Crossing the Pond

Prudential
Bring Your Challenges℠

Aon Hewitt

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The UK has led the world in pension de-risking.

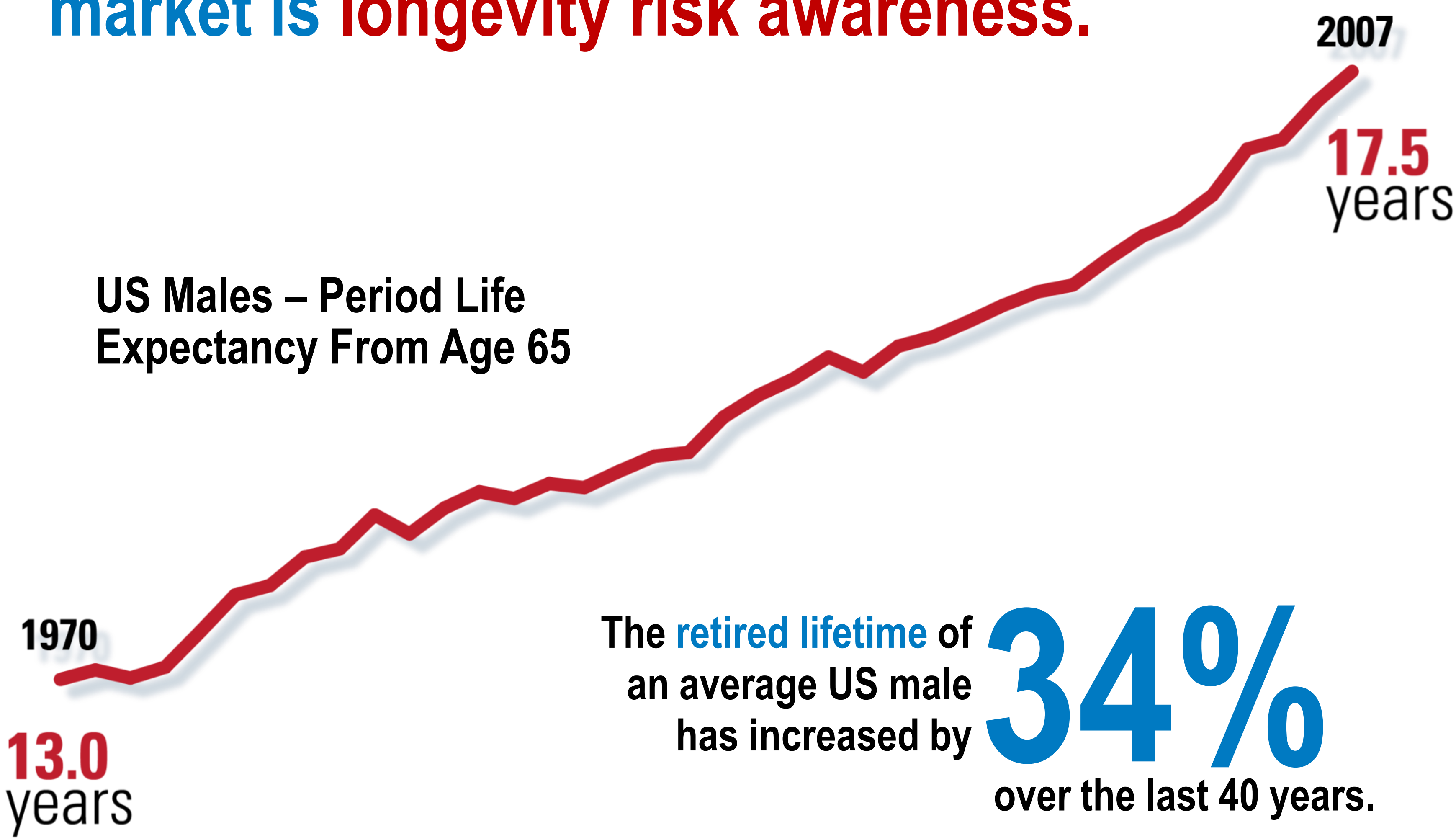
- Strict funding regulations
- Increasing accounting transparency
- Widespread risk awareness
- Many strategies in use to manage and transfer risk

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

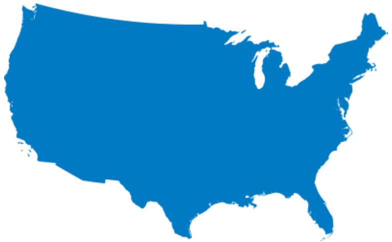
A key piece missing in the US market is longevity risk awareness.



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

Source: Aon Hewitt, *"Aon Hewitt Global Longevity Tracker"*, as of August 31, 2011, https://rfmtools.hewitt.com/GlobalLongevityTracker .
Note: data source based on Human Mortality Database. Life expectancy statistics calculated by Aon Hewitt.

