THE DEMAND FOR ANNUITIES

INTERNATIONAL EVIDENCE AND IMPLICATIONS FOR TURKEY'S PRIVATE PENSION SYSTEM

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Presented to the OECD/IOPS Global Forum on Private Pensions

Istanbul, 7 – 8 November 2006

PREFACE

Poor demand for longevity insurance to cover financial risks associated with retirement has been the subject of research for some time. This paper builds on that research by investigating surveys of consumer understanding of annuities and attitudes to these products.

A significant demand for flexibility emerges from these surveys. This is supported by evidence of changes to lifestyle that suggest that the days of an abrupt termination of income and a long period of leisure are coming to an end.

This complicates the options available to policymakers. Annuities serve an important purpose to provide secure income in retirement. Market regulators need to balance their responsibility to encourage the purchase of such products with a desire to sustain consumer confidence in financial services and in the old age system as a whole.

Section 1 summarises the main issues impacting the market for annuity products. Section 2 addresses the range of post-retirement income options available, first in general terms, and then in more detail for five diverse national environments, the United Kingdom, the United States, Australia, Chile and South Africa. Section 3 discusses surveys of consumers, concerning their attitude to annuities and the alternatives and draws inferences about the changing patters of demand for financial products after retirement. Section 4 considers the implications of this analysis, with particular reference to the options available to policymakers in Turkey.

This paper would not have been possible without the support of a wide variety of practitioners from around the world. At the risk of omission, thanks are expressed to Pablo Antolin and Juan Yermo of the OECD for requesting and supporting the work and to Benjamin Apt, Claire Coast-Smith, Jack Dolan, Melissa Fuller, Merrie Hennessy, Uluc Icoz, Joni Lavery, Shaun Levitan, David Moores, Axel Oster, Anna Rosenberg, Roger Rowlinson, Roy Stephenson, Gavin Teichner, Carlos Vidal-Meliá, Gary Voss Rob Warren and Mike Wadsworth for their insights and expertise.

The responsibility for any error or misrepresentation is entirely mine.

CONTENT

1 INTRODUCTION

> *Approximately 16 percent of 62 year old males [in the United States] will die before age 70, while another 16 percent will live to age 90 or beyond… longevity risk - uncertainty about how long one will live - is a substantial source of financial uncertainty facing today's retirees. (Davidoff et al, 2003:1]*

The financial decisions taken at the time of retirement may be more significant than any others taken over a lifetime. Most people find themselves at a lifetime peak in their accumulation of financial resources. With these assets they must decide how to meet diverse needs, usually ill-formulated, over an unknown period, with little recourse for recovery in the event of failure sometime in this hazy future.

The complexity of the decisions facing this individual is formidable. Experts find it difficult to agree on the optimal allocation of assets to the available vehicles, despite their objectivity. The individual making this decision with life-long implications is prone to a range of human errors, over-weighting the significance of the near future, for example, and reckoning too seriously the impacts of loss.

It is little wonder that many are inclined to keep their options open for as long as possible, mentally weighting near-future risks more than those more distant and not wishing to give up the opportunity to bequeath these assets in the event of early death.

In many cases, this is not the best decision, as much research shows that some annuitization is optimal. At the core of this paper are the questions of why individuals fail to annuitize, or when forced to annuitize often do so grudgingly, and what the regulator can do about this.

The significance of annuitization

The annuity question grows more important and will continue to do so. Pension reforms vary, but nearly all change in old age provision involves a transfer of risk from institution, government or employer, to individuals.

Many countries have been forced to address the existing or coming financial difficulties of national old age systems by reducing their commitments to citizens, several of them at the same time mandating individual accounts or strongly encouraging increased individual saving. In parallel with this, employers around the world have reduced their risk to pension commitments by converting existing defined benefit arrangements to defined contribution. This process quietly and dangerously transfers risk to individuals, who too often have neither the resources nor expertise to manage this risk.

Longevity insurance is a form of protection crucial to individuals late in life, insuring against the possibility that resources prove insufficient for a long life. As the risk transfer to individuals grows, the demand for individual longevity insurance is expected to expand also.

Poor demand for annuities

> *"… It is a well-known fact that annuity contracts, other than in the form of group insurance through pension systems, are extremely rare. Why this should be so is a subject of considerable current interest. It is still ill-understood. Adverse selection, causing an unfavourable payout, and the fact that some utility may be derived from bequest are, presumably, an important part of the answer… " Franco Modigliani*[1]

More than forty years ago, Yaari (1965) showed that, in the absence of a bequest motive, the optimal approach is to annuitize completely and that, even if the individual has a motive to leave assets to others, at least partial annuitization is appropriate. Many researchers have built on Yaari's foundational work. Davidoff *et al* (2003), for example, show that Yaari's conclusions hold even under conditions much less stringent than those required by Yaari.

Others have explored a variety of possible explanations, the influence of marital status, for example, various utility functions and mental discount rates, and the impact of the social security system and labour markets.[2] More candidates are suggested by Mackenzie (2006): tax-favoured competing assets, reverse mortgages, precautionary expenditure and a lack of understanding; and, by Vidal-Meliá & Lejárraga-García (2006): actuarially unfair pricing, family self-insurance, pricing beyond the reach of some prospective purchasers and the illusion of prosperity provided by the alternative lump sum.

A number of researchers have explored the issue of annuity pricing as a possible source of low demand.[3] Most have concluded that, despite the pricing margin required to defend against anti-selection,[4] annuities provide broadly fair value to consumers.[5] Cannon & Tonks (2006) describe the money's worth of annuities as *"… consistently higher than other insurance products" (p 61)*.

Objectives of study

> *Our main findings are: 1.-The so-called "annuity puzzle" is actually nothing of the kind, given that it is reasonably easy to explain why many individuals and couples resist buying life annuities. 2.-The types of benefit available cannot be restricted exclusively to lifetime annuity contracts. It appears that it would be better for withdrawal regulations to have a certain amount of flexibility so as to accommodate individual circumstances and the aims of public policy. (Vidal-Meliá* et al*, 2005)*

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[1] Nobel Prize acceptance speech in Stockholm, Sweden, 9 December 1985, quoted by Milevsky (1998: 401)

[2] Interested readers are referred, for example, to James and Vittas (2000), Benítez-Silva (2003), Ponzetto (2003) and Vidal-Meliá & Lejárraga-García (2004 & 2006).

[3] Supply side difficulties are outside of the scope of this study but can inhibit seriously the establishment of a competitive marketplace. Unreliable supply can lead to higher prices and is likely to dampen demand. Stewart (2006) provides a general overview of factors affecting the supply of annuities, summarising the three most important issues as pricing, solvency requirements and the absence of matching assets.

[4] Purchasers of annuities as a group have an information advantage over providers, because they assess themselves as more likely to need longevity insurance if they have an expectation of life longer, on average, than the population as a whole. Put another way, the ill generally purchase fewer annuities. Providers allow for this information advantage, known as adverse selection, by loading the price of the annuity. Researchers suggest that this loading is in the region of between 5 and 10 per cent. See, for example, Murthi et al (1999) and Mitchell & McCarthy (2001).

[5] More information on these studies is available from Mitchell et al (1999), Murthi et al (1999), James & Vittas (2000), James & Song (2001), Finkelstein & Poterba (2002), Cannon & Tonks (2004a & 2006) and Rusconi (2006).

This quotation reflects the essence of this study. A relatively large body of research exists to explain the shortfall in annuity demand. A large number of explanations have been proposed but it is not clear whether they satisfactorily bridge the gap between theory and reality.

Researchers have a fair understanding of the range of reasons for avoiding annuity purchase. However, less insight has been gained into how individuals arrive at their decision, which consumers are more likely to decide in a certain way, and what changes to products or circumstances might influence a change to this decision. This is because, by and large, consumers themselves have not been asked to explain their decisions.

The purpose of this study is to report on consumer surveys carried out to explore just this point. More importantly, the study asks what steps policymakers can take to encourage the annuity choice where it is appropriate.

2 Product Review

This section describes different annuity products available across a number of markets. It first sets out a broad framework for describing annuity contracts and then, across 5 countries, examines the range of choices available to individuals.

2.1 A framework for describing annuities

Much of the research into the annuity puzzle is concerned with annuities that provide longevity insurance, asking why individuals systematically undervalue the benefit of the insurance and overvalue the possibility of early death. However, the range of product options outside of this pure approach must be taken into account by the policymaker.

The discussion below focuses on the types of annuities available at retirement. These products are **immediate purchase annuities**. Separate from this are products paying an annuity, but purchased some time before retirement, **deferred life-time annuities**. Defined benefit schemes provide deferred life-time annuities, providing a type of guaranteed benefit that protects against longevity risk. Social security schemes are also of the deferred life-time annuity type.[6]

Products providing full longevity insurance

The **fixed immediate annuity** is the most straightforward example of longevity insurance. It also provides investment protection, in the sense that the amount of the annuity is guaranteed in nominal terms until the death of the annuitant. As it doesn't defend the annuitant against inflation risk, the value of the investment protection is questionable. An **inflation-linked annuity** is probably far more beneficial to an elderly purchaser because it protects against inflation risk.

