Pooled liability driven investment solutions.

For defined benefit schemes and their advisors

With unrivalled scale and experience in the UK pension market, Legal & General Investment Management offers pooled and leveraged investment solutions that are specifically designed to hedge interest rate and inflation risk.
Legal & General Investment Management (LGIM)

LGIM is the largest investment manager of UK pension schemes assets (Investment & Pensions Europe, 2015). We see asset management for pension schemes as a holistic process, rather than a collection of unconnected investments. We focus on the broader picture and how we can help pension schemes to meet their ultimate goal – ensuring that scheme members are paid their pensions.

Trustees’ investment strategies must provide the growth needed to improve the funding level, the hedging needed to lock in gains and, in some cases, the ability to transfer the risk entirely by entering into a buy-in or buy-out arrangement. At every step of a pension scheme’s life cycle, we have the investment solutions to help.

Typical life cycle of Defined Benefit pension schemes

LIABILITY DRIVEN INVESTMENT AT LGIM

We were one of the first managers to offer Liability Driven Investment (LDI) strategies and in 2015 were independently accredited as being the largest LDI manager in the UK, across both pooled and segregated mandates, for the third year running (Source: KPMG LDI survey).

We work with some of the largest and most complex pension schemes in the UK market and have used the experience gained to design pooled LDI solutions that are both easily accessible and flexible enough to help meet trustees’ investment objectives.

Clients with assets under £100m form a significant part of our client base. Our pooled LDI funds are part of our commitment to providing these clients with the right LDI solutions in a way that suits them.

AWARDS

![PensionsAge Awards 2015 Winner](image)

![PensionsAge Awards 2014 Winner](image)

Source: LGIM as at 31 December 2014
How LDI helps pension schemes

Every pension scheme has the same objective - to pay members’ pensions (or their liabilities). LDI aims to help pension schemes reduce volatility surrounding their funding levels and contribution requirements. Changes in both interest rates and inflation represent two of the largest risks to scheme funding levels.

INVESTING IN ASSETS TO HEDGE INTEREST RATE AND INFLATION RISKS

A pension scheme’s liabilities can be thought of as a series of expected future payments cashflows.

- **Inflation**: If expected inflation increases/decreases, this will increase/decrease the value of those expected cashflows and consequently increase/decrease their current value.
- **Interest rates**: If interest rates increase/decrease, this will not have an impact on the amount of expected cashflows, but will decrease/increase their current value.

If a scheme invests in assets that have similar interest rate and inflation characteristics (or sensitivities), then changes in the current value of the liabilities due to movement in interest rates/inflation will be offset by changes in the value of the assets, reducing the volatility of the scheme’s funding level.

The relevant interest rates and inflation are different depending on the timing of the cashflow – e.g. the 20 year interest rate is different to the 5 year interest rate – and fluctuate in value differently. Consequently, it is often desirable to hedge characteristics (or sensitivities) for a range of different time periods to better match the liabilities.

For simplicity, we measure this sensitivity (being the amount that the current value of the liabilities changes for a 0.01% movement in interest rates or inflation), for each five year time period.

A pension scheme would invest in assets that match their liability’s sensitivity in each five year time period, as set out in the right hand side chart below.

Source: LGIM
What matters most?

Every pension scheme will have unique characteristics such as liability profiles, assets, sponsor attitudes and strength. However, we believe that the following four factors should be borne in mind by every scheme when considering implementing an LDI solution.

- Capital efficiency
- The right toolkit
- Reducing the governance burden
- Cost focus

**CAPITAL EFFICIENCY**

Schemes can purchase gilts and index-linked gilts in order to better align the sensitivity of their assets with their liabilities. As purchasing gilts requires a significant initial capital outlay, using gilts to hedge can be unaffordable for many schemes.

As a result, some schemes gain protection using derivatives. The leverage available through derivatives enables schemes to reduce liability risk without changing their investment in return-seeking assets elsewhere.

**THE RIGHT TOOLKIT**

Selecting the right liability hedging instrument can matter. The relative yield (z-spread) which measures the difference between yields on swaps and gilts, for the same maturity, will change over time. This means that at different times, it will be cheaper to hedge using one instrument over another. Even taking advantage of a small yield differential can have a significant impact over the long term. Our LDI solution uses the instrument that provides the most efficient hedge, and may also aim to switch between instruments in order to hedge efficiently over time.

![10 year nominal gilt yields minus 10 year swap yields](chart)

A 0.3% yield difference equates to 6% over 20 years.

