Insights
Liability-Driven Investing

December 2022

The Road Ahead for UK Defined Benefit Schemes

Daoyu Chen
Senior Investment Strategist

What's Next for UK DB?

The UK government bond market has suffered unprecedented turbulence recently and we expect this to have had an enduring impact on market participants.

Implications for Managers

For LDI managers, the increase in gilt market volatility will have been incorporated into stress-testing frameworks, with the probable outcome of higher collateral requirements for all clients and especially so for leveraged LDI pooled funds. At State Street Global Advisors our leveraged pooled funds have also seen a reduction in leverage levels, with the benefit that these funds may now be able to withstand larger market moves going forward.

Implications for Schemes

Schemes invested solely in pooled LDI funds or those that were not able to provide collateral in response to capital calls quickly enough would have seen their hedges cut, and trustees of such schemes may justifiably be more nervous about leverage and the governance requirements that accompany it. These schemes are likely to either move to an unleveraged solution or to delegate the management of their LDI portfolio, including the management of collateral, to their LDI manager.

State Street Global Advisors has a comprehensive suite of unleveraged single-stock funds for schemes that will be useful to pooled fund clients looking to move away from leverage. For those that are looking for greater delegation, our DB+ offering — a fully templated bespoke contract (not an IMA) — can help. It offers a number of benefits: it's easy to sign up to, clearly sets out the investment objectives and the pooled funds at State Street Global Advisors' disposal to implement the solution and, more importantly, does not require a custodian. Our portfolio managers handle the movement of monies between the different fund structures and utilize our sterling money market fund as a cash fund for our clients when required.

Implications for Consultants

Consultants will have a key role to play helping schemes set up collateral waterfalls that have ample liquidity in order that schemes can source collateral more quickly.

Communication is especially important. Consultants will want to ensure preferred LDI managers have the resources to ensure that lines of communication are open, especially during volatility. Over the recent challenging period, we were able to remain in contact with all our clients and their consultants throughout and quickly answer all queries raised.

Here's What Happened and Why

The UK gilt market began underperforming other global developed fixed income markets in August as details emerged of candidate Truss's plans for "anti-austerity" in the Conservative Party leadership contest. The announcement on 5 September that Truss would indeed become the new Prime Minister saw that underperformance continue.

The Monetary Policy Committee (MPC) voted to raise base rates by 50bp to 2.25%. That three members voted for a 75bp hike was interpreted as hawkish by market commentators. Furthermore, the committee voted unanimously to begin reducing its holdings of UK government bonds. In its minutes, the MPC gave its reaction to the coming mini-budget, specifically that "should the outlook suggest more persistent inflationary pressures, including from stronger demand, the Committee would respond forcefully, as necessary". UK gilts sold off on the day and underperformed other European government bonds markets.

However, the Chancellor's mini-budget on Friday, 23 September really shook the markets. Whilst many of the announced measures were already known, the scale of the package was greater than expected with the DMO announcing additional gilts sales of £62.4bn in 2022–3. With no offsetting revenues and/or spending measures announced, this raised concerns about the UK's fiscal sustainability. The USD/GBP exchange rate tumbled to multi-decade lows of 1.035 during Asian trading hours the following Monday.

The fall in gilt prices led to widespread collateral calls for many pension scheme's LDI portfolios. The speed and magnitude of the drop suggested leveraged LDI funds were forced to cut hedges. The presence of forced sellers in the market likely led to reduced appetite from other market participants to take the other side and contributed to the lack of liquidity, in turn exacerbating the price moves in the gilt market. This spiral saw 30-year gilt yields rise nearly 95bp in the two days following the mini-budget.

