(ELAC) and would operate under its own Act. As with Accident Compensation, a Royal Commission process prior to establishment of the ELAC may be required to engender wide public understanding of the broad social objectives and principles and to achieve multiparty support.

The ELAC could administer the revenue received from the intragenerational contribution and employ fund managers at arms length to invest the funds it receives from the sales of the ELAs. As social insurance rather than private insurance, the connection between funds and future payments does not have to be fully actuarially based but like the ACC the ELAs would be substantially pre-funded rather than PAYG. The advantage is much more flexibility than is possible with a private company. It may also be possible for the ELAC to take a more aggressive investment stance than individual companies would find prudent. Rather than confining the ELA to an inflation-adjusted annuity, some measure of adjustment for real growth in the economy may then be possible. Nevertheless, private providers could ultimately provide and develop new variations of the ELA leaving the ELAC to regulate and to underwrite the market in various ways, by for example, acting as the insurer of the risk of excess longevity and improvements in longevity. In addition, the Reserve Bank also needs to provide suitable inflation-indexed bonds.

The gender neutrality aim makes it more difficult for private insurers if they are to be included in the ELA provision unless there is some reinsurance mechanism that compensates those companies whose pool has more women than men. This might be either funded by ELAC, or from a levy on schemes that have more men than women. Similarly, annuities could be adjusted on a five yearly basis to reflect changes in cohort longevity experience and changes in long-term care demands. With luck, these could operate to offset each other, thus people might be living longer and taking annuities for longer, but might be less likely to need long-term care as 'ageing in place' policies reduce the incidence of long-term dependency. Who bears the risk however is one of the design features to be debated. It is suggested below that these risks are carried not by adjustment to annuities, but by a subsidy using the intragenerational contribution.

It is proposed that the ELAC would sell the ELA to retirees from the age of 65 and invest the proceeds. State equity in any housing assets used as part- payment for the

ELA would appear on the ELAC's balance sheet. In the event of privatisation of the ELA provision, the ELAC may need to assist in some way with the housing component of the purchase price. For example guarantees and access to liquidity might be provided.

If, as suggested, NZS was paid as a NIT, the net savings compared to a universal taxable pension would be estimated and paid to the ELAC annually as the intragenerational contribution. The purpose of making the intragenerational contribution explicit in this manner is to reinforce the social ownership of the scheme and its social insurance nature. Looking at the first tranche of the baby-boom retirement in the years 2010-14, there are expected to be 170,000 retirees aged 65-69. In constant dollars (2002), the gross cost of NZS for this age band will be around $1.9 billion. If the NIT or abating tax credit in place yields a 10 per cent overall return (and it is expected to be higher given the wealth and income of this group) there will be approximately $190m in intragenerational contribution revenue. This could be applied to the set up costs of the ELA, the costs of administration of the ELAC, an education campaign and the costs of the various subsidies implied by the ELA.

10.5.1 Long-term care costs

The intragenerational contribution might also generate sufficient income to provide a subsidy to allow for improving longevity and possible relative escalation in the costs of long-term care. The remaining revenue from the intragenerational contribution can be allocated to meet the costs of long-term care for those who have few assets and cannot be covered by the ELA. This could be arranged on a PAYG basis with the revenue contributing to the long-term costs of the older age group already in care. Alternatively, it could be invested to provide prefunding for each of the baby-boom cohorts. This latter suggestion may be akin to reinventing the case for the New Zealand Superannuation Fund, however, and raises complex questions around investment strategy. In the meantime, the taxpayer must meet the needs of the old in long-term care and these costs are unlikely to be fully met by the intragenerational contribution from that population itself, being older, poorer and in greater need of care.

If the excess intragenerational contribution revenue from the baby-boom cohorts is used to meet the needs of the older group currently in long-term care, there are few

apparent risks from the demographics of ageing for at least 30 years. Once the baby boomers enter their eighties and the demand for long-term care escalates, the investments made by the ELAC should provide the enhanced life annuities needed for much of their care.

The policy reform outlined in this chapter is based on the assumption that if the old pay more for their own social provisions, especially long-term care, they will impose less of a burden directly on the working-age population. It is true however that inheritances may be lower. It is also based on the assumption that there are significant welfare gains from the provision of insurance for long-term care costs from the perspective of the older person and their families. A combination of the ELA, New Zealand Superannuation, together with a contribution from general tax revenue will obviate the need for catastrophic user pays contributions.

The analysis here is partial and there is no attempt to model the supply of long-term care. A wide study would consider the capital requirements, workforce skills, training and technological advances of the industry. While there has been substantial discussion about a national health strategy for older persons, few details have been available on funding issues. One major policy direction has however been signaled by 'Ageing in place'. This strategy involves an integrated service provision, from home based to intensive residential care, with a view to minimising the use of the latter (Dyson, 2002; Ministry of Social Development, 2001).

The cost of long-term care depends on the type of care and can range from low level care costing around $20,000 a year to residential care costing around $50,000 (see Table 4.3). An integrated approach to long-term care is likely to require different levels of funding for different needs assessment, rather than be focused on long-term residential care exclusively. Thus the simplified ELA proposed in this chapter requires further development to provide a sufficiently flexible response to meet different needs, especially if 'ageing in place' proves to be a successful strategy. For instance, the ELA may cover full-time or part-time live-in care at home as the major alternative to residential care.

It is not pretended that changing financial arrangements necessarily solves the demographic realities, but the funding of specific old age costs from among the

elderly as a group rather than from general tax revenue may be an effective way to reduce their average consumption expectations and promote intergenerational equity.

10.6 Summary and evaluation

The life annuity provided by the ELA is welfare enhancing by providing certainty of income, access to otherwise illiquid resources to pay for consumption needs, protection from the longevity and investment risk, and clarity about bequest intentions. It solves the problem of people dying with unintended bequests and having an unduly restricted retirement, while a guarantee period protects the old person's estate from early death. The proposed reform acknowledges the welfare loss, especially for middle-income retirees implied by the demise of private pensions, and the underdevelopment of the private annuities market.

Any disincentives to work or accumulate assets under the existing means-testing regime for long-term care are likely to be more detrimental to economic efficiency than a slightly higher premium paid for a given life annuity, especially since the risk is to be spread over a large pool of people who would insure at a relatively young age such as 65.

The proposed ELA by ensuring that more people can pay the cap of $36-40,000 per annum of long-term care costs obviates the need for abolishing asset testing. This new source of funding will facilitate quality adjustments for long-term care. In the industry current subsides are widely perceived as inadequate, and removal of asset testing may only exacerbate this problem. The extra fiscal pressures associated with the ageing of the population will make it more difficult to increase these subsidies.

In terms of the goals discussed in section 9.2.1, the ELA enhances the ability *to participate and belong* throughout the whole of a middle-income retirement. It improves *intergenerational equity* by making income shares fairer between working-age and older populations. The ELA facilitates consumption smoothing over time and a degree of real income replacement for middle-income retirees while sharing the cost of healthcare and long-term care more equitably among the working age population, the older person needing care, and the retired population. Both *intergenerational* and *intragenerational equity* are enhanced.

