Bond Blog

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PGIM FIXED INCOME

A Q&A on the UK LDI Unwind

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The ultimate fallout of the UK's government bond (gilt) crisis may be as difficult to forecast as its sudden emergence. Yet, the situation points to a few broad takeaways - all else being equal, the announced fiscal stimulus likely necessitates a higher monetary policy rate as the Bank of England looks to rein in inflation; tangential events can easily expose unexpected market fragility in a volatile environment; and markets may take an increasingly punitive approach to countries that test fiscal boundaries. Given the significance of these takeaways, the following provides our perspective on the crisis and some of its near-term ramifications, including whether something similar could occur in the U.S. As the situation continues to evolve, we'll provide updates as warranted.

Q: WHY WERE UK PENSION PLANS SO VULNERABLE TO THE VOLATILITY IN THE UK GOVERNMENT BOND MARKET?

A: To start, the UK pension funds comprise a significant portion of the institutional investor base in the UK as their assets tripled in size from 2007 through 2021, which consisted of about 450% of UK GDP.[1] These large pension schemes heavily rely on liability driven investment (LDI) strategies to meet pension benefit obligations.

As a way of protecting these assets against the effects of inflation, UK pension schemes are required to provide mandatory inflation indexation to participant benefits. UK schemes also use a "risk-free" government or swap valuation of their benefit liability for traditional investment strategy purposes. The combined effect of these exposures results in a large sensitivity to long-dated real yields in the schemes' funded status.

In order to hedge their funded status risk to movements in these real yields, while also preserving capital to capture risk premia, they have historically used derivatives as a hedge. UK LDI managers have managed these liability hedging strategies by employing about four times of leverage on their funded capital (i.e., for every $25 of assets in the portfolio, they are hedging around $100 of the liability present value).

Although LDI mandates are designed to maintain sufficient collateral buffers to withstand large and quick moves in real yields, the market reaction to the Truss' government's "mini-budget" were so severe that some LDI managers did not receive collateral quickly enough. Consequently, the schemes unwound their hedging positions to bring portfolios back within the target leverage range. This, in turn, led to further surges in UK real yields, propagating a self-reinforcing cycle of losses and collateral calls.

FIGURE 1: The effects of the cycle re-ordered a long-standing relationship as gilt yields pushed above those of U.S. Treasuries with similar tenors.

Source: PGIM Fixed Income and Bloomberg.

While the situation remains highly fluid with headlines speculating about rolling back the budget or more, upcoming changes will not change the ramifications from the initial fallout for UK pensions.

Q: THE BANK OF ENGLAND'S DECISION TO BACKSTOP THE GILT MARKET PROVIDED SOME RELIEF, BUT WHAT ARE THE RAMIFICATIONS FOR THE BOE AND UK MONETARY POLICY?

A: The Bank of England's decision to step into the gilt market temporarily stemmed the cycle's effects on the market, and BoE Governor Andrew Bailey indicated that the backstop is set to conclude on 14th October (for additional details on the BoE's operations, please refer to the accompanying footnote).[2]

The central bank's move raises questions about the cross-current effects. Since the summer of 2020, Bailey has consistently expressed a desire to shrink the BoE's balance sheet, and the credibility effects of those comments also raises the bar for the BoE to walk those back. While observers have expressed that the BoE may be easing financial conditions through bond purchases in the midst of its overall tightening process, the fact is that a free falling "risk-free asset" in a self-perpetuating loop was a cycle that clearly warranted interruption.

From a policy perspective, if the Truss budget remains in place, it could contribute to higher inflation as well as a higher policy base rate from the BoE. This comes as we expect the UK economy to deteriorate from growth of 4.3% in 2022 to a contraction of 1.4% in 2023.

Q: HOW HAVE CREDIT MARKETS BEEN AFFECTED?

A: While UK pension plans do not directly include credit within the collateral assets of the LDI mandate, they are often included in the "collateral waterfall." This means that once cash and gilt buffers have been exhausted, liquid credit asset classes, such as investment grade corporate bonds and securitized credit, are typically the next to be sold to top up the collateral pool to the required level and return their LDI mandates to the targeted leverage levels. As a result, credit spreads in some of these markets widened notably on trading volume that was nearly 10 times the normal levels.

For example, spreads on AAA euro-denominated CLOs - which are traditionally viewed as a relatively stable asset class - widened by about 75 bps since the beginning of September through mid-October, with much of the widening occurring amid the LDI unwind.

Q: COULD U.S. LDI OR PENSION PLANS BE SUSCEPTIBLE TO THE TYPE OF EVENT THAT OCCURRED IN THE UK?

A: The following points explain the key differences between the UK and U.S. LDI markets and why a levered unwind in the U.S. is less likely.