The US Lags in De-Risking



US

UK

US		UK
51%[1]	Average equity allocation	42.5%[4]
$12.9B[2] (£7.9B)	Transaction amounts from 2006-2010	£30B[5]
$1.1B[3] (£678M)	Total expected transaction volume in 2011	£10B[6]

1. Source: Standard & Poor's, *"S&P 500 2010: Pensions and Other Post-Employment Benefits (OPEBs)",* May 26, 2011. Note: Data as of December 31, 2010.
2. Source: LIMRA, "*Terminal Funding and Single Premium Buyouts*",4Q 2008, Ibid., 4Q 2009, Ibid.,4Q 2010., GBP-USD Spot Exchange Rate of 1.627, Bloomberg LP, accessed August 31,2011. Note: Based on both Terminal Funding and Single Premium Buyout Sales Volume for 2006-2010.
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.
4. Source: Lane, Clark & Peacock, "*Accounting for Pensions 2011*", August 2011. Note: Based on FTSE100 companies as of December 31,2010.
5. Source: Lane, Clark & Peacock, "*Pension Buy-Outs 2011*", June 2011. Note: Includes all risk transfer activities from 2006-2010.
6. Source: Clive Wellsteed, Lane, Clark & Peacock, interview by Ruth Sullivan, "*High hopes for brisk business in pension buy-outs*", Financial Times, May 22,2011.

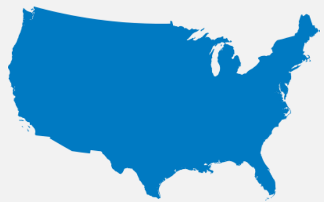
The Catalysts for Change are Crossing the Pond

Strict Funding Requirements

Accounting Transparency

Risk Awareness

The Catalysts for Change are Crossing the Pond



2011

2004

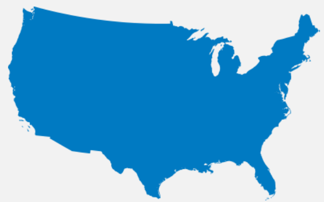
Strict Funding Requirements

Long-term to short term

56% of US sponsors are concerned about cash flow 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.

The Catalysts for Change are Crossing the Pond



FASB

IFRS

Accounting Transparency

Off balance sheet to on balance sheet

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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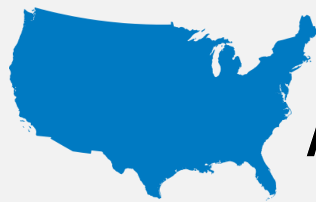


