



CEPAR submission to the Financial System Inquiry

A number of CEPAR staff and affiliates contributed to this submission, including Rafal Chomik, Michael Sherris, Hazel Bateman, John Piggott, Ralph Stevens, and Diane Hosking, and the Chairman of the CEPAR Advisory Board, Marc de Cure

31 March 2014

About CEPAR

The ARC Centre of Excellence in Population Ageing Research (CEPAR) is a collaboration between academia, government and industry.

The Centre is based at the University of New South Wales with nodes at the Australian National University and the University of Sydney. It aims to establish Australia as a world leader in the field of population ageing research through a unique combination of high level, cross-disciplinary expertise drawn from Economics, Psychology, Sociology, Epidemiology, Actuarial Science, and Demography.

CEPAR is actively engaged with a range of influential government and industry partners to cooperatively deliver outcomes to meet the challenges of population ageing. It is building a new generation of researchers to global standard with an appreciation of the multidisciplinary nature of population ageing.

Mission

CEPAR's mission is to produce research of the highest quality to transform thinking about population ageing, inform product and service development and provision (private practice) and public policy, and improve people's wellbeing throughout their lives.

Introduction

The importance of households

This submission is mainly concerned with the interactions between the financial system and households, especially as they relate to long term contractual, or life cycle, financial savings. We take it as given that the financial system ultimately exists to serve households, both directly and indirectly, and its efficacy in this regard will be of paramount importance to the Financial System Inquiry (“the Inquiry”). These interactions are assuming ever greater importance, to system stability and individual welfare, as the population ages and Superannuation balances grow. Australia is unusual among developed nations in delivering earnings related retirement resources in a mandated pre-funded structure, privately administered and managed. This means that the financial system has a more prominent role in delivering retirement resources than is the case in most other OECD countries.

Terms of reference

The importance of superannuation assets in the Australian financial system is clear. The Terms of Reference include superannuation funds among the financial intermediaries listed under section 3.3. Also relevant to this submission is section 4.3, which refers to policy options that “meet the needs of users with appropriate financial products and services”, and 2.1 (consumer protection), 2.2 (financial risk allocation), 2.3 (financial regulation) and 2.4 (the role of Government). Furthermore, section 3.1 makes reference to the challenges of demographic change, which includes population ageing. An important subtext of this submission is that a long term focus which anticipates the financial implications of an ageing demographic is critical to the relevance of the Inquiry’s recommendations.

Focus on decumulation

The superannuation system can, with some risk of oversimplification, be conveniently divided into accumulation and drawdown functions. Many of our comments will apply equally to both, and some will focus on the interaction between the two functions. However, this submission will place particular emphasis on the drawdown, or decumulation, phase of superannuation. This is because:

1. it is the least developed and thought-out dimension of Australia’s retirement income system, whose efficient operation depends integrally on the financial system;
2. the population is ageing rapidly, with many of the baby boomers retiring in the present decade;
3. the absence of decumulation structures restricts the income options available to individuals who may as a result make uninformed choices and end up with lower incomes than expected. This may have fiscal implications for government if it is in future called upon to subsidise retirement incomes, and for the wider economy if inefficient allocation of resources and greater tax pressures result.

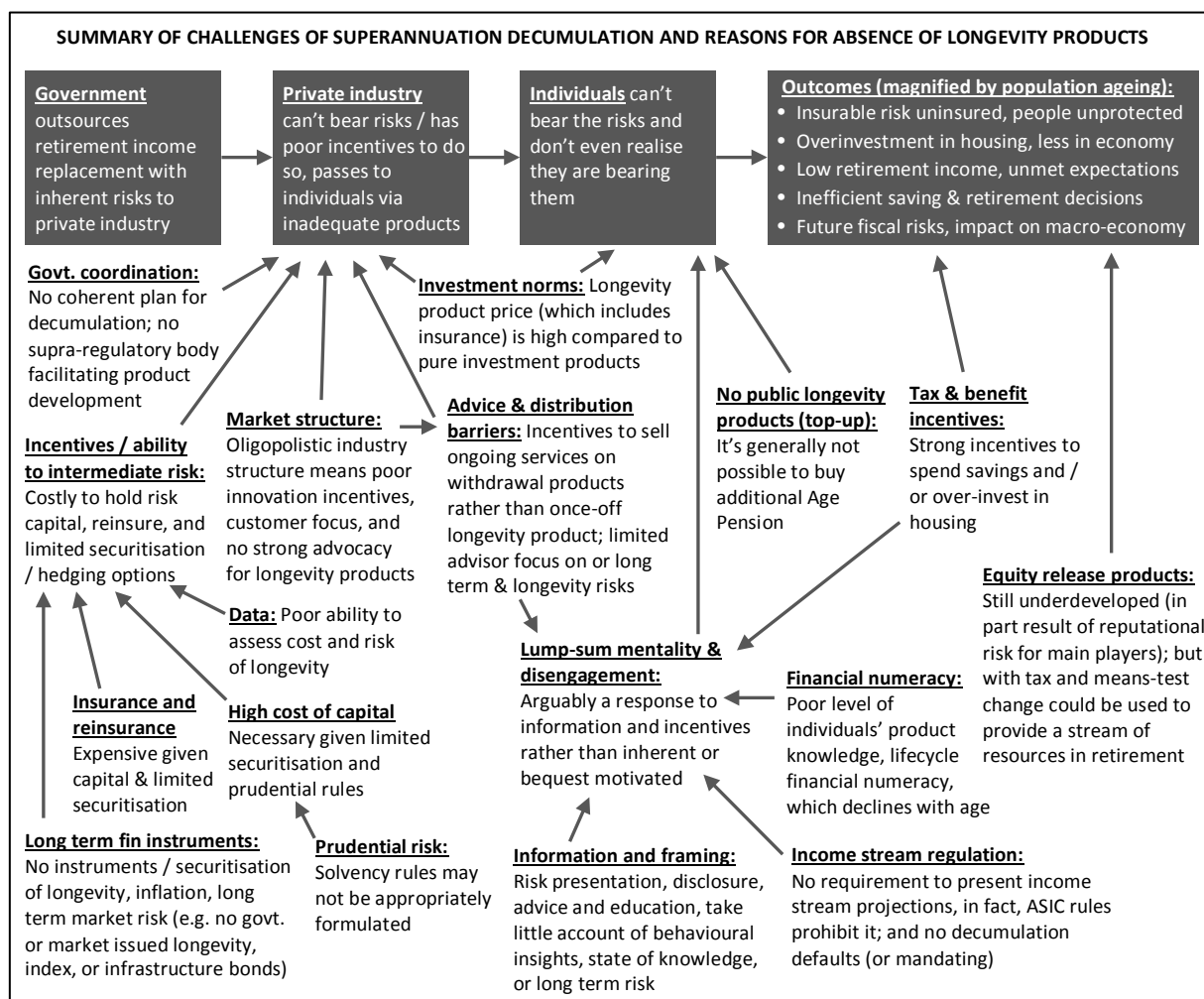
The various components of our submission are unified by the view that the purpose of superannuation is to provide a stream of resources in retirement that will ameliorate the risks inherent to households who have reached a life stage where human capital is depleted.