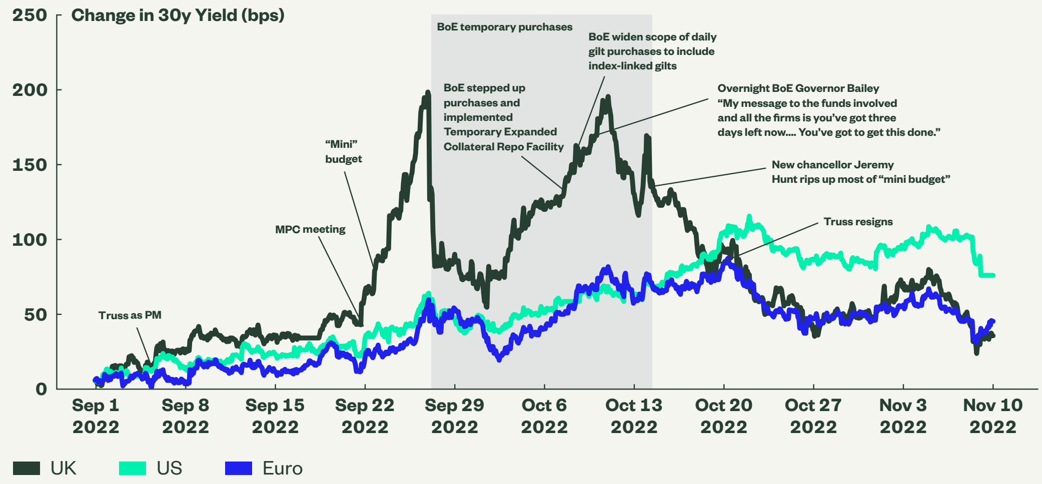
On Wednesday, 28 September, with yields still rising dramatically, particularly on longer tenor index-linked gilts, the Bank of England (BoE) stepped into the market by announcing that it would be purchasing conventional gilts with remaining maturity greater than 20 years at "whatever scale would be necessary" until 14 October, and also postponed the start date of its active gilt sales program until the end of October. On the back of this announcement, we saw a huge rally back for gilts, 30-year yields closing a full percentage lower on the day.

There were more measures from the BoE in the final week of temporary asset purchases. On Monday, 10 October, the Bank increased the size of each asset purchase operation from £5bn to £10bn and launched the Temporary Expanded Collateral Repo Facility. The very next day the BoE took the unprecedented step to expand asset purchases to include UK government inflation-linked bonds, in response to stresses in the market which saw 10-year and 30-year real yields rise as much as 64.2bps and 63.4bps on 10 October, in contrast to nominal gilt yields which only rose 24bps and 29bps respectively.

Eyes were all on the gilt market to see how it would react to the withdrawal of support after 14 October. A series of U-turns and the appointment of a new Chancellor who quickly reversed many of the measures introduced in the mini-budget calmed concerns over fiscal sustainability.

Timeline of Main Events

Figure 1
30y Government Bond Yield Moves



Source: State Street Global Advisors. Bloomberg, as of 11 November 2022.

Where are DB Schemes Now?

During the turbulent days that followed the mini-budget, press reports that pension schemes were heading into insolvency were fundamentally untrue. Yes, the mark-to-market losses were getting larger for leveraged LDI funds, prompting collateral calls, but scheme liabilities would have fallen too as interest rates rose, and since many schemes had not hedged 100% of their interest rate and inflation risks, this would have resulted in an improvement in funding ratios.

