Durham Law School

Leveraged LDI: Prudent deficit risk management or ultra vires speculation?

A paper prepared for the APL Summer Conference held on 16th June, 2023

Philip Bennett
Professor in Practice
Durham Law School
Durham University

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Author: Philip Bennett[1] Date: 3rd July, 2023

Summary

This paper considered the arguments over whether the use of repos or interest rate swaps by some DB pension scheme trustees (and their LDI Managers) in a leveraged liability driven investment (LLDI) strategy is outside their powers (ie ultra vires).

The position turns on the correct construction of Regulation 5 (restriction on borrowing) and Regulation 4(8) (restriction on use of derivatives) of the Occupational Pension Schemes (Investment) Regulations 2005 which transpose those restrictions from Article 18 of the IORP I Directive into English law.

The paper looks at the underlying economic effect of LLDI and 3 of the key risks associated with it. It concludes that, on the correct construction of those 2 Regulations in line with the requirements of retained EU law, the use of repos and, for LLDI, interest rate swaps is outside the powers of the trustees (and so ultra vires with consequential implications for their LDI Managers). It identifies an exception for schemes with fewer than 100 members. It notes that the exception for borrowing for temporary liquidity purposes will not be available for the use of repos other than in very limited circumstances.

It follows from that conclusion, if correct, that the Pension Regulator's guidance that scheme trustees can use LLDI is incorrect. It also follows that interest rate swaps with a total notional principal amount of more than £200 billion and repos funding gilt purchases of more than £60 billion, as identified in the Pension Regulator's December 2019 survey, were prohibited by these 2 Regulations and were outside the powers of the scheme trustees (and their LDI Managers).

It also notes that those giving legal opinions on these 2 regulations are unlikely to have had sufficient information to see the full picture which is only likely to have emerged after the 23rd September, 2022 "mini budget".

It draws out the similarities between LLDI and the use of interest rate swaps in *Hazel v. Hammersmith and Fulham London Borough Council* where the court held that those swaps were ultra vires the powers of Hammersmith and Fulham and said: "*A local authority which borrowed in reliance on future successful swap operations would be failing in its duty to act prudently in the interests of the ratepayers.*"

It notes that particular scrutiny will be needed of investment return assumptions for schemes using LLDI net of the expected future cost of repos and interest rate swaps in their next valuations. This paper also looks at the reported impact of using LLDI in the pension schemes of a company (Tesco plc) as shown in its group accounts for the 52 weeks ended 25th February, 2023 (where an IAS 19 surplus of £2.8 billion went to a deficit of £394 million over the 52 week period despite (or because of) its pension schemes using a LLDI strategy). It raises the general question of whether the accounts of companies with pension schemes using LLDI strategies need particularly careful scrutiny as to whether additional provision is needed for the effect of the "bleed" on the out of the money interest rate swaps. In other words whether the expected future net (of bleed) investment return on the scheme's investments will be lower than the AA corporate bond yield used for IAS 19 purposes.

It also concludes that LLDI is no more than a speculation (or carry trade) on long term vs short term interest rates. It was or may have been profitable during the period when the Bank of England's QE programme was reducing short term interest rates to under 1%. However, an LLDI strategy in a QE environment, perversely, results in pro-cyclical behaviour buying bonds in competition with the Bank of England with a negative real return and increasing reliance on the employer covenant. The paper does not cover the use of a pooled investment vehicle to carry out a LLDI strategy.

A. Introduction

1. On 2nd February, 2022, The Bank of England base rate was 0.25%. By 22nd September, 2022 it was 2.25% with 5 increases in the period from 2nd February, 2022. By 3rd

[1] Professor in Practice, Durham Law School, Durham University: https://www.durham.ac.uk/staff/philip-f-bennett/ . My thanks to Iain Clacher, Con Keating and David Pollard for their helpful thoughts and comments. Any errors and omissions are mine alone.

November, 2022 base rate was 3%. This was an increase over a 10 month period of 275 basis points[2].

2. On 23rd September, 2022, the Chancellor of the Exchequer delivered his "mini budget"[3]. On 28th September, 2022, the Bank of England announced its gilt market operations to support the price of gilts[4]. The Times headline on Thursday, 29th September, 2022, read "*Bank spends £65 bn to avert pensions collapse*". On 10th October, 2022 the Bank of England announced its Temporary Expanded Collateral Repo Facility[5].

3. Some readers will have been directly involved in advising on the response to these events by pension scheme trustees of **defined benefit** (or **DB**) pension schemes and their sponsoring employers where those pension schemes had been engaging in:

- liability driven investment ("**LDI**"), or
- leveraged liability driven investment ("**Leveraged LDI**" or "**LLDI**"),

using repos or derivatives.

4. Those events prompted me to re-examine the statutory restrictions on the use of repos and derivatives by trustees (and investment managers to whom the trustees delegated powers to put in place a LDI and LLDI strategies ("**LDI Managers**")) of DB occupational pension schemes to which the Occupational Pension Schemes (Investment) Regulations 2005 (the "**2005 Investment Regulations**") apply.

5. In this paper I am only going to discuss the question of whether LDI or LLDI is ultra vires (ie outside the powers of the trustees (and their LDI Managers)) as a result of 2 statutory overrides contained in the 2005 Investment Regulations (read with the Pensions Act 1995, Section 117):

- the restriction on borrowing, and
- the restriction on the use of derivatives.

6. I have assumed that the pension scheme's trust deed, on the face of it, permits investment in repos (see **Section K** below) and in derivatives. I am not going to consider other possible grounds of claim against trustees based:

6.1 on breach of the prudent person rule such as:

- lack of diversification,
- lack of skill and care by not understanding the risks they were running[6],
- not acting prudently by engaging in a highly risky long/short interest rate speculation, or

[2] https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp . 100 basis points =1%. All links in this paper accessed on 2 July 2023.
[3] https://www.gov.uk/government/speeches/the-growth-plan-2022-speech .
[4] https://www.bankofengland.co.uk/news/2022/september/bank-of-england-announces-gilt-market-operation .
[5] https://www.bankofengland.co.uk/markets/market-notices/2022/october/temporary-expanded-collateral-repo-facility-market-notice-10-october-2022 .
[6] See, for example, this Bank of England speech "I*f firms use leverage, they must be able to manage the liquidity consequences of their risk exposures. As part of this, they need to learn from the decades of experience that show how leverage and liquidity risk creates rollover risks; volatility; operational challenges in accessing liquidity; and exposures to amplification mechanisms from the wider system.*" : https://www.bankofengland.co.uk/speech/2022/november/sarah-breeden-speech-at-isda-aimi-boe-on-nbfi-and-leverage .

6.2 on breach of other requirements of Regulation 4 of the 2005 Investment Regulations such as putting the interests of the employer ahead of the interests of the scheme members[7].

B. What do I mean by LDI and Leveraged LDI?

1. Liability Driven Investment

1.1 I am going to distinguish between 2 types of LDI:

(a) **Type A (or physical) LDI:** where the aim of the investment strategy is for the pension scheme's trustee to match asset duration to liability duration (ie sensitivity to interest/discount rate change).

(b) **Type B (or synthetic) LDI** which has the same aim as Type A LDI but the pension scheme trustee enters into derivative contracts (predominantly interest rate swaps) to seek to achieve this aim.

1.2 For completeness, I note that the term LDI can be used to cover an investment strategy under which the projected benefit payments out of the scheme are matched by physical or synthetic investments (or a combination of the two) which generate a cashflow which is targeted at matching the forecast payments of benefits to be made in the future. That type of cashflow matching LDI is not considered in this paper. References to LDI in what follows should be read accordingly.

1.3 The primary purpose of using LDI for duration matching purposes is to reduce the variation in movement of the present (or discounted) amount of the obligations of the pension scheme's trustees to pay benefits as and when they fall due relative to the value of the scheme's assets **as at a valuation date**.

1.4 A dominant factor in this variation is the way the trustee selects the discount rate (usually also requiring the agreement of the employer[8]) for valuing those future payment obligations for a valuation of a DB scheme under Part 3 of the Pensions Act 2004.

1.5. If the value[9] of the scheme assets as at a valuation date moves in line with the present amount of the scheme liabilities, using the discount rate, as at a valuation date, then no deficit as at that valuation should arise all other things being equal.

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[7] A fact sensitive line of argument depending on the background to moving to LLDI. The argument would be based on the duty of the trustee to act in the sole interests of the scheme's members and beneficiaries (excluding, for this purpose, the employer (usually the residual beneficiary)) under the Occupational Pension Schemes (Investment) Regulations 2005, Regulation 4(2) in cases of conflict. Note that beneficiary is defined in Regulation 4(11) as a person, other than a member, who is entitled to the payment of benefits under the scheme. Note that benefits would need to be interpreted as retirement benefits to be in harmony with the IORP II Directive, Article 19(1)(a) where beneficiary is defined in Article 6(6) and retirement benefits are defined in Article 6(4).

[8] The Pensions Act 2004, Section 229. For exceptions see the Occupational Pension Schemes (Scheme Funding) Regulations 2005, Regulation 19 and Schedule 2, paragraph 9.

[9] As determined from the scheme's audited accounts and in accordance with the Occupational Pension Schemes (Scheme Funding) Regulations 2005, Regulation 3 but, in general, at market value.

1.6 Type B LDI is recognised in the Pension Regulator's DB Scheme Investment Guidance:

> "*Different types of matching asset match the liabilities in different ways, with varying degrees of accuracy, and with different levels of expected return. Your scheme's matching asset portfolio may comprise only physical (ie non-derivative) assets, eg fixed or index-linked gilts, corporate bonds, long-lease property and some forms of infrastructure. However, it is common practice for matching asset portfolios to use derivatives as well, to increase the level of matching achieved. This type of approach is known as liability driven investment (LDI).*"[10]

2. Leveraged LDI

2.1 This has the same objective as LDI but is used to reduce the cost to the employer of the LDI strategy (whether Type A or Type B) by using leverage to increase investment returns (particularly where the scheme was in deficit as at its last full valuation under Part 3 of the Pensions Act 2004).

2.2 In **Section G** below, I explain what I mean by leverage.

2.3 Leveraged LDI can also be presented as being a way to "hedge" all of the discount rate movement "risk" as at a valuation date where the scheme is in deficit.

2.4 The problem with hedging discount rate "risk" as at a valuation date using Type B LDI is that when interest rates rise above the rate at inception of the swap when it was "at the money"[11] (and discount rates fall) the pension scheme is bleeding money. Yes, the scheme's technical provisions will probably also fall, but the DB scheme's obligations to pay pensions as and when they fall due in the future is unchanged (albeit affected positively or negatively by actual experience since the last valuation date).

2.5 The amount of the bleed has to be made up from the return from other assets in the scheme and which, after that bleed, still equal the amount needed for the unwinding of the discount rate each year.

2.6 You may say that the hedge against interest rates falling was worth it from the employer's perspective. It avoided/reduced a valuation deficit in that situation. But when interest rates rise, the employer will have additional contributions to pay to cover the bleed.

2.7 Depending on the business sector of the employer and its own borrowings, an increase in interest rates may have a negative pro-cyclical impact on the employer's own covenant. It may well have to pay more interest on its borrowings, if floating rate, at the same time as having to pay more contributions to its pension scheme to cover the bleed.

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[10] https://www.thepensionsregulator.gov.uk/en/document-library/scheme-management-detailed-guidance/funding-and-investment-detailed-guidance/db-investment/matching-db-assets#5073310b483046e2bffa521baaf8e8a7 .

[11] See for example: https://www.pimco.com/gbl/en/resources/education/understanding-interest-rate-swaps#:~:text=At%20the%20time%20a%20swap,floating%20interest%20rate%20cash%20flows.

2.8 This type of hedge neither increases or decreases the obligation of the pension scheme trustee to pay benefits as and when they fall due.