Market-linked annuities provide complete exposure to the value of the assets underlying the product, but also protect the annuitant against mortality risk by expressing the annuity in terms of units and allowing the unit value to fluctuate with the portfolio value.[7]

With-profit annuities are a compromise between market-linked and fixed annuities. They are invested more aggressively than their guaranteed counterparts, fixed annuities, but provide some form of guarantee, most often a commitment that the annuity payment will not fall between one year and the

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[6] The reduction in state-provided benefits and shift from defined benefit to defined contribution could give rise to an increase in the demand, from individuals, for deferred life-time annuities. Individuals entering the labour market and opting for a defined contribution plan could also choose an annuity when they retire and are effectively commencing a deferred annuity, even if the accumulation and decumulation decisions appear to be separate.

[7] This is the system used in Chile's inflation-linked annuity, under which the value of benefits is expressed in terms of units, UF, the *Unidad de Fomento*, which increase in line with the consumer price index, as determined by the Central Bank of Chile (Orszag & Cardinale, 2002).

next. The annual increase in the annuity is usually at the discretion of the insurer and is designed to provide smoothing of investment performance over time. The purchaser may be given the choice of initial discount rate, requiring an understanding of the trade-off between starting income and potential growth. Accusations of superfluous complexity could be difficult to defend.

Products providing no longevity protection

Some products are designed to provide post-retirement income, but do not provide any insurance against the possibility of outliving one's assets.

At the extreme is the lump sum. Cash is an option in many countries.

An income drawdown product – in its simplest form no more than a facility to draw regular amounts from the pool of accumulated savings – provides a little more investment protection than the lump sum alternative because income is drawn over time and overall returns are smoothed by the "dollar cost averaging" approach.[8] The attributes of income drawdown products can vary considerably depending on investment strategy and guarantees provided. They are often subject to limitations on drawdown rates, as in the United Kingdom, Australia and South Africa, for example, set by the authorities to protect their fundamental attribute as a retirement decumulation vehicle.

Investment-only alternatives are included for completeness, as vehicles that do not provide any longevity cover but a variety of options protecting against investment fluctuations. Many retirees not forced to utilize an annuity for post-retirement purposes would select from this range of products to avoid investment volatility should they not wish to purchase longevity insurance.

Hybrids

Programmed withdrawals can also vary considerably, but nearly always combine some level of protection against investment volatility – even if only implicit owing to the gradual nature of the withdrawal – with some longevity protection.[9] The Chilean programmed withdrawal specifies the rate at which income may be drawn, providing some (but not complete) protection against the possibility of outliving one's income. More detail on the system follows in section 2.5.

The simplest form of risk-sharing is some form of guarantee on early death, either in terms of a minimum period of annuity payment – to the annuitant or, in case of death, a beneficiary – or a return of the capital used to purchase the annuity. An alternative is a joint life annuity that protects against the possibility of early death by continuing payment, often at reduced level, to a second life, usually a spouse or dependent child.

[8] This simplification ignores the possibility of re-investing the lump sum in various ways.

[9] Programmed withdrawals can be difficult to distinguish from income drawdown: one view might be that the programmed withdrawal allows no flexibility of income but usually offers better protection against the risk of long life.

In more sophisticated markets, practitioners are exploring alternatives that **share the risk of longevity** more equally between provider and customer, recognising that many providers shy away from accepting longevity risk and myopic customers avoid purchasing it.[10]

Life insurance is occasionally required after retirement and is added for completeness. This is rare as the emphasis at this part of the lifecycle shifts to the need to protect against long life rather than early death.

Variations

There are a number of variations to the main products described thus far. **Guarantees** and **dependent annuities**, discussed already, may introduce significant further options for the purchaser.

If income drawdown is the preferred approach, then **decisions** must be made regarding how much to take in income and how to invest the balance of the fund, initially and from time to time as circumstances change. The customer must decide as well for how long to draw down the investment, recognising that the ideal will probably change over time, possibly from year to year as investment performance alters the mix of realistic options available.

Phased annuitization is one way to protect against the possibility of adverse market conditions at the time of annuity purchase. Alternatively the retirement capital could be split into tranches with completely separate strategies applied to each part of the accumulated saving.

There may also be further options around the **profile of income**. A with-profit annuity may allow choice of discount rate to determine the level of the starting annuity and subsequent increases.[11]

This list does not fully describe the full set of variations available in annuity markets around the world. Mackenzie (2006) adds to this, noting that his set of products is not exhaustive:

- a **term annuity** is a pure investment product, payable for a fixed period regardless of the survival of the initial recipient;
- a **temporary annuity** is payable over the shorter of an annuitant's lifetime and a fixed term;
- a **fixed annuity** may have built in **step increases** in a variety of patterns;
- a **variable rate annuity** may guarantee only the initial payment, not subsequent increases to this;
- the capped **indexed annuity** pays annual increases only up to the cap; and,
- **impaired life annuities** are payable at a higher rate to reflect the special risk characteristics of the annuitant that would suggest a reduced life expectancy on average.

[10] Wadsworth & Findlater (2002) discuss the options for risk-sharing in the context of more flexible annuity structures. Refer also to Wadsworth et al (2001) for an excellent presentation of the options. Impavido et al (2003) also write on the options for sharing risk and the positive implications of this approach for both the supply of and demand for annuities.

[11] The lower the discount rate selected, the lower the starting income and the higher the subsequent increases, determined by subtracting the discount rate from the declared bonus rate. Annuitants generally find it difficult to accept a lower starting income in light of their myopic concern of the risk of early death.

In all cases, variations are designed to match consumer needs for different levels of longevity and investment protection. The combination of investment risk and life span uncertainty produces a complex profile of risk and return characteristics that can be very difficult for the consumer to assess. Producers tend to see products in purely present value terms and are not necessarily in the best position to provide objective advice to purchasers. Widespread education is essential to generating choices that effectivel meet consumer needs.

In the sections that follow, the annuity markets of five countries are described in more detail. This survey is not exhaustive. It aims to provide a representative cross section of examples.[12] The countries included are the United Kingdom, the United States, Australia, Chile and South Africa.

2.2 United Kingdom

The United Kingdom (UK) has one of the best developed longevity insurance markets in the world. A number of factors help to explain this, among them, strong occupational and voluntary saving systems supported by the right to opt out of parts of the social security system, and the requirement that tax-incentivised individual saving be largely converted into an annuity. Sales in 2002 exceeded £8bn and are expected to grow rapidly (Cardinale *et al*, 2002; Wadsworth, 2003; Gardner & Wadsworth, 2004; ABI, 2005), driven by a number of factors, for example, the baby boomer demographic bubble and the rapid shift of occupational pension provision from defined benefit to defined contribution.

UK citizens must annuitize a minimum proportion of tax-incentivised retirement savings, but have some flexibility on timing. A tax free lump sum of 25% of the accumulated retirement capital is permitted. The balance must be converted into a life annuity by age 75.

Product range

The range of available products is extensive, covering nearly all aspects of the full set described in section 2.1 (ABI, 2005), including the with-profit annuity. This product has recently been subject to regulatory change with respect to the reserves that must be held against it and this may affect the terms on which they can be offered by providers (Mackenzie, 2006).[13]

Impaired life annuities are available to smokers and those with a wide range of impairments. The market has grown rapidly (55% between 2001 and 2002, Wadsworth, 2003; 44% from the first to the fourth quarter of 2004, LIMRA, 2006) representing one in five annuities sold in the UK (LIMRA, 2006). This has established a competitive market on the basis of predicted mortality experience, but consumers still appear largely unaware of the potential provided by this market. LIMRA (2006) quotes GE Life estimates

[12] Countries have been chosen to demonstrate three examples of successful annuity markets in very different countries – the United Kingdom, Chile and South Africa – and two examples of poor or absent markets for annuities where we might have expected them – the United States and Australia. The five countries selected provide a cross-section of economic success and pension reform alternatives as well. Two large annuity markets are not represented in the set, those of Switzerland and the Netherlands.

[13] Mackenzie points out that the revised approach has not been in existence for long enough for its implications to be fully understood, but warns regulators in other countries that may be contemplating a similar methodology that, it requires a very sophisticated financial market place and, for the regulatory authority, both a large budget and substantial discretion.

that eligibility for impaired life annuities runs at around 40 per cent of the annuity market against take up of around 15 per cent and that 75 per cent of people surveyed are unaware of enhanced annuity contracts for smokers or those in ill health. The knowledge gap continues.[14]

Most individual annuities until recently have been conventional guaranteed life annuities without increases. However, income drawdown options, approved for personal pension plans in 1995, are growing increasingly popular and are available in a variety of forms. The government sets limits on the level of income – it must be between 35 per cent and 100 per cent of what an average level single life annuity would have paid, as reviewed every three years by the government actuary – but not at so low a level as to ensure protection of the capital value of assets (Stark & Curry, 2001). While income drawdown provides some flexibility to take a temporary higher income or wait for improvement in the financial terms at which immediate annuities are available, retirees are increasingly questioning the need for mandatory annuitization at or before age 75 (Orszag, 2000; Gardner & Wadsworth, 2004).

A number of products provide options for a phased retirement and some providers make available the opportunity to combine product types by splitting the retirement capital into tranches and taking different courses on each.