Asset Risk

Longevity and Asset Risk

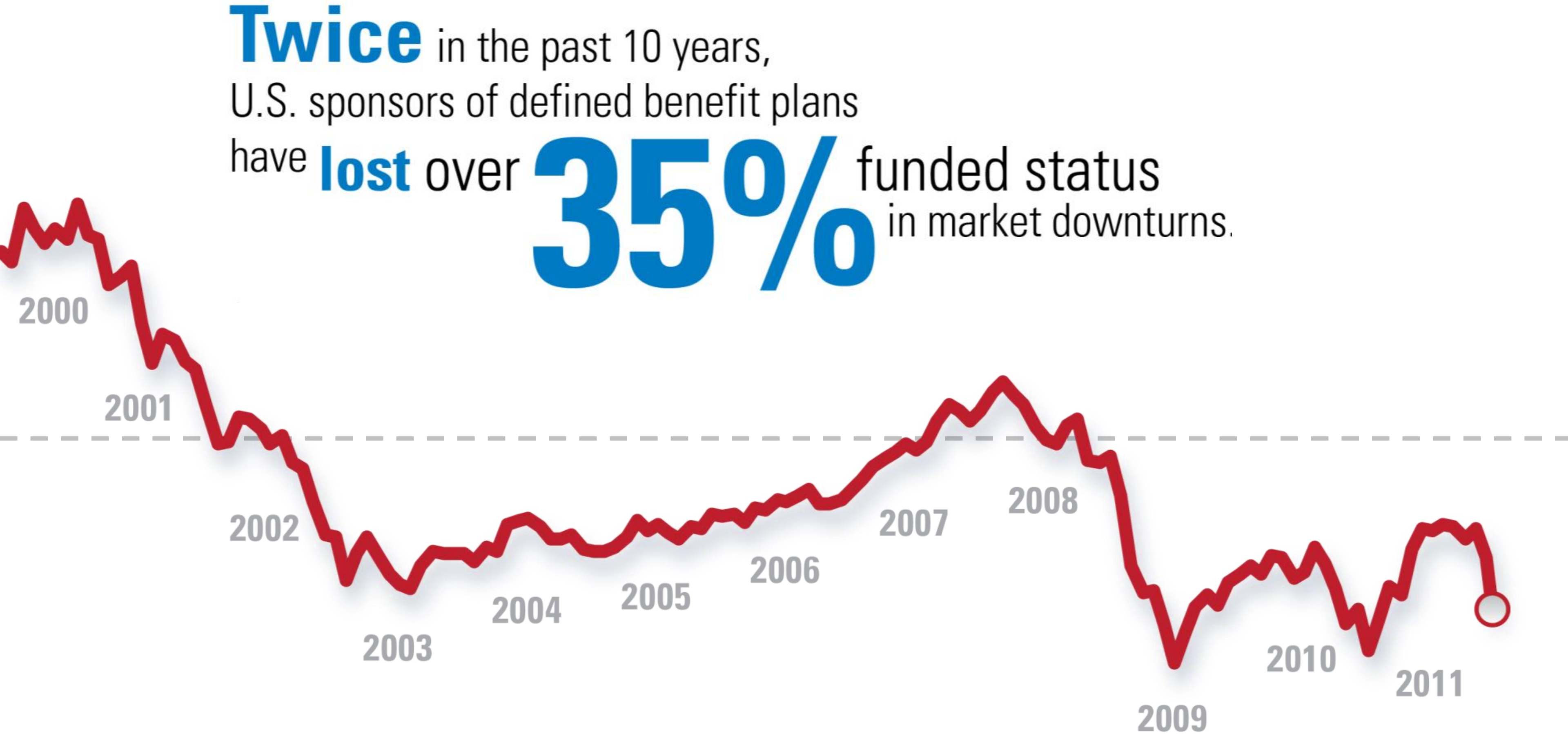
Risk Awareness

Maximizing returns to managing volatility

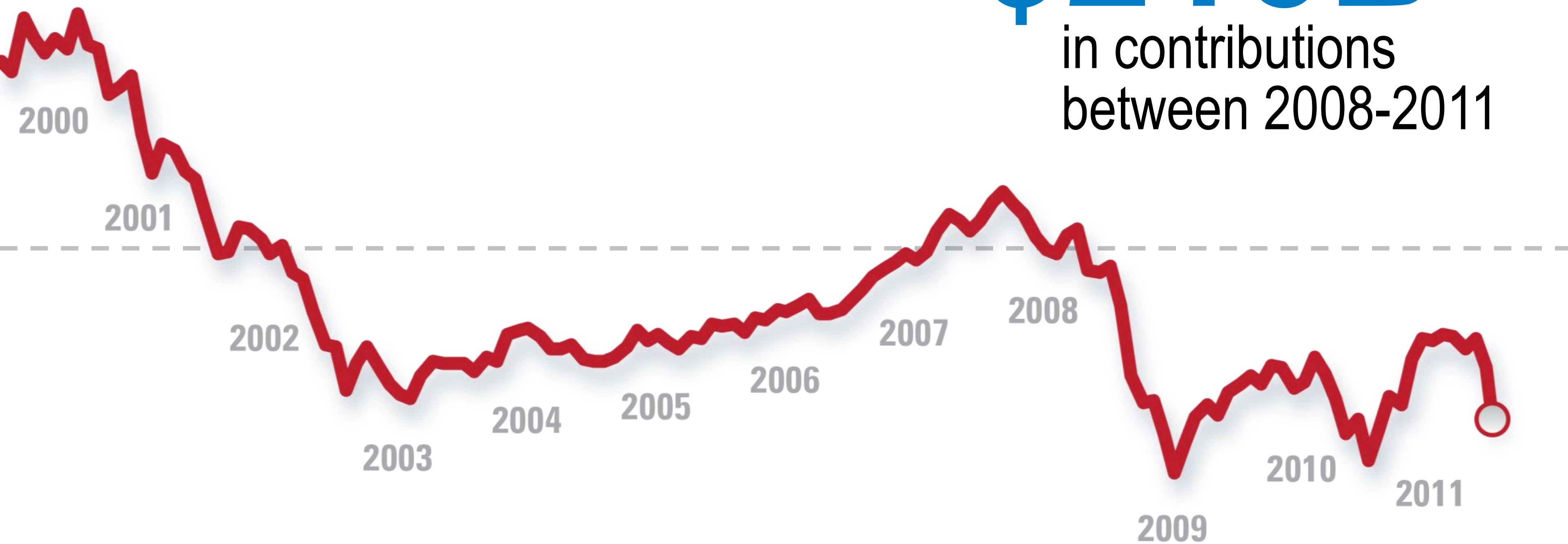
US Pension Plans – Risk Priorities*

- **#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.



Source: Prudential. Illustrates approximate funded status of US corporate pension plans.



$215B

in contributions
between 2008-2011

$109B

in 2010 and 2011

Source: Standard & Poor's, *"S&P 500 2010: Pensions and Other Post-Employment Benefits (OPEBs)"*, May 26, 2011, "*S&P 500 2009: Pensions and Other Post-Employment Benefits (OPEBs)"*, July 2010. Note: 2011 anticipated contribution amount of $41.1B is based on S&P's 2010 report and is subject to market change.