3. Scheme liabilities to pay benefits

3.1 The liabilities of the pension scheme's trustee to pay benefits are nothing more exciting than the obligation to pay the benefits as determined by reference to the scheme's trust deed and rules (and, where applicable, overriding legislation) to the scheme members and any eligible survivors as and when they fall due.

3.2 To the extent that these scheme assets are insufficient to pay those benefits as and when they fall due, the combined effect of the deficit contribution/recovery plan regime in Part 3 of the Pensions Act 2004 and Section 75 of the Pensions Act 1995 is that the employer will have a statutory obligation to make good the shortfall.

4. Scheme technical provisions

4.1 The scheme's technical provisions are the present (or discounted) estimated amount as at a valuation date of the scheme's liabilities to pay benefits in the future.

4.2 That present amount is referred to, in the language of Part 3 of the Pensions Act 2004, as the technical provisions of the scheme as at the valuation date.

4.3 To determine those technical provisions, the trustee has to make various assumptions (usually with the agreement of the employer[12]):

- first, to determine the projected future benefit payments to be made from the scheme in the future (eg how long will members live), and
- importantly, what discount rate to use to discount those future benefit payments calculated on those assumptions back to their present amount as at the valuation date.

5. Valuation surpluses and deficits

5.1 If, as at the valuation date, the value of the scheme's assets[13] exceeds the amount of the scheme's technical provisions, then the scheme has a valuation surplus.

5.2 In contrast, if as at the valuation date, the value of the scheme's assets is less than the amount of the scheme's technical provisions, then the scheme has a valuation deficit.

5.3 If there is a valuation surplus, then there should be no deficit contributions payable and future contributions to the scheme (eg to cover estimated future accrual) can be reduced. If there is a valuation deficit, then an increase to

[12] The Pensions Act 2004, Section 229. For exceptions see the Occupational Pension Schemes (Scheme Funding) Regulations 2005, Regulation 19 and Schedule 2, paragraph 9.

[13] As determined from the scheme's audited accounts and in accordance with the Occupational Pension Schemes (Scheme Funding) Regulations 2005, Regulation 3 but, in general, at market value.

contributions may be needed or future service benefits may need to be reduced or a combination of the two.

6. <u>Does the discount rate change the scheme's obligation to pay benefits in the future?</u>

6.1 The key point throughout is that the discount rate does not change the obligations of the scheme's trustee in an ongoing scheme to pay benefits in the future as determined by reference to the scheme's trust deed and rules and, if applicable, overriding legislation[14].

6.2 It only changes the discounted present amount (ie the technical provisions) as at a valuation date.

C. <u>Sensitivity to discount rate movements</u>

1. The Occupational Pension Schemes (Scheme Funding) Regulations 2005, Regulation 5(4)(b) says that:

"the rates of interest used to discount future payments of benefits must be chosen prudently, taking into account either or both—

(i) the yield on assets held by the scheme to fund future benefits and the anticipated future investment returns, and

(ii) the market redemption yields on government or other high-quality bonds;"

2. An important point to draw out is that there is no obligation to derive the discount rate from the interest rate (market redemption yields) from gilts or bonds. That said, conventional wisdom was that, at least prior to the quantitative easing programmes put in place by central banks following the 2008 financial crisis, the rate of return on gilts should be viewed as the "risk free rate" with returns of other asset classes then being higher than the risk free rate to reflect the greater risk applicable to the asset class in question.

3. However, following the 2008 financial crisis, central banks, including the Bank of England, introduced quantitative easing programmes. The purpose of those programmes was to reduce interest rates with the two main objectives:

- to reduce the interest rate payable on payments for those with borrowings where the interest rate had not been fixed.
- to reduce the interest rate on bank deposits and gilts to encourage consumers to increase their spending to stimulate the economy.

4. This is what the Bank of England says on its website about the expected impact of quantitative easing:

> *"QE involves us buying bonds to push up their prices and bring down long-term interest rates. In turn, that increases how much people spend overall which puts upward pressure on the prices of goods and services.*
>
> *In total, we bought £895 billion worth of bonds. Most of those (£875 billion) were UK government bonds. The remaining £20 billion were UK corporate bonds.".*

[14] It could change some lump sum payments, for example on commutation of pension at retirement or cash equivalent transfer values. These are each a secondary benefit under the scheme and so are put to one side in the rest of this paper.

….

"Here's how it works. We buy UK government bonds or corporate bonds from investors, such as asset managers. Bonds are IOUs that pay an amount of interest that is fixed in cash terms - £5 per year, for example. This fixed interest payment is called the bond's 'coupon'.

When we buy bonds, their price tends to increase compared with the coupon. If the price of a bond goes up, compared with its coupon, the rate of return on the bond, or 'yield', goes down.

Suppose a bond was worth £100 and its coupon was £5 per year. The interest rate or yield of that bond is 5 as a percentage of 100, which is 5%. If the price of the bond increases from £100 to £120, then the £5 coupon payment now represents a yield of 5 as a percentage of 120, which is 4.2%.

Yields on government bonds act as a benchmark interest rate for all sorts of other financial products."

….

"QE increases the price of financial assets other than bonds, such as shares.

Here's an example. Say we buy £1 million of government bonds from an asset manager. In place of those bonds, the asset manager now has £1 million in cash.

Rather than hold on to that cash, it might invest it in other financial assets, such as shares.

In turn that tends to push up on the value of shares, making households and businesses and other financial institutions that own those shares wealthier. That makes them likely to spend more, boosting economic activity."[15]

5. The point to draw out is that if the central banks are, in fact, rigging (lawfully) the interest rate market, then it calls into question the wisdom (and prudence) of:

    - continuing to determine discount rates by reference to the gilt rate, and
    - buying gilts at the same time as the Bank of England is doing so. It has greater resources than a pension fund has. It bought £875 **billion** of gilts and was actively rigging the price.

6. That said, one mathematical consequence of interest rates reducing is that the present amount, as at the valuation date, of the future benefit payments increases (if the discount rate assumption is derived from, or by reference to, gilt or bond yields).

7. Put another way, the assumption is that the assets held by the pension scheme trustee will earn a lower rate of return (which feeds through to a lower discount rate). This, all other things being equal, can create a deficit as at a valuation date and, in turn, leads to steps that need to be taken to repair the deficit (unless the value of the assets moves in tandem).

8. However, the Bank of England's expectation, as noted in **4** above, is that the pension scheme trustee would have sold its government bonds and bought other financial

[15] https://www.bankofengland.co.uk/monetary-policy/quantitative-easing#:~:text=QE%20involves%20us%20buying%20bonds,billion)%20were%20UK%20government%20bonds.

assets such as shares (which, in turn, would have pushed up the value of those other financial assets).

9. Instead, what appears to have happened is that, as part of LDI (or Leveraged LDI), many pension schemes engaged in pro-cyclical behaviour by buying gilts in competition with the Bank of England (which was rigging the price) with the aim of holding assets whose market value moved in line with the way in which the scheme's technical provisions would be calculated (when using a discount rate derived from gilt yields) as at a valuation date.

10. By way of illustration of this point, the percentage of equities owned by UK DB pension schemes is reported to have fallen from 61.1% in 2006 to 19.5% in 2022. In contrast, in 2006 the percentage of bonds comprised in DB scheme assets is reported to amount to 28.3%. By 2022 the proportion was 71.5%.[16]

11. There is a linked point that additional gilts purchased by pension funds were being purchased with a yield that was more or less guaranteed to provide a negative real investment return after allowing for UK CPI inflation[17].

D. Responses to valuation deficits

1. In round terms, the period from 2009 to 2021 (12 years) corresponds broadly to 4 valuation cycles. Base rate[18], which, in turn, impacts on gilt yields, was 5.75% on 5th July, 2007. By 5th March, 2009, it was 0.5% - a fall in 21 months of 525 basis points. It stayed at or below 0.5% until 17th March, 2022 (with the exception of the period from 2nd August, 2018 to 11th March, 2020 when it hit the giddy hits of 0.75%).

2. For many DB schemes ever reducing discount rates (if they were derived from, or by reference to, the rigged yield on gilts) led to higher technical provisions. Unless scheme assets increased in value sufficiently to compensate, this leads to a deficit (or an increased deficit). And with ever increasing amounts of contributions being asked for by trustees to repair deficits from previous valuations, the scene is set for LDI and Leveraged LDI to be the solution to the problem that came out of using a discount rate derived from, or by reference to, the yield on gilts.

E. Leveraged LDI: An example

1. It may be helpful to start with a quote from the Pensions Regulator's DB Scheme investment guidance[19] (note that it does not distinguish between LDI and LLDI):

> *"The use of LDI typically enables pension schemes to achieve an improved balance between investment risk and return but it does introduce additional risks, eg around the use of leverage and in relation to **operational risks** around the management of collateral. Your investment adviser will be able to discuss the merits of an LDI approach to your matching assets with you.*

[16] Report of the House of Commons Work and Pensions Committee on *Defined benefit pensions with Liability Driven Investments* (23 June 2023) at para 29 : https://publications.parliament.uk/pa/cm5803/cmselect/cmworpen/826/report.html .
[17] https://www.statista.com/statistics/306648/inflation-rate-consumer-price-index-cpi-united-kingdom-uk/#:~:text=In%20general%2C%20the%20last%20time,usually%20at%20much%20lower%20levels.
[18] https://www.bankofengland.co.uk/boeapps/database/Bank-Rate.asp .
[19] Issued: March 2017. Last updated: September 2019.

Example 14: LDI

The assets of the XYZ Pension Scheme are invested 60% in global equities, 10% in index-linked gilts, 10% in fixed gilts, 10% in corporate bonds and 10% in property. The bonds are benchmarked against the over-5 years FTSE index-linked gilts index, the over-15 years FTSE gilts index and the all stocks corporate bonds index, respectively. The duration of the assets held, as advised by the scheme's investment consultant, is around ***five years****.*

The trustees are in the process of completing their actuarial valuation and the draft actuarial report indicated that:

- *the scheme is 80% funded on their technical provisions (TP) basis*
- *the liabilities are broadly split as 50% fixed, 50% inflation-linked (uncapped)*
- *the duration is 18 years for the fixed liabilities and 22 years for the inflation linked liabilities*

As part of their quarterly update, the scheme's investment consultant advises that:

- *there is a significant mismatch between the duration of the scheme's assets and*
- *liabilities*
- *a 1% reduction in interest rates would increase the value of the liabilities by around 20% but only increase the value of the assets by around 5%*
- *as the scheme is only 80% funded, the value of liabilities, compared to the assets, would increase by more than 15%*

- *The trustees are concerned about the level of risk in their scheme assets compared to the liabilities. They instruct the investment adviser to analyse the sensitivity of the assets and liabilities to a range of factors, and to propose changes to the investment arrangements to reduce the degree of interest rate (and inflation) mismatch without initially reducing the expected return on assets.*
- *The investment adviser proposes an incremental approach whereby the trustees would initially allocate 30% of their assets to LDI and gradually increase their allocation afterwards. The adviser proposes that the initial allocation to LDI would be funded from the scheme's existing bond investments. The adviser also recommends that the LDI portfolio should be constructed using:*
- *a bespoke bond portfolio, ie a portfolio of bonds that better reflects the profile of the scheme's liabilities compared to the current bond holdings which are based around common industry benchmarks*
- *interest rate and inflation rate swaps, as these derivative instruments would allow the introduction of a* ***limited amount of leverage (on average two times)*** *to enable a greater reduction in liability risk*
- *The investment adviser also advises that, due to the use of derivatives (swaps) and leverage, collateral would need to be held and managed. The adviser explains the extent*

of the collateral risks that the scheme would be exposed to and develops a collateral risk and management plan for the trustees, which would be periodically reviewed."[20]

(emphasis added)

2. Note that, based on the example portfolio, the advice of the example investment consultant as to the duration of the assets held when they comprise 60% global equities does not appear plausible: *"The duration of the assets held, as advised by the scheme's investment consultant, is around **five years**"* .

