



Summer 2023

Shining a spotlight on the Liability side of LDI

What the "L" is your Scheme Actuary doing?

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Do you know what you're really hedging?

In a proverbial dark corner, pension scheme actuaries produce cashflow data that trustees rarely see. But it's fundamental to hedging, and it's time that trustees and sponsors took a closer look at the liability side of their LDI strategies.

As scheme funding levels improve and hedge ratios increase, there is more scope for hedging to go wrong. Underlying hedge ratios might be 10%-20% different to the headline percentage and trustees should be wary of hedges drifting up – you can definitely have “too much of a good thing” when it comes to LDI.

Hedging 100% of your long-term target isn't a step to take lightly unless you have real clarity on your cashflows and hedging structure. Being over-hedged creates unnecessary risks, so if in doubt trustees should adopt a lower hedging target.

The risks of being over-hedged

- 1. Unnecessary losses**
If markets move against the scheme
- 2. Collateral calls when asset values are falling**
A potentially vicious spiral of losses
- 3. Unnecessary LDI collateral**
Acting as a drag on returns and exacerbating liquidity challenges
- 4. Some might say it's even illegal**
Is hedging above 100% on your long-term target speculation?



Common problems with cashflows?

Four areas cause problems in cashflow projections and are often overlooked – falling in the cracks between the actuary and investment adviser:



Member options:

The interest rate risk for members who commute for a lump sum is 30% lower. Early retirements bring forward cashflows by years.



Inflation:

Caps and floors mean there can be times when cashflows are 100% inflation linked and others when this falls to zero. Most hedging is based on an “average” inflation risk which doesn’t reflect reality.



Assumption changes:

Actuaries have a habit of changing assumptions. A live example is higher inflation volatility – which may reduce liabilities by only 1-2% but could reduce the average inflation risk by 20% overnight.



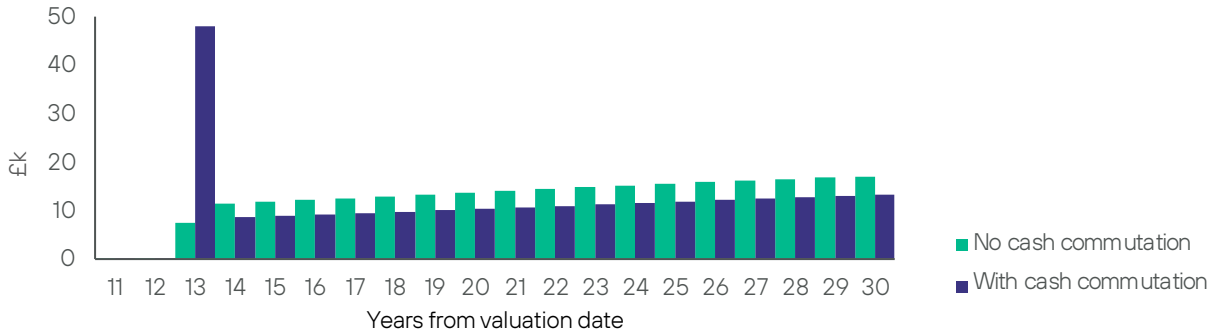
Prudence:

Funding valuations are required to be prudent which flows through to the cashflows produced – for example in life expectancies.

Member options

Depending on your valuation assumptions and advisers, your cashflows may make no allowance for commutation (sometimes even if the liability calculation does), a prudent allowance or a best estimate assumption. Most other member choices are completely ignored in cashflows. This may be exactly what you want, but if buy-out is still some way off (or never) then it may be better to use cashflows that reflect member behaviour.

