

Gilt market fragmentation and how to respond

The gilt market is currently exhibiting some unusual characteristics. This reflects the specific set of circumstances and events that have built up over a number of years both in the UK and more widely in the global economy.

This is particularly relevant to defined benefit pension schemes given the reliance on the gilt market to value liabilities, and also the use of gilts themselves to hedge liability risks as part of many liability-driven investment (LDI) strategies.

Key findings

- ▶ Medium and long dated gilts are relatively inexpensive, but short-dated and ultra long-dated bonds are expensive.
- ▶ The pricing reflects different demand and supply dynamics, an expected reduction of ultra-long dated issuance, and preferential tax treatment of low coupon gilts.
- ▶ This means that yield curve risk has had a far more prominent impact on performance of liability driven investment (LDI) strategies than was previously the case.
- ▶ The distorted pricing highlights limitations in how common yield curves are calculated, leading to mismatch between the value of assets and liabilities.

What can trustees do?

- ▶ Understand the level of sophistication of your hedge strategy and any vulnerabilities in your approach.
- ▶ Monitor how your LDI portfolio has performed against its benchmark and your liabilities and seek to understand any deviations.
- ▶ Monitor your LDI manager's performance versus benchmark and consider any refinements that could be made.
- ▶ Regularly monitor your scheme's current hedge ratio and level of curve protection.
- ▶ Recalibrate your LDI portfolio against your scheme's most up-to-date liability cashflows.



Unusual gilt market characteristics have exacerbated any mismatch in your LDI strategy and the impact on performance may have been significant. Most schemes will benefit from reviewing their hedge.

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Gilt market dynamics

Today's global bond market dynamics have created a fragmented yield curve influenced by technical factors, issuance trends, and differing investor demand. This complicates hedging strategies, as seemingly modest mismatches can cause significant variation in hedge performance relative to liabilities. This can also cause issues for how long-dated liabilities are valued using a gilt yield curve.

Short maturity gilts are expensive:

- ▶ Gilts maturing before 2030 remain expensive (low-yielding) as their price is to some extent anchored to the Bank of England base rate and influenced by easing monetary policy expectations. They are popular as collateral and liquid assets for banks and cash investors.
- ▶ Low coupon gilts are particularly costly as they offer tax benefits in relation to capital gains compared to high-coupon gilts, attracting investors who otherwise pay tax.

Medium and long dated gilts are cheaper:

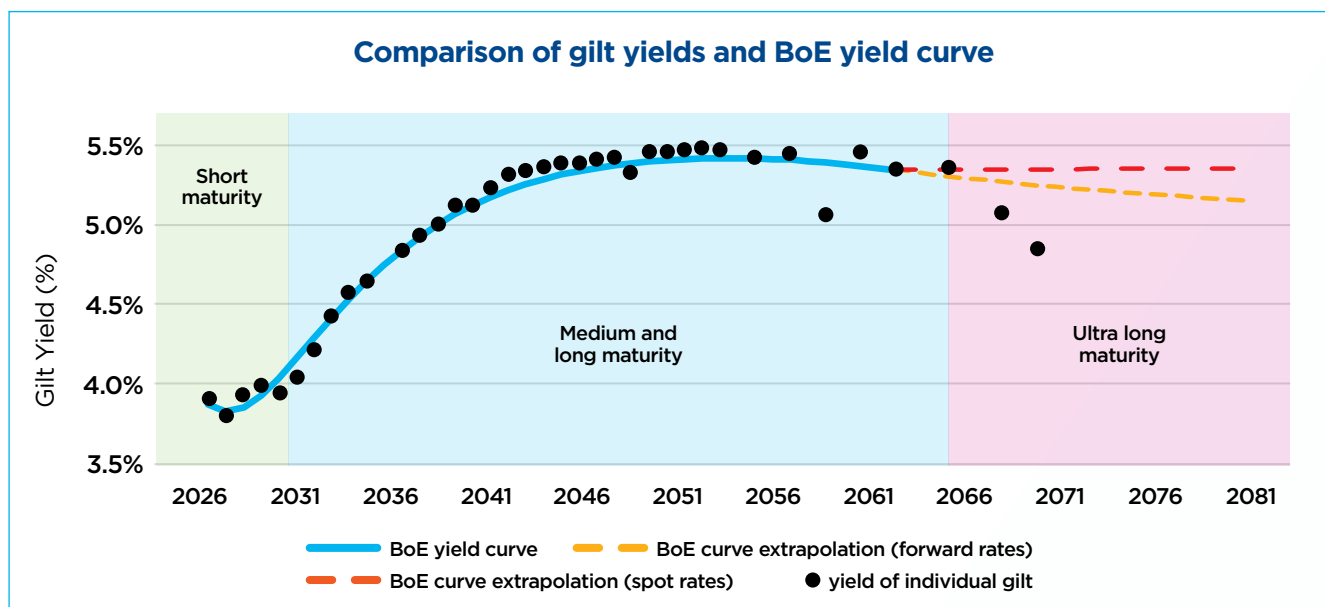
- ▶ Gilts cheapen swiftly as maturities go beyond 2030, with yields surpassing 5.5% in recent months due to decreased pension demand and raised government issuance.
- ▶ Despite this, some low coupon gilts remain more costly given their tax benefits and that they offer better curve protection for pension schemes and insurers than high-coupon alternatives.