3. It depends on how the example investment consultant determined duration for equities. But, if you project the income yield on the equity portfolio into the future (potentially indefinite – but say 100 years) and depending on the growth assumption you make in that income and then discount it back using the same discount rate as for the rest of the assets, you can determine duration of the global equity portfolio [21]. It will be longer than 5 years unless some very odd assumptions are being made.

F. The associated impact of pension cost accounting standards

1. It is also worth, by way of further context, noting:

   - IAS19 (accounting for pension costs for, in summary, listed companies), and
   - FRS102 (accounting for pension costs for other UK companies).

2. Both require any deficit in a defined benefit pension scheme to appear in the balance sheet of the company in question (or in the consolidated accounts in a group).

3. Both these accounting standards prescribe a discount rate based on the yield on AA corporate bonds. Again, following on from the central bank quantitative easing programmes, the AA corporate bond yields decreased dramatically over the period from 2008 to 2021 with (but dependent on the exact mix of, and value of, the assets held by, the pension scheme) a consequential increase in the provision required by the accounting standard in the balance sheet of the company or group in question.

4. Where the employer in question was subject to regulatory capital requirements, any increase in the balance sheet deficit because of, or derived from, that accounting standard impacted on the ability of such an employer to meet its regulatory capital requirements and potentially to continue in business. As an example, see the facts and decision in the Pension Regulator's Regulatory Intervention Report in relation to the Martin Currie Retirement and Death Benefits Scheme[22].

G. Leveraged LDI: How does the magic money tree work?

1. Introduction

1.1 Although not drawn out fully in the Pension Regulator's guidance referred to in **Section E** above, one of the purposes of using a Leveraged LDI investment

[20] https://www.thepensionsregulator.gov.uk/en/document-library/scheme-management-detailed-guidance/funding-and-investment-detailed-guidance/db-investment/matching-db-assets .

[21] https://www.ipe.com/current-edition/briefing-is-equity-duration-risk-about-to-step-into-the-limelight/10055259.article.

[22] https://www.thepensionsregulator.gov.uk/-/media/thepensionsregulator/files/import/pdf/regulatory-intervention-section-89-martin-currie.ashx

strategy is to reduce the cost to the employer of the LDI strategy. So how does it work?

1.2 In essence, Leveraged LDI works on exploiting the gap between short term (usually one year or less) interest rates and long term (eg 20 year plus) interest rates by using leverage.

1.3 Examples of different forms of leverage include:

- actual borrowings (think of this as a bit like a buy to let mortgage) where you borrow money from the bank or building society to buy a property. The rental income on the property is meant to more than cover the costs of interest payable to the bank on the amount borrowed.
- economic borrowing using repos (discussed in **Section K** below), or
- using derivatives (predominantly interest rate swaps) under which pension fund as holder of the fixed leg (eg the 20 year plus fixed interest leg on a nominal principal amount) receives the fixed rate of interest and pays floating rate interest on the floating rate leg to the counterparty by reference to the same nominal principal amount (discussed in **Section O** below).

1.4 Here is another explanation of leverage:

"Leverage is created in different ways. Its most obvious form is to borrow money to buy assets – 'financial leverage'. But it arises also through 'synthetic leverage' using derivative instruments. This allows users to adjust risk profiles through a relatively small initial outlay, with future gains or losses contingent on changes in underlying market prices. Those future gains and losses create financial obligations – a form of contingent 'hidden' leverage if you like.

It's clear that leverage is a key function provided by the financial system in support of a thriving and productive economy. But it comes with inherent risks that need to be managed.

A common factor across all the uses of leverage I have just described is that it can increase the exposure of the leverage taker to underlying risk factors – whether that be house prices, earnings, interest rates, currencies or asset prices. It follows therefore that leverage can amplify shocks to each of these risk factors. And in a stress, that can lead both to sudden spikes in demand for liquidity – either to support the financing of leveraged positions or as de-leveraging leads to forced sales – and a corresponding contraction in liquidity supply, with potentially systemic consequences"[23]

1.5 The following quote from *Hazell v. Hammersmith and Fulham London Borough Council*[24] provides another example of an explanation of leverage using swaps by the council of a London Borough (note the parallels with reducing the cost of LDI to the employer by using LLDI):

[23] From a speech by Sarah Breeden, Executive Director, Financial Stability Strategy and Risk, Bank of England on 7 November, 2022: https://www.bankofengland.co.uk/speech/2022/november/sarah-breeden-speech-at-isda-aimi-boe-on-nbfi-and-leverage.

[24] *Hazell v. Hammersmith and Fulham London Borough Council* [1992] 2 A.C. 1.

"The transactions in the swap market which are now impugned were not carried out in order to enable the council to borrow or to enable the council to choose to borrow at a fixed rate rather than at a variable rate or vice versa. The transactions were undertaken in the hope that the burden of interest payable in respect of borrowings by the council would be mitigated by profits from swap contracts whereby the council successfully forecast movements in interest rates. ***If the council swapped from a fixed interest to a variable interest the council gained if, after the swap, interest rates went down. The council lost if, after the swap, interest rates rose.*** *Similarly, if the council swapped from variable interest to fixed interest the council gained if, after the swap, interest rates went up and lost if interest rates went down."*[25] ***(emphasis added)***

2. <u>An over-simplified example</u>

2.1 To illustrate the way in which leverage can work, consider the following:

- the pension fund owns £1 million nominal of a gilt maturing in 20 years time yielding 4% with a current market value also of £1 million.
- the pension fund
  - borrows from the bank £4 million for one year at 1% (to be secured on gilts bought with that borrowing), and
  - buys £4 million nominal of the 20 year gilt (for a market price of £4 million) also yielding 4%.
- the £5 million of 20 year gilts with a yield of 4% a year produce a gross income to the pension fund of £200,000 pa.
- interest paid to the bank on the £4 million of borrowing (at least for the first year) is £40,000.
- the net return on "investment" for that year equals £160,000 (or a return 16% of the original £1 million).

2.2 But, how risky is that investment strategy? It looks like a 20 year speculation on the arbitrage between the long/short interest rate yield curve, with the pension scheme trustee needing to be on the right side to this carry trade for sufficiently long to make money.

2.3 If a pension scheme had put this strategy in place in 2009 and exited this strategy in December 2021/early 2022, it could be said that this was the "genius" investment strategy in the period from 2009 to 2021 as, in simplified terms, the cost of "borrowing" or leverage and interest rates either fell or remained very low during this period (see **Section D1** above).

H. <u>Three key risks in leveraged LDI</u>

1. At this stage I would like to draw out three key risks in Leveraged LDI:

1.1 **roll risk**: will the lender renew the loan at the end of the year (relevant to borrowing and repos).

[25] *Hazell v. Hammersmith and Fulham London Borough Council* [1992] 2 A.C. 1, per Lord Templeman at page 25.

1.2 **collateral risk:** the lender/repo counterparty has, under its agreement with the borrower, the right to require eligible collateral to be transferred to it more or less immediately to ensure that the amount of the loan is always fully covered by the collateral plus a safety margin.

1.3 **interest rate risk:** financing gilts or other bonds maturing in 20 years' time with borrowings which have to be rolled over/repriced every year (at whatever the short term rate in question is at the time in question – and this would potentially have to be done 19 times) means that the pension fund is heavily exposed to the movement in short term interest rates. So long as these stay at the level at time of the original borrowing (or, even better, continue to fall), this investment strategy (or speculation) should be profitable.

2. Note that for derivatives there is no roll risk.

I. But pension scheme trustees can't borrow except …

1. Preliminary

1.1 We all know that pension scheme trustees must not borrow except for temporary liquidity purposes[26].

1.2 What is clear beyond any doubt is that borrowing to purchase 20 year gilts or other long dated securities is not borrowing for temporary liquidity purposes (except, for example, in the scenario where an employer contribution is expected shortly, which will be used to discharge borrowing).

2. So how does a trustee implement a Leveraged LDI investment strategy

2.1 Three possible options can be identified:

- using repos (unless they are ultra vires[27]),
- using derivatives (interest rate swaps) unless they are ultra vires, or
- investing in a limited liability pooled investment vehicle within which the return on the (highly) leveraged assets of that pooled investment vehicle[28] achieves an equivalent result.

2.2 In what follows I am not going to discuss further using pooled investment vehicles. Subject to having adequate powers under the terms of the trust deed, there is nothing that I have identified which would, of itself, prevent a pension fund trustee investing in such a vehicle. There are separate questions as to:

- whether it would be prudent[29] for such an investment to be made (in particular, if made on a sufficiently large scale – lack of diversification, for example), and

[26] The Occupational Pension Schemes (Investment) Regulations 2005, Regulation 5. Note, however, as discussed in **Section N2** below that Regulation 5 does not apply to schemes with fewer than 100 members – see Regulation 7.

[27] Ie outside the powers of the trustees- for example unauthorised by the investment powers or in the wider sense of being an improper use of those powers (see *Rolled Steel Products (Holdings) Ltd v British Steel Corp* [1986] Ch 246, CA).

[28] ie a unit linked life policy or contract, open-ended investment company or a unit trust.

[29] I use the term "prudent" in this paper to reflect the relevant duty of care on trustees under Reg 4 of the 2005 Investment Regulations and under general equitable principles. The word itself is often used (although interestingly not in the 2005 Investment Regulations), but

- whether the scheme assets remain invested predominantly on regulated markets (but see the 2005 Investment Regulations, Regulation 4(9)).

2.3 I would like to draw out the point that it is open to pension scheme trustees to invest in shares in companies which, themselves, are highly leveraged (or in policy units, shares or units of a pooled investment vehicle). However, there are other requirements contained in the IORP II Directive, Article 19 (discussed in **Section L** below) and in the 2005 Investment Regulations, Regulation 4 which set out the constraints on what the trustees may do. These include:

- compliance with the prudent person rule,
- compliance with the diversification rule, and
- compliance with the requirement to invest predominantly on regulated markets.

2.4 The key point to draw out is that the pension scheme is insulated by owning shares in a limited liability company (or the equivalent unit of value in a pooled investment vehicle).

2.5 In such a case, the pension scheme (and its trustee) is not under a contractual obligation[30] to provide additional payments of "interest" or additional collateral when rates rise and it is on the wrong side of the long/short carry trade. The maximum loss is limited to the purchase price of the shares (or the equivalent unit of value in a pooled investment vehicle).

J. <u>The DB Pension Scheme Leverage and Liquidity Survey: 2019</u>

1. In 2019 the DB Pension Scheme Leverage and Liquidity Survey was published as a research report prepared for the Pensions Regulator by OMB Research[31].

2. It is worth considering two sections of that report.

3. The first is section 4.4.3 and Table 4.4.3:

its meaning and extent is unclear – see David Pollard *The "prudence" test for trustees in pension scheme investment: just a shorthand for "take care"* (2021) 34 Tru LI 215.

[30] In the absence of some other provision-eg a direct guarantee or an investment in an unlimited company.

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

4.4.3 Leveraged investments Schemes were asked which types of leveraged investments they held. Interest rate swaps were held by 62% of schemes. The total notional principal held was £216.2 billion (43% of all leveraged investments).

