

OCTOBER 2022

LONGEVITY SWAPS

THE REALITY BEHIND THE MYTHS

LONGEVITY SWAPS CAN OFFER PENSION SCHEMES AN EFFECTIVE WAY TO FURTHER REDUCE THE RISKS THEY FACE, BY TRANSFERRING AWAY THE UNCERTAINTY REGARDING HOW LONG THEY WILL BE REQUIRED TO PAY PENSIONS TO THEIR PENSIONERS.

In this paper, we aim to provide a clearer understanding of what longevity swaps are, what they can do and, just as importantly, what they are not, to disperse the fog surrounding them and to correct some popular misconceptions.

WHAT ARE LONGEVITY SWAPS?

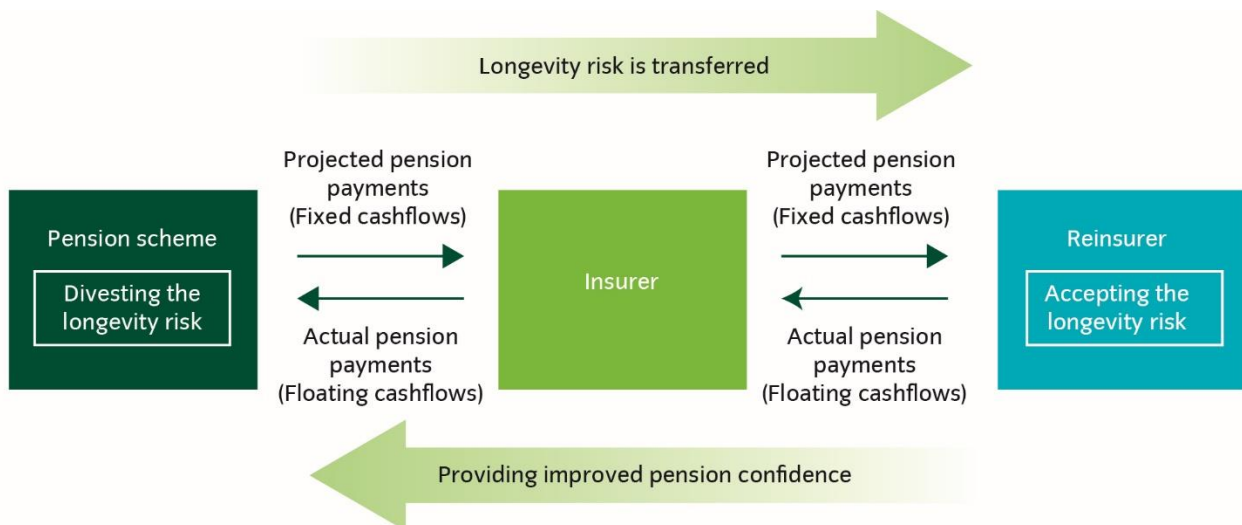
Longevity swaps help pension schemes reduce longevity risk: the effect of pensioners living longer than the actuarial assumptions expect them to, resulting in a higher cost and the need to manage risk longer than anticipated.

A longevity swap aims to transfer the longevity risk associated with a defined group of scheme members (the insured population) away from the pension scheme to another party, using an insurance contract. The appetite for taking on pension schemes' longevity risk comes primarily from reinsurers, who view it as a natural offset to their mortality risk exposure (policyholders dying earlier than expected). This means that almost all longevity-hedging solutions involve the risk being passed from a pension scheme to a reinsurer. However, as reinsurers can only transact with insurers, pension schemes wishing to hedge longevity risk must do so via an insurer.

Under the terms of the longevity swap contract, the scheme makes a series of agreed monthly or quarterly payments to the reinsurer, typically over the next 40 to 50 years; these are referred to as the 'fixed' cashflows. These payments will reflect an agreed best-estimate projection of the pensions payable to the insured population and will be linked to inflation in much the same way as the scheme benefits. They will also include the reinsurer's fee for taking on the longevity risk, which is typically around 3% to 4% of the best-estimate projection. In return, the scheme receives payments from the reinsurer equal to the actual pensions due to the insured population (the 'floating' cashflows), which will vary depending on the realised longevity experience of the individual lives. As a result of this exchange of cashflows, the pension scheme is no longer exposed to the risk of the insured population living longer than expected.

In practice, only the net amount will be paid between the two parties and while payments can pass through the insurer, they often flow directly between the scheme and the reinsurer.

Figure 1: Basic longevity swap structure



Source: Insight. October 2022. For illustrative purposes.