Supply dynamics

Despite the growth in demand and the depth of market that it has stimulated, the number of suppliers has been falling for some time (Cannon & Tonks, 2004b). Prudential now has over 40 per cent of the market, and 57 per cent of new business. Concentration of business in the hands of the top five firms exceeds 70 per cent (Cannon & Tonks, 2006). This should be of grave concern to policymakers. Annuity markets in the UK, as in many other countries, are characterised by a wide range of prices as it is (Mackenzie, 2006) and this may be worsened by a fall in supplier numbers, even if each provider in the process gains a larger pool of experience and consequently greater certainty of its pricing basis.[15]

This price variability appears to have survived the advent of publicly available comparative tables published by the Financial Services Authority in an effort to improve the extent to which produce prices are compared. An example of these tables is provided in Appendix 1, showing a price range among level annuities of some twenty per cent.[16]

The Open Market Option, introduced in 1978, allows consumers to shop around for the best annuity rather than constraining them to purchase their annuity from the provider during the accumulation phase,

[14] A rapid swing towards impaired life annuities would have significant financial consequences for all providers, particularly those that offer annuities only at standard, healthy life rates. These providers run the risk of falling mortality experience of their annuitants, particularly dangerous if it fails to adjust early to the changing pattern.

[15] Mackenzie refers to a study by Mitchell (2001) quoting a range of prices on a sample of identical annuities and refers to similar range calculated for the August 2004 volume of Comparative Annuity Reports in the United States. This is echoed by the figures provided by Cannon & Tonks (2006, table 6.1, page 111) and by experience in South Africa, where provider rankings are not consistent across products or risk factors.

[16] Concerns might be reduced by the fact that this concentration does not appear to have resulted in unfair pricing. Money's worth ratios continue at broadly appropriate levels (Cannon & Tonks, 2006, for example).

but few retirees exercise their open market option and this proportion appears to be falling.[17] The Association of British Insurers (ABI) suggests that this might be symptomatic of poor levels of understanding by consumers, a point considered further in section 3 of this paper.

Future developments

Changes are being considered. A strong public call for a reduction to the levels of compulsory annuitization appears to be supported by the Turner review of the UK retirement system (UK Pension Commission, 2005), which motivates consideration of

- a cash limit to the amount that individuals are required to annuitize, and
- changes to regulation or tax treatment encouraging the development of a broader market for income drawdown products.[18]

2.3 United States

> *Although annuities help people offset some of the financial risks of retirement, relatively few people actually buy them. (Reno* et al*, 2005)*

Much of the research into the annuity puzzle has cited the United States experience as the clearest evidence that individuals do not purchase annuities to the extent expected by utility optimisation theory. Reno *et al* (2005) support this with this with a wide range of anecdotal examples.

The problem is that it is rather difficult to determine the size of the US annuity market. The term annuity is used to describe a product that, nominally providing for retirement, is more focused on the accumulation phase than on the decumulation, and frequently ends with a cash withdrawal on retirement date. The American Council of Life Insurers quotes contributions to individual annuity contracts for 2004 of USD172bn (ACLI, 2005) but this mixes immediate and deferred annuities and includes contracts providing some form of life cover during the accumulation phase. Reno *et al* (2005) quote a LIMRA International report suggesting that, of the USD300bn in annual new product sales around 5 per cent (USD15bn) represents immediate annuities, some of which will be annuity purchases on behalf of groups. Around two-thirds of this is in respect of the conversion of deferred annuities to life annuities and the balance represents direct sales of life annuities. Relative to GDP, this represents a much smaller market than in the UK.

LIMRA (2006) confirms the very low rates of immediate annuitization, stating that *"…deferred annuities still constitute almost all annuity sales, and annuitization of these contracts is far less common than cash surrenders or withdrawals." (p 11)*

However, the same report suggests that the potential for market growth is substantial. It cites, in support of the view, the shift of occupational plans from defined benefit to defined contribution and potential

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[17] The ABI (2005A) reports that 31 per cent of retirees exercise an open market option in the 3rd quarter of 2004, down from 37 per cent for the equivalent period two years earlier.

[18] The report also recommends an increase to the age of the first and last possible annuitization, but as this is motivated to track increases in longevity, it does not appear primarily motivated to increase flexibility to consumers.

future developments like cuts to Social Security benefits and the introduction of compulsory individual accounts, possibly with mandatory annuitization.

Product range

Variable annuities have grown rapidly in popularity over the last decade or two (Poterba, 1997; Brown & Poterba, 2006)[19] but here again terminology is deceptive. These products are popular because they provide flexible means of saving for retirement without taxation of the build-up. The range of choices at the end of the accumulation phase is good. Term or life, single or joint, and options on fixed or market-linked are available from most providers of variable annuities (SEC, undated), but very few of these products are converted into life annuities to provide post-retirement income.

Despite the relatively low take-up of immediate life annuities, a fair range of products is available. A notable absentee from the list as compared with products available to British annuitants is the with-profit annuity. On the other hand, the TIAA-CREF product that shares between the annuitant and product provider the risk of changes in life expectancy (Reno *et al*, 2005), called a participating variable life annuity, does not appear to be available in the United Kingdom.

Impaired life annuities represent a small proportion of the US market. Some 4 per cent of immediate annuities are sold on special terms. This market is shared by only 9 providers (LIMRA, 2006).

2.4 Australia

Retirement saving in individual accounts is mandatory in Australia and has been since 1988. This has resulted in a large, thriving industry for the accumulation phase. As Cardinale *et al* (2002) report, the market *"… for traditional whole life annuities in Australia is small because of lack of compulsion"*. The same authors refer to Doyle *et al* (2001) as providing evidence that, compared with the larger market in Singapore, price loadings for adverse selection and costs are higher.

A small market for longevity insurance does not mean that annuities are unpopular. The demand for term annuities and allocated annuities – the local term for an income drawdown product – is significantly higher than for immediate annuities. Term annuities can be for terms of between 1 and 20 years and typically involve a return of most of the capital. The *"1/n"* drawdown income limits for allocated annuities are relative narrow:

- the minimum payment on the fund is given by setting *n* equal to life expectancy at the time; and
- the maximum payment is determined to provide capital through to age 80 (Cardinale *et al*, 2002).

The allocated annuity market is significantly larger than the market for immediate annuities and is growing rapidly.

Products offered by MLC, one of the largest providers of financial services and insurance products, are reasonably representative of the Australian life annuity industry. Single life and joint life annuities are available, with the option of guarantee terms of between 2 and 20 years, and a choice of indexation of

[19] Nominal sales of variable annuities grew from USD51bn to USD130bn between 1996 and 2004.

payments of between zero and five per cent annually. The joint life annuity pays an income until the death of the last annuitant without reduction on first death.

The Australian superannuation system is currently under review. The plan is to simplify tax rules, exempting all withdrawals after age 60. The expectation is that this will increase both the flexibility and simplicity of options, largely removing the need for financial advice and the cost that goes with this. No longer must benefits be paid out by age 75, as is currently the case. Some of the means-testing provisions are to be simplified as well in an effort to reduce their distortionary effects. (Australian Treasury, 2006a and 2006b)

Whether these changes might have an impact on annuitisation rates either way is hard to tell. The take-up of allocated annuities may fall as their position as tax-management vehicles is reduced.

2.5 Chile

Chile's accumulation system is similar to its equivalent in Australia. Citizens depend strongly on the success of the mandatory individual saving system. Apart from a government guarantee, there is little else to provide for post-retirement needs.

Where Chile differs from Australia is that the authorities deemed it appropriate from the beginning to force participants to take an annuity in one of three forms, since extended to four with some combinations permitted.

Product options

Fixed annuities are all index-linked and industry assets are backed by inflation-linked bonds issued by government. **Variable annuities** provide exposure to market movements.

Programmed withdrawal takes place at a rate specified by the authorities, taking into account the age, sex and family situation of the member. This produces a payment that relates to the contingent expectation of life of the individual.[20] This does not provide a guarantee against the possibility of out-living assets. Mackenzie (2006) suggests that, if returns are low or the member lives a long time, funds will be exhausted. Citizens who have contributed to the system for 20 years or more are eligible for minimum pensions from the state in such instances.

Chileans can also take out a **temporary pension with a deferred annuity**. The member purchases from an insurer an annuity that starts at a pre-determined future date. Only a portion of the member's accumulated saving is used for this purchase. The balance remains in the member's account, from which a temporary pension is drawn, bridging the period until commencement of the deferred annuity.

[20] This is roughly analogous to the level of the minimum payment in Australia except for the special allowance for the joint expectation of life for married members. A significant difference between the two calculations is that the discount rate in Chile is determined by reference both to the life annuity discount rate and the average rate of industry return. Members using programmed withdrawal must invest in one of the three most conservative investment options, of the five available, protecting the funds, to an extent, against the possibility of very low returns. Details of the formula are available in Palacios & Rofman (2001:9).

The member takes on investment risk in respect of the proportion of the capital funding the temporary annuity. The insurer takes on financial and survival risk in respect of the amount of the deferred annuity.

The government provides protection in two ways. Apart from the minimum pension to eligible citizens, the state insures, to a limited extent, the interests of annuitants in the event of the failure of an annuity provider.

Early retirement pensions are permitted, subject to the amount of the pension passing both replacement ratio and minimum value thresholds.

Choices

Figures from the regulator, SAFP, quoted in Mackenzie (2006) show that immediate annuities account for just over a half of all retirement options with a further 37 per cent electing programmed withdrawal and less than 12 per cent the deferred annuity. The temporary pension is designed to provide a short-term boost to income,[21] and it should come as no surprise that it is most popular for those taking early retirement and disability benefits.