Table 4.4.3.1 Total notional principal of leveraged investments

	% holding each type	Total notional principal (billion)	Total notional principal (%)
Fixed income Gilts funded by repo	63%	£17.2	3%
Interest rate swaps	62%	£216.2	43%
Index-linked Gilts funded by repo	61%	£47.4	10%
Inflation swaps	60%	£81.8	16%
Gilt total return swaps	39%	£21.4	4%
Other derivatives	37%	£60.3	12%
Synthetic Equity: Other equity derivatives	23%	£43.4	9%
Synthetic Equity: Futures	15%	£6.2	1%
Synthetic credit via derivatives	11%	£4.7	1%
Total notional principal of leveraged investments	-	**£498.5**	**100%**

Base: All respondents (137)

4. The second section is Table 4.4.4.1:

Table 4.4.4.1 Maximum level of leverage within each leveraged investment category

			Range	
Type of leveraged investment	Mean	Median	Minimum	Maximum
Fixed income Gilts funded by repo	4.1x	4.3x	1.8x	6.0x
Interest rate swaps	4.2x	4.7x	1.0x	6.0x
Index-linked Gilts funded by repo	3.9x	4.0x	1.8x	6.0x
Inflation swaps	3.8x	4.0x	1.0x	6.0x
Gilt total return swaps	3.9x	4.5x	1.0x	6.0x
Other derivatives	4.4x	5.0x	1.5x	5.0x
Synthetic Equity: Other equity derivatives	4.2x	5.0x	1.0x	6.0x
Synthetic Equity: Futures	3.0x	2.0x	1.0x	7.0x
Synthetic credit via derivatives	4.4x	4.0x	3.3x	6.0x

Base: All holding leveraged investments (3-24)

5. There are two points to draw from these two Tables which came as a surprise to me (and perhaps to others):

- the first is that the total amount of fixed gilts and index linked gilts funded by repos was £64.4 **billion** and the total notional principal amount of interest rate swaps was £216.2 **billion**.
- the second is that the median degree of leverage employed by reference to the repos was 4.3 times (for the fixed income repos), 4 times for index linked gilts repos and 4.7 times for interest rate swaps.

6. That is why, in the example at **Section G** above, I used 4 times leverage.

K. Leveraged LDI using repos

1. What is a repo?

1.1 In simplified terms:

- the pension scheme trustee sells £1 million nominal of 20 year gilts to the counterparty bank at the market price assumed, for simplicity, to be £1 million (and with the gilts having a coupon of 4% pa.).
- the pension scheme trustee simultaneously agrees to buy back the same (albeit they are fungible) gilts for £1,010,000 in 12 months' time.
- the bank's interest rate for this "loan" is 1% pa which equals £10,000 on £1 million.
- the pension scheme trustee remains entitled to receive a payment from the bank of an amount which corresponds to the 4% coupon on the gilt (£40,000).
- the return to the pension scheme for that year (net of the cost of "borrowing") is 3% **plus** the return it earns on the £1 million borrowed.

1.2 You can build on this example to replicate the example in **Section G2** above.

1.3 In practice:

- a "haircut"[32] will be applied (ie, a safety margin for the bank), and
- the bank has the right to call for top up collateral or "variation margin"[33] if the market price of the gilts sold to the bank falls. Conversely, if the price rises (and depending on the terms agreed), variation margin would be transferable by the bank to the pension scheme.

1.4 The market price of the 20 year gilt will, in general, fall if short term interest rates rise (and will rise, in general, if short term interest rates fall).

2. But repos are not borrowing under English law? So that's alright!

2.1 It is, indeed, correct to say that a repo transaction is not categorised as a secured loan under English law relating to insolvency. More specifically the Financial Collateral Arrangements (No 2) Regulations 2003 transposing the Financial Collateral Directive[34] covers this point in relation to insolvency situations.

2.2 More generally, for domestic English law purposes, a repo transaction would not be categorised as a loan or a secured loan[35]. However, that general rule can be modified where the domestic legislation using the word "borrow" is

[32] ICMA-ERCC-Guide-to-Best-Practice-in-the-European-Repo-Market-September-2020 at page 89: https://www.icmagroup.org/assets/documents/Regulatory/Repo/ICMA-ERCC-Guide-to-Best-Practice-in-the-European-Repo-Market-September-2020-240920.pdf#page89 .

[33] ICMA-ERCC-Guide-to-Best-Practice-in-the-European-Repo-Market-September-2020 at page 89: https://www.icmagroup.org/assets/documents/Regulatory/Repo/ICMA-ERCC-Guide-to-Best-Practice-in-the-European-Repo-Market-September-2020-240920.pdf#page89 .

[34] Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0047 .

[35] Eg the House of Lords in *Lloyds & Scottish Finance v Cyril Lord Carpet Sales* (decided in 1979) [1992] BCLC 609.

transposing an EU Directive into English law (see **Section M** and **Section N** below).

2.3 "A Guide to Best Practice in the European Repo Markets"[36], at Annex I (page 76) gives the following description of a repo:

"Although the Seller sells collateral to the Buyer at the start of a repo, his obligation to buy back equivalent collateral in the future means that the Buyer has only temporary possession of the collateral and the Seller has only temporary use of the cash. ***Therefore, despite a repo being structured legally as a sale and repurchase of collateral, it behaves economically like a secured loan or deposit (ie a loan or deposit against a security interest in assets).*** *The Buyer is effectively making a secured loan to the Seller. The Seller is effectively taking a secured deposit from the Buyer.*

(emphasis added)*"*

2.4 In other words, the Guide evidences that it is generally acknowledged and accepted that a repo is the economic equivalent of a secured loan to the borrower or borrowing by the borrower.

L. A reminder of where the borrowing restriction comes from

1. The origins of the restriction

1.1 The restriction on borrowing by pension scheme trustees originally came from the IORP I Directive[37], Article 18(2). It is now to be found in the IORP II Directive[38], Article 19(3), which reads:

"The home Member State ***shall prohibit IORPs from borrowing*** *or acting as a guarantor on behalf of third parties. However, Member States* ***may authorise IORPs to carry out some borrowing only for liquidity purposes and on a temporary basis****."*

(emphasis added)

1.2 There is no substantive difference between Article 19(3) and Article 18(2).

2. Its transposition

2.1 This restriction was transposed into English law by the 2005 Investment Regulations, Regulation 5 which reads as follows:

"5(1) Except as provided in paragraph (2), the trustees of a trust scheme, and a fund manager to whom any discretion has been delegated under section 34 of the 1995 Act, ***must not borrow money*** *or act as a guarantor in respect of the obligations of*

[36] ICMA-ERCC-Guide-to-Best-Practice-in-the-European-Repo-Market-September-2020: https://www.icmagroup.org/assets/documents/Regulatory/Repo/ICMA-ERCC-Guide-to-Best-Practice-in-the-European-Repo-Market-September-2020-240920.pdf .

[37] Directive 2003/41/EC of the European Parliament and of the Council of 3 June 2003 on the activities and supervision of institutions for occupational retirement provision: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:235:0010:0021:en:PDF .

[38] Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs): https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L2341 .

another person where the borrowing is liable to be repaid, or liability under a guarantee is liable to be satisfied, out of the assets of the scheme.

(2) Paragraph (1) does not preclude ***borrowing made only*** *for the purpose of providing* ***liquidity*** *for the scheme and* ***on a temporary basis****."*

(emphasis added)

2.2 The word "money" is extra. It is not in Article 19(2) but it does not affect the analysis that follows.

3. Does this Regulation 5 restriction on borrowing override the scheme's trust deed

3.1 If, as is usual, the scheme's trust deed authorises the trustee to borrow and to enter into repos, would the Regulation 5 restriction override the trust deed?

3.2 The answer lies in Pensions Act 1995, Section 117 which says:

"117.—(1) Where any provision mentioned in subsection (2) conflicts with the provisions of an occupational pension scheme

(a) the provision mentioned in subsection (2), to the extent that it conflicts, overrides the provisions of the scheme, and

(b) ***the scheme has effect with such modifications as may be required in consequence of paragraph (a).***

(2) The provisions referred to in subsection (1) are those of

(a) this Part,

(b) any subordinate legislation made or having effect as if made under this Part…"

(emphasis added)

3.3 "this Part" means Part I of the Pensions Act 1995 which includes Section 36 and Section 36A. The Occupational Pension Schemes (Investment) Regulations 2005 are subordinate legislation made[39] under, inter alia, Section 36 and Section 36A and so are made under "this Part".

3.4 For completeness note that the Pensions Act 1995, Section 36A says:

"*36A. Regulation may prohibit the trustees of a trust scheme, or the fund manager to whom any discretion has been delegated under section 34, from borrowing money or acting as a guarantor, except in prescribed cases.*"

4. Is Regulation 5 transposing Article 18(2) of the IORP I Directive (now Article 19(3) of the IORP II Directive)?

Yes. The explanatory note at the end of the 2005 Investment Regulations says:

[39] See the introduction to the Regulations: "The Secretary of State for Work and Pensions makes the following Regulations in exercise of the powers conferred by sections 35(1), (3), (4) and (7), 36(1), (1A) and (9), 36A, 40(1) and (2), 118(1), 123(3), 124(1), 125(3) and 174(2) and (3) of the Pensions Act 1995.
In accordance with section 120(1) of that Act the Secretary of State has consulted such persons as he considers appropriate."

"These Regulations replace, with amendments, the Occupational Pension Schemes (Investment) Regulations 1996, which are now revoked. The Regulations supplement changes made to the Pensions Act 1995 (c. 26) ("the 1995 Act") by the Pensions Act 2004 (c. 35). They include provisions to implement certain requirements of the Directive 2003/41/EC (OJ L235, 23.09.2003 p10) of the European Parliament and of the Council on the activities and supervision of institutions for occupational retirement provision, in particular of ***Articles 12 and 18****." (emphasis added)*

5. What was the purpose of the borrowing restriction (and looking ahead the restriction on using derivatives)?

5.1 In interpreting (see **Section M** and **Section O** below) Regulations 4 and 5 which transpose Article 18 of the IORP I Directive (now Article 19 of the IORP II Directive), it is necessary to consider the recitals to the Directive which set out the purpose of the Directive. Set out below are some relevant recitals (from the IORP II Directive in place of the IORP I Directive) which set out the purpose of the directive in relation to investment (**emphasis added**):

- Recital (4) says:

  "In order to facilitate further the mobility of workers between Member States, this Directive aims to ensure good governance, the provision of information to scheme members and the transparency ***and safety*** *of occupational retirement provision."*

- Recital (6) says:

  "Directive 2003/41/EC represented a first legislative step on the way to an internal market for occupational retirement provision organised on a Union scale. A genuine internal market for occupational retirement provision remains crucial for economic growth and job creation in the Union and for tackling the challenge of an ageing society. That Directive, dating from 2003, has not been substantially amended to introduce a modern risk-based governance system for IORPs. Appropriate regulation and supervision at Union and national level remain important for the development of ***safe and secure*** *occupational retirement provision across all Member States."*

- Recital (17) says:

  "The ***prudential*** *rules laid down in this Directive are intended both to* ***guarantee a high degree of security for all future pensioners*** *through the imposition of stringent supervisory standards, and to clear the way for the sound, prudent and efficient management of occupational pension schemes."*[40]

- Recital (29) says:

  "In order ***to protect*** *members and beneficiaries, IORPs should limit their activities to those referred to in this Directive and to those arising therefrom."*[41]

- Recital (45) says:

  "IORPs are very long-term investors. Redemption of the assets held by IORPs cannot, in general, be made for any purpose other than providing retirement benefits. Furthermore, in order ***to protect adequately*** *the rights of members and*

[40] The corresponding Recital in the IORP I Directive is Recital (7).
[41] The corresponding Recital in the IORP I Directive is Recital (17).

beneficiaries, IORPs should be able to opt for an asset allocation that suits the precise nature and duration of their liabilities. Therefore, efficient supervision is required as well as an approach to investment rules that allows IORPs sufficient flexibility to decide on the ***most secure and efficient investment policy*** *and obliges them to act prudently. Compliance with the prudent person rule therefore requires an investment policy geared to the membership structure of the individual IORP."*[42]

- Recital (48) says:

  "This Directive should ensure an appropriate level of investment freedom for IORPs. As very long-term investors ***with low liquidity risks****, IORPs are in a position to invest in non-liquid assets such as shares and in other instruments that have a long-term economic profile and are not traded on regulated markets, multilateral trading facilities (MTFs) or organised trading facilities (OTFs) within prudent limits."*[43]

5.2 There is a clear purpose of protection of members' retirement provision and a clear assumption that pension schemes will have a low liquidity risk[44] which is consistent with the restriction on borrowing and the restriction (see **Section O** below) on derivatives.

