2014 EAAC
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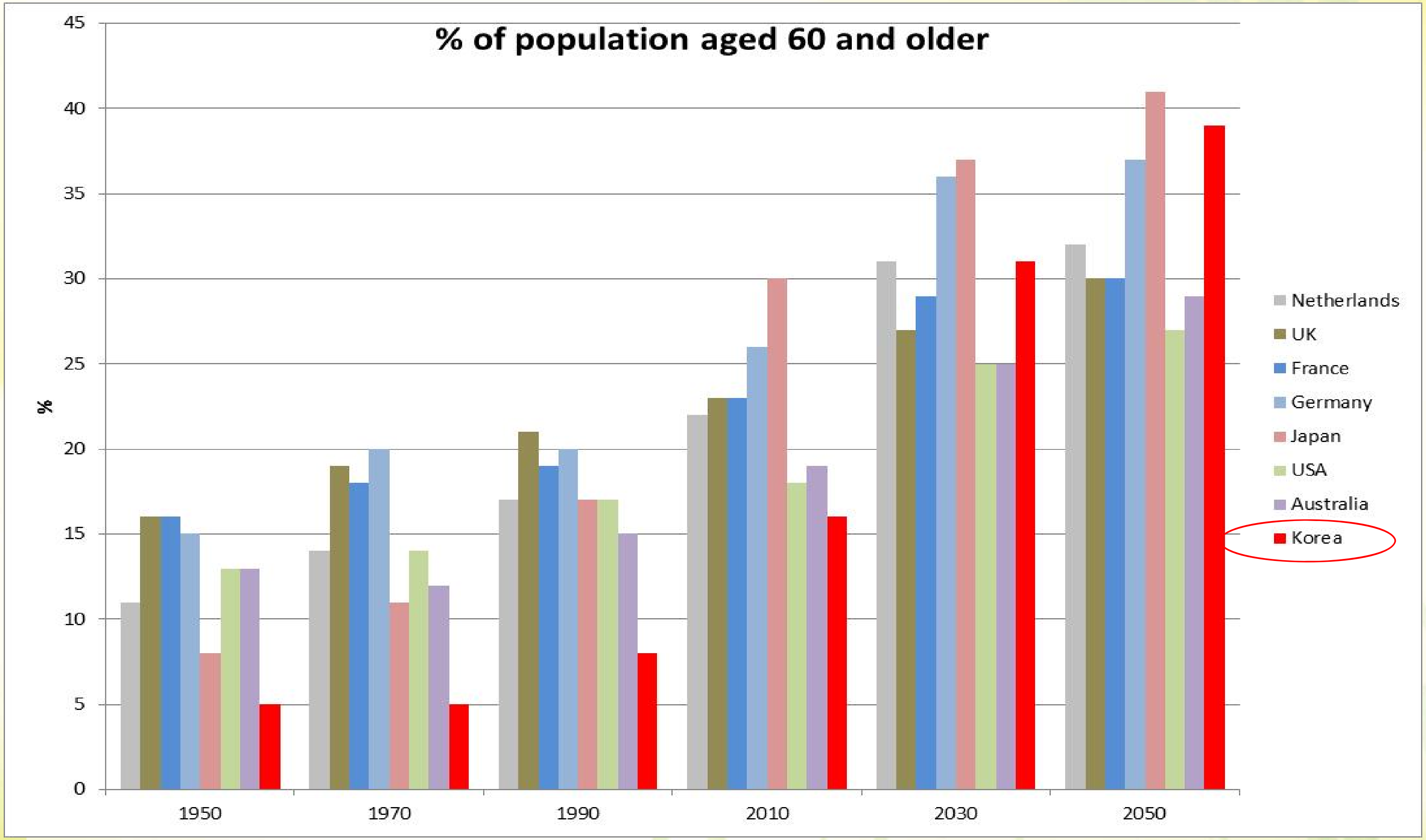
UK longevity risk transfer market – implications for Asia

