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January 2020

LONGEVITY HEDGING
HOW INSIGHT CAN HELP YOU MANAGE THE BIGGEST UNHEDGED LIABILITY RISK

MANY DEFINED BENEFIT SCHEMES ALREADY MITIGATE INTEREST RATE AND INFLATION RISK, BUT VERY FEW HAVE TAKEN STEPS TO MANAGE THE NEXT BIGGEST LIABILITY RISK. IN THIS ARTICLE, WE EXPLAIN HOW PENSION SCHEMES CAN HEDGE LONGEVITY RISK AND PROVIDE A CASE STUDY ON HOW WE HAVE HELPED A SCHEME TO MANAGE THIS RISK.

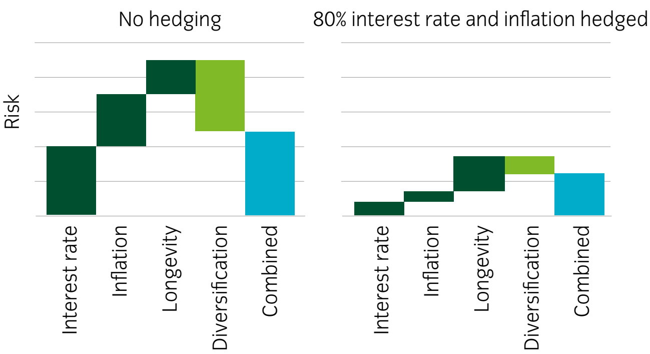
As defined benefit schemes mature trustees are increasingly turning their attention to the endgame and how their scheme will service its liabilities over the long term. In many cases, this involves targeting a particular funding level sometime in the future through a combination of asset returns and deficit repair contributions.

In order to maximise the certainty of reaching their target funding level, schemes must do three things well:

1. Protect themselves against the liability-related risks that could knock them off course
2. Generate sufficient growth to reduce any deficit
3. Manage liquidity requirements to ensure they can cover pension payments and other outflows without being a forced-seller of assets

In relation to the first of these points, many schemes will already have in place liability-driven investment (LDI) strategies that mitigate their liability-related interest rate and inflation risks. However, few schemes will have in place any protection against the longevity risk inherent in their liabilities – the next biggest liability risk (see Figure 1). As a result, many schemes are exposed to the impact of changes in life expectancy.

Figure 1: Longevity risk grows in significance as other risks are hedged[1]

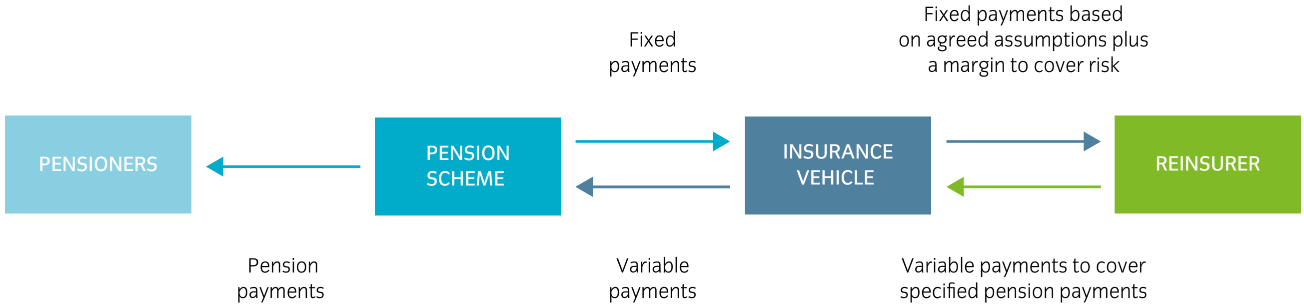


AN INTRODUCTION TO LONGEVITY HEDGES

One approach for schemes looking to hedge themselves against the potential impact of longevity risk, while retaining control over all of their assets, is to implement an unfunded longevity hedge (commonly referred to as a longevity swap).

