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Longevity experience

Has anyone made any money yet?

Tim Smith

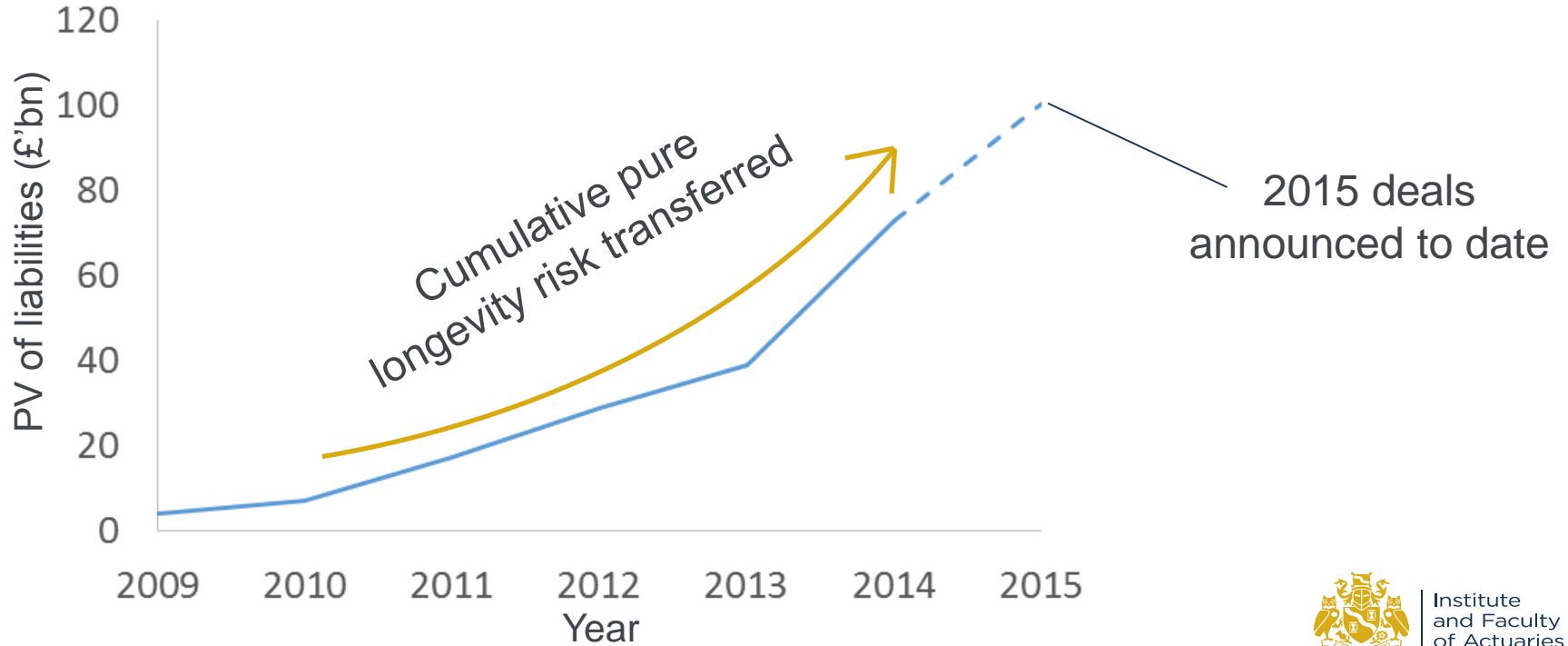


Agenda

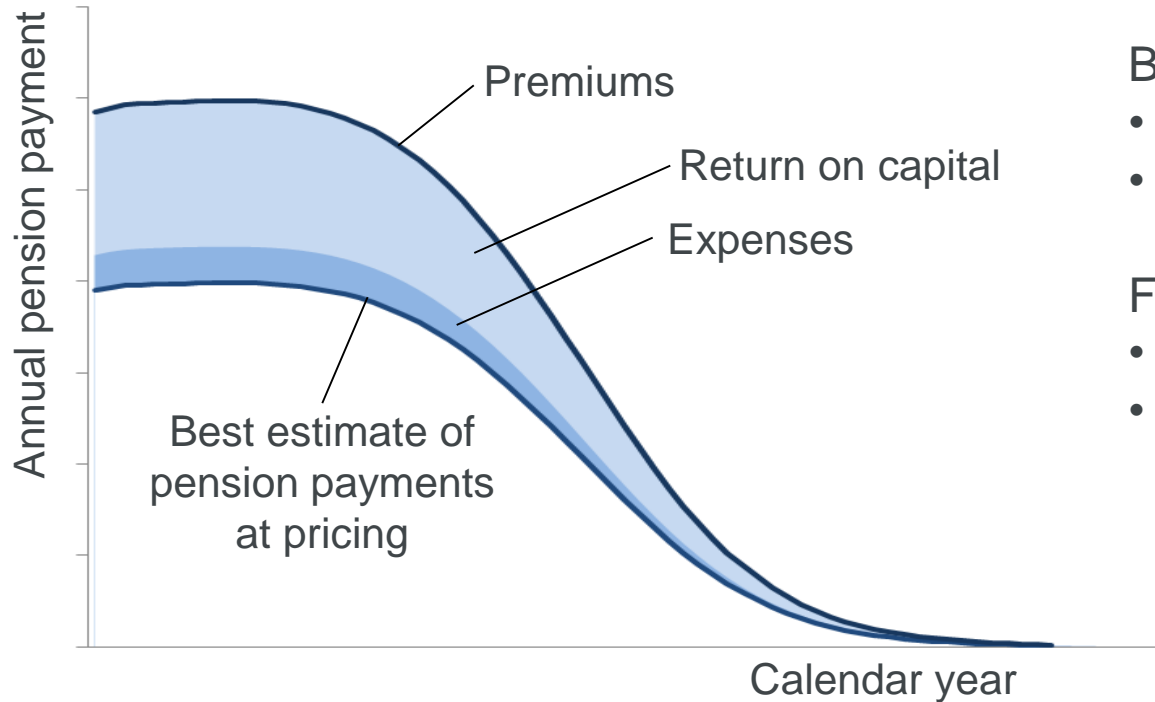
1. The price of a longevity swap
2. Drivers of fee charges
3. Recent experience and changes in the best estimate
4. To what extent does early experience change the risk?



