



Reinsuring longevity risk

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There has been a marked increase in recent years in the amount of longevity risk being assumed by the global reinsurance market. The demand from reinsurers has been driven by a number of factors, but perhaps the most significant for life reinsurers with catastrophe books is that longevity risk acts as a natural hedge against mortality exposure and can create diversification benefits for regulatory capital purposes.

Sources of longevity risk

The two principal sources of longevity risk are defined benefit pension schemes and books of annuity business written by life insurers. There has been an increased level of transaction activity in relation to the latter, with some European based life insurance groups looking to hedge longevity exposure in light of the additional regulatory capital that may have to be held under Solvency II in respect of annuity business. However, it is the demand from defined benefit pension schemes that has been the principal driver for the development of an active secondary market for longevity risk in which reinsurers have been the principal participants.

According to figures published by the International Monetary Fund in 2012, on a global basis the aggregate value of private defined benefit pension liabilities totals US\$23 trillion. With increases in life expectancy in recent decades, pension schemes have increasingly been looking for methods to hedge against the risk that their members live longer than is currently predicted.

The UK is the most mature market for the “de-risking” of pension schemes. This has been driven by the large number of defined benefit pension schemes in the UK and improvements in life expectancy and poor investment returns that have left many such schemes in deficit. This in turn has adversely affected the balance sheets of corporate sponsors who are liable to make good such deficits. The vast majority of transactions executed to date have taken the form of traditional bulk annuity deals either in the form of pension buy-outs or involving the issue of a buy-in policy. A further alternative first became available to the market in 2009 with the emergence of longevity swaps.

To put into context the opportunities and range of legal structures available to reinsurers looking to hedge longevity risk, set out below is a brief overview of the key distinguishing features between buy-ins, buy-outs and longevity swaps.

Buy-outs

A pension buy-out involves an insurer taking over the liability to pay all or some of the member benefits from the trustees of the relevant pension scheme. This is achieved by the insurer issuing

individual annuity policies to the relevant scheme members in return for a payment of premium by the trustees, usually effected by way of a transfer of assets from the pension scheme to the insurer. In the case of a buy-out, there is a direct insurance contract between the insurer and the individual scheme member; and in the event of a full buy-out, where individual policies are issued to all of the members of the pension scheme, the trustees can proceed to wind-up the scheme, with all future administration being performed by the insurer. The buy-out option is accordingly the ultimate form of pension scheme de-risking.

Buy-ins

Pension buy-in solutions were developed as a de-risking option for pension schemes that were unable to afford the often prohibitive costs of a full buy-out. Under a pension buy-in, there is no direct contractual link between the insurer and the individual scheme members. Instead, the pension scheme trustees hold the buy-in policy in their name as an investment of the scheme, and the scheme continues to deal with the payment and administration of benefits. The trustees pay a premium (usually by transferring over an equivalent amount of pension scheme cash, bonds and other assets under management) and, in return, receive an income stream from the insurer to cover some or all of the scheme's liability to pay member benefits. In the case of some of the larger buy-in transactions, trustees will also require the insurer to post collateral or otherwise secure its obligations to make payments under the policy; in particular to cover the possibility of early termination in the event of the insurer's insolvency or default. The amount of collateral required will be based on the net present value of the insured benefits (on a “best estimate” mortality basis).

Longevity swaps

In their purest form, longevity swaps are derivatives and not contracts of insurance. However, it is possible to achieve the same economic effect on an insurance basis; and there have been examples of insurers issuing policies to pension schemes structured in the same way as a longevity swap. Although it is clearly important to ensure that the contract is properly structured as a derivative or insurance policy according to whether the protection provider is a bank or insurer; in either case, the core economics are very similar. In return for the pension scheme paying a fixed monthly amount to the insurer or bank, the counterparty makes a payment to the pension scheme on a monthly basis (the floating amount) referable to the benefit payable to a defined group of pensioners.

Whereas buy-ins and buy-outs involve a transfer of inflation,



interest rate, investment and longevity risk to an insurer, longevity swaps offer a much purer hedge against the risk of scheme members living longer than is actuarially predicted; and the fact that there is no upfront payment of a lump sum premium means that the investment, interest rate and inflation risk remains with the trustees. Accordingly, longevity swaps are typically a less expensive alternative to buy-ins and buy-outs, albeit much more complex to structure and negotiate. Longevity swaps almost invariably require the two-way posting of collateral to protect against the possibility of early termination by reason of the other party's default or insolvency. The collateral is typically based upon the present value of the covered benefits and will also include a fee element payable to the insurer/bank in the event of termination arising by virtue of trustee default.

Increasing opportunities in the secondary longevity market

In addition to the UK market, there is an increasing demand for de-risking solutions in other jurisdictions including the Netherlands and, notably, the United States. Following a handful of relatively small pension buy-in deals in previous years, the US market has now seen, in the course of the last 12 months, very high value pension-risk transfer transactions involving the General Motors and Verizon schemes.

These developments, coupled with continuing demand from life insurers looking to hedge the longevity risk in annuity books, have fuelled an active secondary market for longevity risk. To date, the vast majority of that business has been written by reinsurers, and such has been the available capacity within the life reinsurance market that the pricing has been competitive and there have been relatively few opportunities for the capital markets, ILS funds and others attracted by an asset class that is largely uncorrelated to the financial markets.

Transaction structures

For reinsurers contemplating the assumption of longevity risk, the key commercial decision that informs the legal structure for

the transaction is whether to (i) secure pure longevity risk in the form of a reinsurance longevity swap (structured on a very similar basis to direct longevity swaps as described above); or (ii) write a more traditional asset-backed reinsurance. In the latter case, the reinsurance premium is paid upfront and the reinsurer therefore assumes the inflation, investment and interest rate risk as well as the longevity exposure in much the same way as a direct insurer writing a pension buy-in policy in favour of a pension scheme.

Other key structuring questions concern the form in which the longevity risk was originated. In cases where the front end arrangement involved a longevity swap with a bank as a counterparty, the longevity risk would be in derivative form and not capable of being directly reinsured. In situations such as this, transformer vehicles (often based off-shore) will be used to convert the derivative exposure into insurance risk that can then be reinsured.

It is more straightforward for reinsurers where the pension scheme de-risking involved a buy-in or a buy-out to an insurance company or, indeed, where a life insurer is looking to hedge its own annuity or block pensions business. It is also possible for reinsurers without a direct insurance licence to offer bespoke solutions to pension schemes by engaging the services of a fronting insurer and creating a back-to-back arrangement. However, there are particular complexities involved in ensuring that the security and collateral arrangements operate effectively in structures of this nature.

As for what the future may hold, given the costs and complexity of constructing bespoke longevity swaps, there is likely to be continuing work on the development of index-based products. These have yet to gain much traction with either pension schemes (given concerns about basis risk) or in the secondary market in light of the current levels of available reinsurance capacity. However, with the strong growth in demand for longevity hedging, some are predicting that within the short to medium term, traditional reinsurance capacity may well become fully utilised, creating opportunities for new entrants to this market. ●