Institute and Faculty of Actuaries

DB Pension Schemes – Capital and Risk Management

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Institute and Faculty of Actuaries

Aren’t we at the life conference?

Why are we talking about…

Defined Benefit (DB) Pensions?

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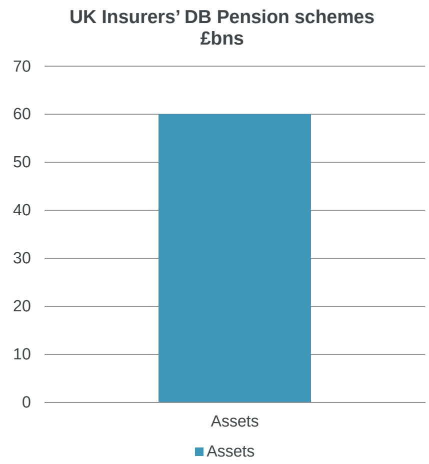
Why talk pensions?



DB Pension schemes associated with UK insurers have assets of…

- £60bn

Compares to total assets backing annuities of…

- £200bn

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Why talk pensions?

DB Pension schemes associated with UK insurers have…

- £60bn assets
- £60bn accounting liabilities

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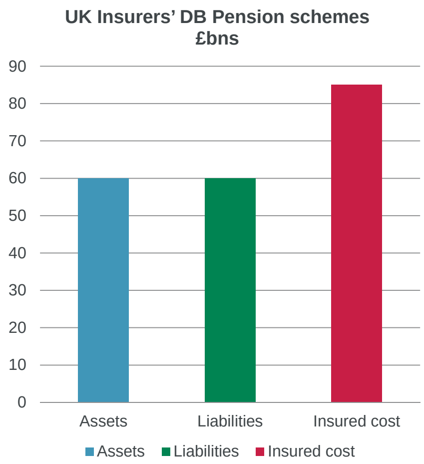
Why talk pensions?



DB Pension schemes associated with UK insurers have…

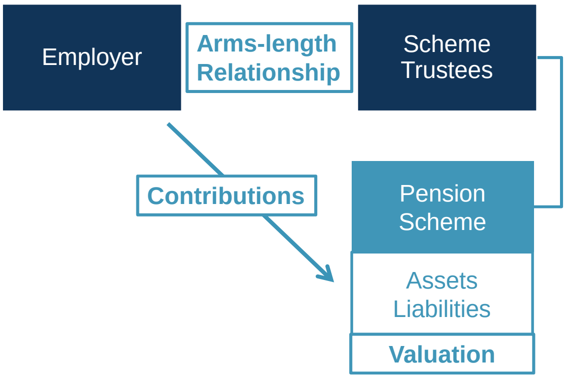
- £60bn assets
- £60bn accounting liabilities
- Estimated **£25bn shortfall** vs. the cost of removing risk entirely (Buyout)

Agenda

- **Overview of DB pension framework**
- Risk and capital measures / views / SII uncertainty
- De-risking and capital management actions
- Case Study – Aviva Pension Scheme
- Wrap-up / Q & A

Framework

Overview of DB Pensions Framework



- Employer pays contributions
- Trustees manage scheme
- Liabilities akin to non-profit annuities
- Overseen by tPR
- PPF ‘lifeboat’

UK insurers paid DB contributions of c. £1bn in 2013

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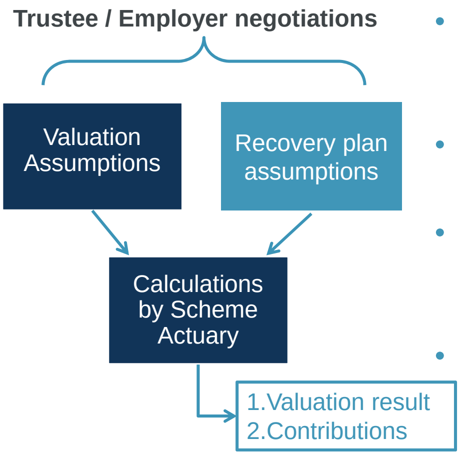
Framework

Scheme Valuations (Triennial)



- Prudent valuation, taking into account investment strategy and employer strength
- Assumptions agreed between Trustees and Company
- If a deficit exists, a recovery plan (contributions) agreed to clear deficit over a given period
- Recovery plan includes best-estimate investment returns

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Framework

And true to Actuarial work, there is more than one liability basis…

Accounting (IAS19)
- AA discount rate
- Best-estimate demographics
- 'Realistic' inflation assumption
- Some contributions
- Used for IGD / GCA
- Starting point for Solvency 2 P1