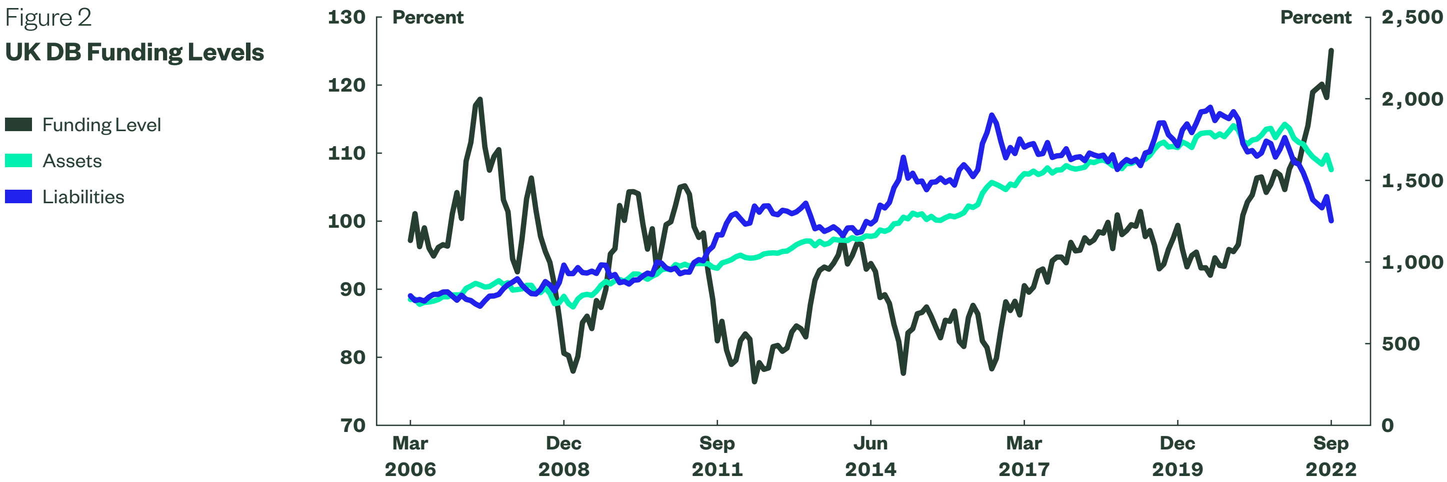
Indeed the Pension Protection Fund's (PPF) October update showed that on aggregate, private sector DB schemes experienced an improvement in their funding ratio from 125.1% at the end of August 2022 to 134.8% by the end of September. Furthermore, for those schemes still in deficit at the end of September, this deficit had reduced from £14.3bn in August to £5.3bn.

Figure 2 plots the history of PPF funding level, and we can see that funding levels are now at the highest level since the series began.[1]

The chart also highlights the volatile nature of the funding level. The Global Financial Crisis saw over a decade of historically low central bank rates that were detrimental to funding levels as the present value of liabilities ballooned. Currently, we are at the rate-hiking part of the monetary cycle, but hopefully when inflation is back to more comfortable levels, monetary policy will likely change and rates may fall again. LDI as a liability hedging strategy will be key to lock in these higher funding levels.

LDI pooled funds will be different however. One probable outcome of the greater market volatility is a move to lower leverage levels within leveraged LDI portfolios. Simply put, given recent experiences, we expect funds will try and make sure they can withstand greater interest rate moves within the same collateral call window, and so hold more cash (i.e. use less leverage) for a given amount of exposure. The comment from Governor Bailey overnight on 11 October — "My message to the funds involved and all the firms is you've got three days left now.... You've got to get this done" — would have accelerated such changes.

Figure 2
UK DB Funding Levels



Source: PPF November 2022. The PPF 7800 index giving the latest estimated funding position for all eligible defined benefit schemes — on a section 179 basis. The s179 funding level is based on the compensation schemes receive if they go into the PPF, whereas funding levels based on scheme's actual goals such as self-sufficiency or insurance buy-out tend to be lower, thus the figures from s179 funding levels overestimate the number of schemes nearing their end games.

What Endgame Options are Available?

Trustees should now be re-assessing the overall position of their schemes, taking into account the recent momentous market moves, and in turn reviewing the latest cashflows and recalibrating the matching portfolios.

Many will find the endgame has become more proximate and the need to crystallize it should become their focus. Where are schemes heading and how does it affect their investment portfolio?

