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UK Pension Liquidity Crisis, Part 2: Impact of BOE Intervention Likely to be Transitory Unless There are Permanent Structural Changes

Water, water everywhere, Nor any drop to drink

- The Rime of the Ancient Mariner by Samuel Coleridge

Bank of England's unlimited long-dated gilt purchase intervention managed to head off the UK pension liquidity crisis, for now. Calm is likely to prevail in the long end of the UK bond market until the end of the BOE's stated purchase period (14 Oct), but in the long run, UK rate directionality remains higher. UK's high inflation and large fiscal stimulus means the BOE's monetary action to raise short-term rates and reduce its balance sheet (QT) must continue. With this backdrop and absent any structural changes, UK pension liquidity squeezes may soon return. Advocate discusses some potential structural changes that may reduce the potential for future UK pension liquidity episodes.

Bank of England Intervenes to Lend UK Pensions a Hand

Bank of England announced on 28 September that it would intervene in the bond market to purchase an "unlimited" amount of long-dated gilts. Sky UK economics editor Edmund Conway posted on Twitter[1] that the BOE's intervention was to address the "run dynamic" on UK pension plans. 30yr gilt yield dropped 118bps after the announcement, a very impressive outcome considering how little the BOE actually purchased that day.

FIGURE 1. 10YR AND 30YR UK GILT YIELDS BEFORE AND AFTER BOE GILT PURCHASE ANNOUNCEMENT, 28 SEP 2022

Rate	Pre-BOE	Close (11:15am ET)	Change (bps)
10yr UK gilt	4.55%	4.00%	-55
30yr UK gilt	5.05%	3.87%	-118

Data period 28 Sep 2022. Source: Bloomberg

BOE purchased £1.025Bn gilts in its initial gilt purchase operation on 28 September and has stated it intends to buy up to £5Bn gilts in each operation until 14 October. The intervention, according to Barclays[2], was ***unsterilized***. This means that the BOE did not withdraw the liquidity injection associated with this bond purchase and therefore it adds to the amount of liquidity provision to the system (just like QE).

Is this the end of the UK pension liquidity crisis? While calm is likely to return to the gilt market until the end of the BOE's bond purchase period, longer-term factors will inevitably continue to drive UK rates higher. We see two core issues that will likely drive a return of the UK pension liquidity crisis.

[1] Ed Conway, [@EdConwaySky], (28 Sep 2022*). On the @bankofengland intervention:*
Am told the BoE were responding to a "run dynamic" on pension funds - a wholesale equivalent of the run which destroyed Northern Rock. Had they not intervened, there would have been mass insolvencies of pension funds by THIS AFTERNOON [Tweet]. Twitter.

[2] "Gilt trip", A. Rajadhyaksha, T. Fiotakis, Barclays Research Report, 28 Sep 2022

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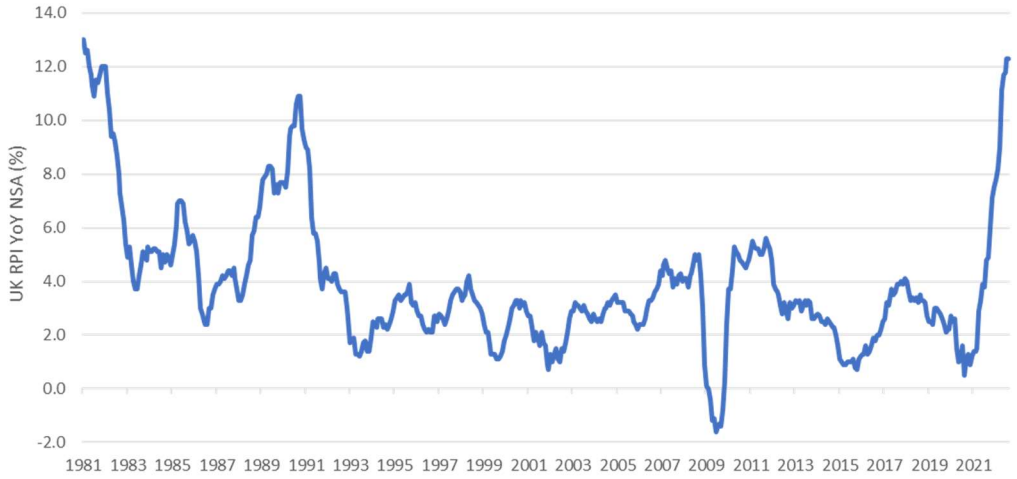
Core Issue 1: UK's high inflation and fiscal stimulus are not going away just because UK pensions have liquidity problems

UK faces high inflation and a large stimulus package that will further stimulate demand and stoke inflation from the demand side.

