Developments in the UK – a personal perspective

Society of Actuaries 17 May 2007

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Agents of Change

Pension regulations have changed the landscape and increased demand for solutions

Sponsors	• Increased contribution and deficit funding pressure • Corporate activity hindered by pension obstacles • Increasing awareness of pension exposures, including open-ended exposure to longevity, and resulting balance sheet and P&L volatility ⇨ **Pressure to close or sell DB schemes**
Trustees / Pension Funds	• Increased responsibilities • Balancing a best solution and accelerated funding of the deficit without placing the sponsor at risk of bankruptcy • Education process essential – but time-consuming! ⇨ **Trustees under pressure to deliver best deal for members**
Regulator	• Mission is to protect the PPF by minimising flow of liabillties to the PPF ⇨ **Will favour solutions offering increased security and smooth execution - not *ABANDONMENT***

Regulatory Changes in the UK

Pensions Act 2004 primarily impacts Defined Benefit Schemes :

New Regulatory Framework	• Creation of new, more powerful and proactive Pensions regulator – Creation of PPF – Regulator has duty to protect benefits of pensions scheme members and reduce the risk of schemes calling upon PPF – Moral Hazard powers – FSDs and CNs
Deficits funded more quickly	• Scheme-specific funding regulations replace previous Minimum Funding Requirement (MFR) • Recovery plans will be required to eliminate deficits identified by valuations within a reasonable period, typically within 5 - 10 years
Shift In Power To Trustees	• Trustees already control asset allocation, but now have greater influence over contribution rates • When agreement between trustees and employer cannot be reached, matter referred to tPR
Notifiable Events Regime	• Requirement to notify Regulator and obtain Clearance for key corporate actions – “Type A” events (e.g., change in control structure, return of capital, change in priority) may require Clearance Statement from Pensions Regulator – Notification to Regulator of events including change in rating, breach of banking covenants, change of company control and change in key employer posts

Longer-term Risk Management - LDI

Principles of Addressing Pension Risks – ***Longevity?***

- **Interest rates:**
  - Duration mismatch means exposure to interest rate falls
- **Inflation:**
  - Benefits in payment linked to price inflation
- **Investment:**
  - Schemes subject to risk if assets do not 'match' the liabilities
  - Over long-term, any equity outperformance will reduce funding costs
- **Demographic:**
  - Longevity is key assumption but considerable uncertainty
- **Regulatory risk:**
  - More funding rule changes leading to increased contributions

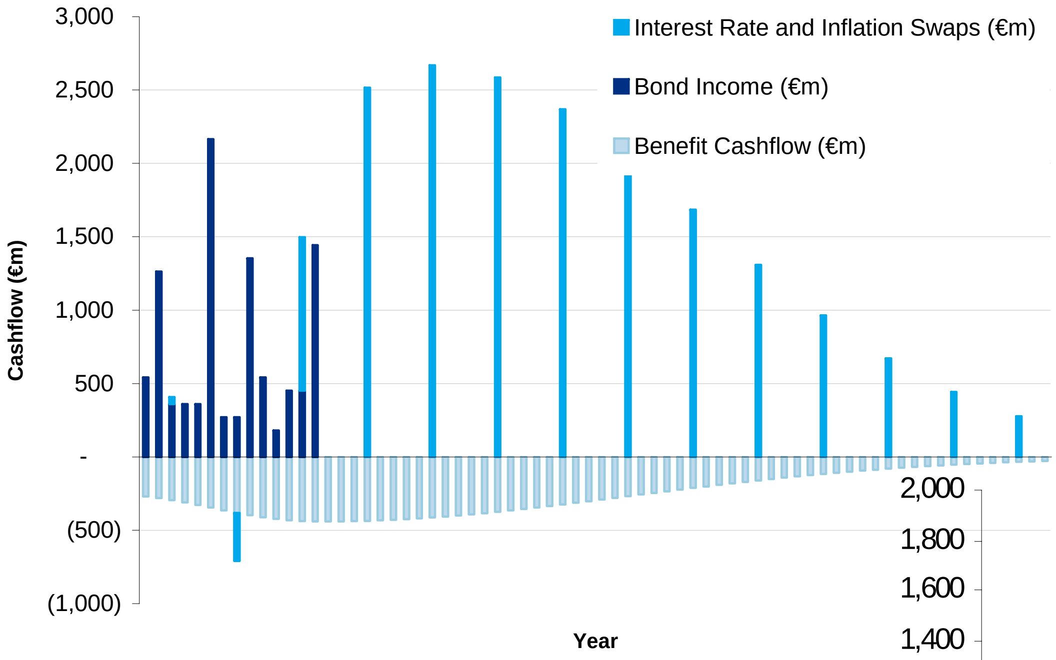
Assessing Pensions Deficit – IAS19 vs Economic vs buy-out?