There are three practical options available in the UK:

- Self-sufficiency — this involves the scheme running off the pension fund's liabilities.
- Buyout — involves transferring assets and liabilities to an insurance company, potentially preceded by buy-ins. The Insurance company takes on responsibility for paying pension benefits to the scheme members, discharging both sponsors and trustees from their liability to the scheme and allowing the scheme to be ultimately wound up.
- Superfunds — a relatively new development. A superfund is effectively a DB pension fund, which accepts transfers of assets and liabilities from other schemes. What differs is that instead of the usual corporate covenant, Superfunds hold buffer capital. The expectation is that transfers into a superfund have a high likelihood of receiving all their benefits in full, but this is not guaranteed, and hence is not as expensive as buy-out. Members remain protected by the PPF. Clara pensions was the first Superfund to have completed the assessment process, in November 2021.

Preparing for the Endgame

The latest Aon Global pensions Risk Survey 2021/2022 shows that buyout (47%) and self-sufficiency (34%) are the most popular long-term targets for schemes. So we'll focus on these within the rest of this article.

Preparing for Buyout

Buying a bulk annuity can be complex, since as the annuity price moves — driven by interest rates and other factors — the value of the underlying liability, itself driven by a variety of factors, will also be changing,

In order to track the price of the insurance premium, insurers may provide a price-lock portfolio where the premium that needs to be paid is expressed as a portfolio of assets. Pension schemes can adjust their asset portfolio to hold this price-lock portfolio and then deliver this portfolio as payment. What is held within a price-lock portfolio will depend on individual insurers; it may be composed of gilts, corporate bonds or even swaps. Some insurers may give the scheme the option to keep the scheme's existing asset portfolio as the price-lock portfolio, subject to some boundary conditions. The advantage to the scheme is that this avoids the expense of adjusting its asset allocation (especially bearing in mind that the deal could fall through) but boundary conditions may be more likely to be hit. To prevent the funding level deteriorating, a matching portfolio makes the most sense. Indeed some insurers openly say they prefer a 100% gilt portfolio that tracks a scheme's liability risk profile. Such a portfolio is known as a gilt-lock.

How We Can Help You

An LDI portfolio can easily evolve towards the final buyout portfolio. We are experienced in supporting clients' moves into endgames such as insurance buyouts. Our LDI portfolio managers will work with clients and their consultants throughout the move towards the target gilt-lock portfolio. Leveraged pooled clients are able to utilize our wide range of unleveraged nominal and index-linked gilt funds as part of their transition. Segregated clients can provide us with an instruction to move to the gilt-lock portfolio and for any derivatives held to be unwound over a period of time, or at a single point in time, if necessary. Our experienced internal team would then coordinate the in-specie of the gilt-lock portfolio to the buyout provider.

Investment Portfolio Options in Self-Sufficiency

Here a well-funded scheme chooses to run off scheme liabilities with a low-risk strategy. Whilst trustees believe they will not need to call upon the employer for deficit contributions, the employer remains liable, so there is always the possibility of deficit contributions being needed.

One of the reasons self-sufficiency may be chosen is because it is cheaper than going to buyout, especially as insurance companies price non-pensioner members more expensively. It is likely that once a scheme is sufficiently mature, and so has relatively few pensioners, then the economics of running a pension scheme versus buyout tips in favour of the latter and a scheme could eventually go to buyout.

It's worth pointing out the Pensions Schemes Bill Act 2020 introduced a stronger form of self-sufficiency, known as 'low dependency'. Here a 'significantly mature' scheme is well funded, adopts a 'low-risk' strategy and employer contributions are not required at all. Consultations are still underway on this proposal, and the industry is still awaiting final details, for instance as to what 'significantly mature' is.

There will be different Investment strategies that schemes can adopt, depending on how risk is interpreted within a self-sufficiency context:

- Low risk could mean achieving high cashflow matching. Here a scheme would not be a forced seller of assets and re-investment risk is also significantly reduced. In this instance, the investment portfolio would be credit heavy, holding high quality assets with contractual cashflows matching liabilities held on a buy-and-hold basis. Given the lack of credit instruments in the long end to enable cashflow matching of longer-dated liabilities, any portfolio might still require a high allocation to gilts in the long end, hence existing LDI funds could be used here to match cashflows rather than duration.

