

# DEFINED BENEFIT PENSION SCHEME DE-RISKING

MADE SIMPLE GUIDE





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# 1 FOREWORD

## AS PENSION SCHEMES EVOLVE, DE-RISKING THINKING AND TOOLS NEED TO EVOLVE TOO

Your ultimate objective of securing all members' benefits will never change. However, over time your needs and focus will evolve. For example, increasing funding levels will enable you to consider more sophisticated de-risking options to help lock in gains, cashflow negativity will present an escalating challenge and scheme maturity will bring your timeframes closer.

This guide is designed to provide an overview of the strategies available to de-risk your defined benefit pension scheme. In particular, we focus on the endgame – the point at which you are confident of securing all the members' benefits – and a wider array of de-risking strategies, some that you may not be familiar with, to help you increase the certainty of achieving this goal.

We trust this guide will help you wherever you are on your de-risking journey.

If you have any questions, please feel free to contact Insight on +44 20 7163 4000 or [enquiries@insightinvestment.com](mailto:enquiries@insightinvestment.com).



# 2 DEFINING DB DE-RISKING

## THE DEFINITION OF DE-RISKING HAS NOT CHANGED BUT ITS IMPORTANCE HAS INCREASED OVER TIME

**De-risking means reducing the risk of not achieving your chosen objective, which for a defined benefit scheme trustee means securing payment of all the members' pension benefits in full and on time.**

Historically, many trustees did not worry about de-risking. They had healthy funding levels, strong sponsors and the majority of pensions to be paid were far into the future.

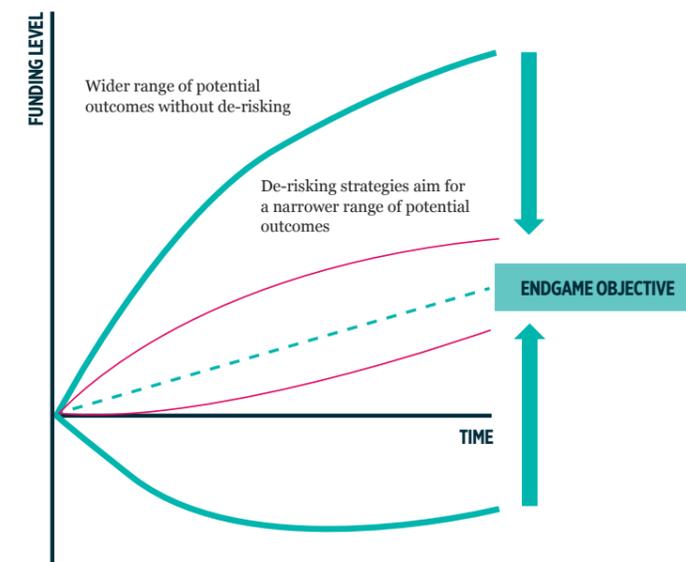
However, following significant funding-level volatility, sponsor insolvencies and a range of regulatory developments, there is a sharper focus on removing unnecessary risk, and reducing reliance on the sponsor covenant. Also, as schemes have closed to new members and there is a higher proportion of pensions in payment, there is less time to make up for any shortfalls.

**The focus has now shifted from simply considering the current funding level (a broad proxy for their target) to identifying and working towards a clear target outcome with as much certainty as possible.**

Against this backdrop, trustees are increasingly identifying their 'endgame' and adopting a wider range of de-risking options to help them achieve that goal.

Strategies that narrow the range of potential future outcomes increase the chance of being able to achieve the chosen endgame (see Figure 1). This is the broad objective of most pension schemes' de-risking strategies.

FIGURE 1: PENSION SCHEMES ARE SEEKING TO INCREASE THE CERTAINTY OF ACHIEVING THEIR ENDGAME



## 3 WHAT IS YOUR DESTINATION?

### BEFORE DE-RISKING, IT'S IMPORTANT TO IDENTIFY YOUR ENDGAME TARGET: THE POINT AT WHICH YOU CAN BE CONFIDENT OF SECURING ALL THE MEMBERS' BENEFITS

#### The two most common endgame targets are:

- ▶ **Run-off:** The pension scheme pays off liabilities (pensions, expenses, transfer values etc.) as they fall due over time. To achieve this, a pension scheme will typically aim to be 'self-sufficient'. This means it will seek to establish an investment portfolio that gives it a high probability of fulfilling all its pension obligations, with no or very low levels of sponsor dependency.

Here, the liabilities are run off until the incremental cost of a full insurance buy-out (see below) is acceptable relative to the costs and risks associated with governing the scheme on an ongoing basis.

- ▶ **Insurance buy-out:** The pension scheme transfers all assets and liabilities to an insurance company which takes on legal responsibility for fulfilling obligations to scheme members. The corporate sponsor divests all responsibility for the scheme, and scheme members become policyholders with the insurer.

This is widely deemed a reliable way to secure payments for all members' benefits, assuming the insurer remains solvent. However, insurers need to comply with stringent regulatory restrictions on investments and will also be seeking to generate a profit for their owners. This means the funding targets for buy-outs will typically be higher than for a run-off.

