Crossing the Pond

Amy Kessler
Senior Vice President,
Head of Longevity Reinsurance
Prudential Retirement

Tim Gordon
UK Lead, Longevity
Aon Hewitt
The UK has led the world in pension de-risking.
• Strict funding regulations
• Increasing accounting transparency
• Widespread risk awareness
• Many strategies in use to manage and transfer risk
Many of these changes are arriving in the US...
US pensions are moving from…

- Long-term funding requirements ➔ Short-term
- Off balance sheet ➔ On balance sheet
- Maximizing returns ➔ Managing volatility
- Bearing risk ➔ Transferring risk
A key piece missing in the US market is longevity risk awareness.


The retired lifetime of an average US male has increased by 34% over the last 40 years.

US Males – Period Life Expectancy From Age 65
The US Lags in De-Risking

3. Source: LIMRA, “Group Annuity Risk Transfer Survey”, 1Q 2011, Ibid., 2Q 2011, Prudential estimates for 3Q and 4Q 2011 based on the likelihood of low interest rate environment and insufficient pension plan funding levels continuing for the remainder of 2011, GBP-USD Exchange Rate, Bloomberg LP.
The Catalysts for Change are Crossing the Pond

- Strict Funding Requirements
- Accounting Transparency
- Risk Awareness
The Catalysts for Change are Crossing the Pond

56% of US sponsors are concerned about cash flow impact.*

Note: More than 400 executives who are in charge of pension finance at large companies responded to the survey, which was conducted in September and October 2010.
The Catalysts for Change are Crossing the Pond

47% of US sponsors are concerned about income statement impact.*

41% are concerned about balance sheet impact.*

*Source: Towers Watson, “Towers Watson - Forbes Insights 2010 Pension Risk Survey”, December 2010. Note: More than 400 executives who are in charge of pension finance at large companies responded to the survey, which was conducted in September and October 2010.
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Risk Awareness

Maximizing returns to managing volatility

US Pension Plans – Risk Priorities*

#1 Interest Rate Risk
#2 Equity Market Risk
#3 Inflation Risk
#4 Credit Risk
#5 Liquidity Risk
#6 Longevity Risk
#7 Currency Risk

*Aon Consulting, “Pension Risk Management Global Survey 2010”, March 2010. Note: Survey respondents included 41 companies from the financial services industry, including investment managers, insurance companies and investment banks. 67 percent of the respondents are multinational firms and 66 percent have assets under management in excess of US $50 billion. Note: Based on survey respondents’ view of plan sponsors’ risk management strategies in the next 12 months.
Twice in the past 10 years, U.S. sponsors of defined benefit plans have lost over 35% funded status in market downturns.

Source: Prudential. Illustrates approximate funded status of US corporate pension plans.
$215B in contributions between 2008-2011

$109B in 2010 and 2011

For US Plan Sponsors, Risk Taking is Still the Norm.

The average US pension plan...

- is under-funded
- is still invested in:
  - 50%-60% risk assets
  - 40%-50% bonds

For US Plan Sponsors, Risk Taking is Still the Norm

Scenario: Real life
July 1, 2011 – August 19, 2011

Rates fall by 115bps
Equities fall by 16%

12% funded status decline in less than 2 months

Note: Cumulative assets (in billions USD) and liabilities of all pension schemes in the S&P 500 index on the accounting basis.
Already adopted or likely to adopt risk management strategies: 52%

Somewhat or very likely to transfer risk to a third party: 41%

Source: Prudential and CFO Research Services, “2010 Prudential Financial Survey of CFOs”, September 2010. Note: Survey results shown are based on companies with DB plans with $5 billion or more in assets.
Both UK Techniques and Attitudes Toward Risk Are Making Their Way to the United States

LDI and Buy-out are already here in the US.

The first US Buy-in was completed this year.

Longevity Insurance will follow, but longevity risk awareness will have to rise first.
Predicting future longevity

Future longevity has been systematically underestimated in the UK and the US

Why?

- Excuses
  - Status quo – change requires effort
  - Modelling improvements is difficult
  - Lack of appreciation of financial impact

- Human nature
  - Belief in a fixed limit to human lifespan
  - Past improvements seen as one-off gains that cannot be repeated
  - Future improvements have to be identifiable to be convincing
  - Expert opinion lags rather than leads

- Commercial pressure – plan sponsors like low liabilities
Appreciation of longevity risk in the UK

Insurers
- Original drivers of mortality research
- Strong/strengthening insurance regulation
- Relatively large bulk annuity market
- Postcode modelling is effective
  - 15 UK households per postcode
  - Increases commercial pressure to get mortality right

Pension plans
- Strengthened funding framework
  - Pension deficit is a sponsor debt
  - Clarity on prudence v best estimate
- Perception of risk driven by triennial valuations – longevity an unexpected cost
- Widespread LDI – longevity is next risk

Standard mortality tables
- Base mortality (S1 tables)
  - Heavy, ‘medium’ and light standard tables based 2000-2006 experience
  - Base tables always adjusted in use
- Mortality improvement (CMI YYYY)
  - Strong cohort dependence – simple improvement model no longer credible
  - Improvements model updated annually
  - Widely used ‘core’ assumptions still have one unspecified parameter
    - actuaries have to think, but
    - it’s easy to compare
- There is no single default assumption
Differences US v UK

Different environment
- Pension increases (COLAs) uncommon
  - US pension liabilities relatively smaller
  - US pension plan longevity risk is lower
- Population mortality improvement lower
- Mortality assumptions are driven by regulatory regime
  - Differences from standard tables have to be justified
  - Default tables are ubiquitous

Standard US pension plan mortality tables are dated
- Base mortality
  - RP-2000
  - Calibrated to 1990 to 1994 experience
  - Projected to 2000 using data up to 1994/1996
- Improvements
  - Scale AA
  - Based on Civil Service and Social Security data 1977 to 1993 (with minimum of 0.5% for ages under 85)
US female past mortality improvements then Scale AA

Source: Aon Hewitt calculations
US male past mortality improvements then Scale AA

Source: Aon Hewitt calculations
Future Markets for Global Pension Risk Transfer
De-Risking Options

- Controls pension investment risks through liability-based investment strategy
- Combines LDI with longevity insurance
- Longevity products are not yet established in US market
- Ideal for those with sophisticated LDI strategy in place
- Transacted for specified lives
- Assets remain in the pension plan
- Does not reduce funded status or require settlement accounting
- Convertible to Buy-out at any time
- Full risk transfer to insurer
- Settles plan liabilities
When Does a Buy-in / Buy-out Make Sense?

Allocation to Buy-in eliminates asset and liability risk for retired population.

Transact Buy-in when market conditions are favorable.
Convert to Buy-out once termination process is completed.

Ongoing Plan
Buy-in for retirees now converts to Buy-out at termination.
Periodic allocations over time results in a dollar cost averaged settlement of the liability.

Closed Plan

Termination in sight

M&A
Acquiring firm with an underfunded pension plan.
Payment of underfunded amount is baked into the deal; Buy-in is purchased; converts to Buy-out at plan termination.
Instant shareholder value.
When Does Longevity Insurance Make Sense?

Most effective for sophisticated plan sponsors with substantial administrative scale

Culmination of a “do-it-yourself” de-risking strategy

Jumbo Plan

High Allocation to Fixed Income

Well-funded

Tolerant of some risk

Once fixed income is over 70%, returns are very unlikely to exceed an extension in life expectancy

Ideal for a plan sponsor that is comfortable retaining modest market risk
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