247

The ELA meets the criteria of *gender and marital status neutrality.* It offers an alternative to the costly abolition of asset testing and thus improves *fiscal sustainability.* This becomes more important over time as the demographic pressures rapidly increase the fiscal cost of asset-test removal. By reducing the number of people affected by asset testing or the fear of asset testing, the ELA enhances e*conomic efficiency.* It makes the goal of saving for a lump sum on retirement more attractive and should have a *positive impact on private provision.* This thesis has suggested that the over-taxation of employment-based superannuation must be addressed urgently. It may be feasible and sensible to compel employers to at least offer the facility for a part of a worker's pay to be automatically deducted for their private superannuation. Should employment superannuation recover employers may find it attractive to offer schemes that make the purchase of a minimum level of the ELA compulsory. In this way, within the voluntary regime, more people will buy the ELA and adverse selection will be further reduced

The price of the ELA is some increased *administrative costs* and loss of *simplicity,* but those who might have faced asset testing will have a more certain and simple outcome. On balance it is likely to be positive on these criteria. The intragenerational contribution can be costed annually and subsidies to the ELA made explicit meeting the *transparency and accountability* test. *Political sustainability* is dependent on mulit-party agreement and reaching a new accord. If the ELA and the intragenerational contribution was to apply only to new retirees from 2010, while removing asset testing and keeping universal pensions for those who have already retired, *transitional equity* might be ensured. To the extent that this denies an improvement in living standards through access to the ELA by those who have already retired, some unfairness remains. Trade-offs, the phasing-in and timing need wide debate.

Appendix Chapter 10: The Enhanced Life Annuity

Table 10.7: Value of $1 Enhanced Life Annuity 10 year guarantee, (Male).

Age	Probability of being alive after one year	Expected proportion alive at age	1/(1+r)^n	n	NPV of $1 annuity	r	Probability of needing long-term care	NPV with long-term care factor =2	NPV with long-term care factor =2.5	NPV with long-term care factor =3
65	1.000000	1.000000				0.01				
66	0.979988	0.979988	0.943396	1	0.943396	0.02	0	0.94339623	0.943396	0.943396
67	0.978057	0.958484	0.889996	2	0.889996	0.03	0	0.88999644	0.889996	0.889996
68	0.975982	0.935463	0.839619	3	0.839619	0.04	0	0.83961928	0.839619	0.839619
69	0.973703	0.910863	0.792094	4	0.792094	0.05	0	0.79209366	0.792094	0.792094
70	0.971192	0.884623	0.747258	5	0.747258	0.06	0.01	0.76047901	0.763784	0.767089
71	0.968384	0.856655	0.704961	6	0.704961	0.07	0.01	0.7170387	0.720058	0.723078
72	0.965234	0.826872	0.665057	7	0.665057	0.08	0.01	0.67605546	0.678805	0.681555
73	0.961711	0.795212	0.627412	8	0.627412	0.09	0.01	0.63739089	0.639886	0.64238
74	0.957764	0.761626	0.591898	9	0.591898	0.1	0.01	0.60091457	0.603169	0.605423
75	0.953323	0.726075	0.558395	10	0.558395		0.02	0.57461225	0.578667	0.582721
76	0.948401	0.688611	0.526788	11	0.362752		0.02	0.37726156	0.380889	0.384517
77	0.942976	0.649344	0.496969	12	0.322704		0.03	0.34206606	0.346907	0.351747
78	0.937001	0.608436	0.468839	13	0.285258		0.03	0.30237384	0.306653	0.310932
79	0.930457	0.566123	0.442301	14	0.250397		0.03	0.26542057	0.269177	0.272932
80	0.923327	0.522717	0.417265	15	0.218111		0.04	0.23556029	0.239923	0.244285
81	0.915581	0.478589	0.393646	16	0.188395		0.04	0.20346647	0.207234	0.211002
82	0.907200	0.434176	0.371364	17	0.161238		0.05	0.17736127	0.181392	0.185423
83	0.898251	0.389999	0.350344	18	0.136634		0.06	0.15302974	0.157129	0.161228
84	0.888669	0.346580	0.330513	19	0.114549		0.07	0.13058611	0.134595	0.138605
85	0.878452	0.304454	0.311805	20	0.09493		0.08	0.11011901	0.113916	0.117713
86	0.867472	0.264105	0.294155	21	0.077688		0.1	0.09322563	0.097110	0.100994
87	0.855791	0.226019	0.277505	22	0.062721		0.12	0.07777461	0.081538	0.085301
88	0.843315	0.190605	0.261797	23	0.049900		0.14	0.06387195	0.067365	0.070858
89	0.829855	0.158175	0.246979	24	0.039066		0.16	0.05156685	0.054692	0.057817
90	0.815167	0.128939	0.232999	25	0.030043		0.18	0.04085792	0.043562	0.046266
91	0.799190	0.103047	0.21981	26	0.022651		0.21	0.03216400	0.034542	0.036921
92	0.781423	0.080523	0.207368	27	0.016698		0.24	0.02471291	0.026717	0.028720
93	0.761809	0.061343	0.19563	28	0.012001		0.27	0.01848091	0.020101	0.021721
94	0.740020	0.045395	0.184557	29	0.008378		0.3	0.0134048	0.014661	0.015918
95	0.716046	0.032505	0.174110	30	0.005659		0.3	0.00905514	0.009904	0.010753
96	0.689484	0.022412	0.164255	31	0.003681		0.3	0.00588998	0.006442	0.006994
97	0.660566	0.014804	0.154957	32	0.002294		0.3	0.00367049	0.004015	0.004359
98	0.628044	0.009298	0.146186	33	0.001359		0.3	0.00217474	0.002379	0.002583
99	0.593583	0.005519	0.137912	34	0.000761		0.3	0.00121782	0.001332	0.001446
100	0.556306	0.003070	0.130105	35	0.000399		0.3	0.00063913	0.000699	0.000759
101	0.514170	0.001579	0.122741	36	0.000194		0.3	0.00031002	0.000339	0.000368
	Total	r=0.01			14.84			15.64	15.84	16.04
	Total	r=0.02			13.55			14.21	14.38	14.55
	Total	r=0.03			12.43			12.98	13.12	13.26
	Total	r=0.06			9.83			10.17	10.25	10.34

Source: New Zealand Life Tables 1995-1997and Author's estimations
Note: Figures are shown in columns for case where r=0.06

Table 10.8: Value of $1 Enhanced Life Annuity 10 year guarantee, (Female)