An insurance buy-out differs from an **insurance buy-in**, under which a scheme transfers some of its assets to an insurance company. In return, the insurer is committed to paying a portion of the pension payments for the scheme membership. The insurance company makes payments to the scheme, which in turn makes payments to the pensioners. The buy-in is effectively an asset of the scheme.

### CONSOLIDATION – A THIRD ENDGAME CHOICE

Commercial consolidators are still new to the market, but present a third possible endgame to consider.

Here, a pension scheme's assets and liabilities are transferred to a new entity, which is responsible for managing those assets and paying the liabilities. The sponsor may also need to make a one-off payment.

Some consolidators target a buy-out while others seek to run off the liabilities.

A consolidator does not have a sponsor that provides contributions. Security is provided through a capital buffer, underwritten by capital investors, that is used to support the solvency of the scheme if necessary.

The level of capital support is typically lower than that provided by an insurance company in a buy-out. For this reason, consolidation may be considered less secure, but it is also backed by the Pension Protection Fund and requires a lower level of funding to implement.

## 4 DE-RISKING STRATEGIES

### TRUSTEES ARE EXTENDING THEIR FOCUS FROM FUNDING-LEVEL DE-RISKING TO OUTCOME-CERTAINTY

Until recently, de-risking strategies for pension schemes had focussed purely on reducing their liability risks to stabilise the short-term funding level. This was viewed as the most significant risk which needed to be tackled first.

Increasingly however, trustees are now broadening their focus. Instead of purely focusing on the stability of funding today, increasing the certainty of delivering a healthy future funding outcome is arguably even more important – in other words, how they will achieve their long-term objective. This is due to several trends, including:

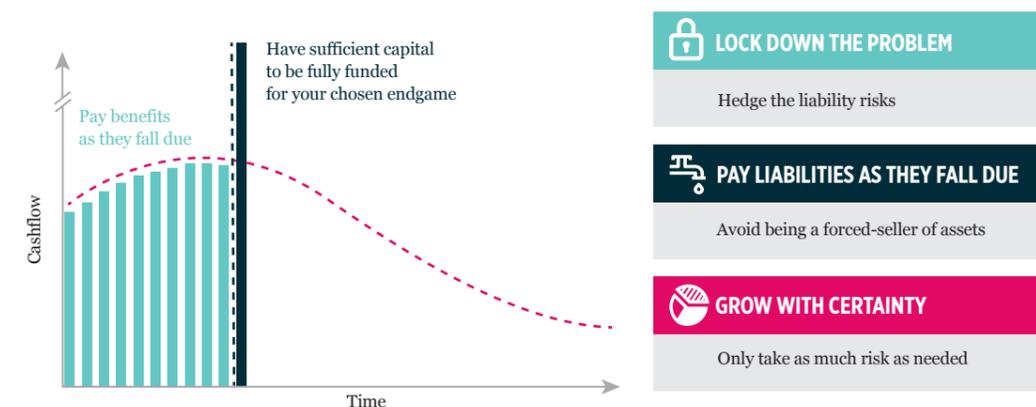
- ▶ **Pension schemes are better funded:** As funding solvency has improved, pension schemes are more able to turn their focus from dealing with concerns regarding underfunding to how they will fulfil short-term cashflow needs without compromising on longer-term goals.
- ▶ **Pension schemes are maturing:** UK defined-benefit pension schemes are maturing, with 89% closed to new members, and 63% also closed to future accrual<sup>1</sup>. Almost 80% of UK schemes are cashflow negative, meaning they pay out more than they receive<sup>2</sup>.
- ▶ **Regulators are focusing on the topic:** Regulators expect pension schemes to take their future cashflow requirements into account when setting their investment strategy, alongside asset and liability risks<sup>3</sup>.

#### Managing funding-level volatility is only one part of managing outcome certainty

The specific outcome which trustees seek to deliver (i.e. the long-term objective) defines a clear funding challenge which has two features:

1. pay the liabilities as they fall due over a specified period; and
2. deliver sufficient capital to be fully funded at the end of that period

FIGURE 2: THE CASHFLOW CHALLENGE AND THE ROLES OF STRATEGIES SEEKING TO MANAGE CERTAINTY OF OUTCOME



<sup>1</sup> Source: The DB pension risk management journey. <https://www.aon.com/getmedia/45633b07-629b-4809-b1d1-d50b29626ee4/The-DB-pension-risk-management-journey.pdf.aspx>

<sup>2</sup> Source: European Asset Allocation Insights – UK DB De-risking Trends 2021, Mercer.

<sup>3</sup> See page 43, Investment guidance for defined benefit pension schemes, The Pensions Regulator: <https://www.thepensionsregulator.gov.uk/en/document-library/regulatory-guidance/db-investment>



In this context, managing the liability risks is just one of three roles that the assets need to fulfil to increase the certainty of delivering the specified outcome. De-risking strategies need to:

1. **Lockdown the problem** – by managing the risks associated with the liabilities
2. **Pay the liabilities as they fall due** – by managing the risks associated with cashflow delivery
3. **Grow with certainty** – by managing the risks associated with achieving the investment returns required to fill the deficit