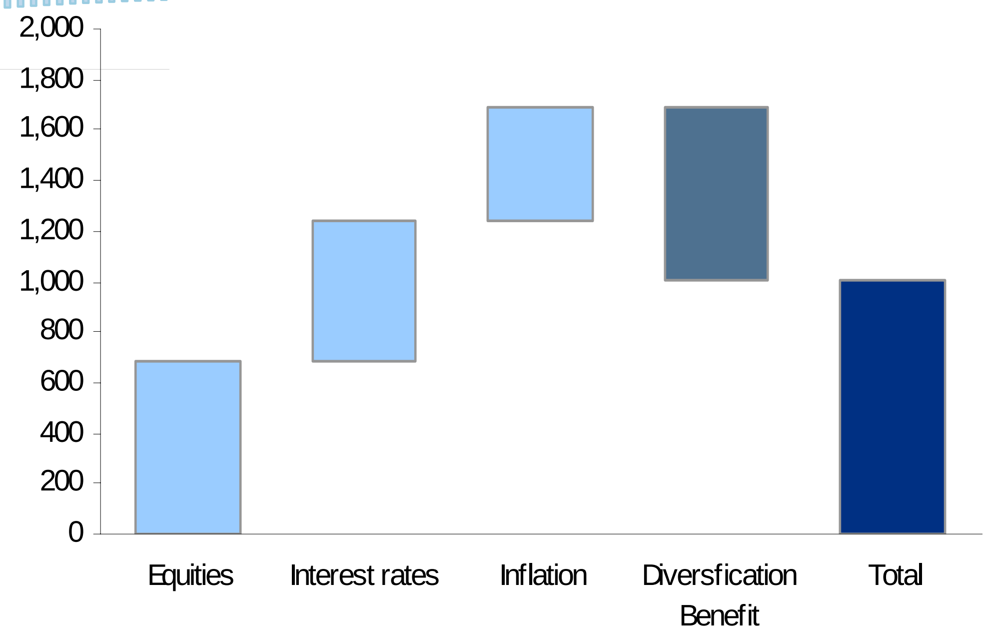
Estimated pension position projected to end May 2007

	UK SCHEME		
	IAS 19	Buy-Out	Swaps
Effective Discount Rate (% pa)	5.2%	3.4%	4.6%
Liability			
- Actives	100	150	110
- Deferreds	100	150	110
- Pensioners	4,000	5,500	4,300
Total Liability	**4,200**	**5,800**	**4,520**
Assets	4,000	4,000	4,000
Surplus / (Deficit)	**-200**	**- 1,800**	**-520**
Current Funding Level	95%	69%	88%
Target Funding level (% of Solvency)	73%	100%	79%

Source: Citigroup estimates

LDI – the approach?