Ultra-long gilts are expensive:

- ▶ Limited availability and persistent demand from pension schemes sustains high prices in this segment.
- ▶ The low-coupon 2071 and 2073 gilts are particularly expensive due to their attractiveness for schemes hedging long-duration cashflows and those seeking more straightforward, non-leveraged, LDI solutions.

Extrapolating the long end of the yield curve

The chart below shows the Bank of England yield curve which is commonly used to value and measure the interest rate sensitivity of UK pension schemes. The blue line represents the yield for gilts maturing between 2026 and 2065 (forty years into the future), alongside the actual yield of gilts in the market (black dots).



As the BoE curve stops at 40 years, pension actuaries valuing liabilities have to extrapolate for yields after 2065. We show two standard extrapolation methodologies: spot rates (red dashed line) and forward rates (yellow dashed line). You can see that both methods overestimate the 2073 gilt yield. Where liability cashflows go out beyond 2073, these hyper-long liabilities become incredibly sensitive to the extrapolation method and the pricing of the two longest dated bonds.

Implications for pension schemes and actions

1. Hedge precision

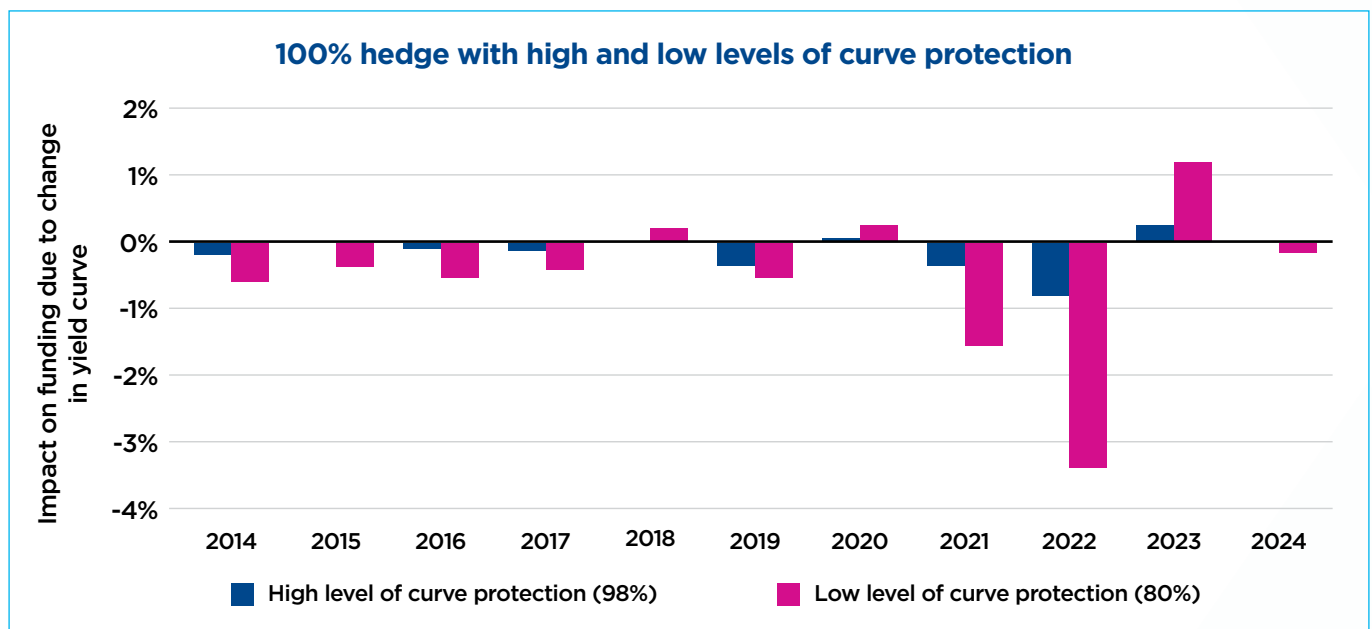
The pronounced yield curve distortions significantly amplify curve risk for pension schemes. This has implications for the performance to date of the LDI hedge versus the benchmark, and the extent the LDI manager's benchmark remains an accurate reflection of the liabilities. For schemes with low hedge ratios, this is less of a significant issue, but it is critical where schemes have high levels of liability hedging (i.e. >80%).