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

LEVERAGE

ASSET/LIABILITY DURATION MISMATCH

*Source: Standard & Poor's. *"S&P 500 2010: Pensions and Other Post-Employment Benefits (OPEB)",* May 26, 2011. Data as of December 31, 2010.

For US Plan Sponsors, Risk Taking is Still the Norm

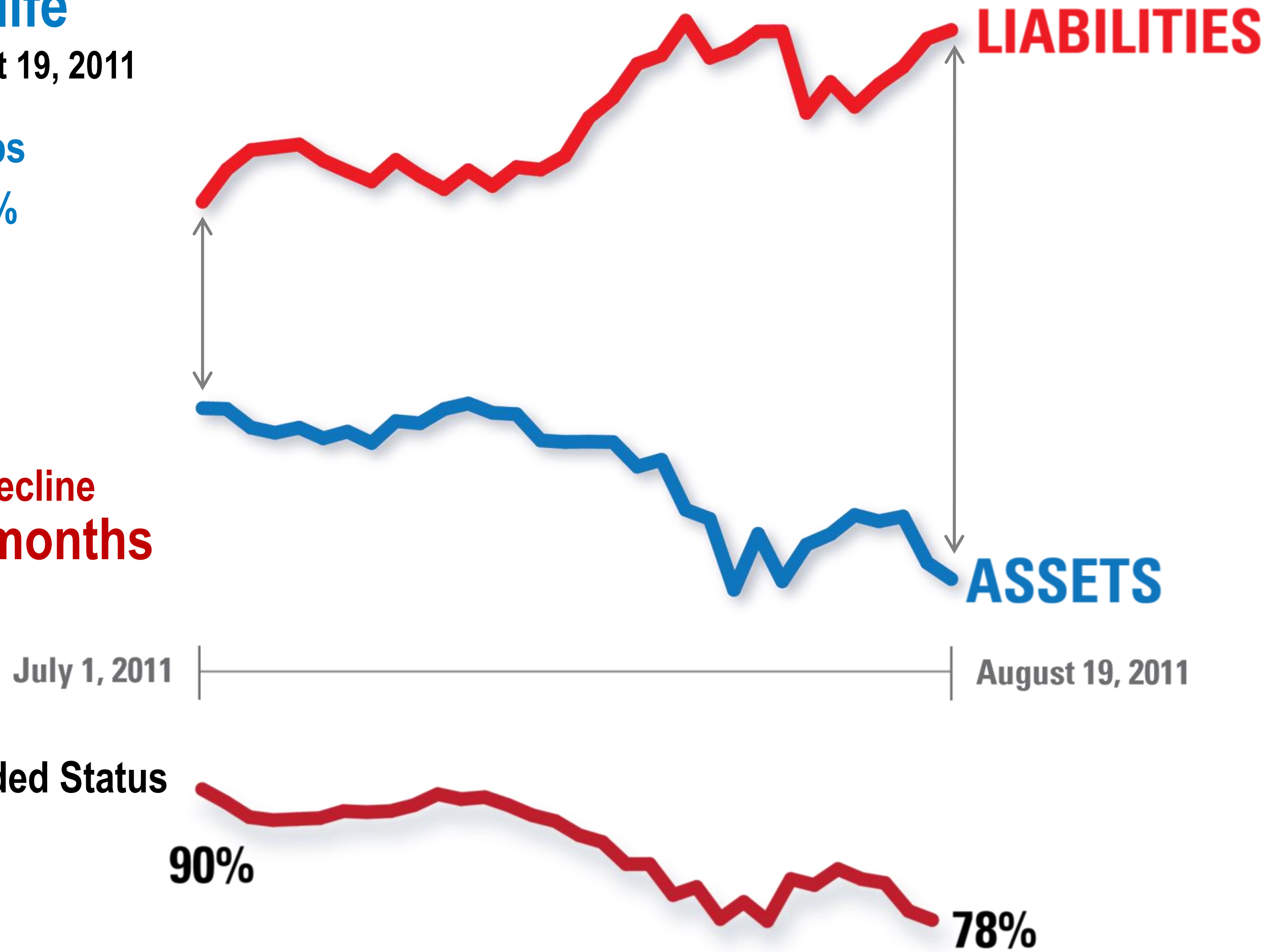
Scenario: Real life

July 1, 2011 – August 19, 2011

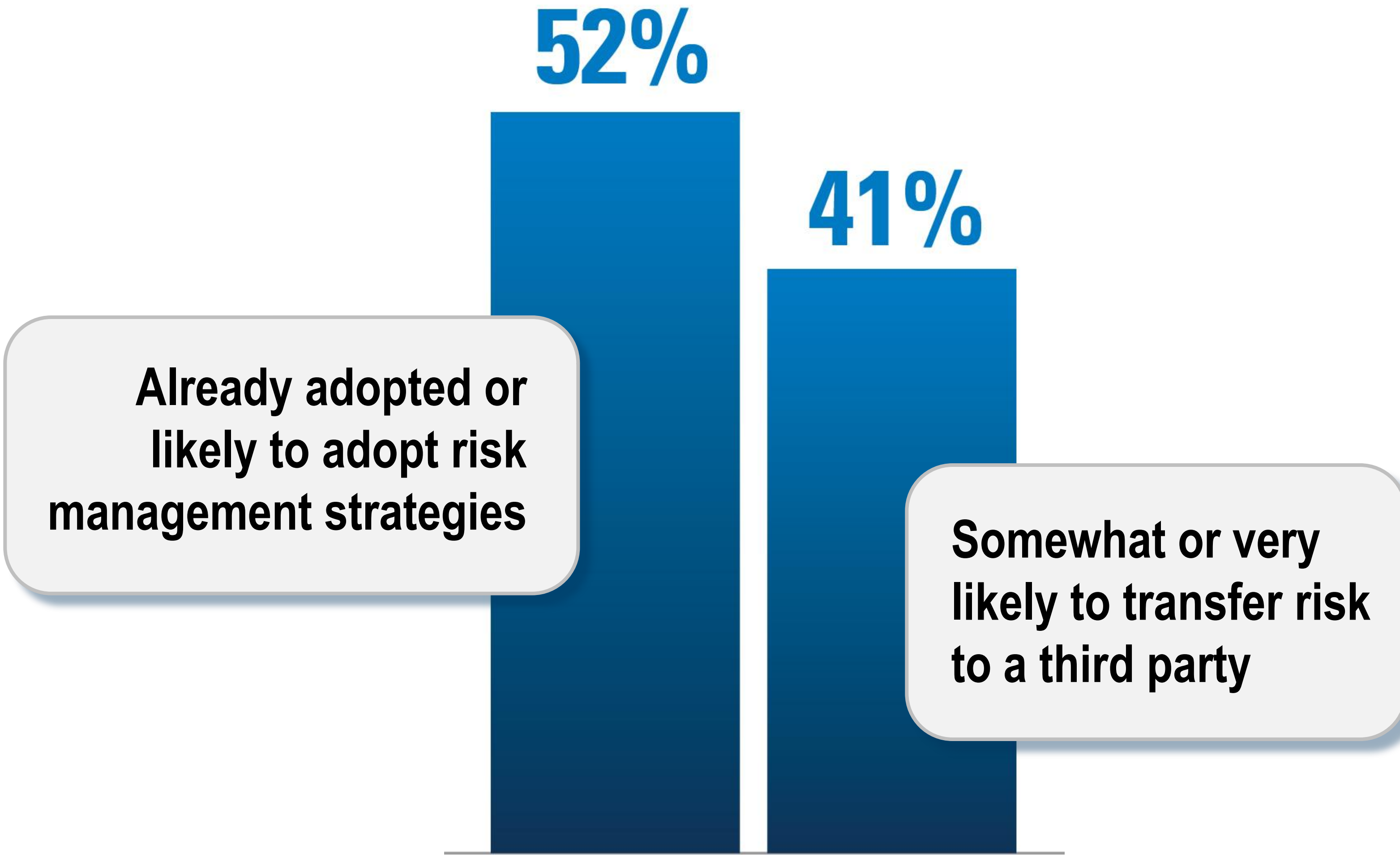
Rates fall by 115bps

Equities fall by 16%

12% funded status decline in less than 2 months



Source: Aon Hewitt, *"Aon Hewitt Global Pension Risk Tracker",* as of August 31, 2011, https://rfmtools.hewitt.com/PensionRiskTracker
Note: Cumulative assets (in billions USD) and liabilities of all pension schemes in the S&P 500 index on the accounting basis.



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.

