



PFI

Bring Your Challenges®

The Pension and Longevity Risk Transfer Market at \$260 Billion

Innovation, Globalization and Growth

Presented by:

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Head of Longevity Risk Transfer

Prudential Retirement®



Today, Pension and Longevity Risk Transfer is...

- Increasingly **global**
- Used by **all kinds of companies**
- **Flexible** and **customizable**
- Helping companies **secure member benefits** and **achieve a lower risk future**

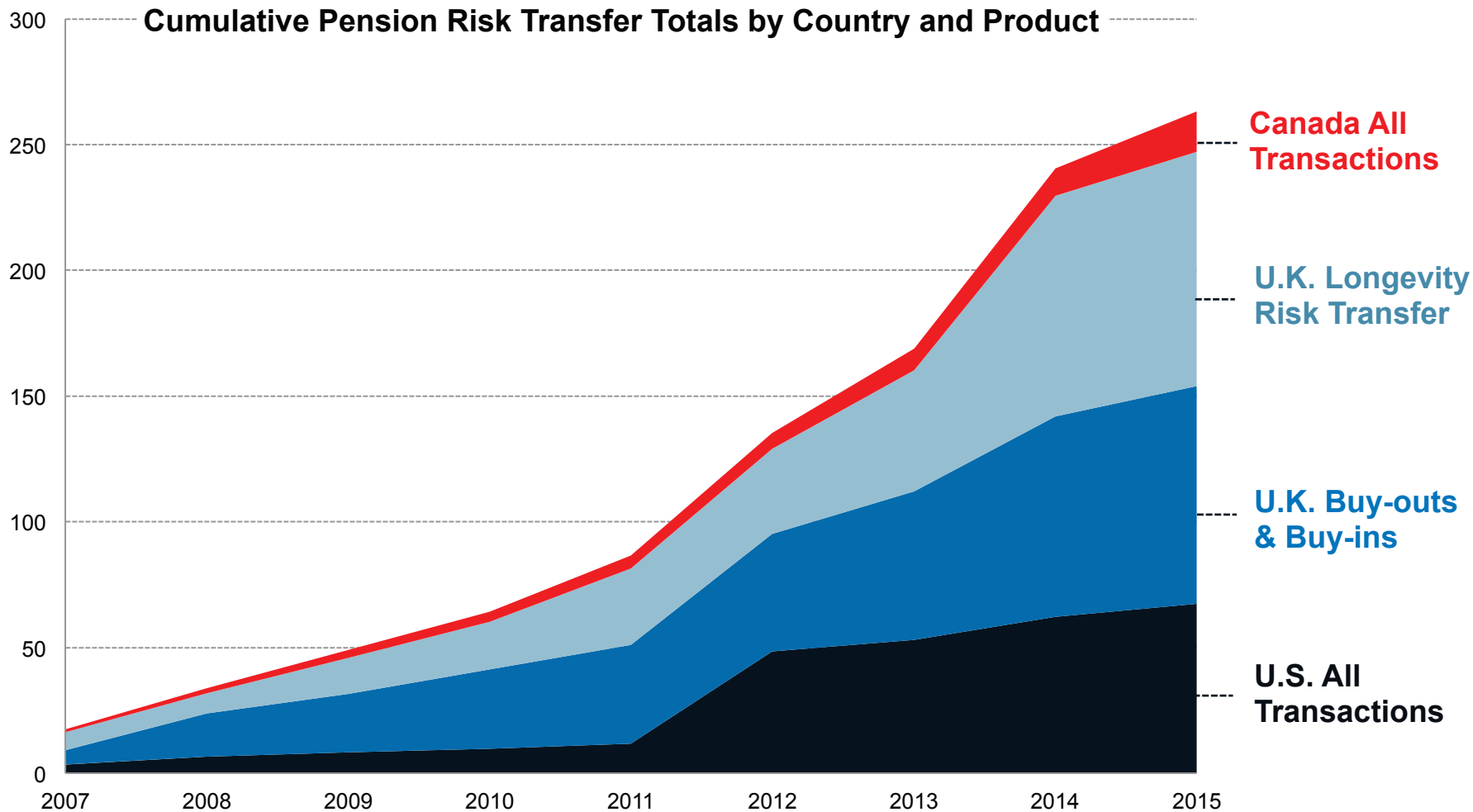
\$260 Billion in Pension Liabilities Have Been Transferred Since 2007

\$16.2 Billion
Canada

\$179.8 Billion
U.K.

\$67.3 Billion
U.S.

The U.K. Continues to Lead The World in Transaction Volume and Innovation



Data in USD billions
Sources: LCP, LIMRA, Hymans Robertson and Prudential analysis, June 2015

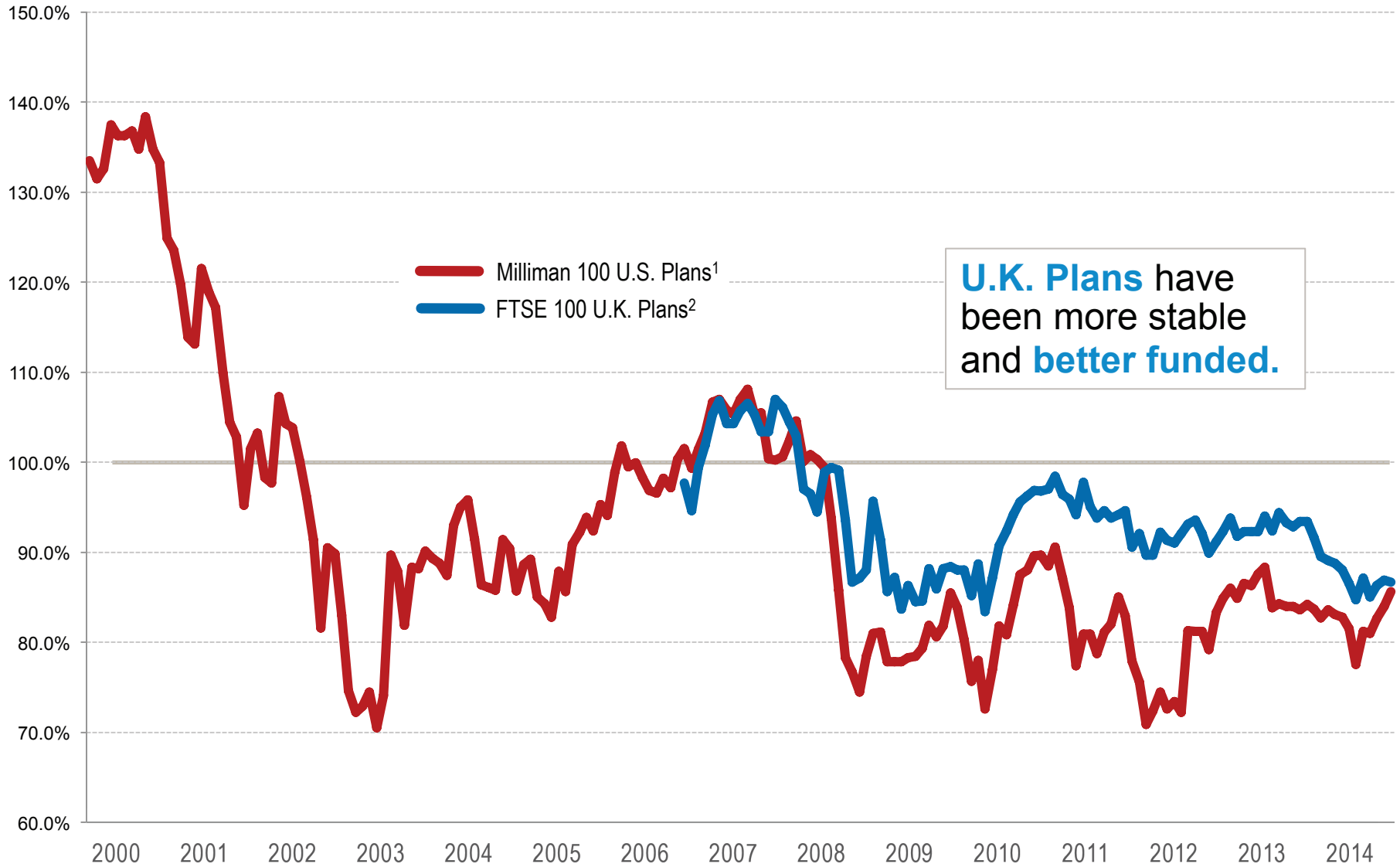
Corporate Funded Status Volatility Has Been Challenging



¹Source: Milliman 100 Pension Funding Index; the 100 largest U.S. corporate pension plans, June 2015.