5.3 The speech by Sarah Breeden, Executive Director, Financial Stability Strategy and Risk, Bank of England on 7th November, 2022[45] provides a good explanation of the risks of leverage.

5.4 Next consider another quote from *Hammersmith and Fulham*:

"A local authority which borrowed in reliance on future successful swap operations would be failing in its duty to act prudently in the interests of the ratepayers."[46]

5.5 And finally from evidence to the Work and Pensions Committee:

"There is a world of difference between Liability Driven Investment and "Leveraged LDI" – and it is Leveraged LDI, not vanilla LDI, which caused last year's apparent meltdown.

LDI is just jargon for matching pension assets and liabilities, which Boots pioneered 20 years ago. As well as switching from equities to long-dated bonds, including index-linked, interest-rate swaps can also be used to improve matching, especially inflation matching, again as Boots pioneered 20 years ago.

Hedging pension liabilities reduces risk for scheme members, the sponsoring company, the PPF — which pays compensation if a sponsor goes bust — and the financial system as a whole.

[42] The corresponding Recital in the IORP I Directive is Recital (31).
[43] The corresponding Recital in the IORP I Directive is Recital (33).
[44] Ie that the pension scheme's cash payments out generally highly predictable and so scheme would not, unexpectedly, be required to be a forced seller of potentially illiquid investments to raise cash at short notice. Pension schemes using LLDI were forced sellers of gilts to raise cash (crashing the gilt market and requiring Bank of England intervention) after the 23 September 2022 "mini budget".
[45] https://www.bankofengland.co.uk/speech/2022/november/sarah-breeden-speech-at-isda-aimi-boe-on-nbfi-and-leverage.
[46] *Hazell v. Hammersmith and Fulham London Borough Council* [1992] 2 A.C. 1, per Lord Templeman at page 29.

But with "Leveraged LDI", a pension scheme is effectively borrowing to buy assets which don't match liabilities — equities, PE, hedge funds, property — a bet that their value will increase more than the value of liabilities. This is pure speculation."[47]

M. A reminder of the rules on interpreting UK legislation transposing EU directives

1. The EU law requirement

1.1 As to the rules on interpreting domestic legislation transposing an EU Directive, the position is summarised by the ECJ in *Pfeiffer*[48]*:*

> *"113.Thus,* ***when it applies domestic law, and in particular legislative provisions specifically adopted for the purpose of implementing the requirements of a directive, the national court is bound to interpret national law, so far as possible, in the light of the wording and the purpose of the directive concerned in order to achieve the result sought by the directive*** *and consequently comply with the third paragraph of Article 249 EC (see to that effect, inter alia, the judgments cited above in Von Colson and Kamann, paragraph 26; Marleasing, paragraph 8, and Faccini Dori, paragraph 26; see also Case C-63/97 BMW [1999] ECR I-905, paragraph 22; Joined Cases C-240/98 to C-244/98 Océano Grupo Editorial and Salvat Editores)".*
>
> ***(emphasis added)***

1.2 **Section L5** above considers the purpose of the IORP Directive restrictions on borrowings and on the use of derivatives and identifies a clear member protection purpose. Note also the reference to "low liquidity risks" in Recital (48).

2. The approach of the English courts

2.1 Turning now to the recognition of this EU law requirement by the English Courts, this is what Briggs J (as he then was) said in *Lehman Brothers International (Europe) (in administration)*[49]:

> *"56. It is, equally, common ground that domestic legislation such as CASS7 which is made for the purpose of fulfilling the requirements of EU law contained in a Directive must be interpreted in the light of the meaning and purpose of the Directive. For that purpose the court may need to adopt a two stage approach, the first of which consists of interpreting the Directive, and the second of which consists of interpreting the domestic legislation in the light of the meaning of the Directive, thus interpreted: see generally HMRC v. IDT Card Services [2006] EWCA Civ 29. The first stage may require reference to different language texts of the Directive, to relevant travaux préparatoires and to any relevant decisions of the ECJ. In the present case, no ECJ decisions have been relied upon, and subject to one point to which I shall return, the travaux préparatoires added little to that which can be gained from the relevant parts of the text of the two Directives, read in their context. Mercifully, no-one suggested that enlightenment would flow from considering non-English texts.*

[47] Written evidence in letter dated 12th December, 2022 from John Ralfe to the Work and Pensions Committee: https://committees.parliament.uk/writtenevidence/114249/pdf/ .
[48] ECJ 5 October, 2004 C-397/01.
[49] [2009] EWHC 3228 (Ch) 15 December 2009, [2010] BCLC 301.

57. At the second stage, the relevant domestic legislation must be interpreted in accordance with the following principles:

i) it is not constrained by conventional rules of construction;

ii) it does not require ambiguity in the legislative language;

iii) it is not an exercise in semantics or linguistics;

iv) it permits departure from the strict and literal application of the words which the legislature has elected to use;

v) it permits the implication of words necessary to comply with the Community law obligations; and

vi) the precise form of the words to be implied does not matter.

See Vodafone 2 v. HMRC [2009] EWCA Civ 446 at paragraph 37.

58. Nonetheless, the breadth of the obligation to construe in accordance with Community law obligations is constrained by the following requirements:

(a) The ascertained meaning should "go with the grain of the legislation" and be "compatible with the underlying thrust of the legislation being construed". It should not be inconsistent with a fundamental or cardinal feature of the legislation since this would cross the boundary between interpretation and amendment.

(b) The exercise of the interpretative obligation cannot require the court to make decisions for which it is not equipped, or give rise to important practical repercussions which the court is not equipped to evaluate.

See Vodafone 2 (supra) at paragraph 38."

2.2 I would draw out the point that there is broad harmony between the ECJ interpreted EU law requirement (see *Pfeiffer* para 113 – at **1** above) and the rules set out by Briggs J in *Lehman* at paras 56-58 – at **2.1** above.

2.3 I would note that:

- there are no ECJ cases on the meaning of the IORP I Directive, Article 18 or the IORP II Directive, Article 19,
- I have found nothing of particular relevance in the *travaux préparatoires*, but
- I have not looked at either Article in other languages.

3. Position in the Netherlands

3.1 In the Netherlands, Dutch pension funds are not allowed to enter into repos as the seller of the asset which they will buy back except for temporary liquidity purposes. In the words of Professor W.A.K Rank, a lawyer at leading Dutch law firm NautaDutilh and Professor of Financial Law at the University of Leiden:

"In principle, a pension fund is not allowed to take out loans and can therefore only enter into repo transactions as a seller on a limited scale."[50]

3.2 It is also worth drawing out that, for Dutch industry wide pension schemes, if, as at a valuation date, the funding level is below the required level, future increases to accrued pensions and to pensions in payment must be reduced or not made. If necessary, pensions in payment and accrued pensions can also be reduced to balance the books[51].

3.3 So, unlike the UK, it appears that the use of Leveraged LDI is less likely to arise (and cannot be done using repos).

4. Accounting for repos in the US

4.1 It is also worth noting that repos are generally accounted for as borrowings in the US but not in the UK. This accounting treatment difference lay behind the "Repo 105" transactions used by Lehman to enhance its balance sheet presentation and was based on an English law opinion that a repo was not secured borrowing[52].

4.2 However, the point I would emphasise is that this English law analysis does not apply to domestic legislation transposing an EU Directive with a purpose of prohibiting borrowings (other than for temporary liquidity purposes) to protect members' pensions.

4.3 The US accounting treatment also reinforces the recognition that repos are a form of secured borrowing in economic terms.

5. And another quote from Hammersmith and Fulham

5.1 In *Hammersmith and Fulham* Lord Templeman, drawing out the risk point, said:

"The Court of Appeal were impressed by the argument that if swap transactions were unlawful a local authority could not take advantage of reductions in interest rates. But the success of swaps depends on a successful forecast of future interest rates. The power of a local authority to choose between long-term and short-term borrowings and to choose between variable and fixed interest rates, and the power of a local authority to borrow from the P.W.L.B. on favourable terms and to change from variable to fixed rates of interest and the power of the local authority to replace a borrowing with another borrowing, provide opportunity for the local authority to consider whether the overall rate of interest paid by the local authority is reasonable and is protected against volatility of interest rates. The greater the volatility of interest rates, the greater the risk of loss to a local authority as a result of swap transactions. Despite the urgings of counsel for the banks to the contrary, it seems to me there are substantial risks. There is no evidence that local authorities which have abstained from the swap market have forfeited substantial profits. These are all matters for Parliament to consider and the banks are not debarred from impressing upon

[50] https://www.financialinvestigator.nl/l/en/library/download/urn:uuid:ab3ed437-0f45-40f0-8bb9-0d8baa82cea9/fi-1+2021+-+column+pim+rank.pdf (translation by Google Translate).

[51] For more details see Bennett, Philip and Meerten, Hans Van, Apples and Oranges: A Comparison of the Key Features of the Legislative and Regulatory Framework for UK and Dutch Defined Benefit Pension Schemes (Including Dutch CDC Schemes) (4 April 2018). : https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3163137 .

[52] https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=1002&context=journal-of-financial-crises is one example of an article on this topic.

Parliament the advantages to local authorities of a power to enter into swap transactions."[53]

5.2 And there is no evidence that local government pension funds that have abstained from Leveraged LDI have forfeited substantial profits:

"*Fortunately, LDI is largely absent from LGPS investment strategies. We have always questioned its role for a long-term, open- ended scheme, largely based on the benefits not justifying the significant costs and risks. However, the recent extreme volatility provides an opportunity to reassess this view.*"[54]

N. Conclusion on repos

1. Preliminary conclusion

1.1 It follows from **Sections K, L** and **M** above, that, in the author's view, the words "*must not borrow money*" in Regulation 5, using the interpretive rules for construing domestic legislation transposing an EU Directive, should, on a preliminary conclusion, be construed as *"must not borrow (whether in legal or economic terms) money"*.

1.2 Otherwise the restriction on borrowing (and the protection for members' pensions which the IORP Directive borrowing restriction was intended to provide) can be completely and easily circumvented – to the tune of in excess of £64 billion- to engage in a long/short interest rate speculation.

1.3 Such a conclusion remains consistent with repos not being treated as secured borrowing for the purpose of the Financial Collateral Directive[55] and the Financial Collateral Arrangements (No 2) Regulations 2003.

1.4 It is consistent with the interpretation in the Netherlands.

1.5 If this preliminary conclusion is correct, are there defences and counter arguments?

2. The first 3 defences

2.1 **Schemes with fewer than 100 members**

One clear defence is that Regulation 5 does not apply to schemes with fewer than 100 members (and this exemption is consistent with the exemption in Article 5 of the IORP II Directive).

2.2 **The temporary liquidity purpose exception**

The second defence is that the repo normally only lasts for up to 12 months. So it is temporary. But, if its purpose was to borrow to invest in assets, eg 20 year gilts, with the expectation that the repo would be rolled at least every year, it is not providing liquidity for the scheme. It does not satisfy the requirements in Regulation 5(2) or IORP II, Article 19(3).

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[53] *Hazell v. Hammersmith and Fulham London Borough Council* [1992] 2 A.C. 1, per Lord Templeman at page 35.

[54] Hymans Robertson Briefing Note: LDI in the LGPS: https://www.hymans.co.uk/media/uploads/Briefing_Note_-_LDI_in_the_LGPS.pdf .

[55] Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0047 .

It is possible to hypothesise a fact pattern where an employer contribution was payable within 12 months and the repo was being used pending receipt of that contribution - but this fact pattern does not account for in excess of £64 billion of repo borrowings.

