Submission to:

REVIEW OF THE PROVISION OF PENSIONS IN SMALL SUPERANNUATION FUNDS

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Introduction

This submission has been made as an interested, but independent, observer of the debate concerning the provision of pensions by small superannuation funds. I start this submission with a quick review of my qualifications to comment knowledgably on these matters and then proceed to discuss the points raised by the January 2005 Discussion Paper (DP). In order to make the review committee's task easier I follow the numbering used in the DP.

Qualifications

For the previous three years I have been an Associate Professor in the Applied Finance Centre at Macquarie University lecturing at a Masters degree level on:

- financial risk management,
- investment portfolio construction with a strong focus on the long horizons associated with investing for retirement; and
- investment practice and theory in general.

I have extensive experience in actuarial matters, even though I am not an actuary. My first degree was in Actuarial Science at Macquarie University, followed by 6 years working in a firm of consulting actuaries. I have also worked in the investment departments of large life offices, most recently in Canada, where I have been involved in numerous asset-liability projects necessitating an understanding of both sides of the equation. This was recognized by the Australian Institute of Actuaries inviting me to write the two chapters on Investments for their recent textbook on *The Actuarial Control Cycle*, which is directly relevant to the topic under review.

I was also a co-author, in 1996, of the initial report on the Prudential Requirements of the National Electricity Market; so I have experience in producing recommendations for government sponsored activities that can be feasibly applied in complex situations.

Discussion

The headings used in the discussion have been taken from the January 2005 Discussion Paper.

3 RETIREMENT INCOME POLICY OBJECTIVES

This does not fall within the scope of the review but some general comments can be made that are pertinent to later issues.

One of the objectives of the retirement income policy is *"ensuring the system is predictable, but facilitates choice and is equitable"*. Two common properties of systems in which it is difficult to predict the future are *complexity* and *instability*. Unfortunately these are two properties that the current retirement income system has in spades. It is difficult to predict precisely what would be the monetary outcome of any action. Further the system lacks stability, and I'm not referring to stability as an unchanging system. One of the reasons for the current review is that a severely out of date set of factors have

been used for valuing defined benefits. If the factors had been updated on a regular basis then the valuations of the defined benefits would have made the social security access and estate planning issues less attractive for members of small funds.

Ensuring that all parameters surrounding the superannuation and social security systems are kept consistent with economic and demographic conditions simplifies the system and makes it more predictable as there is greater certainty that the originally intended features of any legislation will be maintained. One should then not have to check through a plethora of options to see whether any of them have unintended good or bad consequences. Updating should be on a regular and frequent basis, with all factors up for change on a known date – once a year, in line with many other processes would be an ideal basis. One idea proposed in the DP is for an updating of annuity factors every five years in line with updatings of the Australian Life Tables – this is too long a period.

System complexity also promotes inequality. To understand the current system takes an enormous effort and people who don't have the time or ability to make this effort are often worse off than those who have identified favourable anomalies within the current complexities. The alternative is to use an advisor and pay the fee charged, something that many people feel is unfair and forced on them by an unfriendly government and bureaucracy. The fee is often felt to be high and this also generates a sense of unfairness. Any system that generates such discontent cannot be considered *equitable*.

One generator of complexity is that when changes have been made in the past it was deemed politically difficult to take inequitably high benefits from those who had been receiving them. We know that the previous benefits had been thought to be inequitably high by the government of the day because they changed the rules in order to promote equity, or so they said. To achieve simplicity future governments will have to remove benefits that it believes to be inequitable from those who are receiving them and apply a uniform set of rules to all parties – no grandfathering should be allowed.

Recommendations: –

- *Continue the push for radical simplification of the social welfare, tax, and superannuation systems;*
- *Update factors governing various benefits, limits etc on a regular and frequent basis;*
- *If rules need to be changed to promote equity then no grandfathering of previous benefit or procedures should be allowed.*

The DP stresses that:

The retirement income system is not designed for individuals to build up excessive wealth or manage their pre-retirement affairs in a low tax environment.

I strongly support this position by the government. The Tax Department should be encouraged, if it uncovers sufficiently egregious cases, to use its powers to declare that actions undertaken by persons involved in these cases are not undertaken for superannuation purposes and so should be liable for a higher rate of tax. If the Tax Department does not have the power to do this then steps should be taken to increase the discretionary power of the Tax Commissioner. In rapidly evolving environments many

problems are better solved by the use of regulatory or judicial discretion rather than by black letter law.