²Source: Aon Hewitt, "Aon Hewitt Global Pension Risk Tracker," as of June 30, 2015. <https://PensionRiskTracker.aon.com>
Funding ratio (cumulative assets/liabilities) of all pension schemes in the FTSE 100 index on the accounting basis.

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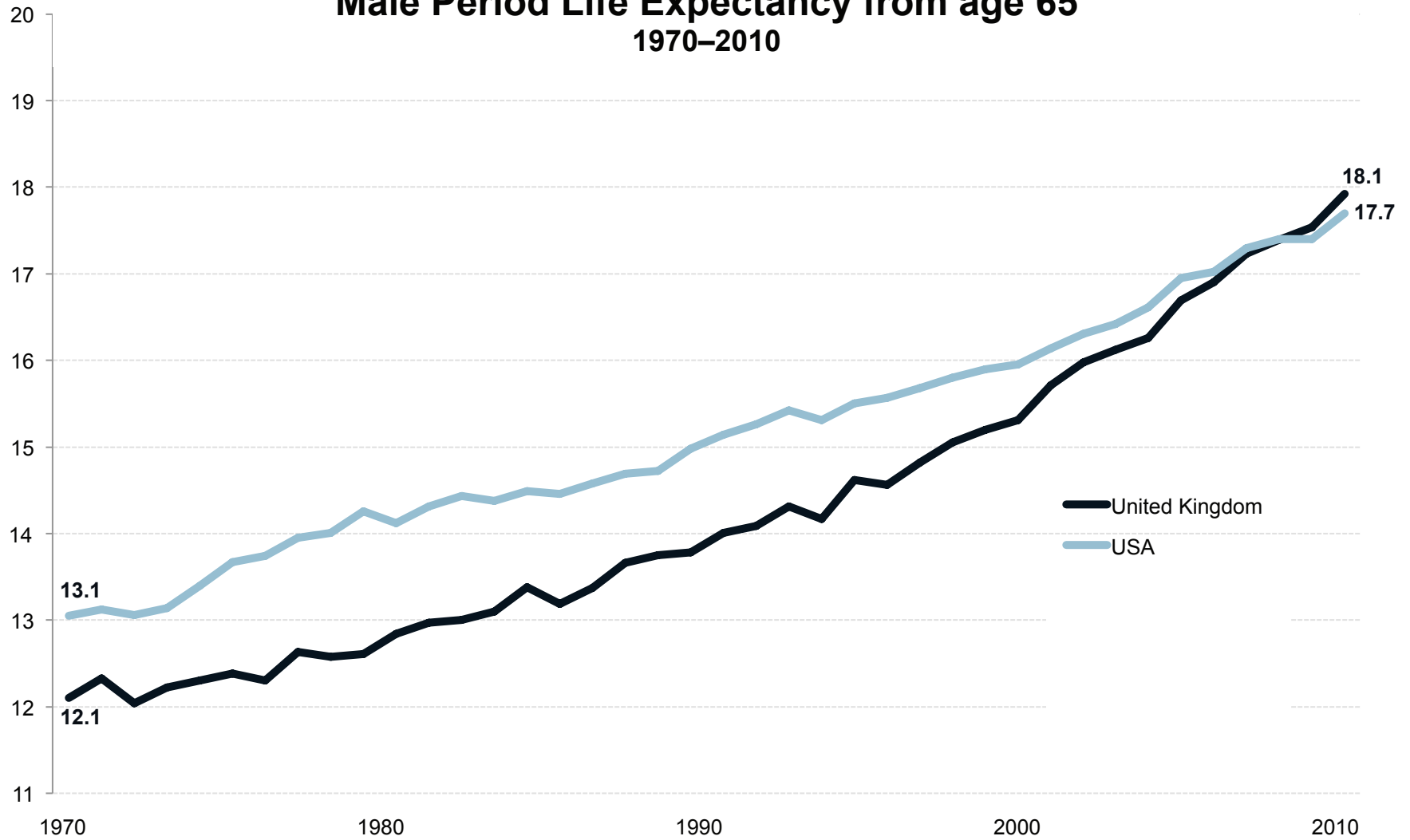
There Are Some Key Differences Between the U.S. and the U.K. That Drive Different Risk Practices

| | U.S. Corporate | U.K. Corporate |
|--------------------------|-----------------------|-------------------------|
| Funding Rules | Weaker | Stronger |
| Balance Sheet Impact | Mark-to-Market | Mark-to-Market |
| Income Statement Impact | Smoothed | Mark-to-Market |
| PBGC Premium / PPF Levy | Not Risk-Based | Risk-Based |
| Liabilities | Almost No COLAs | Almost All COLAs |
| Mortality Tables Updated | Every 10 Years | Every Year |

Items in blue encourage risk management and risk transfer.

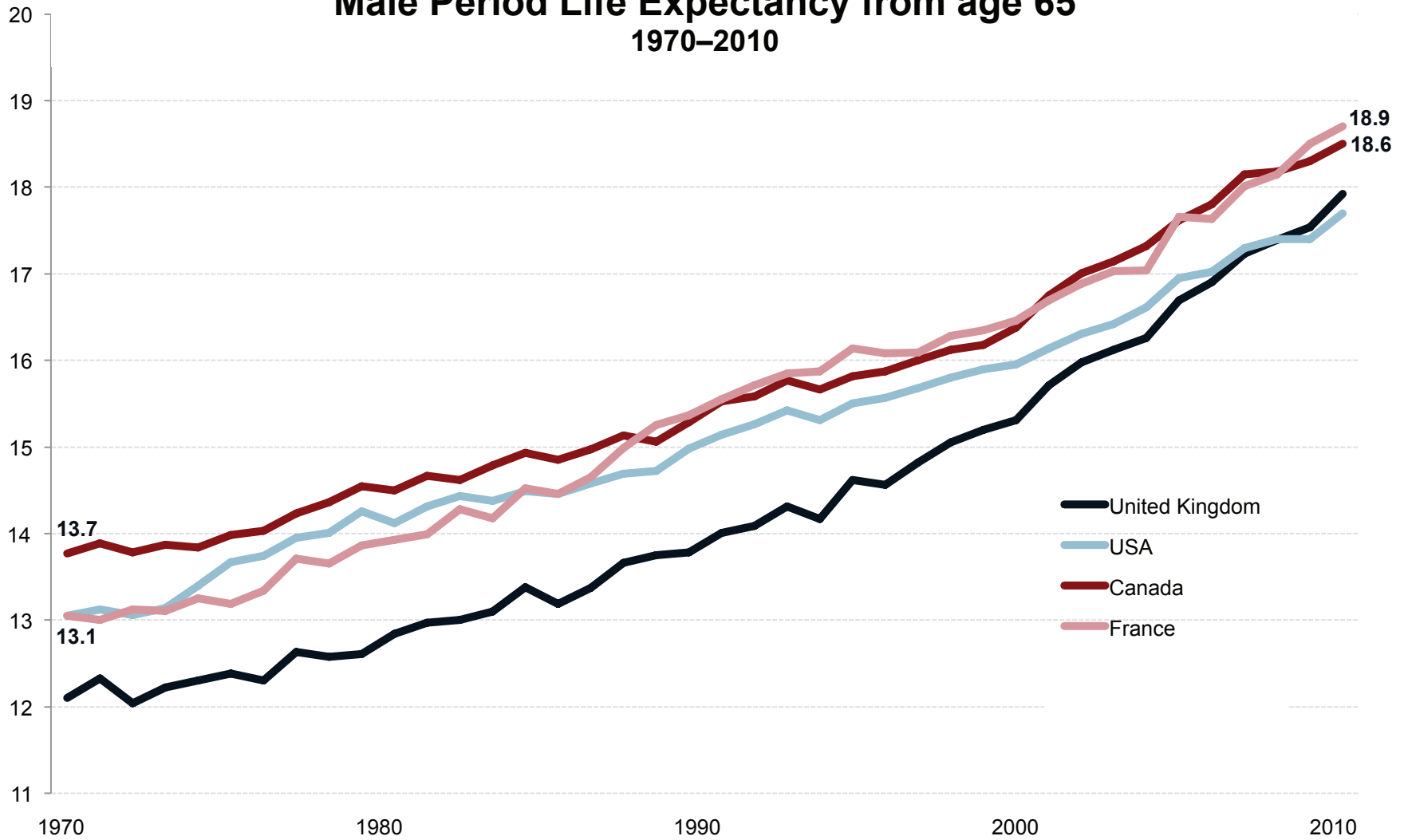
Retired Lifetimes of Males Have Increased Significantly

