

The Actuarial Profession
making financial sense of the future

Pensions Conference 2011
Steve Hood

Monitoring longevity and demographic trends

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Practical(?) steps to living longer.....



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1

Club Vita's research

- Club Vita is a longevity comparison club
 - pools data from over 100 occupational pension schemes
 - provides statistical analysis on predictors of and trends in longevity
 - allows schemes to use full member information in setting assumptions
- Very rich dataset
 - full member information covering over **5 million member records**, including over **1.5 million pensioner records**
 - **More than 15 years of history**
- Why is longevity important?
 - rapidly changing
 - gives rise to uncertainty
 - unmanaged risk
 - unrewarded risk...perhaps????



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2

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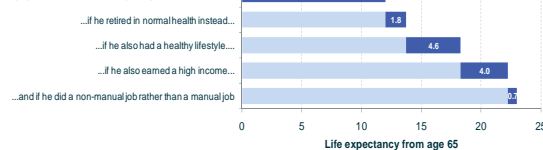
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Variation within schemes

Member B



Manual employee, low earner, unhealthy lifestyle, retired in ill health



~12 years
extra life
expectancy

Member A

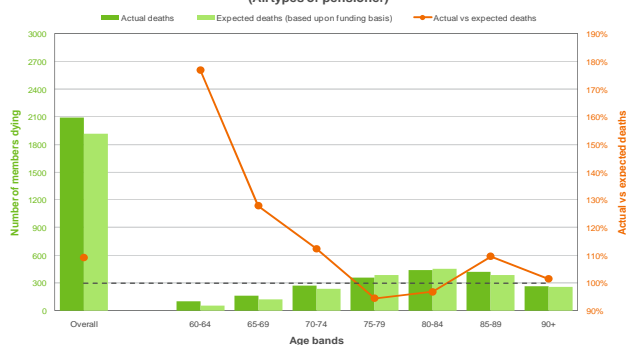


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Looking at actual v's expected

Fund experience over year to 30 June 2010 split by age group
(All types of pensioner)

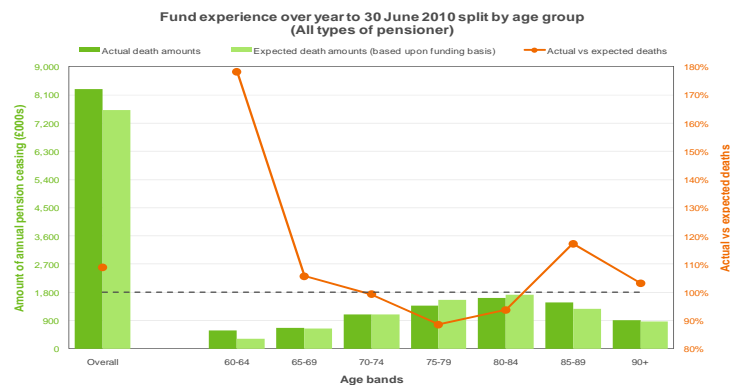


- Lives ceasing are easy to monitor
- However, amounts of pension ceasing is more relevant

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Actual v's expected: Amounts v's Lives



- Considering amounts changes the 'shape' of experience

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Monitoring longevity

- Baseline – understand the current drivers of longevity in pension schemes
- Experience – unique experience of each pension scheme, looking out for influential members
- Improvements – do emerging trends/medical advances etc change our views of the future?
- Regular review means no surprises for schemes

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The other demographic assumptions...

The assumptions

- Early/late retirement
- Commutation
- Deaths and dependants
- The age gap...

Information sources

- Scheme's own data
- Other sources:
 - often not pension scheme experience
 - wrong peer group
 - insufficient detail
 - reporting bias
 - assumptions made

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8

Retirement age trends

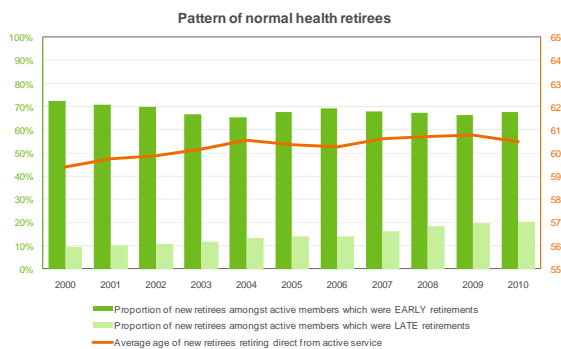
- Scheme experience
- Age discrimination and benefit design changes
- Change in the State Pension Age
- B&Q – place value on 'experienced workers'



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9

Age at retirement evidence



- Actuarial factors will likely mean this is a 'value neutral' option
- However, quantifying is important for cashflow & workforce planning
- Trends over time – possibly reducing early retirements, certainly increasing late retirements, age at early retirement increasing

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Age at retirement - implications

Business issues

- Retirement age is no longer a workforce management tool
- Dealing with stagnating and de-motivated employees

Actuarial issues

- Funding – neutral in value (if review factors often)
- Impact on cashflow modelling (LDI, de-risking etc)

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11

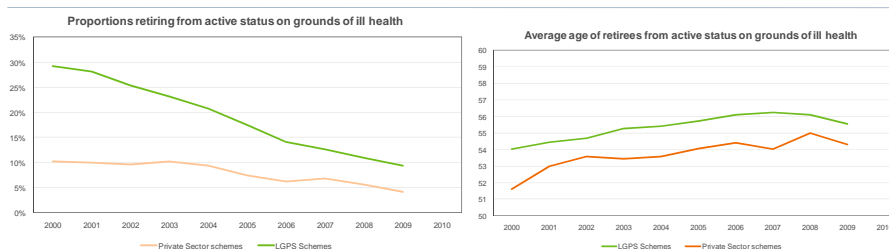
Retirement health trends

- Scheme experience – will be industry and rules/benefits specific
- Possible trends due to appreciation that there is an associated cost
- Increased use of phi/management of ill-health will affect likelihood of retirement

