Unfunded Hedging Strategies: Some Practical Lessons for Asset Owners

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1. The PPF and its investment strategy
2. Liquidity risk
3. Diversifying fund manager risk
4. Counterparty Risk
The PPF

Who are we?

• Public corporation with an independent Board
• Unique organisation within the UK (analogous to Pension Benefit Guaranty Corporation)
• Established in 2005
• A pension fund – or an insurer?

What do we do?

• Pay compensation to members where the corporate sponsor has failed and the defined benefit pension scheme has insufficient assets
• Some reductions apply to scheme benefits:
  – 90% of scheme benefits if under normal pension age
  – Cap of around $55,000
  – Possible loss of pension increases
  – Large part of pensions in payment indexed to CPI capped at 2.5%
  – Pensions in deferment increase in line with CPI capped at 5%
• Over 150,000 existing members
• Around 12 million people protected by us within DB schemes in the UK

www.pensionprotectionfund.org.uk
The PPF investment Strategy:
The current PPF investment strategy seeks to outperform the replicating portfolio through a largely unfunded hedge overlaying a diversified growth portfolio.

<table>
<thead>
<tr>
<th>Year</th>
<th>Inc LDI</th>
<th>Ex LDI</th>
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<tbody>
<tr>
<td>10/11</td>
<td>+7.7%</td>
<td>+4.7%</td>
</tr>
<tr>
<td>11/12</td>
<td>+25.2%</td>
<td>+2.1%</td>
</tr>
<tr>
<td>12/13</td>
<td>+11.1%</td>
<td>+4.6%</td>
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</tbody>
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Managing liquidity risk (1): Risk of collateral exhaustion

- Liquid assets in 3 tiers
- 3 levels of stress test
- If 1 stress test fails an action plan to deleverage is put in place
Managing liquidity risk (2): Managing Repo Roll Risk

1. **Prevention**: Investment restrictions to mitigate the impact of a crisis:
   - Overall exposure limit
   - Minimum dispersion of repo maturities
   - Minimum cash buffer to allow unwinding without selling the Gilts that are pledged.

2. **Monitoring** of the liquidity of the market continuously leading to a rating of the liquidity of the market (Red/Amber/Green)

3. **Action plan** triggered by an Amber or Red rating to deleverage the portfolio
Diversifying Fund Manager Risk - Overview

PPF Objectives:
The purpose of the project was to implement a second LDI manager, bearing in mind the following objectives:

- Operationally at least as efficient as existing structure
- Reduced dependence on the existing manager
- Creation of a ‘live sub’
- Increased transparency and visibility of the LDI strategy

Strategic Importance of the incumbent LDI manager relationship:

- Hedging interest rate and inflation sensitivity in liabilities
- Already very large (and growing) liability profile
- Implementation of the tactical views of the PPF using derivatives
- Providing curve data for valuation purposes by Actuarial team

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Diversifying Fund Manager Risk - Constructing the Liability Benchmark (and dividing between two managers)

1. Actuarial Liability Cashflows
   - Projected Liability Cashflows
   - Capped and Floored CPI Linked Liabilities and Fixed Liabilities

2. Total Liability Benchmark
   - Total Liability benchmark
   - RPI and Fixed Cashflows

3. Account for Sensitivity of Other Assets
   - Passive bonds
   - Directed trades
   - Other hedging assets

4. Target Liability Benchmark
   - Target Liability Benchmark
   - Cashflow benchmark
   - RPI linked and Fixed

5. Pro-Rata Split Between 2 LDI Managers
   - Manager A
   - Manager B

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Diversifying Fund Manager Risk - One Bilateral ISDA/CSA per Counterparty, Central Collateral Management

Advantages of this structure:
- Single ISDA gives netting on counterparty default.
- Single Bilateral ISDAs for each counterparty allows single CSAs for each counterparty.
- Bilateral CSA gives daily netting of mark to market exposure to a swap counterparty.
- Ability to include additional investment managers in the structure.
- Additional transparency and control over collateral management.

Disadvantages of this structure:
- Longer time and cost to negotiate ISDAs.
- Requires trades from existing umbrella ISDAs to be moved to the new ISDA; there is a potential cost if this requires changes to CSA terms.
- Time and cost to implement central collateral management structure.
- LDI manager is one step removed from the collateral process.

Source: Redington

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Managing counterparty risk with 2 LDI managers

• **Prevention**
  – Negotiation of fair bilateral ISDA and GMRA agreements with efficient Additional Termination Event terms to allow a wider Jump-to-default window or Independent Amount for BBB rated counterparties
  – Efficient collateralisation with netting across the board
  – Transparency in pricing: ‘Dirty to Clean CSAs’
  – Dispersion of exposure

• **On-going Monitoring** of counterparties and active management of relationship with counterparties

• **Contingency plans**
  – In case of downgrade
  – In case of jump to default