Male Period Life Expectancy from age 65 1970–2010



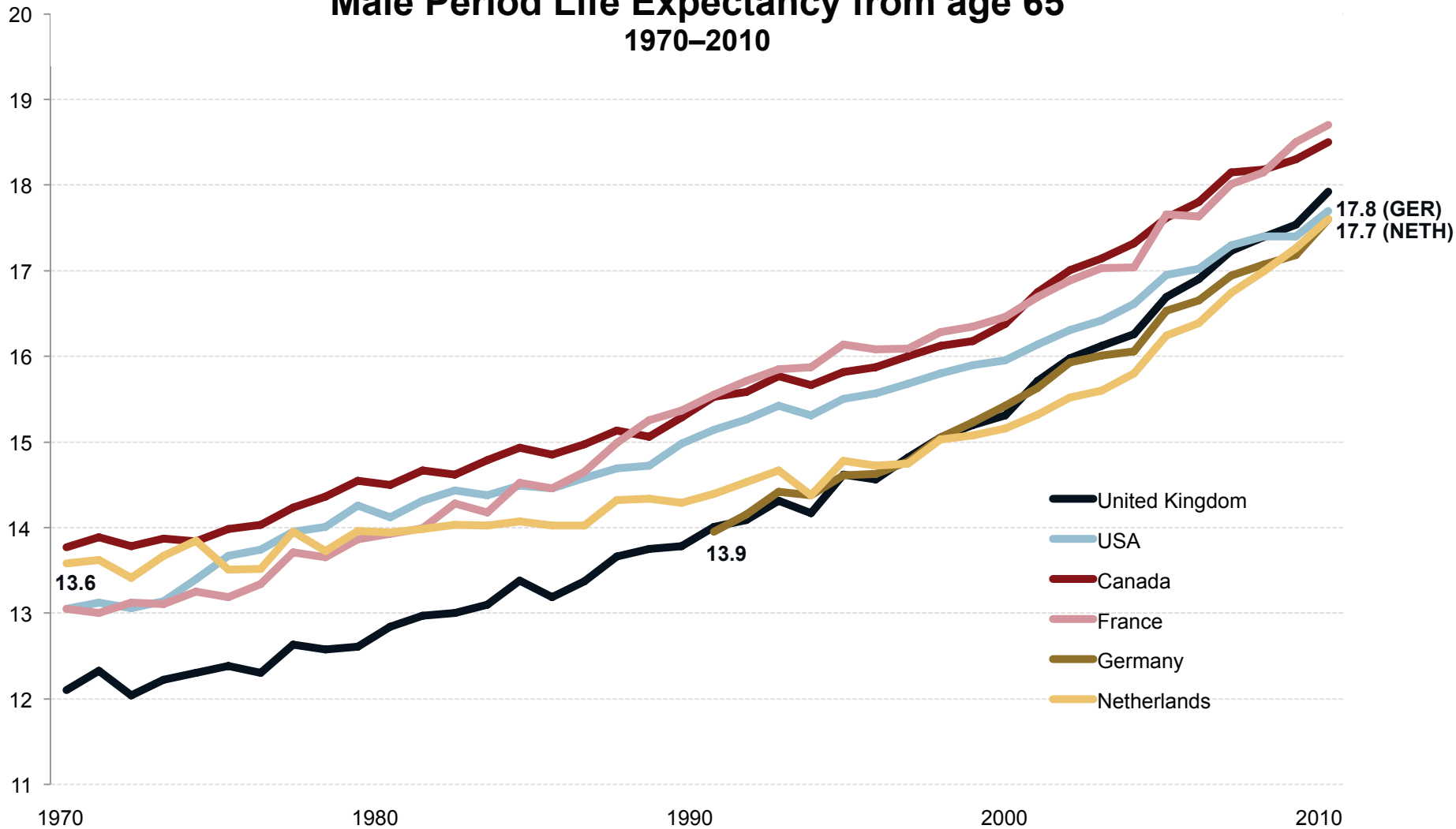
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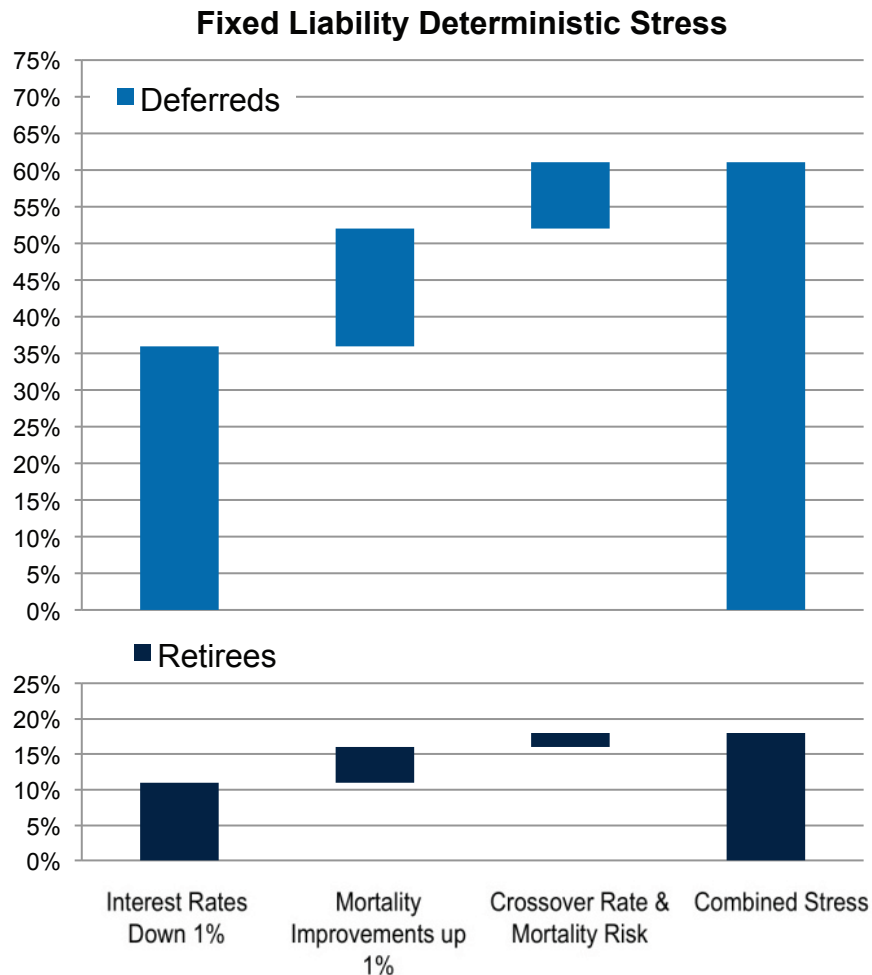
Male Period Life Expectancy from age 65 1970–2010



Longevity Risk Should Be Part of the Pension Risk Equation Because Longer Life Increases Other Risks

Deterministic Stress on Liabilities

(Impact of a 1% Decline in Rates and a 1% Increase in Mortality Improvements)