David O'Brien FSA MAAA FIA
SCOR Global Life

Longevity

1	Global trends in longevity
2	UK Market developments
3	Applications for Asia Pacific markets

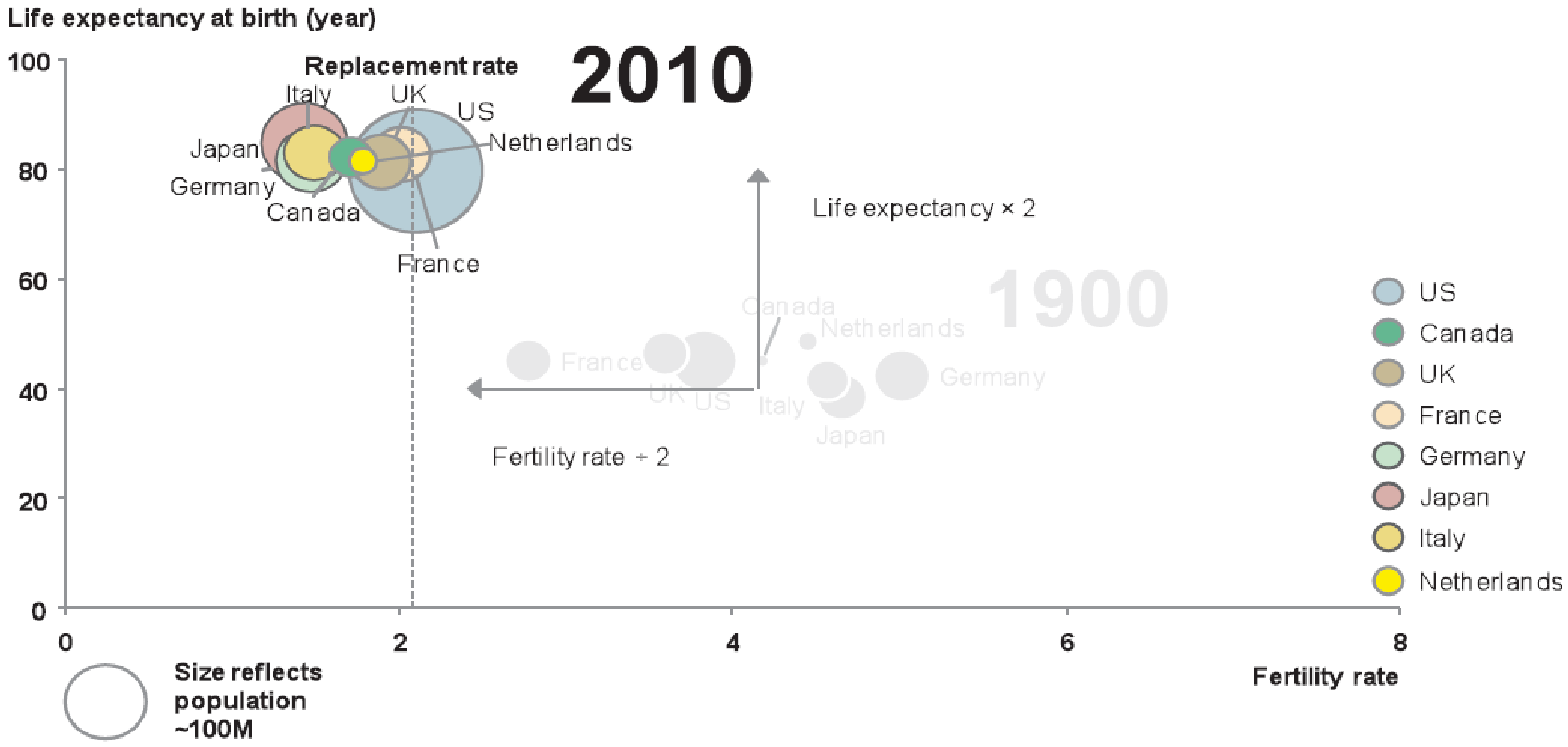
Globally, populations are becoming older….



Source : Global Population Ageing – World Economic Forum 2012 report

Populations are getting older…

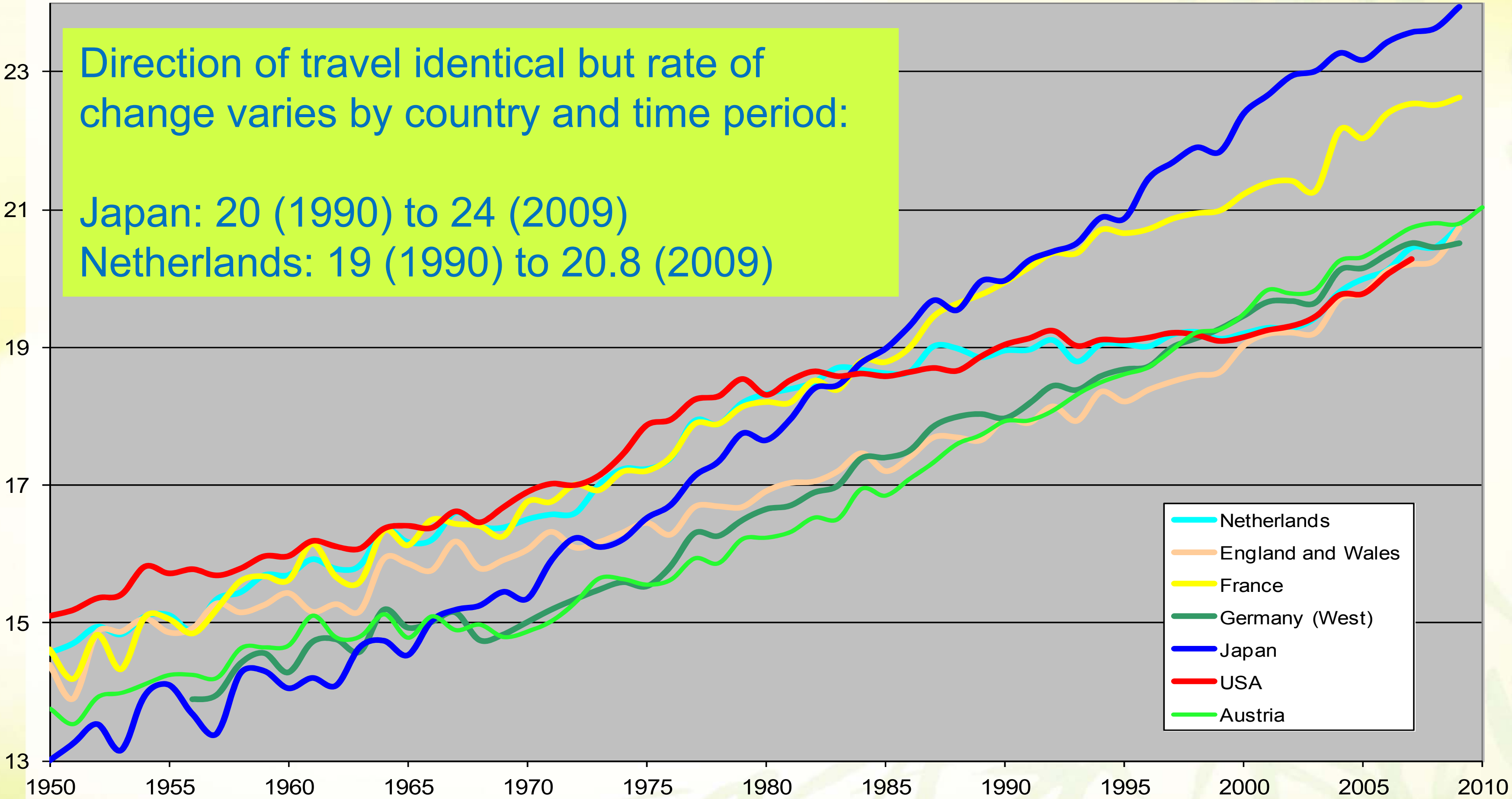
Main drivers are life expectancy and fertility rate