Of course, this presumes that factors have been updated appropriately; otherwise the government is allowing excessive wealth to build up within the low tax environment legally, against its stated intent.

Recommendation – Ensure that the Tax Department can use discretionary powers to ensure the low tax system for superannuation is not egregiously abused.

4.2 CHOICE

The DP has the following quote:

> *However, initial submissions argue that there will still be demand for defined pensions from individuals wanting a given income level for their lifetime or other term, and that small funds should be able to offer these pensions to their members.*

No matter how much demand there is for something, if it can't be supplied then that's the end of the discussion. As I will argue below, it is improbable that a small fund could provide a given lifetime income level with a sufficient level of confidence that it could be called a defined benefit. The Australian Institute of Actuaries mentioned in their submission to the Senate Economics Committee on this matter that perhaps the term *defined benefit* for the purposes of small funds should be changed to something less confusing. I agree.

If small fund retirees believe that they can have a defined benefit pension with the same degree of confidence in payment that they could receive from a pooled entity such as an industry fund or life office then they are ill-advised. The requirement of an actuarial valuation may have an unintended consequence of letting people believe that they really have a *defined benefit.*

Recommendation – if some form of "defined benefit" is to be retained for small funds then the term needs to be changed.

4.3 COMPLEXITY

The following quote from the DP is an indictment of the present system.

> *Retirees may also focus on the tax and social security advantages of competing products rather than their underlying suitability.*

Retirees should be confident that there are only minor tax and social security advantages or disadvantages of competing products; any minor advantage of a chosen product should be easily seen to be outweighed by the increase in unsuitability compared to competing products.

The system must be made simpler.

Recommendation – As a start there should be a commitment by governments and oppositions that no changes that increase complexity will be implemented or proposed.

4.6 RISK

The three problems mentioned by the DP are indeed real. I agree with the comment that the ability to adjust the value of the pension in the light of bad investment returns and/or longevity of the retiree shows the lack of viability of the original pension as a *defined benefit*.

There are some comments within the discussion on risk that I believe need clarification. I reproduce the comment and then discuss it.

(i)

> *Lack of an employer sponsor or other guarantor means no one is obligated to contribute extra money if the fund experiences poor investment returns that jeopardize member entitlements.*

The risk of poor investment return does not have to be covered by guarantors. Further, the risk of poor investment returns can be hedged in the fund by means other than maintenance of an actuarially determined reserve. Indeed, one could almost say it is better hedged by means other than actuarially determined reserves. The recent history of actuarial estimation of reserves to cover this risk is poor. For instance, in Canada, around 1999, there was significant underestimation of the investment risk of guaranteed investment contracts, many of which were sold to clients for a retirement saving purpose – the initial actuarial underestimation was by a factor of 2 to 4 depending on the product. Many billions of dollars of this product was sold and the reserves underestimated.

Mitigation of investment risk by small funds can be by the purchase of a protective basket of options, or by a dynamic process of asset allocation between risky and risk-free assets. Notice I say mitigation; it is not a removal of the risk, merely its reduction. Both methods of risk reduction require some sophistication in investment knowledge and for quite small funds may not be viable because of transaction cost. Some pooled superannuation funds efficiently use these techniques for risk management.

Interestingly, for a given reduction in investment risk the simplest, robust model indicates that the eventual cost in terms of reduced return is close to identical across all the methodologies of risk reduction. The timing of the cost may differ, but when appropriately present valued and summed we find the costs are almost identical[1].

(ii)

> *In a larger pooled arrangement deaths occur with greater certainty, consistent with the broader population allowing the spreading of risk. Thus future benefit liabilities are easier to estimate.*

Strictly speaking, the future benefit liabilities are not easier to estimate, they are just easier to manage. Given the life tables then it is just as easy to estimate the future liabilities of one life as it is to estimate for one million lives – the relative uncertainty is less for the larger lives.

[1] This shouldn't be surprising. If it wasn't rue there would be ample scope for some form of arbitrage.

(iii)

> *More members also provide for more diverse investment choice, to ameliorate the risks of poor returns and investments not being able to be liquidated to meet pension payments. In small funds, investments may be concentrated in a single investment class (such as property or business assets) or even a single investment.*

Sufficient diversification and liquidity of investments can be achieved in a small fund of $200,000. Investment concentration in a single investment class or investment indicates a very low degree of risk aversion by the trustees. Such a low degree of risk aversion sits oddly with a desire for a high degree of certainty for the income stream.