Summary of Recommendations

1. The purpose of and problems with Superannuation

Policy and practice directed towards superannuation should take as a point of departure that its purpose is to provide a stream of resources in retirement. The financial system in its current state is deficient in providing a decumulation structure to effectively turn assets into a stream of resources in retirement due to various supply, demand and regulatory issues. The private sector passes all long term and longevity risks onto individuals, who are least able to bear them. For individuals it will mean lower standards of living in retirement and sub-optimal saving and retirement decisions. For governments and the wider economy, it poses future fiscal risks and a misallocation of resources.

This submission focuses on three inter-related responses to the retirement income challenge. Firstly, consideration ought to be given to the private sector structures that determine what products are available, including structural and regulatory incentives and barriers to innovation, and the ability of the private sector to intermediate long term and longevity risks (section 2). Secondly, direct government intervention should be examined, including direct provision of products and/or financial instruments that support such products (section 3). Thirdly, consideration should be given to how people behave in deciding on appropriate levels of education, information, compulsion, defaults, nudging, and incentives that result in better decision making (section 4). These are summarised in the figure below, where interactions between different issues are emphasised.



Recommendation 1: Government should formulate and pursue a coherent plan that will allow superannuation to provide a stream of resources in retirement. This is an overarching recommendation from which other, specific recommendations and comments follow.

2. Products: Developing a menu of retirement income products

A range of retirement income products can provide a stream of resources in retirement, some of which are unavailable in Australia or operate in an inefficient market because of various barriers. These include products related to longevity risk insurance, long term care insurance, and equity release products. There are a number of issues with the private sector developing such products that the inquiry should consider. The related recommendations are as follows.

Recommendation 2: The Inquiry should weigh up the benefits of a stable and strong market structure against one that is more competitive and innovative. It should investigate ways to increase competition in retirement income product provision, including through greater use of low cost and customisable digital platforms, and with greater market supervision within elements of the value chain rather than across the industry as a whole.

Recommendation 3: The Inquiry should consider the extent to which the distribution and advice structure for retirement income products limits competition; whether advisers are knowledgeable about long term and longevity risks; whether their incentive structure discourages their recommending certain retirement income products, and whether their advice is always in the sole interest of customers.

Recommendation 4: The Inquiry should investigate how a menu of cost effective retirement income products that cover longevity risk could be made available to consumers to potentially form part of their retirement portfolio of assets. These may include standard life annuities, deferred annuities, and other forms of risk pooling product offering long term and longevity protection. The Inquiry should seek to remove any regulatory impediments to product innovation and provision.

Recommendation 5: The Inquiry should recommend establishing a supra-regulatory body or formal arrangement focused on facilitating retirement income product provision, allowing for a concerted effort, coordinated across responsible agencies, to prepare the financial and retirement income systems for population ageing.

Recommendation 6: Impediments to product innovation for longevity risk, as noted in earlier recommendations, should be reduced as far as possible while at the same time maintaining appropriate prudential requirements for products that provide substantial investment and longevity guarantees. Ideally, the arrangements would facilitate the efficient allocation of risk across government, business, and households.

Recommendation 7: Prudential regulation of insurers and reinsurers should be risk based but should also recognise the hedging benefits of financial market transactions in a manner that does not inhibit the efficient transfer of this risk.

Recommendation 8: Heterogeneity and its impact should be recognised in life annuity products and population level individual data should be used to better assess the cost and risks of longevity products.

Recommendation 9: Home equity release products, which can also be used to provide a stream of resources in retirement, should be included in the above recommendations when assessing the retirement income product market.

3. Government: Direct role in managing risk of retirement income products

A direct method to support the supply of retirement income products would be for government to participate in the market by issuing long term financial and longevity instruments, or alternatively for government to directly provide longevity insurance products to consumers. The apparent market failures around longevity products suggest that there is a rationale for this kind of intervention.

Recommendation 10: The inquiry should investigate the options for government to directly provide underlying financial instruments that would support the longevity insurance market, including long duration longevity, infrastructure, and inflation linked bonds.

Recommendation 11: The Inquiry should assess options for the government provision of longevity insurance products through existing distribution channels and payment systems (e.g. Centrelink or Australia Post) directly to consumers.

4. People: Facilitating choice

It is often observed that in Australia there is a “lump sum mentality” which disproportionately influences choices regarding retirement asset drawdowns. It is likely that this is a cultural attitude developed as much from historical tax-benefit incentives towards lump sum withdrawal and information framing as from any inherent and immutable “mentality”. By facilitating product availability and choosing appropriate policy and regulatory settings that affect decision making, an “income” mentality could be engendered which would better serve the core purpose of superannuation.

Recommendation 12: The development and delivery of appropriate financial literacy education (broadly defined to include superannuation system and product knowledge), specific to stage-of-life and across different media and settings, should be considered.

Recommendation 13: Attempts by regulators, policy makers and the financial services industry to simplify information to assist people to make superannuation (and other complex financial) decisions should be comprehensively consumer tested on the basis of *how* people use the information to make decisions.

Recommendation 14: Superannuation account information (such as annual member statements) should be presented as projected retirement incomes rather than ‘current’ accumulations, taking account of anticipated Age Pension payments and with projections for different retirement ages.

Recommendation 15: The Inquiry should assess how regulations can protect ageing consumers of Superannuation products, including those using SMSFs, in the event that they experience cognitive decline.