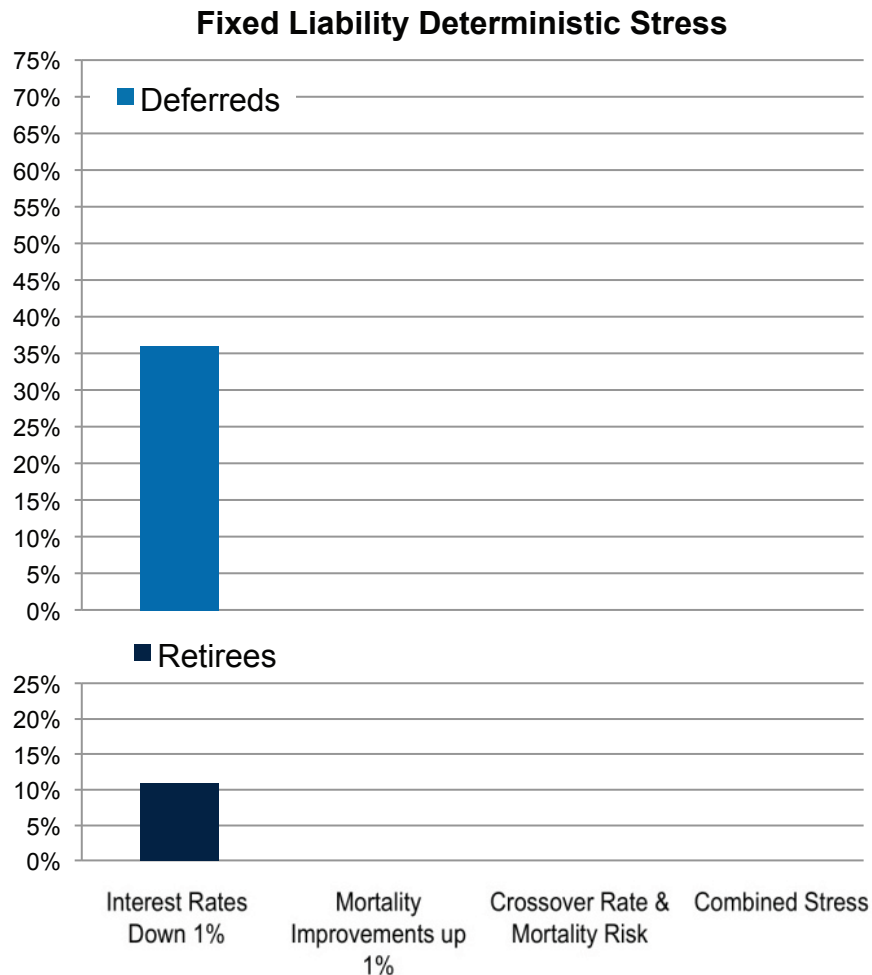


- If people **live longer** than expected, the **liability will grow**
- The larger liability will have a **longer duration**
- As a result, the pension fund will face **more interest rate risk** and **more duration risk**
- Pension funds with cost of living adjustments in the benefits have nearly double the exposure

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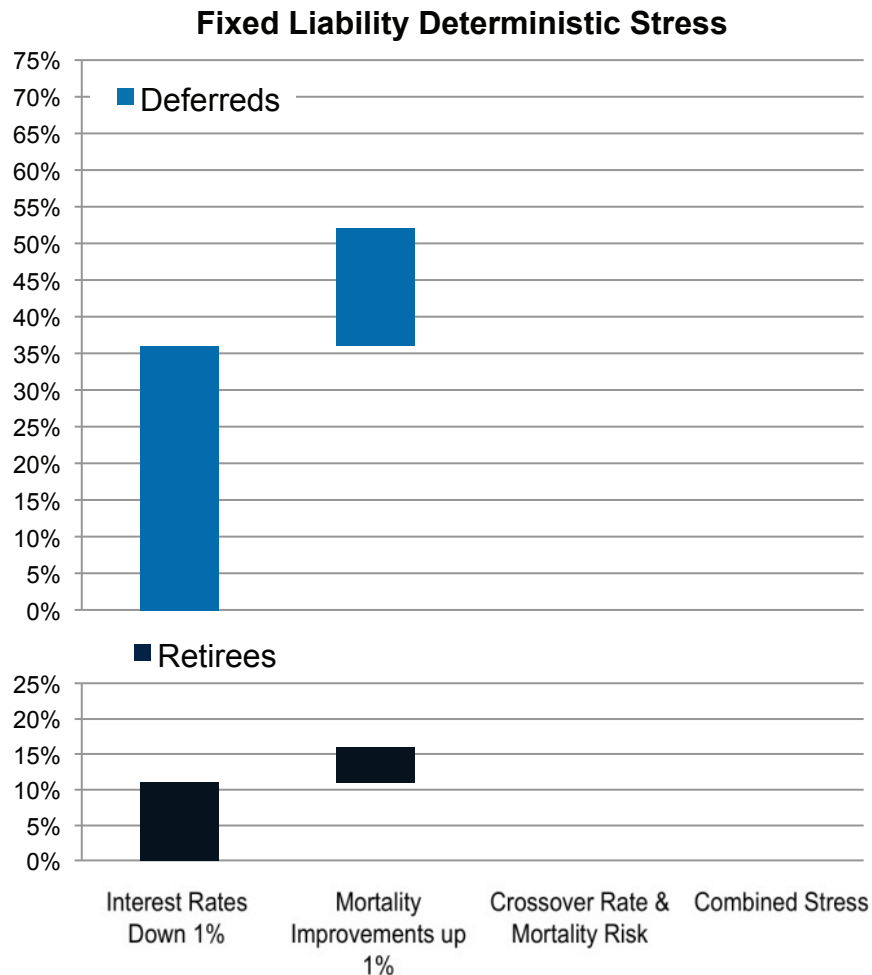


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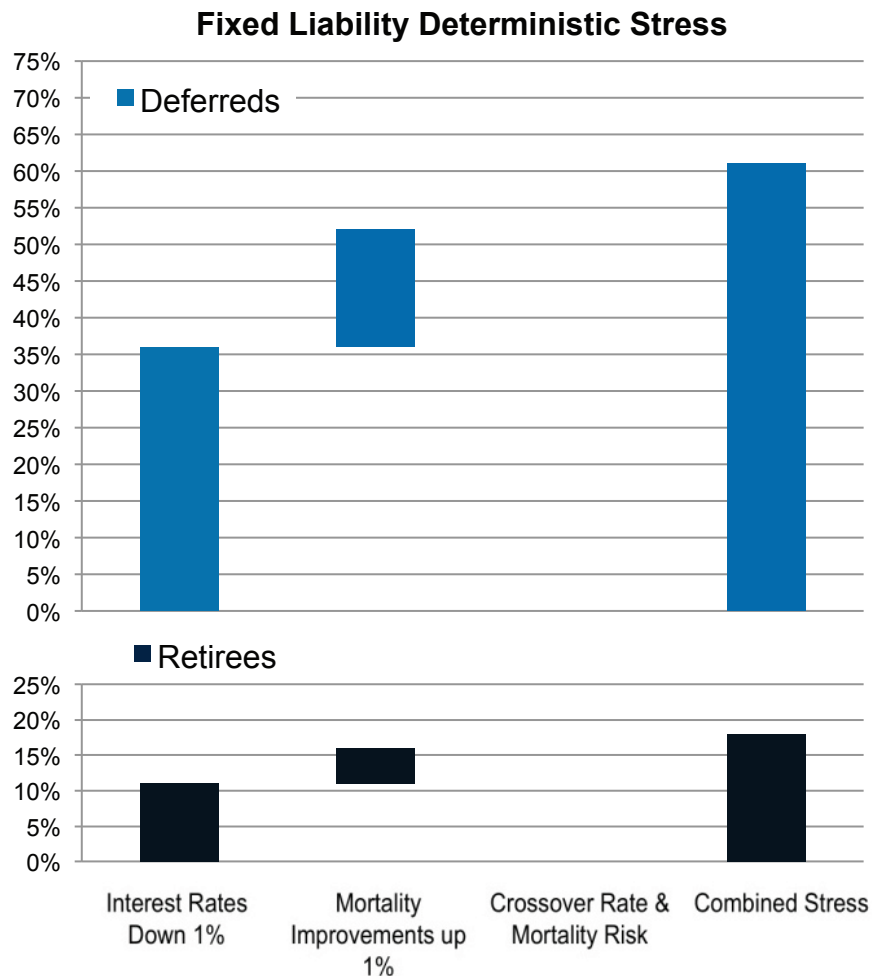