5.2.1 Options to address RBL compression

I **support** the use of the two outlined approaches to address RBL compression. Indeed, as I expressed earlier, I believe that all parameters within the superannuation legislation and regulations should be updated regularly.

I also **support** the proposal of the Institute of Actuaries of Australia to amend the formula to reduce the abuse of large undeducted contributions.

5.2.2 Options to address estate planning

Reserves

In the following discussion I use the term *reserve* to denote an excess of assets above the amount that would be expected to meet future desired payments half the time.

The use of reserves within a small superannuation fund is necessary to mitigate the problems of longevity risk in the absence of some form of insurance. The reserve comes from the accumulated contributions of the retiree and, being proved to be surplus to their requirements upon their death, should be cashed out of the superannuation system and form part of the estate of the retiree. Note, at this point I would include all the assets supporting the pension as being released reserves.

It is not the intention of the retirement income system to provide a legacy to survivors of the deceased retiree and so the reserve should only passed on in the tax-advantaged system to strict dependents of the deceased via a reversionary pension.

To attempt to treat estate planning by additional specific taxation measures would add undue complexity and should be avoided.

Recommendation – any remaining reserve of the final pension beneficiary should be cashed out of the superannuation system and form part of the estate of the final beneficiary.

5.2.3 Managing risk

I would be surprised if most non-retired members of a small super fund fully understood the consequences of the following statement.

> *Initial submissions highlight that members in small funds ultimately bear the risk of a defined benefit pension.*

One reason for the perceived high charges imposed by companies providing insurance is to give an appropriate rate of return for the suppliers of the capital (shareholders) that justifies the high risk being borne. In a small fund the risk for non-retired members who may be supporting the "guaranteed" benefit is even higher than in a large pooled scheme such as in a life office, and so the rate of return required as justification should be even higher than for a life office. Adjusting the pension paid to take into account the return that should be demanded by the supporters would significantly lower the amount of pension paid.

The scope for misunderstanding of the risk is great and I am not confident that the risk can be adequately explained to the large proportion of the population in the time that that population would be prepared to devote to listening to the explanation. Insurance products that reduce the longevity risk, such as deferred annuities, should be capable of being accessed within the tax advantaged system.

Recommendation :–

- *The longevity and investment risk is to be formally transferred to the defined benefit recipient.*
- *The term describing this benefit needs to be changed.*
- *SISR may need to be changed to allow efficient use of insurance products that reduce longevity risk.*

5.2 *Key questions*

My recommended changes would remove the possibility of *defined benefit* pensions being paid by small funds. This is not an onerous step; despite the name that has been used in the past, a defined benefit pension has never been available from a small super fund that engenders anything like the confidence of full and timely payment that a defined benefit pension from a large pooled entity does.

The ability to take a defined benefit pension with some form of known residual capital value would be infeasible if longevity and investment risk was transferred to the recipient at any degree of confidence that is consistent with the usual use of the word *defined*; the reserves needed to efficiently manage both these risks would be likely to be too great and would significantly decrease the initial pension allowed. The vexed question of what to do with these large reserves when they are released on death is still there.

5.3 MODIFY EXISTING PENSION PRODUCTS

There are good features of each of the modifications put up for discussion. The following discussion combines the first three modifications that concern the market linked annuities; I discuss the combination because it allows for simple specification of the product with the maximum choice for retirees. The last proposed modification concerning allocated annuities is a no-brainer – of course the factors should be updated, and updated on an annual basis going forward.

The ability of the current market linked to be commuted at any time and recommenced (which I'll call rebasing) is a valuable option. In public discussion of the market linked

pensions I never saw this option given prominence, yet it allows some significant mitigation of longevity risk[2].

Complementing the current option of rebasing with the initial ability to have a whole-of-life pension is a valuable option which comes with little additional complexity.

Deferred lifetime annuities should be encouraged. Design features discussed in the DP are adequate. Should companies be unwilling to supply these lifetime annuities then there is a role for a government sponsored enterprise to offer these pensions. I discuss the basic framework for this enterprise in an Appendix. Basic premises for this framework are: that there is a minimum of government disruption to existing markets (I anticipate none); it promotes government retirement income policies; and the system is set up in such a way that it can be easily privatised at a later stage when proved commercially viable.