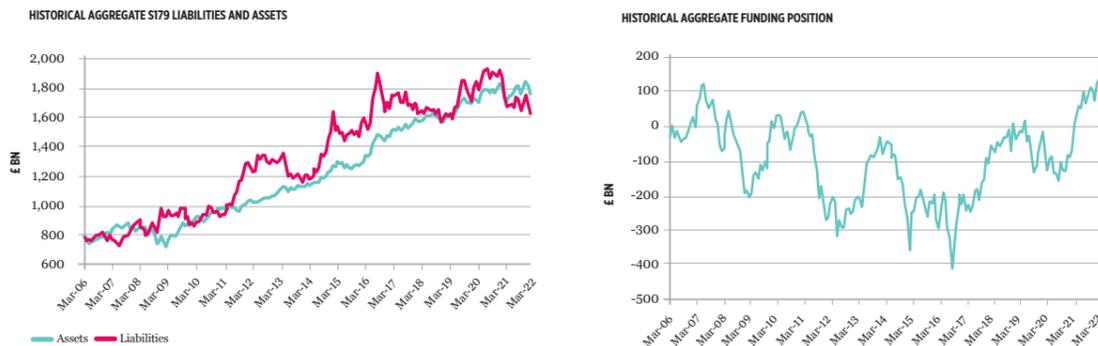
With many pension schemes now well-hedged against interest rate and inflation risks, trustees are increasingly turning their attention to filling the gaps in all three roles. They are doing this in particular through longevity hedging to better manage their liability risks, increasing attention to cashflow delivery to pay the liabilities, and reducing risk in the growth assets where possible.

We look at each of these three roles in more detail below and discuss how trustees may approach managing the risks associated with them.

## LOCK DOWN THE PROBLEM

Historically, funding levels proved to be very volatile as liability values moved out of line with assets as a result of low liability hedges (see Figure 3).

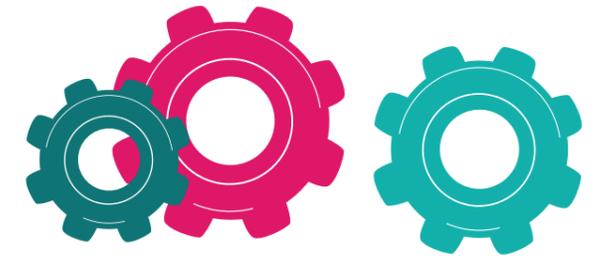
**FIGURE 3: THE VOLATILE MISMATCH BETWEEN ASSET AND LIABILITY VALUATIONS LEADS TO FUNDING-LEVEL VOLATILITY<sup>4</sup>**



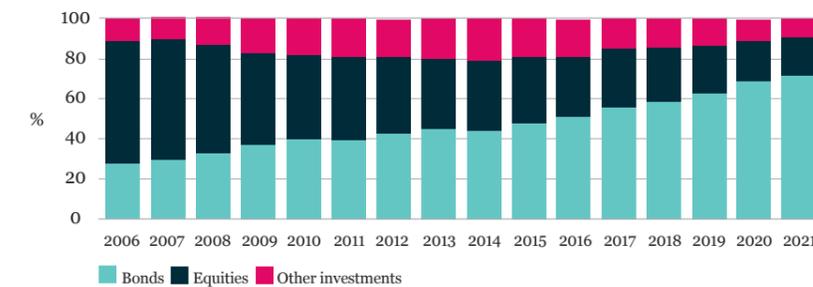
This led many pension schemes to invest in assets that are sensitive to the same factors that change liability values: interest rates, inflation and increasing longevity.

### Managing interest rate and inflation risk using bonds

Many pension schemes use **bonds** to hedge some of their liability risks and this may explain some of the shift into the asset class in recent years (see Figure 4). Bonds offer a predictable schedule of future payments (assuming no defaults) and, like liabilities, they change in value in response to movements in interest rates and inflation.



**FIGURE 4: UK PENSION SCHEMES HAVE SHIFTED OUT OF EQUITIES AND INTO BONDS<sup>5</sup>**



### Freeing up capital using repo and swaps

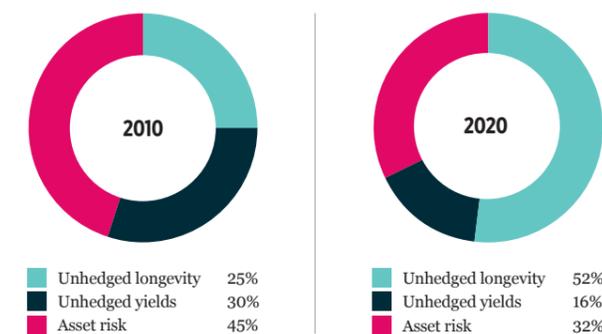
Investing in bonds means a scheme uses assets to hedge liabilities rather than investing in them for growth. As a result, many schemes also use **repurchase agreements (repo)** and **swaps** – derivative investments which give bond-like exposures but with less up-front capital required – to enable them to hedge liabilities while keeping capital free to invest elsewhere.

This approach lies at the heart of **liability-driven investment (LDI)** strategies, which now account for a significant proportion of UK pension scheme assets.

### Managing longevity risk – the next dominant risk

LDI strategies invest in **bonds** and other hedging assets in a capital efficient way, to address interest rate and inflation risks. Now, as interest rate and inflation risks have become better managed it is longevity risk that has grown in importance: pension schemes are increasingly looking to address this as well.