1. **Inflation linkage:** UK pension legislation requires that most pension benefits are increased in line with inflation. The inflation indexation is applied differently for pensioners and deferred members, and it is often capped depending on when service was accrued. Originally, pensions were required to be indexed with the Retail Price Index, and some schemes were subsequently allowed to change the inflation indexation to the Consumer Price Index. In the U.S., mandatory pension inflation indexation is not required, and, while a very small number of schemes do provide inflation improvements, pension benefits are largely fixed.
2. **Liability duration:** The inflation linkage - which became mandatory for most benefits awarded by a UK pension scheme after 1997 - significantly lengthens the duration of the pension liabilities to about 20 years. In the U.S., the typical liability duration is around 12 years.
3. **Derivatives vs. Physicals:** UK LDI strategies are heavily derivative based, employing around four times leverage to hedge liabilities synthetically, which can improve the efficiency of capital. U.S. LDI is more commonly a long-dated cash corporate bond strategy. U.S. pension plans benefit from the large outstanding issuance of long-dated (30 year) corporate investment grade corporate bonds along with the presence of a large and relatively liquid Treasury STRIPS (separate registration of interest and principal securities) market. These two sources of long-duration cash securities with high dollar duration per amount invested facilitate capital efficiency in U.S. plans with less use of derivatives.
4. **Governance structure:** UK corporate defined benefit pension plans are governed by an independent trustee body, which has representation from both the sponsoring employer and employees as well as advisors (i.e., investment consultants and actuaries, etc.) for both parties. The trustee body makes decisions independently of the company and engages with the company to negotiate sponsor contributions. In the U.S., the governance of the pension plan sits with the company in the finance, treasury, or human resource function. Depending on the size and complexity of the pension, there can be large variations in the size of the team hired to administer and manage the benefit provision.
5. **Accounting vs. Risk-Free Liability Valuation:** The main consequence of the difference in governance structure is a difference in the liability valuation basis used for investment strategy purposes. Because of the independent nature of the UK trustee body, they do not use the International Accounting Standards Board's accounting valuation basis of the liability (i.e., high-quality corporate bond yields) as the key measure of the liability valuation. Instead, they use a "risk-free" valuation curve, such as those on UK government bonds yields or swap rates, which does not include a credit spread.

On the other hand, U.S. pension plans, being inside the scope of governance of the sponsoring company, use the accounting valuation basis as the primary liability valuation for their investment strategy. For U.S. GAAP purposes, the liability is valued with high-quality corporate bond yields, which incentivizes the use of long-dated corporate bonds for hedging funded status risks.[3]

6. **Relative size of DB pensions:** UK defined benefit (DB) pension assets and liabilities are much larger relative to the UK economy and outstanding government debt than those in the U.S. As previously mentioned, UK pension assets of $1.8 trillion are around 80% of the $2.3 trillion of government debt outstanding. In comparison, the U.S. DB pension liability is around $3.2 trillion, and there is $24 trillion of government bonds outstanding.

Furthermore, UK insurers and pensions hold about 25% of outstanding gilts, while U.S. insurers and pensions hold less than 6% of outstanding Treasuries.

Q: WHAT ARE THE NEAR-TERM IMPLICATIONS FOR UK PENSION PLANS EMPLOYING LDI STRATEGIES?

A: Given the time limited nature of the BoE's commitment to stand behind the gilt market, there is short window to increase collateral buffers and reduce leverage within LDI strategies. It is likely that many trustee boards will call emergency investment committee and trustee board meetings over the coming weeks to decide where to source the additional required collateral.

Q: WHAT ARE THE LONGER-TERM IMPLICATIONS FOR UK PENSION PLANS?

A: Longer term, a wholescale rethink of the liability hedging structure will be required including reassessing how much leverage can be employed and what types of assets are appropriate for the collateral waterfall. These are fundamental aspects of asset allocation and imply a general and broad shift in asset allocation for UK pension plans. Stakeholders are likely to utilize lower levels of leverage in the future, which implies holding more liquid and cash and collateral assets.

Therefore, the situation could also alter the trend of LDI managers seeking returns in private debt, illiquid alternatives, or non-UK assets given the hedging cost and increased derivative exposure.

Q: WHERE CAN I FIND MORE INFORMATION ABOUT HOW UK LDI STRATEGIES WORK, THE LEVERAGE THEY EMPLOY, AND HOW THEY HAVE CHANGED OVER TIME?

A: In 2019, the UK Pension Regulator conducted a survey across a group of 137 pension schemes in the UK asking questions about their use of derivatives, leverage, and collateral sufficiency in LDI portfolios. The objective of the report was "to assess the potential for systemic risks to arise due to the use of leverage in DB pension schemes." The survey was extensive in both its coverage of the pension scheme universe and the questions asked (see the accompanying footnote for additional information).[4]

The UK Pension Protection Fund (PPF) produces an annual report detailing demographic, funding, asset allocation, and additional detail on the population of pension schemes which it insures. The Pension Protection Fund is the UK equivalent of the US Pension Benefit Guarantee Corporation (see the additional footnote for additional information).[5]

[1] Investment Management in the UK 2021-2022, The Investment Association Annual Survey, September 2022.

[2] https://www.bankofengland.co.uk/news/2022/october/boe-widens-gilt-purchase-operations-to-include-index-linked-gilts

https://www.bankofengland.co.uk/markets/market-notices/2022/october/temporary-purchases-of-index-linked-gilts-market-notice-11-october-2022

https://www.bankofengland.co.uk/news/2022/october/bank-of-england-announces-additional-measures-to-support-market-functioning

[3] GAAP refers to generally accepted accounting principles.

[4] https://www.thepensionsregulator.gov.uk/-/media/thepensionsregulator/files/import/pdf/db-pension-scheme-leverage-and-liquidity-survey.ashx

[5] https://www.ppf.co.uk/sites/default/files/2021-12/PPF_PurpleBook_2021.pdf

Source(s) of data (unless otherwise noted): PGIM Fixed Income, as of October 13, 2022

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