Factors for determining the pensions for both options should be updated annually to take into account changes in interest rates and life expectancy. Transparency is essential; to promote this the interest rates could, for instance, be taken from the Reserve Bank's indication of Commonwealth Government bond yields which it in turn derives from market observations. Although the Australian Life Tables are produced on a 5-yearly basis an annual updating can be made that is line with forecast changes in mortality rates by the Australian Actuary or the Bureau of Statistics. This updating reduces the perceived rewards for people (or their advisors) to trawl through the tables looking for small advantages, and so should reduce the dead-weight cost of this trawling on the economy.

Smoothing of pension income through market cycles should be allowed; the amount that can be taken as pension income from the small fund should be allowed to be in a band of, say, ±10% around the factor defining the proportion of the fund that must be taken as a pension. For example, if the basic pension income in a year was $50,000 then the allowable band is $45,000 - $55,000. Trying to prescribe a band of values for the assets as undertaken in the Actuarial proposal introduces a higher degree of complexity. Although in my proposal a beneficiary could consistently take 10% below the base amount and so build up their assets in the small fund, this is ameliorated by the fact that there is still a minimum amount of the increased assets that needs to be distributed as pension income each year. By allowing people to take a smaller amount of pension than is prescribed by the factor also allows them to partially manage their own longevity risk.

Lest anyone be unduly worried by people consistently taking the 10% reduction and so enabling assets to be kept in a tax-advantaged environment in a manner at odds with the government's intent, let me make a point on the sensitivity of fund size to this ±10% band. Let's say that at an advanced age the retiree was required to take $1/10^{th}$ of the fund as a pension, and that they decided to reduce this pension by 10%. This leaves 1% additional assets in the fund compared to taking the prescribed amount. This is at least the minimum amount of variation we would see between returns from different asset allocations, or the returns from active versus passive management. Further, if any retiree

[2] Regular commutation and recommencement allows the extension of the pension to higher achieved ages, albeit at a reduced level.

has additional assets outside the superannuation system and they manage both sets of assets as an integrated portfolio[3] then this 1% per annum differential is easily obtained by having the high income yielding assets in the tax advantaged fold and the capital gain yielding assets outside the fold where they can enjoy more advantageous use of the halving of capital gains tax rates for long term investments. In short –move on, there are bigger things to worry about.

Recommendations:–

- *Factors for allocated pensions should be updated immediately and updated once a year going forward.*
- *Lifetime pensions should be allowed as an additional option for market–linked pensions. Factors for these pensions should be updated annually.*
- *A band of income, say ±10%, should be allowed around the base pension amount*
- *The government should be prepared to provide a basic level of longevity risk insurance should the market not initially provide such a product.*

Other comments

Compulsory purchase of lifetime annuities

Management of a small fund is not an easy enterprise. As people age their management skills decline; of course different people's abilities decline at different rates. However there will be an age when people will have difficulty managing their small fund. If other trustees are unwilling to take over the management then there is a problem.

Such an argument may be made for making the purchase of a lifetime annuity compulsory past a certain advanced age, say 85 or 95. This may be viewed as paternalistic but I believe could be successfully argued as providing risk mitigation for the social safety net of the old-age pension. In other words, people need to buy this insurance to ensure that too many of them don't fall down into relying completely on the old age pension; something along the lines of why we force third-party insurance onto car owners.

If purchase of a lifetime annuity is to be made compulsory then people should be given a range of ages at which it could commence; the act of choice makes the compulsion more palatable.

Other mechanisms to promote choice and equity

It is difficult for a small fund to provide a basic CPI linked income stream with a small amount of market risk. However a substantial number of investors want to provide themselves just such an income stream. The government could provide the means for small funds[4] by listing a security on the Australian Stock Exchange (ASX) that pays

[3] Which they should do for maximum economic efficiency.

[4] And large ones too!

$1 per quarter, indexed by CPI in the same manner as the current CPI linked bonds; there would be no redemption date. Regular additions could be made to the amount of stock on issue by regular public offerings, much in the manner in which government bond tenders are made.

While this would add to the public debt, as such, and would deliver surplus funds to the government at a time of surplus budgets, the amount that would be immediately raised would not be large – it could rise gradually to a large amount. It is possible that there could be a large demand from wholesale investors – especially insurance companies looking for long-dated CPI linked investments and wholesale fund managers. This would promote liquidity.

If there was substitution from nominal government debt then there need be no net addition to the public debt.