Recommendations

1. The purpose of and problems with Superannuation

Policy and practice directed towards superannuation should take as a point of departure that its purpose is to provide a stream of resources in retirement, rather than merely an accumulated asset for individuals or a source of funding for business. The financial system is central to achieving the implied objective: to ensure that Australia's retirement income system is fit for purpose as the population ages.

Unlike in many other countries, the income replacement pillar of Australia's retirement income system has been outsourced to the private sector. The financial system in its current state provides a Superannuation decumulation structure that is deficient. Long term risks related to inflation, investment and longevity are passed onto individuals, with the publicly provided Age Pension acting as a minimum income guarantee. Self-insurance through lump sum withdrawals invested in the family home or phased withdrawal products are the main vehicles individuals have to access resources in retirement since the life annuity market is relatively small (Bateman and Piggott, 2010).

Better risk intermediation in the financial system is not impossible. Other countries with similar mandatory accumulation arrangements deal much more effectively with decumulation. Switzerland and the Netherlands are the major developed countries with mandatory accumulation structures as the major source of earnings related retirement resources, and in both, income drawdowns are the norm (figures 1A and 1B; see also Rocha et al., 2011).

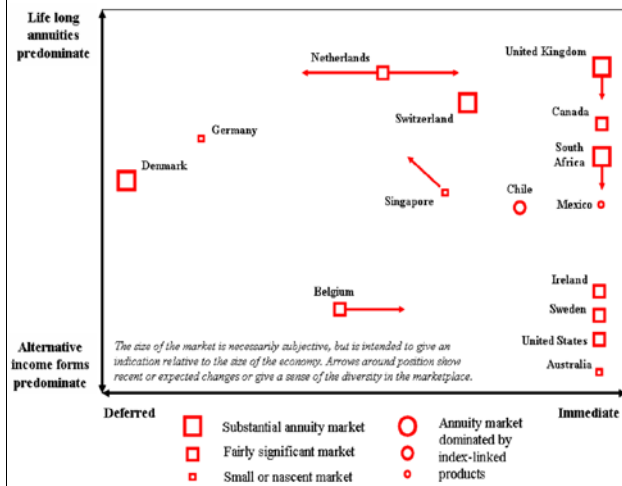
The Netherlands, for example, has a similar scale of superannuation wealth to Australia; it is a good example of a small mature annuity market existing alongside a large defined-benefit public and occupational pension system. The money's worth calculations (the ratio of an actuarially fair value to the price) suggest that Dutch annuities are fairly priced (Cannon et al. 2013).

In Australia however, there is a high proportion of retirement savings being taken as lump sums. On one reading of APRA data, benefits are increasingly being taken as income streams rather than as lump sums (figure 2A). However, this reflects the accumulation of current and prior-year's non-lump-sum payment streams. As such, the data misrepresents the implied reduced reliance on lump sum payments.

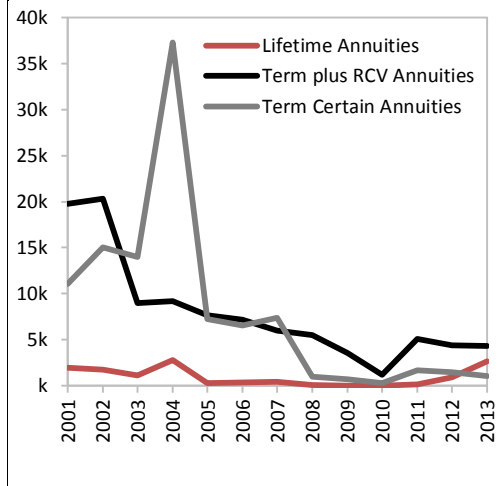
A comparison of lump sums as a proportion of retirement cohort assets shows that lump sums are not necessarily losing their importance (figure 2B). The lack of adequately collected administrative data that would identify the year-to-year changes in preferences between lump-sums and income stream is symptomatic of a lack of interest in the topic of decumulation. This lack of data is an impediment to undertaking research and to government policy determination.

An increase in reliance on phased withdrawals would be consistent with the 2007 superannuation tax reforms which made superannuation benefits tax-free after the age of 60 as long as they are behind the superannuation veil, rather than taken as a lump sum. However, the tax and benefit system, primarily through the Age Pension means test incentivises individuals to take and spend their lump sums, often in housing. This in turn contributes to Australians' overinvestment in housing wealth and lower levels of investment in other parts of the economy.

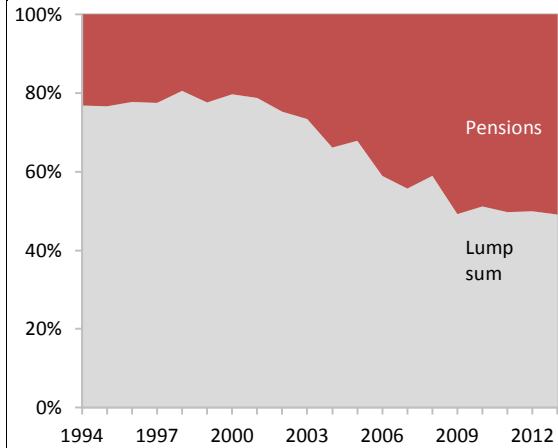
1A Representation of world annuity markets



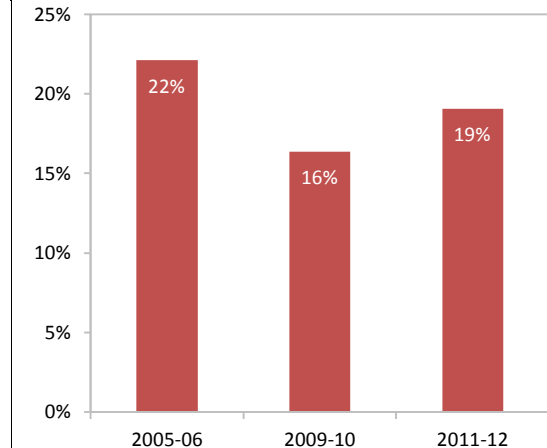
1B No. of annuities sold in Australia



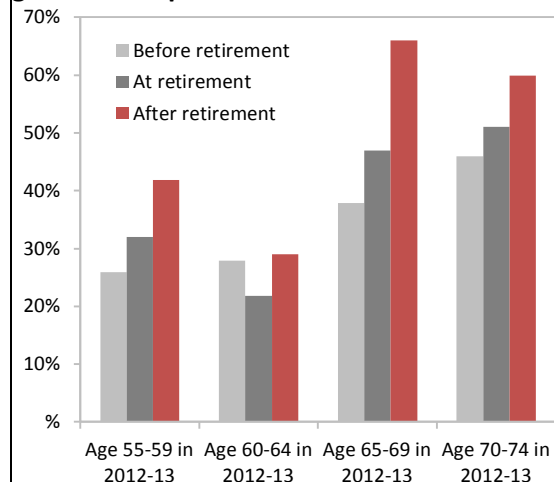
2A Proportion of annual benefits paid as pensions and lump sums, 1994-2013