Source: LGIM, for illustrative purposes only.

**REDUCING THE GOVERNANCE BURDEN**

Trustees’ time has never been so constrained, making it more important to access simple and transparent investment solutions that meet the needs of a scheme appropriately. For example, some trustees may find that a solution which switches between hedging instruments or a service that monitors their scheme’s funding level can be helpful in managing a constrained governance budget. In addition, trustees may find it helpful when providers manage the response to regulatory changes, such as the implications of the latest central clearing regulations.

**COST FOCUS**

We believe that cost should never be the sole criteria for choosing a particular investment solution, but if a desired solution is available at a lower cost, then it may avoid the unnecessary erosion of the funding level over time.
How we address these needs

At LGIM we offer two distinct pooled options, LGIM Matching Core and LGIM Matching Plus, as part of our wider hedging solutions.

Offering different levels of customisation, each option will have a different appeal to pension schemes, depending on preferences and circumstances. However, there are several common advantages across both LGIM Matching Core and LGIM Matching Plus.

**CAPITAL EFFICIENCY**

Leverage allows schemes to reduce risk while maintaining exposure to return seeking assets. As a result our pooled LDI solutions provide around three times more efficient use of assets than a bond portfolio.

![Diagram showing Leverage and Sterling Liquidity Fund]

Typical scheme exposure for illustrative purposes only.

**THE RIGHT TOOLKIT**

Whether investing via LGIM Matching Core or our enhanced service using LGIM Matching Plus, we provide a robust approach to switching from gilts to swaps and vice versa as appropriate at defined trigger points to ensure the portfolio remains efficient. This approach is designed to capture the strategic, long-term value in the yield differential between gilts and swaps.

**REDUCING THE GOVERNANCE BURDEN**

Supporting pension schemes throughout is a critical part of our approach to LDI. We carry out more than 200 LDI training sessions every year as well as running client specific seminars and informal educational meetings. For each client, a dedicated LDI specialist will then work closely with them and their advisers, to understand their objectives and bespoke liability data, and build the most efficient solution tailored to that client’s individual requirements. Our large range of pooled LDI building blocks provides the unique capability to provide a bespoke solution in a low governance pooled framework.

A key part of our approach is to minimise trustees governance burden further by taking care of the legal and regulatory aspects of an LDI mandate. For example we proactively started centrally clearing interest rate swaps in our pooled funds in December 2012 and inflation swaps in April 2015 and were the first asset manager to do so for a UK pension scheme. We aim to future proof our funds against further regulatory changes on behalf of our clients as part of our ongoing service.

**COST FOCUS**

We leverage our scale, market position and fund process to implement in a cost effective manner. Our Matching Funds have very low spreads and we also have the ability to transfer in specie or match a significant portion of assets that may be used to invest in these funds, facilitated an average of £1 - 2 billion of client flows that are generated in our funds each week. We therefore have a strong track record of managing and reducing transaction costs on entering an LDI solution. In addition, our ability to manage pension scheme assets across the entire life cycle enables us to reduce costs over the life of de-risking mandates through our crossing and flows in each asset class.
LGIM Matching Core

LGIM Matching Core is designed for pension schemes seeking simple access to an LDI solution in order to reduce funding level volatility caused by changes in interest rates and inflation.

Key benefits
- Instrument efficient - we aim to invest in the highest yielding instrument (either gilts or swaps) subject to funding costs at outset and on an ongoing basis
- Simple access to a tailored solution - four building blocks
- Clarity - external benchmark aides monitoring over the long term as we intelligently implement the index

LGIM Matching Core has four building blocks that help schemes manage their funding level volatility.

A tailored solution
Each of the four LGIM Matching Core funds* are managed with respect to a liability benchmark designed to reflect a generic pension liability profile. A scheme can alter the mix of funds according to the proportion of its liabilities that are real (i.e. inflation-linked) or fixed (i.e. with no inflation linkage) as well as the age profile and life expectancy of its membership profile, measured by the average expected period (or ‘duration’) over which the scheme will pay benefits.

These benchmark profiles will shorten in maturity just like a pension schemes’ liabilities as each year benefits are paid out (i.e. in ‘run-off’). In addition, LGIM automatically implements and manages the solution using the most efficient instruments, giving trustees one less thing to worry about.

Simple solution
The trustee, in conjunction with the adviser, can determine the allocation to the four funds to reflect some simple liability data of the scheme. No liability cashflows need to be provided in order for schemes to access this tailored solution.