£60bn

Triennial valuation (Funding)
- Agreed with Trustees
- Typical discount rate Gilts + 75bps
- Prudent demographics
- Gilt break-even inflation
- Starting point for ICG
- Not disclosed publicly (estimated)

£65-75bn

Buyout / (Scheme Solvency)
- Cost of insuring benefits
- Best-estimate liabilities, plus cost of capital and profit margin
- Not disclosed publicly (estimated)

£85bn

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Risk / Capital

The Employer's commitment to fund the DB Scheme brings material risks…

Scheme risks

- Investment / Market
- ALM / Rates
- Longevity
- Take-up / Commutation
- Operational

Others

- Variable one-way contributions
- Indirect control & subjectivity
- Trustee relationship
- Triennial 'true-up' risk
- tPR

Risks are material and should be managed proactively

Risk / Capital

…and associated Group capital

Metric	Valuation basis	Other items
IGD / GCA	IAS19	Removal of surplus
Pillar 2 (ICG)	Funding (contributions)	Additional ICA stresses Basis agreed with PRA
Solvency 2 (Standard Formula)	[IAS19]	[Additional SCR stresses, excluding demographic]
Solvency 2 (Internal model)	[IAS19 (other)]	[Additional SCR stresses]

Different capital metrics pose significant basis risk

Risk / Capital

Solvency II – Significant uncertainty as to PRA's ultimate approach

IAS19 vs Funding c. £10bn gap!

Diversification benefit from credit stress on liabilities – worth up to £10bn*!

Pillar 2/ ORSA – internal view?

Risk- appetite?

Surplus in own funds?

* Roughly, 100bps AA spread x 15 year duration x £60bn liabilities

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Actions

The triennial valuation cycle can be used to agree significant issues with Trustees

Long term funding strategy

- Accounting? Funding? Buyout? Self-sufficiency / run-off?
- Nature of funding e.g. into Scheme or other form of security?
- Ideally capitally efficient

Asset allocation

- Ideally consistent to that adopted for similar policyholder liabilities held by life company
- Relatively low risk and capital efficient
- Attractive risk-adjusted returns

Objective parameters

- Discount rate based on observable market parameters
- Investment returns also -> agreed projection method to determine contributions

Hedging / (Re)insurance strategy

- Ideally consistent with that adopted by similar policyholder liabilities held by life company
- What basis - IAS19? Funding? Long-Term?
- Buy-in or Longevity swap? Use a group company as intermediary / holder of risk?

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Actions

The employer is also able to carry out liability management initiatives

Closure

- New entrants?
- Accrual?
- A 'no-brainer'

Pension Increase Exchange (PIE)

- Offer to exchange index-linked pensions for higher up-front level pension
- Present value of benefits reduce, plus a significant reduction in inflation risk
- Take-up c. 30-50%

Enhanced Transfer (ETV)

- Offer 'enhancement' to statutory transfer values for deferred members and pay for advice
- Reduces assets and liabilities of the scheme
- Typically improves funding levels
- Take-up c. 10-20%

Flexible / Early Retirement (FRO)

- Akin to ETV, except transfer value provides tax-free cash plus a life company retirement product
- Impaired lives and single members particularly can be better off
- Take-up c. 40-50%

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In addition, there are some options which can improve capital efficiency

Metric	Valuation basis	Opportunities
IGD / GCA	IAS19	Ensure basis is 'best-estimate' including base mortality, mortality improvements and proportions married
Pillar 2 (ICG)	Funding	Agree parameters with Trustees to provide some certainty in stress scenarios
Solvency 2	IAS19	Current rules, and allowance for surplus in own funds, potentially improves capital management options

Cost/complexity vs associated benefits

Relative benefit

	Small	Medium	Large
Low cost / Simple	• IAS19 basis review • Close to new members	• Ongoing Pension Exchange • Asset allocation • Close to accrual	• ALM hedging • Parameters • Pension Exchange
High cost / Complex	• Longevity swap (external)	• ETV • Longevity swap (internal) • External Buy-in	• Early retirement • Internal Buy-in

Actions

Common issues faced when implementing actions

Multiple Stakeholders

Speed / significant delays

Multiple Regulators

Over complex solutions

Administration / Data

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Introduction

- The Aviva Staff Pension Scheme is typical of many others
  - Has considered, and is on, a de-risking journey
  - Sophisticated Trustees and Sponsor (Aviva)
  - Pensioners, funding levels and capital drivers are at the heart of decisions
- This section of the presentation covers in more detail how Aviva has begun to de-risk its Pension Scheme and some of the observations around execution of actions and the changing landscape
- Usual health warning…..the views expressed in this presentation are those of the presenter!

