Summary
• The then-Prime Minister's mini-budget in September, with £45 billion of unfunded tax cuts, caused gilt prices to downward spiral, meaning DB schemes utilising LDI had to sell gilts and quickly put up more collateral to maintain their hedge ratios, creating a liquidity crisis. However, the recent market volatility has caused many DB schemes funding positions to improve.
• The government, the Bank of England, TPR, DB trustees, LDI managers and the national media have all been criticised for their roles in this crisis.
• LDI is expected to become more robust to such market shocks and schemes may now reach buyout sooner than expected due to the improved funding levels. The use of LDI may therefore decline. However, the DWP's proposed DB funding regulations would result in LDI strategies still being required.
• Lessons will need to be learnt to try to prevent future similar crisis.

Reflect and adapt

In the aftermath of the recent LDI liquidity crisis, Laura Blows considers the reasons for this turmoil, the long-term changes it may instigate and the lessons to be learnt

Pensions and politics have always been intrinsically linked, and never was this more evident than in recent weeks.

Gilt yields had already been rising throughout the year, but then-Prime Minister Liz Truss' mini-budget on 23 September, with its £45 billion of unfunded tax cuts, spooked investment markets. This sparked a sell-off on government bonds, resulting in gilt yields rising rapidly and gilt prices falling over just a few days.

Liability-driven investment (LDI) strategies *[see box out]* are used by many defined benefit (DB) schemes to hedge inflation and interest rate risk by investing in assets whose values move in line with their liabilities' values. This minimises the likelihood of any funding gap widening.

As gilts are a core asset within LDI, this rapid rise in gilt yields required schemes implementing LDI to quickly put up more collateral to maintain their hedge ratio. This need to find cash in such a short time resulted in a liquidity crisis, with schemes having to sell some of their gilts at decreased values, putting further downward pressure on gilt prices and increasing gilt yields, further exacerbating the problem.

Reactions

The Pensions Regulator (TPR)'s guidance during this time acknowledged that decisions had to be made at very short notice and encouraged trustees to engage with their investment advisers to gain an accurate position so they can focus and prioritise the key areas of concern.

In particular, the regulator recommended that DB trustees review their operational processes, review their liquidity position, their liability hedging position, and funding and risk position.

But before this guidance was even published, those with LDI strategies had already leapt into action. According to XPS Pensions Group investment partner, Adam Gillespie, "the immediate and urgent focus was dealing with collateral and liquidity, with schemes accessing (or deciding not to access) other assets to re-capitalise their LDI fund".

Speaking at the recent Pensions Age Autumn Conference, Charles Stanley Fiduciary Management head of fiduciary management, Bob Campion, described this period as "frantic" and the "most dramatic time any of us will remember".

"I got emails on the Friday night *[following the mini-budget]* saying that clients' LDI funds needed more collateral quickly. Then another email Sunday morning bringing forward the timescale for how quickly that money was needed. On Monday morning the amount needed was doubled and this continued throughout the week. The Monday and Tuesday of that week was the craziest I have ever seen," he said.

"Pension schemes and their advisers have needed to move at speed to take the appropriate course of action when faced with a high volume of capital calls," the Society of Pension Professionals (SPP) Investment Committee spokesperson acknowledges. "There have been challenges in raising liquidity quickly to meet these calls. In some cases, schemes have had to work with sponsors to arrange loan facilities. LDI fund managers have also been re-capitalising to lower levels of leverage and liquidity risk within their funds."

Even investment managers not involved with LDI strategies were affected. Axa Investment Managers director, UK institutional, Tim Banks, says: "The impact of the crisis was so much more widespread than just LDI providers. All our clients at the time were asking questions about where they could source collateral and were trying to find creative solutions."

Cardano Advisory managing director, Sinead Leahy, notes that "there were definitely winners and losers during the recent crisis. We understand that

Liability-driven investment (LDI) and leveraged LDI

LDI is a risk-management strategy that aims to make a scheme's asset values move in line with its liabilities' values so that interest rate rises and inflation does not detrimentally affect its funding level.

The assets in an LDI strategy hedge the scheme's interest rate and inflation risk by matching all (or a portion of) the interest rate and inflation risks in the pension liabilities.

The assets within an LDI portfolio are corporate bonds and government bonds (gilts), as changes in interest rates and inflation will affect the value of a bond in the same way it affects the value of the scheme's liabilities.