- Another interpretation of low risk is to minimize funding level volatility — here LDI strategies will be key, and gilts or swaps could be used to hedge the duration rather than the cashflows. Relaxing the cashflow matching constraint could increase the range of assets available e.g. to include equity. This would only be suitable for schemes who are not significantly mature, with the implication that they are not cashflow negative and are able to weather periods of underperformance without being a forced seller.

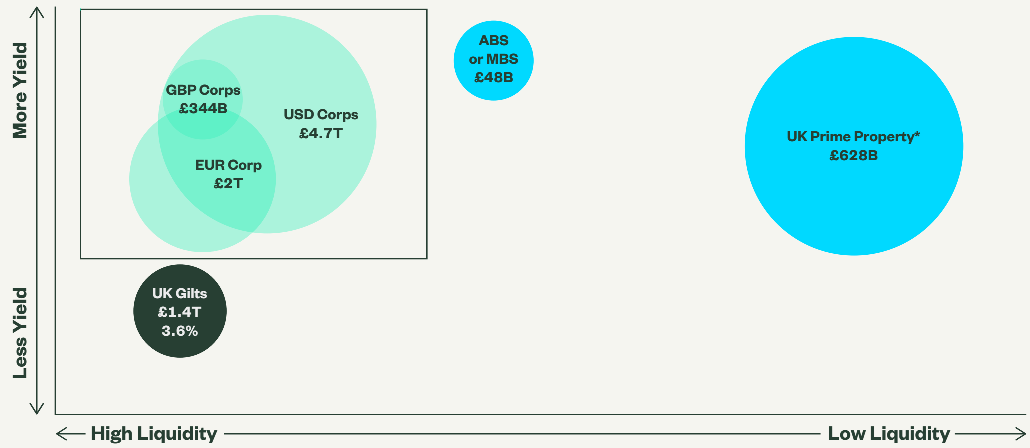
In practice, precise cashflow matching may not be desirable — for one, cashflows may change and that would result in costs to restructure an illiquid credit portfolio — nor even possible, e.g. for smaller schemes to do so individually.

How We Can Help You

State Street Global Advisors' pooled Cashflow Driven Investment (CDI) funds can help schemes of any size to broadly match cashflows, focusing on the sweet spot within the credit universe to harvest both credit and liquidity premium from global investment-grade credit markets. Our innovative funds combine both quantitative credit techniques with qualitative oversight from fundamental credit research analysis, and screen for UN Global Compact violators and controversial weapons. For more insight, please see here.

Figure 3

Global Investment Grade Bonds: A Reliable and Scalable Source of Assets for Cashflow Matching



Source: State Street Global Advisors, Bloomberg data as of 31st October 2022. *UK Prime Property market size uses MSCI Real Estate Market Size Report 2021/2022 with GBPUSD as of 31st Dec 2021, MSCI All Property Yield on UK Commercial Property at 30th September 2022. Information provided is for illustrative purposes.

A CDI strategy requires an inflation hedging overlay to match inflation linked liabilities and clients could utilize State Street Global Advisors' pooled inflation swap funds, part of our suite of pooled LDI products.

Conclusion

The so-called mini budget raised concerns over the UK's fiscal sustainability, and provoked the return of 'bond vigilantes'. The scale and speed of the moves sparked collateral calls in leveraged LDI portfolios, that then led to a liquidity squeeze. However, funding ratios for UK DB schemes should have improved with higher interest rates and the endgame has become more realistic for many. The need to crystallize it is now the focus of those pension scheme's trustees.

- Managing interest rate and inflation sensitivity to liabilities is likely to be a key part of DB strategies to ensure the buyout target doesn't move further away.

- For those that are planning for self-sufficiency or are even at low dependency, CDI and LDI funds used in a CDI context or sensitivity hedging will remain a core part of DB schemes portfolios.

State Street Global Advisors we has an extensive range of LDI and CDI funds to help schemes in this new environment.