2B Lump sums as a proportion of super assets of 60-64-year-olds, by year



3A Expectations and outcomes: % of those who retired in within last 8 years relying on government pension as main income source



3B Worrying: % of people aged 50+ who worry about outliving their saving



Source: Rusconi (2008), Plan for Life (unpublished); Authors' calculations based on APRA (2005, 2014), Clare (2008, 2011, 2014), ABS (2013b). ABS (2013a), National Seniors Australia (2013). Note: Figures 2A and 2B should be interpreted with caution. See text regarding figure 2A. Figure 2B should be interpreted only for trend since it includes five years' worth of assets in the denominator and one years' worth benefits in the nominator.

Yet, Australians want and expect to retire with more than just the Age Pension. A recent ABS (2013a) survey suggests that around half of people aged 45 years and over expect to rely on superannuation as their main source of income after retiring from the labour force. For many, this is unlikely to be the reality (figure 3A) and, perhaps unsurprisingly, many worry about outliving their savings (figure 3B).

Policies and regulations that serve to clarify the link between an individual's superannuation assets and their standard of living over the course of their (increasingly longer) retirement will lead people to make more informed decisions about how much they save, when they retire and how they draw on those savings in retirement. Where policy settings in this context are required (e.g., access ages, options to take an income stream) they should be consistent with individual life cycle financial planning.

In a society facing population ageing it is important that individuals have access to appropriate retirement income products and make well informed choices. The alternative may be lower standards of living (e.g., greater reliance on the Age Pension), a misallocation of resources (where lump sums are spent primarily on immediate consumption or housing, which is tax- and means-test-advantaged), and future fiscal costs (via Age Pension, health and aged care). For example, the most common reported use of lump sum spending is for 'Paying off home/home improvements/buying a new home' (Challenger, 2012).

Recommendation 1: Government should formulate and pursue a coherent plan that will allow superannuation to provide a stream of resources in retirement. This is an overarching recommendation from which other, specific recommendations and comments follow.

There are three parts to pursuing the above. Firstly, consideration ought to be given to the private sector structures that determine what products are available, including structural and regulatory incentives and barriers to innovation and ability of the private sector to intermediate long term and longevity risks (section 2). Secondly, direct government intervention should be examined, including direct provision of products and/or financial instruments that support such products (section 3). Thirdly, consideration should be given to how people behave in deciding on appropriate levels of education, information, compulsion, defaults, nudging, and incentives that can level the playing field when it comes to decision making (section 4). Supply, demand and regulations need to be considered at the same time, since none can exist independently.

2. Products: Developing a menu of retirement income products

2.1 *Financial system market structure and innovation*

Australia's oligopolistic financial system structure, made up of the four large banks and one major wealth management group, typically results in high margins, and can make the main players slow to respond to customer needs. While this creates a good level of stability through lower risk taking it can stifle competition and innovation particularly as the main players have scale advantage, and are vertically integrated along the value chain and across major products e.g. banking, superannuation and wealth (de Cure, 2014).

Attempts to aggressively compete on price or commission have often been suboptimal (e.g. National Mutual Life Association when competing against AMP in the late 80s). Small players have been able to survive by operating 'below the radar' in less attractive or niche segments. If successful, they often get taken over by one of the bigger players (e.g., MLC by NAB, St George and BT by Westpac, and Colonial First by Commonwealth Bank) (de Cure, 2014).

This market structure can result in a lack of incentive to innovate when it comes to retirement income products. Since bearing long term and longevity risks is costly, it is more profitable for the main players to provide phased withdrawal products. This may change as: the population ages; margins decline; credit growth plateaus; the Superannuation system matures (i.e. when outflows will be more significant); individuals recognise the risks of outliving their savings; and the size of the wealth management sector increases (de Cure, 2014).

Recommendation 2: The Inquiry should weigh up the benefits of a stable and strong market structure against one that is more competitive and innovative. It should investigate ways to increase competition in retirement income product provision, including through greater use of low cost and customisable digital platforms, and with greater market supervision within elements of the value chain rather than across the industry as a whole.

2.2 Advice and distribution barriers

Distribution is a mixture of owned distribution (e.g., the large banks), aligned distribution (e.g. AMP), and genuine Independent Financial Advisers (IFA's). Direct distribution is important in converting Superannuation balances into retirement income products and the control of these distribution channels can act as a barrier to the development of appropriate new products.

Advisers may also have an incentive to sell ongoing services on withdrawal products, continuously advising on the management of investments and tax efficiency, rather than suggesting the sale of a once-off longevity product.

It may also be the case that advisers have limited appreciation of, or interest in, long term and longevity risks and little understanding of the insurance features of longevity products.

As discussed in section 4 individuals' decisions are affected by different types of framing including the context in which they are given advice. For example, Agnew et al. (2013d) find that some individuals rely on extraneous signals (such as the age and gender of the adviser) to judge advice quality and observe some persistence in adviser choice over time. The results also explain how some advisers can maintain trustworthy reputations despite giving bad advice.

Recommendation 3: The Inquiry should consider the extent to which the distribution and advice structure for retirement income products limits competition; whether advisers are knowledgeable about long term and longevity risks; whether their incentive structure discourages their recommending certain retirement income products, and whether their advice is always in the sole interest of customers.

2.3 Longevity risk, efficient allocation of this risk, and product innovation

Longevity risk has a large systematic component that arises from uncertain future improvements in mortality. The standard risk pooling approach used in insurance breaks down for such risks. This is similar in concept to flood insurance where large numbers of individuals can be adversely impacted at the same time making this coverage unaffordable for many.