An unfunded longevity hedge transfers the risk of pension scheme members living longer than expected from the pension scheme to an insurer. A longevity hedge typically involves the monthly

Figure 2: Overview of an unfunded longevity hedge



[1] For illustrative purposes only. Three-quarters of the liabilities are linked to inflation and longevity risk is assumed to be equal to 50% of interest rate risk. We use a correlation of -0.5 between interest rates and inflation and 0.25 between longevity and both of the market risks.

exchange of cashflows (whereby the scheme pays an insurer a fixed rate in order to take the 'risk' of paying a variable rate) with counterparty credit risk being mitigated through the regular exchange of collateral. Figure 2 provides an overview of how an unfunded longevity hedge works.

The unfunded nature of a longevity hedge means that the scheme retains control over all of its assets, giving it the freedom to invest the full portfolio optimally with the aim of meeting benefit payments as they fall due and making up any funding shortfall. This contrasts with an insurance buy-in, which can also be used to hedge longevity risk. Under an insurance buy-in a significant portion of the scheme assets must be passed to the insurer at the outset, meaning that only the residual scheme assets are available to make up any funding shortfall, potentially putting significant pressure on those assets.

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. However, under current regulations reinsurers can only transact with insurers, meaning any pension scheme wishing to hedge longevity risk must do so via an insurer.

Although the longevity market has been relatively quiet in recent years, there have been signs to suggest that activity is picking up. Aon stated that they are "expecting several large longevity swaps to be transacted early in 2020"[2].

WHAT EXTRA SERVICES DO YOU NEED?

In order to support a longevity hedge on an ongoing basis, the scheme will need to make the following appointments:

- **Calculation agent**: Calculates the payments to be exchanged during the life of the transaction (i.e. net cashflows and collateral requirements)
- **Valuation agent**: Values the assets posted as collateral
- **Collateral manager**: Moves collateral assets as required on behalf of the scheme

As an LDI manager, Insight is often called upon to provide collateral management services for clients who implement a longevity hedge. To date we have worked closely with a number of clients on ten separate transactions, supporting them through the implementation phase and then providing valuation and collateral management on a quarterly, monthly or daily basis as required.

LDI managers are typically well suited to the role of longevity hedge collateral manager as they already have the infrastructure, skill and processes to manage the longevity collateral effectively. However, it is also important that the manager:

- Has a thorough understanding of how longevity hedges are structured
- Is able to deal with the often complex collateralisation arrangements

LONGEVITY HEDGING IN PRACTICE: AN EXAMPLE

We recently worked with a client to implement a longevity hedge via a sponsor-owned captive insurer. Insight's role in the transaction was to provide collateral management and valuation agent services to both the scheme and separately to the captive insurer. In this particular example, the collateral structure of the longevity hedge was much more complex than is typically the case.

Typically, longevity hedge collateral involves:

- Quarterly title transfer of 'experience' (or mark to market) collateral between the scheme and the reinsurer
- 'Fee' collateral being placed into a scheme account over which the insurer has a security charge
- Eligible collateral being limited to cash and gilts only

In this case, however, the structure was more complex and involved:

- Daily collateralisation
- Wider range of admissible collateral assets
- Three insurer accounts
- Four new scheme accounts

There was also a requirement for most of the services provided by Insight to be executed from a location outside of the UK due to the offshore nature of the reinsurance company.

We worked closely with the scheme and their various advisers over a period of several months to ensure that the transaction could be successfully executed on time, and all of the complex operational aspects were set up ahead of the deadline.

The client appreciated the key role we played in coordinating across the numerous parties throughout the build-up phases.

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Insight was a key partner of ours throughout the process, working closely with us to tight deadlines. The team at Insight proactively coordinated across the numerous different parties involved and essentially helped enable the successful completion of the transaction. For schemes considering carrying out a longevity transaction, I'd advise selecting an experienced asset manager that is well-placed to provide the support needed; working with Insight made a big difference to achieving our outcome.

RICHARD WILLIAMS
SENIOR INVESTMENT MANAGER, HSBC (UK) PENSION SCHEME

[2] Source: https://www.artemis.bm/news/structures-help-largest-pensions-access-reinsurance-more-effectively-aon/. As at 27 August 2019.