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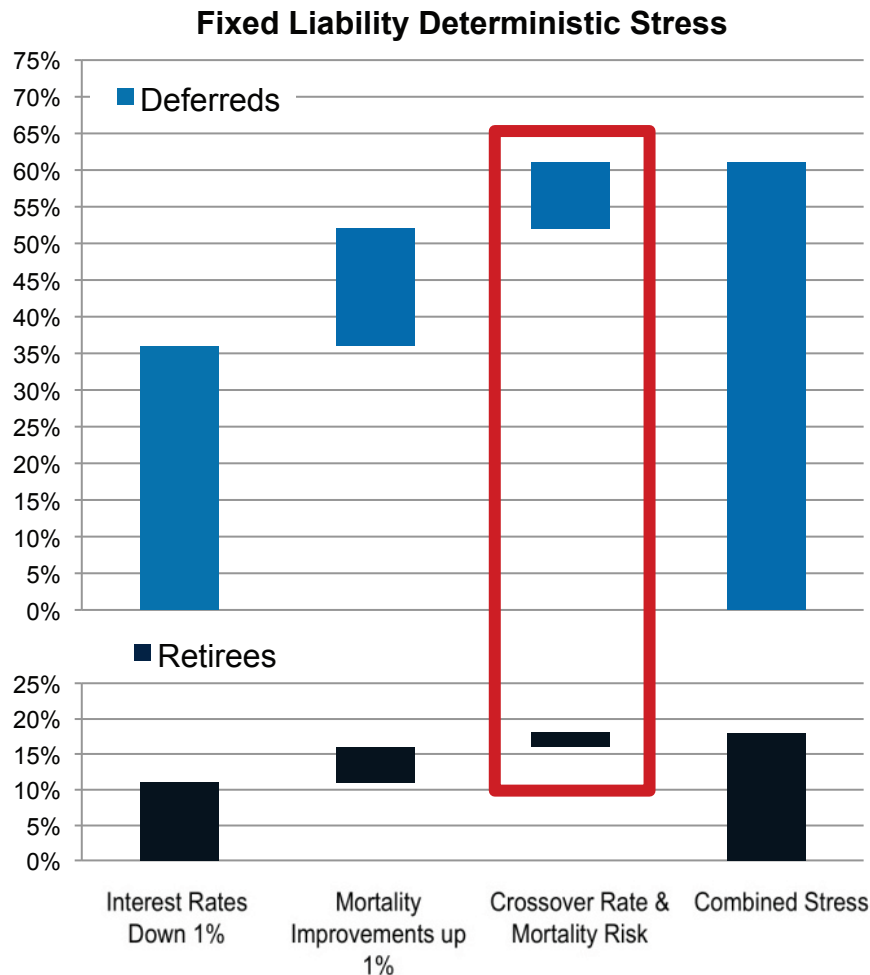


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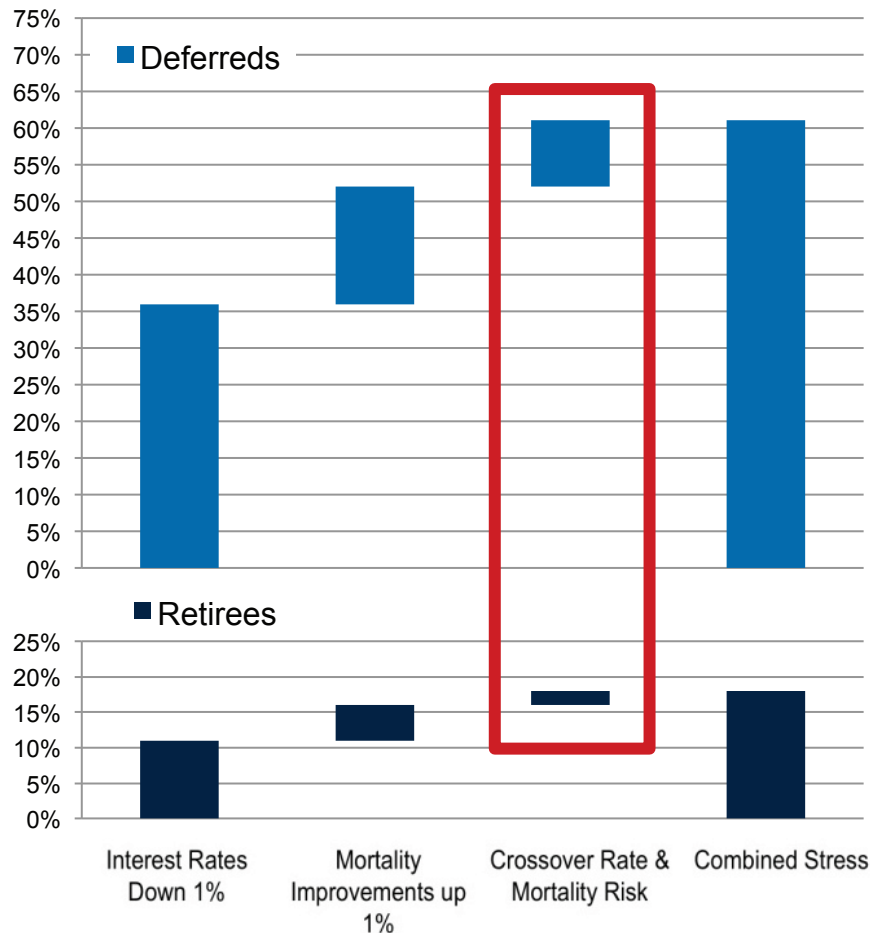
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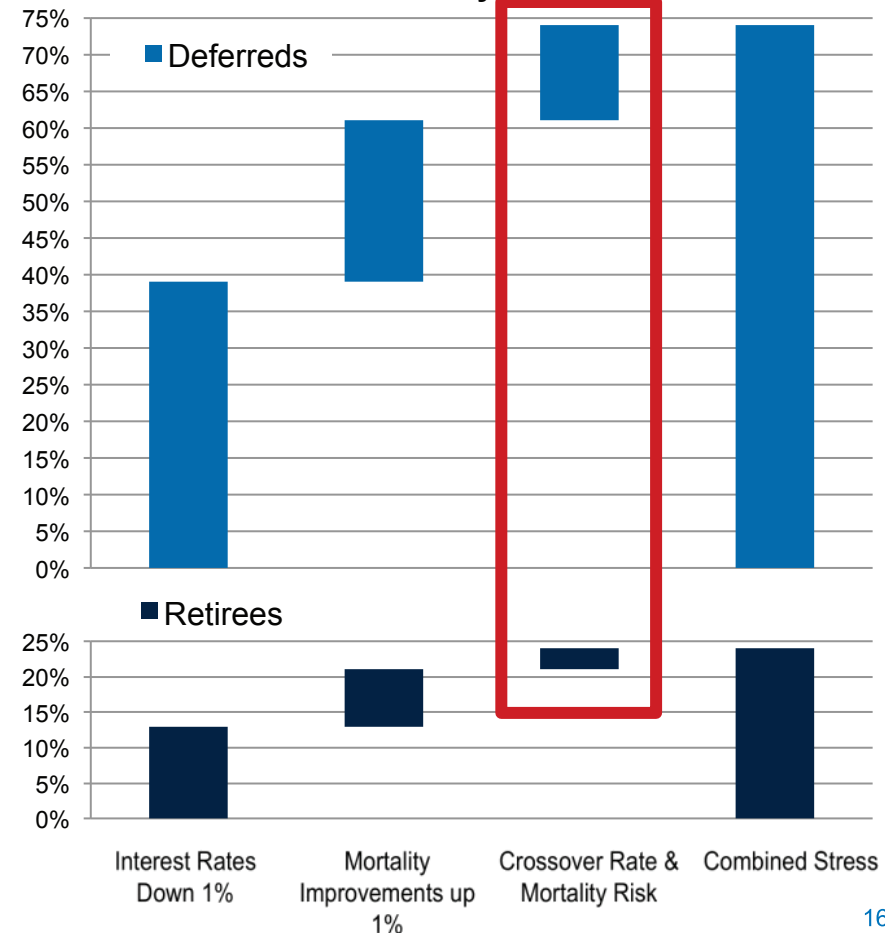
Deterministic Stress on Liabilities

(Impact of a 1% Decline in Rates and a 1% Increase in Mortality Improvements)

Fixed Liability Deterministic Stress



Inflation Linked Liability Deterministic Stress



Companies Choose an Insurance Solution Based on Their Needs

Buy-out

Complete **settlement** of plan liability

- Longevity Risk
- Investment Risk

General Motors (U.S.)
Verizon (U.S.)
Motorola (U.S.)
EMI (U.K.)