However, the issuance of gilts is subject to the needs of the UK government to raise capital and therefore makes supply unpredictable.

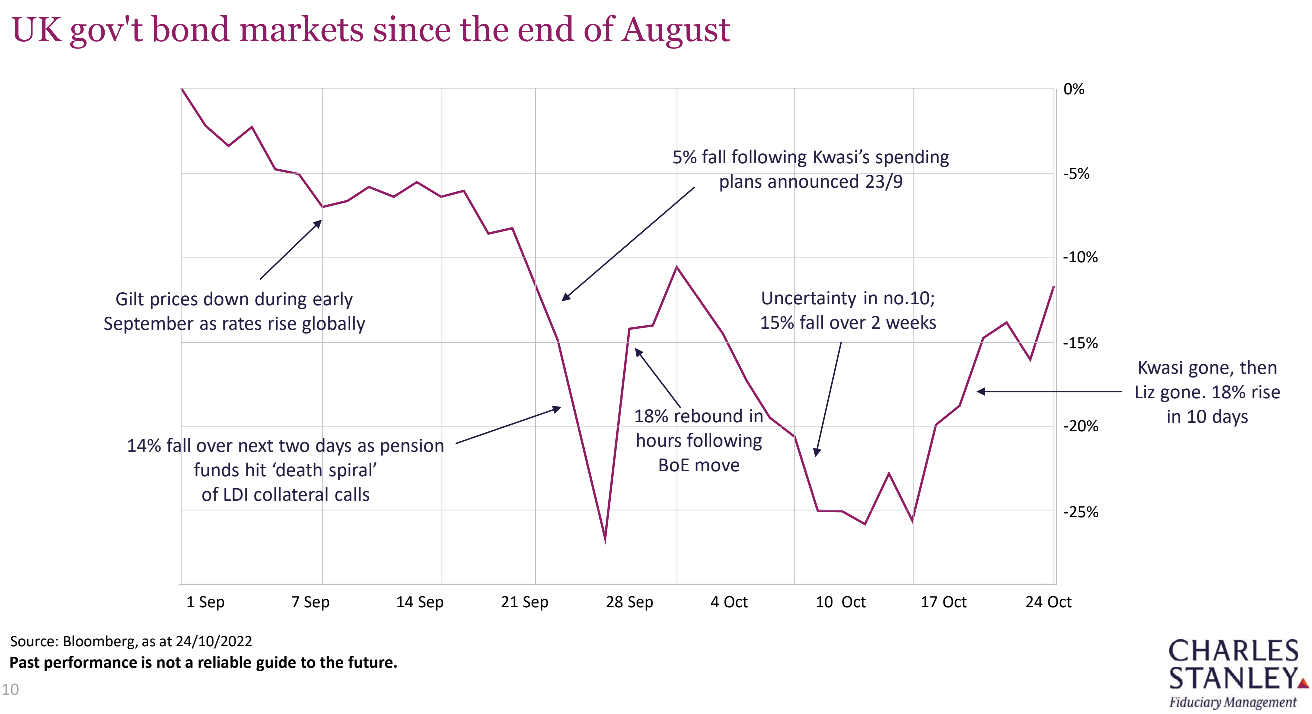
Therefore, the use of swaps and gilt-based derivatives within LDI strategies has increased due to their flexibility and capital-efficient ability to hedge inflation and interest rate risk.

For example, swaps are available over virtually any maturity of up to 50 years, making them an excellent match for long-term liabilities and, unlike gilts, are not restricted by physical supply. A swap starts from a zero cost investment and then may rise or fall in value. A bond would rise or fall in the same way but would have required the upfront investment to acquire it. The swap therefore leaves schemes with more capital to invest in growth assets. However, if interest rates were to rise, the value of the bond would fall, causing the swap to have a negative value. So some cash (collateral) is held back for this scenario.

Leverage arises from the fact that the collateral pool may be a fraction of the liabilities being hedged. For example, when hedging £300 of liabilities, £100 may be in the collateral pool and the remaining £200 invested in growth assets. In aggregate, the scheme is not leveraged because it has the full £300 to support the hedge, but it has just chosen to keep some of it invested in growth assets. Viewed in isolation however, the LDI portfolio is three times leveraged. If the collateral pool becomes depleted, leverage rises and it becomes necessary to top up the collateral pool.