Although systematic risk is held on the balance sheets of insurers and reinsurers, it is relatively uncorrelated with many other risks such as commodity risk, equity risk, and interest rate risk. If it were to be pooled through financial market transactions and vehicles such as hedge funds it could be more finely priced and the risk more broadly diversified. The general insurance

catastrophe risk derivatives are a good example of this risk diversification mechanism that is an attractive element of an investment portfolio. Many of these issues, and how longevity product provision could be encouraged, are discussed in Sherris and Wills (2008) as well as Evans and Sherris (2009).

Mutual risk sharing arrangements such as those in the form of Group Self Annuitization schemes (Piggott et al 2005 and Qiao and Sherris, 2013) hold some potential particularly for relatively homogenous groups of individuals in different industry funds.

Recommendation 4: The Inquiry should investigate how a menu of cost effective retirement income products that cover longevity risk could be made available to consumers to potentially form part of their retirement portfolio of assets. These may include standard life annuities, deferred annuities, and other forms of risk pooling product offering long term and longevity protection. The Inquiry should seek to remove any regulatory impediments to product innovation and provision.

A reason why decumulation structures are deficient in Australia is that among the different responsible agencies (DSS, APRA, ASIC, ATO etc.) there is no single agency with a mandate to deal with retirement income issues and/or promote their development. The result can be seen in regulations for deferred annuities, which have suffered in development because of conflicting and inhibiting regulations (e.g., tax, prudential, means tests).

Recommendation 5: The Inquiry should recommend establishing a supra-regulatory body or formal arrangement focused on assessment (to include data collection and analysis) and facilitation of retirement income product provision, allowing for a concerted effort, coordinated across responsible agencies, to prepare the financial and retirement income systems for population ageing.

It is important to recognise that full annuitisation of superannuation savings is not necessarily an optimal drawdown strategy for an individual (see Hanewald, Piggott and Sherris, 2013). In the presence of systematic longevity risk and with product loadings typical of life annuities, other methods of risk pooling have potential for more cost efficient provision of longevity insurance.

Some forms of product innovation can be less desirable if not carefully managed, such as the case with variable annuities with equity exposure and insurer guarantees. These types of guarantee are often difficult to price and the hedging of these risks difficult for such long dated contracts. These products also involve significant loadings and have had less than spectacular success in overseas markets except for very basic product structures. An alternative may be to leave the market risk with the individual via a phased withdrawal product and combine it with a deferred annuity product to cover longevity risk, as discussed in Bateman et al (2001), and facilitated elsewhere, for example through Germany's Riester pensions.

Recommendation 6: Impediments to product innovation for longevity risk, as noted in earlier recommendations, should be reduced as far as possible while at the same time maintaining appropriate prudential requirements for products that provide substantial investment and longevity guarantees. Ideally, the arrangements would facilitate the efficient allocation of risk across government, business, and households.

2.4 Insurance and reinsurance risk management and capital/solvency requirements

Insurers and reinsurers issuing longevity products take on long term guarantees. Financial market instruments do not provide longevity hedging capability for these insurers and the main form of risk management is through reinsurance (longevity swaps) or through holding capital under prudential requirements. Longevity swaps and the impact on capital requirements for an annuity provided are analysed in Blackburn et al (2014) that highlights the interactions between regulatory capital relief and the hedging of the systematic and idiosyncratic risks in a life insurer annuity pool. See also Ngai and Sherris (2011).

Solvency requirements under the European Solvency II requirements with a 1 year horizon have the potential to distort the relative costs and benefits of transferring these risks into the financial market. Meyricke and Sherris (2014) analyse these incentives and compare the financial market cost with the capital costs under risk based insurance regulations modelled on Solvency II. They show the incentive remains to hold the long term tail risk on the insurer balance sheets.

There is significant interest at an international level in developing a financial market product for the effective transfer of longevity risk to financial market. These transactions will compete with the reinsurance market. Alternatives include the collateralization and tranching structures used for credit risk. These are considered for longevity risk in Wills and Sherris (2010). Solvency requirements may be influenced by the availability of specific long term government issued financial instruments (see section 3).

Recommendation 7: Prudential regulation of insurers and reinsurers should be risk based but should also recognise the hedging benefits of financial market transactions in a manner that does not inhibit the efficient transfer of this risk.

2.5 Heterogeneity and longevity insurance market issues

In order for a private annuity market to provide coverage for as wide as possible a group of individuals it is necessary to take into account prospects of longevity for differing groups. Su and Sherris (2012) and Meyricke and Sherris (2013) develop models for quantifying the impact of mortality heterogeneity on annuity pricing using Australian population data and US HRS data respectively. The differences in life annuity premiums for these groups are significant and shows that insurers will need to recognise the expected survival prospects as well as the benefits of risk pooling.

Sherris and Zhou (2013) analyse the impact of heterogeneity and underwriting strategies of life annuity providers. They show how the relative profitability and the accumulation of tail risk significantly impacts the risk loadings for differing groups and underwriting strategy used for selecting lives that enter the annuity pool.

Heterogeneity creates significant issues for the effective operation of a private life annuity market. A significant issue to be addressed is the availability of data at an individual level for the population. Without the historical data to properly assess risk and ensure fair pricing this market will remain expensive and inaccessible to the majority of Australians who are not amongst the healthier and wealthier of individuals.

Recommendation 8: Heterogeneity and its impact should be recognised in life annuity products and population level individual data should be used to better assess the cost and risks of longevity products.

2.6 Long term care insurance and residential housing, including equity release products

Another product market that remains undeveloped that is associated with longevity risk is the long term care insurance market. The substantial wealth stored in owner occupied housing in Australia may provide resources to support long term care costs while allowing individuals to remain in their own home rather than move into residential care. This would be consistent with both individuals' preferences to receive care at home and the overall direction of Australia's aged care policy (Chomik and MacLennan, 2014).

One way to make this work more effectively is to have an equity release market that would allow individual to access their residential housing wealth without having to sell the house. Equity release products provide a valuable means for financing retirement needs (see Hanewald, Post and Sherris, 2013, for a theoretical analysis).

These products have significant potential for growth as the population ages especially since owner-occupier housing is such a significant proportion of individual wealth. These products combine various risks including longevity and interest rate. They are not a conventional housing loan because of the exposure to these risks. Alai et al (2013) assess these risks for a product provider considering both reverse mortgages and home reversions.

The private sector may have reservations about the provision of these products due to their potential risk to brand arising from potential disputes with beneficiaries (e.g. relating to alleged mis-selling and/or inappropriate charges). Tighter regulatory requirements that do not rely on disclosure alone may be required around this sort of product. This is important since such products are likely to be sold to older Australians with lower financial literacy and with potentially reduced cognitive capacity (de Cure, 2014).