Cashflows for an example deferred member

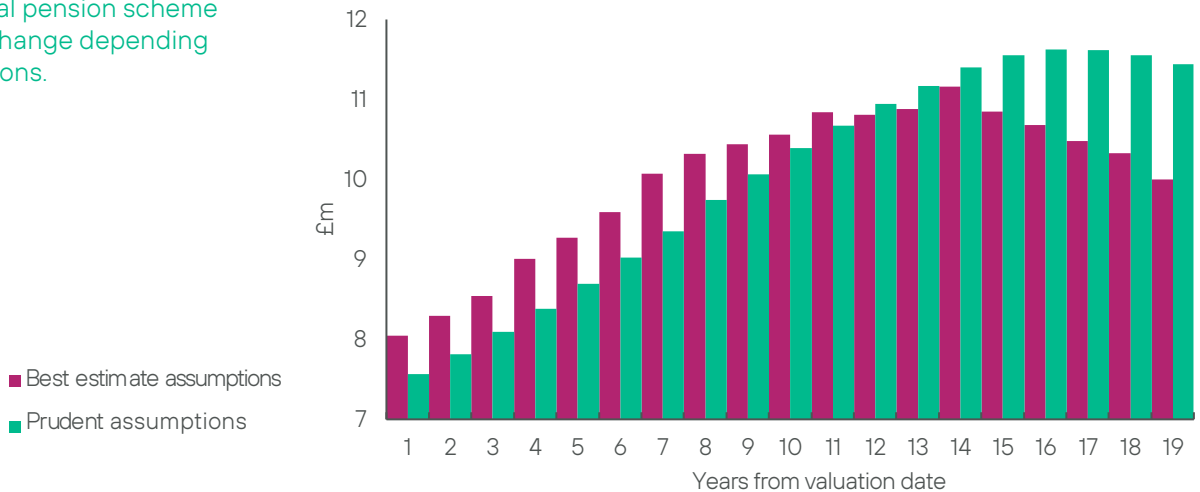


The terms of the options are also important. For example, if commutation factors are fixed then hedging is very sensitive to member choices. On the other hand, if commutation factors move monthly then hedging might be less sensitive as the same interest rate sensitivity is reflected in the pension and the cash alternative.

Early retirements shorten the duration of liabilities which reduces exposure to interest rate and inflation risk – but also mean that you have a different shape of exposure against the yield curve.

The graph shows how the overall shape of a typical pension scheme cashflows can change depending on the assumptions.

Cashflows for an example scheme first 20 years



In this example, cashflows on best-estimate assumptions are over 30% less sensitive to interest rate and inflation movements.

	PV01	IE01
Prudent TP cashflows	£461,000	£250,000
Best-estimate cashflows	£333,000	£192,000
Difference in hedge ratios	38%	30%

PV01 / IE01 = the change in the present value of liabilities due to a 1 basis point movement in the interest rate/inflation assumption.

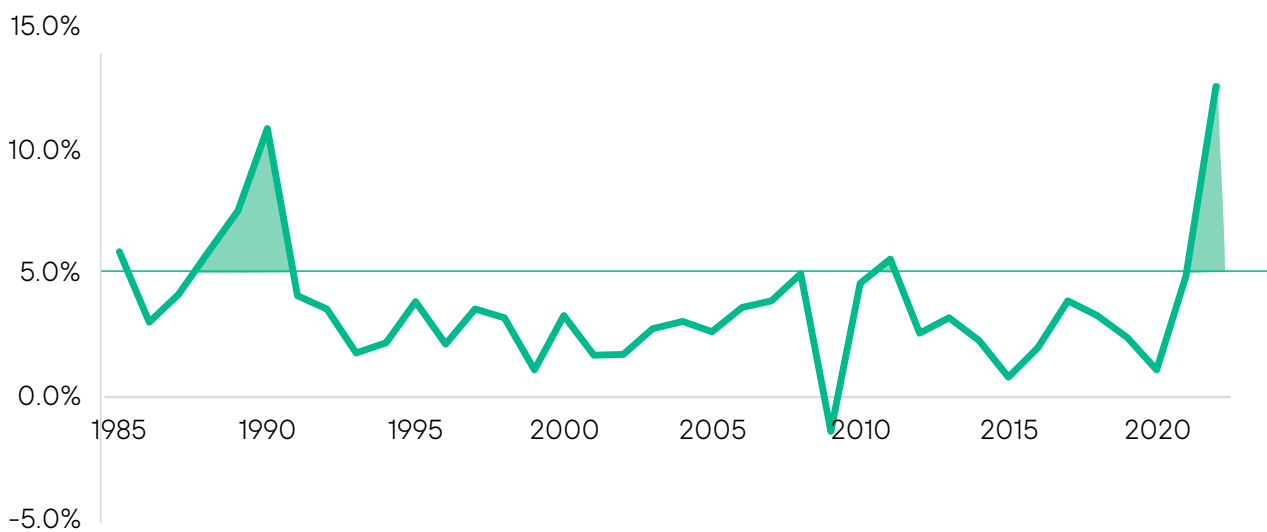
Inflation and pension increases

Investment advisers ask for information on inflation exposures. This may include “3D” cashflows split into different tranches of pension increase.