Age	Probability of being alive after one year	Expected proportion alive at age	$1/(1+r)^n$	n	NPV of $1 annuity	r	Probability of needing long-term care	NPV with long-term care factor =2	NPV with long-term care factor =2.5	NPV with long-term care factor =3
65						0.01				
66	0.988328	0.988328	0.943396	1	0.943396	0.02	0	0.9433962	0.9433962	0.943396
67	0.987205	0.975683	0.889996	2	0.889996	0.03	0	0.8899964	0.8899964	0.889996
68	0.985948	0.961972	0.839619	3	0.839619	0.04	0	0.8396193	0.8396193	0.839619
69	0.984580	0.947139	0.792094	4	0.792094	0.05	0	0.7920937	0.7920937	0.792094
70	0.983081	0.931114	0.747258	5	0.747258	0.06	0.01	0.7611738	0.7646527	0.768132
71	0.981449	0.913841	0.704961	6	0.704961	0.07	0.01	0.7178450	0.7210661	0.724287
72	0.979682	0.895274	0.665057	7	0.665057	0.08	0.01	0.6769653	0.6799423	0.682919
73	0.977764	0.875367	0.627412	8	0.627412	0.09	0.01	0.6383967	0.6411428	0.643889
74	0.975701	0.854096	0.591898	9	0.591898	0.1	0.01	0.6020092	0.6045369	0.607065
75	0.973446	0.831417	0.558395	10	0.558395		0.02	0.5769651	0.5816077	0.58625
76	0.970779	0.807122	0.526788	11	0.425182		0.02	0.4421892	0.4464410	0.450693
77	0.967516	0.780904	0.496969	12	0.388085		0.03	0.4113702	0.4171915	0.423013
78	0.963594	0.752474	0.468839	13	0.352789		0.04	0.3810124	0.3880682	0.395124
79	0.959037	0.721651	0.442301	14	0.319187		0.05	0.3511055	0.3590852	0.367065
80	0.953859	0.688353	0.417265	15	0.287226		0.06	0.3216929	0.3303097	0.338926
81	0.948066	0.652605	0.393646	16	0.256895		0.07	0.2928608	0.3018521	0.310843
82	0.941659	0.614531	0.371364	17	0.228215		0.08	0.2647293	0.2738579	0.282986
83	0.934614	0.574349	0.350344	18	0.201220		0.09	0.2374393	0.2464942	0.255549
84	0.926869	0.532347	0.330513	19	0.175948		0.1	0.2111370	0.2199344	0.228732
85	0.918302	0.488855	0.311805	20	0.152427		0.14	0.1951070	0.2057769	0.216447
86	0.908808	0.444275	0.294155	21	0.130686		0.18	0.1777329	0.1894946	0.201256
87	0.898291	0.399088	0.277505	22	0.110749		0.22	0.1594786	0.171661	0.183843
88	0.886660	0.353855	0.261797	23	0.092638		0.26	0.1408104	0.1528534	0.164896
89	0.873855	0.309218	0.246979	24	0.07637		0.29	0.1206651	0.1317388	0.142812
90	0.859535	0.265784	0.232999	25	0.061927		0.3	0.0990837	0.1083728	0.117662
91	0.843691	0.224239	0.21981	26	0.04929		0.34	0.0828073	0.0911866	0.099566
92	0.826174	0.185261	0.207368	27	0.038417		0.38	0.0676142	0.0749134	0.082213
93	0.806974	0.149501	0.19563	28	0.029247		0.42	0.0538142	0.059956	0.066098
94	0.786163	0.117532	0.184557	29	0.021691		0.46	0.0416473	0.0466363	0.051625
95	0.763668	0.089755	0.17411	30	0.015627		0.5	0.0312546	0.0351615	0.039068
96	0.739408	0.066366	0.164255	31	0.010901		0.52	0.0222378	0.0250721	0.027906
97	0.713152	0.047329	0.154957	32	0.007334		0.54	0.0152546	0.0172348	0.019215
98	0.684898	0.032415	0.146186	33	0.004739		0.56	0.010046	0.0113729	0.0127
99	0.654770	0.021225	0.137912	34	0.002927		0.58	0.0063226	0.0071715	0.00802
100	0.621695	0.013195	0.130105	35	0.001717		0.6	0.0037769	0.0042919	0.004807
101	0.585938	0.007732	0.122741	36	0.000949		0.6	0.0020878	0.0023725	0.002657
102	0.546667	0.004227	0.115793	37	0.000489		0.6	0.0010767	0.0012235	0.00137
	Total	r=0.01	17.3					19.43	19.96	20.49
	Total	r=0.02	15.56					17.29	17.72	18.15
	Total	r=0.03	14.1					15.5	15.85	16.2
	Total	r=0.06	10.8					11.58	11.78	11.97

Source: New Zealand Life Tables 1995-1997 and Author's estimations
Note: Figures are shown in columns for case where r=0.06

11 Conclusion and recommendations

This thesis began in Part I by covering the wide sweep of the history of pension provision in New Zealand. The New Zealand pension model comprising New Zealand Superannuation, a flat rate universal pension and voluntary saving is unique, and stands in stark contrast to the conventional wisdom of the World Bank and the current trends in international pension reforms. Nevertheless, this thesis concludes the New Zealand model is credible and indeed, offers a number of advantages over other approaches in light of the impending demographic shift as the baby-boom generation enters retirement between 2010 and 2030.

Yet, fundamental problems have been described, some of which are inherent in the model, others that reflect poor design and/or poor implementation. The decline in employment-based superannuation, for example, reflects in large part poor implementation of the voluntary model, which requires for its success a strong education programme and the achievement of genuine tax neutrality.[205] In contrast many other countries, either through mandatory arrangements or subsidisation have been endeavoring to increase their work-based provisions because they can be one of the most efficient ways to help people accumulate retirement saving. Chapter 3 concluded that the trend away from employment-based superannuation in New Zealand is unsatisfactory and, at very least, requires urgent tax reform to restore neutrality.

Part I detailed the profound events affecting the accumulation phase for retirement saving, internationally as well as in New Zealand. The shift from defined benefit to defined contribution schemes is one clear trend, with the implications for fewer pensions in the future and higher risks for individuals. Another is the aftermath of pension scheme collapses in companies such as Enron in the US, and a highly uncertain equities market that may not recover readily from a world-wide decline that began in 2000. The neglect of the policy issues around providing access to saved resources during retirement has left many middle-income people anxious and vulnerable. In particular, this thesis has argued that middle-income people in New

---

[205] Tax neutrality is used here in the sense of treating all saving the same in a T/T/E environment.

Zealand have been deprived of suitable mechanisms with which to annuitise sufficient of their wealth to provide a reasonable income replacement for the whole of their retirement period.

The disadvantages of current arrangements for private annuities are obvious. Private annuities currently in force in New Zealand are untradeable, inflexible, and have a fixed nominal value, putting the purchaser at risk with an instrument whose term may be as much as 30-40 years. The locking-in to one provider and the risk of the provider being bankrupt are high in a lightly-regulated industry. The annuity determination locks in the current after-tax interest rate, which may make the purchase of the annuity somewhat of a lottery. The use of selected annuitant mortality rates reflects good insurance practice but further encourages adverse selection effects. This is borne out by the analysis in chapter 3 which indicated that annuities in New Zealand are not good value for money for most of the general population, due to large adverse selection effects in a small market and high cost loadings. Another factor is the tax disadvantage of annuities for the majority of retired people who do not pay the 33 per cent income tax rate. Under the assumptions used in chapter 3, retail annuities are sold at approximately 20 per cent above their Net Present Value which, even allowing for adverse selection, suggests relatively high overheads. The downward trend in the Money Worth Ratios (ratio of the NPV to the annuity's price) estimated in chapter 3, is symptomatic of a poorly functioning and unattractive market where the trends suggest there will be no spontaneous recovery.

Historically New Zealand has been a nation of property traders with a strong predilection for investment in residential housing. This has been reinforced by the favourable tax treatment of housing compared to other forms of saving. The outcome has been that many people enter retirement with illiquid capital and little opportunity to access the equity in their own homes to enhance their living standards. As is largely the case in other countries, the discussion in chapter 4 indicated that the reverse mortgage market in New Zealand is very underdeveloped and there is little evidence that it could ever develop significantly if it is left purely to the private sector.

Along with other OECD countries, there is a growing realisation of the increased health and long-term costs expected with an ageing population. Few countries, including New Zealand, have paid much attention to this aspect, either from the perspective of the individual who is affected and their families, or from the

perspective of how the burden of this cost is to be shared and the fiscal implications. Chapter 4 concluded that the proposed legislation to abolish asset-testing of long-term care is inappropriate. This is not to argue that current arrangements could not be better designed, but the expectation that those who can afford to pay should contribute significantly to the costs of their care should not be relinquished, especially in light of the coming fiscal explosion in the costs of such care once the baby-boom generation enter their eighties. What is required is a means by which insurance can share the costs of long-term care more fairly among the retired as a group.

With respect to gender concerns, while women are treated well with flat-rate universal NZS, they face particular risks in the private provisions of annuities and private financing of long-term care. On average they live longer than men, they reach retirement with lower average additional extra savings, and are far less likely than men to have access to a private pension, and are far more likely to need long-term care. Middle-income women in particular may be vulnerable for long periods of their old age to the risks of inflation, poor returns and declining living standards.

The private market for insurance for the risks of old age cannot be relied on. The inherent limitations of such insurance are apparent both for annuities and long-term care insurance. Thus the challenge for policy-makers is to design policies for the decumulation phase of retirement saving that are cost-efficient, equitable and consistent with people's preferences, at the same time addressing the needs of the retired population holistically, including that of needing long-term care.

