

# Pension Guarantee Funds The UK Experience

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## Disclaimer

The views expressed in this presentation are entirely my own and do not represent those of the UK Government, or the UK Government Actuary's Department, the Pensions Regulator or the Pension Protection Fund.

**1: THE UK PRIVATE SECTOR DEFINED BENEFIT PENSION SYSTEM**

**2: THE CREATION OF THE PENSION PROTECTION FUND**

**3: THE LEVEL OF COMPENSATION**

**4: MORAL HAZARD**

**5: THE LEVIES**

**6: FINANCIAL MANAGEMENT**

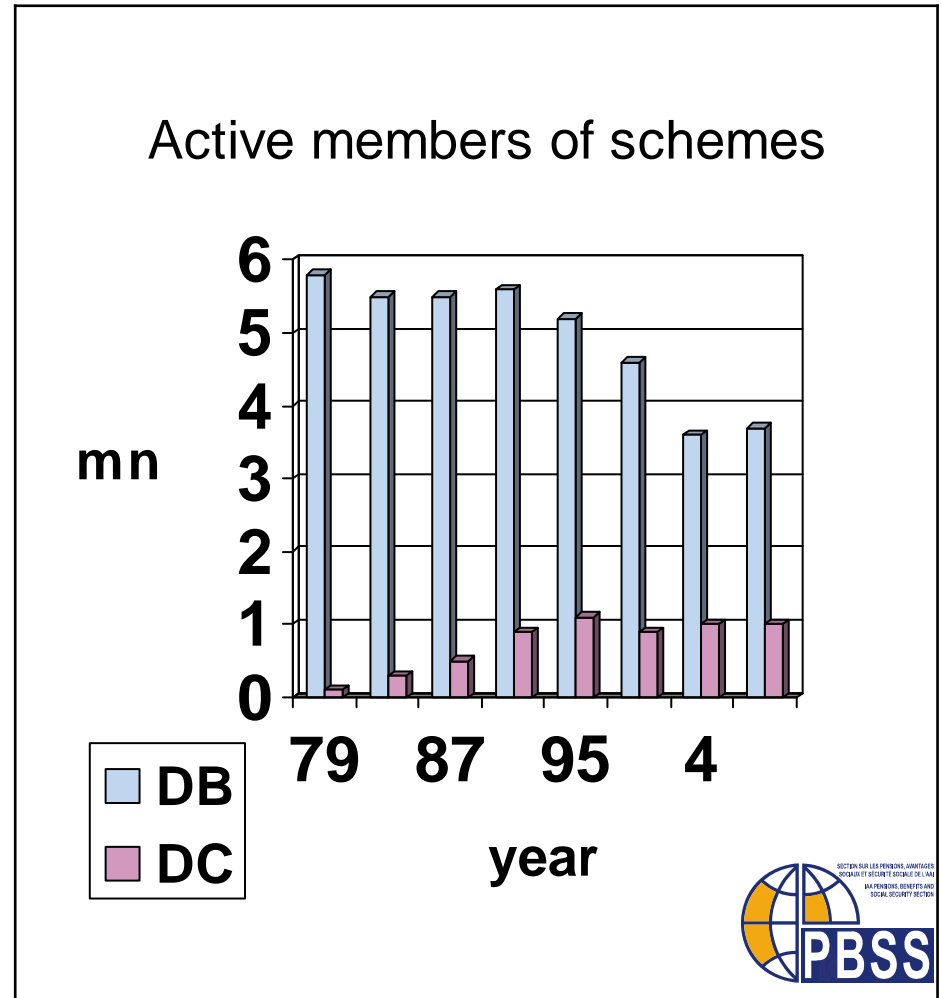
**7: CHALLENGES FOR THE FUTURE**

## Defined Benefit (DB) Pensions in the UK

- A typical defined benefit pension scheme provides
  - a pension of 1/60 of final salary for each year of service, with an option to give up some of the pension for a lump sum
  - Payable from a Normal Pension Age between 60 and 65
  - With a survivor's pension, as well as ill-health pensions before retirement and perhaps an option for retirement before NPA
  - With indexation of the pension in some way related to inflation, probably with a cap of 5%
  - And pensions for people who leave employment before retirement indexed to NPA
- There is however a wide variety of all these parameters – the accrual rate and definition of final salary, NPA, indexation