Example liability profile
The following charts illustrate how an investment of 40% in the ‘short’ funds and 60% in the ‘long’ funds can replicate an ‘average’ scheme profile.

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*Matching Core Fixed Short (Series 1) Fund, Matching Core Fixed Long (Series 1) Fund, Matching Core Real Short (Series 1) Fund, Matching Core Real Long (Series 1) Fund
LGIM Matching Plus

LGIM Matching Plus range and single stock gilt and index-linked gilt funds are designed for pension schemes seeking a tailored LDI solution to reduce funding level volatility caused by changes in interest rates and inflation.

Key benefits

- Tailored solution using a full range of derivative-based LDI funds and physical gilt and index-linked gilt funds
- Wide range of hedging options through swaps or gilt-based funds
- Complementary modelling of solution(s) based on client’s objectives

LGIM Matching Plus offers a fully tailored LDI solution to clients in a pooled structure, providing a range of hedging options through both swap and gilt-based funds.

Ongoing Management

Our preferred approach for implementing pooled LDI solutions with Matching Plus is through our enhanced service. Here we take responsibility for managing a scheme’s matching portfolio to achieve a target hedge ratio in the most efficient way possible, within parameters defined by the trustee and investment consultant. As part of this service we take account of all the matching assets held within the portfolio, and as well as implementing an initial solution, we will monitor and restructure the matching portfolio to ensure it continues to meet this objective throughout the de-risking journey.

The enhanced service:

- manages the matching portfolio at the outset to a target hedge ratio (allowing for external assets)
- implements new target hedge ratio upon funding level or market based triggers being reached or other cashflows being added or removed from the strategy.
- maintains the hedge ratio over time within a tolerance of a target.

Ensuring that we continue to meet these objectives over time may involve:

- recapitalisations of the leveraged Matching Plus funds (hedging multiple rebalancing points)
- investments/disinvestments
- new liability cashflow data (e.g. after triennial valuation)
- new target hedge ratios due to time, market level and/or funding level triggers
- changes to interest rate and inflation characteristic of corporate bond holdings.

*Leverage varies by each maturity and is monitored on a weekly basis. In the case of either the upper or lower parameters being breached, the funds will be rebalanced.
KEY CONSIDERATIONS AND RISKS

The underlying investments will not exactly match changes in the value of a pension scheme's liabilities and schemes will need to be able to generate sufficient return in order to meet liability cashflows (typically LIBOR). Leverage means that for every £1 invested more than £1 of exposure is obtained to interest rates and/or inflation. Therefore, large moves in interest rates or inflation rates could mean these funds do not hold sufficient collateral. To minimise the risk of this, we have imposed limits on the amount of leverage allowed. These limits are independently monitored by our Investment Risk team.

In the event that there is a significant reduction in liquidity of the repo and/or the total return swap market, then the cost of funding this leverage increases. Under these circumstances, the Directors of the QIF, in their sole discretion, may elect to close the sub-funds in the manner set out under the heading “WINDING UP” in the prospectus. Trustees should consider and understand the risks associated with these funds prior to any investment. These funds are designed to be held as part of a long term LDI strategy.

The manager will seek to minimise counterparty risk by centrally clearing new derivative positions. The funds will remain exposed to the risk that the clearing house defaults but will no longer be exposed to the risk that a counterparty bank defaults.

The funds will have reference to a benchmark for monitoring purposes. The benchmark is designed to invest in the higher yielding assets from a selection of swaps and gilts and is inclusive of typical transaction costs that would be incurred when switching between these assets. The constituents of this benchmark will fluctuate from time to time but will at all times be implemented within the parameters of the Fund's stated investment objective. Further details on the benchmark can be obtained from your usual LGIM representative.

Further details (including relevant risk factors and fund specific risks) are available in the Description of Funds document which can be obtained from your usual LGIM contact or by visiting www.lgim.com/descriptionoffunds.

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IMPORTANT INFORMATION

LGIM’s Matching Plus range of Liability Driven Investment Funds is invested wholly in shares of sub-funds of LGIM Ireland (Risk Management) PLC (the “Sub-Funds”); an investment company with variable capital incorporated with limited liability in Ireland under the Companies Act 1963 to 2009 with registration number 478714, authorised as an investment company pursuant to Part XIII of the Companies Act 1990. The Sub-Fund’s prospectus is available on request.

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