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Retirement health evidence



- Historically low ill-health retirements
- LGPS experienced a more rapid rate of change
- Will the economic climate see a change in the historic trend?
- Trend of increasing age at retirement
- Return to work schemes, management of poor health, medical advances

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Retirement health - implications

- Cannot be too sweeping in conclusions - scheme specific factors are important
- Trend to better health and/or better health management is clear though
- De-risking opportunity – possibility of good value from impaired life annuities – but consider remaining membership

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14

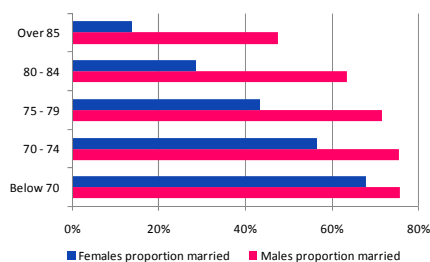
Till death do us part...

- Changes in definition of a dependant
- ONS Marriage stats
- The undivorced...



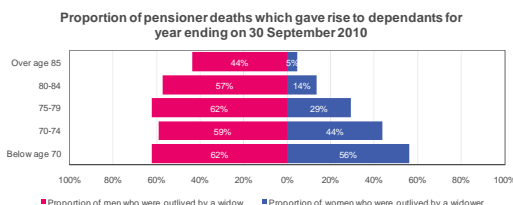
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ONS - England & Wales marital status - mid 2009



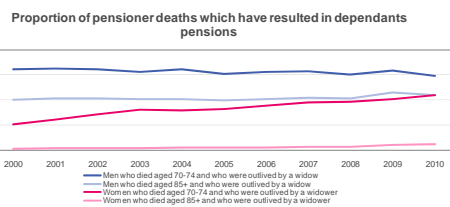
15

Dependants at death evidence



- Male members more likely to leave a spouse
- Pattern is similar to wider population data
- But not 80%/90%

- Female to widower changing over time for younger deaths, but stable at older ages
- Males leaving a widow has been stable over time



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16

Implications for schemes

- Governance - unravelling complex dependant relationships
 - including re-marriage and multiple wives.
- What about scheme experience...
- Funding, cashflows and de-risking

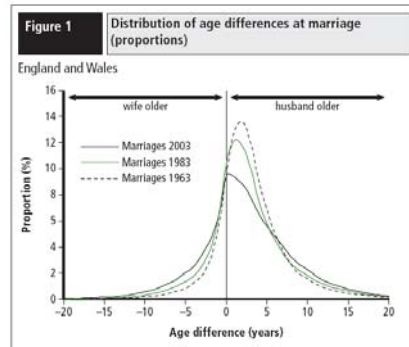


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17

Age difference at death - trends

- Where did +/- 3 years come from?
- ONS information & trends
 - 'same age' marriage more common
 - impact of re-marriages



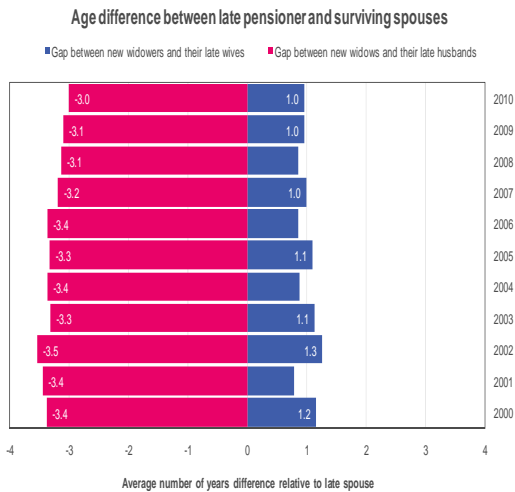
Note: Age differences are calculated by subtracting the wife's age from the husband's. Age differences larger than 20 years are not shown, but are very uncommon.

Largest known age difference....????

- The largest known age difference is ...



Age difference at death - evidence



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20

- New widowers tend to be around 1 year older
- New widows tend to be around 3 years younger
- Fairly stable over time
- Experience is not +/- 3 years

Age differences - implications

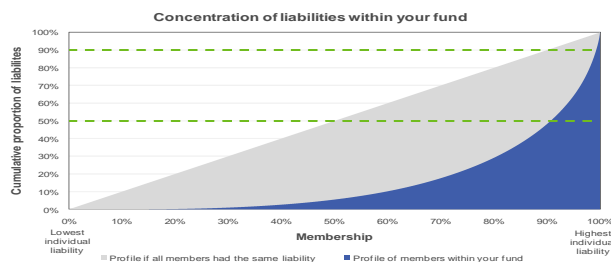
- Funding - trends
- Cashflows/de-risking
 - trends and...
 - very long tails



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All members are equal...



- 50% of liabilities held by c10% of the members
- Assumptions for this group are important
- But should they be the same as those for the rest of the membership?

...but some are just a bit more equal

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Why is it all important?

- Best estimate valuations – eliminate unnecessary guesstimates in funding decisions
- Accurate assessment and 'targeting' of the value of member options
- Better informed to take advantage of de-risking opportunities (and not risk being taken advantage of by providers 'profiting' on prudent assumptions)

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23

Thank you

- Any Questions?