Yield curve risk - worked example

To help quantify the importance of yield curve risk, we have carried out a historical simulation of two hedging strategies over the last decade. Both strategies hedge 100% of interest rate risk, but one strategy has a higher level of curve protection than the other. This means the assets are better-matched to the shape of the liability cashflows.

The results (shown below) demonstrate that high curve protection can dramatically reduce funding level variability. The strategy with high curve protection experienced average annual funding changes of just 0.2% resulting from hedge mismatch, compared to 0.8% for the strategy with low curve protection.

For an example £100m scheme, this translates to £800,000 v £200,000 average absolute annual mismatch. In the most extreme year (2022) the mismatch was over £3m for the low curve protection scheme vs £750,000 for the better-protected scheme.



Actions

- ▶ Curve risk can be reduced through optimising the benchmark against the latest scheme cashflows.
- ▶ A more precise hedge can be constructed using so-called “3D cashflows” which capture the different types of inflationary pension increases in a scheme's liability cashflows.
- ▶ More frequent recalibration and the use of market triggers will reduce the mismatch between benchmark and liabilities that can arise over time with membership changes and market movements.

2. Monitoring LDI manager performance vs benchmark

The extreme movements in yields and the changing yield curve have led some investment managers to appear to have meaningfully underperformed their benchmark. To understand if this is the consequence of poor fund management decisions or a benchmark that is partially uninvestable requires a detailed assessment.

Why can performance deviate from benchmarks?

- **Coupon-specific yield dispersion:** Otherwise similar gilts but with high or low coupons are performing very differently given the tax treatment and investor preference for low coupon gilts, leading to difference in performance.
- **Yield curve extrapolation methodology:** For immature schemes with cashflows extending beyond the longest available gilt, how benchmark cashflows are valued and hedged becomes critical. The extrapolation method used to determine rates beyond the last tradable gilt can significantly affect benchmark performance, even when the liability hedge has a high level of curve protection.

Actions

- Closely monitor the LDI manager's performance versus benchmark, and seek to understand any deviations if they occur.
- Bear in mind that yield curve extrapolation may lead to deviation between fund and benchmark in a way that is not possible to hedge, but other sources of deviation may be avoidable.
- Consider alternative benchmark approaches, for instance where cashflows are truncated to make the benchmark fully investible.