This challenge has been taken up in this thesis. Under the proposed Enhanced Life Annuity (ELA) together with an 'intragenerational contribution', welfare improvements for middle-income baby-boom cohorts are clearly possible, as well as improvements in both intragenerational, intergenerational and gender equity. The ELA combines a life annuity with long-term care insurance, with all elements inflation-indexed. Some of the market failures and disincentives inherent in both the annuities market and private insurance for long-term care are overcome in the joint product with particular advantages for women. In addition the ELA offers a simple mechanism for people to unlock some of the equity they hold in their own home where this is appropriate. In the scheme envisaged here, because of the poor state of the current annuity market, the small population base of New Zealand, and inherent market failure problems, the government itself must lead the reform process.

253

With respect to reform of retirement income arrangements, it is clearly easiest to build on the existing set of policies unless current arrangements are totally deficient and unsustainable. This thesis corroborates the conclusion of the Periodic Report Group 1997 which found that the basic New Zealand system is sound but that parametric changes will be necessary over time. One of the little appreciated consequences of the New Zealand approach, however, is that a tax neutral approach precludes the government's right to regulate the form of retirement saving for social purposes. While this thesis has found no justification for adopting a compulsory Pillar II, such as the World Bank have promulgated, the opportunity to legislate for the purchase of an annuity from the retiree's lump sum has been foregone.

This thesis has argued that government intervention is needed on a number of different fronts to improve welfare outcomes. While there are sound reasons to maintain the tax-neutral voluntary saving regime it is argued that there should be explicit subsidisation of life annuities at age 65. By leaving subsidisation to the decumulation phase, costs can be transparent and explicit social objectives can be addressed. The subsidy also provides some leverage over the products which may emerge from private market participation in the ELA market by permitting regulation.

Institutional arrangements are likely to require the wisdom of a Royal Commission to determine how the scheme is to be structured and administered. Chapter 10 suggested a Crown entity might be established and known as the 'Enhanced Life Annuity Corporation' (ELAC). The proposal would see the ELAC accept lump sums from new retirees aged 65 and supply immediate, inflation-indexed, gender-neutral annuities, or similar deferred annuities at the age of 70.

A critical and compulsory feature of the ELA is the insurance protection it offers for long-term residential care. The ELA increases by a predetermined multiple on the assessment of the need for such care to enable the capped fee to be met without the accelerated draw-down of assets. The cost of such insurance is low because of the young age at which it is purchased and the wide pooling of risk the ELA implies. The quasi-social insurance nature of the ELA allows increments for long-term care to reflect changing relative prices over time if necessary, and is adaptable to other changes in the delivery and nature of such care. By removing the fear of catastrophic expenditure in old age, the ELA has the potential to enhance welfare not only of the

older person, but also of their families, and to reduce the inappropriate use of family trusts.

As with the New Zealand Superannuation Fund, the management and investment decisions of the ELAC can be at arms length by experienced private sector people. Unlike private providers, the Crown does not have to see an immediate profit as it can take a long view with social goals in mind. In this regard it can accept equity in illiquid residential property as part of its portfolio of assets to back the ELA. Nevertheless, there may well be a role for other providers over time, with the state offering insurance for some of the uncertainties that private providers face.[206] Eventually one would expect product innovation to come from the private sector, for example, profit-sharing annuities in which the investment risk is shared between provider and investor on an agreed basis.

The subsidy for the proposed ELA is funded from the retired themselves through an intragenerational contribution. The intragenerational contribution is the cost savings that arises from treating New Zealand Superannuation either as an abating tax credit or a negative income tax. This provides a progressive clawback facility, comparable to the old surcharge, but is significantly different in its presentation. The arrangement is much more progressive than a flat-rate social security tax on New Zealand Superannuation and does not impose a cost on the first 8 deciles of retirees.

The strength of the economist's dependency models examined in Part II lies in their ability to predict the impact of parametric changes once the objectives of a scheme have been determined. That is, they do not materially assist society in making what are essential normative judgements. It has been argued in this thesis is that these normative judgements cannot be ignored as they lie at the heart of public pension policy. This thesis has emphasised the concepts of in-period intergenerational equity, intragenerational equity, and intergenerational dependence drawing the conclusion that pension policy must achieve a fair and widely acceptable standard of living for all age groups. Intragenerational equity is enhanced by the ELA by sharing longevity risks among the older aged group, and by the progressive funding of the subsidies for the ELA through the intragenerational contribution.

---

[206] Among these is the improvement in longevity risk. I am indebted to discussions with Michael Littlewood and Michael Chamberlain on these issues.

Part I of this thesis especially chapter 2 outlined the fraught political history of superannuation policy making in New Zealand. The loss of the Accord after its painful negotiation in 1993 has been particularly divisive. The surcharge, it was argued, was one of the elements that held the Accord together, because it acted as a compromise between entrenched views on universality and minimalist safety net provision. There are now intergenerational concerns that bode ill for the future that arise because universal and generous pensions are paid to all aged over 65 regardless of income or wealth in an otherwise tightly-targeted welfare state.

The lesson to be learned from New Zealand's policy formation history is that sudden unilateral shifts in pension policy are unlikely to be successful. The latest of these moves has been the introduction of the New Zealand Superannuation Fund which has raised many controversies including concerns around intergenerational equity. To restore the integrity of the New Zealand model, the bad blood of the past and the failed Accord process needs to be exorcised. The short political cycle requires that there is buy in from all the leading political parties. With goodwill and vision this should be possible. The Periodic Report Group (1997b) suggested a path to re-establishing an accord process. This advice should be revisited. The six-yearly Periodic Report Group process, which appears to have been substantially diluted for the 2003 review, must be given a higher profile and funding. It is to be hoped that a statutory body, such as the Retirement Commissioner's Office might begin to provide New Zealand with a much-needed focus for research and debate on pensions and annuities. Within such a stable political framework, the role of the ELA could be examined and may offer all parties in government a credible reason for putting superannuation accord above party politics in the interests of the whole country.

In early 2003 there remains just seven years before the first of the baby-boom generation retires. This thesis suggests that now is the time for New Zealand to give annuities their rightful place in the retirement income mix. The way forward involves recognition of the special character of the risks and uncertainties of old age, and the creative role that principles of social insurance coupled with private provision might play. As with other innovations of the past in New Zealand's social and political history some bold new thinking is required to make annuities a valuable part of the retirement package and be a source of national pride and political unity.

References

Aaron, H. (ed.). (1999). *Behavioral dimensions of retirement economics*. New York: Brookings Institute Press. Russell Sage Foundation.

Aaron, H. & Reischauer, R. (1998). *Countdown to reform. The great social security debate*. New York: The Century Foundation Press.

Agulnik, P. (2000). Maintaining incomes after work: Do compulsory earnings-related pensions make sense? *Oxford Review of Economic Policy, 16* (1), 45-56.

Akerlof, G. (1970). The market for lemons. *Quarterly Journal of Economics, 84* (Aug), 488-500.

Aon Consulting New Zealand Ltd. (1993-2002). *Aon annuity survey*. Available: http://www.aon.co.nz/index.shtm.

Ashton, T. (2000). New Zealand: Long-term care in a decade of change. *Health Issues, 19* (3), 72-85.

Ashton, T. & St John, S. (1988). *Superannuation in New Zealand. Averting the crisis*. Wellington: Institute of Policy Studies.

Atkinson, A. & Stiglitz, J. (1980). *Lectures on public economics*. London: McGraw-Hill.

Atkinson, N. (2002). *Rewarding service. A history of the government superannuation fund*. Dunedin: University of Otago Press.