**FIGURE 5: LONGEVITY RISK IS NOW THE DOMINANT RISK FOR MOST PENSION SCHEMES<sup>6</sup>**



<sup>4</sup> Source: PPF 7800 Index data. As at January 2022.

<sup>5</sup> Source: Pension Protection Fund Purple Book 2021

<sup>6</sup> Source: Club Vita, April 2021 (with risk being measured at the 95th percentile level).

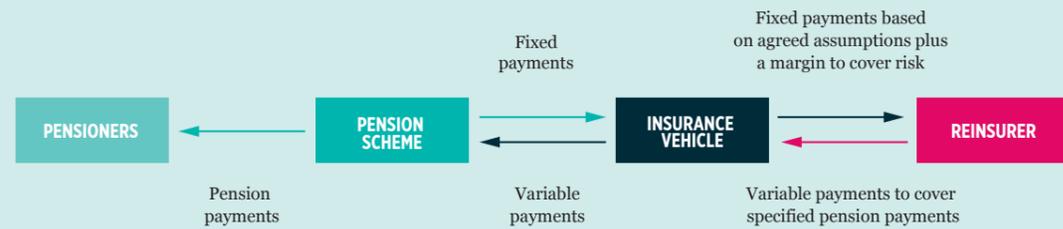


### HOW LONGEVITY HEDGES WORK

Longevity hedges (also referred to as longevity swaps) can help mitigate the risk that a pension scheme's members live longer than expected.

Under such an agreement, a pension scheme makes payments to a counterparty for a fixed period of time and the counterparty makes payments in return to cover pension payments as they fall due. In effect, the pension scheme exchanges a set of fixed payments for variable payments linked to an uncertain liability (pensioners' longevity) (see Figure 10).

FIGURE 6: HOW A LONGEVITY HEDGE WORKS



In summary, managing liability risks involves hedging the three main factors that affect liability valuations:

- ▶ **Interest rates:** Long-term interest rates (typically based on long-dated government bond yields) are used by most pension schemes to reflect the discount rates used to calculate the present value of their liabilities. If interest rates rise, the present value of liabilities will fall.
- ▶ **Inflation:** Benefit payments are usually linked to inflation, which means that rising inflation forecasts will lead to an increase in projected payments.
- ▶ **Longevity:** If pensioners live longer than expected, a pension scheme will have to pay out benefits for longer. This will also increase the sensitivity to changes in inflation and interest rates.



### PAYING LIABILITIES AS THEY FALL DUE

Your pension scheme will need to fulfil its cashflow obligations over a target time horizon while progressing towards its ultimate goal. If your scheme is cashflow positive – your cash inflows (such as from contributions and investment income) exceed your cash outflows (such as pension payments and expenses) – you can use the inflows to cover your cashflow outflows.

However, if your scheme is cashflow negative, the path to your long-term goal could be impaired if you are forced to sell assets at an inopportune time. This is also known as sequencing risk, where your gains are influenced by the sequence of future returns which is influenced by your chosen investment strategy. This risk is greater when marked-to-market returns are more volatile.

We illustrate this **forced-selling risk** (or **sequencing risk**) by considering investment returns in cash terms.

Consider a scheme with starting assets of £500 million and two potential future investment strategies, both with the same cumulative return of 4% pa over 25 years, but with different return paths:

- ▶ **Strategy A** returns +4% pa over the full 25 years
- ▶ **Strategy B** returns -10% pa for three years and then c. +6% pa for the next 22 years

If the scheme did not have to pay any cash outflows over the period, the cumulative investment gain in cash terms over 25 years would be c£800 million under either strategy. However, if the scheme is forced to sell £25 million of asset each year, it would be over £300 million worse off under strategy B (see Figure 7). In other words, it would be exposed to lower gains in cash terms due to the forced selling of assets (or due to the sequencing of future returns).

FIGURE 7: HOW FORCED-SELLING RISK (OR SEQUENCING RISK) CAN LEAD PORTFOLIOS TO HAVE THE SAME CUMULATIVE PERCENTAGE RETURN BUT VERY DIFFERENT CASH OUTCOMES





The materiality of this risk was highlighted during the market turmoil of March 2020 as schemes that had insufficient asset cashflows to meet their liquidity requirements over this period were forced to sell assets at depressed prices. For many such schemes, the forced selling of assets was much larger than they had anticipated as liquidity requirements extended beyond liability benefit payments alone – being needed for other purposes such as to top-up their LDI collateral pools or to service losses on their FX hedging programmes.

This risk can be mitigated by constructing a portfolio of assets that generate contractually defined cashflows that reflect a pension scheme’s liquidity requirements – either through income or maturing assets. In addition to assessing the schemes liability cashflows, it is also necessary to budget for unexpected cashflows arising from collateral top-up requirements, or unexpected liabilities due to transfer values or cash commutations.

## GROW WITH GREATER CERTAINTY

To the extent that pension schemes are currently underfunded relative to their long-term objective, they will need to grow their assets through a combination of contributions and investment returns. When focused on maximising outcome certainty, schemes should have a preference for assets which provide a higher level of certainty of achieving those returns over a specified timeframe.