Source : International Actuarial Association Oct 2013 (presented in EAAC)

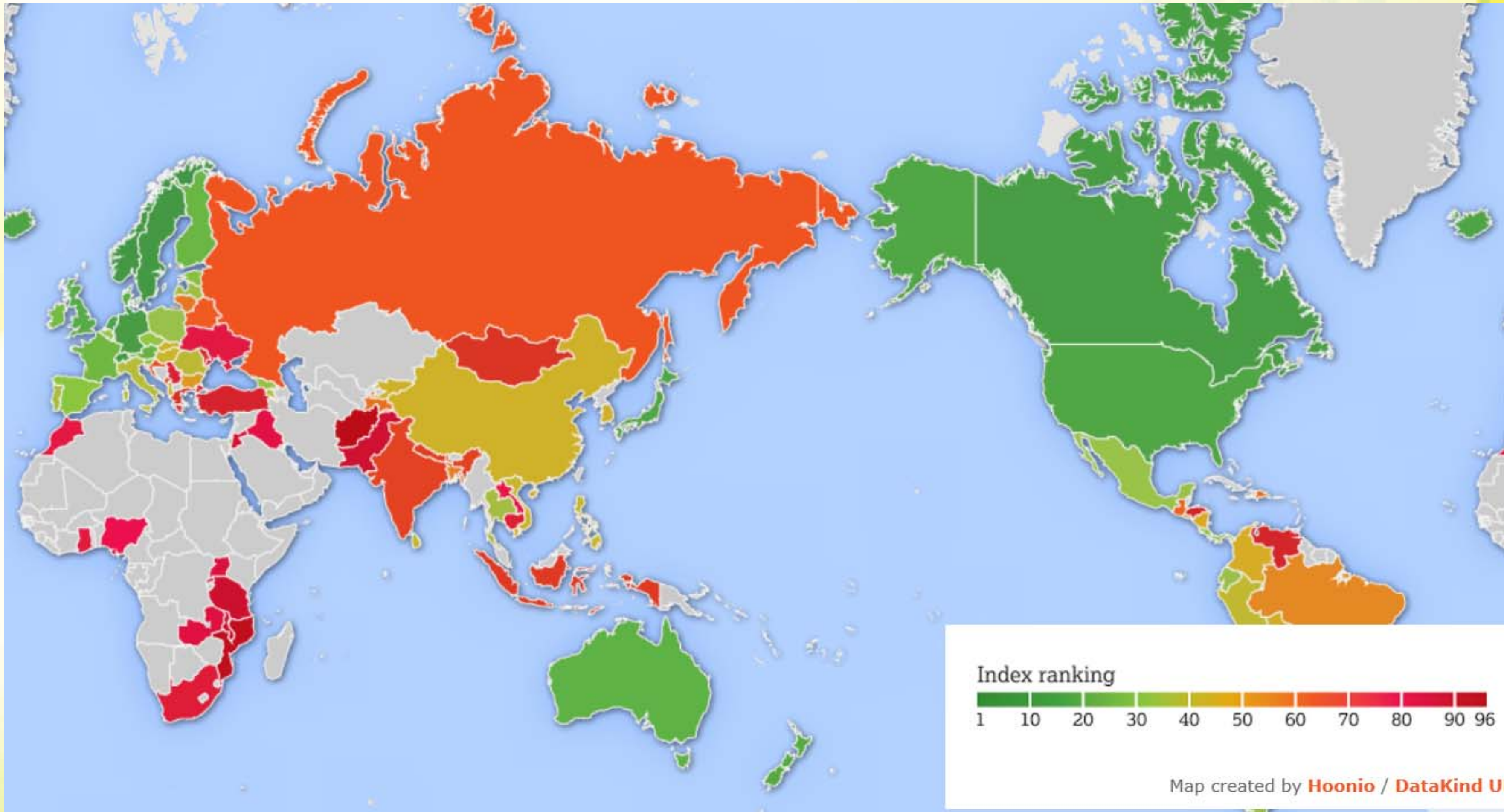
People are living longer

Female life expectancy at age 65, 1950-2009



Source : Human Mortality Database. University of California, Berkeley (USA), and Max Planck Institute for Demographic Research (Germany). Available at www.mortality.org (downloaded in May 2012)

..with a very mixed picture of income security for the elderly, and historically, limited private sector involvement outside Western nations.