Buy-in

Plan investment that perfectly matches liability

- Longevity Risk
- Investment Risk

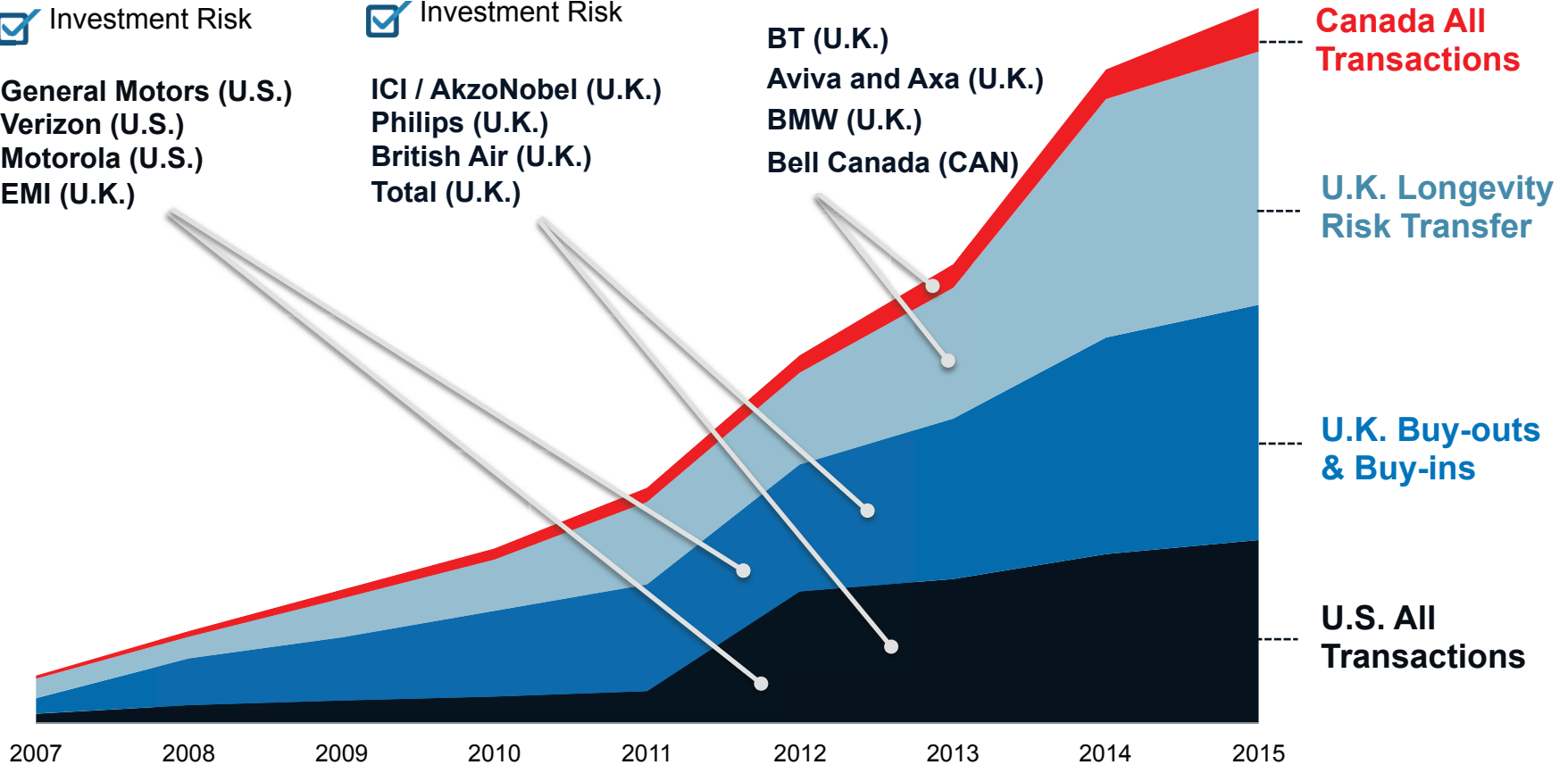
ICI / AkzoNobel (U.K.)
Philips (U.K.)
British Air (U.K.)
Total (U.K.)

Longevity Risk Transfer

Converts unknown future liability into a fixed payment over time

- Longevity Risk

BT (U.K.)
Aviva and Axa (U.K.)
BMW (U.K.)
Bell Canada (CAN)



How Do Pension Plan Sponsors Choose?