The outcome delivered by an investment asset will be a function of two components:

1. The income delivered by the asset over the specified time period; and
2. The exit price the asset can be sold at by the target timeframe

Prioritising assets by the relative certainty of these components will enable trustees to choose the highest certainty asset, subject to it being capable of delivering the returns required to meet their objectives. As funding levels have improved over recent years, the returns required to meet long-term objectives have fallen to a point where many schemes can achieve their returns using higher quality assets. Many schemes have therefore already made a significant shift away from traditional growth-type assets in favour of high-quality contractual assets (i.e. an asset where the future cashflow generation is contractually defined – for example, corporate bonds).



### HOW CONTRACTUAL ASSETS CAN PERFORM THE DUAL ROLES OF PAYING THE LIABILITIES AND GROWING WITH CERTAINTY

Broadly speaking, a portfolio of ‘contractual assets’, which offers the potential to generate contractually-defined cashflows, can help to:

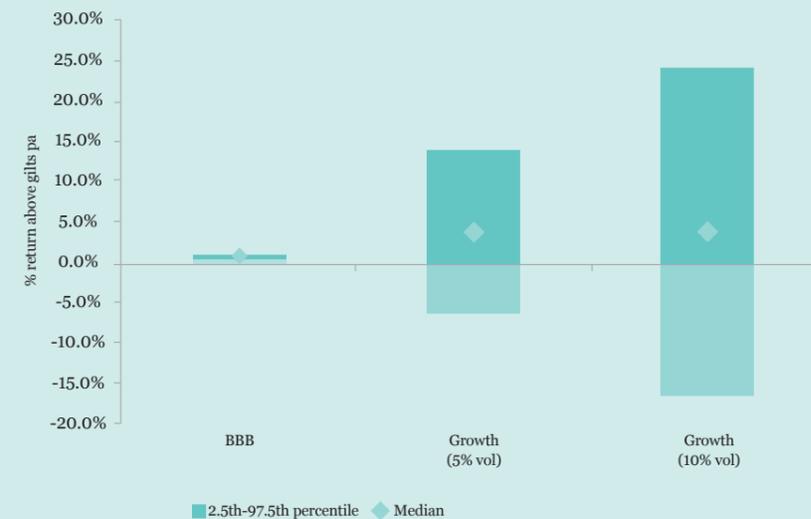
1. **Generate cashflows required to pay benefits:** A contractual-asset portfolio aims to enable your scheme to pay liabilities as they fall due, but without being forced to sell assets. It achieves this by holding assets which generate contractual cashflows and which provide sufficient liquidity through income and maturing payments based on your scheme’s specific benefits-cashflow profile.
2. **Secure returns with greater certainty:** A contractual-asset portfolio can help increase the certainty of narrowing your scheme’s funding gap (or maintaining the current position), typically by investing in low-risk



assets and by holding investments to maturity. Figure 8 compares the historic 10-year returns above gilts (a return target to maintain the funding level) for a portfolio of maturing investment grade bonds with two portfolios with varying allocations to typical growth assets. The uncertainty of achieving the desired outcome of maintaining the funding level is represented by the bar charts below the zero line.

Where the required returns are below those contractually available, adopting a greater use of contractual assets can therefore help your pension scheme to achieve its objectives with greater certainty, both in relation to paying benefits as they fall due and achieving long-term funding outcomes.

**FIGURE 8: GREATER CERTAINTY OF OUTCOME – MATURING INVESTMENT GRADE CORPORATE BONDS HAVE HISTORICALLY GENERATED A NARROWER RANGE OF OUTCOMES THAN MARK-TO-MARKET INVESTING – CONFERRING GREATER CERTAINTY FOR INVESTORS.**



Source: Insight Investment. Illustrate the annualised range of outcomes over rolling 10-year horizons from 1970 to 2019, excluding extremes (top 2.5% and bottom 2.5%). Maturing corporate bonds show the prevailing credit spreads (source: Merrill Lynch GBP BBB credit curve over the UK nominal gilt curve at the 10-year point as at 30 September 2021), less a default loss adjustment based on the relevant credit rating. The range of default loss adjustments are based on historic data (source: Moody’s issuer studies covering actual occurrence of default over 10-year horizons from 1970 to 2019) where a number of issuers are tracked over a 10-year time period from multiple historical periods to obtain a probability of defaulting for each issuer rating (loss given default is assumed to be 40%). Growth assets have been modelled using a normal distribution with an expected return of gilts+4% and the relevant volatility assumption.

### AN INTEGRATED APPROACH CAN IMPROVE EFFICIENCY AND MAXIMISE OUTCOME CERTAINTY

Some assets can play multiple roles in a portfolio. Optimising one asset role in isolation can have a detrimental impact on the ability to achieve one or more goals, leading to a sub-optimal end outcome. Therefore, it is important to highlight the need to consider all these roles in an integrated manner to maximise your certainty of achieving the desired end outcome.

# 5 ADDITIONAL TOOLS TO INCREASE OUTCOME CERTAINTY

## A BROADER TOOLKIT IS REQUIRED TO IMPROVE OUTCOME CERTAINTY

In order to increase the certainty of achieving a specific outcome, your pension scheme assets need to perform three roles: lock down the outcome, pay the liabilities as they fall due and grow with certainty.

The previous section highlighted particular tools which can help to fulfil some of these roles (i.e. LDI and longevity hedging to lockdown the outcome and contractual assets both to pay the liabilities and to grow with greater certainty). These options are not exhaustive however and trustees have a much wider range of potential options which are becoming increasingly relevant today.