# Private Sector DB Pensions in the UK

Scheme size (members)	Number of schemes
10,000+	200
5000-9999	180
1000-4999	930
100-999	3640
12-99	2400
2-11	5000
total	12300



# A very simplified history of requirements on funding and insolvency

- Until 1989 no overall funding requirements. Maximum funding rules introduced. Funding generally relied on the rules of the individual pension scheme and the trustees' decisions, based on actuarial advice. Actuaries had to certify (since 1978) that the scheme was adequately funded to provide for the level of benefits which the scheme was providing in place of the social security system, although in general that was materially less than the full scheme benefit.
- 1992
  - when a pension scheme winds up there is a debt due from the employer in relation equal to an actuarial estimate of the level of underfunding relative to insurance buy out for pensioners and transfer values for non-pensioners.
- 1995
  - the Minimum Funding Requirement (MFR) introduced aimed at targeting the amount needed to insure pensions in payment and pay equity based transfer values to non pensioners with 10 years to meet that level if underfunded.
  - Details of methodology and assumptions in professional guidance.
  - On winding up (termination), there is a debt based on the MFR underfunding
- 2004
  - The debt is based on the amount needed to insure annuities and deferred annuities



## The reason for action in 2003-04:

- Falling nominal and real interest rates increased liabilities, and not matched by asset changes.
- Falling equity values reduced asset values.
- Concern about significant increasing in funding needed to provide for a realistic estimate of improvements in mortality.
- Leading to dramatic falls in typical funding levels
  - Many schemes moved from being in surplus or reasonable balance to large deficits
  - This was publicly evident in a number of high profile insolvencies which crystallised the issue of members' losses

## The reaction to the emergence of significant underfunding

- For ongoing schemes:
  - Scheme funding requirements introduced to replace the out-of-date and inflexible minimum funding requirement, with a requirement for a prudent target level of funding and a realistic recovery plan to correct any underfunding;
  - A stronger and more flexible role for a new Pensions Regulator
- Where schemes terminate and wind up:
  - Full insurance based debt owed to trustees from company for solvent employers who wind up a scheme;
  - Pension Protection Fund (PPF) underpins the position where the employer is bankrupt.



## Lessons learned from international experience:

- Pension Insurance fund needs as much financial freedom as possible.
- Flexible process for setting the Levy
  - Need for Risk related levy
  - Need ability to take a long term view
- Financial Importance of few large claims.
- Do not guarantee full scheme benefits.
- Ensure the members of pension schemes are not affected by delays in rescuing their scheme.
- Moral hazard must be addressed both in relation to the rules of the pension scheme and corporate operations.
- Operate like a pension scheme to enable annual claims to be smoothed over time and avoid large changes between years in the levies on employers.
- Strong scheme funding required to protect the Insurance arrangement.

## Pension Protection Fund overview

- PPF takes in assets of relevant pension schemes where the employer is insolvent and the pension scheme cannot insure PPF level of benefits, and pays the defined levels of compensation from the PPF compensation fund.
- Non-departmental public body
  - Key Decision making removed as far as possible from government
  - Flexibility to manage the finances within legal limits and a process for dealing with any financial strains which would go outside those flexible limits
- The PPF Board of Directors is responsible for:
  - Setting the amounts of the annual funding levy and the formulae to be used to calculate the levy for each scheme
  - Deciding the PPF investment strategy
  - Deciding if the PPF can afford the normal PPF indexation



## Level of Compensation (1)

- **100% of the pension entitlement for those people over normal pension age (NPA) at insolvency date; and survivors' and ill-health pensions (genuine ones) in payment at the insolvency date.**
- **90% for those under Normal Pension Age**
- **These percentages may be changed by government on application by the PPF if indexation and revaluation already at 0% level**
- **For people under the scheme NPA, a Compensation cap set at of £25,000 at age 65 in 2005**
  - **This Cap is uprated annually in line with earnings**
  - **An actuarially equivalent cap at other ages, so lower at younger ages**
  - **The cap applies before allowing the member to commute part of their entitlement (up to 25% of pension entitlement can be commuted) and the details including any separate lump sum**
  - **The cap is the same for single and married members of the scheme (unlike the PBGC)**



