Market developments over 2022

Introduction

We have been asked to explain in general terms how current market developments are affecting pension funds, and what this means in the general context of USS. This is in advance of the USS Trustee providing a formal update to stakeholders.

Why bring you this note?

Market conditions are currently volatile and there has been a great deal of change over 2022.

The impact of the "mini-budget" on pension funds also generated and continues to generate headlines.

This note explains how these changes are affecting pension funds generally, and gives high-level comments on how the USS may have been impacted.

Economic trends over 2022

Over 2022, the UK and many other countries have seen significant inflation. One of the key contributing factors to high inflation has been the Russian war, resulting in higher energy and food prices.

One of the Bank of England's ("BoE") responsibilities is to control inflation and their traditional response to rising inflation is to raise interest rates. The Bank of England has raised interest rates multiple times over 2022 from 0.25% at the start of the year to 2.25% in September 2022.

What is happening to gilt yields?

Rising interest rates also affect bond yields. Bond yields reflect a combination of interest rates today and how those interest rates may change in future.

UK government bond ("gilt") yields have trended upwards over 2022, driven up by increasing inflationary pressures and the expectation of the Bank England shifting to a programme of Quantitative Tightening (selling gilts).

These trends were accelerated on Friday 23 September following the Chancellor's mini-budget announcement. What followed was a rapid rise in yields, with daily moves far in excess of historical norms.

The magnitude and speed,of these changes have placed immense pressure on the liquidity of Liability Driven Investment (LDI) portfolios, widely used by pension schemes. LDI portfolios are designed to match the interest rate and inflation risk of pension schemes, so that funding levels have protection if rates change.

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Date: 12 October 2022

When rates increase, and where a scheme uses leverage in its LDI portfolio – e.g. for every £1 invested in an LDI fund, the scheme has £2 of exposure to changes in interest rates – then the LDI manager may require additional monies (known as collateral) in the LDI fund to keep the same hedging level.

Since the mini-budget, LDI portfolios have performed as expected i.e. they have fallen in value, alongside a fall in the liabilities. However, to ensure the leverage does not increase (with the LDI portfolios falling in value), additional funds have been called on. This has led schemes to either sell liquid assets (including gilts) to maintain their hedging levels, or they have reduced hedge levels (also resulting in gilt sales as LDI managers are requiring higher levels of collateral given the steep market moves). This has created the so-called "doom loop" where gilt prices fall (as schemes are selling them), increasing yields, and increasing the demands for collateral further.

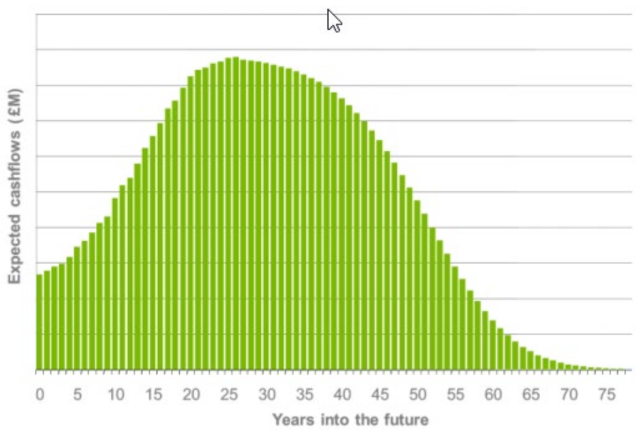
Whilst the BoE's intervention has calmed markets for now, it has stated that this support is only temporary and will end on 14 October. This provides a short window for trustees in which to rethink hedging strategies and collateral positions, and take any action needed.

How do these changes affect pension schemes?

How do actuarial valuations work?

When carrying out a pension scheme valuation, the first step is to estimate the future cashflows that will be paid from the pension scheme (i.e. the pensions / lump sums / death benefits that will be paid to current scheme members).

The chart below shows the benefit payment pattern for a typical scheme.



For open schemes like the USS, two sets of cashflows are estimated (1) the cashflows associated with benefits built up to date (past service) and (2) the benefits that members are currently building up (future service).

The next step is to determine how much money needs to be held today to pay for these past service benefits, **the liabilities**, and how much money needs to be contributed to pay for future benefits, **the future service rate.**

The key assumption here is the discount rate, which can be thought of as a cautious estimate of future investment returns.

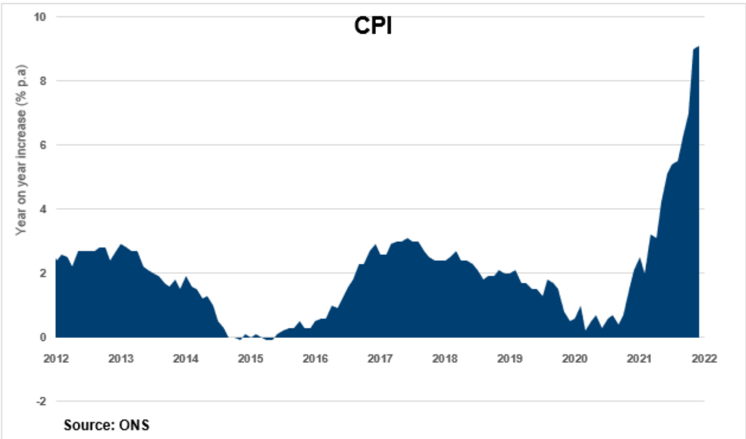
It is common practice in the UK to base the discount rate on gilt yields plus a margin. If the discount rate is higher, then the liabilities are lower (as we assume less money needs to be held today but this money will grow faster). At a detail level, many schemes use a dual discount rate approach, where the discount rate for current and future pensioners (the post-retirement discount rate) is assumed to be based on the return on lower risk assets, while the discount rate before retirement (the pre-retirement discount rate) reflects a growth-oriented investment strategy.