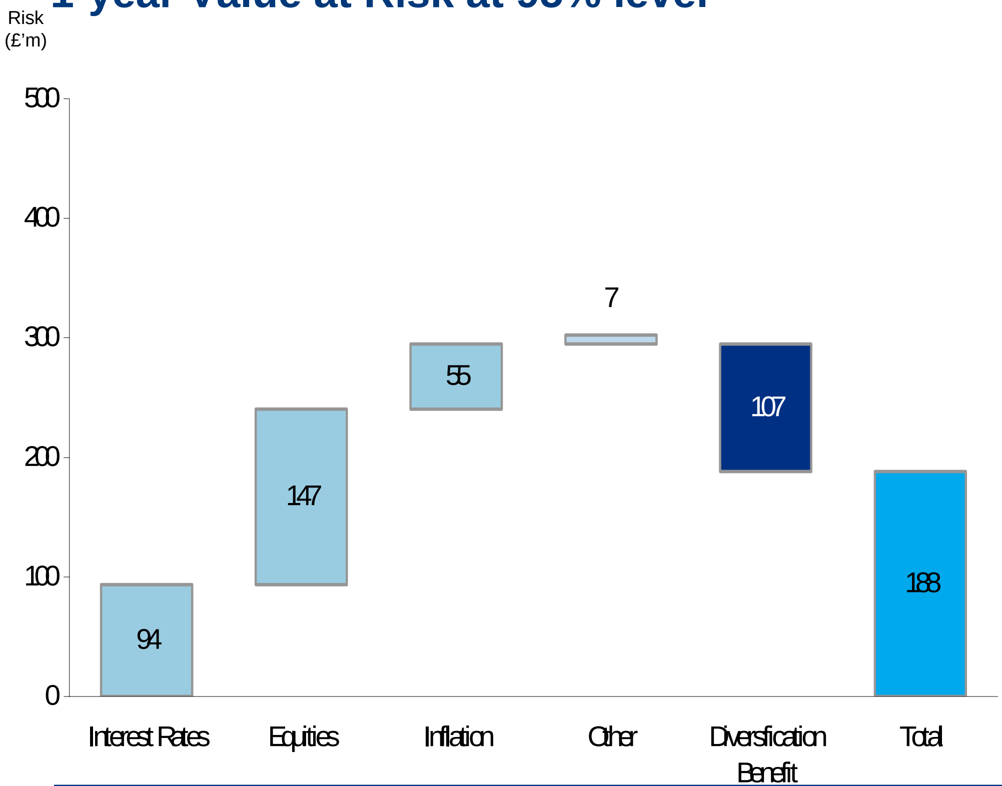




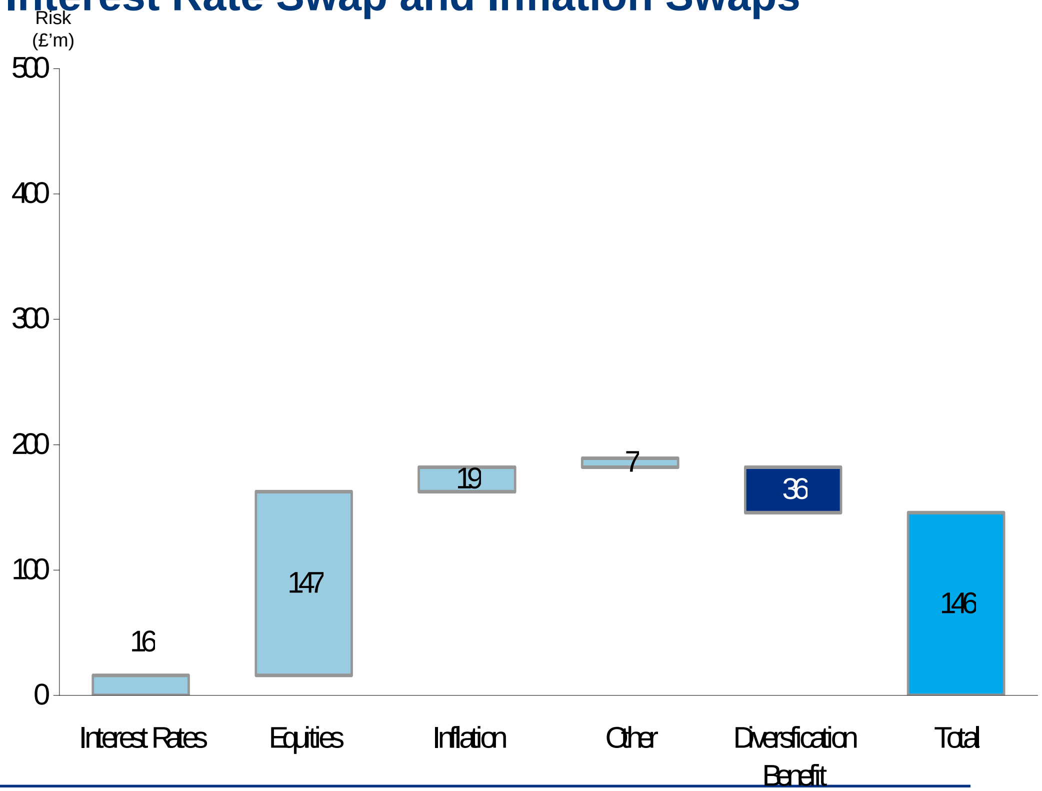
Liability-Driven Investment or LDI

We illustrate impact of broad matching using Interest Rate and Inflation Swaps.