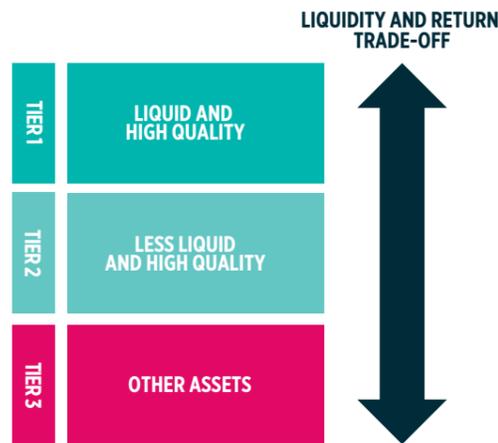
### LIQUIDITY MANAGEMENT FRAMEWORK: MAKING THE MOST OF YOUR LIQUID ASSETS

Ensuring a balance between holding enough liquid assets while also investing for other objectives – such as growth – is an important consideration for any pension scheme. Holding too much in cash can mean a pension scheme is holding ‘dead money’, so some schemes hold a range of liquid strategies in which to invest their collateral to avoid missing out on potential returns.

It can be beneficial to have access to a range of liquid strategies in which to invest collateral (a ‘liquidity waterfall’) in order to minimise forced-selling risk, while ensuring capital remains invested, to avoid unnecessarily foregoing potential returns.

Under such a structure there are ‘tiers’ of assets with varying levels of liquidity and yield potential (see Figure 9). Less liquid assets are intended to generate cash which can be used to replenish the pool of more liquid assets, which are used to cover payments out of the scheme. This can help ensure a prudent amount of liquid assets are held to cover short-term obligations, while maximising potential returns.

FIGURE 9: ‘TIERING’ ASSETS HELPS CONSTRUCT A LIQUIDITY WATERFALL TO IMPROVE THE EFFICIENCY OF COLLATERAL POOL



### FUTURE OUTCOME FOCUSED REPORTING

Traditional reporting typically focusses on the current funding level of the scheme, but this provides little information on where your scheme is expected to be relative to its long-term objective by its target timeframe.

Pension schemes are therefore increasingly adopting future outcome focussed reporting to see, at any point in time, whether they are expected to succeed in achieving their desired outcome and by how much (i.e. whether there is a ‘funding buffer’ relative to their long-term objective). This can also allow trustees to test for future stressed scenarios to see if the funding buffer would be sufficient to cope with potential negative downside events.

This type of future focussed reporting can help to provide trustees with the comfort of knowing that they have a sufficiently robust strategy to achieve their objectives with a high degree of certainty. Although this tool is not a particular investment or asset like the other tools discussed, having access to this type of reporting can be a powerful aid in guiding investment decisions to ensure that the objectives will ultimately be achieved.

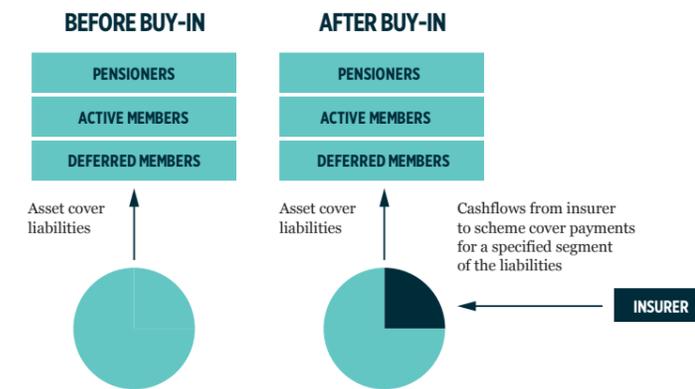
### BUY-INS: A WAY TO HEDGE RISKS FOR A PORTION OF YOUR LIABILITIES

Under a buy-in, a scheme transfers some of its assets to an insurance company, which in return commits to paying future cashflows that will cover payments for some of the scheme membership (see Figure 10). This means a buy-in hedges the risks, including longevity risk, associated with payments for a specified segment of the scheme membership.

These cashflows are made to the scheme, which retains responsibility for fulfilling its obligations to members. A buy-in should be viewed as an asset held by the scheme.

Although buy-ins are a powerful tool to reduce risk for a portion of the scheme’s liabilities, they should be carefully considered in the context of the wider scheme. A buy-in is not guaranteed to reduce risk at the total scheme level and may end up impeding trustees’ ability to achieve their longer-term goals. We explore this in more detail in Section 6.

FIGURE 10: HOW A BUY-IN WORKS



### WHAT IS THE DIFFERENCE BETWEEN A LONGEVITY HEDGE AND A BUY-IN?

A **buy-in** hedges the investment, interest rate, inflation and longevity risks associated with payments for a portion of the scheme membership. The scheme typically pays a single premium for the buy-in up front, so a portion of assets are tied up in the buy-in at the outset.

A **longevity hedge** aims to mitigate only longevity risk and the payments made by the scheme are spread over time. The scheme retains control over all its assets, allowing it to invest elsewhere in seeking to generate the returns needed to make up any funding shortfall.