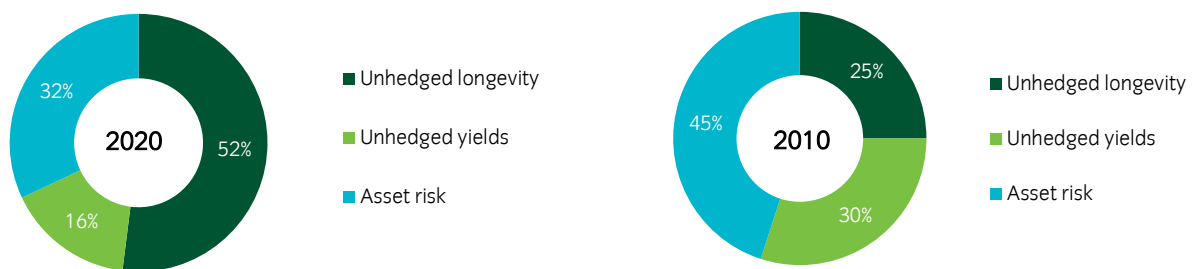
MYTH? – LONGEVITY RISK IS NOT A SIGNIFICANT RISK

Reality – Longevity risk now represents a substantial proportion of the total risks facing the average pension scheme, as other risks, such as interest rate risk and inflation risk, have been substantially hedged.

In the past, longevity risk is likely to have been dwarfed by asset risk and interest rate and inflation risk. However, over the last 10-15 years, most pension schemes have reduced their exposure to growth assets and have hedged materially more interest rate and inflation risk. However, they have left longevity risk largely unhedged, meaning that it now represents a substantial proportion of the risk that remains.

According to the latest-available analysis by Hymans Robertson, more than half of the risk pension schemes faced in 2020 was posed by unhedged longevity (see Figure 2). For schemes where more de-risking has taken place, the percentage is likely to be much higher than 50%.

Figure 2: Longevity risk is now the largest unhedged risk for the average UK pension scheme



Source: Club Vita, April 2021. Based on information in the Pension Regulator's Scheme Funding Analysis 2020 and 2010 and the PPF's Purple Books, approximately converted. Figures show the drivers that would increase the deficit in the average of the worst 5% (1 in 20) outcomes.

MYTH? – LONGEVITY SWAPS ARE COMPLEX AND DIFFICULT TO IMPLEMENT

Reality – Although they can be time consuming to set up, increasing standardisation is making the longevity swap implementation process less complex.

Set up: Longevity swap implementation is generally simpler today than in many earlier cases, as structures become more standardised and straightforward. Negotiation of the various contracts is also becoming steadily easier as consultants, lawyers and reinsurers have a clearer view of the terms each of the various parties will be willing to accept.

We have worked closely with a number of law firms to create a checklist of key structuring considerations.¹ This foreknowledge can help speed up the negotiation and contract drafting process. In addition, contract drafting is helped by the fact that most transactions use a previously executed contract as a starting point, which contributes to developing consistency and standardisation across transactions.

Ongoing administration: After the initial set up, regular management need not be onerous for the pension scheme. The main role for the pension scheme is to provide details of deaths and new spouses on a quarterly or monthly basis. This is typically delegated to the scheme administrator who should be able to use an automated process to generate the required information. All other day-to-day aspects of the longevity swap are dealt with by other parties (e.g. the reinsurer, collateral manager or calculation agent).

A management and oversight role is still required, sitting above the various parties involved. However, appropriate holistic reporting services can make this task easier.

MYTH? – LONGEVITY SWAPS ARE EXPENSIVE

Reality – Longevity swaps are not necessarily expensive and should be viewed alongside the potential costs of a negative longevity shock. They carry some initial set-up costs, as with any similar transaction, but thereafter the ongoing costs associated with their execution are likely to be manageable.

The initial costs associated with longevity swaps consist primarily of the fees payable to advisers and legal counsel. Although these can be material, they should be considered alongside the benefits that the reduction in risk that longevity swaps are designed to provide, and the potential cost of a longevity shock, which may be substantially greater.

¹[Top ten structuring considerations for longevity swaps](#)

On an ongoing basis, the main cost associated with a longevity swap will be the risk fee payable to the reinsurer for taking on the longevity risk. For a pensioner-only transaction (where deferred liabilities are not included), the risk fee will typically be in the region of 3% to 4% of the projected pension cashflows. In terms of investment return, we estimate this will equate to an increase in the required rate of return from the assets backing those pensioner liabilities of approximately 0.25% to 0.33% per annum (pa)².