Recommendation 9: Home equity release products, which can also be used to provide a stream of resources in retirement, should be included in the above recommendations when assessing the retirement income product market.

3. Government: Direct role in managing risk of retirement income products

3.1 Public provision of underlying financial instruments

A direct method to support the supply of retirement income products would be for government to participate in the market by issuing long term related financial instruments that help to manage longevity, market and asset liability mismatch risk. These could take the form of longevity, infrastructure, and inflation linked bonds, allowing the private sector to better deal with the risk accumulating on the balance sheets of reinsurers and lower the cost of risk capital. Some of these are investigated in Evans and Sherris (2009).

As an example, this could involve an inflation-indexed longevity bond, where payments increase with inflation but are based on the expected number of survivors in a given group. A coupon would be payable based on the proportion of that age group that survives over a given interim periods until maturity. If the proportion of survivors is higher (lower) than the number anticipated when the bond is issued, then the bond payments are also higher (lower).

The provision of inflation linked bond instruments could provide capital for current infrastructure needs, are a natural match to infrastructure investments (without creating a balance sheet issue for government), while also making longevity products cheaper to provide for the financial system (de Cure, 2014). The outcome would be welfare improving since it would allow the

private sector to do what it does best (insure the idiosyncratic risk) while government takes on the more difficult stop-gap systematic longevity risk.

Recommendation 10: The inquiry should investigate the options for government to directly provide underlying financial instruments that would support the longevity insurance market, including long duration longevity, infrastructure, and inflation linked bonds.

3.2 Public provision of longevity products to consumers

An alternative form of government intervention is the provision of longevity insurance products directly to consumers. This could be provided more cheaply than is possible by the private sector since government has lower costs of capital (Evans and Sherris, 2009) and a ready-made means of distribution and payment. It could, for example, be done through buying additional Age Pension income and be offered through Centrelink or Australia Post. The apparent market failures around longevity products suggest that there is a rationale for this kind of intervention.

Recommendation 11: The Inquiry should assess options for the government provision of longevity insurance products through existing distribution channels and payments systems (e.g. Centrelink or Australia Post) directly to consumers.

4. People: Facilitating choice

It is often observed that in Australia there is a “lump sum mentality” which disproportionately influences choices regarding retirement asset drawdowns. To some extent, this is true everywhere but observed preferences for retirement income streams (i.e., lifetime annuities) are often associated with default settings (Benartzi et al., 2011). We believe that in Australia, this cultural attitude has developed as much from historical tax-benefit incentives towards lump sum withdrawal and information framing as from any inherent and immutable “mentality”. By facilitating product availability and choosing appropriate policy and regulatory settings that affect decision making, an “income” mentality could be engendered which would better serve the core purpose of superannuation.

4.1 Financial literacy

Due to the presence of many default options and products, the Australian Superannuation system allows people to be inattentive until retirement, when they are then forced to interact with choices about current and future consumption, complex products and means testing of other government benefits.

Australians tend to perform better on financial literacy tests than is the case in some other countries, but their levels of financial literacy are still quite low (Bateman et al., 2014e; Agnew et al. 2013a). They also know little about the superannuation system and have low product knowledge (Agnew et al., 2013b).

Levels of numeracy, financial literacy and super system and product knowledge are positively related to ‘engagement’ or ‘personal interest in superannuation’ (Bateman et al., 2013a) and ability to take account of investment risk (Bateman et al., 2014a; Bateman et al., 2014b) and longevity risk (Bateman et al., 2013a; Wu et al., 2013) in decisions around superannuation investments and retirement benefits.

People with better numeracy skills and higher levels of financial literacy are less influenced by ‘framing’ effects (i.e., the way that information is presented or disclosed to them) (Bateman et al., 2014a, 2014b, and 2014c); while those who have poor numeracy skills are particularly susceptible to confusion and poor decision making (Bateman et al., 2014b and 2014c; and Bateman et al., 2013a).

In fact, while planning for retirement tends to be ‘patchy’ (Agnew et al., 2013c), people with better financial literacy skills are more likely to plan for retirement (Agnew et al., 2013a). For example, more than half of Australians in their 50s and 60s have not planned key aspects of retirement.

Recommendation 12: The development and delivery of appropriate financial literacy education (broadly defined to include superannuation system and product knowledge), specific to stage-of-life and across different media and settings, should be considered.

4.2 Disclosure and information provision

While regulators and the financial services industry have made attempts to explain superannuation fund and investment option to ordinary people, research suggests that people are strongly influenced by the ‘frame’ or the presentation of the information (Bateman et al., 2014a, 2014b, and 2014c on the impact of alternative presentation formats for investment risk) and may not use the information as intended by regulators or industry (Bateman et al., 2013b). For example, in the new shorter financial product disclosure statement where the focus of policy makers was the presentation of expected returns and risk, a pie-chart showing asset allocation had the largest marginal impact on investment choices (Bateman et al., 2013b).

Furthermore, with respect to risk presentation, APRA and ASIC prescribe the ‘standard risk measure’ requires that investment risk be presented to consumers as the ‘frequency of negative annual returns over a 20 year period’. Yet as shown in Bateman et al. (2014b), this presentation format which describes risks using frequencies results in a significantly greater likelihood of investment ‘mistakes’ (as measured by deviations from an expected utility benchmark) than risk presented using ranges or probabilities. Similar conclusions using Prospect Theory based preference specifications are found in Bateman et al, (2014a).

Recommendation 13: Attempts by regulators, policy makers and the financial services industry to simplify information to assist people to make superannuation (and other complex financial) decisions should be comprehensively consumer tested on the basis of *how* people use the information to make decisions.

4.3 Presenting income stream information

The overall aim of superannuation is to provide income in retirement, yet information about superannuation account balances and measures of adequacy are presented as ‘amounts accumulated’ (i.e., in an investment frame) rather than ‘income streams’ or amounts that can be spent (i.e., in a consumption frame). ASIC regulations in fact preclude the provision of income stream information in member statements.

The Netherlands has pioneered retirement income information provision in recent years and online decision aids (e.g., de Vaan et al., 2013; Bruggen et al., 2013; and Mastrobuoni, 2010).