Source : www.helpage.org Global Age Watch Rankings 2014

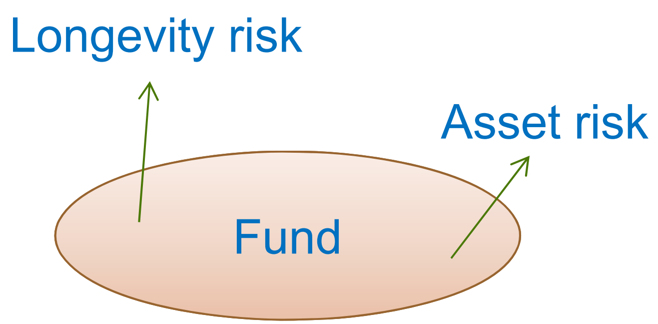
Private sector role in taking longevity risk varies widely

Macro Longevity	Pension / Annuity Assets	Potential Longevity Market Size	Regulatory & Accounting Conditions	
			Pension Scheme	Insured Annuity
Australia	● ●	●		
Brazil	●	●		
Canada	● ●	●		√
France	●	●		√
Germany	●	●	√	√
Ireland	●	●		√
Israel	●	●		√
Japan	● ● ●	●		
Netherlands	● ●	● ●	√	√
Spain	●	●		√
Switzerland	●	●		√
UK	● ● ●	● ● ●	√	√
US	● ● ● ● ● ● ●	●		

Defined Benefit vs. Defined Contribution

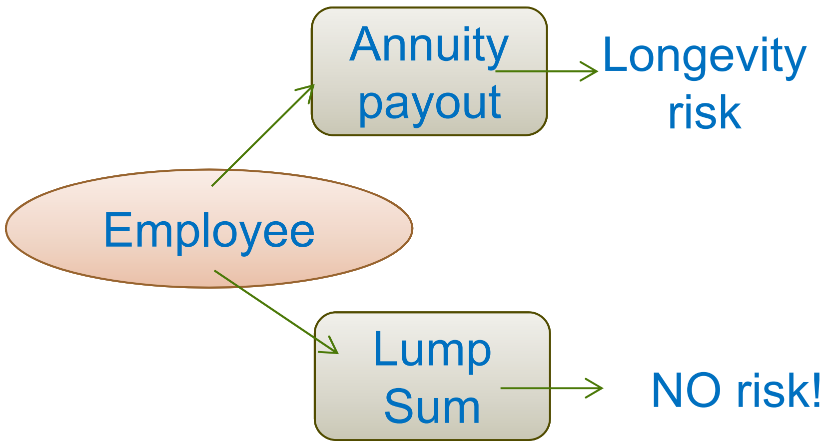
- Globally the aggregate value of private DB pension liabilities totals US$ 23 trillion
- The uncertainty of these liabilities has been crystallized in a low interest rate environment, creating motivation for risk transfer
- The global volume of longevity risk is **larger than the ability of the insurance sector** to absorb it

Defined Benefit Plan



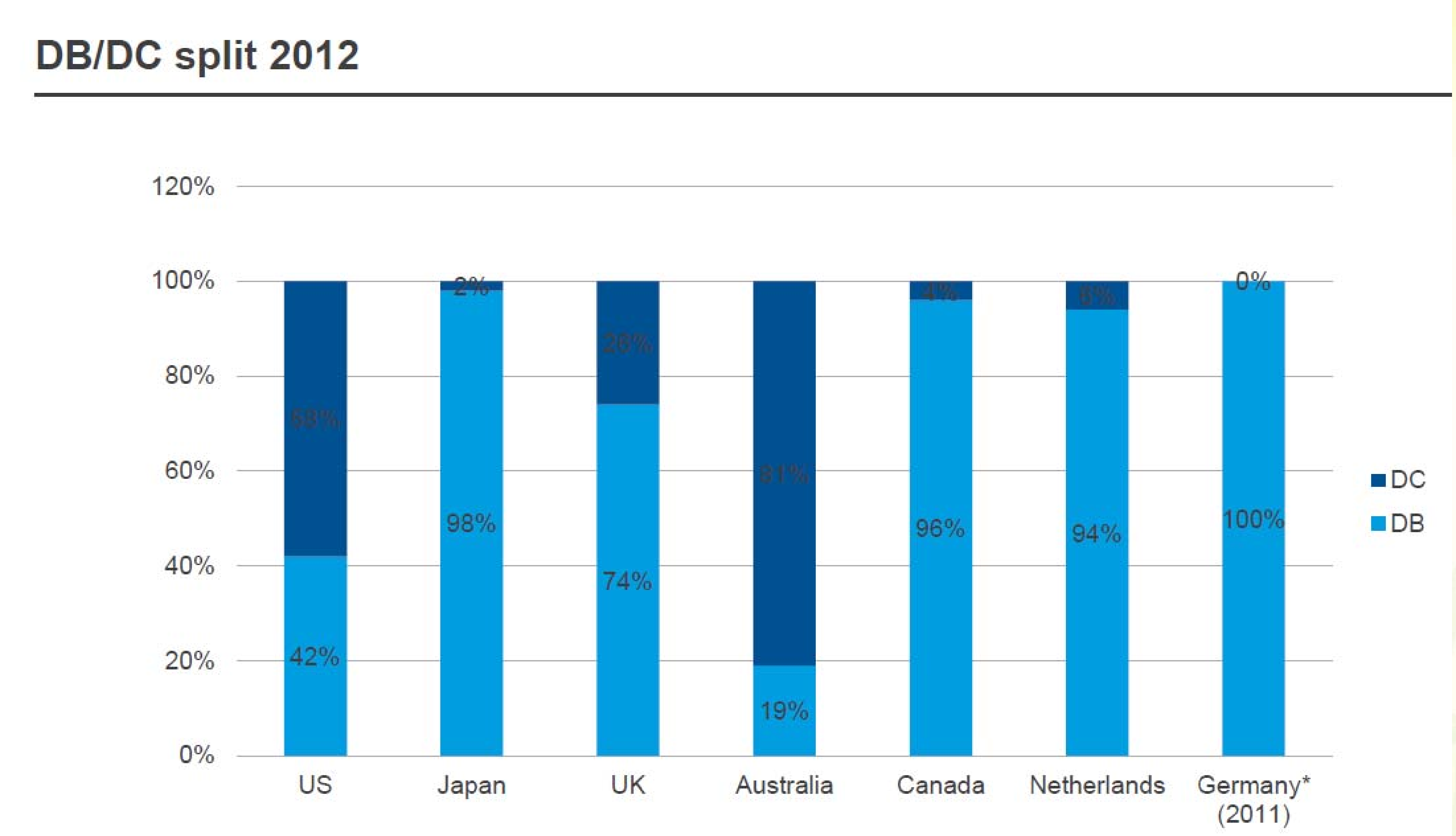
- Place the investment risks associated with market fluctuations upon the employer

Defined Contribution Plan



- Corporations typically save significant amount of money with DC plan as the benefits afforded by DC plans are lower

Defined Benefits vs. Defined Contributions



Source : Towers Watson: Global Pensions Asset Study 2013 and OECD, Pension Markets in Focus, Sep 2012, Issue 9

*Pension plans in Germany can actually be traditional DB plans or hybrid DB plans, but the split between the two categories is not available

Longevity

UK Longevity Market –
Demand from DB Pension Schemes

- UK defined benefit pension assets over £1,000bn; liabilities closer to £1,500bn
  - So far less than 5% of longevity risk passed to insurance/capital markets
- More than 70% closed to new members and increasingly closing to future accrual too
  - Closure can increase funding cost
- Recognition of deficit/surplus in accounts causing undesirable balance sheet and income statement volatility
  - Investment returns lower than expected in last 10+ years so many schemes have deficits
- Increased scrutiny of pension liabilities by analysts, rating agencies, lenders and shareholders
  - Potential stumbling block for M&A transactions (e.g. BA/Iberia)
- Strengthened funding assumptions have made transactions appear more affordable for schemes
  - Schemes expected to use assumptions appropriate to their membership profile; assumptions not prescribed by the Pensions Regulator
  - Peer pressure with respect to improvement assumptions
- Increasing awareness by sponsors and trustees of longevity risk
  - Previous focus was on inflation and interest rate risks
  - Lower interest rate environment heightened relative cost of longevity
  - Many larger schemes already hedge asset risk, longevity risk is remaining unhedged risk

UK Longevity Market –
Pension Scheme De risking: Strong transaction flow in 2014

2014 EAAC IN TAIPEI TAIWAN

SCOR Global Life participates in largest ever pension scheme longevity swap with Aviva

SCOR Global Life

06 March 2014 | N° 8 - 2014

PRESS RELEASE | 6 March 2014

SCOR Global Life, a subsidiary of S
insurer Aviva. The transaction cove
members of the Aviva Staff Pensio
from Aviva's pension scheme to th
GBP 5 billion, which makes this the
SCOR is assuming a meaningful po
2014.

This is the fourth longevity swap S
franchise and expertise in this grow
SCOR's pioneering longevity transa
progress already made by SCOR G
SCOR aims to double its longevity
profitability levels in line with the "
risk-free rate.

Last updated: July 4, 2014 11:19 am

BT pension fund strikes deal to hedge longevity risk

By John Aglionby and Josephine Cumbo

BT's pension scheme has moved to hedge the financial risk of paying out more to pensioners if they live longer than expected with a deal that is the largest of its kind in the UK.

It has created its own insurance company that has struck a deal with Prudential of the US to cover 25 per cent of the scheme's total exposure to improvements in longevity by hedging about £16bn of liabilities – in effect promised pension payments.

Sources: www.scor.com, www.ft.com

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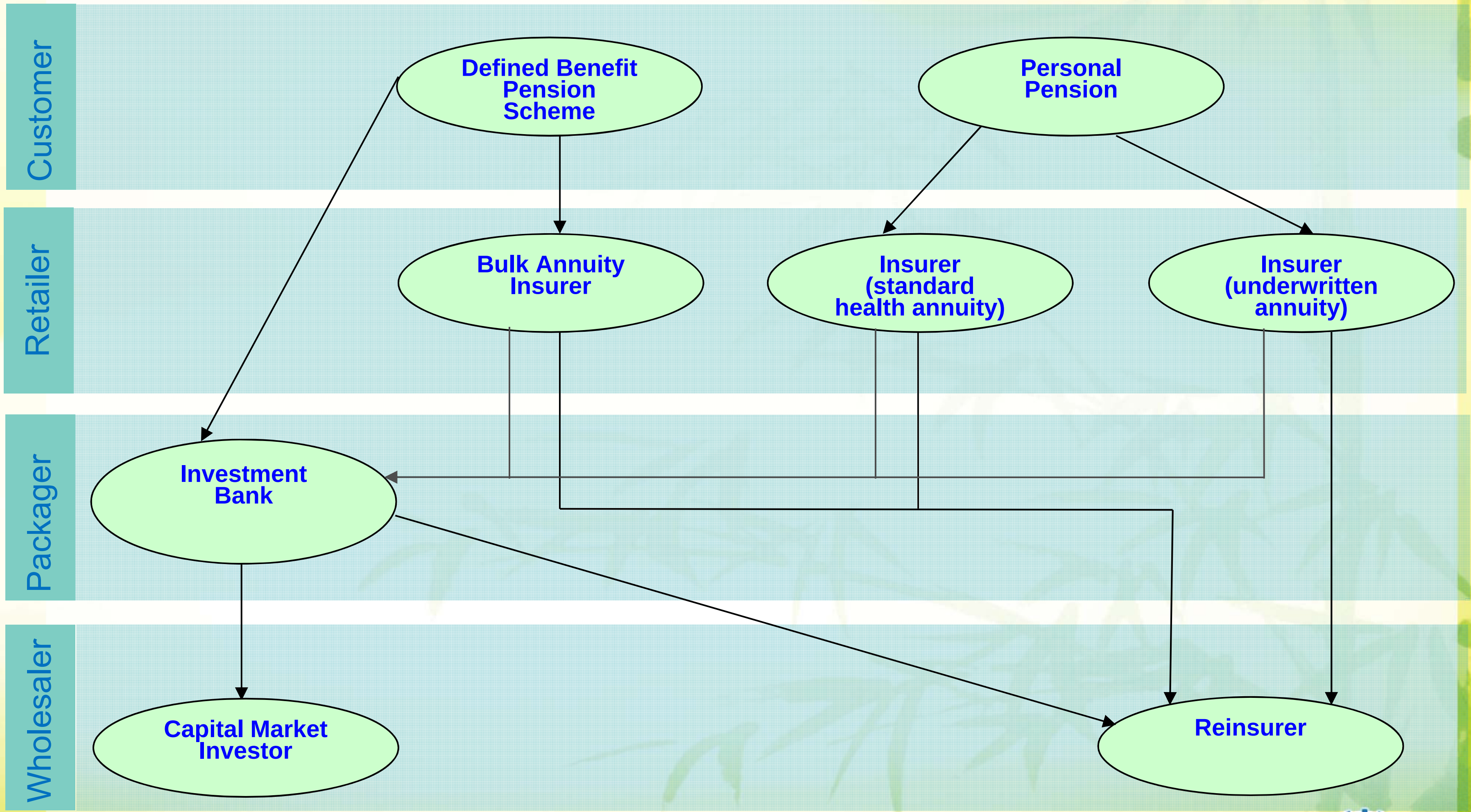
UK Longevity Market – Demand from Individual Annuities

- In excess of £600bn assets covering employer sponsored DC and personal pensions
  - £140bn backing post retirement insurance annuity reserves
- Rapid growth due to closure of DB schemes and demographic changes
- UK market accounts for an estimated 40% of total global annuity market
- Increasing awareness that state retirement benefits are insufficient and likely to reduce further in future
- Insurers have a limit on exposure they wish to retain so look to reinsurance and capital markets
- For some smaller insurers, the long tail of annuity business shows that it can dominate them in a few years
- Solvency 2 stress for longevity focussing further attention
- **Recent changes to requirement to annuitise pension savings pot are likely to shrink this market for new business**

Reinsurance Structure for UK Market



Reinsurance Structure for UK Market
Typical DB Pension Scheme Solutions

Swap (index or bespoke; natural expiry or limited duration)

Pension Scheme

Regular Claims (Actual annuities)

Regular Premiums (Expected annuities + margin)

(Re)insurer

Only longevity risk transferred

Buyout/Buy-in

Pension Scheme

Regular Claims (Actual annuities)

Single Premium paid on day 1

(Re)insurer

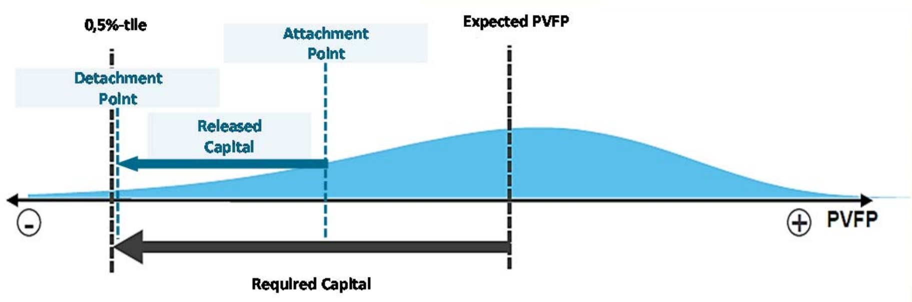
Longevity and asset risk transferred

Buyout: removes all risk including operational risk from scheme and individual pensioner has contract with insurer

Buy-in: insurance asset bought by scheme, scheme retains operational and counterparty credit risk. Scheme retains obligation to pay pensioners

SCOR Longevity Deals in the Netherlands

A solvency II driven solution



- An innovative out-of-the money index option that protects the ceding company from (i) improvement in Dutch mortality trend primarily and (ii) adverse deviation in US mortality experience to a lower extent, above an agreed on threshold and up to a defined limit
- The deal was calibrated according to the ceding company's internal model so that full Solvency II benefit is provided