The other ongoing costs will arise from the insurer, calculation agent and collateral manager. These tend to be largely independent of the size of the transaction, and more a function of the frequency of the net payments and collateral flows (e.g. higher costs for monthly rather than quarterly movements). In total, the ongoing costs might equate to around £250,000-£400,000 pa plus inflation.

MYTH? – LONGEVITY SWAPS ARE ONLY FOR THE LARGEST PENSION SCHEMES

Reality – We believe that we will see more medium-sized schemes transact in the longevity swap market as it continues to develop, grow and standardise.

Although the average size of publicly announced longevity swaps has increased to more than £3bn in recent years, we expect that the increasing standardisation of documentation and operational practice will allow the average size to decline significantly over time. Indeed, we understand that the majority of longevity reinsurers would consider transactions from around £300m upwards, suggesting that much smaller transactions are potentially viable.

So, although longevity swaps may not yet be an option for all schemes, they are certainly not the preserve of only the very largest.

MYTH? – LONGEVITY SWAPS ARE A BARRIER TO BUY-INS

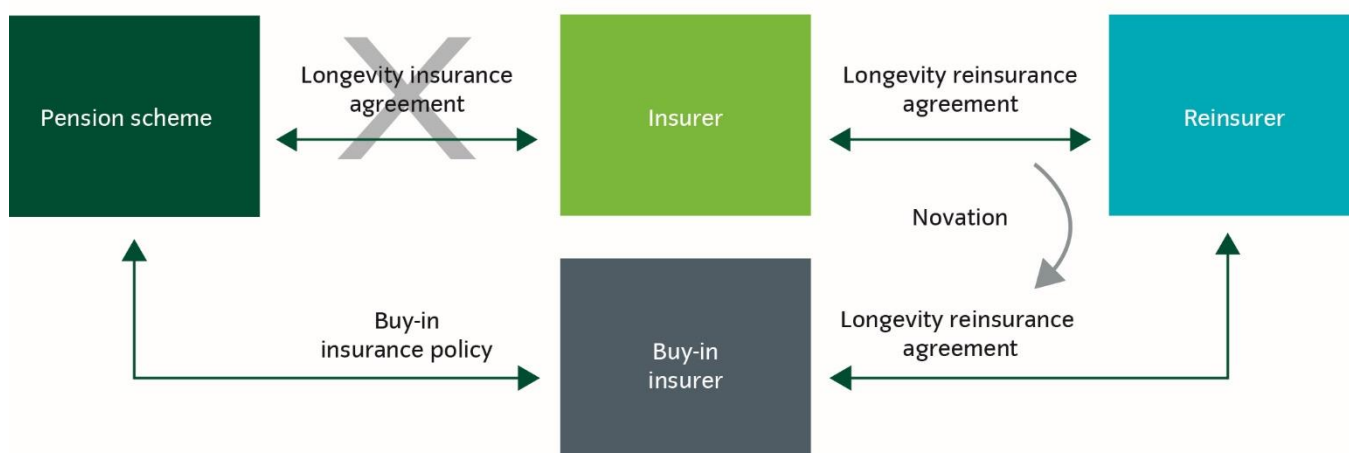
Reality – Developments in the novation of longevity swaps mean that future conversion to a buy-in does not need to be a hurdle preventing schemes from hedging their longevity risk today.

Although sometimes presented as such, we do not believe that longevity swaps represent a barrier to buy-ins. As the longevity market continues to develop, a number of existing longevity swaps have already been novated to buy-in status. As the process of novating longevity reinsurance agreements becomes more familiar for the key participants such as insurers, reinsurers, consultants and lawyers, we expect a steady flow of such conversions each year.

Converting a longevity swap to a buy-in entails three primary actions, all of which must take place simultaneously (Figure 3):

- The pension scheme terminates the longevity insurance agreement it has with the insurer.
- The pension scheme sets up a new buy-in insurance policy with a buy-in insurer.
- The longevity reinsurance agreement is novated to stand between the reinsurer the new buy-in insurer.

Figure 3: Novating a longevity swap to a buy-in is a straightforward process



Source: Insight. As at September 2022. For illustrative purposes

² Source: Insight as at September 2022. Assumes a 3%-4% risk fee spread over a duration of the pensioner liabilities of 12 years.