8 August 2011

Crossing the Pond

Longevity 7

Tim Gordon

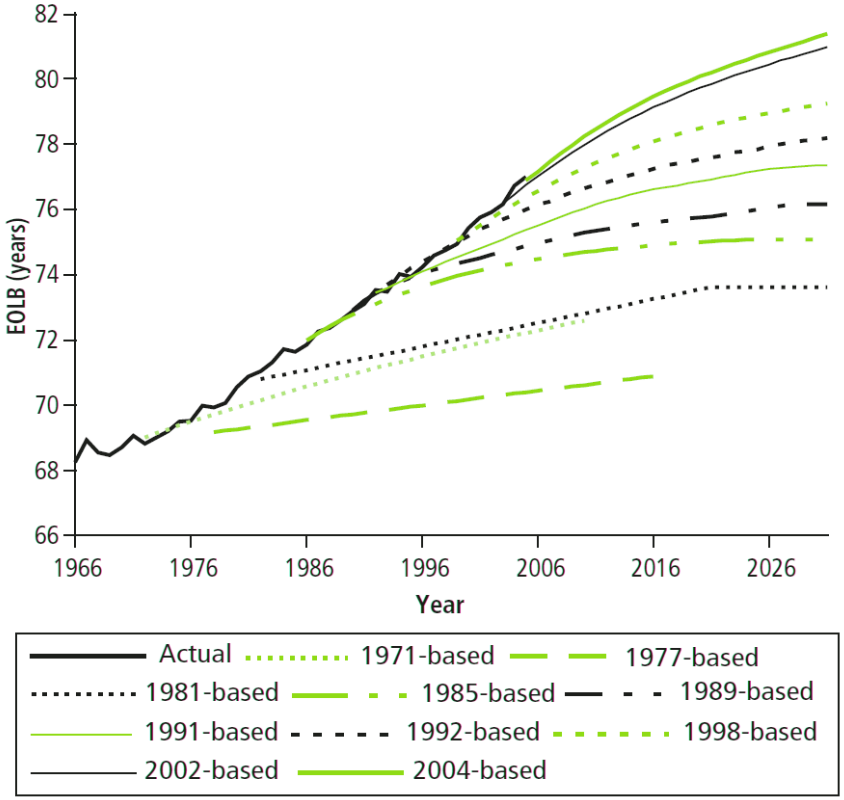
Predicting future longevity

Future longevity has been systematically under estimated 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

UK actual and projected period life expectancy at birth, males, 1966-2031



Source: Population Trends 128 – Fifty years of United Kingdom national population projections: how accurate have they been? UK Office for National Statistics, 2007