Chileans electing early retirement annuities also show a strong preference for an immediate annuity over a programmed withdrawal. The reverse applies to those retiring at the normal retirement date, who prefer to take a programmed withdrawal. Unfortunately, these results are as much a feature of the rules of the system as member preferences. As such, they cannot be used to infer with confidence much about individual preferences for post-retirement income.[22]

2.6 South Africa

South Africa has a large and varied annuity market.

Size of market and policy context

South Africans are not forced to save for retirement, but retirement saving in both occupational and individual tax-incentivised arrangements has stimulated a very large industry.[23]

On the side of occupational saving, participation is high by global standards because many employers require membership of an occupational fund as a condition of employment. Preservation of retirement savings until retirement is also not compulsory, but the volume of assets saved until retirement and attributable to individuals rather than groups is nevertheless high. This is expected to grow.

[21] The starting value of the deferred annuity that follows payment of the temporary pension must be at least 50% but not more than 100% of the first payment of the temporary pension.

[22] A higher proportion of early retirements have not completed twenty years of contributions than for normal retirements. As these individuals cannot benefit from the minimum state pension, because they have not met the conditions for doing so, they have little choice but to opt for the safety of the immediate annuity (Mackenzie, 2006).

[23] Relative to the size of the economy, contractual and occupational saving assets are among the highest in the world, resulting in significant concentration of risk in private sector savings vehicles.

Occupational funds have shifted rapidly from providing retirement income from within a defined benefit fund to requiring annuity purchase with the proceeds of a defined contribution accumulation.

On the individual side, preservation of personal tax-incentivised saving is mandated. Annuitization of a significant proportion of accumulated saving is compulsory, with a compromise discussed below. A maximum proportion of retirement proceeds may be withdrawn in the form of a lump sum. The balance must be converted into an insurer-provided annuity, forcing the purchase of longevity cover, or taken in the form of income drawdown, which is subject to rules of minimum and maximum income.

The result is a strong annuity industry. Purchases of longevity insurance and income drawdown products relative to Gross Domestic Product are comparable to the corresponding level in the United Kingdom (Rusconi, 2006; FSB, 2004).

Products

South African annuity products are sophisticated and wide-ranging, including most of the broad forms of provision described earlier, and both term and life immediate annuities. Insurers provide a variety of guarantees to protect against the possibility of early death but these are always expressed in terms of minimum years of annuity payment, not in the form of return of initial capital.

Old Mutual is one of the largest insurers in the country, providing a range of choices that probably exceeds the corresponding range from other providers. Annuities from Old Mutual can produce income that is:

- level in nominal terms,
- subject to fixed nominal increases of anything from one to eight percent annually,
- linked to increases in the consumer price index,
- linked to the performance of a range of underlying assets, or
- smoothed in the form of a with-profit product, with a menu of choices on the initial discount rate.

For all of these alternatives, the annuity provides guaranteed payments for a term elected by the annuitant on purchase, in whole year increments from 1 year to 25 years. Joint life annuities are also available, with any reduction in payment on the death of either life between zero and 100% at the option of the purchaser.[24]

Impaired life annuities are not available through Old Mutual, but a niche market for this product is developing, both for smokers and for applicants with serious ill-health (Rusconi, 2006).

[24] It is worth asking whether this product range enhances or takes away from the effectiveness and confidence of decision-making at retirement. In the context of poor levels of consumer understanding from around the world, it is not clear that individuals approaching retirement are being properly advised, despite recent improvements in the standards required of financial advisers. Research also shows that the wider the available range of options, the lower the confidence with which the decision is made (Iyengar *et al*, 2003).

As in other parts of the world, the evidence suggests that money's worth ratios are broadly high, yet annuity prices are unexpectedly variable. Not only is there a spread from highest to lowest of 10 per cent or more, but price rankings are not consistent over time or across the range of customers.

Income drawdown

In 1992, the tax authorities opened the door to income drawdown options, by specifying the conditions under which such arrangements would continue to be regarded as meeting the requirements for tax approval of a pension fund.[25]

Income drawdown products have rapidly grown in popularity due to myopic concerns of early death and equally myopic responses to the falling levels of income provided by guaranteed annuities. An informal survey of retiree decisions by a leading adviser of retirement funds and their members, suggests that three-quarters of retiring South Africans are electing an income drawdown product rather than a guaranteed annuity. National rates may be somewhat lower than this because the wealthy are more inclined to manage their own finances through income drawdown strategies and the client base of this firm is biased towards wealthier retirement fund members.

The income drawdown system has no UK-style 'backstop', no maximum age by which all approved retirement savings must be converted to a life annuity. This exacerbates the risks to which individuals are being exposed in drawdown strategies with inadvisably high levels of income.

Recently introduced legislation should improve the quality of advice provided to those assessing their retirement options, but it is difficult to ignore the likelihood that intermediary advice is biased by the remuneration model. Commission rates in the competitive market for immediate annuities are not high (Rusconi, 2006) and advisers have a strong incentive to recommend the income drawdown model that prolongs investment fees over the alternative of an annuity. Reno *et al* (2005:79) echo this possibility in the US market.

An advice model

The most common retirement strategies of South African savers are

- purchasing a fixed nominal annuity, and
- embarking on an income drawdown strategy

Alexander Forbes has undertaken research into the probability that a given strategy results in income below a pre-specified threshold[26] and has recently launched a service that combines tailored advice with

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[25] These conditions are that the income must fall within the range of 5 per cent and 20 per cent of the surviving capital and must be sustainable for life. Providers cannot agree on how these conditions should be fulfilled in practice. With recent falls to bond rates, the upper limit is clearly too high for sustainable drawdown. There has been some discussion of the possibility of reducing the limits to 3% and 12%, but the tax authorities insist that the second part of the conditions is stated with sufficient clarity and appears unwilling to be drawn on what the limits should be. So far, no retirement fund has had its preferential tax status withdrawn for failing to meet the conditions set by the tax authorities, but anecdotal evidence suggests that abuse is widespread and retirement savings are at serious risk of depletion.

an annuity bureau. In combination, the approach is intended to provide technically sound analysis, personalised advice and, when annuity purchase is appropriate, the cheapest available rate. It is described briefly in Appendix 2.

If consumer understanding of annuities is inadequate, this approach, responsibly executed, would provide hope for appropriate decisions amidst the subtle complexities of the annuity decision and the rather bewildering range of products available.

[26] The research utilizes stochastic modelling of both investment and mortality risk and is a rare South African example of holistic analysis of post-retirement risks and assessment of the available options.

3 DEMAND DYNAMICS: CONSUMER CHOICES

This part of the paper aims to improve the understanding of demand dynamics from information obtained directly from consumers.

Surveys of this type appear to be rare. Three studies have been found that report surveys of consumer understanding of annuities and attitudes to annuitization. Watson Wyatt (Gardner & Wadsworth, 2004, to be more precise) carried out a survey asking who would buy an annuity. The Association of British Insurers commissioned a study to establish consumer perceptions of the value of annuities (ABI, 2005b), and a separate research project to determine how well consumers understand annuities and the extent to which they are inclined to shop around for the best annuity rates (ABI, 2005c).

To these are added a summary of empirical evidence into developing patterns of annuitization from a TIAA-CREF study in the United States and indications of significant changes in attitudes to retirement from two Merrill Lynch studies.

From the information available, it appears that life annuities will fulfil the needs of tomorrow's retirees less adequately than they met those of yesterday's.

3.1 Who wants an annuity?

> *… opposition to annuitisation is remarkably consistent across the various characteristics measured …*
> *(Gardner & Wadsworth, 2004:7)*

Jonathan Gardner and Mike Wadsworth commissioned a survey of individuals in the UK within a few years of retirement, to assess the attitudes of these people to annuities. More than 3,500 people in the age range 50 to 64 responded to the survey. Two main question types were asked of respondents:

- Would they purchase an annuity in preference to taking a lump sum?[27]
- For those choosing to annuitize, at what age would they prefer to annuitize, at 60. 65, 70 or 75, with realistic annuity rates quoted for each age?

The questionnaire was short and clear but provided sufficient information to participants to enable a clear assessment of the trade-offs involved. It included a question for those electing not to annuitize, to establish the motivation for this decision.

[27] Furthermore, would the answer change if they were given the option of annuitizing half of their accumulated wealth rather than all of it?

Key results

More than half (58.8 per cent) of respondents indicated that they would prefer never to annuitize than to purchase an annuity at any age. This result applied to the group as a whole, but also to the sub-set of respondents with a defined contribution arrangement providing their main retirement income – 53.9 per cent of these respondents said that they would prefer never to annuitize.

Perhaps more surprisingly, given the opportunity to split their retirement capital and annuitize just one half of it, a similar proportion (56.5 per cent) still refused to consider annuitizing even half of their retirement capital.

Among those who chose to annuitize was a slight preference to do so later rather than earlier. This was more marked among high-income respondents, who may be more able to absorb short-term risks or live off other forms of income than their lower-income peers. This group may also have deemed the additional value received from later annuity purchase worth the wait.

Reasons for choosing not to annuitize

The question asking those who selected against annuitization to indicate their reasons for doing so provided a list of possibilities from which respondents could choose possibilities.

By far the dominant reason among those listed is a desire for flexibility, with nearly three quarters of respondents indicating this as contributing to their motivation not to annuitize. Around 45 per cent indicated a belief that they could do better investing the assets themselves and a similar number indicated that they were unwilling to annuitize because the annuity income is too low. Other prominent reasons quoted were the bequest motive and the belief that they would not live long enough to make a life annuity a suitable option.