MYTH? – LONGEVITY SWAPS ONLY COVER THE LOWER-RISK PENSIONER MEMBERS

Reality – Reinsurers are increasingly willing to provide coverage to non-pensioner members, who in some cases will represent the majority of a scheme's longevity risk.

We are starting to see increased willingness from reinsurers to take on both pensioner and non-pensioner risk. To date, two publicly announced transactions have included non-pensioner members: the AXA UK Group Pensioner Scheme (95% non-pensioner) and UBS (UK) Pension and Life Assurance Scheme (50% non-pensioner). We expect to see more such transactions in the coming years.

INSIGHT'S LONGEVITY HEDGING PLATFORM

In recent years, Insight has dedicated itself to the development of a longevity hedging platform, with the aim of helping our pension scheme clients address their liability-related longevity risk more easily. We believe that longevity hedging represents a natural extension of our extensive LDI expertise. Providing this longevity hedging capability draws on our experience of negotiating and implementing complex legal documentation, collateral management, counterparty monitoring and quantitative analysis.

The platform uses a third-party owned Guernsey Incorporated Cell Company (ICC), which acts as the insurer, with Insight providing all the key services required to support the transaction:

- **Collateral management:** Since the inception of the longevity market, we have provided collateral management services to clients with longevity swaps. We currently provide collateral management services with respect to more than 10 longevity swaps using a wide range of collateral structures.
- **Calculation agent:** An integral part of setting up the longevity hedging platform has been the development of systems that enable us to perform the role of calculation agent. Specifically, we have developed models for the generation of fixed and floating cashflow projections and the calculation of quarterly/monthly net cashflow amounts.
- **Reporting:** Underpinned by the work we do in the role of calculation agent, we can provide detailed reporting that sets out how the longevity swap is performing.

The platform is supported by a team experienced in the areas of insurance and actuarial, longevity, legal, collateral management and operations. Additionally, a specialist team has been established in our Dublin office to ensure that the calculation agent work is carried out offshore.

Benefits of the Insight longevity hedging platform

- **Efficient use of LDI assets:** Managing the longevity swap alongside other LDI exposures enables schemes to set up a unique pool of collateral to support all their hedges.
- **LDI systems and infrastructure:** The ongoing management and collateralisation of the longevity swap can benefit from Insight's robust operational processes and systems.
- **Ongoing reporting:** By undertaking the role of calculation agent, Insight can provide detailed reporting on the ongoing performance of the longevity hedge.
- **Experienced team:** Schemes may benefit from our experience of working with external advisers to implement complex transactions.

IMPORTANT INFORMATION

Investment in any strategy involves a risk of loss which may partly be due to exchange rate fluctuations.

ASSOCIATED INVESTMENT RISKS

Fixed income and liability-driven investment

- Where the portfolio holds over 35% of its net asset value in securities of one governmental issuer, the value of the portfolio may be profoundly affected if one or more of these issuers fails to meet its obligations or suffers a ratings downgrade.
- A credit default swap (CDS) provides a measure of protection against defaults of debt issuers but there is no assurance their use will be effective or will have the desired result.
- The issuer of a debt security may not pay income or repay capital to the bondholder when due.
- Derivatives may be used to generate returns as well as to reduce costs and/or the overall risk of the portfolio. Using derivatives can involve a higher level of risk. A small movement in the price of an underlying investment may result in a disproportionately large movement in the price of the derivative investment.
- Investments in emerging markets can be less liquid and riskier than more developed markets and difficulties in accounting, dealing, settlement and custody may arise.
- Investments in bonds are affected by interest rates and inflation trends which may affect the value of the portfolio.

- Where high yield instruments are held, their low credit rating indicates a greater risk of default, which would affect the value of the portfolio.
- The investment manager may invest in instruments which can be difficult to sell when markets are stressed.
- Exposure to international markets means exposure to changes in currency rates which could affect the value of the portfolio.
- Where leverage is used as part of the management of the portfolio through the use of swaps and other derivative instruments, this can increase the overall volatility. While leverage presents opportunities for increasing total returns, it has the effect of potentially increasing losses as well. Any event that adversely affects the value of an investment would be magnified to the extent that leverage is employed by the portfolio. Any losses would therefore be greater than if leverage were not employed.
- While efforts will be made to eliminate potential inequalities between shareholders in a pooled fund through the performance fee calculation methodology, there may be occasions where a shareholder may pay a performance fee for which they have not received a commensurate benefit.

ASSOCIATED INVESTMENT RISKS

Longevity

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