INVESTMENT LINKED LIFETIME ANNUITY

Introduction

A lifetime annuity could be the perfect product for many retirees – particularly those who expect to live a long time – provided that payments were indexed to inflation. No worries about "money running out"; no need to manage investments – or put up with financial planners trying to help you.

Certainty of future income would even permit running a bank overdraft to accommodate lumpy expenditure – at least during any guarantee period or subject to purchase of life insurance.

However, not many lifetime annuities are purchased in Australia – for 4 main reasons:

- They appear to be poor value for money.
- There is potential "loss" in the event of early death (although this can be ameliorated by providing a guaranteed period or return of capital).
- A highly flexible account based pension is available in a tax free environment.
- The financial planner loses the opportunity to provide continuing investment advice.

Investment Linked Lifetime Annuity (ILLA)

For those looking for better prospective returns from managed investments and are willing to accept the investment risk, but wishing to insure against the longevity risk, the ideal retirement product could be an *investment linked lifetime annuity*.

Such an annuity would have its benefit payments defined in terms of the value of specified *numbers of investment units* for each payment, rather than as specific numbers of dollars. This would include those payable during any initial guarantee period.

These payments, in numbers of units, would be linked to life expectancy at the time the annuity was purchased, taking into account longevity improvements, expenses, risk margins and the like.

To assist with the discussion of the benefits of such a product, the following examples are provided.

Example 1

Assume an investment by a male of age 65 of $1,000,000, comprising 100,000 investment fund units, with a unit price of $10.

The expected number of annual payments yearly in advance assuming current annuitant mortality and improvements, with a 10 year guaranteed period, is 23.980.

The number of units, the value of which will be guaranteed to be paid each year, allowing for a 5% charge to cover expenses and longevity risk margin, would then be 100,000/23.980*0.95 = 3961.6.

The initial annual payment would be 3,961.6 x $10 = $39,616, ie 3.9616%of the initial investment.

Example 2

Let's now assume that the unit price increases by 7% pa.

The dollar amount of the annuity paid out each year would increase by 7%. Thus the second year payment would be 39,616 x 1.07 = $42,389, and the third year $39,616 x 1.07^2 = $45,357.

Example 3

If the annuitant has an expectation that the investments will receive the 7% return, but their desired target is more reasonable 3% p.a. increase, the number of units "paid" in the first year (in advance) could be increased to $100,000/a'_{65:10}$, where $a'_{65:10}$ is calculated at an interest rate of (1.07/1.03 − 1)x100 = 3.8835%.

The annuity factor on this basis is 15.084, so that the first year's number of units would be 100,000/15.084*0.95 = **6298.06**.

Thus the policy would state that the number of units, the value of which would be paid each year, would decrease by the same factor year-on-year. This decrease is shown in the table below.

Projected values assuming 7% pa unit price growth are shown alongside (although of course these would not be included in the policy document).

Year	No. of Units "payable" (Yearly in advance)	Unit Price at start of year	Payment (Value of Units)
1	6298.06	$10.000	$62,981

2	6298.06/1.038835 = **6.062.62**	$10.700	**$64,870**
3	6298.06/1.038835^2) = **5,835.98**	$11.449	**$66,816**

And this would continue each year whereby the number of units "payable" reduces by 3.8835% until death or the end of the guaranteed term. (Note: if the unit price does increase by 7% pa, payments increase at 3% pa, as planned.)

Monthly Payments
Where the annuity is paid monthly, the policy would state the number of units "payable" each month during the life of the annuity. The amount paid on any monthly date would be based on the unit price on that day.

Comparison with Dollar based Annuities
Currently, few standard dollar based lifetime annuities are being sold. The values for the standard annuities (level and indexed at 3% p.a.) contained within the following table reflect current market estimates of longevity, investment returns, expenses and solvency requirements which are considered appropriate for the annuities shown.

Year	*(Bring ILLA etcheading across)* --------------- Units "Paid" (Initial value $10)	ILLA – with units decreasing at 3.8835% p.a.		Ordinary Dollar Based Annuity - Level	Ordinary Dollar Based Annuity - 3% p.a. indexation
		Annuityp aid(Actual growth 7% p.a.)	**Annuity paid**(Act ual growth 4% p.a.)		
1	6298.1	$62,981	$62,981	$60,000	$43,000
2	6062.6	$64,870	$63,051	$60,000	$44,290
3	5836.0	$66,816	$63,122	$60,000	$45,619
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10	4469.8	$82,176	$63,620	$60,000	$56,105

The possible return from the ILLA is inevitably higher than for the guaranteed annuity since the annuitant bears the investment risk.

However, the margin of difference is also expected to be higher due to the higher life office reserving requirements for dollar based annuities where both investment returns and longevity are being underwritten.

This situation is particularly significant for the increasing dollar based annuity where the life office is vulnerable to a long and increasing tail of uncertainty.

If the investment link chosen for the ILLA is cash earning an average 4% pa, the outcome is a little more than that from the level dollar based annuity, but without the guaranteed dollar payments.

Higher returns from a mix including longer term investments would be reasonably expected to produce annuity payments increasing over time.

Investment Linked Lifetime Annuity – Acceptable for Superannuation?
Such a product could be accepted if "investment linking arrangements" were added to indexation arrangements (and with profit arrangements) in the SIS Act regulations, as a (further) method for "maintaining over time the purchasing power of the pension/annuity".