Recent proposals include further refining online personalised financial dashboards and alerts for those whose low accruals may result in low retirement incomes.

Research suggests that presenting superannuation information in a 'consumption' frame is far more likely to move people in purchasing/taking retirement benefit products with longevity protection features (Brown et al., 2008 and 2013).

People have trouble converting lump sums to income streams (Goldstein et al., 2014) as well as finding it difficult to work out how long they might live (Wu et al., 2013).

Recommendation 14: Superannuation account information (such as annual member statements) should be presented as projected retirement incomes rather than 'current' accumulations, taking account of anticipated Age Pension payments and with projections for different retirement ages.

4.4 Cognitive decline

The ageing of the population means that an increasing proportion of future consumers of retirement income products will comprise the oldest old. Systems therefore need to be put in place to protect ageing consumers of Superannuation products, including those using SMSFs.

Boyle et al. (2013) demonstrated that age had a strong effect on financial literacy, with about half of the effect of age on literacy due to decrements in executive functions and episodic memory. In addition, executive function had an indirect effect on literacy via decision making style (i.e., risk aversion), with education and word knowledge having independent effects.

Agarwal et al. (2010) provided an overview of the differential trajectories of change and decline for cognitive abilities across the lifespan. An inverted U-shaped association existed between increasing age and good financial decision making related to credit card management, home equity loans, lines of credit, or car loans. Younger and older adults were more likely to make errors of judgement in determining the optimal financial choice. Stricter regulations for financial products were proposed together with the implementation of more draconian approaches such as financial 'driving licenses' and mandatory financial advance directives for older adults. These measures were recognised, however, as ethically and politically contentious.

Li et al. (2013) presented a more optimistic view of older adults' financial decision making based on the proposed hypothesis that the preservation of 'crystallised' cognitive abilities in older age (i.e. those abilities that are the product of education and life-experience) could provide alternate pathways to good financial decisions when 'fluid' (abstract reasoning) abilities decline.

On balance, there appears to be a case for providing special protection for ageing consumers interacting in the market for financial products.

Recommendation 15: The Inquiry should assess how regulations can protect ageing consumers of Superannuation products, including those using SMSFs, in the event that they experience cognitive decline.

References

- Agarwal, S., J. Driscoll, X. Gabaix, and D. Laibson (2010) What is the age of reason? Centre for Retirement Research, Boston
- Agnew, J. R., H. Bateman, C. Eckert, F. Iskhakov, J. Louviere, S. Satchell and S. Thorp (2013d) Individual Judgment and Trust Formation: An Experimental Investigation of Online Financial Advice, CEPAR Working Paper 2013/26
- Agnew, J. R., H. Bateman and S. Thorp (2013a) Financial Literacy and Retirement Planning in Australia, Numeracy, Vol 6, Issue 1: 1-25
- Agnew, J. R., H. Bateman and S. Thorp (2013b) Superannuation Knowledge and Plan Behaviour, JASSA, Issue 1, 2013: 45-50
- Agnew, J. R., H. Bateman and S. Thorp (2013c) 'Work, Money, Lifestyle: Plans of Australian Retirees', JASSA, Issue 1, 2013: 40-44.
- Alai, D., H. Chen, D. Cho, K. Hanewald, and M. Sherris (2013) Developing Equity Release Markets: Risk Analysis for Reverse Mortgages and Home Reversions, accepted and forthcoming North American Actuarial Journal, October 2013
- Alai, D., and M. Sherris (2012) Rethinking Age-Period-Cohort Mortality Trend Models, Article published on line 16 Apr 2012, Scandinavian Actuarial Journal
- APRA (2005) Superannuation Trends, www.apra.gov.au/Super/Publications/Documents/Superannuation-Trends-PDF.pdf
- APRA (2014) Annual Superannuation Bulletin, APRA
- ABS (Australian Bureau of Statistics) (2013a) Cat6238.0 Retirement and retirement intentions, Canberra
- ABS (Australian Bureau of Statistics) (2013b) Cat 3101.0 Australian Demographic Statistics, Canberra
- Banks, J., and Z. Oldfield (2006) Understanding pensions: Cognitive function, numerical ability, and retirement savings, IFS Working Paper
- Bateman H., A. Lai and R. Stevens, (2014a) Risk Information and Retirement Investment Choices under Prospect Theory, Journal of Behavioral Finance, in press, accepted 02/14.
- Bateman H., G. Kingston and J. Piggott (2001), Forced Saving: Mandating Private Retirement Incomes, Cambridge University Press.
- Bateman, H., and J. Piggott (2010) Too much risk to insure? The Australian (non-) market for annuities, CPS Discussion Paper
- Bateman H., C. Eckert, F. Iskhakov, J. Louviere, S. Satchell and S. Thorp (2013a) Disengagement: A Partial Solution to the Annuity Puzzle', School of Risk and Actuarial Studies Working Paper 2013/10
- Bateman H., C. Eckert, F. Iskhakov, J. Louviere, S. Satchell and S. Thorp (2014d) Default and 1/n heuristics in annuity choice, School of Risk and Actuarial Studies Working Paper 2014/1.
- Bateman H., C. Eckert, J. Geweke, J. Louviere, S. Satchell and S. Thorp (2012) Financial Competence and Expectations Formation: Evidence from Australia, The Economic Record, Vol 88, issue 280: 39-63
- Bateman H., C. Eckert, J. Geweke, J. Louviere, S. Satchell and S. Thorp (2014c) Financial Competence, Risk Presentation and Retirement Portfolio Preferences, Journal of Pension Economics and Finance, Vol 13(1): 27-61
- Bateman H., C. Eckert, J. Geweke, J. Louviere, S. Satchell and S. Thorp (2014b) Risk Presentation and Portfolio Choice, Review of Finance, in press, accepted 03/14