# 6 THE DANGERS OF INAPPROPRIATE DE-RISKING

## CONSIDER THE BIG PICTURE WHEN MAKING A DE-RISKING DECISION

In some scenarios, trustees' steps towards de-risking can end up impeding their ability to achieve their pension scheme's longer-term goals. For example, in some scenarios a buy-in may help to de-risk the scheme, but in others it may do the opposite.

Below, we illustrate a scenario when a buy-in may be inappropriate. We also explain why it's important for trustees to consider the wider de-risking implications of any decision (a buy-in in this case) rather than relying on arguments which may hold intuitive appeal but can have unintended consequences.

### THE IMPACT OF A BUY-IN ON INVESTMENT RETURNS

As both gilts and buy-ins are deemed low-risk investments, it may appear logical to switch out of gilts for a buy-in, as the latter offers a higher return and longevity protection. However, this ignores the impact on a scheme's residual assets and the implied level of risk.

Consider a scheme that is fully funded on a gilts +1.0% basis, i.e. the total scheme assets need to grow by 1.0% per annum for the scheme to meet all of its liabilities.

If the scheme conducts a buy-in at a price of gilts +0.4% pa, only a proportion of the total scheme assets will generate that rate of return. It follows that the residual assets will need to deliver more than gilts +1.0% pa, assuming an unchanged time horizon and no increase in deficit repair contributions. This would hold irrespective of whether the assets for the buy-in are 'sourced from gilts'.

Simply comparing the yield on the assets sold to the implied yield of buy-in can lead to an inappropriate conclusion, as the required return on the residual assets may increase dramatically, and potentially may be unattainable.

### OTHER CONSIDERATIONS

**Reliance on sponsor:** Generally, trustees will have to take on more investment risk in the pursuit of higher returns, leading to greater investment uncertainty. Greater uncertainty means a greater likelihood of relying on the sponsor in the event of any risks materialising.

**Flexibility:** A buy-in will reduce a scheme's flexibility to deal with any future risks. The illiquid nature of a buy-in asset leaves trustees with less resources to deal with any unexpected shocks impacting the economics of the scheme (e.g. residual longevity risks). This in turn increases the uncertainty of achieving a full buy-out to a targeted timeframe.



# 7 SIX STEPS TO MAKE A DE-RISKING DECISION

## FOLLOW A CLEAR PROCESS WHEN CONSIDERING A DE-RISKING DECISION

There is no one-size-fits-all approach. Often decisions are made based only on limited factors, such as current market pricing or the impact on a subset of the scheme.

To achieve the optimal outcome, trustees should consider a wider set of factors, such as the impact of any decision on the scheme as a whole and on the certainty of achieving their desired outcome.

Below, we set out six steps to help pension schemes make the next de-risking decision.

1. AGREE YOUR LONG-TERM OBJECTIVE	<ul style="list-style-type: none"> <li>Defining your endgame will determine the target level of assets you need, relative to liabilities. A buy-out will typically need more assets (relative to liabilities) than targeting self-sufficiency on a run-off basis or consolidation.</li> </ul>
2. SET THE TARGET TIMEFRAME FOR YOUR LONG-TERM OBJECTIVE	<ul style="list-style-type: none"> <li>The longer the timeframe, the lower the asset returns required, but the longer you need to manage the pension risk.</li> <li>Your target timeframe may be influenced by your sponsor or regulation.</li> </ul>
3. IDENTIFY HOW MUCH YOUR SPONSOR IS WILLING OR ABLE TO CONTRIBUTE IN EACH FUTURE YEAR	<ul style="list-style-type: none"> <li>You should consider your sponsor's expectation of future contributions, including any maximum limits in any one year.</li> <li>You should also assess the quality/strength of the covenant.</li> </ul>
4. CALCULATE THE REQUIRED RETURN ON YOUR PORTFOLIO TO ACHIEVE YOUR TARGET	<ul style="list-style-type: none"> <li>The required return is calculated based on the current funding level and expected future cashflows such as contributions, benefit payments and expenses.</li> <li>You would need to make many assumptions, such as levels of future interest rates, inflation and mortality rates.</li> </ul>
5. MANAGE TRADE-OFFS OF DIFFERENT DE-RISKING OPTIONS TO MAXIMISE THE CHANCE OF ACHIEVING YOUR TARGET	<ul style="list-style-type: none"> <li>Generally, you will have to take on more investment risk in the pursuit of higher return targets.</li> <li>Hedging strategies will reduce your sensitivity to certain risk factors, but could reduce assets available for other purposes, such as generating growth, pushing up the required return from those assets.</li> <li>Certain strategies may allow you to hedge while also investing for growth (e.g. using repos to increase leverage).</li> <li>If the problem appears unsolvable (e.g. the required asset return is too high) you may need to reassess your chosen endgame and/or target timeframe.</li> </ul>
6. STRESS-TEST YOUR ABILITY TO MEET YOUR TARGET RETURN	<ul style="list-style-type: none"> <li>The assumptions you stress-test will typically fall into three broad categories:               <ul style="list-style-type: none"> <li>Asset values (e.g. impact of market falls, bond defaults and widening credit spreads)</li> <li>Liability valuations (e.g. impact of changes in interest rates, inflation expectations and longevity)</li> <li>Cashflows (e.g. impact of changes in the size or timing of benefit payments, sponsor contributions or transfers out)</li> </ul> </li> <li>If you do not achieve your target return, you will need to re-think your de-risking options, extend the timeframe to achieve your endgame, or rely on increased sponsor contributions.</li> </ul>

# 8 GLOSSARY

## • Accrual

Members of defined benefit pension schemes may accrue future benefits over time, according to the rules of the scheme. This is referred to as accrual. Pension schemes are increasingly closing to future accrual, meaning their members will no longer be able to accrue future benefits.