1. UK is dealing with some of the highest inflation in the G-7 with inflation (RPI) at the highest level since 1981 (Figure 2)
2. PM Liz Truss' fiscal plan will add at least £60Bn of energy subsidization in the next 6 months, followed by an additional £45Bn of tax cuts by 2026-2027. As with all tax cuts, much of this stimulus is very likely to be spent almost as quickly as it comes in. The plan would be financed by an additional £72Bn of gilt issuance in the next 6 months, further adding to rising rate pressure.
3. The additional gilt issuance in the next 6 months associated with fiscal stimulus will likely dwarf the total size of BOE's gilt purchases during its intervention.

FIGURE 2. UK INFLATION (RPI), YEAR-OVER-YEAR NON-SEASONALLY ADJUSTED, 1981 - 2022



Data period Jan 1981 - Aug 2022. Source: UK Office for National Statistics

Can the BOE continue pumping liquidity INTO the economy with multi-decade high inflation and fiscal stimulus on the way? The answer is clearly no. Hence BOE's long end gilt purchase intervention has a stated expiry date. BOE will soon have to return to its real job of raising rates and bringing down the size of its balance sheet to bring inflation under control.

Core Issue 2: UK pension plans have £1.5Tn LDI derivative positions that are exposed to rising rates and require daily margining

Pension plans that engage in Liability-Driven Investment (LDI) via derivative instruments are exposed to mark-to-market margin calls on a daily basis. Unless pension hedgers can somehow enter into bilateral uncollateralized swaps (not possible since pensions are financial entities and thus are regulatorily required to enter into collateralized swaps), ***short-term LDI margin calls plus long-term asset management practices result in a fertile ground for a classic liquidity squeeze***.

What is the way out for UK pensions? Structural changes are most likely necessary to reduce the risk of future liquidity episodes.

Structural changes may reduce likelihood of a recurrence of pension liquidity squeeze

Without fundamental structural changes to the UK DB pension and asset management practices, the pension liquidity squeeze we witnessed in the last few days is very likely to be repeated. There are 3 areas of possible reform in the UK pension system – asset-liability, risk limits, and liquidity.

Asset-Liability Changes

1. **Reduce the liability-matching requirement and the penalty associated with asset-liability risk gap.** A lower hedge ratio would reduce the amount of LDI margin call but expose UK pensions to lower solvency ratio if rates should drop back down. It is not clear that reducing solvency risk limitation is the right answer to pension liquidity risk.
2. **Require a minimum level of liquid investments that produce returns in rising rate environments**. Requiring a minimum investment in products that do well during rising rate periods, such as energy, commodities, or other products. These investments would generate gains that may provide a build-in offset to LDI hedge losses. If managed in-house, these investments may be liquidated during rising rate periods and used to meet margin calls.

Risk Limit Changes: LDI Derivative Usage Cap and Liquidity Buffer Floor

1. **Cap the maximum amount of LDI derivatives permitted.** A hard cap would limit the maximum amount of liability duration to be covered by LDI derivative hedges.
2. **Set hard limits on the minimum size of liquidity buffer that DB pensions must have**. The liquidity buffer should cover the margin associated with the largest historical 1-month rise in the appropriate maturity benchmark rate (UK swaps or gilts) with ample room to spare.
3. **Liquidity buffer limit must be stress-tested under real-world conditions and revised.** For example, if the above limit proved insufficient to address the recent 120-150bp rise in UK rates without ample remaining liquidity, it must be increased to reflect this inadequacy.