So, this defence will not apply (absent very specific (and probably non-existent) fact patterns).

2.3 **Repos are really derivatives?**

The "get out of jail card" here would be to argue that repos are, in fact, derivative instruments and are therefore authorised investments under the 2005 Investment Regulations, Regulation 4(8), but subject to the discussion and conclusions in **Section O** and **Section P** below.

Indeed the Pensions Regulator's DB Scheme Investment Guidance says in one part that derivatives include repos:

"Derivatives, such as interest rate or inflation rate swaps, gilt repurchase arrangements (gilt 'repo') etc, can be used to match liability or cash flow characteristics more closely. They can also, through the use of leverage, provide increased exposure to interest and inflation rates and reduce the proportion of the scheme's assets that need to be held in the matching asset portfolio to achieve a given level of matching. This type of approach is known as LDI"[56]

But then it says in another part:

""Derivatives"

- *An arrangement or product (such as a future, option, or warrant) with a value derived from and dependent on the value of an underlying asset, such as a commodity, currency, or security."*[57]

The definition of derivative instrument in the 2005 Investment Regulations, Regulation 4(11) takes you to the Financial Services and Markets Act 2000 (Regulated Activities) Order 2001, Schedule 2, Part I, paragraphs (4)-(10).

In the context of gilt repos, only paragraph 4 is potentially relevant:

"*Options, futures, swaps, forward rate agreements and any other derivative contracts relating to securities, currencies, interest rates or yields, or other derivatives instruments, financial indices or financial measures which may be settled physically or in cash*;"[58]

A repo could only fit within paragraph 4 as "any other derivative contract". What you sell the gilt at under the repo agreement is the price of the gilt in the market less the cost to the buyer of borrowing money in the interbank market for the term of the repo contract - not more than 12 months (eg 3, 6, 9 or 12 month LIBOR or SONIA) - and the buyer's margin. But that price is

[56] https://www.thepensionsregulator.gov.uk/en/document-library/scheme-management-detailed-guidance/funding-and-investment-detailed-guidance/db-investment/matching-db-assets .
[57] https://www.thepensionsregulator.gov.uk/en/document-library/scheme-management-detailed-guidance/funding-and-investment-detailed-guidance/db-investment/#dd1694105aa041c0a8320870e5dbbc81 .
[58] https://www.legislation.gov.uk/uksi/2001/544/schedule/2 .

just the adjusted price of the gilt. What you buy back is the same (but fungible) gilt you sold at the same price (excluding the deduction). It is derivative of nothing. A bank may price a mortgage loan of base rate or of swap rates, but that does not convert a mortgage loan into a derivative.

I have left out the initial collateral and top up collateral elements and the accounting for interest being earned on the gilt back to the seller. But, those elements do not change the analysis.

There is no definition of derivative instrument in the IORP II Directive.

A trawl through the relevant EU legislation on the definition of derivative instrument could start at Article 2 of EMIR[59] which takes you to MiFID[60], at Annex I, Section C and to Regulation (EC) No 1287/2006[61], Articles 38 and 39. This is the same definition as adopted in the Regulated Activities Order, Schedule 2, Part I (see above) in its transposition of MiFID.

So this defence fails. Even it it succeeded, it would be subject to the discussion and conclusions in **Section O** and **Section P** below on derivatives.

3. Saved by Brexit?

3.1 Is there a "Brexit dividend" that provides a "get out of jail card" by abolishing the interpretative rule referred to in **Section M** or by reclassifying Regulations 4 and 5 of the 2005 Investment Regulations as not being retained EU law and to be interpreted using purely domestic rules of interpretation?

3.2 No. The European Union (Withdrawal) Act 2018 (as amended), Section 2 saves "EU derived domestic legislation":

"2 Saving for EU-derived domestic legislation

*(1) **EU-derived domestic legislation**, as it has effect in domestic law immediately before IP completion day[62], continues to have effect in domestic law on and after IP completion day.*

(2) . . . . . .

*(3) This section is subject to section 5 and Schedule 1 (exceptions to savings and incorporation) and section 5A (savings and incorporation: supplementary)". (**emphasis added**)*

3.3 **EU derived domestic legislation** is defined in Section 1B[63] as:

*"(7) In this Act "**EU-derived domestic legislation**" means any enactment so far as—*

(a) made under section 2(2) of, or paragraph 1A of Schedule 2 to, the European Communities Act 1972,

(b) passed or made, or operating, for a purpose mentioned in section 2(2)(a) or (b) of that Act,

[59] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0648&from=EN .
[60] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32004L0039&from=EN .
[61] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006R1287 .
[62] 11pm on 31 December 2020 – see European Union (Withdrawal) Act 2018 (as amended), Section 1A(7) and the European Union (Withdrawal Agreement) Act 2020, Section 39(1)-(5): https://www.legislation.gov.uk/ukpga/2020/1/section/39 .
[63] As inserted by the European Union (Withdrawal Agreement) Act 2020.

(c) relating to—

(i) anything which falls within paragraph (a) or (b), or

(ii) any rights, powers, liabilities, obligations, restrictions, remedies or procedures which are recognised and available in domestic law by virtue of section 2(1) of the European Communities Act 1972, or

(d) relating otherwise to the EU or the EEA,

*but does not include any enactment contained in the European Communities Act 1972 or any enactment contained in this Act or the European Union (Withdrawal Agreement) Act 2020 or in regulations made under this Act or the Act of 2020." **(emphasis added)***

3.3 The 2005 Investment Regulations fall fairly and squarely within the definition of EU derived domestic legislation[64].

3.4 The European Union (Withdrawal) Act 2018 (as amended), Section 5(2) says:

*"(2) Accordingly, the principle of the supremacy of EU law continues to apply on or after IP completion day so far as relevant to **the interpretation**, disapplication or quashing of any enactment or rule of law passed or made before IP completion day." **(emphasis added).***

3.5 Section 5(2) must be read subject to Section 5(6) which says that Schedule 1 to the European Union (Withdrawal) Act 2018 (as amended) makes further provision about exceptions to savings and incorporation of retained EU law. However, no help is to be found in Schedule 1.

3.6 It is worth drawing out the point that general principles of EU law are different from the principle of supremacy of EU law (compare Schedule 1, paragraph 3 and paragraph 5).

3.7 This is consistent with the Explanatory Notes on the EU (Withdrawal) Act 2018, paragraphs 18-24, paragraphs 58, 62, 63 -65, paragraphs 75-80 (specific commentary on Section 2), paragraphs 100-105 (specific commentary on Section 5) and paragraphs 208- 215[65].

3.8 Equally, it must be remembered that, if the interpretative tools available to the English court are not sufficient to construe the domestic legislation in a way required to give effect to a Directive, then the Directive does not have horizontal direct effect conferring a right to bring a claim for breach of the Directive against anyone who is not the state or an emanation of the state[66]. This crosses the boundary from interpretation to amendment.

3.9 It is also worth noting that the meaning of the restriction on borrowing in Article 19(3) of the IORP II Directive can no longer be referred to the ECJ. Instead it will fall to the UK courts to decide on the correct meaning applying

[64] See **Section L4** above.
[65] https://www.legislation.gov.uk/ukpga/2018/16/pdfs/ukpgaen_20180016_en.pdf .
[66] See, for example, Foster v British Gas, C-188/89 a decision of the ECJ on 12 July 1990: https://eur-lex.europa.eu/resource.html?uri=cellar:25fe3bbf-de00-4877-8c0d-7cddc1035195.0002.03/DOC_1&format=PDF .

the required interpretative rule (which derives from retained EU case law) set out in **Section M1** above[67].

4. What about the Retained EU Law (Revocations and Reforms) Act 2023?

4.1 Is help at hand in the Retained EU Law (Revocations and Reforms) Act 2023 which received Royal Assent on 29th June, 2023?

4.2 This Act does not amend or revoke the 2005 Investment Regulations and does not get rid of that pesky retained EU law rule on interpretation of domestic legislation set out in **Section M** above[68].

4.3 Furthermore, Section 22(5) of the Act says:

"Sections 2, 3 and 4 do not apply in relation to anything occurring before the end of 2023."

4.4 So, my conclusion is that the Act does not provide a defence for anything done before 1st January, 2024. But, it should be kept under review and it may be necessary to consider issuing proceedings before 1st January, 2024.

O. What about derivatives (interest rate swaps)?

1. Where does the restriction come from?

1.1 The restrictions on the use of derivatives come from the IORP I Directive, Article 18(1)(c) now to be found in the IORP II Directive, Article 19(1)(e) which says:

"*investment in derivative instruments shall be possible insofar as such instruments contribute to a reduction in investment risks or facilitate efficient portfolio management. They must be valued on a prudent basis, taking into account the underlying asset, and included in the valuation of an IORP's assets. IORPs shall also avoid excessive risk exposure to a single counterparty and to other derivative operations".*

1.2 There is no substantive difference between Article 19(1)(e) and Article 18(1)(c).

2. Transposition into domestic law

This requirement is transposed into English law by the 2005 Investment Regulations 2005, Regulation 4(8):

"Investment in derivative instruments may be made only in so far as they:

[67] See European Union (Withdrawal) Act 2018 (as amended), Section 6(3)(a). Note that the UK Supreme Court and Court of Appeal can depart from, for example, the interpretative rule set out in **Section M1** above using the same approach as they would use to depart from rules of law deriving from their prior decisions. But, to do so would be, in my view, a most remote possibility given the consequences.

[68] Section 3, 4 and 5 of the Retained EU Law (Revocations and Reforms) Act 2023 do not remove the requirement on UK courts to interpret domestic legislation in line with retained EU case law as set out in the European Union (Withdrawal) Act 2018 (as amended), Section 6(3)(a) but with the right for the UK Supreme Court and Court of Appeal to depart from that case law. This conclusion is consistent with Explanatory Notes 33-37 for what is now the 2023 Act: https://publications.parliament.uk/pa/bills/cbill/58-03/0156/en/220156en.pdf . However, the power to set aside retained EU legislation (see the amendment to the European Union (Withdrawal) Act 2018 (as amended), Section 5 made by Section 3 of the Retained EU Law (Revocations and Reforms) Act 2023) where an interpretative solution cannot be found for incorrect transposition, appears to have been removed from the end of 2023 (see Section 3 but also the saving provision in Section 22(5)).

(a) contribute to a reduction of [investment] risks; or

(b) facilitate efficient portfolio management ***(including the reduction of cost or the generation of additional capital or income with an acceptable level of risk)****,*

and any such investment must be made and managed so as to avoid excessive risk exposure to a single counterparty and to other derivative operations."

(added text on transposition in red and omitted text from Article 19(1)(e) in purple).

3. Transposition differences

3.1 There are two key transposition differences to draw out:

- first the omission of the word "investment" before risks, and
- second the addition of the words "(including the reduction of cost or the generation of additional capital or income with an acceptable level of risk)".

3.2 Without these transposition differences, Leveraged LDI using interest rate swaps would, on even a simple literal interpretation, not be permitted.

3.3 Under Leveraged LDI derivatives are not being used to reduce investment risk. Instead they were being used to reduce the risk, that, as at a valuation date, there would be a deficit because of a reduction in the discount rate derived by reference to the yield on long dated gilts (see earlier discussion in **Sections B-E** above). But if the yield on long dated gilts rises, they have the consequence of increasing risk in the pension scheme of not being to pay the scheme's benefits as and when they fall due.

3.4 Under Leveraged LDI, derivatives are not facilitating efficient portfolio management. They are no more than a long/short interest rate speculation amounting to a one way bet on short term interest rates remaining low (or continuing to fall) for 20 or more years.