Auerbach, A., Baker, B., Kotilkoff, L. & Walliser, J. (1997). Generational accounting in New Zealand. Is there generational balance? *International Tax and Public Finance, 4* (2), 201-228.

Auerbach, A., Ghokale, J. & Kotlikoff, L. (1994). Generational accounting: a meaningful way to assess generational policy. *Journal of Economic Perspectives, 8* (1), 73-94.

Banks, J. & Emmerson, C. (2000). Public and private pension spending. *Fiscal Studies, 21* (1), 1-64.

Barr, N. (1998). *The economics of the welfare state* (3[rd]ed.). Oxford: Oxford University Press.

Barr, N. (2000). *Reforming pensions: Myths, truths, and policy choices.* (Working paper 139). Washington: International Monetary Fund.

Barr, N. (2001). *The welfare state as piggy bank. Information, risk uncertainty and the role of the state*. Oxford: Oxford University Press.

Bates, W. (2001). *How much government? The effects of high government spending on economic performance.* Wellington: New Zealand Business Roundtable.

Bayliss, L. (1996). *Saving and superannuation. A New Zealand view*. Wellington: Len Bayliss.

Bertram, G. (1988). Middle class capture: A brief survey. In Royal Commission on Social Policy, *The April Report* (Vol. III Part II). Wellington: Royal Commission on Social Policy.

Bodie, Z. & Crane, D. (1999). The design and production of new retirement saving products. In Z. Bodie & P. Davis (eds.), *The foundations of pensions finance* (Vol. II): Edward Elgar Publishing Limited.

Bodie, Z. & Davis, P. (eds.). (2000). *The foundations of pension finance* (Vol. I & II). Cheltenham: Edward Elgar Publishing Limited.

Booth, C. (1977). The National Party's 1975 superannuation policy. In G. Palmer (ed.), *The welfare state today*. Wellington: Fourth Estate.

Boston, J., Dalziel, P. & St John, S. (eds.). (1999). *Redesigning the welfare state in New Zealand: Problems, policies, prospects*. Auckland: Oxford University Press.

Boston, J. & St John, S. (1999). Targeting versus universality: Social assistance for all or just for the poor? In J. Boston, P. Dalziel & S. St John (eds.), *Redesigning the welfare state in New Zealand: Problems, policies, prospects*, Auckland: Oxford University Press.

Brown, C. (1993). *Tax expenditures and measuring the long term costs and benefits of retirement incomes policy* (Conference Paper 93/2). Australian Treasury. Available:http://rim.treasury.gov.au/content/pubs.asp.

Brown, J., Mitchell, O., Poterba, J. & Warshawsky, M. (1999). *The role of real annuites and index bonds in an individual account retirement program.* (Working paper 7005). Cambridge, Massachusett: National Bureau of Economic Research.

Brown, J., Mitchell, O., Poterba, J. & Warshawsky, M. (2001). *The role of annuity markets in financing retirement*. Cambridge, Massachusetts: MIT Press.

Brown, J. & Warshawsky, M. (2001). *Longevity-insured retirement distributions from pension plans.* (Working paper 8064). Cambridge, Massachusetts: National Bureau of Economic Research.

Buiter, W. (1997). Generational accounts, aggregate saving and intergenerational distribution. *Economica, 64*, 605-626.

Campbell, J. & Ikegami, N. (2000). Long-term care insurance comes to Japan. *Health Issues, 19* (3), 26-39.

Campbell, S. & Munnell, A. (2002). *Sex and 401(K) plans. Just the facts on retirement issues.* (Working paper 4). Boston: Center for Retirement Research at Boston College.

Caplin, A. (2002). Turning assets into cash: Problems and prospects in the reverse-mortgage market. In O. Mitchell, Z. Bodie, P. Hammond & S. Zeldes (eds.), *Innovations in retirement financing*. Philadelphia: University of Pennsylvania Press.

Castles, F. & Shirley, I. (1996). Labour and social policy: Gravediggers or refurbishers of the welfare state. In F. Castles, R. Gerritsen & J. Vowles (eds.), *The great experiment*. Wellington: Allen & Unwin.

Chen, Y-P. (1993). A 'three legged stool': a new way to fund long-term care. In Care in the long term: in search of community and security (pp. 54-70). Institute of Medicine, Washington, D.C.: National Academy Press.

Chen, Y-P. (1994). Financing long-term care: An intragenerational social insurance model. The Geneva Papers on Risk and Insurance, 19(73), 490-495.

Chen, Y-P. (2001a). Funding long-term care in the United States: The role of private insurance. The Geneva Papers on Risk and Insurance, 26(4), 656-666.

Chen, Y-P. (2001b). Home equity conversion. In G. Maddox (Ed.), The encyclopedia of aging (3rd ed.). New York: Springer Publishing Company.

Chen, Y-P. (2003). Funding long-term care: applications of the trade-off principle in both public and private sectors. Journal of Aging and Health, 15(1), 15-44.

Claus, I., Haugh, D., Scobie, G. & Törnquist, J. (2001). *Saving and growth in an open economy*. Wellington: New Zealand Treasury.

Coalition Agreement. (1996). *Agreement between New Zealand First and the New Zealand National Party*. Wellington.

Congressional Budget Office. (1998). *Social security privatization and the annuities market*. Available: http://www.cbo.gov/index.cfm.

Collins, D. (1977). Formulating superannuation policy. In G. Palmer (ed.), *The welfare state today*. Wellington: Fourth Estate.

Cuellar, A. & Wiener, J. (2000). The long-term care experience in Germany. *Health Affairs, 19* (3), 8-25.

Cullen, M. (2000). *Pre-funding New Zealand Superannuation: Funding Arrangements*. Office of the Minister of Finance, New Zealand Government.

Cullen, M. (2001a). *Speech to the super summit*. Paper presented at the Super Summit, Wellington.

Cullen, M. (2001b). Superannuation tax regime, *Speech to Grey Power, 18th May 2001*. Wellington: Office of the Minister of Finance, New Zealand Government.

Cullen, M. (2002). *Government still exploring private super incentives*. Available: http://www.treasury.govt.nz/.

Dalziel, P. (1999). *New Zealand's economic reform programme was a failure*. Unpublished manuscript, Christchurch.

Davey, J. (1998). *The prospects and potential of home equity conversion/equity release in New Zealand*. Wellington: Office of the Retirement Commissioner.

Davies, A. (2000). Annuities: neglected treasures or clapped-out bangers? *The Independent, 12 April 2000,* 11.

Davis, N. & Fabling, R. (2002). *Population ageing and the efficiency of fiscal policy in New Zealand.* (Working paper 02/11). Wellington: New Zealand Treasury.

Disney, R. (1996). *Can we afford to grow older?* Cambridge: The MIT Press.

Disney, R. & Johnson, P. (eds.). (2001). *Pension systems and retirement incomes across OECD countries*. Cheltenham: Edward Elgar.

Donald, R. (2001). *Greens back universal super; will vote against fund.* Wellington: The Green Party: http://www.greens.org.nz/

Doyle, S., Mitchell, O. & Piggott, J. (2001). *Annuity values in defined contribution retirement systems.* Paper presented at the Ninth Colloquium of Superannuation Researchers, University of New South Wales, 9-10 July, Sydney.

Doyle, S. & Piggott, J. (1999). *Mandatory annuity design: A preliminary study.* Paper presented at the Retirement Needs Framework. Society of Actuaries Conference, December 1998, Florida.

Dyson, R. (2002). *Health of older people strategy. Health sector action to 2010 to support positive ageing*. Wellington: Ministry of Health. Available: www.moh.govt.nz.

Easton, B. (1997a). *The commercialisation of New Zealand*. Auckland: Auckland University Press.

Easton, B. (1997b). *In stormy seas. The post-war New Zealand Economy*. Dunedin: University of Otago Press.