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

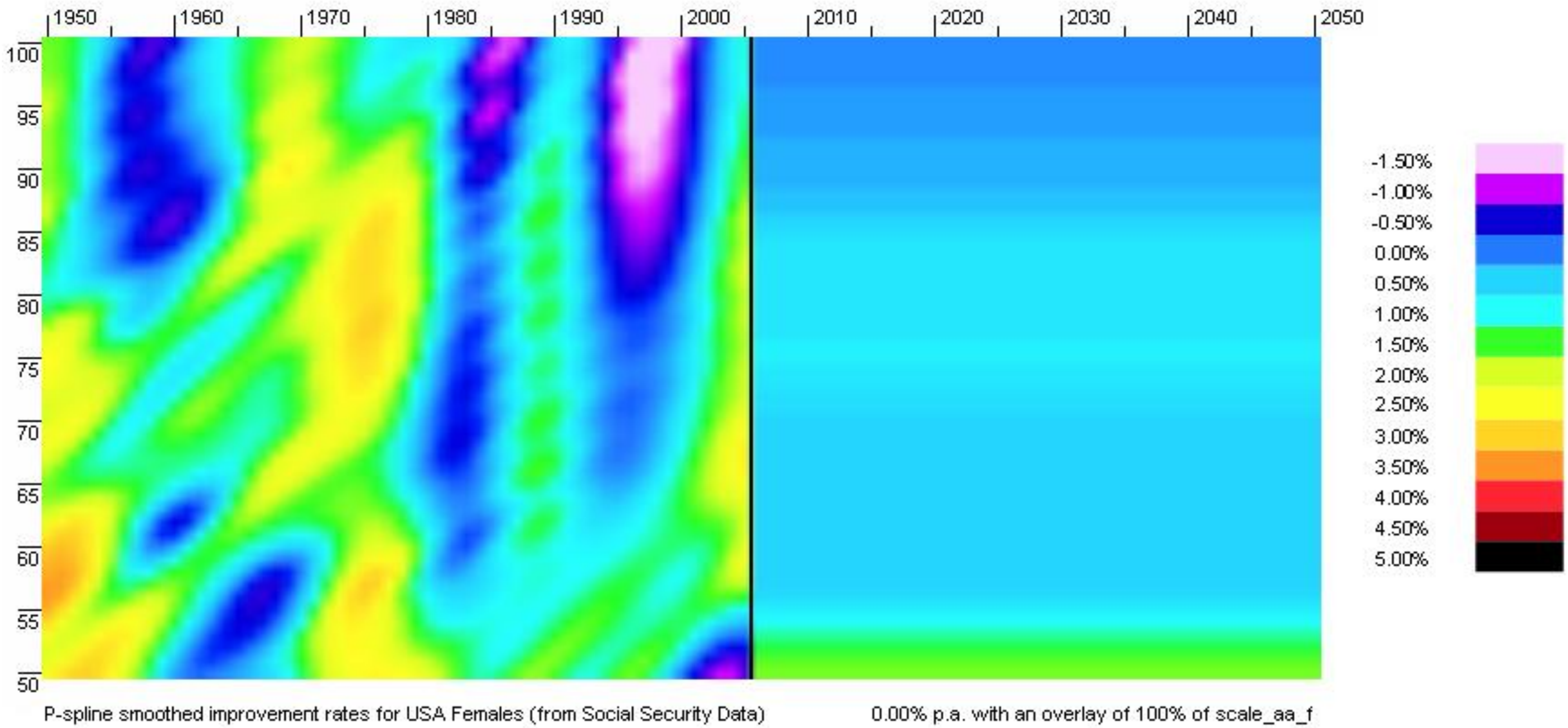
Different environment

- 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

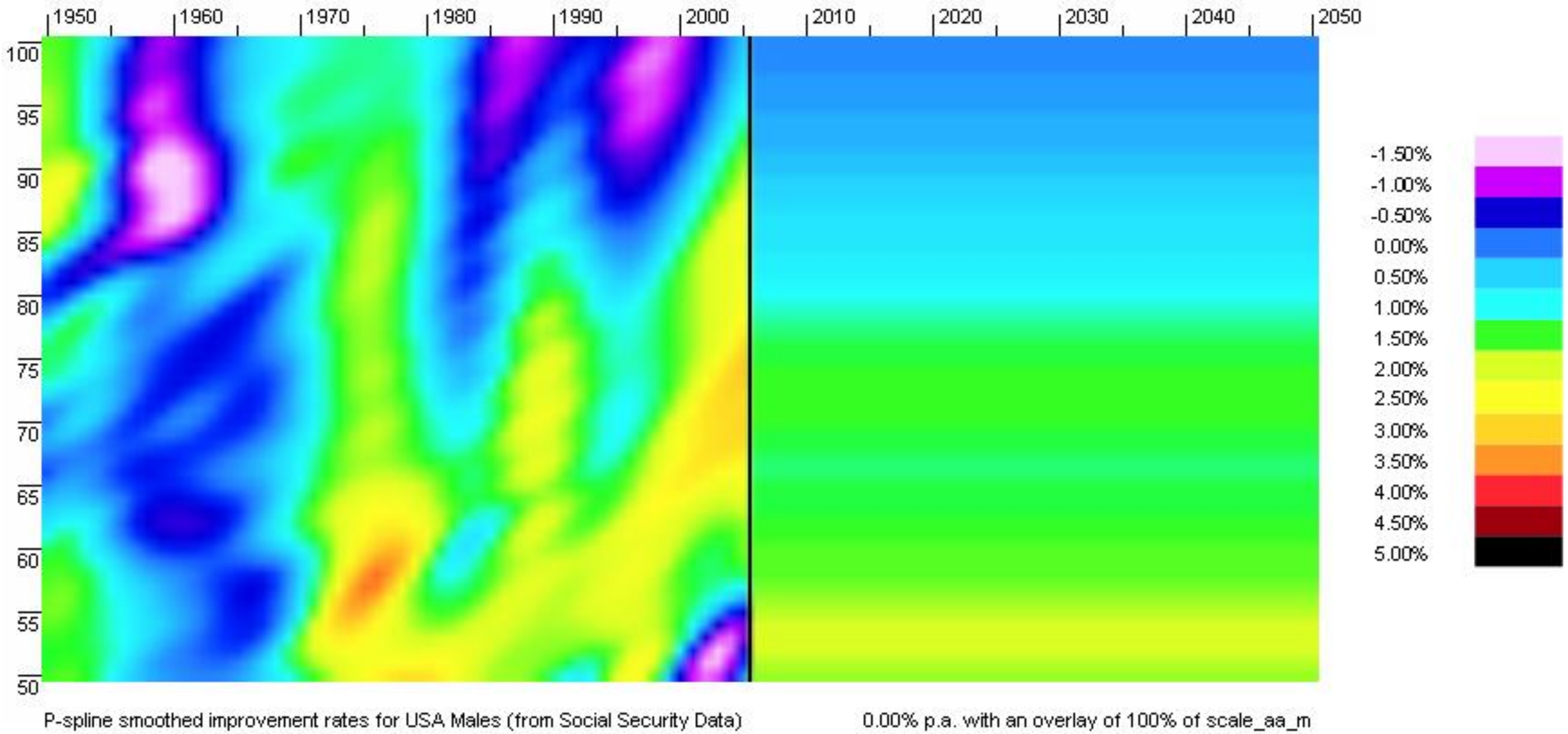
- Base mortality
  - RP-2000
  - Calibrated to 1990 to 1994 experience
  - Projected to 2000 using data up to 1994/1996
- Improvements
  - Scale AA
  - Based on Civil Service and Social Security data 1977 to 1993 (with minimum of 0.5% for ages under 85)