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4. **Top up liquidity buffer monthly**. If a pension plan's liquidity buffer drops below the minimum level at the end of the month, action must be taken to replenish that during the subsequent month to bring it back into compliance.
5. **Linkage**. The minimum size of the liquidity buffer must be critically linked to the maximum amount of LDI derivatives permitted and utilized.

While some or all of the above may be in place at certain pensions, the latest stress episode illustrates the need for a uniform codified set of risk limits to address the adequacy of pension liquidity buffers associated with LDI margining.

Liquidity Provision from External Asset Managers

The difficulty in generating on-demand intra-month liquidity from externally managed asset managers is a key contributor to a pension's liquidity exposure. Structural changes to asset management mandate would be required.

1. Require all DB plan asset managers to provide liquidity to the DB plan amounting to a percentage of portfolio asset value. This liquidity must be deliverable on an intra-month basis with a short delivery window after request (1-to-2 business days).
2. This on-demand liquidity may be provided via either remitting uninvested cash, cash using repo against existing positions, physical bond deliveries, or outright sale of investments
3. Since some pension external managers are also their LDI managers, pension plans could work with managers to implement cross-portfolio liquidity between asset portfolio(s) and LDI portfolios. This would have to be implemented at the start of any asset management or LDI mandates.

Is the Fed likely to face the same issue as the BOE? In short, no

On a separate topic, will the US Federal Reserve be forced to do the same thing (buy bonds to protect its pensions from liquidity squeezes) as the BOE when rates rise rapidly? The short answer is no.

1. The US defined benefit system is far less risk-constrained than the UK. Typical US corporate DB plans thus sport wider asset-liability duration gaps and engage in far less LDI hedging than their UK counterparts.
2. This relative lack of LDI hedging hurt US DB plans when rates were dropping, but provided a boost in funded status over the last 2 years when rates rose. According to Milliman, the average 100 largest US corporate DB plan funded status rose to 106.4% at the end of August 2022 from 104.6% the prior month[3], largely due to a larger drop in pension benefit obligation (PBO) than pension asset valuation

[3] Milliman 100 Pension Funding Index (PFI). Source: Milliman

3. Due to the higher asset-liability duration gap and much lower level of LDI derivative hedging activity in the US DB pension universe, Advocate does not expect the Fed to have to deal with pension liquidity risk issues if US rates should spike higher

The Fed's constraint will likely be the size of minimum reserves needed before a liquidity issue develops in US money markets. In light of prior QT experience, Advocate believes the Fed can safely cut its balance sheet by 1/3 (by $3Tn) before money market liquidity issues may rise, and thus has a relatively safe path of more than two years of full-speed QT (at its current maximum pace of $95Bn/month).

Final Thoughts – Structural Changes Required for UK Pensions or Liquidity Squeeze Will Return. Don't Expect the Fed to Do the Same as BOE

The BOE's announced long-dated gilt purchases has put a bandaid on the recent UK DB pension liquidity squeeze. BOE's move to purchase long-dated gilts can only have a temporary effect given its overarching need to raise rates and engage in balance sheet reduction to fulfill its inflation mandate. ***Without long-term structural changes, the pension liquidity crisis has merely been kicked down the road and could return once the BOE is in the throes of QT and large rate hikes***

Historically, pension regulators have been much more concerned with funding ratios than liquidity. ***The latest pension stress episode highlights the regulatory impetus to focus on liquidity stress***, especially in those countries in which pensions engage in LDI hedges that require daily margining. It will not be easy to change decades of pension and asset management practices, but only long-term structural changes to the UK DB pension and asset management universe can provide a real solution to pension liquidity squeezes.

With any structural changes likely to take months if not years to implement, ***UK pension liquidity squeezes are likely to recur unless liquidity buffer minimums are immediately raised (as a stopgap measure)***. If BOE has to repeat its recent gilt-buying intervention to re-address pension liquidity needs while engaging in rate hikes and QT, its market impact will inevitably dwindle over time.

The US DB pension system is structurally different from the UK, and thus we do not expect the Fed to be faced with similar pension liquidity difficulties in large rate rise episodes. Advocate believes liquidity issues in the US money market system is not likely to arise before 2 years of Fed QT.

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