Eddy, M. & Gower, L. (2000). National saving: trends and policy. Sydney: Reserve Bank of Australia.

Emmerson, C. & Johnson, P. (2001). Pension provision in the United Kingdom. In R. Disney & P. Johnson (eds.), *Pension systems and retirement incomes across OECD countries*. Cheltenham: Edward Elgar Publishing Limited.

English, W. (2001). National shares Greens' concerns over super fund. *Media release 3 June 2001*.

Eschtruth, A. & Tran, L. (2001). *Just the facts on retirement issues. A primer on reverse mortgages.* Boston: Center for Retirement Research at Boston College.

Feder, J., Komisar, H. & Niefeld, M. (2000). Long-term care in the United States: An overview. *Health Affairs, 19* (2), 40-85.

Federal Consumer Information Centre. *Understanding annuities*. Available: http://www.pueblo.gsa.gov/.

Feldstein, M. & Liebman, J. (2001). *Social security.* (Working paper 8451). Cambridge Massachusetts: National Bureau of Economic Research.

Fenn, P. (1999). Financing long-term care: The potential for insurance. In Royal Commission on Long-term Care (ed.), *With respect to old age: rights and responsibilities. The context of long-term care policy* (Vol. I). London.

Fergusson, D., Hong, B., Horwood, J., Jensen, J. & Travers, P. (2001). *Living standards of older New Zealanders. A technical account.* Wellington: Ministry of Social Policy.

Finkelstein, A. & Poterba, J. (1999). *Selection effects in the market for individual annuities: New evidence from the United Kingdom.* (Working paper 7168). Cambridge MA: National Bureau of Economic Research.

Frawley, P. (1995). Abuse of the trust device. Proposals for reform. *New Zealand Journal of Taxation Law and Policy, 1* (4), 200-224.

Friedman, B. & Warshawsky, M. (1990). The costs of annuities: Implications for saving behavior and bequests. *Quarterly Journal of Economics, February*, 135-154.

Geanakoplos, J., Mitchell, O., & Zeldes, S. (1998). Would a privatized social security system really pay a higher rate of return? In R. Arnold, M. Graetz & A. Munnell (eds.), *Framing the social security debate: values, politics and economics*. Washington, D.C.: National Academy of Social Insurance.

Ginn, J., Street, D. & Arber, S. (2001). *Women, work and pensions. International issues and prospects*. United Kingdom: Open University Press.

Gokhale, J. & Kotilkoff, L. (1999). Generational justice and generational accounting. In J. Williamson, D. Watts-Roy & E. Kingson (eds.), *The generational debate*. New York: Columbia University Press.

Gora, M. & Palmer, E. (2001). *Shifting perspectives in pensions.* Centre for Social and Economic Research: available at http://www.case.com.pl/.

Gordon, M. (2002). *The inflation indexed bond market.* Wellington: Reserve Bank New Zealand.

Government Actuary. (2001a). *Report of the Government Actuary for the year ended 30 June 2001.* Wellington: Ministry of Economic Development.

Government Actuary. (2001b). *Report on the Government Superannuation Fund. Actuarial valuation as at 30 June 2000.* Wellington: Ministry of Economic Development.

Green, D. (1996). *The welfare state today*. Wellington: New Zealand Business Roundtable.

Harding, T., Meredith, B. & Wistow, G. (1996). *Options for long-term care. Economic social and ethical choices*. London: His Majesty's Stationery Office.

Heller, P. (1998). *Rethinking public pension reform initiatives.* (Working paper 61). Washington: International Monetary Fund.

Hemming, R. (1998). *Should public pensions be funded?* (Working paper 35). Washington: International Monetary Fund.

Holmes, R. (1997). *Trusts. Using a trust to protect your assets.* Auckland: The Pacific Trust.

Holzmann, R. & Palactos, R. (2001). *Individual accounts as social insurance: a World Bank perspective.* (Working paper 23303): The World Bank Group.

Howe, A. (1999a). *Coordinating retirement income and long-term care financing.* Paper presented at the 6th Asia/Oceania Regional Congress of Gerontology, Seoul Korea.

Howe, A. (1999b). Extending the pillars of social policy financing to aged care. *Social Policy and Administration, 33* (5), 534-551.

Howe, A. (2000). Rearranging the compartments: The financing and delivery of care for Australia's elderly. *Health Affairs, 19* (3), 56-71.

Hughes, G. (2001). The cost and distribution of tax expenditure on occupational pensions in Ireland. In M. Feldstein (ed.), *Economic problems of Ireland in Europe*. Ireland: The Economic and Social Research Institute.

Hutton, W. (1995). *The state we are in*. London: Vintage.

James, E. (1999). *Coverage under old age security programmes and protection for the uninsured - what are the issues?* (Working paper 2163). Washington: The World Bank Group.

James, E. & Vittas, D. (2000a). *Annuity markets in comparative perspective. Do consumers get their money's worth?* (Working paper 2493). Washington: The World Bank Group.

James, E. & Vittas, D. (2000b). *The decumulation (payout) phase of defined contributions pillars: Policy issues in the provision of annuities and other benefits.* (Working paper 2464). Washington: The World Bank Group.

Jesson, B. (1999). *Only their purpose is mad.* Wellington: The Dunmore Press.

Johnson, P. (1999). *Older getting wiser.* London: Institute of Chartered Accountants in England and Wales.

Kelsey, J. (1993). *Rolling back the state.* Wellington: Bridget Williams Books.

Kelsey, J. (1997). *The New Zealand experiment* (2nd ed.). Auckland: Auckland University Press/Bridget Williams Books.

Kerr, R. (2001). Restoring New Zealand to the OECD's top half. *The Independent, 19 December,*9.

Kim, K., Hall, V. & Buckle, R. (2002). *New Zealand's current account deficit: Analysis based on the intertemporal optimisation approach.* (Working paper 01/02). Wellington: New Zealand Treasury.

Knox, D. (2000). *The Australian annuity market.* (Working paper 2495). Washington: The World Bank Group.

Knox, D. (2001). *Tax incentives for retirement saving.* Paper presented at the Savings and Retirement Symposium, Wellington.

Kotlikoff, L. (1992). *Generational accounting. Knowing who pays and when and what we spend.* New York: The Free Press.

McCallum, J. (1998). *Ensuring quality of later life. Financing aged care service within the context of an ageing society.* (South West Care Papers 2). Sydney: University of Western Sydney.

McCallum, J. (1999). Policy implications of Australian ageing: The greying of a young society. *Journal of Sociology and Social Welfare, XXVI* (1), 87-106.

McClure, M. (1998). *A civilised community: a history of Social Security in New Zealand 1898-1998.* Auckland: Auckland University Press.

McCulloch, B. & Frances, J. (2001). *Financing New Zealand Superannuation.* (Working paper 01/20). Wellington: The New Zealand Treasury.

McGregor, J. & Gray, L. (2002). *Mature job seekers in New Zealand.* Waikato: Massey University.

McLeod, R. (2001). *Tax review 2001. Final report.* New Zealand Government. Available: http://www.taxreview2001.govt.nz/index.html.

Milne, D. (1977). Women and superannuation. In G. Palmer (ed.), *The welfare state today.* Wellington: Fourth Estate.

Minister of Finance. (1984). *Budget 1984.* Wellington: New Zealand Treasury.

Minister of Finance. (2002a). *The budget economic and fiscal update*. New Zealand Treasury. Available: http://www.treasury.govt.nz/.

Minister of Finance. (2002b). *December economic and fiscal update 2002*. Available: http://www.treasury.govt.nz.

Ministry of Health. (2002a). *Disability support services. Increasing participation and independence*. Ministry of Health. Available: http://www.moh.govt.nz.