## Level of Compensation (2)

- Indexation of pensions : Retail Price Index capped at 2.5% but only in respect of pensions accrued after March 1997
  - So relatively little indexation for schemes coming into the PPF in the earliest years
  - And as many schemes are closed to new entrants or no longer providing further accrual, the cost of indexation in future will be less than if DB schemes were continuing as fully open schemes
  - Revaluation of deferred pensions before NPA
    - RPI capped at 5%
  - Survivors compensation: 50% of the member's PPF compensation
  - Other dependants' benefits are provided but complex

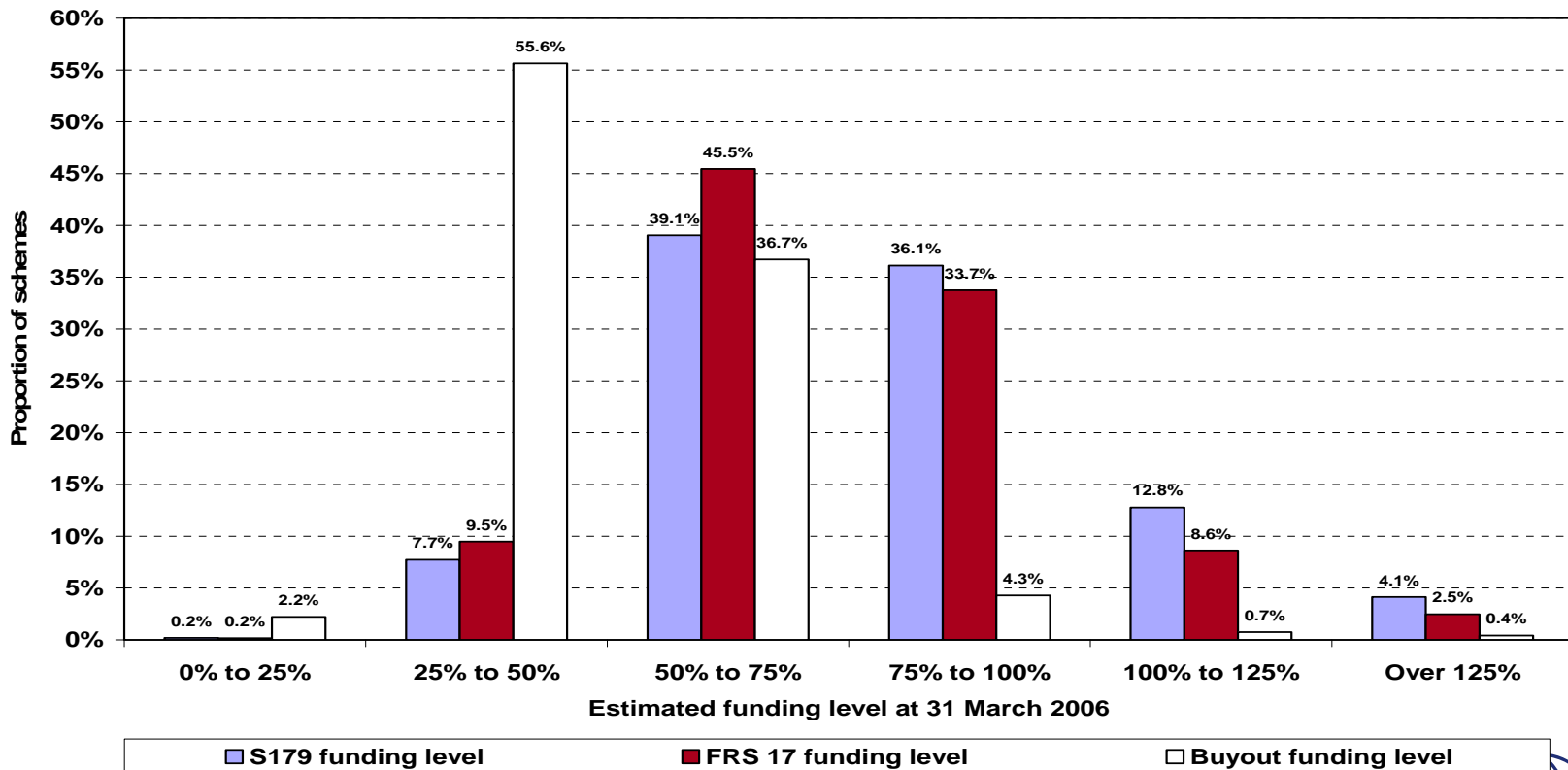


## Level of Compensation (3)

- Paying less than full pension entitlement significantly reduces the costs of compensation and risks to the finances of the PPF
- The reduced level of indexation, and paying 90% to non pensioners and the level of the cap, as well as some other ways in which the compensation is lower than the pension which the scheme would have provided – means that a scheme less than fully funded may still be able to provide more than the PPF on insolvency of the employer
- For a scheme which would have provided typical benefits, the PPF level of compensation is about 70% of full scheme benefits (although a wide range is possible) MEASURE A
- This 70% is similar to a typical pension scheme's prudent target funding level relative to the insurance cost. MEASURE B
- So for a typical scheme, the insurance cost of the PPF level of benefits should be similar to the target level of funding
- BUT there is a wide variation between schemes in MEASURE A and MEASURE B, and both may vary over time depending on economic conditions, so the PPF costs are potentially volatile even if EXPECTED to be relatively low



## Estimated distribution of PPF, accounting and insurance funding levels at 31 March 2006



Source: Purple book: TPR scheme returns, PPF calculations

## Moral Hazard (1)

- There is a significant moral hazard in introducing pension insurance
- Three types of moral hazard
  - Pension scheme benefits may be manipulated before entry into the PPF to maximise the level of compensation increasing the COST of claims
  - Increasing NUMBER of claims by employers dumping scheme liabilities on the PPF
  - Increasing the COST of claims by employers organising their affairs so that the pension scheme has a reduced claim on the employer in the event of insolvency