Inflation sensitivity is usually reported relative to valuation assumptions and models. For example, if long-term inflation rises from 3% to 4% then a pension increase assumption might rise from 2.8% to 3.5% - allowing for the chance that the cap bites in the future. The conclusion is that cashflows are 70% sensitive to inflation, i.e. a 1% change in inflation results in a 0.7% change in pension increase.

If you want to hedge your actuary’s assumptions – and provided they don’t change their models and inflation is stable (and you don’t change your actuary!) then this might be the right thing to do. But in practice if inflation rises from 3% to 4% then your pension increases could be 100% sensitive to that move. Protecting against actual inflation movements might need a different and/or more dynamic approach.

Historical RPI (September)



Schemes have seen this recently, with 5% caps on pension increases biting and schemes having much more inflation hedging than they now need. Being over-hedged on inflation has fortunately been positive so far, but hedging shouldn’t rely on luck to be successful!

Recalibrating LDI

Schemes with high hedge ratios on their long-term target should refresh cashflows annually to maintain accuracy or more frequently if inflation moves materially.

Other factors often get overlooked too, for example inflation experience not yet reflected in scheme benefits – but which will take effect at the next increase date. Cashflows should ideally be adjusted for this “known” experience, as inflation hedging tools will only protect against forward-looking movements.



If your LDI manager is rebalancing your portfolio quarterly, why use out-of-date cashflow information?

Which cashflows should you hedge?



Protect the Technical Provisions funding level

If Technical Provisions are your priority, then you could hedge the standard cashflows from the valuation, even if they differ from reality. But be careful of step changes at actuarial valuations and alive to the risk that scheme experience might rapidly diverge from the prudent assumptions. You probably want to recalibrate LDI at least annually and ensure you reflect the Scheme Actuary's prevailing views, not just a simple roll-forward of the last valuation.



Planning to run-off and hedging against self-sufficiency

With a run-off plan you may want to reflect "real" expectations in cashflows – so best estimates of mortality and member choices like commutation. You will still have prudence in the self-sufficiency assumptions, but you may not need expensive hedging to cover prudent liabilities.

On inflation you may want more sophisticated delta-hedging against experience as it arises. Swaps might be a better hedging implementation tool rather than conventional LDI. And be particularly wary of inflation volatility assumptions based solely on historic averages that may tell you little about the future.



Self-sufficiency with an aspiration to buy-out

Hedging insurance pricing is notoriously difficult, as pricing moves in different ways to typical valuation assumptions – mortality is likely to reflect reinsurance market pricing and pension increases will depend on what insurers can get on the swaps market for Limited Price Indexation.

To avoid unwanted volatility, we suggest not trying to hedge 100% of buy-out. Something lower, e.g. 80-90% is probably more appropriate. Time horizons are also important – for a scheme five or ten years' from buy-out then you may not want to hedge prudence margins at all. You can keep your long-term options open without the risk of being over-hedged.



Key takeaways

The 2022 mini-Budget put a spotlight on LDI. But the immediate focus was on the asset side of the equation especially collateral and liquidity.

Trustees should put the same level of scrutiny on the liabilities and ensure they are making deliberate decisions about what to hedge. There's a lot of "devil in the detail" for trustees to consider, particularly when hedge ratios rise above 90%.

Many schemes are running hedge ratios that are higher than expected, or that have diverged significantly over time – and there is a potential information gap between investment advisers and scheme actuaries.

Getting a high level of hedging to work well requires:

1.

Making positive decisions about the metric and cashflows you want to hedge, e.g. prudent or best estimate cashflows

2.

Ensuring your actuary and investment advisers genuinely work together and understand what the other is doing

3.

Recalibrating your hedge regularly – not just mechanically but with genuine thought about how the actuarial cashflows should be updated

A £500m Scheme that is 20% over-hedged could be losing £1m p.a. in investment returns and lose £25m in another gilts crisis.

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If you have any questions as to how this applies to your scheme, please speak to your usual Isio contact.

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