Setting the Scene

- The ASPS is a Trust based scheme
- About 57,000 members in total
- Closed to new entrants and future accrual
- Weighted average age:
  - Deferred members c50
  - Pensioners c70
- Long term liabilities with c45% current pensioners
- Total assets of c£11 billion
- Market risks typically dominate volatility

Setting the Scene – Key Stakeholders

- **Trustee and Members**
  - Security of benefits
  - Protecting the rights and benefits of members
  - Sponsor Covenant
- **Aviva**
  - Members' interests
  - Capital
  - Liquidity and cashflow
  - Profits
- **tPR**
- **PRA**

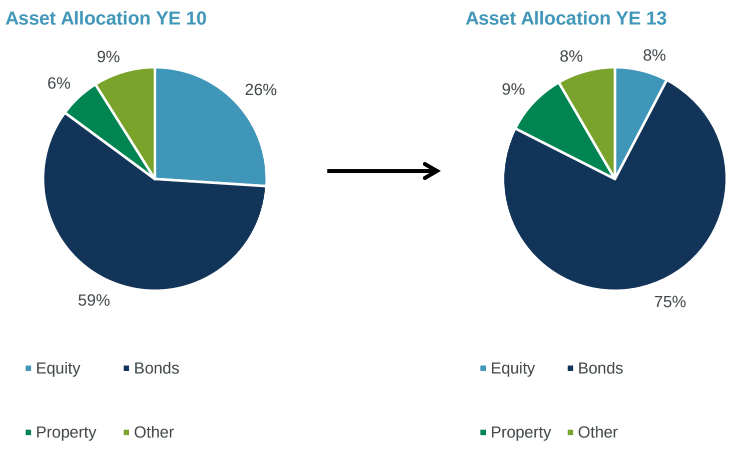
Setting the Scene – De-Risking Decisions

- The Trustees and the Sponsor have a close working relationship
- Both parties were aligned in the desire to de-risk as the Scheme moves to a more funded position. Key considerations were:
  - Reduction of funding volatility and increase in confidence of funded position
  - Optimising the asset allocation and strategy to achieve this
  - Capital positions
  - Contribution level

Investment Strategy - Journey

- The Scheme has significantly reduced market risk over the last few years as the funding level improves
  - This is consistent with many pension schemes' aim of moving to a more 'matched' and less volatile position
- In particular, the Scheme has reduced equity exposure and into more 'matching' asset classes such as Gilts and bonds
- Extensive interest and inflation rate hedging was put in place
- The following slide shows the change in asset mix over the last three years

Investment Strategy



Source: Aviva Annual Report and Accounts

Longevity Swap

- As market risk reduces, longevity risk becomes more of a prominent risk in relation to volatility of funding results
  - In late 2011/2012 the Scheme's advisors aided the Trustee in assessing potential opportunities in the longevity swap market to address longevity risk (which is the risk of people living longer than expected)
  - Market activity in longevity de-risking has gained pace over the last few years with a number of transactions executed in 2013 and 2014
- In conjunction with the Sponsor, a decision was made to proceed with a longevity swap to reduce the overall funding risk further

Longevity Swap

- The Aviva Swap covered approximately £5 billion of pensioner in-payment liabilities on around 19,000 lives
- We transferred the risk externally to three reinsurers: Munich Re, SCOR and Swiss Re
- It was considerably more complex and time intensive to execute compared to the asset de-risking
- However the rationale was consistent with drivers outlined in previous slides (reducing risk and funding volatility)
  - In addition it created a better balance against the current levels of standalone Mortality risk, improving risk diversification and the Group's overall risk profile

Observations/Lessons Learnt

- Key to a successful de-risking journey is a close working relationship between the Trustee and Sponsors
  - Extension to third party consultants
  - Sophistication of parties
- Appropriate operating model to allow appropriate interaction between stakeholders at the right time
- Having appropriate systems and data quality integral in being able to execute in a timely manner and to provide future flexibility
- Impact of the 2014 Budget?
- Increasing range of solutions available

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Wrap-up – Pension Schemes…

1. Material part of UK Insurers' balance sheet
2. Similar risks to annuity liabilities, with additional unique features
3. Capital treatment is variable and Solvency II is subject to significant uncertainty
4. A number of risk-mitigating actions are available, although the journey may be longer and more complex than anticipated

Questions **Comments**

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenter.