


Institute and Faculty of Actuaries

Longevity Risk Transfer


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03 February 2016

Agenda

1. Drivers of change in market
2. Actuaries' central expectations
3. Articulating the uncertainty
4. DC decumulation for individuals
5. A look to the future



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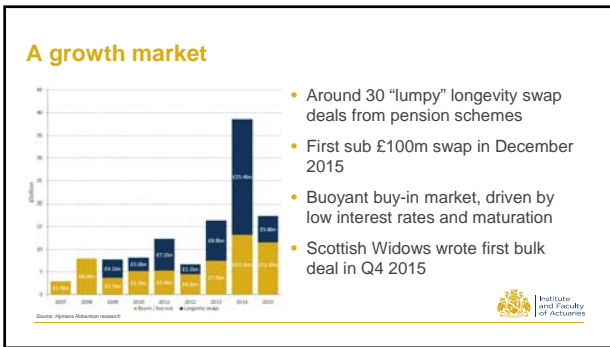
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Longevity risk transfer

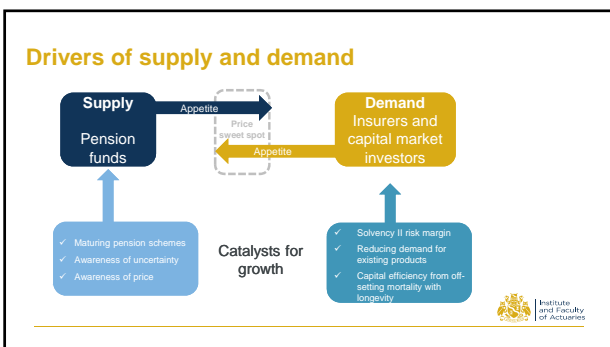
1. Drivers of change


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Articulate
Mentorship
Thought leadership
Thought process
Community
Professional Meetings
Education
Working parties
Volunteering
Research
Shaping the future
Networking
Professional support
Enterprise and risk
Learned society
Opportunity
International profile
Journals
Support



- Around 30 "lumpy" longevity swap deals from pension schemes
 - First sub £100m swap in December 2015
 - Buoyant buy-in market, driven by low interest rates and maturation
 - Scottish Widows wrote first bulk deal in Q4 2015
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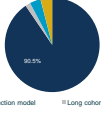
2. Actuaries' central expectations

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Mentorship
 Thought leadership
 Progress
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The pensions 'herd'

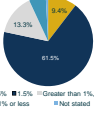
Approach to longevity improvements



Category	Percentage
CMI projection model	90.5%
Long cohort	9.5%
Other / None / Not stated	0.0%
Medium cohort	0.0%


Nearly all schemes rely on the CMI model

Long term rate



Category	Percentage
Greater than 1.5%	61.5%
Greater than 1%, less than 1.5%	13.3%
1% or less	2.0%
Not stated	9.4%
Not stated	1.5%

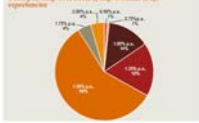
Over 60% of schemes use the same long term rate



Pension schemes & life insurers' long term views

Pension schemes

Challenges: Set the basis of improvement in life expectancies




Source: PWC 2015 Pension Schemes Funding Survey

- Assumptions set by trustees on advice of actuaries
- Assumptions required to be set using prudent principles


'Typical' insurer


Long term improvement rates used by insurers writing bulk annuity business



Source: Morningstar Robentson analysis of 2014 year end PRA returns

- Assumptions set by actuaries
- Assumptions required to be prudent





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3. Articulating the uncertainty

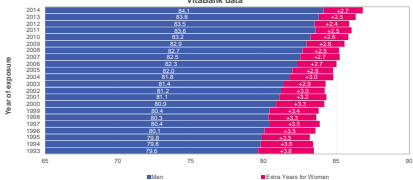
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Advice
 Sponsorship
 Thought leadership
 Progress
 Community
 Professional Meetings
 Education
 Working parties
 Volunteering
 Research
 Shaping the future
 Networking
 Professional support
 Enterprise and risk
 Learned society
 Opportunity
 International profile
 Journals
 Surgery

Where next?

Period expectations of life derived from calculated crude mortality rates
Expected age at death of a 65 year old, based on crude mortality rates in year of exposure


VitaBank data



Year of exposure	Men (Age at death)	Extra Years for Women (Age at death)
2014	83.1	27.2
2013	83.0	27.2
2011	82.9	27.2
2010	82.9	27.2
2009	82.9	27.2
2008	82.9	27.2
2007	82.9	27.2
2006	82.9	27.2
2005	82.9	27.2
2004	82.9	27.2
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1998	82.9	27.2
1997	82.9	27.2
1996	82.9	27.2
1995	82.9	27.2
1994	82.9	27.2
1993	82.9	27.2

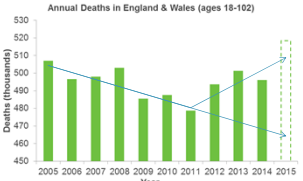
Source: VITA

2014 figures provisional as at January 2016




Is this a clear trend reversal?

Annual Deaths in England & Wales (ages 18-102)

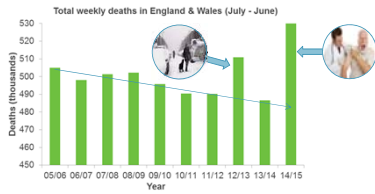


Year	Deaths (thousands)
2005	505
2006	495
2007	495
2008	495
2009	495
2010	495
2011	495
2012	495
2013	495
2014	495
2015	505

A single perspective can be misleading



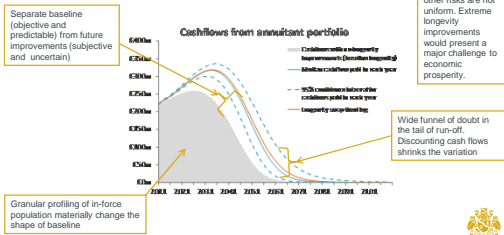
Or just increased volatility in the data?



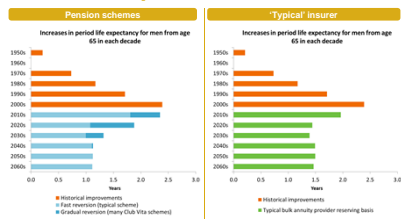
Looking at the data from another angle



Range of future outcomes

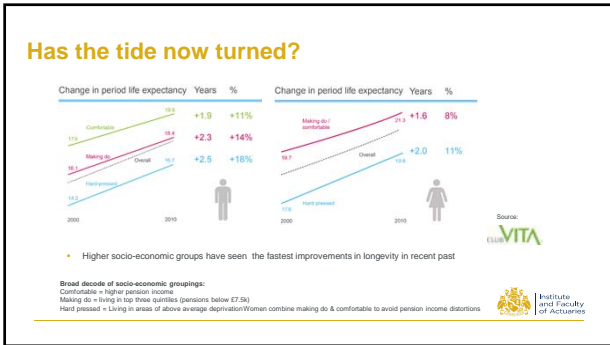


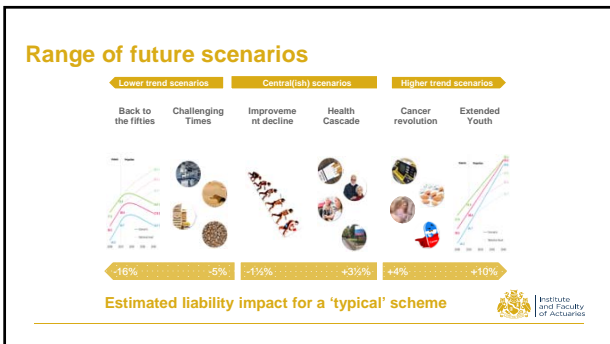
High conviction in rapid deceleration



Typical scheme assumption weaker than insurance reserving. Gradual reversion different shape to insurers.









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4. DC Decumulation

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Adviser Sponsorship Thought leadership Press Community Professional Meetings Education Working parties Volunteering Research Shaping the future Networking Professional support Enterprise and risk Learned society Opportunity International profile Journals Support

What age do you think you will live to?

 87.5 Club Vita estimation 82.1 Perception	 90.2 Club Vita estimation 82.4 Perception
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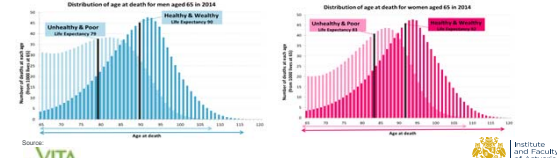
Average of responses

Significant under appreciation of great news




Another flaw of averages

- Premature deaths have reduced, but still a wide range
- Life expectancy figures hide the idiosyncratic risk
- Different shapes in different socio-economic groups (links to postcode areas)



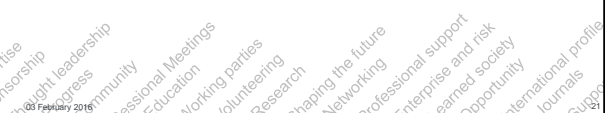
Source: VITA



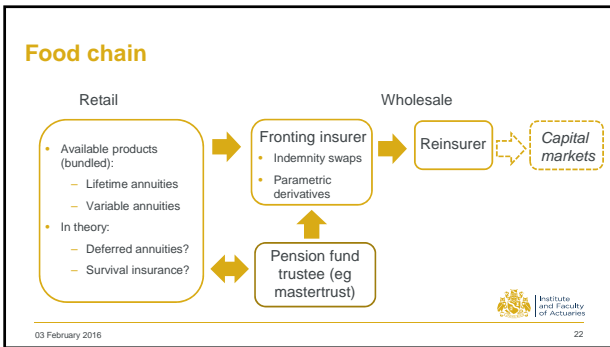


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5. A look to the future



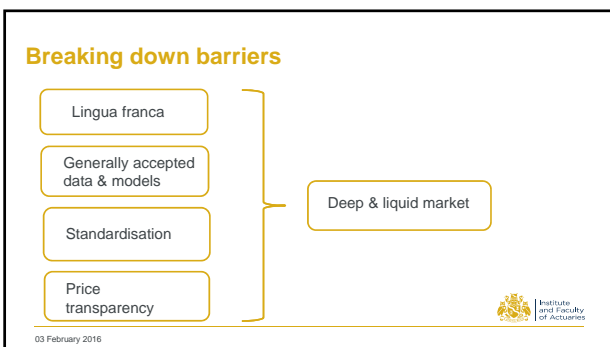
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A future for flexible derivatives?


	Indemnity swaps	Parametric
Non-pensioners	✘	✔
Extreme risk protection	Yes, but all or nothing	Yes, flexible
Duration	50+ years	Series of 10 year contracts
Hedge effectiveness	100%, but only for pensioners	c.80%, but deferreds too
Transaction costs	High	Low
Contract	Insurance or derivatives	Derivative
Transparent market price	✘	✔

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Questions **Comments**

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.
The views expressed in this presentation are those of the presenter.



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