> *"The insurance companies will, without fail, stitch you up – it's their job."*
> *(Respondent to survey, Gardner & Wadsworth, 2004:20)*

Respondents were also invited to add other reasons not to annuitize or enlarge on those already indicated. These comments expressed concerns in the areas of investments, longevity and flexibility, but most importantly trust. A number of respondents volunteered an absence of trust as an important contributing factor to their decision not to purchase an annuity. As the authors point out, this issue warrants additional investigation *"…as high levels of distrust … have implications for the acceptability of a policy of mandatory annuitization…" (p 6).*

Insights from the details

The preference for or against annuitization among sub-groups of respondents follows broadly the patterns that might be expected:

- Health: respondents in good health show a higher tendency to purchase an annuity. Such lives would expect to live longer, on average, and benefit more from a guaranteed annuity.
- Education: the survey indicates showed a positive relationship between education levels and the predisposition towards annuities. This may demonstrate a stronger understanding of the benefits of

annuities among the educated or an expectation of longer lives, related also to improved socio-economic standing among the well-educated.

- Income: wealthier respondents also show a strong inclination to annuitize retirement capital, for reasons similar to those discussed already.
- Household size: respondents from smaller families are more likely to select an annuity. Socio-economic factors may again play a role here, assuming that family size is inversely related to income levels, or these respondents may have been counting on higher levels of economic support from other members of the family.
- Time preference: survey participants with higher levels of patience are more predisposed to purchase an annuity with their retirement capital. One would expect these individuals to suffer the distorting effects of myopia to a lower extent than their less patient peers.
- Source of pension provision: those respondents with their major pension provision in a defined contribution arrangement or personal pension were more likely to annuitize, probably because their financial dependence on this income is greater.

Policy implications

The authors provide some thoughts on the implications for policymakers. The consistency of the opposition to annuitization is perhaps the most important message to emerge from the research, casting a shadow over the potential to make a difference through policy. The call for greater flexibility is not unreasonable, but the authors ask whether those requesting lower levels of prescription would accept lower levels of tax incentives in return.

The research appears to suggest that a market providing greater differentiation of prices by socio-economic factors would have a better chance of attracting participants from across the income mix by pricing more attractively to customers at lower socio-economic levels. On the other hand, this might adversely impact the appreciation of annuities among the wealthy, who would find the value provided by these products reducing.

The lasting impression is that greater flexibility of policy and products may improve public acceptance of the need to annuitize at some stage.

3.2 The perceived value of annuities

An ABI survey of eighty individuals in ten discussion groups produced a variety of insights regarding the perceived value of annuities. Participants were all between 40 and 55 years of age. Groups were kept reasonably homogeneous, in age either below or above 50 and in socio-economic status either middle-to-high income (UK social class A, B and C1) or middle-to-low income only (UK social class C2).

> *Most did not appear to be actively planning for their retirements, and did not seem to have thought in detail beyond the next 5-10 years. There seemed to be a 'live for today' attitude amongst several respondents, with males in the lower socio-economic groups predicting a relatively low life expectancy of around 70 years and so precluding any real value from taking an annuity. … Only a minority, the more knowledgeable, understood the basics of annuities, and what happens to their*

pension fund when they retire. Only the very sophisticated were totally confident that they had their income aspirations totally provided for. (ABI, 2005b:2)

Expectations for retirement

Participants displayed a range of views and of preparedness for the retirement years. The broad themes that emerge from this research are as follows:

- Overall there is little evidence of planning. Nearly all participants had aspirations for their retirement that they were not sure could be met, hoping, though mostly not expecting, to keep up a standard of living in line with that experience in their last years of work. Many of them were adopting a “wait and see” attitude to the uncertainties of the future, rather than planning for the possibilities.
- Most participants felt that their pension funds would not be sufficient to attain their aspirations – some displayed decidedly low levels of faith in their pension provision – but few knew what level of income they would actually achieve. Many of them expected to use other sources of income like downsizing their home, inheritance, the state pension and other investments.
- Few participants had a clear understanding of what an annuity is or the rules around compulsory annuity purchase and few had any grasp of the fundamental mechanisms of a life annuity and its advantages and disadvantages against other strategies.
- Many expected to work part-time beyond their stated retirement age – usually 65 with very few expecting to stop work as early as 60 – for various reasons, some because they expected to need the income, some for the love of or the stimulation of work.
- With respect to life expectancy, participants arranged themselves into two broad groups, those that expected to live for a considerable period of time, and those expecting to die soon after retirement. What the groups had in common, however, was an absence of planning. The first group had put little thought into providing for a long life and the second had tended to opt out of saving for retirement at all, on the basis that significant resources would not really be needed for that particular stage of life.

Desirable product qualities

Probably the most sought-after product attributes were simplicity and flexibility. In general, lower-income participants wanted simplicity, even at the cost of some flexibility, while their high-income peers sought, firstly, greater freedom of choice from their annuity, particularly flexibility of income. Nearly all participants would have appreciated the facility to withdraw occasional large amounts to meet special expenses like holidays.

Other product desires emerging from the survey include:

- a regular and reliable income,
- security of the provider,
- a degree of choice, but usually not at the cost of simplicity,

- some form of access in the even of early death,[28] and
- protection against inflation erosion.

The facility to leave bequests was generally not rated highly by participants, despite the concern around the financial impact of an untimely, early death.

Policymaker education priorities

The authors of the report suggest that the most important areas to focus education initiatives on the subject of retirement planning should be:

- how annuities work,
- the reasons for compulsory annuity purchase,
- the fundamental benefit of annuities, the guarantee for life,
- tools to help individuals assess the income level that they will have on retirement, and
- the dangers of relying on property to fund retirement.

Overall, the survey raises considerable concerns around the level of understanding of annuities and the absence of financial planning for the post-retirement years.

A separate paper, also from the Association of British Insurers, (ABI, 2005a) summarises this research on a rather gloomy note, suggesting that consumers:

- have a poor understanding of the reason for compulsion, the government obligation to impose requirements in return for tax benefits;
- do not properly understand that the principle advantage of annuities are that they are guaranteed for life; and
- do not have a clear grasp of the pooling principle inherent to longevity insurance.

3.3 Annuitant understanding

> *Public understanding of annuities and what they offer the consumer is better than is widely believed to be the case. Competition, and use of the right to shop around, is delivering higher incomes at the bottom end of the market as well as the top. … The priority now needs to be preserving and maximising this – extending it to more and more people. In order to make this happen there is a continuing need to improve, and better target, both education and advice. (ABI, 2005c:1)*

Annuities: bonus or burden? (ABI, 2005c) delivers a much more positive report on the extent to which consumers understand annuities. In contrast to the surveys considered so far, this one was conducted among people who had recently purchased an annuity. Some 500 individuals that had bought their annuity within the last three years were surveyed by telephone.[29]

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[28] A phrase uttered with some frequency in this respect was: "It's our money…".

[29] The actual process of purchasing an annuity may improve product understanding a great deal… or provide the illusion of understanding that the success navigation of a complex financial process can generate.

Broad levels of understanding

The results of this survey include the following:

- **Income for life**: 90 per cent of respondents stated that they understood that an annuity provides a stream of income that is guaranteed for life.[30]
- **Pooling**: nearly two-thirds of respondents understood pooling to be a fundamental characteristic of the annuity, that those who live longer are partly financed by those who die early.[31]
- **Distinguishing a pension from an annuity**: less than half of respondents understood the distinction between a pension, received from a pension fund, and an annuity, which must be purchased by the individual under the compulsory Open Market Option. This may explain why the rate of take-up of Open Market Options has remained almost flat since they were mandated nearly thirty years ago.
- **Advice**: the existence of advice increases the likelihood of shopping around for an annuity

Elements of the annuity environment were fairly well understood:

> *For example, 62% of people correctly disagreed with the statement that an annuity must be bought as soon as an individual retires. And 81% of those questioned were aware that it is possible to take a 25% tax-free lump sum from their pension savings. Furthermore, 72% of people claimed to have already known that they needed to buy an annuity by the time they received a 'wake-up' letter[32] from their pension company. This demonstrates that for the majority of people, knowledge is imperfect but they have a basic understanding of annuities. (ABI, 2005c:3)*

Choice of annuity type

The survey also asked annuitants to identify the type of annuity purchased. Some 51 per cent of participants reported that they had purchased a level or standard annuity.[33] Second in the ranking is a guaranteed annuity, which 12 per cent of participants chose. Some 7 per cent purchased an escalating annuity, 6 per cent a joint life annuity, 6 per cent an indexed annuity and 3 per cent an investment linked alternative. Some 16 per cent of respondents could not say what type of annuity they purchased, a statistic that should raise a note of concern.

The authors of the paper suggest that this positive news can be built upon by improving the quality of information made available to prospective annuitants, particularly through impartial sources like the Financial Services Authority. They also put forward the proposal that a simplified annuity environment would encourage consumers to shop around more actively for the best product based on clearer price comparability.

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[30] The paper does not report whether respondents understood that this attribute is unique to life annuities, representing their key advantage over alternative forms of income. Perhaps this was implicit in the question.

[31] The question may have led respondents to a positive response: "An annuity works on the basis of pooling so that each individual who dies early effectively finances those that live longer."