Volumes of longevity risk transferred



The price of a longevity swap



Best estimate driven by

- Base mortality
- Trend assumptions

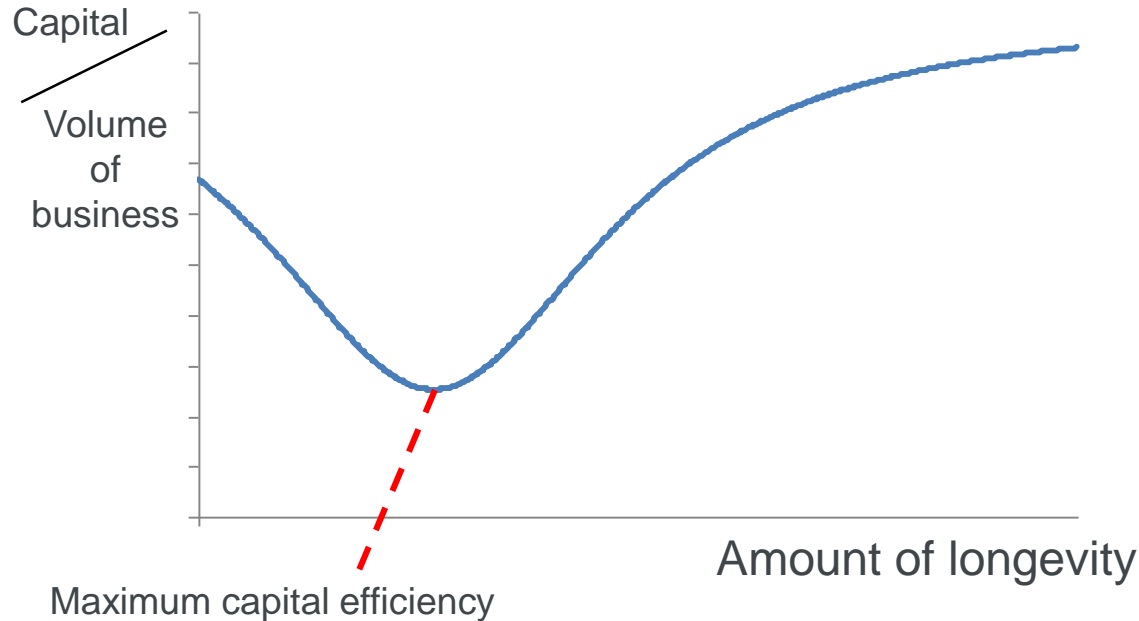
Fee driven by

- Capital allocation
- Return required on capital



Changes in the fee?