Leverage is reduced either by the pension scheme putting more capital into the LDI fund or by those managing the fund reducing exposure (albeit this results in a reduction in hedging). The process also works both ways, with the LDI fund manager returning cash to clients if leverage becomes too low.

Source: BMO Global Asset Management



schemes in pooled funds fared less well than those with fiduciary arrangements or bespoke LDI".

Mercer partner and senior investment consultant, James Brundrett, agrees that segregated mandates generally maintain hedges better than some pooled approaches, but they require "higher governance and running costs, and are complex and sophisticated products, typically only open to the large schemes".

In an online statement dated 24 October 2022, BlackRock explains that, in response to the gilts turmoil, it "reduced leverage in a small number of multi-client LDI pooled funds, acting prudently to preserve our clients' capital in extraordinary market conditions, and undertook recapitalisation events".

However, DB schemes' LDI strategies were not considered in silo during this time.

The review of the collateral requirements for LDI, the comfort with the leveraging of their LDI funds and their own scheme liquidity for potential future collateral calls was part of a wider strategy review for most funds, Zedra director, Colin Richardson, states.

"This involves considering how LDI fits with the funding and investment strategy, and the potential returns and risk of the remaining balance of their assets; and what assets have had to be sold to provide collateral so far," he explains.

RSM UK warned in October that the current market uncertainty came at a peak time for signing pension scheme accounts, which made this usually 'routine process' much more complex.

However, for many DB schemes, their accounts showed good news at this time, with improved funding levels.

PwC analysis showed that collective DB funding levels had reached a 'record high' amid the market volatility, with the surplus on an insurance buyout measure estimated at £155 billion at the end of September. The "unprecedented" funding level was attributed by PwC to recent increases in long-term interest rates reducing the cost of buyout policies.

Following this, XPS Pensions Group research found that 95 per cent of schemes surveyed saw their buyout position improve following the market volatility, with 23 per cent seeing an improvement of more than 20 per cent in their position.

Brundrett is seeing this in Mercer's clients. "A lot of schemes are finding they are four to five years ahead of where they thought they would be with their funding levels," he notes.

How to make the most of this opportunity is the next consideration. "Some schemes have funding improvements from the overall yield increases and are considering whether to increase hedging further or, in contrast, some are considering more direct gilt/bond investment to take advantage of funding improvements," Richardson says.

"As schemes may have seen the nominal amount of their deficits fall quite sharply, deficit repair contributions might now be expected to close funding gaps sooner and the potential to de-risk by rebalancing growth assets into cashflow-matching assets might make sense," Leahy adds.

The funding level improvements are clearly good news, and the recent market volatility 'only' created a liquidity crisis for leveraged LDI funds – as opposed to a pensions solvency crisis as it was sometimes reported in the national press *[see boxout]*.

However, gilt prices continuing to spiral would have caused DB scheme problems had the Bank of England (BofE) not helped stabilise the situation, "by helping to buy time for schemes to raise sufficient liquidity and for LDI managers to reduce leverage within their product ranges", an SPP Investment Committee spokesperson says.

On 28 September, the BofE announced that it would carry out temporary purchases of long-dated UK government bonds on "whatever scale" necessary, fully indemnified by HM Treasury. The scope of its daily gilt purchase operations was later extended to include purchases of index-linked gilts.

In a 7 October letter to the Treasury, BofE deputy governor, financial stability, Jon Cunliffe, states that "in some LDI funds, the speed and scale of the moves in yield and consequent decline in net asset value far outpaced the ability of the DB pension fund investors to provide new capital in the time available. This was a particular problem for pooled LDI funds.

"Had the BofE not intervened on 28 September, a large number of pooled LDI funds would have been left with negative net asset value and would have faced shortfalls in the collateral posted to banking counterparties."

By 10 October, the BofE had carried out eight daily auctions, offering to buy up to £40 billion, and made around £5 billion of bond purchases. Its market intervention ended on 14 October.

The blame game

The BofE's intervention certainly calmed the crisis, along with the government's new chancellor rolling back the majority of the mini-budget's reforms. However, neither of these institutions were immune to criticism.