Pension plan sponsors who prefer

LONGEVITY RISK TRANSFER

Large scale



High fixed income allocation



High funded status



Prefer to retain risk

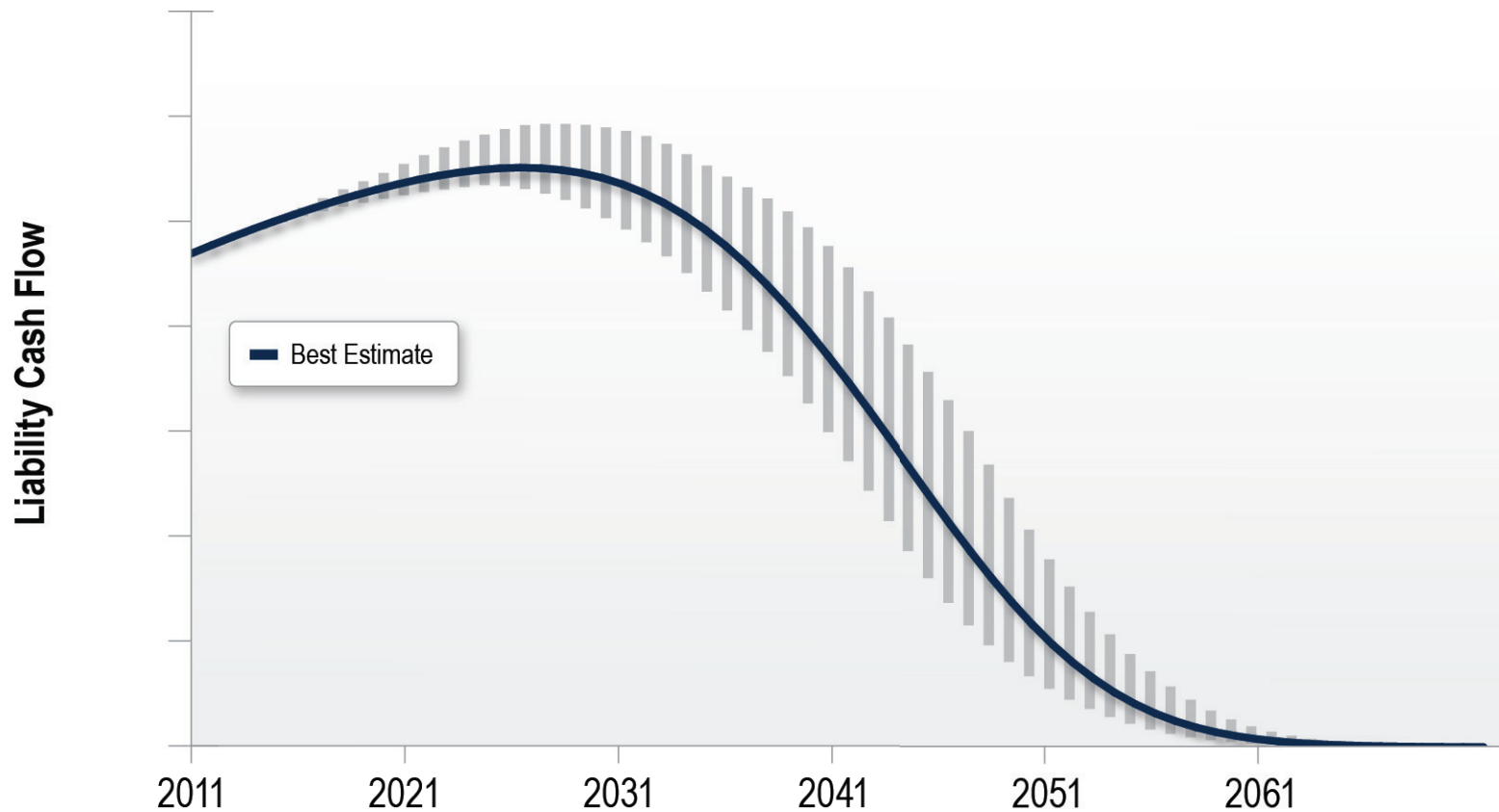


Prefer to pay over time

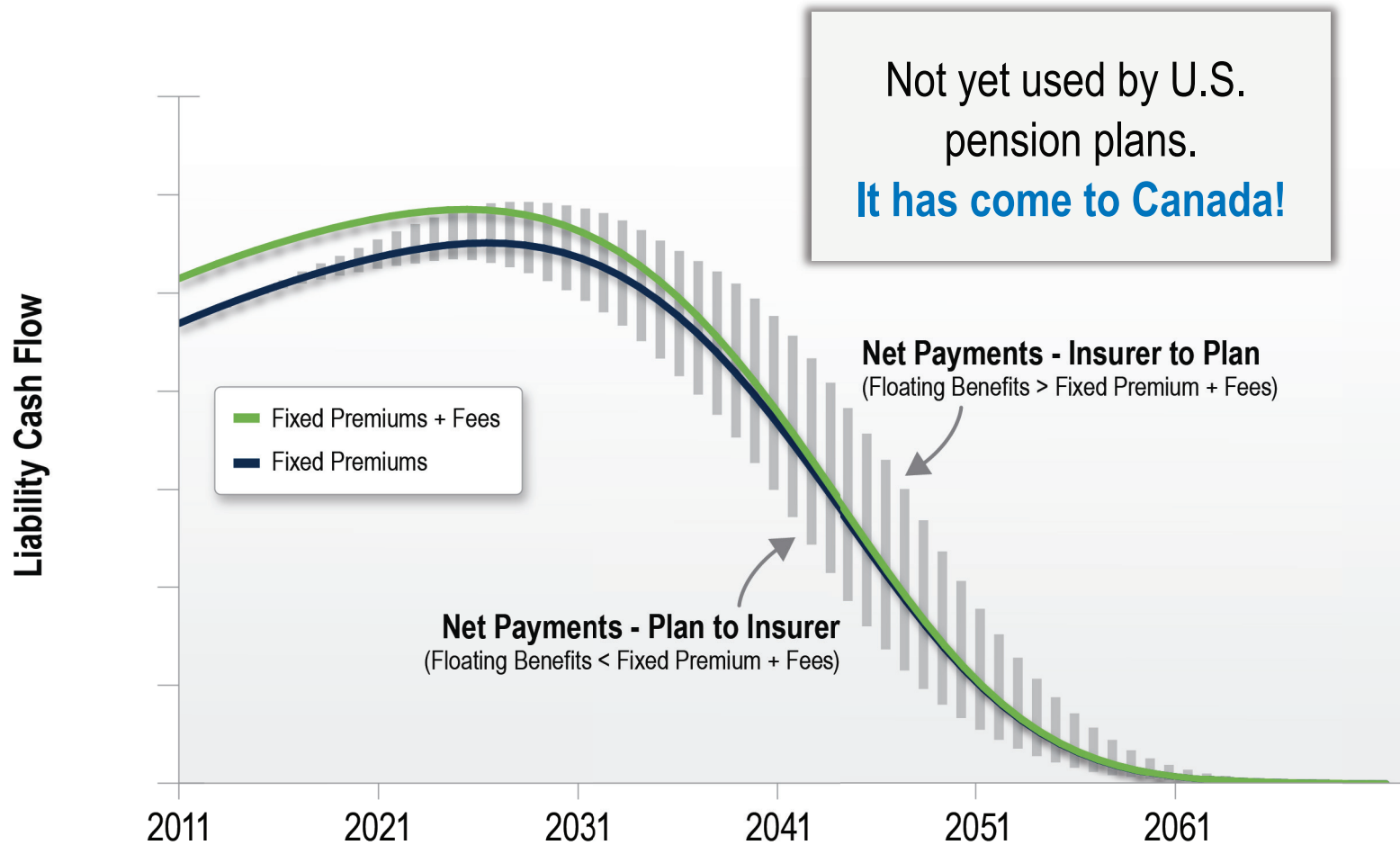


Those who do not fit these criteria generally prefer a **buy-in** or **buy-out**.

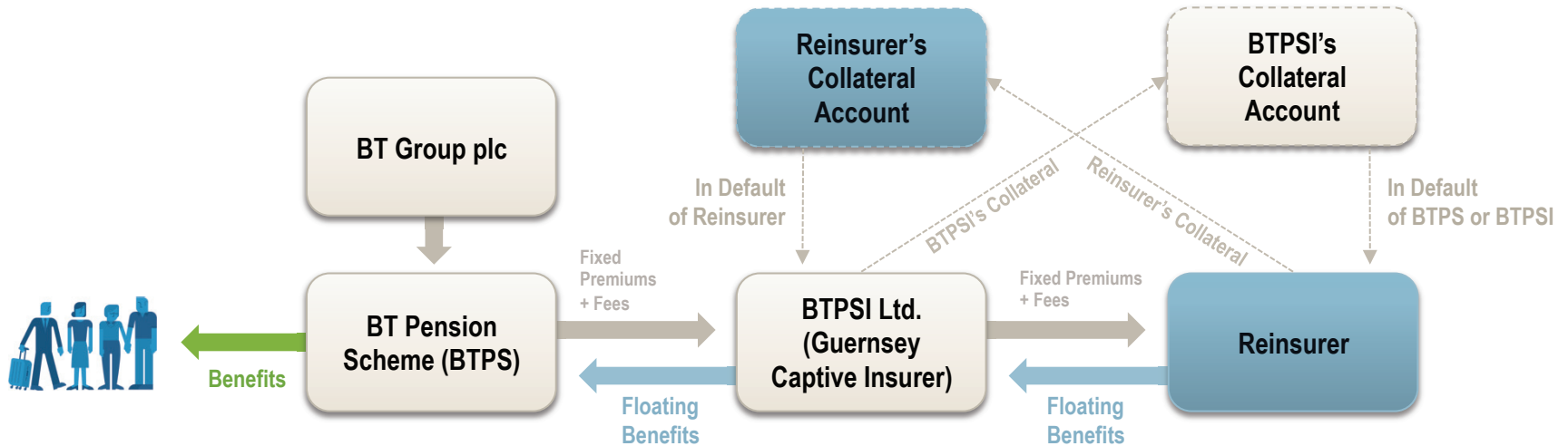
BT, Aviva, BMW and Bell Canada Chose to Hedge Their Longevity Risk



Longevity Risk Transfer Converts an Unknown Future Liability Into a Fixed Payment Over Time



The BT Pension Scheme Completed the Largest and Most Innovative Longevity Risk Transfer in the Market



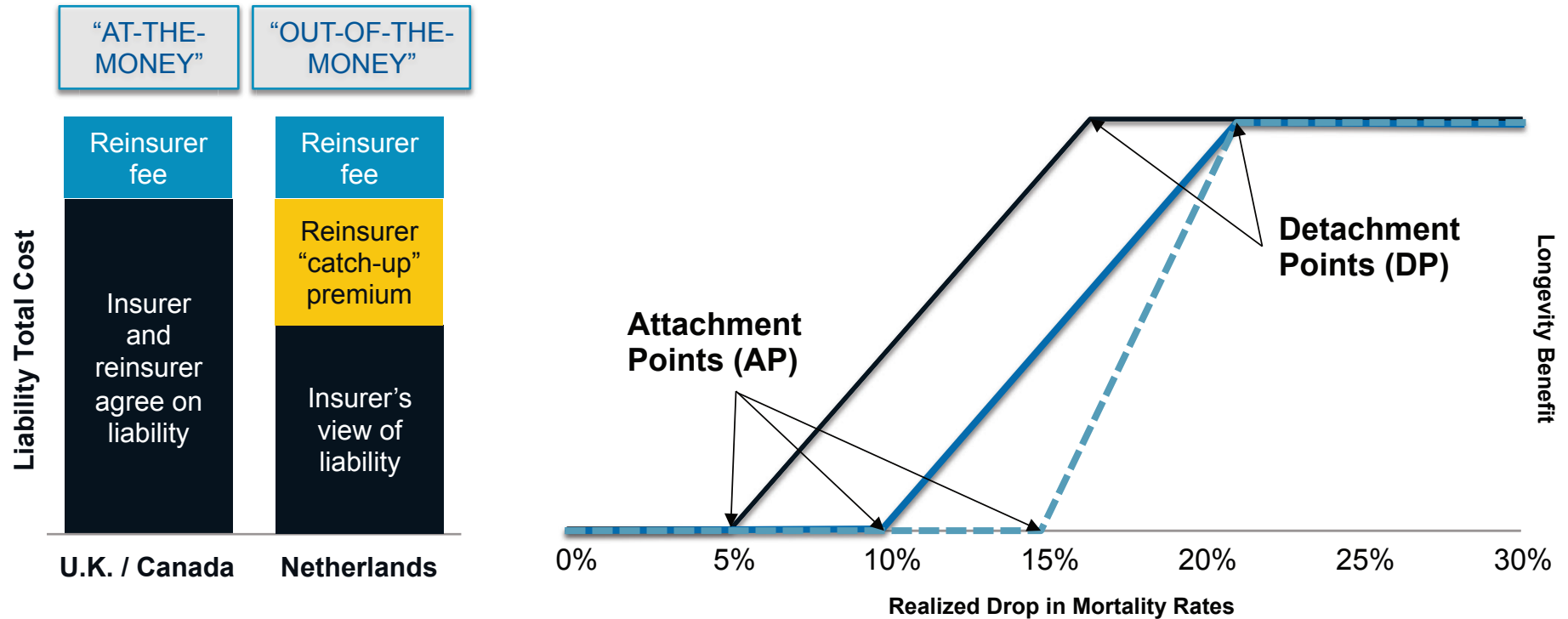
- Largest ever completed at £16 billion (\$27.7 billion)
- First to use an insurance captive owned by the pension fund
- Allows BTPS to immunize 25% of its longevity risk, combining a fixed and known future liability with the Scheme's own world-class asset management
- Allows BTPS to pay for its de-risking over time and shed an unrewarded risk
- Provides a proven approach for the world's largest pension funds to manage longevity risk

Longevity Risk Transfer in Other Markets

| Cedant | Risk Taker | Country | Size | Date |
|--------------------|---|---------|----------|-----------|
| AEGON | Capital Markets (thru Deutsche Bank) | NETH | EUR 12b | Feb. 2012 |
| AEGON | Capital Markets and SCOR (thru Société Générale) | NETH | EUR 1.4b | Dec. 2013 |
| Delta Lloyd | RGA | NETH | EUR 12b | Aug. 2014 |
| AXA France | Hannover Re | FRA | EUR 750m | Aug. 2014 |
| Delta Lloyd | RGA | NETH | EUR 12b | Aug. 2015 |

All of the Dutch transactions provide “out-of-the-money” tail risk protection against future longevity improvements.