## Moral Hazard (2)

- Avoiding the manipulation of PPF compensation levels are dealt with in a number of ways
  - admissible rules and recent discretionary increases: all recent rule changes will be disregarded if the effect is to increase PPF compensation
  - review of recent ill-health awards to ensure there was no abuse
  - benefit cap: ensures decision-makers have no personal incentive to let their scheme fall into the PPF





## Levy for an individual pension scheme in 2007-08

Formula for most schemes (up to 104% funded on the PPF level of benefits on an insurance basis)

- Non-risk based levy = 0.016% of liabilities measured on the PPF level of compensation and using an insurance basis
- The Risk-based levy = insolvency risk \* underfunding factor \* scaling factor
- **Insolvency risk** is based on a score from Dun & Bradstreet where available
- **Underfunding risk**  $U = 1.05 * \text{Liabilities} - \text{Assets}$ 
  - The 1.05 factor allows for uncertainties about funding levels over the year
  - Assets includes contingent assets which can be treated as similar to real assets, such as letters of credit or escrow accounts
  - In practice, if there is a guarantee from a related company, then the insolvency risk in the formula from the sponsor to the guarantor's insolvency risk in relation to guaranteed amount of the underfunding.
- The Scaling factor is to ensure that the total amount of the levy is that required. For 2006-7 it is 2.47
- Schemes funded over 104% have a similar approach with the allowance for "underfunding" being a very small percentage of their liabilities



# Financial Management of the PPF – Investment Strategy

- Statement of Investment Principles on the PPF website (see slide at end)
- Strategy balances needs of beneficiaries with needs of levy payer
- Levy affordability - Value for levy payer through seeking excess return on assets ( $\beta$  and  $\alpha$ )





# Strategy Driven by Risk

- FINANCIAL RISK
  - Liability driven strategy using swap overlays
- UNREWARDED RISK
  - Interest and inflation rate risk removed using swaps
- LONGEVITY RISK
  - Cushion risk by setting an out-performance target over liability benchmark of 1.4%
- SYSTEMIC RISK
  - interlinked failure of a number of companies; limit exposure to high credit risk investments
  - Greater bond allocation than typical DB scheme
  - Equity protection by using structured products
- CASHFLOW RISK -Ensure sufficient liquidity
- RESIDUAL RISKS - Hedge residual credit risk