In a session at the Pensions and Lifetime Savings Association (PLSA) Annual Conference 2022, LCP partner and former Pensions Minister, Steve Webb, was asked what he would do if he was still Pensions Minister.

"Sack *[BofE governor]* Andrew Bailey," he responded. "The bank is partly to blame, the government … I don't feel they've played a blinder."

Also speaking on the panel, broadcaster Fiona Bruce noted that Bailey "seemed to be saying it's all the *[pension]* funds' fault, they've got to sort themselves out".

Fellow PLSA panellist, AgeWage executive chair, Henry Tapper, agreed that pension schemes had to take some of the blame.

"A key piece of learning for everyone is not to rely on models alone. A wider view, using scenarios, and asking searching questions is needed"

"Frankly, pension schemes got themselves into a mess by borrowing money using these leveraged *[LDI]* tactics, which were always supposed to be short term, and then developing them into strategies, and they've been playing a game that has been going on far too long. And now they've been caught out … I think pension schemes are at fault for adopting this cavalier attitude towards risk, which they have done for LDI strategies," he said.

According to Hymans Robertson partner, Patrick Bloomfield, in a recent LinkedIn post, DB schemes using LDI typically had enough collateral to cover long-dated gilt yields of up to 4 per cent. Beyond that they needed time to convert more assets into collateral, so "the speed caught them out".

In answer to whether schemes should have planned for this, Bloomfield says in the post that the likelihood for this gilts scenario was less than one in 1,000. He highlighted that 30-year gilt yields were 1.2 per cent on 1 January, 3.2 per cent on 1 September, and over 5 per cent on 28 September. "If schemes had planned for this then many would have struggled to meet other regulatory targets," he says.

Bloomfield tells *Pensions Age*: "That leveraged LDI had coped with long-dated gilts almost halving in value in the year to September demonstrates the risk aversion and forward planning that was in place. Pension schemes only struggled to cope when two successive days of off-the-charts stress caused markets to dysfunction and liquidity to freeze. Within a fortnight pension schemes were collateralised and ready to face what could come next, with the BofE only using a fraction of the £65 billion support it had made available."

There were always market-related and operational risks associated with LDI strategies, the SPP Investment Committee spokesperson says, and the majority of DB pension schemes were well-provisioned for a range of historically unlikely events.

"Recent weeks have seen the realisation of these risks at a speed and magnitude that was genuinely unprecedented. The ability of the industry to rapidly respond to the circumstances, which in many cases has seen deficits reduce, should be seen as a positive," they add.

However, LDI itself has been described as a 'timebomb' in the national press, threatening to 'blow up the economy' *[see boxout]*.

"Inevitably, the desire to find a flaw in the system seems to have landed at the door of LDI, but let's not forget that this has been a very useful strategy for more than 10 years, and many pension schemes would be chronically underfunded without it", Isio investment partner, Ed Wilson, says.

"The chaos was caused by market events, which the industry thought would happen over the next five years, happening in three weeks, with huge moves in just two days. It's very difficult to be fully prepared for something that accelerates at such a pace and that is inter-dependent on so many variables. Pension schemes had the money, the issue was that even with very significant liquid available in a matter of a few days, but the speed the market moved meant even this wasn't sufficient for liquidity purposes," he adds.

LDI is an investment strategy that has existed in the market for nearly 20 years and has played a significant role in helping to manage the affordability of DB schemes for employers, Leahy states.

"It is fundamentally a sensible investment strategy for a pension scheme to do, and we believe going forward will continue to be. It has been used to protect schemes from adverse movements in interest rates and inflation, and to reduce the impact on funding levels when interest rates fall."

Bloomfield's LinkedIn post highlights how regulation led to DB assets being concentrated in gilt-based assets, with comments in response claiming TPR had 'coerced' schemes into holding LDI.

In October, TPR defended itself against accusations of having not taken "stronger action" to prevent the recent turmoil experienced by DB schemes employing LDI strategies.

In response to a letter from Work and Pensions Committee (WPC) chair, Stephen Timms, TPR chief executive, Charles Counsell, says that the watchdog has "consistently alerted trustees to liquidity risk".

Counsell also highlights TPR's call – back in May in its Annual Funding Statement – on trustees to consider their liquidity plans and take necessary precautions in light of rising interest rates.

On 24 October, the WPC launched an inquiry into the impact of the rise in gilt yields on DB schemes, the impact on pension savers, and whether LDI is still 'fit for purpose' for use by DB schemes.