Ministry of Health. (2002b). *The health of older people in New Zealand. A statistical reference*. Ministry of Health. Available: http://www.moh.govt.nz.

Ministry of Social Development. (2001). *Positive ageing in New Zealand: Diversity, participation and change*. Ministry of Social Development. Available: http://www.msd.govt.nz.

Ministry of Social Policy. (2001a). *Older New Zealanders.* Wellington: Ministry of Social Policy.

Ministry of Social Policy. (2001b). *The social report 2001. Indicators of social well-being in New Zealand.* Wellington: Ministry of Social Policy.

Mitchell, O. (2001). *Personal accounts and social security reform.* [newsletter 2(1)]. Michigan: Michigan Retirement Research Centre.

Mitchell, O., Bodie, Z., Hammond, P. & Zeldes, S. (eds.). (2002). *Innovations in retirement financing*. Philadelphia: University of Pennsylvania Press.

Mitchell, O. & McCarthy, D. (2002). *Annuities for an ageing world.* (Working paper 9092). Cambridge Massachusetts: National Bureau of Economic Research.

Mitchell, O., Poterba, J., Warshawsky, M. & Brown, J. (1999). New evidence on the money's worth ratio of individual annuities. *American Economic Review, 89* (5), 1299-1318.

Mohl, A. (2001). *Getting in shape for the baby boomers. New pressures on investment risk and returns.* Paper presented at the 9th Colloquium of Superannuation Researchers, University of New South Wales, Sydney.

Morning Star & New Zealand Institute of Economic Research. (2001). *Household savings indicators.* Wellington: Westpac Trust.

Mowbray, M. (2001). *Distributions and disparity. New Zealand household incomes*. Wellington: Ministry of Social Policy.

Munnell, A. (1992). Current taxation of qualified pension plans: Has the time come? *New England Economic Review, March/April*.

Munnell, A., Sunden, A. & Lidstone, E. (2002). *How important are private pensions?* (An Issue in Brief 8). Boston: Center for Retirement Research at Boston College.

Murtaugh, C., Spillman, B. & Warshawsky, M. (2001). In sickness and in health: An annuity approach to financing long-term care and retirement income. *Journal of Risk and Insurance, 68* (2), 225-271.

National Health Committee. (2000). *Report of the National Health Committee on healthcare for older people*. National Advisory Committee on Health and Disability. Available: http://www.nhc.govt.nz.

New Zealand Business Roundtable. (2001). *Submission on the New Zealand Superannuation Bill*. Available: http://www.nzbr.org.nz/.

Newman, J. (1999). *Private trusts and private companies. Maintaining the integrity of the means test.* (Discussion paper). Canberra: Department of Family and Community Services.

OECD. (1998). *Maintaining prosperity in an ageing society*. Paris: OECD.

OECD. (2000a). *OECD private pensions conference 2000. Insurance and pensions.* (Private pension series 3). Paris: OECD.

OECD. (2000b). *Private pension systems and policy issues.* (Private pension series 1). Paris: OECD.

OECD. (2001a). *National accounts of OECD countries.* Paris: OECD.

OECD. (2001b). *Private pension systems. Administrative costs and reforms.* (Private pension series 2). Paris: OECD.

OECD. (2001c). *Regulating private pension schemes. Trends and challenges.* (Private pension series 4). Paris: OECD.

OECD. (2002). *Tax ratios: A critical survey.* (Tax policy studies 5). Paris: OECD.

Orszag, M. (2000). *Annuities: The problems.* Paper presented at the National Association of Pension Funds Annual Conference, 11-12 May, 2000.

Orszag, P. (2001). *The implications of the tax bill for social security reform: The challenges facing the Bush Social Security Commission*, (Testimony before the Senate Committee on the budget). Brookings Institute. Available: http://www.brook.edu/views/testimony/orszag.

Orszag, P. & Stiglitz, J. (2001). Rethinking pension reform. Ten myths about social security systems. In R. Holzmann & J. Stiglitz (eds.), *New ideas about old age security*. Washington: The World Bank Group.

Palmer, G. (ed.). (1977). *The welfare state today. Social policy in the seventies*. Wellington: Fourth Estate Books Limited.

Periodic Report Group. (1997a). *1997 Retirement income report: A review of the current framework-interim report.* Wellington.

Periodic Report Group. (1997b). *Building Stability.* Wellington.

Poterba, J. & Warshawsky, M. (1999). *The costs of annuitizing retirement payouts from individual accounts.* (Working paper W6918). Cambridge MA: National Bureau of Economic Research.

Preston, D. (2001a). *International retirement income systems.* Wellington: Super 2000 Taskforce.

Preston, D. (2001b). *Retirement income in New Zealand: The historical context*. Office of the Retirement Commissioner. Available: http://www.retirement.org.nz.

Quigley, N. (1988). *Private superannuation in the banking industry: A centennial history of the Bank of New Zealand Officers' Provident Association*. Wellington: Provident Association.

Report of the Taskforce on Private Provision for Retirement. (1992). *Private provision for retirement: The options.* Wellington.

Riordan, D. (2001). Health insurance faces a bitter pill. *New Zealand Herald, 24 January,* 11.

Rothschild, M. & Stiglitz, J. (1976). Equilibrium in competitive insurance markets: An essay on the economics of imperfect information. *Quarterly Journal of Economics, 90* (3), 629-649.

Royal Commission of Inquiry on Social Security in New Zealand. (1972). *Social Security in New Zealand*. Wellington: Government Printer.

Royal Commission on Social Policy. (1988). *The April Report*. Wellington: The Royal Commission on Social Policy.

Rust, J. (2001). *Retirement and saving: Lessons from abroad.* Paper presented at the Symposium on Saving and Retirement: New Perspectives, July 13, Wellington.

Samuelson, P. (1958). An exact consumption-loan model of interest with or without the social contrivance of money. *Journal of Political Economy, 66* (December), 467-482.

Settergren, O. & Mikula, B. (2001). *Restructuring the first pillar. The rate of return of pay-as-you-go pension systems.* Paper presented at the Seminar for Actuaries and Statisticians, International Social Security Association.

Shipley, J. (1991). *Social assistance: Welfare that works.* Wellington: Government Printer.

Sinfield, A. (2000). Tax benefits in non-state pensions. *European Journal of Social Security, 2* (2), 137-167.

Smetters, K. (2002). *Controlling the cost of minimum benefit guarantees in public pension conversions.* (Working paper W8732) Cambridge, Massachusetts: National Bureau of Economic Research.

St John, S. (1991). *Reform of the GRI surcharge.* Wellington: New Zealand Planning Council.

St John, S. (1992). National Superannuation: Or how not to make policy. In J. Boston & P. Dalziel (eds.), *The decent society. Essays in response to National's economics and social policies*. New Zealand: Oxford University Press.

St John, S. (1994). Asset testing for long-term care. *The New Zealand Society of Accountants, 73* (7), 10-13.

St John, S. (1999a). Stability of retirement income policy. In A. Grimes & C. Smith (eds.), *Stability of retirement income policy*. Wellington: Super 2000 Taskforce and Institute of Policy Studies.

St John, S. (1999b). Superannuation in the 1990s: Where angels fear to tread? In P. Dalziel, J. Boston & S. St. John (eds.), *Redesigning the welfare state in New Zealand*. Auckland: Oxford University Press.

St John, S. (2001a). *Financial Assistance for the young: New Zealand's incoherent welfare state.* (Policy discussion paper 23). Auckland: Department of Economics, The University of Auckland.

St John, S. (2001b). *New Zealand goes it alone in superannuation policy.* Paper presented at the Reform of Superannuation and Pensions. The 9th Annual

Colloquium of Superannuation Researchers, 9-10 July, University of New South Wales, Sydney.