[32] This is a letter sent by the pension saving provider around three months before the expected date of retirement, providing information on the value of accumulated savings and setting out the options available to the customer.

[33] The report suggests that this is a rational choice in many cases, for example, where this does not represent the individual's main pension provision so they maximize initial income rather than seeking inflation protection or access to investment returns. This might be explaining away a legitimate concern rather quickly.

Two surveys have been described, with rather different results concerning the level of consumer understanding. Together they imply that consumers gain a great deal of confidence through the process of actually purchasing their annuity, whether or not their decisions were actually correct.

3.4 Post-retirement choices in the United States

TIAA-CREF[34] was established in 1918 to provide financial protection and savings vehicles to US educators. The size of the fund and number of participants makes it a useful source of research on member decision-making. Until 1989, retirement savings could be used only to purchase an immediate life annuity but since then, several alternative forms of payout have been made available to participants.

Ameriks (2002) explores the impact of this broadened choice, building on the earlier work of King (1996). He confirms two major trends. Many participants are postponing the decision to take any form of income from their retirement savings and, among those who are taking an income the life annuity has significantly declined in popularity.

TIAA-CREF offers three alternatives to the immediate annuity:

- The **Interest Payment Retirement Option** pays to the member the interest credited to the traditional accumulation accounts, leaving the capital undisturbed. Members have been permitted to use this approach since 1989.
- The **Minimum Distribution Option**, available since 1991, pays income that is just sufficient to avoid the penalties that the authorities impose on individuals who do not use the assets of tax-assisted vehicle to provide an income in retirement.
- **Systematic Withdrawals and Transfers**, permitted since 1996, permit payment to the member according to their required schedule, for as long as assets are available to fund these payments.

Analysis of member choices

Analysis of the initial income selection by members shows each of these options quickly developing popularity from launch, particularly the Minimum Distribution Option. By 2001 these alternatives accounted for more than half of the initial income selections of members, as shown in the table below.

Figure 1. TIAA-CREF initial income election

(%)	1989	1993	1997	2001
Single-life annuity	40.5	37.5	32.2	22.0
Joint-life annuity	54.7	49.4	38.5	23.1
Interest payments	4.8	4.9	9.5	17.3
Minimum distribution	-	8.1	13.7	27.0
Systematic withdrawals	-	-	8.2	10.6

Source: Ameriks (2002:9). Note that the minimum distribution option is effectively the default in instances where no election is made.

[34] The Teachers Insurance & Annuity Association and College Retirement Equities Fund.

Ameriks finds as well that three-quarters of those who elect the life annuity also choose a guarantee period to protect against the event of early death. At early ages, purchasing an immediate annuity with a guarantee is roughly analogous to deferring the annuity purchase. He finds as well that retirement is taking place later than before, particularly at some of the largest universities and that greater numbers are taking a phased retirement with reduced income for a number of years. Many of those who elect to take income later choose the minimum distribution as a means of postponing a more final decision regarding post-retirement provision.

Policy implications

> *… it seems reasonable to conclude that many of these changes in the usage of TIAA-CREF income options may be related to the changing nature, rather than incidence, of retirement at many U.S. colleges and universities. In this new environment, participants' need for income from retirement assets may no longer coincide with their decision to leave full-time work. In particular, participants may substitute income generated by part-time employment for income generated from accumulated retirement assets. This may be happening both formally, through specified phased retirement programs, and informally, as retirees choose to continue to engage in some form of employment during at least the first few years of their retirement. (Ameriks, 2002:16)*

It may be that academic professionals are more able than most to consider options of phased retirement. Nevertheless, one of the important conclusions of this research is that the trend away from immediate annuities reflects a growing need for greater income flexibility. This should be seen alongside concerns raised in theoretical analysis and other surveys of the perceived value provided by annuities and the risk of loss on early death.

The New Retirement paradigm

The findings of the TIAA-CREF research are supported by consistent information in the Merrill Lynch New Retirement studies (Merrill Lynch, 2005 & 2006). The most recent survey includes more than 5,000 participants, nearly 4.600 aged 41 or more.

The survey reports that the paradigm of a fixed retirement age has already largely disappeared, at least in the United States. One-third of current retirees between the ages of 51 and 70 are working for pay.

> *The ideal retirement for 71% of adults surveyed is to work in some capacity, and almost half of those U.S. adults who plan to work in retirement (45%) say they don't plan to stop working – ever. On average, people expect to retire at age 61, but they see themselves working an average of nine years in retirement. The average age at which they will stop working completely is over 70. (Merrill Lynch, 2006:4)*

The need for income motivates a significant proportion of those planning to work after retirement, but is not the most important reason for doing so, dominated by a desire to keep mentally and physically active.

The 2005 survey reports that 42% of respondents aim to blend work and leisure with cyclical periods of sabbatical rather than traditional retirement.

3.5 Summary and Implications

What do these results signal for the future demand for longevity insurance? The Merrill Lynch evidence of increased demand for a flexible post-retirement model doesn't rule out annuitization. However, it suggests that fewer Americans will opt for this approach, particularly in the early part of their retirement. This conclusion is supported by the trend of falling annuitization among teaching professionals, who appear also to be adapting to a model of a gradual transition from full-time work to no work at all.

The survey commissioned by Gardner & Wadsworth (2004) demonstrates a strong resistance to annuitization of any amount, at any stage, and finds that most of those who would choose not to annuitize would do so in pursuit of more flexible financing arrangements.

The view that individuals choose not to purchase longevity cover because they are concerned about the potential for loss of capital on early death is not strongly supported by the available research. The Gardner & Wadsworth project reports that, of those who would prefer not to annitize, less than two-fifths are motivated by the bequest motive or concern about early death. The ABI research suggests that annuitants have a good understanding of the nature of the annuity benefit and its pooling properties.

Anecdotal evidence from South Africa suggests that capital risk dominates the thinking of those who elect an income drawdown over an annuity. However, falling annuity rates have probably supported perceptions of poor value, not helped by the illusion of wealth created by a long period of economic growth and falling levels of trust in insurers.[35] There is also evidence from the United Kingdom of low levels of trust in the financial institutions that provide annuities.

This research suggests that:

- the concept of retirement as occurring on a fixed date and signaling an abrupt end to the working years is eroding and will continue to do so,
- the need for flexible retirement income options will increase and
- the demand for immediate life annuities, all else being equal is likely to fall.

However, longevity insurance should continue to play a very important part in the retirement planning of individuals, particularly as system reforms increase the risk transferred to individuals. The demand for sophisticated financial vehicles combining elements of investment and longevity protection will also surely grow. This increases the general need for sound information and education concerning the risks involved in annuities and their alternatives and the specific need for sound, tailored financial advice.

Advisers themselves will need to improve their skills to demonstrate that they understand the enormous complexity of choices facing consumers, and that their advice is unaffected by their remuneration models. Tomorrow's world will undoubtedly be more complex than today's.

[35] Statistics from Chile suggest that annuitization is popular and continues to be so. Cursory examination of relative numbers of programmed withdrawals and inflation-linked annuities since the inception of the current range of choices shows no evidence of a trend towards programmed withdrawals and away from the annuities. Neither system provides any flexibility of income, but a swing towards programmed withdrawals would have suggested a preference for higher income up front.

4 POLICY IMPLICATIONS

This part of the paper starts by discussing the impact of national policy on the annuity market. The Turkish old age policy environment is described briefly so that thoughts on annuities in Turkey may be presented.

4.1 The impact of national policy

The market for annuity products must be seen within the context of the national framework for old age provision. Some of the policy factors that influence the development of the annuity market are discussed below.

- Social security or occupational system. The extent of the social security system impacts the demand for annuities by crowding out the need to ensure post-retirement income from other sources. The German & Italian systems are examples. The French mandatory pay-as-you-go system has a similarly damping effect on the demand for annuities. Ireland's less generous social security, on the other hand, has the opposite effect of stimulating annuity demand (Cardinale *et al*, 2002). Means testing of social security benefits may discourage annuitisation if testing is based on income levels.[36]
- Occupational system. The shift from defined benefit to defined contribution arrangements is expected to lead to marked increases in the demand for individual annuity products.
- Tax incentives.[37] Some countries, Belgium for example (Cardinale *et al*, 2002), disincentivize annuitization through the operation of the tax system. Many countries in this position are working to address this anomaly because it has the impact of reducing post-retirement security, even in the presence of social security benefits.
- Compulsory annuitization. Mandatory purchase of annuities creates a market for longevity insurance. Swiss compulsory occupational savings must be converted to an annuity, with exceptions in limited cases only. The United Kingdom mandates annuitization of tax-incentivised saving, unless retirement income is paid from an occupational fund like a defined benefit arrangement, but permits some flexibility.
- Pricing and reserving requirements. Setting solvency requirements at an appropriate level is particularly delicate.[38] Too harsh an approach could significantly depress the supply side of the annuity market and create a perception on the demand side that annuities do not provide good value for money. On the other hand, an approach that is too relaxed makes provider failure a significant risk. Policymakers in each country need to assess the appropriateness of various options

[36] Individuals have the motivation to spend accumulated saving in ways that would not affect their eligibility for social security benefits.

[37] See Yoo & De Serres (2004) for a description of the operation of tax incentives on lump sum and income benefits.