1-year Value at Risk at 95% level



Interest Rate Swap and Inflation Swaps



Changes in the Buy-out market

Many New Entrants to Buy-out Market

Many parties have identified buy-outs as attractive – hence the recent activity

Traditional Participants	• Market has been dominated in recent years by Prudential and Legal & General • View of "substantial" margins to the insurers from this business • Practical reality is that expected profitability heavily dependent on – Asset spread & Views on longevity
New Insurer Entrants	• Aviva, Aegon, AIG and Canada Life
Other New Entrants	• New entrants include the following – **Paternoster** ▪ Led by ex-Prudential UK CEO Mark Wood ▪ Financial sponsors: Deutsche Bank and hedge fund Eton Park – **Synesis Life** ▪ Led by three ex-Prudential UK executives: Hudson, Duffy & Shah ▪ Financial sponsors: JP Morgan, RBS, Warburg Pincus – **Pension Insurance Corporation ("PIC")** ▪ Led by ex-Swiss Re CFO John Fitzpatrick ▪ Financial sponsors: include Duke Street Capital, JC Flowers, RBS, HBOS

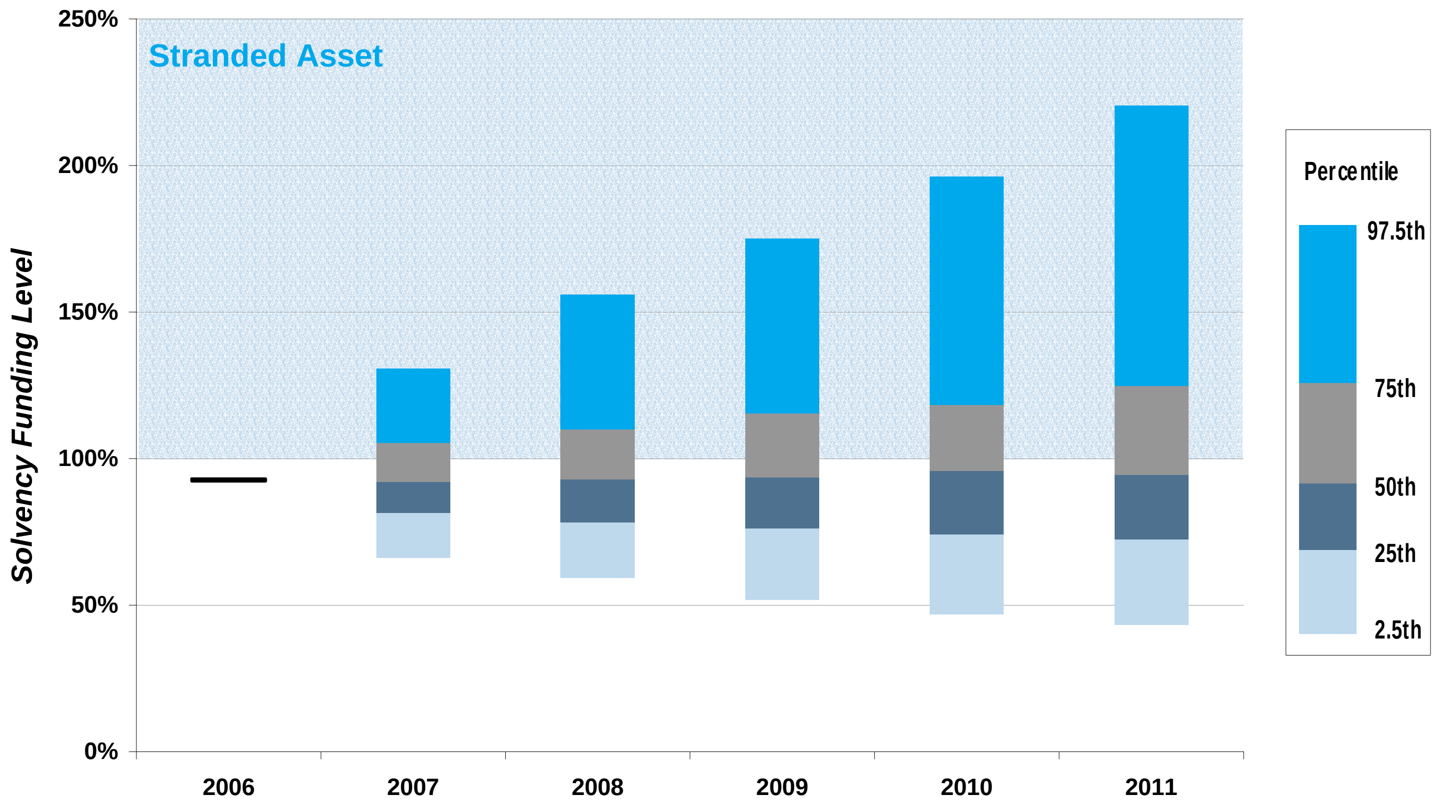
Impact of New Entrants

New entrants bring innovation but incremental capacity still appears modest relative to market

