

Managing Longevity Risk – One Solution

A longevity swap allows a scheme to reduce or remove the risk of increased costs if future improvements in life expectancy are greater than anticipated, whilst still retaining control of the investment strategy of the assets notionally backing the liabilities.

There are two types of longevity swap. A “scheme experience” swap (although they can have other names) is generally targeted at pensioner members whereas for deferred members, a “population index” swap may be more suitable.

Scheme experience swaps

The first swaps with UK pension schemes all involved scheme experience swaps. So far, transactions have covered liabilities of several £100m and many providers will not currently provide scheme experience swaps for smaller schemes.

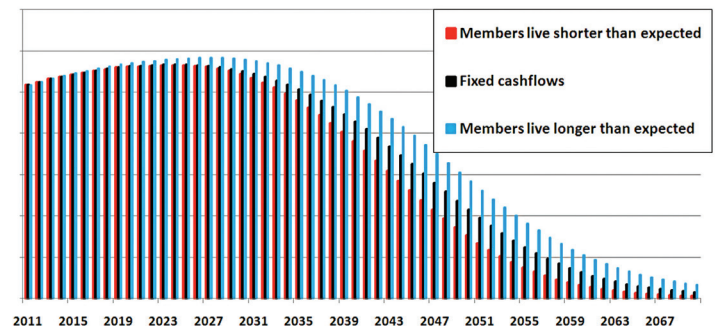
To effect a scheme experience swap, an expected set of cashflows is derived based on the scheme’s actual pensioner population and the swap provider’s longevity assumption. These cashflows will include an allowance for the insurer’s expenses and expected profit margin.

Over the lifetime of the swap the scheme pays the fixed cashflows based on this projection to the swap provider. In return, the swap provider pays cashflows to the scheme based on the actual longevity experience of the scheme’s membership. In practice, a net payment is made one way or the other each period - for example, monthly, quarterly or annually. If members live longer than assumed (blue bars opposite), the provider would make a net payment to the scheme. However, if members die more quickly than assumed (red bars opposite), the net payment would be paid by the scheme to the provider.

The fixed cashflows can include an allowance for spouses’ pensions if required and providers can also include an allowance for inflation-linked pension increases.

This type of swap is more suitable for pensioners because the cashflows for deferred members are much more uncertain, and therefore more expensive. For example, the members’ retirement age and whether they will commute any pension

for a lump sum are both unknown and can make the projected cashflows for deferred pensioners very inaccurate.



A considerable amount of legal documentation is required to accompany a scheme experience longevity swap. This is perhaps understandable given the length of time that such a swap is expected to last, its bespoke nature and the possibility of unforeseen events occurring in the future.

Population index swaps

Some providers offer a swap based on a population longevity index. These swaps will generally only last for a limited period e.g. 10 years. The index will be based on published national statistics of longevity for the general population.

Index swaps aim to protect the scheme against improvements in the longevity assumptions used by actuaries and insurance companies over the swap’s term. To do this, the net payment to or from the swap provider is varied according to changes in the general population’s life expectancy. These changes will hopefully feed into the new longevity assumptions used to value the scheme’s liabilities.

Index swaps project the observed improvements forward (according to a pre-agreed formula) so, in theory, the scheme is protected against increased estimates in life expectancy by

Population index swaps *continued*

the end of the swap's term. However, changes in longevity assumptions (used to value the scheme) may also be dependent on subjective actuarial opinion and insurers' capital requirements. Therefore, these swaps may not provide a perfect hedge against changes in the scheme's liability.

This type of swap is more suitable for deferred members who are unlikely to die during the term of the swap but where the majority of a scheme's exposure to longevity risk lies. Index swaps are also more affordable for deferred members compared to scheme experience swaps. They are also more appropriate for small schemes as data requirements are less onerous and advisor fees should be lower.

Concerns remain over "basis risk", which is the risk that a scheme's specific experience does not move in line with general population experience. However there have been calls from academics suggesting that this shouldn't be too significant and, since life expectancy is moving in the same direction for all socio-economic groups, an appropriately calibrated swap should be able to provide protection that is at least 90 – 95% effective for most schemes.

At the time of writing, one such deal has been completed by a UK pension scheme.

Who provides these swaps?

Longevity swaps are offered by either investment banks or insurers and reinsurers. As a result, the vehicle backing the swap can vary.

Investment banks find other parties to take on longevity risk and are merely acting as an agent between the scheme and these counterparties. However, the bank should act as guarantor in the event of any of the counterparties defaulting.

An insurer writing a longevity swap would be required to satisfy the Financial Services Authority's capital requirements to transact this type of business and they may also "re-insure" some of the risk.

Collateral

One issue that schemes will want to consider is any collateral that may be included as part of the agreement. Collateral is used to protect the parties entering into a swap so that if one

party defaults on its obligations due under the swap contract, the other party is in some way protected. An investment bank is more likely than an insurer to include collateral in its product. Agreeing the terms for the posting of the collateral can be complicated and may take up a considerable amount of time to resolve.

Terminating the swap

At some point in the future the scheme may want to purchase an annuity policy so it can wind up. It is therefore important to consider the swap termination terms, whether the swap can be converted into an annuity policy with the same swap provider or whether it can be novated to a bulk annuity insurer.

Mortality – Scheme experience analysis

When pricing a scheme experience swap the provider may want to analyse the scheme's historic mortality experience. The scheme should ensure it receives specialist advice in this area so that it can negotiate robustly with the insurer on the terms and pricing of the scheme experience swap. This is not required for an index based swap.

Summary

A longevity swap will undoubtedly be a useful product in helping some larger pension schemes manage their longevity risk. However, those entering into such arrangements should consider issues such as long-term objectives for their scheme, collateral arrangements and terminating the policy.

As the market for longevity swaps develops and there is greater standardisation, these may become available to smaller pension schemes. However, at the moment, for schemes with liabilities less than £100m, a partial buy-in contract remains the primary way of managing the longevity risk.

For further information

Please contact your usual Barnett Waddingham consultant if you would like to discuss this issue in more detail.

Alternatively, please email:

corporateconsulting@barnett-waddingham.co.uk

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Chalfont Court
Hill Avenue
Amersham
HP6 5BB
Tel: 01494 788100
Fax: 01494 788800

Silver Springs House
2 Topaz Way
Birmingham Road
Bromsgrove B61 0GD
Tel: 01527 300 000
Fax: 01527 300 090

St James's House
St James's Square
Cheltenham
GL50 3PR
Tel: 01242 538500
Fax: 01242 538501

163 West George Street
Glasgow
G2 2JJ
Tel: 0141 243 4400
Fax: 0141 243 4432

West Riding House
67 Albion Street
Leeds
LS1 5AA
Tel: 0113 394 3700
Fax: 0113 394 3760

Port of Liverpool Building
Pier Head
Liverpool
L3 1BW
Tel: 0151 235 6600
Fax: 0151 235 6640

Cheapside House
138 Cheapside
London
EC2V 6BW
Tel: 020 7776 2200
Fax: 020 7776 3800

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