Summary of Our LDI and CDI Offering

We believe that our overall pooled LDI fund range is one of the most comprehensive and innovative in the industry and provides the flexibility to precisely match individual client requirements. As of September 2022, we provide our clients access to:

- 18 unleveraged gilt and index linked gilt funds
- 10 leveraged single-maturity nominal and index linked gilt-based funds
- 20 leverage single-maturity swap-based funds (fixed, real and inflation only)
- 8 Target Leverage Funds: 3 leveraged equity funds, 4 leveraged profile LDI funds and 1 collateral fund
- 3 Cashflow Driven Investing ("CDI") ESG Screened Credit Funds
- 2 UK ESG-screened corporate bond index funds

SSGA UK LDI Pooled Fund Range

Unleveraged				Leveraged					
Index Funds		Single Stock Gilt Funds		Gilt Funds		Swap Funds			Target Leverage Funds
Nominal Gilt	**Index-linked Gilt**	**Nominal Gilt**	**Index-linked Gilt**	**Nominal Gilt**	**Index-linked Gilt**	**Nominal Swap**	**Real Swap**	**Inflation Swap**	**LDI Profile**
All Stocks	All Stocks	2049	2027	2030	2032	2025	2025	2025	Nominal Short
Over 15 years	Over 5 years	2055	2032	2040	2042	2030	2030	2030	Nominal Long
	Over 15 years	2060	2037	2049	2055	2035	2035	2035	Real Short
		2071	2042	2060	2062	2040	2040	2040	Real Long
Corporate Bonds			2050	2068	2068	2045	2045		
All Stocks	CDI 2021–25		2055			2050	2050		**Equity**
Over 15 years	CDI 2026–30		2062			2055	2055		UK Equity
	CDI 2031–35		2068			2060	2060		World Equity
									World Equity Hedged to GBP

Source: State Street Global Advisors, as of June 2022.

Contributors/Contacts

Jeremy Rideau, CFA®
EMEA Head of LDI
Jeremy_Rideau@ssga.com

Daoyu Chen
Senior Investment Strategist
Daoyu_Chen@ssga.com

Stephen O'Leary
UK Sales and Strategic Partnerships, Director
Stephen_O'Leary@ssga.com

Sources:

Premium certainty (rothesay.com).
Get ready for buy-out: Investment considerations (rothesay.com).
Liz Truss to raise corporation tax in another humiliating U-turn | Conservatives | The Guardian.
[New proposals set DB schemes on path to 'low dependency' — DB & Derisking — Pensions Expert (pensions-expert.com)].
LDI fund managers look to lower leverage in wake of market turmoil — DB & Derisking — Pensions Expert (pensions-expert.com).
Clara's Model — Clara Pensions (clara-pensions.com).
"Report of the target endstates for defined benefit pension schemes working party" by A. Aponte, D. Caleechurn, N. Jones, J. Kola, R. Littlewood, D. Mikulskis, K. Wesbroom and C. A. Yiasoumi. Presented to the Institute and Faculty of Actuaries, London: 11 January 2021.

Endnote

1 We should caveat that the PPF's funding levels are only estimates, and given the market volatility there is greater uncertainty around this estimate than usual. In the PPF's own words "the September 7800 update … capture[s] the impact of government bond yield increases on the liabilities but … the impact on assets will be less accurate. This is because we do not hold sufficient data to capture the impact of any structural changes to asset allocations made to meet collateral calls over the month nor do we have sufficient information to accurately capture changes in any leveraged LDI portfolios."

About State Street Global Advisors

Our clients are the world's governments, institutions and financial advisors. To help them achieve their financial goals we live our guiding principles each and every day:

- Start with rigour
- Build from breadth
- Invest as stewards
- Invent the future

For four decades, these principles have helped us be the quiet power in a tumultuous investing world. Helping millions of people secure their financial futures. This takes each of our employees in 29 offices around the world, and a firm-wide conviction that we can always do it better. As a result, we are the world's fourth-largest asset manager* with US $3.26 trillion† under our care.