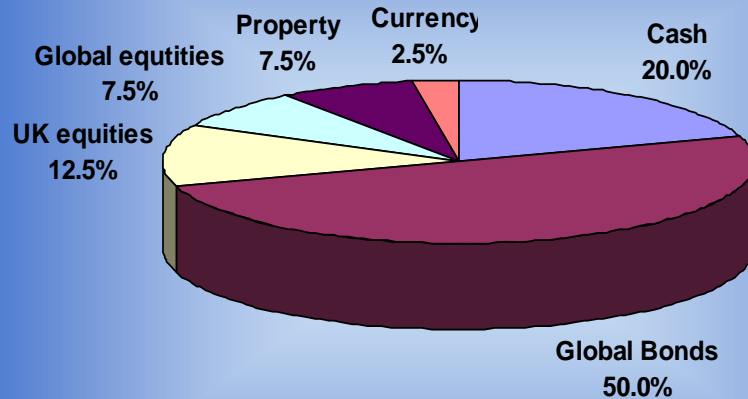
# Investment Strategy

- Target expected outperformance over liability benchmark of 1.4%
- Out-performance target achieved from maximising expected excess return over liabilities subject to:
  - 4% risk budget (less than average UK pension schemes)
  - Contribution to outperformance from alpha of up to 25%
  - Correlation between Fund's assets relative to liabilities to that of typical UK DB schemes reduced.

# Investment Strategy

- Use of derivatives
  - Currency overlay as a source of pure alpha
  - Hedge currency risks in all other asset classes
  - LDI strategy to remove interest and inflation rate risks
  - Equity protection
  - Transition management

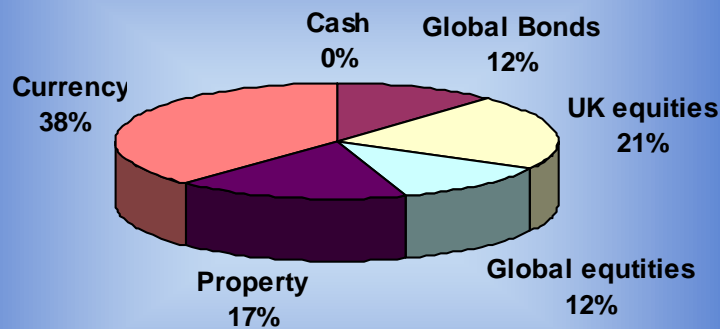
# Asset Allocation



- 100% SWAP OVERLAY
- Equity protection to limit downside risk
- 4% Risk budget
- Liability benchmark
- 1.4% over LIBOR
- a contribution of up to 25%



## Contribution to alpha



- a contribution of up to 25% of total outperformance
- Large proportion contributed by currency overlay

## Financial Management – the annual levy

- The levy needs to cover:
- Deficit (or surplus) of the fund
  - Swap investment assumptions
  - Prudent mortality
  - Amortized over 5 years
- New claims
  - Based on a stochastic model for the next 5 years (with longer term analysis considered)
  - Model allows for stochastic economic scenarios and probabilistic transition matrices to model employer insolvencies
  - Using 75<sup>th</sup> percentile point of the distribution for the levy quantum

## Finances so far and levy strategy in practice

- Original estimated average annual levy required of £300mn (Eu420mn) in 2004 terms
- First year accounting deficit of Eu480mn on a stronger actuarial basis than used for the original financial estimates
- PPF stochastic model estimates mean annual claim of Eu600mn in 2007 terms on what I consider a relatively prudent basis. The 75<sup>th</sup> percentile point of the distribution of annual claims in 2007 terms, averaged over the first 5 years, is Eu730mn
- Levy of Eu 950mn to set prudent levy and recovery deficit over a short recovery period.



## Key Challenges for the Future

- Further developments of the stochastic model for assessing the distribution of the level of annual loss and setting a medium term strategy for the levy
- How to risk manage the very unlikely very large losses
- Developing a more risk based approach to the individual scheme levies
- Managing the uncertain long term mortality risk
- Managing the decline in DB schemes and the reducing levy base

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