It is also seeking views on whether TPR has taken the right approach to regulating the use of LDI and had the right monitoring arrangements, and whether DB schemes had adequate governance arrangements in place – for instance, whether trustees sufficiently understood the risks involved.

Lasting changes?

The inquiry's call for evidence closes on 15 November, but long before we see its results, potentially long-lasting changes are already starting to occur.

In a 19 October letter to the Treasury Committee, Cunliffe states: "LDI funds have reported to the bank that they have enough capital to withstand much larger increases in yields than before … Taken as a whole, LDI funds are now significantly better prepared to manage shocks of this nature in the future. As such, the risk of LDI fund behaviour triggering 'fire sale' dynamics in the gilt market and self-reinforcing falls in gilt prices has been significantly reduced."

For LDI, LCP partner, Dan Mikulskis, expects to see "larger collateral headroom and deeper liquidity in collateral waterfalls, with appetite for illiquid assets and synthetic exposures likely to be trimmed as a consequence".

Given the extra collateral LDI managers now require, Gillespie says many schemes will be faced with the dilemma of having to choose between lower hedging protection or lower investment return targets.

For those schemes needing to prioritise returns, this may leave trustees and sponsors more exposed to funding volatility. For schemes deciding to prioritise hedging protection, this may push out horizons to achieving long-term targets, he explains.

The recent events are likely to result in more contingency planning and larger buffers in financial stress tests, Gillespie says. For example, schemes may now change their yield stress test to consider a 3 per cent increase in rates versus a previous 1.25 per cent, he suggests, as well as being less inclined to invest in illiquid investments, losing illiquidity premium, "which could be detrimental to long-term funding".

For Campion, the increased buffers required in LDI funds means UK pension funds will have less to invest in growth assets.

"For some schemes that may have happened already. For others it may take a while to unwind as some of the big schemes took loans from sponsors to not have to reorganise their portfolios straight away, but they will need to do so over the coming months or years, so there will be this gradual reorganisation of asset allocation. The markets where UK pension funds are big owners, such as long-dated government bonds, long-

Impact on members

The national media has been subject to pensions industry criticism for its reporting of the spiralling gilt prices and subsequent LDI turmoil. Headlines of 'timebombs' and 'chaos', along with the apparent confusion between a 'liability-driven investment (LDI) liquidity crisis' and a 'pensions solvency' crisis drew the most ire.

"The central problem with LDI might have been inadequate preparation for a world of rapidly rising gilt yields, but the way those problems were communicated to the wider public caused untold damage to people's perceptions of pensions," AJ Bell head of retirement policy, Tom Selby, said in response to the announcement of the Work and Pensions Committee's inquiry into recent events.

Hymans Robertson partner, Patrick Bloomfield, agrees that "some national media, particularly mainstream news broadcast, was inaccurate and scaremongering".

"Pension schemes were never at risk of 'going bust'. This worried a lot of pensioners unnecessarily. It's for us in the pensions industry to give a full account of how leveraged LDI performed over the short term and long term to avoid lasting damage to saver confidence," he says.

This sentiment is echoed by The Pensions Regulator, with its chief executive, Charles Counsell, stating: "It is important to reassure savers that pension schemes are not at risk of collapse, and so savers should not make any hasty decisions about their pension pot."

In early October, the Pension Protection Fund reassured defined benefit (DB) members, with its chief executive, Oliver Morley, stating: "Recent market stresses will understandably have caused concern amongst pension savers. It's important that members of DB schemes understand that we are ultimately here to protect them if we are needed to step in.

"I want to reassure members that we remain confident in our funding position – and their benefits remain fully secure. We are carefully managing our investments and closely monitoring the impact of market movements on the schemes we protect."

Despite DB pensions being the top news story at the time, member enquiries were fewer than might be imagined, Richardson says, and that "most schemes have forms of words ready that can be used to reassure members".

The focus may understandably be on DB members, but arguably the impact of the volatility and confusing media headlines on defined contribution (DC) scheme members is a greater concern.

"Members of DB schemes may have been unhelpfully spooked by misleading headlines regarding the solvency of pension schemes. Whilst trustees may want to provide comfort to their DB members, we believe that communication for members in DC arrangements is far more important and time-critical, but DC schemes don't seem to be getting the same level of headlines as DB arrangements," Gillespie says.