Increase in Capacity	• Paternoster, Synesis and PIC appear to have £1.5-2.0bn in capital • Capital requirements are c.4% of liabilities, suggesting capacity of up to £50bn of pension liabilities over several years • Volumes traditionally £1-2bn per annum
Product Innovation	• Securing specific tranches of benefits: e.g. pensioners over the age of 75 • Phased buy-out of liabilities: scheme commits in advance to a series of payments • Potential for isolating specific items eg impact of longevity • Profit sharing structures?
Implications for Pension Funds	• New entrants forcing schemes and their corporate sponsors to assess attitude to risk – Which risks are affordable to retain? – What is the longer term goal? eg desire for exit in longer term

Contingent Assets

Projection of Solvency Funding Level



- This chart illustrates 1000 projections of the funding level on a Solvency basis using:
  - The investment strategy of the Schemes **84% "equity type" / 16% "bond type"**

44% chance that there will be a "stranded asset" within the scheme within 5 years

Letters of Credit (LCs) and Escrows

Some employers concerned about high contributions creating “stranded assets”. Some are considering LCs to trustees to cover part or all of the pensions shortfall.

- Trustees gain protection through letter of credit facility – if call-event triggered, trustees first try and reclaim monies from residual assets of sponsor and if this fails, claim monies from banks under LC arrangement
- Sponsor arranges for one or more banks (“syndicated LC”) to issue LC to underwrite deficit in the event of employer insolvency or specified calling events:
- Calling events typically cover:
  - Insolvency
  - Failure to meet agreed Schedule of Contributions
  - Failure to renegotiate cover at expiry of LC if deficit still exists
- Enables sponsor to continue funding scheme on ongoing basis or push out deficit-correction period
- Depends on credit lines – deficits can be large relative to traditional credit facilities
- Costs comparable to CDS pricing but LC are “relationship-based” so not directly comparable
- Protecting deficit should give less inclination to “de-risk” investment strategy – extra returns could offset LC fee

Use of Short-term Derivatives

Swaptions – to hedge accounting discount rate

PROTECTING THE DISCOUNT RATE

Purchase a Cash Settled GBP Receivers Swaption with an Expiry Date to match the accounting year-end: **Friday 30th March 2007**
Premium payable on trade date (expressed as a percentage of trade Notional Amount)

GBP 15Yr Swap (semi-annual Act/365F)

Protection Level:	ATM	-10bp	-25bp
Strike:	5.00%	4.90%	4.75%
Premium:	1.10%	0.66%	0.30%

GBP 25Yr Swap (semi-annual Act/365F)

Protection Level:	ATM	-10bp	-25bp
Strike:	4.70%	4.60%	4.45%
Premium:	1.41%	0.81%	0.32%

All pricing is indicative only as at close of business 22nd January 2007, and subject to market movements.

Equity Options/Equity Puts

- One party (the holder or buyer) has right, but not the obligation, to exercise the contract on or before a future date
- Amount the buyer pays the seller for the option is called the **premium** – think of it as “insurance”
- Exact specifications may differ depending on option style:
  - European - allows exercise on the expiry date only
  - American - allows exercise at any time during the life of the option

PROTECTING EQUITY RETURN

Purchase a Cash Settled Equity Index Put Option with an Expiry Date to match the accounting year-end: **Friday 30th March 2007**
Premium payable on trade date (expressed as a percentage of trade Notional Amount)

FTSE 100 Index

Protection Level:	100%	95%	90%
Strike:	6,220	5,910	5,600
Premium:	2.40%	1.00%	0.49%

FTSE ALL-SHARE Index

Protection Level:	100%	95%	90%
Strike:	3,220	3,060	2,900
Premium:	3.23%	1.98%	1.33%

Summary of the UK

I was never told about the future risks….

The tree kept growing and obscured my view

And in the end, I knew what would happen

Messages to take away

- Planting trees can be a risky strategy
- Banks prefers Hedges…naturally!

Other issues to look out for from UK:

- Transfer values – be careful!
- Conflicts of interest – be very careful!

Source: Citigroup

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