With regard to changes to the SIS Act Regulations to accommodate them, I suggest something along these lines: Regulation 1.06: add new subregulation (12)
"In this regulation:
investment linked arrangement, in relation to a pension, means an arrangement specified in the rules for the provision of the pension that:

(a) requires each pension payment to be made by reference to the value of a number of units in a specified *accumulation investment fund*;

(b) the minimum number of units specified for pension payments in the first year shall be calculated in accordance with Schedule 7;

(c) the number of units specified for each year after the first year must be equal to the number of units specified for the previous year divided by a specified factor equal to (1 + f) where "f" is at least zero and no greater than 0.04.

For the purposes of this regulation, "*accumulation investment fund*" means an investment fund where all income of the fund is retained within the fund".

A similar additional subregulation would be necessary for Regulation 1.05.

The relevant clause in Schedule 7 would include words to the effect:
"The minimum number of units of the *accumulation investment fund* specified for payments made in the first year shall be the number of units referable to the Purchase Price X percentage factor."

The maximum annual unit reduction factor of 4% is chosen to line up with a projected 7% pa fund growth rate to release payments increasing at 3% pa.

The expressions *investment linked arrangement* and *accumulation investment fund* may need also to be included in the definitions section. Doubtless also there will be a number "subject to" clauses.

In addition, if term certain annuities/pensions are to be accommodated, there would be further clauses consistent with the regulatory treatment of non-investment linked term certain annuities/pensions.

Alternatively, application could be made to APRA to exercise the discretion available to them to approve a particular contract.

As for with profit annuities, to avoid excessive deferment of investment performance payments, it could be stipulated that the first year's expected pension/annuity payment(s), calculated at the unit price on the date of purchase, would be at least equal to that under the minimum payment scale for account balance arrangements, applied to the purchase price of the pension/annuity.

Policyholder Risk
The prospective policyholder would need to formally accept, on the application form, that pension payments will depend on the unit price at the time of payment.

Death Benefit/Surrender Value
A benefit payable on death or surrender would be available only where there was a guaranteed period for annuity payments and it had not expired (or some other form of capital guarantee).

The benefit in the case of an unexpired guaranteed period would be *the value on the day after the claim is made, of the total number of units remaining to be "paid"*.

Investment Mix
For simplicity, the policyholder will choose a single investment fund which will have a mix of underlying assets to fit with the fund's description, eg "growth" or "capital stable".

However, it should be possible to allow the policyholder a mix of investment funds – say, a specialist equities fund and a specialist fixed interest fund – in specified proportions, eg 60%/40%.

As this product is based on unitised holdings and cashflows, it would need to be made clear that these proportions would be applied to the *number of units* the value of which will be paid. It would not represent the split of investment values on each payment date.

Investment Linked Lifetime Annuity – Switch Investment Options?
To make sure the product is attractive for individuals with varying appetites for investment risk, the annuitant would be able to switch the investment option to which the annuity payments were linked (but not the life company) through a simple switching process.

For example:
- Current investment option: Number of units "payable" in current year 5,000; Unit price $12; Payment due $60,000.
- New investment option unit price $6; New number of units "payable" in current year 5000*12/6 = 10,000; Payment due $60,000, as required.
- Revised scale of units "payable": current year 10,000; next year 10,000/1.038835 = 9,626.49; following year 10,000/(1.038835^2) = 9,266.94, and so on.

This process would also need to apply in the event that an investment fund is closed and merged with another.

Financial Planner Involvement
A financial planner would need to advise on the product initially and on the investment mix from time to time. Accordingly, reasonable fees could be charged (rebating any commissions).

Life Office Reserves
The life office will need to keep reserves in the form of the investment link(s) representing the policy liability. This will

equal the current value of the aggregate expected number of units required to be "paid" in the future.

The investment risk will then only be an operational risk. \

The generalised equation: Reserve at start of period of + New Purchases – Annuity Payments – Reserve at end of period = Contribution to Expenses + Profit from longevity risk margin, should then apply.

In practice, there will be a profit/loss from operational risk "noise" as the timing of allocations of units to reserves for the policies will not precisely line up with the equation theory. It will be important to establish systems to keep this to a minimum.

Guaranteed Income at a Late Age

It is possible that, as a retiree gets older, stability of income in dollar terms becomes more important.

One approach would be to switch to a low risk investment option such as cash or fixed interest.

Alternatively, an option to convert to a guaranteed lifetime annuity at a future date could be made available under the investment linked lifetime annuity. Since the longevity risk is only marginally altered by the change in investment, the reserve held by the life company could be used as a basis for providing the guaranteed lifetime annuity.

Meeting Retirees' Expenditure Needs

Income from any (predetermined payment) annuity will not match the retiree's day to day expenditure. This applies whether the product is of a fixed dollar income or investment linked nature.

Consequently, in order to meet the potential shortfall of income against expenditure from time to time, as well as enjoy the benefit of having the longevity risk suitably covered, it would be expected that a retiree will utilise part of the superannuation proceeds to purchase an account based pension. This can then be drawn down as necessary to meet (the balance of) expenditure needs, subject to the minimum "per cent of account balance" payment scale.

Conclusion

The Investment Linked Lifetime Annuity provides an alternative to both fixed income based annuities, which appear to many investors as having poor value, and account based pensions, which fail to provide longevity security.

It also provides the opportunity for seamless transition from the accumulation of retirement benefits to the pension phase where managed investment funds are desired to continue to be the basis for retirement needs and lifetime security.

It is to be hoped that the next review of Superannuation regulations incorporates changes which would allow the use of Investment Linked Lifetime Annuities.

Geoff Dunsford