* Pensions & Investments Research Center, as of December 31, 2021.
† This figure is presented as of September 30, 2022 and includes approximately $55.12 billion USD of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated. Please note all AUM is unaudited.

ssga.com

State Street Global Advisors

United Kingdom: State Street Global Advisors Limited. Authorised and regulated by the Financial Conduct Authority. Registered in England. Registered No. 2509928. VAT No. 5776591 81. Registered office: 20 Churchill Place, Canary Wharf, London, E14 5HJ. T: 020 3395 6000. F: 020 3395 6350.

For Investors In the UK: The Company has been registered for distribution in the UK pursuant to the UK's temporary permissions regime under regulation 62 of the Collective Investment Schemes (Amendment etc.) (EU Exit) Regulations 2019. The Company is directed at 'professional clients' in the UK (within the meaning of the rules of the Financial Services and Markets Act 2000) who are deemed both knowledgeable and experienced in matters relating to investments. The products and services to which this communication relates are only available to such persons and persons of any other description should not rely on this communication. Many of the protections provided by the UK regulatory system do not apply to the operation of the Company, and compensation will not be available under the UK Financial Services Compensation Scheme.

Important Information

Investing involves risk including the risk of loss of principal.

The information provided does not constitute investment advice as such term is defined under the Markets in Financial Instruments Directive (2014/65/EU) or applicable Swiss regulation and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell any investment. It does not take into account any investor's or potential investor's particular investment objectives, strategies, tax status, risk appetite or investment horizon. If you require investment advice you should consult your tax and financial or other professional advisor.

The information contained in this communication is not a research recommendation or 'investment research' and is classified as a 'Marketing Communication' in accordance with the Markets in Financial Instruments Directive (2014/65/EU) or applicable Swiss regulation. This means that this marketing communication (a) has not been prepared in accordance with legal requirements designed to promote the independence of investment research (b) is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This communication is directed at professional clients (this includes eligible counterparties as defined by the Financial Conduct Authority (FCA) who are deemed both knowledgeable and experienced in matters relating to investments. The products and services to which this communication relates are only available to such persons and persons of any other description (including retail clients) should not rely on this communication.

SSGA Target Date Fund are designed for investors expecting to retire around the year indicated in each fund's name. When choosing a Fund, investors should consider whether they anticipate retiring significantly earlier or later than age 65 even if such investors retire on or near a fund's approximate target date. There may be other considerations relevant to fund selection and investors should select the fund that best meets their individual circumstances and investment goals. The funds' asset allocation strategy becomes increasingly conservative as it approaches the target date and beyond. The investment risks of each Fund change over time as its asset allocation changes.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates raise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

Hedging involves taking offsetting positions intended to reduce the volatility of an asset. If the hedging position behaves differently than expected, the volatility of the strategy as a whole may increase and even exceed the volatility of the asset being hedged.

The returns on a portfolio of securities which exclude companies that do not meet the portfolio's specified ESG criteria may trail the returns on a portfolio of securities which include such companies. A portfolio's ESG criteria may result in the portfolio investing in industry sectors or securities which underperform the market as a whole.

Investing in swaps is highly risky. Swap contracts are not standardized, nor are they traded on an index. Rather, they are negotiated privately between the counterparties and are not settled by a centralized clearing-house. As such, swap contracts subject a party to significant counterparty risk. Swap positions are considered highly leveraged because the initial margins are significantly smaller than the notional value of the contracts. The smaller the value of the margin in comparison to the notional value of the swap contract, the higher the leverage. There are a number of risks associated with forward investing including but not limited to counterparty credit risk, currency risk, derivatives risk, foreign issuer exposure risk, sector concentration risk, leveraging and liquidity risks.

The views expressed in this material are the views of Daoyu Chen through the period ended 30 November 2022 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

This document should be read in conjunction with its prospectus. All transactions should be based on the latest available prospectus which contains more information regarding the charges, expenses and risks involved in your investment.

All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information.

ID1290695-5251682.1.2.EMEA.INST 1122
Exp. Date: 11/30/2023