[38] Mackenzie (2006) sets out comprehensively the issues around regulating annuity providers.

taking into account their particular circumstances, perhaps borrowing methods from other countries while erring on the side of prudence.[39] The view that solvency requirements do not, in practice, in the large annuity markets, adversely impact value for money is supported by the research into money's worth ratios.

Other national characteristics, such as levels of household saving and the growing tendency of citizens to look after their own finances, would also impact the strength of the annuity market. These factors appear to be increasing in influence.

4.2 The Turkish annuity market

This section sets out a brief description of the Turkish environment and market for annuities.

Turkey is in the process of major reform of its old age framework. The comprehensive social security system established in the 1940s was adjusted in the 1990s to stave off financial difficulty, but this has proved insufficient. The first pillar is to be significantly scaled back and its objective will be primarily to provide a safety net to participants in the second pillar.

Contributions to both the first pillar and second will be compulsory. Those who have been members of the social security system for less than five years must transfer to the second pillar. Their contribution rates are to be fixed at 15%, split evenly between employer and member, or which 7% is to be directed to the first pillar, a pay-as-you-go system, and 8% to the second which will provide an individual account. Different rates are applicable to older citizens, with more years of contribution to the social security system, who will also be given the option to choose whether to move to the individual account system or not (TUSIAD, 2004).

The framework for a voluntary third pillar is already in place. The Act establishing the private system, Law No. 4632 on the Private Pension Savings and Investment System, was first drafted in 1999 and, by 2002 was enacted complete with its institutional framework. Sales of voluntary saving products commenced in 2003.

Savings to the third pillar are tax incentivised and encourage long-term saving,[40] but the incentive system is neutral with respect to form of benefit, neither rewarding nor penalising lump sum withdrawals.

The system is expected to expand rapidly, to an estimated 700,000 members by the end of 2005 contributing a total of €500m. Funds are expected to grow to between 5 per cent and 10 per cent of Gross Domestic Product over the next ten years (Icoz, 2005).

[39] For example, providers in South Africa, a financial services market with a stable history of secure provision and substantial professional expertise, describe the local regulatory requirements as prudent rather than conservative, suggesting that the solvency margins required in South Africa match closely the approach that the provider would be inclined to take anyway. One of the larger providers of annuities in this country is listed in London and must subscribe to EU requirements. Comment from their professionals suggests that similar standards apply in Europe. Though it is not yet clear what impact the coming risk-based supervisory model is likely to have the firm is not too concerned about the potential for increasing solvency requirements resulting from this change.

[40] The rates of tax applicable on exit are lower if the participant has been contributing to the system for more than 10 years, and lower still if the participant is aged 56 or more (Icoz, 2005).

Annuities are available in Turkey but are considered an extension of the saving component and given little attention by legislation and supporting regulation. Insurers with a life insurance licence are permitted to provide immediate and deferred life annuities. A detailed regulatory framework for annuities is required.

Considering the absence of such a framework and lack of market depth, the range of annuity products is good. Life annuities are provided, some with guarantees or explicit death benefits, alongside term certain alternative annuities. Up front charges of around 2-3% are not particularly high by international standards.

The absence of long-term investment instruments presents the most serious obstacle to the provision of appropriate products offering value for money to consumers. Economic conditions continue to improve in response to measures introduced in 2001. The rate of inflation, historically high, is lower, and macroeconomic indicators continue to improve.

The improvement of supply-side conditions is expected to be matched by increased levels of demand as participants from the mandatory and voluntary sectors of the personal private pension reach retirement.

4.3 Regulatory considerations for Turkey

> *The government [of any country] should pay particular attention to the rules regarding withdrawal of benefits through annuities or lump-sums when introducing individual retirement accounts or other privatization schemes, given the interaction between retirement incentives and the attractiveness of annuities. (Benítez-Silva, 2003:abstract)*

Stewart (2006) proposes a set of policy actions to improve the operation of annuity markets and the take-up of these products. The research described in section 3 leads to a number of conclusions regarding the demand side in particular.

The comments in this section apply to all markets, but may also have specific application to Turkey. The country is at a critical stage in the development of its old age system and policies regarding the decumulation phase form a crucial part of the regulatory considerations.

Encourage supply

It would seem appropriate for Turkey to continue to develop a regulatory environment for annuities that is sound and free of inappropriate constraints. Solvency requirements should be prudent without requiring undue conservatism, or, if a more conservative approach is required initially, it could be relaxed with time as market experience improves.[41] The authorities could assist insurers to price fairly by contributing to efforts to understand local mortality rates, perhaps with reference to the experience under the social security system.

[41] Unless detailed statistics on local mortality experience are available, the most appropriate regulatory model for annuities may be the prudent expert approach, embodied in the statutory actuary. The actuary is required to sign off the reserves backing the annuities, prudently allowing for the risks inherent in providing these products.

Support flexibility

As price comparability is important in creating an effective market, it may be appropriate to require of all market participants that they make available a set of standard products, for example, immediate life annuities, single and joint life, with fixed and escalating income payments. But the key lesson emerging from this study is the need for flexibility.

Perhaps the simplest way to encourage flexibility is to permit deferment of annuitisation, until a fixed age or indefinitely. This can be implemented without high levels of complexity of regulation or tax laws and controls can be maintained through the minimum and maximum levels of income permissible during deferment. Some restrictions on investment policy during the income drawdown period may be appropriate as well, to protect consumers.

Flexibility as an objective should be applied not only to annuity products but also to the working and retirement environment. Broader efforts to provide flexibility in retirement should be considered. Doing away with a fixed retirement age could be considered, at least for parts of the old age system, though this could have significant ramifications across the system. As an interim step, incentives to retire later could be implemented or increased.

Consider mandatory annuitization

Any consideration of compulsion must be country-specific, because the probability of its success depends on such a wide range of factors. Mandatory annuitization has many consequences, some of them very difficult to anticipate.

Mandatory annuitization, for example, has the potential to reduce adverse selection by broadening the risk pool and preventing individual choice of whether to purchase longevity insurance. However, unless risk classification is permitted, perhaps even required, it can force those with shorter expectation of life to purchase a product offering poor value, entrenching redistribution from the poor to the wealthy.

Of particular concern in Turkey may be the problem of pricing a mandatory annuity product. In the light of this uncertainty, some risk would perhaps need to be retained by the state, which would re-introduce an element of social protection to the old age environment.

The advantages and disadvantages of such a move should be considered as broadly as possible, not forgetting that compulsory annuity purchase can be achieved in a variety of ways that retain a degree of flexibility and choice for citizens.

Invest in education

Annuities are too often simplified in a manner that distorts the issues facing individuals. An under-trained adviser is likely to emphasise reduced flexibility and loss of access to capital without pointing out the benefits of the pooled approach to those who survive any length of time, or the risks of income drawdown.

In Turkey, in particular, the annuity decision will grow rapidly in importance as citizens saving under the new system approach retirement. Consumer education should assist them as far as possible to make sensible decisions. Education efforts should range from broad information about the social security system and the choices available to them regarding decumulation of retirement savings, to more specific input concerning risk and return at retirement.

Product providers should be encouraged to assist in this process. Intermediary registration has proceeded well.[42] Continued training of intermediaries is a crucial part of improving the quality of advice given to retiring citizens.

Turkey has made considerable progress towards establishing a sound framework for the accumulation of retirement savings and already permits insurers to provide annuities. Careful assessment of the options for improving the flexibility and security of post-retirement products will provide the platform for the development of a sound, effective infrastructure for Turkey's decumulation phase.

[42] According to a November 2005 press release from the Pension Monitoring Center, some 11,787 of 14,154 applicants have passed the electronic intermediaries' examination system.

5 CONCLUSIONS

> *Many people, including well-educated and intelligent people, have a lot of difficulty turning a stock of wealth into a sustainable flow of income. The standard test of this difficulty is to ask people how much money they will need at age 65 to sustain their current standard of living. Few people realize how small the rate of withdrawal has to be to prevent premature exhaustion of what may seem, at the start of retirement, to be a handsome sum of money. Given the divergent views of financial professionals on the matter, this failure is understandable. Nonetheless, its consequences can be anxiety, privation, and misery. (Mackenzie, 2006: 56 & 57)*

Annuities provide an essential service to citizens, particularly those approaching old age who cannot, on their own, manage the risk of outliving their assets. But the risk and return dynamics of longevity insurance are subtle and complex, depending on a wide range of individual and product factors. Considerable effort has been expended to understand the circumstances under which annuitization is appropriate, but clear and simple conclusions are elusive.

The challenges to experts to establish an optimal strategy are formidable. How much more so it is for government, product providers and intermediaries to lead citizens approaching their old age in an effective assessment of the options facing them.

This paper is intended primarily to provide some insight into the dynamics of the individual decision-making process. It achieves this by assessing surveys of consumer understanding and attitude towards retirement in general and towards annuity products more specifically. The key results emerging from these surveys are that consumers:

- do not expect their working income to cease abruptly, and intend to establish alternative forms of income extending for some time after retiring from their full-time work,
- need flexible options for managing their income needs in old age, arguing that a fixed or increasing annuity does not meet these needs,
- are prone to short-term thinking, underestimating the risk of living for a long time and the financial consequences should this risk materialise, and
- demonstrate varying levels of understanding of the benefits and disadvantages of longevity insurance.

Responding to these issues at the same time as addressing the considerable supply-side challenges in annuity markets is demanding. This paper suggests that a careful, balanced approach is required with a strong commitment to flexibility of product and working arrangements, and to information and education, at all levels of the decision process.