US female past mortality improvements then Scale AA



Source: Aon Hewitt calculations

US male past mortality improvements then Scale AA



Source: Aon Hewitt calculations

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Q&A

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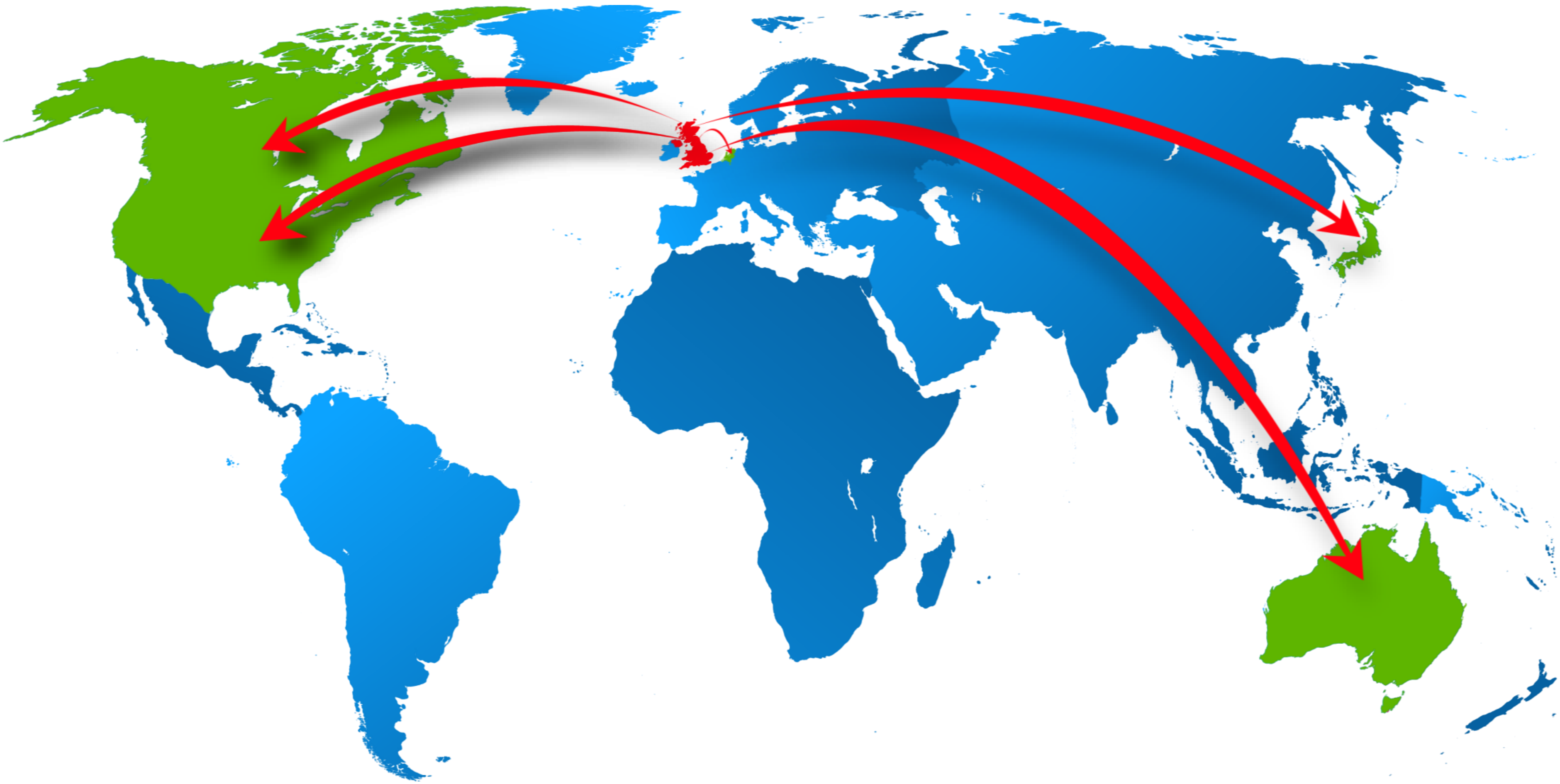
Future Markets for Global Pension Risk Transfer



De-Risking Options

Risk Management		Risk Transfer	
LDI	**Custom**	**Buy-In**	**Buy-Out**
Basic / Complex	LDI + Longevity		

LDI

- Controls pension investment risks through liability-based investment strategy

Custom

- Combines LDI with longevity insurance
- Longevity products are not yet established in US market
- Ideal for those with sophisticated LDI strategy in place

Buy-In

- 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

Buy-Out

- 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.

Ongoing Plan

Closed 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.

Transact Buy-in when market conditions are favorable.

Convert to Buy-out once termination process is completed.

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?

Jumbo Plan

Most effective for sophisticated plan sponsors with substantial administrative scale

High Allocation to Fixed Income

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

Well-funded

Culmination of a "do-it-yourself" de-risking strategy

Tolerant of some risk

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

Disclosures

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