St John, S. (2001c). Pension provision in New Zealand. In R. Disney & P. Johnson (eds.), *Pension Systems and retirement incomes across OECD countries*. UK: Edward Elgar Publishing Limited.

St John, S. (2001d). *Redesigning the welfare state in New Zealand*. Paper presented at the Promoting Social Inclusion in the Commonwealth Conference: UK, Asia, Australia and New Zealand, Brisbane: 10 October.

St John, S. (2002a). New Zealand government hardly an OECD big spender. *The Independent, 23 January,*11.

St John, S. (2002b). *Pensions and annuities in New Zealand. Have we lost the plot?* Paper presented at the Superannuation and Retirement Incomes: Back to the Future. The 10th Annual Colloquium of Superannuation Researchers, 8-9 July, University of New South Wales, Sydney.

St John, S. & Ashton, T. (1993). *Private pensions in New Zealand: Can they avert the crisis?* Wellington: Institute of Policy Studies.

St John, S., Dale, C., O'Brien, M., Blaiklock, A. & Milne, S. (2001). *Our children: The priority for policy*. Auckland: Child Poverty Action Group.

St John, S. & Gran, B. (2001). The world's social laboratory: Women friendly aspects of New Zealand pensions. In J. Ginn, D. Street & S. Arber (eds.), *Women, work and pensions*. Buckingham: Open University Press.

St John, S. & Rankin, K. (1998). *Quantifying the welfare mess.* (Policy discussion paper 22). Auckland: Department of Economics, The University of Auckland.

St John, S. & Rankin, K. (2002). *Entrenching the welfare mess.* (Policy discussion paper 24). Auckland: Department of Economics, The University of Auckland.

St John, S. & Willmore, L. (2001). Two legs are better than three: New Zealand as a model for old age pensions. *World Development, 29* (8), 1291-1305.

Statistics New Zealand. (1997). *Ageing and retirement in New Zealand*. Wellington: Statistics New Zealand.

Statistics New Zealand. (1998). *New Zealand now: 65 plus*. Wellington: Statistics New Zealand.

Statistics New Zealand. (1999a). *New Zealand now: Incomes*. Wellington: Statistics New Zealand.

Statistics New Zealand. (1999b). *New Zealand population projections 1999 (base)-2101*. Wellington: Statistics New Zealand.

Statistics New Zealand. (2001). *2000/2001 Household economic survey. Standard tables*. Wellington: Statistics New Zealand.

Statistics New Zealand. (2002a). *The net worth of New Zealanders. A report on their assets and debts*. Wellington: Office of the Retirement Commissioner.

Statistics New Zealand. (2002b). *The net worth of New Zealanders. Data from the 2001 Household Savings Survey. Standard tables and technical notes*. Wellington: Household Economic Statistics Division, Statistics New Zealand.

Statistics New Zealand. (2002c). *New Zealand abridged life tables, 1998-2000.* Available: http://www.stats.govt.nz/.

Stephens, R., Frater, P. & Waldegrave, C. (2000). *Below the line: An analysis of income poverty in New Zealand, 1984-1998.* Wellington: Graduate School of Business and Government Management, Victoria University of Wellington.

Stiglitz, J. (2000). *Economics of the public sector* (3rd ed.). New York: W.W. Norton & Company.

Stroombergen, A. & Rose, D. (1998). *The role of inheritances.* Wellington: Office of the Retirement Commissioner.

The Commonwealth Treasury. (2001). *Tax expenditures statement.* Government of Australia. Available: http://www.treasury.gov.au.

The Economist. (2003). Britain: Counting the damage: Company pension funds. *The Economist,* 8 February, 366, 31.

The New Zealand Treasury. (1997). Generational accounting what does it mean?: Confidential memo to the Treasurer, Minister of Finance, released under the Official Information Act.

The New Zealand Treasury. (2000a). *Macroeconomic effects of the proposal for pre-funding New Zealand Superannuation.* The New Zealand Treasury. Available: http://www.treasury.govt.nz/.

The New Zealand Treasury. (2000b). *Pre-funding New Zealand Superannuation*, (Working document). Available: http://www.treasury.govt.nz/.

The New Zealand Treasury. (2001a, December 2001). *The long term fiscal model.* Available: http://www.treasury.govt.nz/.

The New Zealand Treasury. (2001b). *Treasury report: Saving incentive options, consultation and analysis.* Wellington: The New Zealand Treasury.

Thomson, D. (1991). *Selfish generations?* Wellington: Bridget Williams Books.

Thomson, D. (1998). *A world without welfare. New Zealand's colonial experiment.* Auckland: Auckland University Press.

Thomson, D. (2001). *Employment of the middle aged.* Paper presented at the Business Information in Action Super Summit 2001, Wellington.

TIAA-CREF Institute. (2002). *Understanding and using inflation bonds.* (Research dialogue 73). New York: Teachers Insurance and Annuity Association College Retirement Equities Fund.

TOLIS. (1997). *Report to Ministers from the working group on the taxation of life insurance and superannuation fund savings.* Wellington.

UK Royal Commission. (1999). *With respect to old age: Long-term care-rights and responsibilities: a report by the Royal Commission on long-term care.* London: Cm 4192-1.

United Nations. (2002). *World public sector report 2001: Globalization and the state.* New York: Department of Economic and Social Affairs, UN.

Wadsworth, M., Findlater, A. & Boardman, T. (2001). *Reinventing annuities.* London: The Staple Inn Actuarial Society.

Wakeling, A. (2001). *Managing longevity risk. A wake up call for Australia's retirement savings system.* Paper presented at the 9th Annual Colloquium of superannuation researchers, 9-10 July, Sydney.

Wallister, J. (2000). *Regulation of withdrawals in individual accounts systems.* (Social Protection Discussion Paper 23069). Washington: The World Bank Group.

Warshawsky, M. (2001). The market for life annuities and the reform of social security. *Benefits Quarterly, Fourth Quarter.*

Warshawsky, M., Spillman, B. & Murtaugh, C. (2002). Integrating life annuities and long-term care insurance: Theory, evidence, practice and policy. In O. Mitchell, Z. Bodie, P. Hammond & S. Zeldes (eds.), *Innovations in retirement financing.* Philadelphia: University of Pennsylvania Press.

Watson Wyatt. (2002). *Modernising annuities.*
Available: http://www.watsonwyatt.com/europe/research/annuities.asp.

Watt, B. & Reddell, M. (1997). Some perspectives on inflation-indexed bonds. *Reserve Bank Bulletin, 60* (4), 322-331.

Williamson, J., Watts-Roy, D. & Kingson, E. (eds.). (1999). *The generational equity debate.* New York: Columbia University Press.

Willmore, L. (2000). *Three Pillars of Pensions? A Proposal to End Mandatory Contributions.* (DESA Discussion Paper, No. 13).
Available: http://www.un.org/esa/papers.htm

Willmore, L. (2001). *Universal pensions for low-income countries.* (Initiative for Policy Dialogue Discussion Paper, IPD-01-05)
Available: http://www.pensions-policy.org

Woodbury, M. (2000). New tax incentive for employer-sponsored superannuation. *Super benefits. The Journal of the Association of Superannuation Funds of New Zealand, 31* (2).

Woods, J. (2000). *Manual for the long term fiscal model.* (Working paper 00/2). Wellington: New Zealand Treasury.

Work and Income New Zealand. (2001). *Quarterly profile June 2001.* Wellington: Work and Income New Zealand.

World Bank. (1994). *Averting the old age crisis. Policies to protect the old and promote growth.* Washington: Oxford University Press.

World Bank. (2001). *Social protection sector strategy: from safety net to springboard.* Washington: The World Bank Group.

Zweifel, P. & Struwe, W. (1998). Long-term care insurance in a two generation model. *Journal of Risk and Insurance, 65* (1), 13-32.