LCP partner and former Pensions Minister, Steve Webb, highlighted this worry at a recent panel discussion.

"On the DC side, you're coming up to retirement, you've got a pot that has been de-risked on your behalf; it's gone down 30 per cent, can you even afford to retire?" he said.

"Or, worse still, you're in retirement managing a pot of money that's slumped. The way that we manage DC is much more of an issue for me."

dated corporate bonds and UK property, will see a significant impact from these recent events," he says.

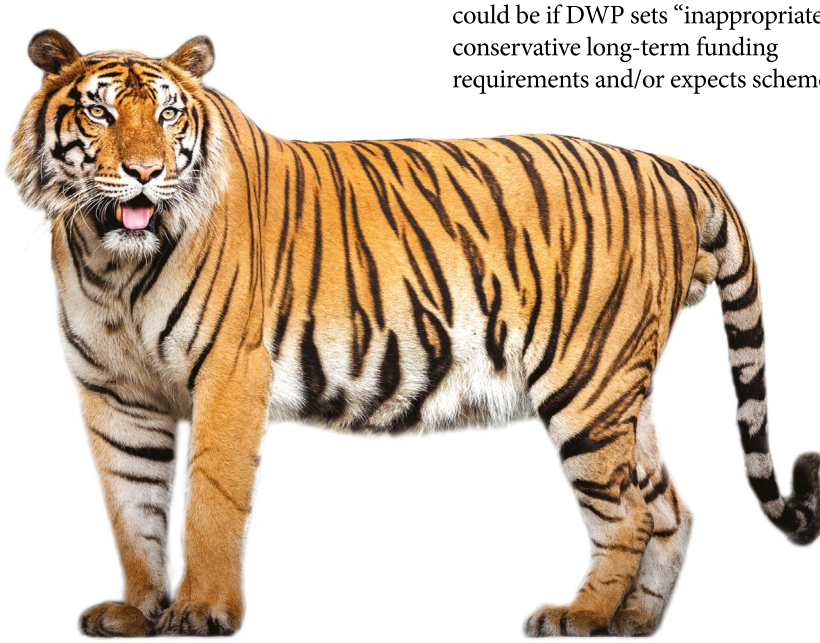
According to Brundrett, now that "everyone is coming up for air", the realisation is dawning that LDI will need to be more robust to deal with the new market environment. However, he suggests that LDI structures are already changing in this way so "the industry is self-regulating".

Despite the 'self-regulation', Richardson predicts that regulators will keep close monitoring of LDI funds, possibly with schemes or LDI fund managers needing to disclose more details of some of the parameters of operation of their LDI funds.

However, in the future, there may be fewer schemes implementing LDI strategies to monitor.

While Richardson feels schemes that are extremely well funded and close to buyout "may be more inclined to reduce LDI investments, but this should be a small minority of schemes", Wilson states that there will be a natural decline.

"LDI has served everybody really well over the past decade and has been a great risk management tool, however, we are very much entering a new world, where we need to forget everything we knew and work in a very different investment environment," Wilson says. "With more schemes closer to reaching a fully funded position and more holders of physical assets, there will naturally be less requirement for LDI strategies longer term, and we were starting to see this decline before the mini-budget happened, so it's not a direct consequence."



Leveraged LDI has been a solution of its time, to cope with the ultra-low yield quantitative easing (QE) environment since the global financial crisis, Bloomfield agrees.

"Scheme funding has seen a significant improvement from growth assets gains in the past few years (an exposure made possible for many schemes by leveraged LDI). Gilt yields of 4 per cent plus and credit yields of 5-6 per cent plus would mean many schemes can afford the assets they wanted to buy all along. Looking forward, I expect most schemes will need lower growth asset exposures than they've pursued for the past decade and probably less leverage too," he adds.

However, a 'fly in the ointment' could be if DWP sets "inappropriately conservative long-term funding requirements and/or expects schemes to reach new long-term targets too quickly", Bloomfield warns. "That could lead to leveraged LDI playing a similar role in future to the role it played in the past, to avoid sponsors being hit with substantial contribution requirements."

In July, DWP launched a consultation into its draft Occupational Pension Schemes (Funding and Investment Strategy and Amendment) Regulations 2023, which will require DB schemes to have long-term plans set out in a funding and investment strategy to submit to TPR.