Insight's longevity platform

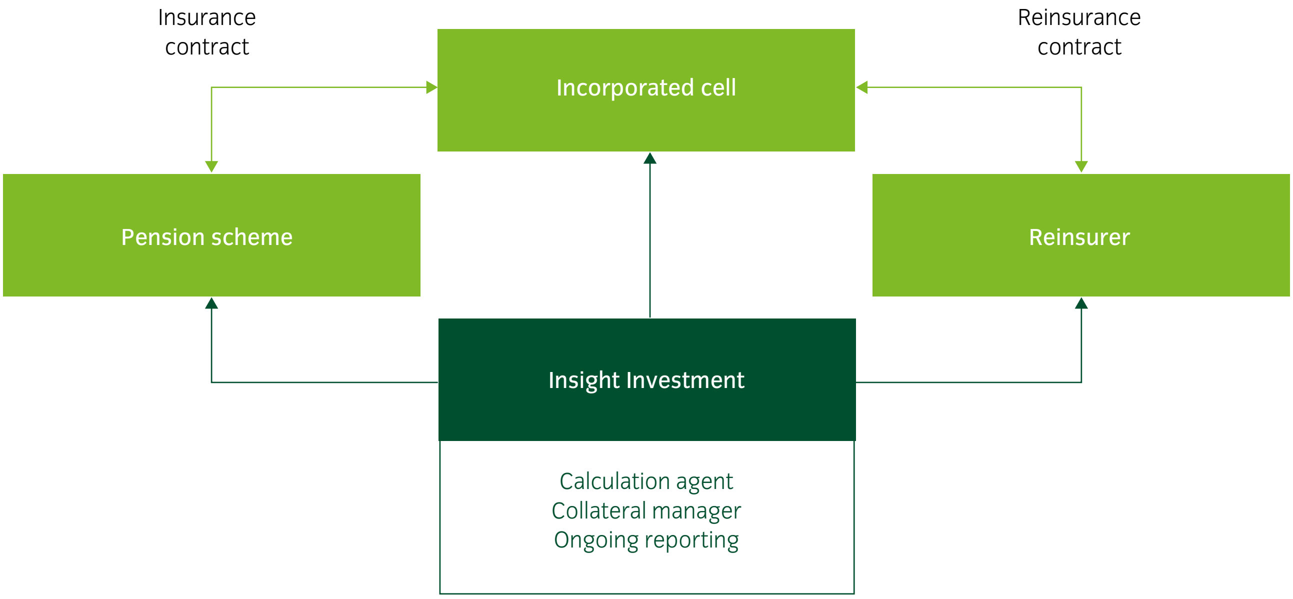
In order to support our clients' ongoing de-risking journeys, Insight has developed a longevity hedging platform under which we provide all of the services needed to support the transaction on an ongoing basis – including calculation agent, collateral management and ongoing reporting. In the longer term, we are aiming to encourage standardisation within the longevity market, enabling more schemes to hedge their longevity risk in a cost-effective and efficient manner.

Under the Insight longevity platform, the role of the insurer is fulfilled by a dedicated incorporated cell (IC) of a Guernsey-domiciled incorporated cell company (ICC). There exist a number of suitable Guernsey-domiciled ICCs under which a pension scheme could establish an IC. Insight can help with the selection process.

The Insight longevity platform offers the following advantages:

- **Guernsey-domiciled IC**: The platform uses a Guernsey-domiciled IC, which provides security, efficiency and flexibility
- **Transaction documentation**: We have worked with a leading law firm to develop a suite of legal documents that cover all key aspects of a longevity transaction, allowing transactions to be implemented with maximum efficiency
- **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 playing the role of calculation agent, Insight can provide detailed reporting on the ongoing performance of the longevity hedge
- **Experienced team**: Schemes would benefit from our experience of working with external advisors to implement complex transactions

Figure 3: How Insight's longevity platform works



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IMPORTANT INFORMATION

RISK DISCLOSURES

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

ASSOCIATED INVESTMENT RISKS

Longevity

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