3.5 The words of the Pension Regulator's guidance set out at **Section E1** above are telling:

- "*The adviser also recommends that the LDI portfolio should be constructed using:*
- *a bespoke bond portfolio, ie a portfolio of bonds that better reflects the profile of the scheme's liabilities compared to the current bond holdings which are based around common industry benchmarks*
- *interest rate and inflation rate swaps, as these derivative instruments would allow the introduction of a* ***limited amount of leverage (on average two times)*** *to enable a greater reduction in* ***liability risk****". (emphasis added)*

4. How does an interest rate swap work?

4.1 The pension scheme trustees wish to reduce the risk of a valuation deficit if long term interest rates continue to fall (because the trustee derives the discount rate for establishing the scheme's technical provisions, as a valuation date, from the yield on long dated gilts).

4.2 They enter into a 20 year interest rate swap with a counterpart bank by reference to a notional principal amount of £100 million. The (simplified) terms of the swap are:

- the trustee will pay an amount on the agreed date determined by reference to the 1 year LIBOR/SONIA interest rate to the bank each year for 20 years (the **floating leg**). Note this rate is reset every year during this period by reference to the then prevailing 1 year LIBOR/SONIA interest rate.
- the bank will pay the trustee every year on the agreed date a fixed rate of interest derived from, for example, the 20 year gilt yield at inception of the swap (the **fixed leg**).
- the amounts due from and to the trustee and the bank are netted so that only the balance is payable on the agreed date.
- if the amount due on the fixed leg exceeds the amount due on the floating leg, on the agreed date the bank pays the net amount to the trustee.
- if the amount due on the floating leg exceeds the amount due on the fixed leg, on the agreed date the trustee pays the net amount to the bank.

4.3 At inception of the swap, the discounted value of the income stream on the fixed leg equals the discounted value of the expected income stream on the floating leg as at inception (an initial payment may need to be made so that both legs have the same value). The swap is "at the money". These present values are derived from the market prices of the income streams on each leg at the time in question.

4.4 As the buyer of "protection" the trustee holds the fixed leg and the bank, as seller, holds the floating leg.

4.5 Under the swap agreement both legs are revalued regularly and frequently at agreed valuation points.

4.6 If the present value, as at a valuation point, of the fixed leg exceeds that of the floating leg, then, subject to any *de minimis* levels, the bank is required, under the swap agreement, to "post" eligible collateral, within the agreed time for doing so, to the trustee. The fixed leg is "in the money".

4.7 If the present value, as at a valuation point, of the floating leg exceeds that of the fixed leg, then, subject to any *de minimis* levels, the trustee is required, under the swap agreement, to "post" eligible collateral, within the agreed time for doing so to, the bank. The fixed leg is "out of the money"

4.8 The purpose of the requirement to post eligible collateral promptly is to reduce credit risk.

4.9 The swap agreement will specify what collateral is "eligible". Cash will be eligible and the parties may have agreed that a range of other assets will be

eligible subject to a "haircut". Like a repo, the collateral is returnable if not needed and, like a repo, is fungible. The recipient of the collateral has a contractual obligation under the swap agreement, like a repo, to make payments corresponding to the income on the collateral posted to the party posting the collateral.

4.10 A point to draw out is that, if short term interest rates increase, the trustee:

- is bleeding cash on the swap to the bank, and
- has to find and post eligible collateral to the bank.

4.11 Conversely if short term interest rates fall, the pension fund is receiving cash and eligible collateral.

4.12 The 2005 NAPF Guide to swaps made simple[69] (at page 8/9) says (on using interest rate swaps to match duration- see also **Section B** above):

"One way in which swaps can impact the assets of a pension scheme is to increase the duration of the bond portfolio. But, why would the pension fund want to increase its sensitivity to moves in interest rates by participating in an interest-rate swap?

A pension fund's liabilities are generally much more sensitive to interest rates than are its assets. The swap brings them in line. In short, by participating in an interest-rate swap and increasing its asset duration (its sensitivity to interest-rate movements), the pension fund is able to match its long-term liabilities more closely.

In order to determine the sensitivity of a pension fund's future liabilities to rates, the future liabilities must be discounted to their present value. Interest rates have an inverse relationship to present value.

As such, as interest rates rise, the present value falls, meaning that the pension fund's liabilities will decrease. Conversely, if interest rates were to fall, then the pension fund's liabilities would increase. The longer the duration of the liabilities, the faster the present value of the liabilities will change when rates change.

By adding interest-rate swaps to a pension portfolio, thereby ensuring that the assets and liabilities have the same level of sensitivity to interest rate movements, and therefore rise and fall in value at the same rate (as rates change), a fund can be said to be duration matched. In other words, interest-rate swaps facilitate asset-liability duration matching."

4.13 A point to draw out from this explanation is the unfortunate conflation of:

- the scheme's liability to pay pensions as and when they fall due,

with

- its technical provisions,

as explained in **Section B2** above.

4.14 Swaps being used for duration matching where the scheme is in deficit are using Leveraged LDI not to reduce investment risk or for efficient portfolio

[69] https://www.actuaries.org.uk/system/files/documents/pdf/swapsmadesimple.pdf.

management purposes but to reduce the risk that the scheme's technical provisions will increase as at a valuation date when interest rates fall.

P. Conclusion of using derivatives for Leveraged LDI

1. Preliminary conclusion

1.1 Using the required interpretative approach (see **Section M**), it is not difficult to read the words:

- "reduction of risks" as, within its context, being limited to investment risks,
- " efficient portfolio management" as limiting the breadth of the words that follow. Why is it efficient portfolio management to use derivatives to reduce the risk that the scheme's technical provisions will increase as at a valuation date when interest rates fall?
- "(including … the generation of ….. additional income with an acceptable level of risk) as not permitting leverage though the use of interest rate swaps. And, in any event is 4 x leverage an acceptable level of risk?

1.2 Swaps being used for this purpose do not appear to be permitted by Article 19(1)(e) of the IORP II Directive or, if interpreted in a manner consistently with the IORP II Directive, Article 19(1)(e), by the 2005 Investment Regulations, Regulation 4(8).

1.3 A point I would like to emphasise is that other types of swaps are permitted where used to contribute to the reduction of investment risks; for example to hedge currency risk.

2. Defences and counter arguments

The defences and counter arguments in **Section N** above apply (including for schemes with fewer than 100 members) with the necessary changes. But the (theoretical) temporary liquidity defence for use of repos does not apply.

3. Point to think about on Type B LDI

3.1 There is also a question to be considered further about whether Type B LDI (see **Section B1** above) is permitted by the IORP II Directive, Article 19(1)(e).

3.2 On the face of things, using interest rate swaps to reduce the risk that the scheme's technical provisions will increase as at a valuation date when interest rates fall, does not appear to be permitted following the line of interpretation of Regulation 4(8) argued for in this paper.

4. What happens if current interest rates increase to 10% and remain at that level for 10 years?

4.1 Let us assume that a scheme has substantial exposure to long dated (20 year +) interest rate swaps via LDI or Leveraged LDI entered into at a time when, say, the fixed leg of the swap was based on 5% pa. Consider next the question of what impact that would have on the scheme's ability to pay

pensions as and when they fall due if short term interest rates (ie the floating leg) increase substantially.

4.2 The scheme would be paying a large net amount to the counterparty bank which would reduce the net investment return on the scheme's assets. In addition, it would have to find and post substantial eligible collateral.

4.3 Consider next the question: "Surely it is impossible for current interest rates to increase to 10% and remain at that level for 10 years?" The chart below shows that exactly that (and some) happened to base rate for the period 1979- 1987 (and does not show the increases to base rate which started in 2022).

4.4 Of course, the usual comment about past performance being no guide to the future applies. But pension schemes have, in general, time horizons measured in decades. And base rate rose from 0.5% in January 2022 to 5% on 22nd June, 2023.

Q. <u>What happens if leveraged LDI using repos is ultra vires?</u>

1. <u>Are trustees liable for the loss sustained?</u>

1.1 The restriction on borrowing imposed by the Pensions Act 1995, Section 36A and the 2005 Investment Regulations, Regulation 5, have no penalty specified.

1.2 The purpose of the borrowing restriction is to protect the members of the Pension Scheme.

1.3 The trustee would have committed a breach of statutory duty giving rise to a claim in tort. There is a separate question of how to quantify the level of damages and whether, in a solvent defined benefit scheme, the members have suffered any loss. In contrast, the employer who has to make up any the shortfall in the scheme can quantify a loss. But the employer may have encouraged the trustee board to engage in Leveraged LDI.

1.4 Furthermore, the trustee's (I have assumed express) power in the scheme's trust deed to engage in repo transactions (other than for temporary liquidity purposes) will have been overridden by virtue of the Pensions Act 1995, Section 117 (see **Section L3** above). As the prohibition/limitation on borrowing in Regulation 5 overrides the trustee's power to borrow in the trust deed , it would follow that the trustee would also be liable for breach of trust by acting outside its powers (or acting ultra vires).

1.5 Any exculpation or indemnity provisions in favour of the trustee in the scheme's trust deed and rules would also appear to be overridden.

1.6 The borrowing was being done as part of the exercise of the trustee's investment functions and so falls within the provisions of Section 33 of the Pensions Act 1995.

1.7 In the case where the trustee of the pension scheme is a sole corporate trustee, it may be that an indemnity in favour of its directors would survive by being a qualifying pension scheme indemnity provision for the purposes of the Companies Act 2006, Section 235.

2. <u>Are the LDI Managers liable for the loss sustained?</u>

2.1 The liability of the LDI Managers would appear to be based, as a minimum, on a breach of statutory duty.

2.2 However, a more detailed analysis of the position is outside the scope of this paper.

3. <u>What about the position of the repo counterparty banks?</u>

3.1 On the basis that the repo transactions would be outside the powers of the trustee (by virtue of the interaction between the 2005 Investment Regulations, Regulation 5, and the Pensions Act 1995, Section 117), this brings us back to reviewing the law in this area where the local authority interest rate swap case of *Hazell v Hammersmith and Fulham LBC*[70] is a good starting point.

3.2 There is an overview of this and the associated cases in the Wikipedia entry[71]. However, a more detailed analysis of the position is outside the scope of this already over long paper.

[70] [1992] 2 AC 1.

[71] https://en.m.wikipedia.org/wiki/Hazell_v_Hammersmith_and_Fulham_LBC#:~:text=Hazell%20v%20Hammersmith%20and%20Fulham%20LBC%20%5B1992%5D%202%20AC%201,all%20the%20contracts%20were%20void .

4. What about those giving legal opinions on the validity of repo transactions?

4.1 The position here will be highly fact sensitive.

4.2 However, it may well be the case that the person giving the legal opinion was not given sufficient information about the proposed transaction to have been put in a position to advise on the economic borrowing point.

4.3 In this context, it is worth looking at the evidence in 2022 of Professor David Blake to the Work and Pensions Select Committee on its inquiry into defined benefit pensions with liability driven investment available at this link: https://committees.parliament.uk/writtenevidence/113881/pdf/ .

4.4 Professor Blake's evidence draws out the point about the complex and multi-disciplinary nature of pension scheme funding and the reliance that each of the advisers expert in his or her field would place on the other without necessarily being aware of the bigger picture.

5. What about a defence based on relying on the Pension Regulator's guidance.

5.1 It could be argued that reliance could be placed on the Pension Regulator's DB investment guidance on liability driven investment. See example 14 set out in **Section E1** above.

5.2 The guidance contains no disclaimer against reliance on it.

5.3 Furthermore, the survey referred to at **Section J** above demonstrates that it was common practice for pension schemes to use repos and derivatives on a large scale and their use was well known to the Pensions Regulator who took no action.