- Bateman H., I. Dobrescu, B. Newell, A. Ortmann and S. Thorp (2014e) Just interested or getting involved: An analysis of superannuation attitudes and actions, *Economic Record*, in press, accepted 12/13
- Bateman H., I. Dobrescu, B. Newell, A. Ortmann and S. Thorp (2013) As easy as pie: How retirement savers use prescribed investment disclosures, *CEPAR working paper 2013/10*
- Benartzi S., A. Previtro and R. Thaler (2011) Annuitization Puzzles, *Journal of Economic Perspectives*, Vol 25(4): 143-64
- Blackburn , C., K. Hanewald, A. Olivieri, and M. Sherris (2014) Life Insurer Longevity Risk Management, Solvency and Shareholder Value, *CEPAR working paper*.
- Blackburn, C., K. Hanewald, A. Olivieri and M. Sherris, (2013) Life Insurer Longevity Risk Management, Solvency and Shareholder Value, *CEPAR working paper*
- Boyle PA, Yu L, Wilson RS, Segawa E, Buchman AS, Bennett DA (2013) Cognitive decline impairs financial and health literacy among community-based older persons without dementia; *Psychology and Aging Sep;28(3):614-24*
- Brown, J.R., J.R. Kling, S. Mullainathan, and M.V. Wrobel (2008) Why don't people insure late life consumption: A framing explanation of the under-annuitization puzzle, *American Economic Review*, May 2013
- Brown, J.R., J.R. Kling, S. Mullainathan, and M.V. Wrobel (2013) Framing lifetime income, *The Journal of Retirement*, 1 (1), 27-37
- Bruggen, E., I. Rohde, and M. van den Broeke (2013) Different people, different choices: The influence of visual stimuli in communication on pension choice, *Design Paper 15, NETSPAR*
- Cannon, E., R. Stevens and I. Tonks (2013) Price efficiency in the Dutch Annuity Market, *Journal of Pension Economics and Finance*
- Challenger (Retirement Income Research) (2012) How much super do Australians really have? *Retirement Income Research: April 2012*
- Cho, D., K. Hanewald and M. Sherris (2013) Risk Management and Pay-out Design of Reverse Mortgages. *CEPAR Working paper*
- Chomik, R., and M. MacLennan (2014) Aged care in Australia: Part I – Policy, demand and funding, *CEPAR research brief 2014/01*
- Clare, R. (2008) Retirement savings update, *ASFA*
- Clare, R. (2011) Developments in the level and distribution of retirement savings, *ASFA*
- Clare, R. (2014) An update on the level and distribution of retirement savings, *ASFA*
- de Cure, M. (2014) Australian Superannuation and post-retirement income streams market: Background paper for CEPAR submission to Murray Inquiry, *Unpublished*
- Evans, J. and M. Sherris (2009) Longevity Management Issues for Australia's Future Tax System, for Australia's Future Tax System Review Panel
- Goldstein, D., H. Hershfield and S. Benartzi (2014) The illusion of wealth and its reversal, *Working paper, SSRN*
- Hanewald K. and M. Sherris (2013) Risk Management and Pay-out Design of Reverse Mortgages. *CEPAR Working paper*
- Hanewald, K., J. Piggott, and M. Sherris (2013) Individual post-retirement longevity risk management under systematic mortality risk, *Insurance: Mathematics and Economics*, 52, 1, 87–97.
- Hanewald, K., T. Post, and M. Sherris (2013) Portfolio Choice in Retirement - What is the Optimal Home Equity Release Product? *CEPAR Working paper*

- Li, Y., M. Baldassi, E. Johnson, and E. Weber (2013) Complementary cognitive capabilities, economic decision making, and aging; *Psychology and Aging*, 28(3):595-613
- Mastrobuoni, G. (2010) The Role of Information for Retirement Behavior: Evidence based on the Stepwise Introduction of the Social Security Statement, Collegio Carlo Alberto, CeRP, Netspar
- Meyricke, R., and M. Sherris (2014) Longevity risk, cost of capital and hedging for life insurers under Solvency II, *Insurance: Mathematics and Economics*, Volume 55, March 2014, Pages 147-155
- Meyricke, R., and M. Sherris, (2013) The determinants of mortality heterogeneity and implications for pricing annuities. *Insurance: Mathematics and Economics* (2013), Volume 53, Issue 2, September 2013, Pages 379–387
- National Seniors Australia (2013) Retirees' Needs and Their (In)Tolerance for Risk, National Seniors Australia
- Ngai, A. and M. Sherris (2011), Longevity Risk Management for Life and Variable Annuities: Effectiveness of Static Hedging Using Longevity Bonds and Derivatives, *Insurance: Mathematics and Economics*, Volume 49, Issue 1, July 2011, Pages 100-114
- Nirmalendran, M., M. Sherris and K. Hanewald, (2014), Pricing and Solvency of Value-Maximizing Life Annuity Providers, *ASTIN Bulletin*, Vol 44, Issue 1, 39-62.
- Piggott, J., E. A. Valdez, and B. Detzel (2005), The Simple Analytics of a Pooled Annuity Fund, *Journal of Risk and Insurance*, 72(3): 497-520
- Qiao, C. and M. Sherris, M. (2013), Managing Systematic Mortality Risk With Group Self-Pooling and Annuitization Schemes, *Journal of Risk and Insurance*, Vol. 80, No. 4, 949–974
- Rocha, R., D. Vittas, and H. Rudolph (2011) Annuities and Other Retirement Products: Designing the Payout Phase, World Bank, Washington DC
- Rusconi, R. (2008) National Annuity Markets: Features and Implications, *OECD Working Papers on Insurance and Private Pensions*, No. 24, OECD Publishing
- Sherris, M. and Q. Zhou (2013) Model Risk, Mortality Heterogeneity and Implications for Solvency and Tail Risk, *CEPAR Working paper*
- Sherris, M. and S. Wills, (2008) Financial Innovation and the Hedging of Longevity Risk, *Asia Pacific Journal of Risk and Insurance*, Vol 3, Issue 1, 52-64
- Su, S. and M. Sherris (2012), Heterogeneity of Australian Population Mortality and Implications for a Viable Life Annuity Market, *Insurance: Mathematics and Economics*, 51, 2, 322–332.
- Vaan, de, K., D. Fano, H. Mens and G. Nicodano (2013) A reporting standard for defined contribution pension plans, *Design Paper 22, NETSPAR*
- Wills, S. and Sherris, M., (2010), Securitization, Structuring and Pricing of Longevity Risk, *Insurance: Mathematics and Economics* –Volume 46, Issue 1, February 2010, Pages 173-185
- Wong, A., M. Sherris, and R. Stevens, (2013), Managing Life Insurer Risk and Profitability: Annuity Market Development Using Natural Hedging Strategies. *CEPAR Working Paper*
- Wu, Shang, Ralph Stevens and Susan Thorp (2013) Die young or live long: modelling subjective survival Probabilities, *CEPAR Working Paper*