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The table below is an extract from the web site of the Financial Services Authority. It shows the annuity rates available from participating providers. Note the range of prices.

FSA COMPARATIVE TABLES from the Financial Services Authority

START | TABLE SELECTION | CHOICES | ANNUITIES

You chose single life pension annuities with a 5 year guarantee for a man aged 65 with a pension fund of £400,000. You are a non smoker.
Change your choices

What's NOT in the table? How to use this table

You should not regard any of the products in the table as being recommendations by the FSA.

View the non-participating providers.

Download | Print options | Filter

Sort by: Provider - alphabetically

11 products found. page 1 of 1

Maximise the table display

Short List	Provider	Smoker/All	Monthly Income			Better rates available		Restricted availability	
			Level	Increasing by 3%	Increasing by RPI	Enhanced/ Impaired	Loyalty		
These products are not FSA recommendations. Always confirm the product details with the provider or an adviser.									
	AEGON Scottish Equitable	All	£2,327	£1,691	n/a	No	No	No	
	AXA	All	£2,104	£1,510	£1,421	No	No	No	
	B & C E Insurance Limited	All	£2,448	n/a	n/a	No	No	Yes	
	Canada Life Limited	All	£2,338	£1,717	£1,563	No	No	No	
	Friends Provident	All	£2,284	£1,665	n/a	No	No	No	
	Legal & General	All	£2,168	£1,498	£1,327	No	No	No	
	Norwich Union	All	£2,284	£1,656	£1,471	Yes	No	No	
	Prudential	All	£2,277	£1,642	£1,531	Yes	No	No	
	Reliance Mutual	All	£2,013	£1,375	n/a	No	No	No	
	Scottish Widows	All	£2,253	£1,596	£1,526	Yes	No	No	
	Standard Life	All	£2,238	£1,622	£1,510	No	No	No	

The information in this table was last revised on: 19/09/2006

The filters you applied were:

Filter	Option Chosen
Enhanced and impaired life annuities	Show all
Restricted availability	Show all

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Source: The Financial Services Board, www.fsa.gov.uk/tables, as at 19 September 2006

Appendix 2 A Case Study: Advice in S Africa

Alexander Forbes provides actuarial and financial advisory services to retirement plans and individuals in South Africa. It is the country's leading provider of actuarial advice to pension funds and is growing rapidly in its capacity to advise individuals, often reaching the members of its fund clients.

Concerned at what it perceived to be inappropriate advice provided to fund members approaching retirement and anxious to ensure that its own role in this service provision was improved, the firm has recently undertaken substantial analytical research to understand the risk-return trade-offs implicit in annuities and their alternatives.

The research team undertook stochastic modelling of investment and mortality risks to improve their understanding of questions around

- the most appropriate annuity type, under various conditions,
- the optimal timing of annuity purchase – South Africans may delay annuitization indefinitely,
- appropriate levels of income drawdown during deferment, and
- the most effective investment strategy during this period of deferment.

Figure 2 demonstrates the main analytical technique used to assess these risks. The key measure is the probability that real income would, at any stage, fall below a threshold level while the annuitant was still alive. The left-hand column shows the income threshold as a proportion of retirement capital. The top row shows the proportion of assets, during deferment, invested in equities, the balance being held in government bonds.

Insights are interesting. The research found, for example, that this probability tends to fall with increasing deferment of annuitization – assuming that income is drawn during deferment at the income threshold rate and assets sensibly invested – until around age 75 and then increased again.

Figure 2. Probability of annuity income falling below any given threshold: one product scenario

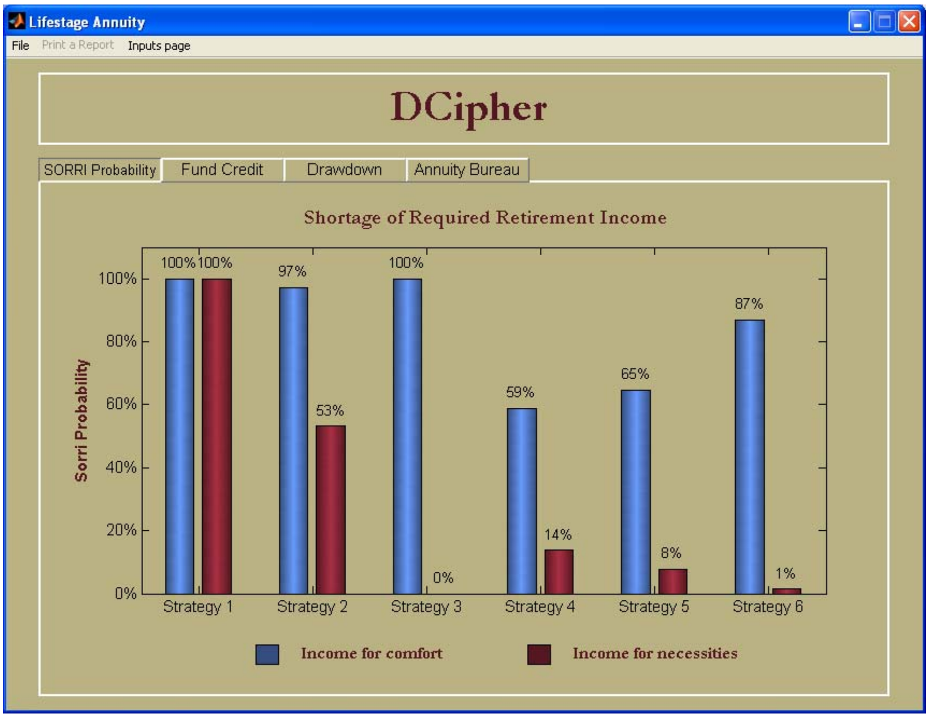
Annuity type: age 65, nominal 3% increases, delay period variable
Annuity pricing: PA90M - 3 & PA90F - 2 plus 1.5% increase; profit & risk margin: 3% up front; tax at 30%
Consideration: 1 000 000 Threshold: 100% of initial drawdown

Income/eq	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Delay in purchase
3.0%	0.3%	0.2%	0.4%	1.1%	2.7%	4.8%	7.9%	11.0%	14.2%	17.1%	20.4%	10
3.2%	0.9%	0.7%	1.2%	2.6%	4.8%	8.0%	11.5%	14.9%	17.8%	21.2%	24.2%	
3.4%	2.5%	1.9%	2.9%	5.4%	8.5%	12.2%	15.9%	19.0%	22.5%	25.4%	28.1%	
3.6%	6.6%	5.0%	6.8%	10.0%	13.8%	17.6%	21.0%	24.3%	26.9%	29.7%	32.4%	
3.8%	16.0%	12.0%	13.6%	17.0%	20.8%	23.8%	26.7%	29.2%	31.8%	34.2%	36.4%	
4.0%	32.1%	24.6%	24.4%	26.8%	28.9%	30.9%	33.0%	34.8%	36.6%	38.3%	40.3%	
4.2%	54.5%	42.8%	38.4%	37.0%	37.3%	38.1%	39.2%	40.2%	41.5%	42.8%	44.2%	
4.4%	76.2%	63.2%	53.7%	48.6%	46.1%	45.2%	45.2%	45.5%	46.3%	47.2%	48.4%	
4.6%	90.9%	80.5%	67.7%	59.7%	55.3%	52.6%	51.4%	50.9%	51.0%	51.3%	52.0%	
4.8%	97.7%	91.5%	79.4%	69.7%	63.6%	59.7%	57.6%	56.3%	55.7%	55.3%	55.3%	
5.0%	99.5%	97.1%	87.8%	78.2%	71.0%	66.0%	62.9%	61.0%	60.1%	59.4%	59.2%	
5.2%	99.9%	99.1%	93.4%	84.8%	77.2%	71.9%	68.1%	65.7%	64.0%	63.0%	62.5%	
5.4%	100.0%	99.8%	96.4%	89.6%	82.7%	76.9%	72.5%	69.7%	67.6%	66.3%	65.6%	
5.6%	100.0%	100.0%	98.3%	93.0%	86.9%	81.2%	76.9%	73.4%	71.1%	69.4%	68.4%	
5.8%	100.0%	100.0%	99.2%	95.6%	90.0%	84.9%	80.3%	77.0%	74.1%	72.4%	71.0%	
6.0%	100.0%	100.0%	99.7%	97.2%	92.6%	87.9%	83.6%	80.0%	77.1%	75.1%	73.5%	

Source: Alexander Forbes

Probably the most important insight gained during the research is that individual advice forms a key component of the process, because individual needs vary significantly. This echoes the demand for flexibility described in this paper. Alexander Forbes has designed a financial tool to enable advisers to help individuals to assess their options, revisiting their options once a year and considering the impacts of purchasing an annuity at that time.

The servicing includes ongoing monitoring of annuity prices, which fluctuate significantly across providers and from month to month, to secure the best available price at time of purchase and also to trigger automatic purchase of an inflation-linked annuity if, at any time, it would provide income in excess of the individual's needs.



The tool combines education on the relevant probabilities of disaster for each strategy with income projection analytics that are designed to illustrate the risk-return trade-offs in a number of ways and help individuals to adjust their strategies as required.

This description is not intended to endorse the research or its conclusions but to illustrate one approach being developed to convey to individuals the complexity of trade-offs faced, improving their chances of making a sound and well-informed decision.