The additional government overhead for such an issue would be minimal. In line with national competition policy the major manpower requirements are all outsourced:

- Maintenance of the investor database would be outsourced to a company such as Computershare Investor Services;
- Trading would take place in the same manner as any other security on the ASX.

Requirements of the bureaucracy would be to write out the cheques once a quarter, and, of course, include this security as part of its overall monitoring of debt.

With CPI risk able to be hedged with holdings of these securities, there would be greater scope for third parties to increase the range of products offered to retirees

Appendix A

A Government Sponsored Enterprise to Provide Lifelong Pensions

Should there be little interest from companies in the provision of longevity insurance then a government sponsored enterprise can be set up for this provision. The enterprise should have a basic philosophy describing its existence:

- Minimum disruption to already existing markets;
- Promotion of the government's retirement income policy's objectives;
- At a later stage the enterprise can be easily privatised, when the desired market has been developed by this enterprise and shown to be commercially viable.

The basic idea is that people will be able to invest money that will yield a certain real income at a future point in time, which is only paid if they are alive. The current price of that income is dependent upon the current real interest rate and expected probability of being alive.

The selling of this process as an investment rather than insurance, while being a sleight of hand, will most probably be more palatable to the retiree or future retiree, especially for those people who believe they may have a longer life expectancy than the typical person. Taking into account the probability of living to the delivery of the income substantially reduces the cost of buying a given $1 of income.

Technical matters

Let:

l_x number of people alive at age x in the life tables

r current real rate of return derived from yield curve of CPI linked government bonds

c_z current value of the amount that will be paid in year z. This will be increased each quarter year in line with the increase in CPI, using a similar formula to the increase in capital value for an index-linked bond.

Then for a person aged x, the current price for the receipt in t years time of the equivalent of $1 in current purchasing power is:

$$l_{x+t} \; / \; [\, l_x \, (1+r)^t \, c_{x+t} \,]$$

A payment of

$$l_{x+t} \; / \; [\, l_x \, (1+r)^t \,]$$

can be said to buy one *unit* of income in t years time.

From these basic prices we can easily derive the price of an annuity that begins t years in the future and continues paying $1 per annum (in current purchasing power) for life.

When year z is reached an amount of c_z is paid for each *unit* of income held by a live person.

Discussion

In its most basic form the government would be the only seller of units of income and superannuation funds the only buyers.

There will be an element of self-selection by people buying these investments. People with high likelihood of dieing early will be unwilling to buy. A select life table may have to be developed. However such a select life table may lead to too high a price for a pooled fund that wished to buy similar investments.

Risks of deviations from the mortality rates assumed will be borne by the enterprise. No charge has been added to the basic prices of units of income to compensate the enterprise for bearing this risk. No charges have been included to cover the costs of administration. In order to set this enterprise up so as to cause minimum distortion to the existing insurance markets, charges should be added; this will lead to an increase in the price of a basic unit of income.

One way in which such an enterprise could evolve is into a two-way market for what could be called mortality adjusted real income. In such a market we could see wholesale buyers and sellers of units - much as see on the stockmarket - with retail purchasers taking advantage of the liquidity provided by the wholesalers. In this evolution the price given by the formula above would be a purely theoretical "fair price" – the market would set the actual price based on its belief in the current appropriate real interest rate and appropriate level of mortality rate[5].

[5] I don't want to go too far into the details here, just enough to show there is a possible exit strategy for the government, should one be desired. One way for the market described above to work is to restrict sales of units to companies that have put up a suitable sized bond (possibly in the form of government securities so that some reasonable rate of return is earned) and to restrict super funds to purchases of units. Companies would be able to both buy and sell. A clearing house ensures that between companies the credit risk clears on a daily basis; credit risk only appears for the retail investors being at risk to the wholesale sellers, which risk is reduced by the initial bond.

An alternative approach would be to treat each unit of income in the same manner as an option on a futures contract that has its price adjusted via margin payments as on the Sydney Futures Exchange. For retail investors the initial margin would be the value of the unit of income. Mortality risk from the life table implied by the initial investment price would be borne by the buyers and the sellers.

In both cases there would have to be a mechanism where death rates of investors can be disseminated to the market. One way to ensure that deaths of investors are promptly reported is to ensure that some small but significant positive value is associated with an account on the death of the account holder. The estate of the deceased will then have an incentive to notify death and so retrieve the amount.