5.4 However, it is worth noting that, while the Pension Regulator's guidance may have persuasive authority, it is not determinative of the law:

"524 I accept that guidance from tPR is something which I can and should take account of in construing the legislation. But it is important to understand what is meant by "persuasive authority" in this context. Let me quote Lloyd-Jones J in Chief Constable of Cumbria v Wright at [17]:

> *[17] It is, of course, for the courts and not the executive to interpret legislation. However, in general, official statements by government departments administering an Act, or by any other authority concerned with an Act, may be taken into account as persuasive authority on the legal meaning of its provisions. That is the principle stated by Bennion —, Statutory Interpretation—, 4th ed (2002), section 232. In the present case we are concerned with guidance published by the Home Office, which is the government department which had responsibility for the enactment and operation of the legislation in question. In any given case, it may be helpful for a court to refer to the guidance in the interpretation of the legislation. It may be of some persuasive authority. However, to my mind that is the limit of its influence. It does not differ in that regard from a statement by an academic author in a textbook or an article. It does not enjoy any particular legal status. There seems to me to be no satisfactory basis for the submission*

that it gives rise to a presumption that the views it contains are correct and should be rejected only for good reason."

……

"526 In all the circumstances of the present case, I feel able to attach only the slightest weight to the views of tPR. I would be comforted, if I were to reach the conclusion that Regulation 6(4) is dealing with active members of the scheme, that my conclusion concurred with the view of the tPR. But I would have no sense of anxiety if my conclusion were to differ from that view."[72].

5.5 And back to *Hammersmith and Fulham* (or it is not OK even if everyone is doing it):

"But while a court has jurisdiction to sanction any transaction which the settlor could have authorised and which all beneficiaries being sui juris could sanction, the court has no jurisdiction to extend the powers conferred on a corporation by Parliament or to approve an unlawful transaction by a corporation. The Court of Appeal in the instant case summarised the authorities cited by Miss Gloster by way of analogy and observed [1990] 2 Q.B. 697, 794 that:

"it is sometimes necessary to accept that 'What's done is done' and, even if it should not have been done, the law should lean in favour of such solution as enables the situation to be so far as possible rectified with minimum loss and inconvenience to all involved."
The Court of Appeal therefore held that the interim strategy transactions were lawful. I do not believe that the Court of Appeal would have reached the same conclusion if they had not, erroneously in my opinion, already held that a swap transaction which is a parallel contract was within the power of a local authority. No authority is needed for the proposition that the law should lean in favour of such lawful solution as enables the situation to be so far as possible rectified with minimum loss and inconvenience to all involved. ***No authority satisfies me that the law should lean in favour of such unlawful solution as enables the situation to be so far as possible rectified with minimum loss and inconvenience to all involved.*** *Accordingly swap transactions undertaken during the period of the interim strategy are no different from swap transactions entered into at any earlier period."*[73] ***(emphasis added)***

R. What happens if Leveraged LDI using derivatives is ultra vires?

1. Are trustees liable for the loss sustained?

1.1 In relation to a claim based on breach of statutory duty, the position differs from that in **Section Q1** above in the sense that a breach of Regulation 4 has a civil penalty (under Section 10) prescribed under Section 36 of the Pensions Act 1995.

1.2 On this basis, a claim based on breach of statutory duty may fail (on the basis that Parliament intended that the penalty should be a sufficient deterrent)[74].

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[72] Warren J in *PNPF Trust Co Ltd v Taylor* [2010] EWHC 1573 (Ch) at paras 524 and 526.

[73] *Hazell v. Hammersmith and Fulham London Borough Council* [1992] 2 A.C. 1, per Lord Templeman at pages 38 and 39.

[74] See, in a pensions context, *IBM United Kingdom Holdings v. Dalgleish* [2014] EWHC 980 (Ch) at paras 1554 and 1555.

1.3 However, a claim based on breach of trust on the grounds outlined in **Section Q1** above remains valid.

2. Are the LDI Managers liable for the loss sustained?

The same position as in **Section Q2** above applies. Note that no civil penalty is imposed on the LDI Manager under Section 36 of the Pensions Act 1995.

3. What about the position of the derivative counterparty banks?

The same position as in **Section Q3** above applies.

4. What about those giving legal opinions on the validity of derivative transactions?

The same position as in **Section Q4** above applies.

5. What about a defence based on relying on the Pension Regulator's guidance.

The same position as in **Section Q5** above applies.

S. Where are the bodies buried?

1 The way in which trustees who have engaged in Leveraged LDI (or for that matter Type B LDI) set the discount rate for their next valuations will require careful scrutiny.

2. As noted in **C1** above the discount rate is required by the Occupational Pension Schemes (Scheme Funding) Regulations 2005, Regulation 5(4)(b) (set out in **Section C1** above) to be chosen prudently. But it cannot exceed the expected net return on the scheme's assets.

3. In deciding what the net return will be, it is necessary to form a judgment as to the period of time for which short term interest rates will remain high.

4. And if the scheme assets do not achieve a net return sufficient to equal or exceed the discount rate used to determine the technical provisions, then there will be a deficit which will need to be made up by employer contributions.

5. There is a similar issue in relation to balance sheets of companies whose pension schemes have been engaging in the substantial use of LDI or Leveraged LDI. Again, similar considerations will apply. But with the difference that for the purposes of IAS 19/FRS 102, the discount rate is derived from the yield on AA corporate bonds.

6. But if the best estimate net return on the scheme assets will not exceed the yield on the AA corporate bonds used to determine the scheme's liabilities for IAS 19/FRS 102 purposes, then, on a true and fair view basis, any balance sheet surplus or deficit may prove to be materially incorrect.

T. Honey, I shrunk the surplus[75]

1. I would like to close by looking at the way in which Leveraged LDI has impacted on the group accounts of one company, Tesco plc, which reported its results for the 52 weeks ended 25th February, 2023[76].

2. Note 29 (post-employment benefits) records a group pension scheme surplus at the start of the accounting period (on an IAS 19 basis) of £2.847 billion.

3. At the end of that period, the closing position was a deficit of £394 million.

4. The return on the scheme assets was negative £9.5 billion which was offset by reduction in the present value of the pension scheme liabilities of £7.65 billion as at the balance sheet date.

5. The assets of the pension schemes were £22.39 billion at the start of the accounting period. So the scheme lost approximately 42.5% of the value of its assets (the reduction of £9.5 billion) over the 52 weeks in the accounting period.

6. During this accounting period:

    - The schemes' equity holdings reduced from 20% to 5% of the schemes' assets,
    - the schemes' bond holdings reduced from 26% of the schemes' assets to 9%, and
    - the schemes' LDI portfolio increased from 23% of the schemes' assets to 44%.

7. The reductions in values are far in excess of any that could be attributed to market movements. This suggests that the trustees were forced sellers of equities and bonds measured in billions of pounds to provide collateral for the LDI portfolio.

8. With those assets gone, and the LDI portfolio bleeding cash under the floating leg net of the fixed leg, where is the investment return going to come from to cover the unwinding of the discount rate each year to enable pensions to be paid as and when they fall due? Answer: from the employer.

9. It is also worth noting the taxpayer's contribution. Employer contributions to make good the shortfall will be tax deductible against the profits of the employer. So, for taxable profits, an extra contribution of £1 will benefit from a corporation tax deduction of 25%[77].

10. As to whether there are claims by the employers against the trustees, by the trustees against the counterparty banks, the members against the trustees, or against the investment advisers or LDI Managers, see the earlier discussion and conclusions in this paper.

[75] With apologies to "Honey, I shrunk the kids" : https://en.m.wikipedia.org/wiki/Honey,_I_Shrunk_the_Kids .

[76] https://www.tescoplc.com/media/u1wlq2qf/tesco-plc-annual-report-2023.pdf . Note that these are the published accounts of the corporate employer and not of the pension scheme.

[77] *https://www.gov.uk/government/publications/rates-and-allowances-corporation-tax/rates-and-allowances-corporation-tax* .

U. Some views from other respected authors and sources

1. Listed below are some views from other respected authors on this topic:

   1.1 December, 2023 "*LDI-Gate Anyone?*" by Clifford Simms[78],

   1.2 February, 2023 "*Are leveraged LDI strategies lawful?*" by Richard Salter KC[79],

   1.3 February 2023 "*Repocussions? Legal Claims Arising Out of the LDI Liquidity Crisis*" by Paul Newman KC[80],

   1.4 April 2023 "*Liability Driven Investment – a Victimless "Disaster"* " by Keith Wallace[81], and

   1.5 April 2023 ""*Are leveraged LDI strategies lawful? A rejoinder and request*" by Professor Iain Clacher, Dr Con Keating and the writer of this paper[82].

2. I have considered these views in reaching my conclusions and the points made by those authors have helped in considering lines of argument which I have either directly or indirectly addressed in the paper. Not all of the authors have necessarily considered, or had the opportunity to consider, all of the arguments and points covered in this paper.

3. The 7th February, 2023 House of Lords Industry and Regulators Committee letter on "*The use of Liability Driven Investment Strategies by pension funds*"[83] and the 23rd June, 2023 House of Commons Work and Pensions Committee Report on "*Defined benefit pensions with Liability Driven Investments*"[84] both provide further background and insights.

4. One of the common themes in the articles at **1** above and in the letter and the report referred to at **3** above is doubts over whether Leveraged LDI is not permitted by the 2005 Investment Regulations. I hope the analysis and arguments in this paper will help to lay those doubts to rest.

5. And back to *Hammersmith and Fulham*:

   "There were some doubts as to the ability of local authorities to enter into such transactions, but the local authorities sought the opinion of Anthony Scrivener QC, a leading commercial silk, who had advised that if a "rate swap is undertaken as part of the proper management of the council's fund then ... the swap will be intra vires" [i.e. within the powers of the council

   ....

   "When Mr Scrivener QC was asked to give a further opinion in relation to the matter, having been made better aware of the scale of the activities of Hammersmith, he advised that if one looked at all of the transactions in their totality, one could not say "these transactions were part and parcel of debt management so as to be lawful"."[85]

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[78] https://www.pensionsandbenefits.blog/2022/12/ldi-gate-anyone/ .
[79] 2023 2 JIBFL 71.
[80] https://www.pensionsbarrister.com/post/repocussions-legal-claims-arising-out-of-the-ldi-liquidity-crisis.
[81] http://www.pensions-institute.org/wp-content/uploads/Liability-Driven-Investment-a-Victimless-Disaster.pdf .
[82] 2023 4 JIBFK 219.
[83] https://committees.parliament.uk/publications/33855/documents/185115/default/.
[84] https://committees.parliament.uk/publications/40563/documents/197799/default/.
[85] https://en.m.wikipedia.org/wiki/Hazell_v_Hammersmith_and_Fulham_LBC#:~:text=Hazell%20v%20Hammersmith%20and%20Fulham%20LBC%20%5B1992%5D%202%20AC%201,all%20the%20contracts%20were%20void.

6. Which is most likely the position of any solicitor or barrister previously asked to opine on the legality of Leveraged LDI transactions.

V. Conclusions

1. On the basis of the analysis set out above (and having regard to the views referred to in **Section U** above), my conclusions on Leveraged LDI are:

   - Leveraged LDI using repos is, on a correct interpretation of the 2005 Investment Regulations, Regulation 5, ultra vires the powers of the trustee (except for schemes with fewer than 100 members or for temporary liquidity purposes – highly unlikely to occur in practice).
   - Leverage LDI using derivatives is, on a correct interpretation of the 2005 Investment Regulations, Regulation 4 (8), ultra vires the powers of the trustee (except for schemes with fewer than 100 members).
   - Type B LDI using derivatives looks like it is in the same position as Leveraged LDI.
   - to recycle the words of Lord Templeman: "*But the success of swaps depends on a successful forecast of future interest rates."*[86] . Leveraged LDI does rather look like no more and no less a long/short interest rate speculation with a high degree of risk attaching to it (for example holding 20 year gilts financed by up to 1 year borrowings (or the equivalent in a 20 year interest rate swap)).

2. There are a number of ramifications which flow from these conclusions, some of which are identified in this paper!

[86] *Hazell v. Hammersmith and Fulham London Borough Council* [1992] 2 A.C. 1, per Lord Templeman at page 35.