Transaction's benefits

- **Ceding Company**
  - **Benefits**
    - The transaction mainly aims at hedging longevity trend risk at level of risk consistent with Solvency II framework
    - Transfers the longevity and mortality risks at an efficient cost of capital
    - Gets capital relief
    - Keeps all upside : favorable mortality and longevity deviations benefit to the ceding company only
    - Low counterparty risk as this is mitigated through collateral arrangements
  - **Costs**
    - This is not a perfect hedge - Some basis risk is retained by the ceding company

Longevity

1	Overview
2	UK Market Developments
3	Applications for Asia Pacific markets - Management of existing longevity risks - Public policy as an engine for change - Innovation in product design to demonstrate value for money

Existing longevity exposures in Asia Pacific – some pre conditions for effective management

Accounting Standards

- National accounting standards for recognition of corporate pension arrangements are progressively adopting IAS approach to recognise funded and unfunded obligations as on-balance sheet obligations, with a requirement to periodically recognise changes in this value. This is a prerequisite for liabilities to be valued close to fair value.

Fair Value of Liabilities

- Assessment of pension obligations is often based on population or industry tables of mortality that are not calibrated to the specifics of the risk group.
- Provision for explicit mortality improvement makes transparent the level of provision arising for lengthening lifespan.

Drivers

Mechanism for risk transfer

- Precedent transactions are important but challenging to execute
- Accounting, tax and regulatory framework need to be aligned
- Framework for long term handling of collateral to manage counterparty risk is challenging.
- High quality data to analyse trends and to reliably execute on a swap agreement is work in progress.

Incentives for de-risking

- Investor, rating agency and regulator awareness of longevity risk exposure often accelerates risk management action
- Legislative and corporate governance framework needed to support de-risking

Market scale

- The UK and US corporate sector have significant longevity exposures.
- Large scale prompts investment by reinsurers and banks to provide competitive solutions
- Korea and China arguably have exposures supportive of formation of a tradable market

Public policy lessons – high stakes changes under way

Australia consults on introduction of compulsory annuitisation - UPDATED

By: Jonathan Stapleton | 17 Jul 2014 | 0 Comments   Print Send Share

Australia is considering whether to force people to convert all or part of their superannuation benefits into retirement products to help manage longevity.

Contrasts with UK move

News story

Pensions freedom for 400,000 hardworking people from today

The Budget set out radical plans to completely change the tax treatment of defined contribution pensions to bring it into line with the modern world. From April 2015, we will make it possible for people to withdraw their defined contribution pensions savings however they wish, subject to income tax.

Sources: www.professionalpensions.com, www.gov.uk

Innovations in longevity product design must show value for money

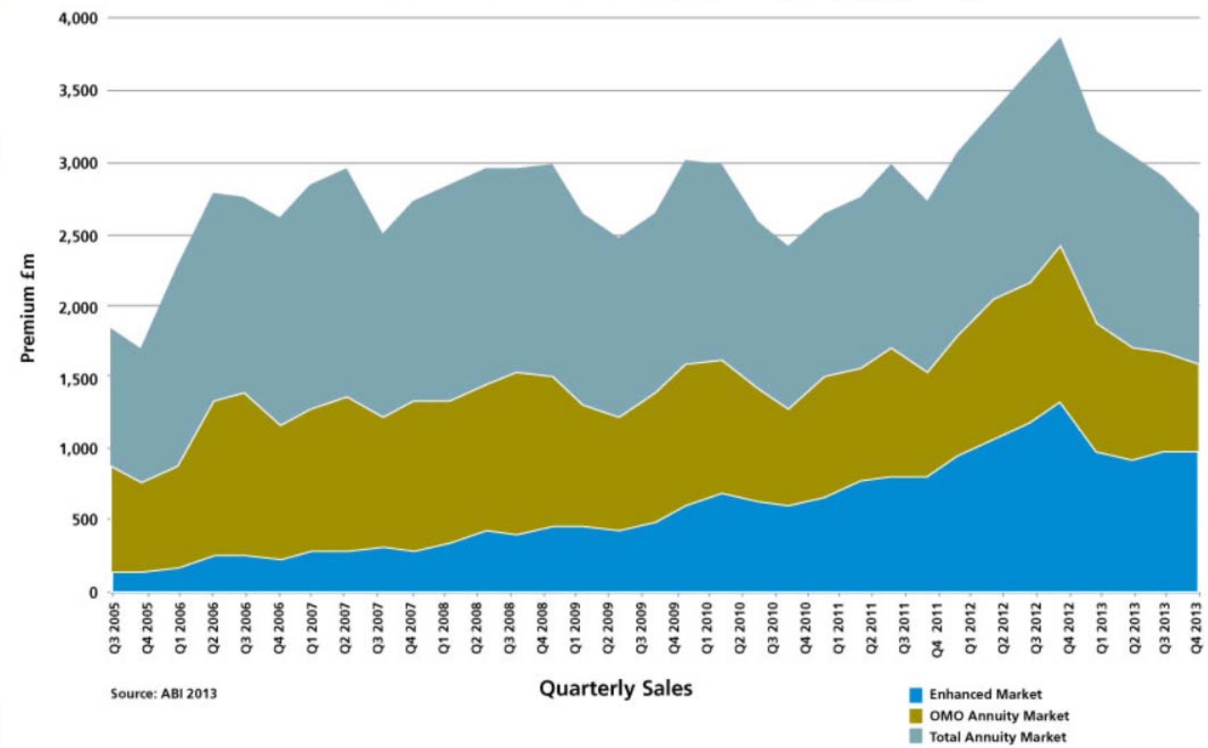
- Declining global interest rates and increasing lifespans make conventional lifetime annuities seem very expensive in nominal terms