The liabilities are compared to the assets to determine whether there is a surplus or a deficit.

How does high inflation affect pension scheme valuations?

The high inflation seen this year means that for the majority of pension schemes where benefits are linked to inflation, the projected future cashflows and therefore the liabilities and future service rates are higher.

Inflation measures represent the change in price of a basket of goods. In practice, individuals experience different personal inflation depending on what goods and services they buy. There has been a so-called “cost of living crisis” partly because key goods such as food and energy have been particularly impacted, and thus many people may experience even higher personal inflation than shown below.



How do rising gilt yields affect pension scheme valuations?

As discount rates are often based on gilt yields, gilt yield increases mean higher discount rates, and so liabilities and future service rates reduce.

However, pension schemes often hold gilts as an asset, or have similar exposure to interest rate changes through LDI. When gilt yields rise, the value of gilts held falls. So, the value of these assets held by the pension scheme reduces. Investing in gilts is a form of “hedging” where pension schemes endeavour to match movements in the assets and liabilities so the financial position remains stable despite interest rate changes.

What has the overall impact been on pension schemes?

We have seen a large variation in performance of different pension schemes over 2022. As a general rule, pension schemes are “smaller” (with lower liabilities and assets) and future service rates are lower.

However, whether deficits have reduced or increased depends on a number of factors including:

- How the pension scheme is invested and how these assets have performed. Of particular note, schemes that were “underhedged” have typically outperformed because the liabilities have reduced by more than the assets.
- The extent to which the benefits paid by the scheme are linked to inflation.
- Whether the discount rate is set based on gilt yields or calculated in another way.

On average, we estimate that the *median* funding level of schemes advised by Aon is broadly unchanged at 30 September 2022 compared with 1 January 2022. However, there is an unusual range of variance.

What employers should expect from TPR and from Trustees

We have been asked to comment on how the Pensions Regulator (TPR) might react to the recent turbulence. On this, we note that TPR has just provided an update, which is consistent with our thoughts on what employers should expect from Trustees as set out below.

From a Trustee perspective, in many cases the focus right now will be on reassessing the position. This will cover:

- Understanding the latest funding position, and how this has held up.
- Understanding whether interest rate hedging remains in place.
- Assessing the overall portfolio, particularly if more liquid assets have been sold, and deciding whether further changes are needed.
- For open schemes, how the cost of new benefits has changed.

From an employer perspective, you should expect the trustees to be able to provide an update on these points, and also for trustees to consult with the employer on any proposed investment strategy changes.

USS

Turning briefly to the USS position, we would expect recent events to have:

- Improved substantially the funding position on a “self-sufficiency” basis, which the Trustee uses to determine the overall level of risk being run relative to the strength of the employers. While we expect the assets to have fallen in value between 30 June and 30 September, the discount rate based on a self-sufficiency investment strategy will have increased, reducing the self-sufficiency liabilities materially.
- Potentially improved the funding position and cost of new benefits on a technical provisions basis (the basis used to determine contributions at each valuation). We expect the Trustees will need to carefully consider the inflation and pre-retirement discount rate assumptions (which considers the prudent return available on the growth assets).

- Required very careful investment management, but not led to the same sort of investment concerns as many schemes as the amount of LDI is relatively modest.

Market uncertainty and volatility

Our note summarises developments over the year to early October, and the position is volatile.

Following the mini-budget the Bank of England has effectively aimed to stabilise the gilt markets until 14 October; after then, it is less clear what will happen. Even as we write this report, yields have risen over the course of today.

For schemes showing an improved funding position, it is important to acknowledge that we are not in a stable world where the market is more confident about the future. Rather, the cost of buying gilts, generally considered to be “low-risk” assets, has reduced, perhaps partly due to the market losing some confidence in the UK. This in turn has had the by-product of reducing the actuarial liabilities to a greater extent than the substantial fall in asset values over 2022.

There are also wider areas of uncertainty with high short-term inflation, the possibility of a global recession, and the Russian war. These will be important considerations for the USS Trustee when setting assumptions for the forthcoming valuation.

In the meantime, we understand that the USS Trustee will provide a formal update to stakeholders on the 30 September position in due course.

Compliance

This note complies with 'Technical Actuarial Standard 100: Principles for Technical Actuarial Work' ('TAS 100'). We have given permission for this note to be shared with the participating employers of the Universities Superannuation Scheme.

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