## • Buy-in

An agreement between a pension scheme and an insurer, under which the scheme transfers some assets to the insurer. In return, the insurer provides cashflows that reflect a specified segment of the pension payments for the scheme membership.

## • Buy-out

An agreement between a pension scheme and an insurer, under which the scheme transfers all its assets and liabilities to the insurer. The insurer takes on legal responsibility for fulfilling pension obligations to scheme members. The corporate sponsor divests all responsibility for the scheme, and scheme members become policyholders with the insurer.

## • Cashflow-driven investment (CDI)

An investment approach that focuses on constructing a portfolio of assets that generate cashflows to reflect the cashflow obligations of an investor, such as the future pension payments due to be paid by a pension scheme.

## • Collateral

Liquid assets (such as cash) held in order to cover variation margin payments when required as the value of a derivative contract rises or falls.

## • Collateral call

A request or requirement to pay collateral to fulfil a financial obligation under a contract. For example, if the value of a derivative contract changes, a party to the contract may receive a collateral call requesting it pays collateral to cover the change in value.

## • Contractual assets

Assets that generate contractually defined cashflows through income and/or the payment of principal on maturity, such as bonds.

## • Deficit repair contributions

Where a pension scheme is in deficit, as specified by The Pensions Regulator, the schedule of contributions agreed with the employer to bring the scheme to an agreed appropriate funding target over an appropriate period. Such extra contributions should consider a sponsor's financial health and its growth prospects.

## • Derivative

A financial contract whose value is derived from a stock, commodity, interest rate, currency or market index. A stock option, for example, is a derivative security whose value depends on the price of the underlying stock.

Derivatives can be used by investors as a speculative tool, or to protect assets against changes in value. See also forward contract, futures contract, call option, put option and swap.

## • Fully funded on a gilts +X% basis

A pension scheme together with its actuary chooses the rate at which its assets need to grow annually to meet all its liabilities. As such a scheme may decide its assets need to grow at X% above the interest rate on gilts to meet all its liabilities and be fully funded. The higher the return figure above the gilt interest rate the greater the risk there is of a scheme not meeting its liabilities within a specific time frame. 'Gilts flat' means gilts+0.

## • Funding level

A measure of a pension scheme's ability to afford all its future obligations. It is calculated by comparing the value of a scheme's assets with its liabilities. This will incorporate assumptions on how the assets and liabilities will grow in future and can use different sets of assumptions for different purposes.

## • Inflation

The increase in the general price of goods and services.

## • Initial margin

Collateral deposited by a market participant when initiating some derivative positions.

## • Interest rate

The amount charged on top of the principal provided by a lender, to a borrower, for the use of assets.

## • Liability-driven investment (LDI)

Managing assets directly against projected liabilities in order to help ensure the latter can be met. Widely used by defined-benefit pension schemes.

## • Liabilities

The projected cashflows that a pension scheme is committed to pay out to its members.

## • Liquidity

The ease with which buying and selling takes place in the market. Liquidity may be measured by the daily trading volume in a security.

## • Longevity

The amount of time someone lives. In the context of pension schemes, longevity is a crucial factor: the longer a pensioner lives, the greater the liability to the pension scheme, which will have an obligation to pay income to the pensioner until death.

## • Margin call

A request or requirement to pay collateral due to a change in value of a derivative contract.

## • Partially funded

When used in reference to derivative instruments, this term is used to reflect the fact that an investor does not need to tie up capital up-front to originate the transaction. Over time, as the value of the derivative changes, payments may be required to reflect those changes. This means the investor can use capital to invest for other purposes, while keeping some aside to cover collateral or margin calls under the derivative contract.

## • Repo

An agreement to sell securities, usually bonds, to another party and to buy them back at a specified date and price.

## • Run-off

A term used to describe a pension scheme that is paying off its liabilities as they fall due over time.

## • Self-sufficiency

When a pension scheme has an investment portfolio that gives the scheme a high probability of fulfilling all its pension obligations, with no or low levels of sponsor dependency.

## • SONIA

The Sterling Overnight Interbank Average Rate (SONIA) is a measure of the overnight interest rate paid by banks for borrowing in the sterling market.

## • Superfund

A superfund takes on a pension scheme's assets and liabilities and acts as the scheme sponsor. The superfund runs the assets and liabilities in a pool alongside the assets and liabilities of other schemes.

## • Swap

A contractual agreement to exchange a stream of periodic payments between counterparties.

## • Technical provisions

The value of accrued liabilities as calculated on a basis specified by The Pensions Regulator.

## • Transfer out

A pension transfers out of a defined benefit pension scheme to another pension scheme.

## • Variation margin

A payment made by counterparties under a derivative contract to cover daily, or even intraday, profits and losses.





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