Innovation – impaired annuity

Sources www.sharingpensions.com

Innovations in longevity product design show value for money

- Impaired annuities are winning UK market share



Innovation continued

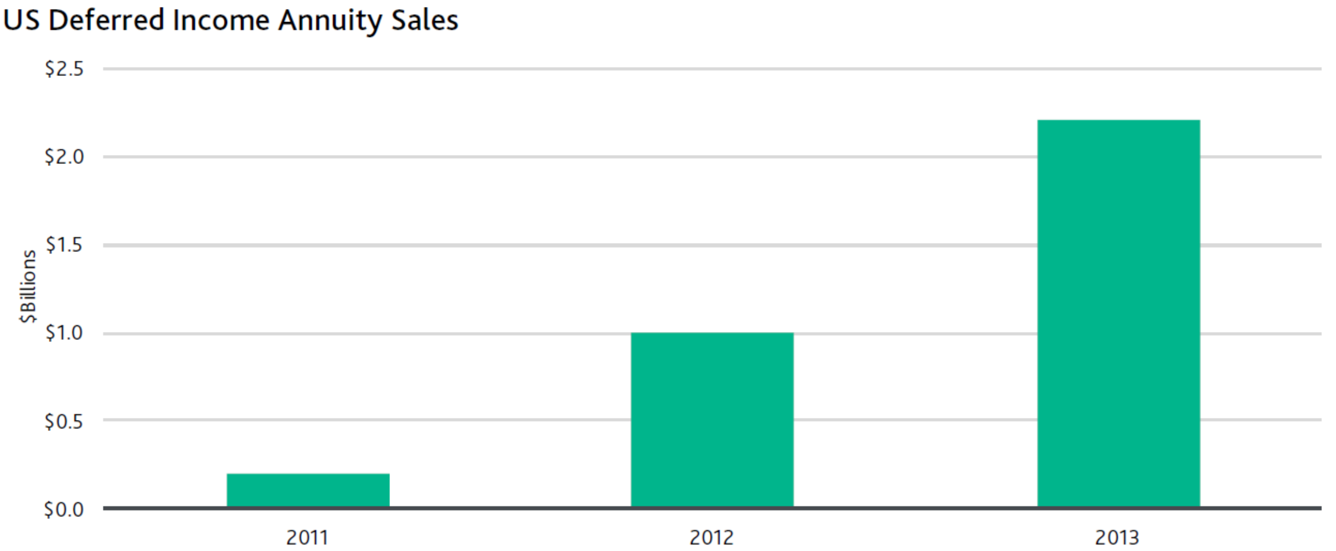
- US carriers offer longevity insurance protection with long deferral of payments

If you made a lump sum payment of $50,000 into an LIG contract…		Annual income			
		65		85	
		male	female	male	female
Contract Issue Age	45	$8,044	$7,649	$60,018	$53,136
	50	$6,127	$5,828	$42,997	$38,805
	55	$4,768	$4,531	$30,619	$28,236
	60	$3,730	$3,537	$21,741	$20,515
	65	N/A	N/A	$15,439	$14,864

Source: www.metlife.com Note indicative rates only

Innovation continued

- Sales momentum is positive



Sources: Life Insurance Marketing and Research Association (LIMRA) and Secure Retirement Institute.

Source: www.moodys.com

Potential to offer longevity protection in Asia

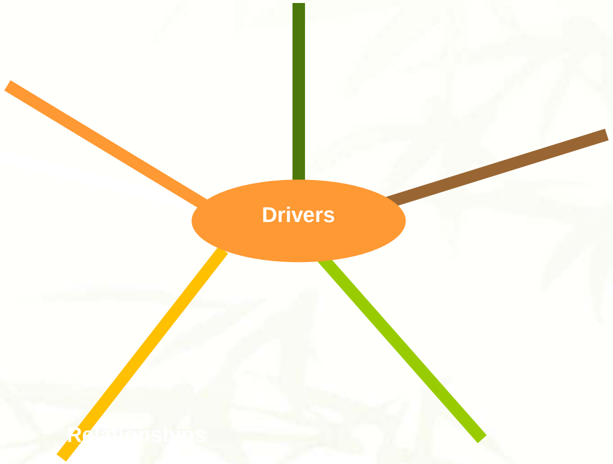
- Some hurdles to overcome

Value for money concern

- Longevity protection is an abstract concern with very long term payoff, and some (usually significant) sacrifice of liquidity
- Cash values can be added as riders but are very expensive given low yields
- Some bundling of longevity protection with savings vehicles is needed

Awareness

- Wealth management advice is focused on accumulation phase and basic protection needs
- Financial planning gap arises for mass market – longevity is no exception



Data and Knowledge

- Wide variation in longevity outcome according to socio economic position, income, and access to healthcare.
- No meaningful baseline of insured experience to start from
- Limited track record in product management of longevity products (other than as rider benefits)

Regulatory

- Permitting basic longevity products that have no cash value payment obligation would open the market to best practice products that can then be bundled flexibly with other retirement options such as phased income drawdown.

Incentives

- Mandated annuitisation of some level of pension savings is a game changer to create awareness and a marketplace
- Immediate annuity and deferred annuity products create a strong demand for long term high quality bond issuance