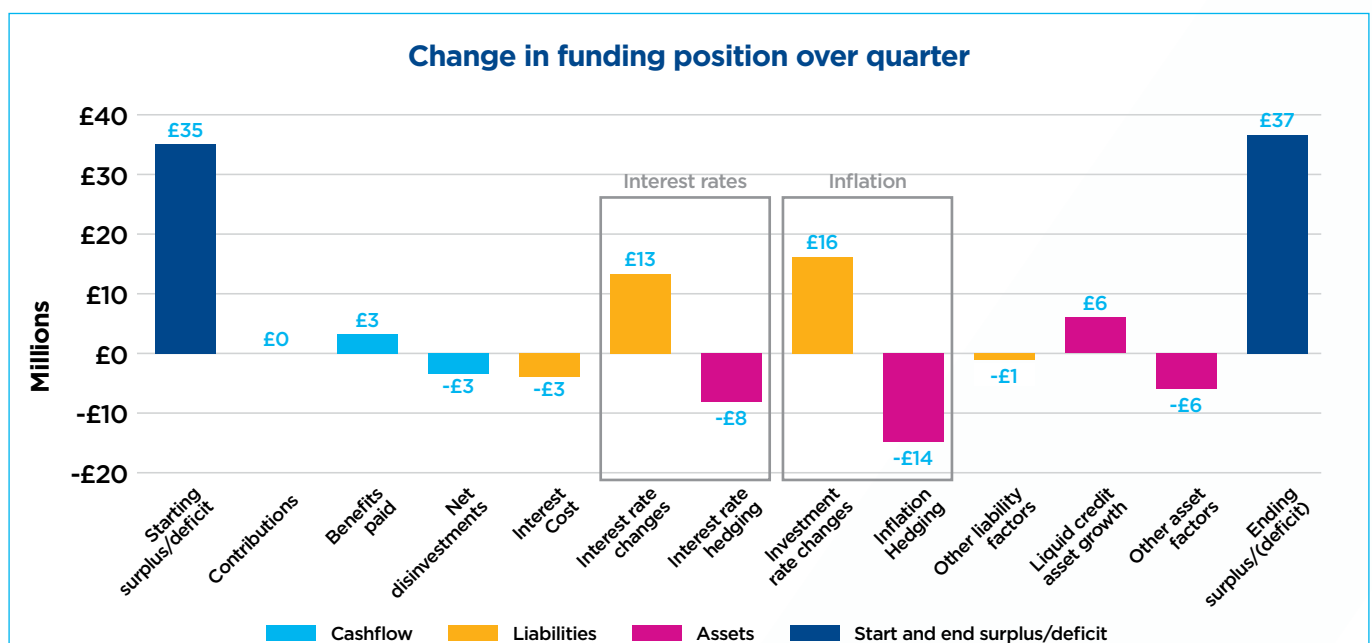
3. Performance attribution vs actual liabilities

How can you measure whether your hedge strategy has actually worked?

Measuring a manager's performance against their benchmark only tells part of the story. It is important to measure performance against your scheme's liabilities to determine whether the benchmark, and thus the portfolio, is working correctly.

Actions

- Monitor how your portfolio has performed against your scheme's liabilities.
- Using an attribution of asset performance vs liabilities within ongoing investment monitoring can help identify any mismatch arising from gilt market fragmentation.



4. Hedge level drift

The changing shape of the yield curve

Yields have risen since 2022 by different amounts at different points in the curve. Non-parallel shifts like these present a critical challenge for LDI portfolios.

When schemes establish liability hedges, they calibrate hedge ratios based on the prevailing yield curve and their liability cashflow profile. If hedging assets do not align with the liability cashflows, hedge ratios will drift over time when rates move non-uniformly.

Inflation caps and collars

The large fluctuations in market inflation expectations in 2021 and 2022 caused many pension schemes' inflation hedge ratios to move away from their targets, due to the complex way that pensions with inflationary caps and floors are valued. Since 2023, inflation expectations have been much more stable, but this is a risk that should be closely monitored.

Pooled fund considerations

Some pension schemes use passive index-tracking bond funds to form part or all of their hedge. Liability hedges constructed using these funds can drift over time as gilts enter or leave the benchmark index (e.g. when new gilts are issued or when a 15 year gilt drops out of an over-15-year index fund).

Actions

- ▶ Robust liability hedge construction having a high level of curve protection or, at a minimum, minimising the difference in duration between assets and liabilities.
- ▶ Regular monitoring of your actual hedge ratio and recalibrating the hedge when it drifts from the target.
- ▶ Understand how the funds that you use could drift away from your liabilities over time.

Find out more

If you wish to discuss these issues in more detail please contact **Ollie Allen**, **Mark Minnis** or your usual XPS Investment consultant.



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