Tail Risk Protection Structure is Different Than the “At-the-Money” Approach Used by U.K. Market Participants



The further out-of-the-money, the less capital relief the insurer will receive

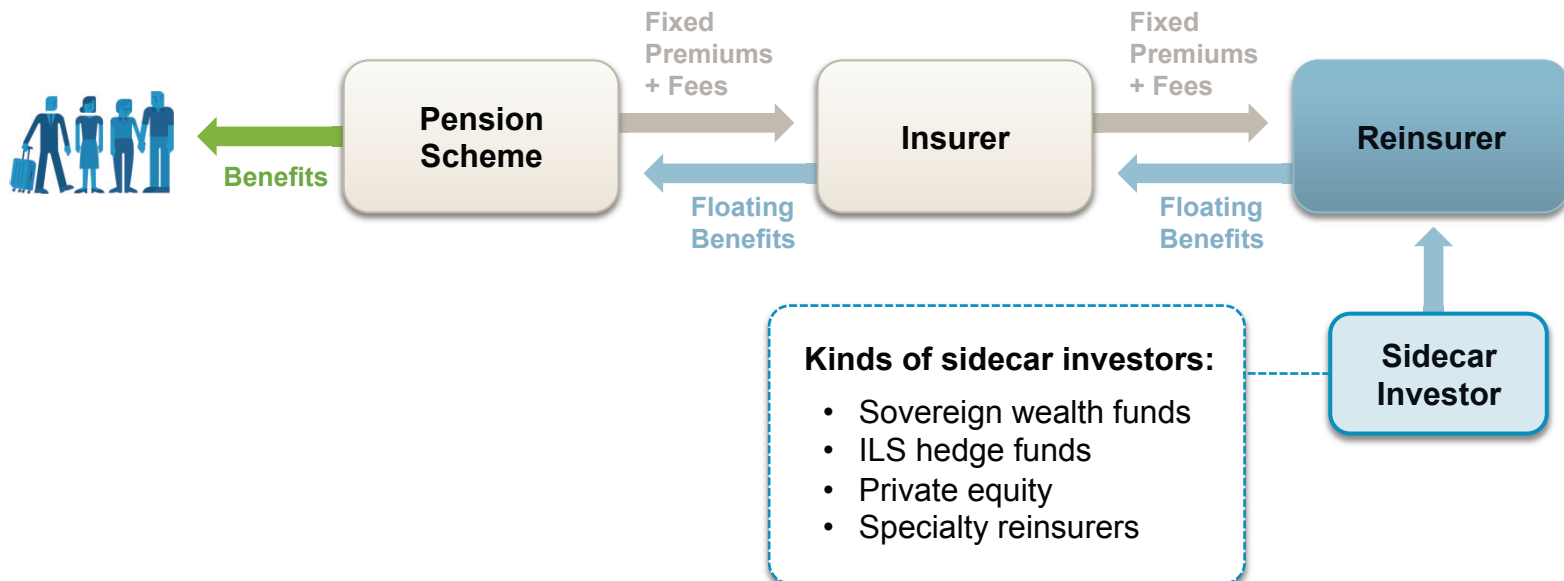


Capital Market Solutions Have Been Slow to Materialize... Sidecar Investing May Be Preferred

Reinsurance sidecar

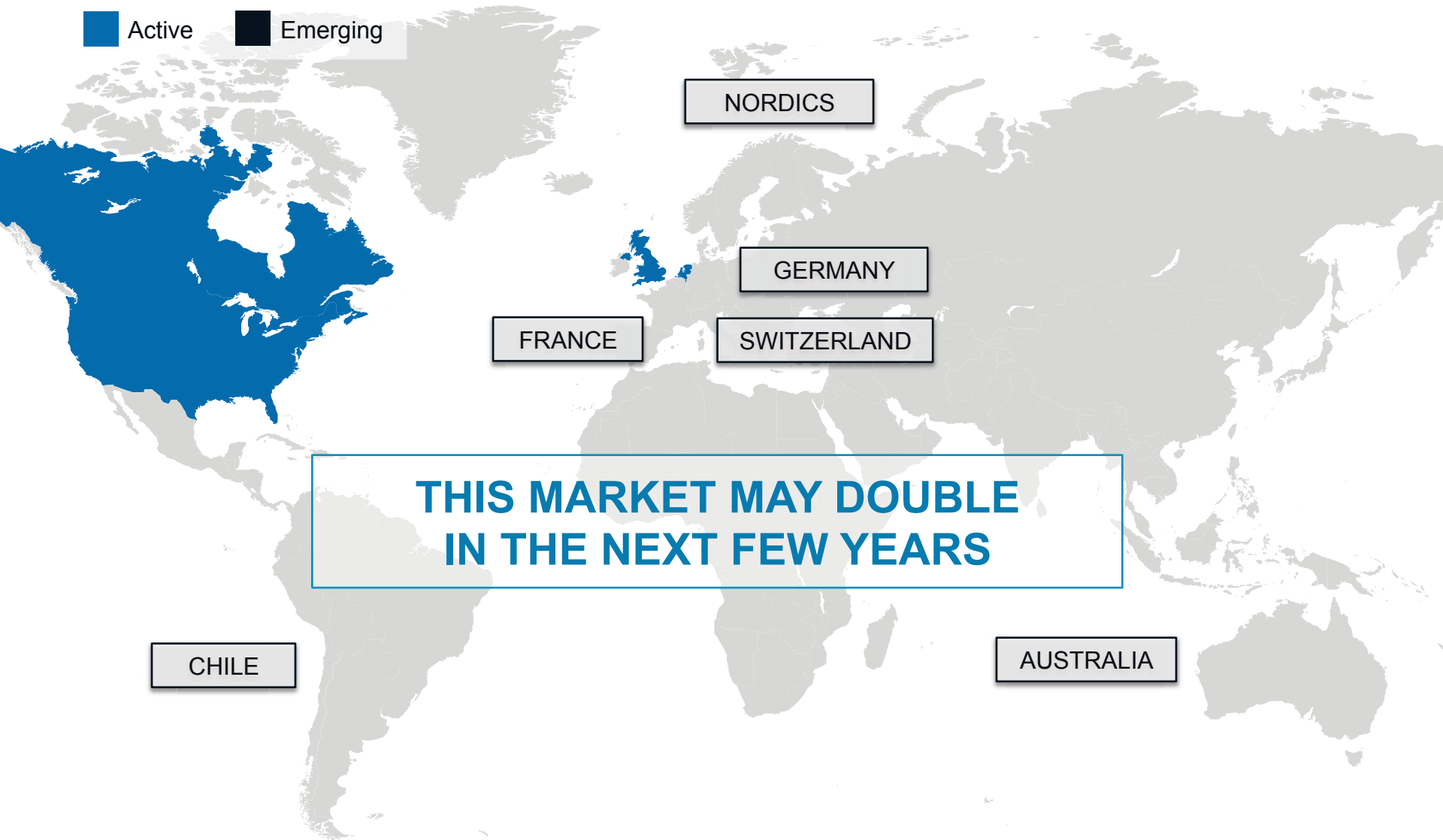
A financial structure established to allow investors (often external or third-party) to take on the risk and benefit from the return of specific books of insurance or reinsurance business.

Typically set up by existing re/insurers who are looking to either partner with another source of capital or set up an entity to enable them to accept capital from third-party investors.



Future Potential in Market Globalization and Growth

Active Emerging



**THIS MARKET MAY DOUBLE
IN THE NEXT FEW YEARS**

Q&A

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