Commenting on its proposed DB funding regulations, a DWP spokesperson says: "The intention behind our new DB funding code is to have better – and clearer – funding standards, whilst retaining the strengths of a flexible, scheme-specific approach. Millions of people rely on DB schemes and our new measures will help ensure they are protected for the long term."

The industry has raised concerns over the 'prescriptive' nature of the draft regulations, with LCP research finding that the new rules could risk "unnecessary" costs of up to £30 billion for instance, and so have requested more flexibility.

Just like the draft DB regulations, DB schemes have remained focused on their endgames – even with the recent distractions. Mikulskis says he is seeing trustees and corporate sponsors continue to focus on their path to buyout, continue to want stability in their funding position and want more certainty over the cost of a buyout to secure their members' benefits.

"This means that for the majority of clients we're continuing to advise pursuing LDI strategies, but crucially these have to change and adapt for the world we're in," he says.

Brundrett also notes that buyout affordability is dominating his conversations. There is "huge demand" for bulk annuity deals, resulting in illiquid assets being sold "across the board in preparation for a transaction, as a consequence of many schemes' improved funding levels", he says.

However, at the PLSA panel discussion, Tapper said schemes' funding levels may be up because interest rates/gilt yields are up, but this is "not on a sustainable basis".

"At some stage, what goes up will come down, and when they've finally got a great big hole in their assets, then we've got problems with scheme solvency. Is the damage being caused by the forced sale of all these assets going to create, in the long term, problems with scheme solvency," he mused.

The next year may also see legal actions occur as a consequence of the recent market volatility.

"Whether or not legal claims are likely is something that is not immediately clear, but questions are likely to be asked (and are already being asked) about the appropriateness of LDI and the liquidity of investments in the wider pension scheme portfolio to match the LDI strategy," RPC partner, Rachael Healey, says.

"Trustees are also obliged to maximise the assets of their trust and that means considering legal claims where appropriate. This may result in claims and/or pressure on commercial relationships and that is something we are likely to see looked at over the next year or so, and particularly when schemes conduct their triennial valuations and agree new deficit reduction plans with employers," she adds.

The next year is also likely to bring more headwinds for the gilt market, Brundrett adds, with the government's debt level to be addressed, the latest Prime Minister still to deliver his budget, the unwinding of QE to come, more BofE interest rate hikes to be made and a recession expected "creating a long window of uncertainty".

Lessons

With more changes on the horizon, it is important to not rush to 'knee-jerk' judgements, but what lessons can be taken so far from this recent period of volatility?

In Cunliffe's 19 October letter, he says the BofE is continuing to work with TPR and the Financial Conduct Authority on the lessons to be learned, stating that while it might not be reasonable to expect market participants to insure against all extreme market outcomes, it is important that appropriate levels of resilience are ensured.

"The government recognises that there will be lessons to be learned from the market turbulence seen in recent weeks," the DWP's spokesperson says. "The authorities are working with the industry to improve their resilience to market shocks. It remains a focus of government and regulators to ensure that we have a robust regulatory system."

Bloomfield hopes that the DWP itself takes on the lesson that "the more constrictive and prescriptive the regulation of DB schemes becomes, the greater the systemic risks and unintended consequences will be".

The Institute and Faculty of Actuaries president, Matt Saker, also believes the recent turbulence in the gilt market and resulting impact on LDIs can be a catalyst for open discussion for possible thematic or wider learnings.

"It is too early to draw any hard and fast conclusions, but we believe the pensions sector and regulators need to consider whether adjustments or improvements can be made to schemes' approaches to their risk management and investment strategies, while ensuring public confidence and trust is maintained for consumers. We expect these discussions to be primarily in relation to governance and the amount of leverage used rather than necessarily moving away from LDI," he says.

For Wilson, "a key piece of learning for everyone is not to rely on models alone. A wider view, using scenarios, and asking searching questions is needed. Models always work until they don't".

Putting the past few weeks in context, Bloomfield says: "Practitioners and regulators have long known that pension schemes were potentially a system risk, but it was thought to be at a level that would never be reached this quickly in the real world.

"The potential for snap political announcements to take markets beyond anything they've known before is an enduring lesson everyone will take from this."

Written by Laura Blows