Diversification effects

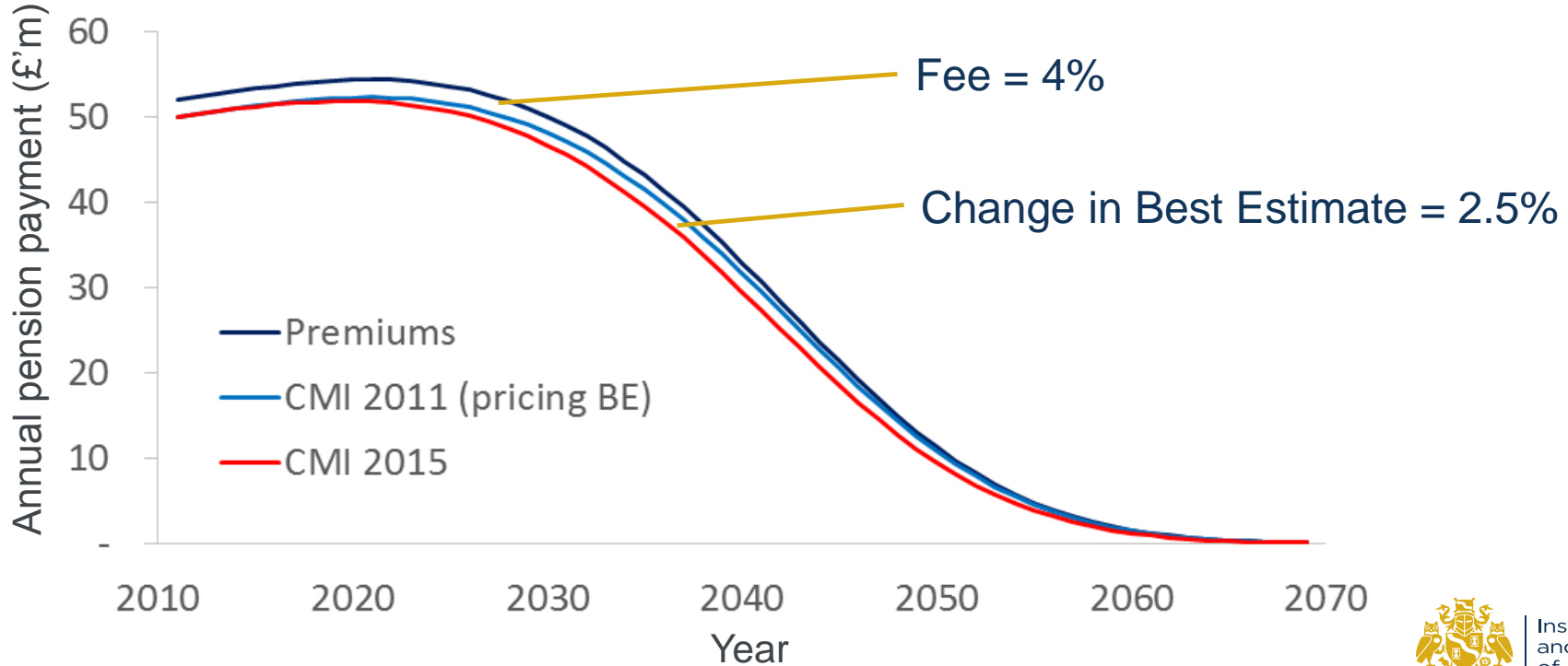


Solvency II

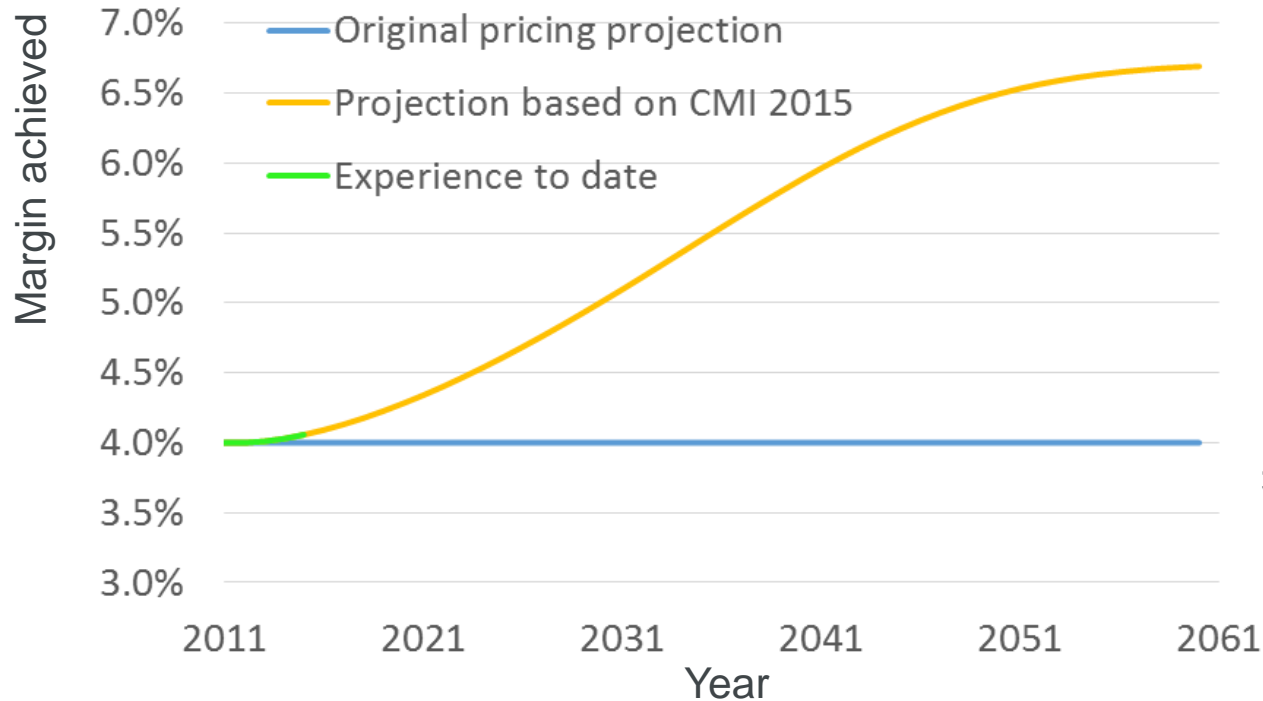
	mortality	longevity	disability
mortality	1		
longevity	-0.25	1	
disability	0.5	0	1
lapse	0	0.25	0



Changes in the best estimate



Average margin achieved to date

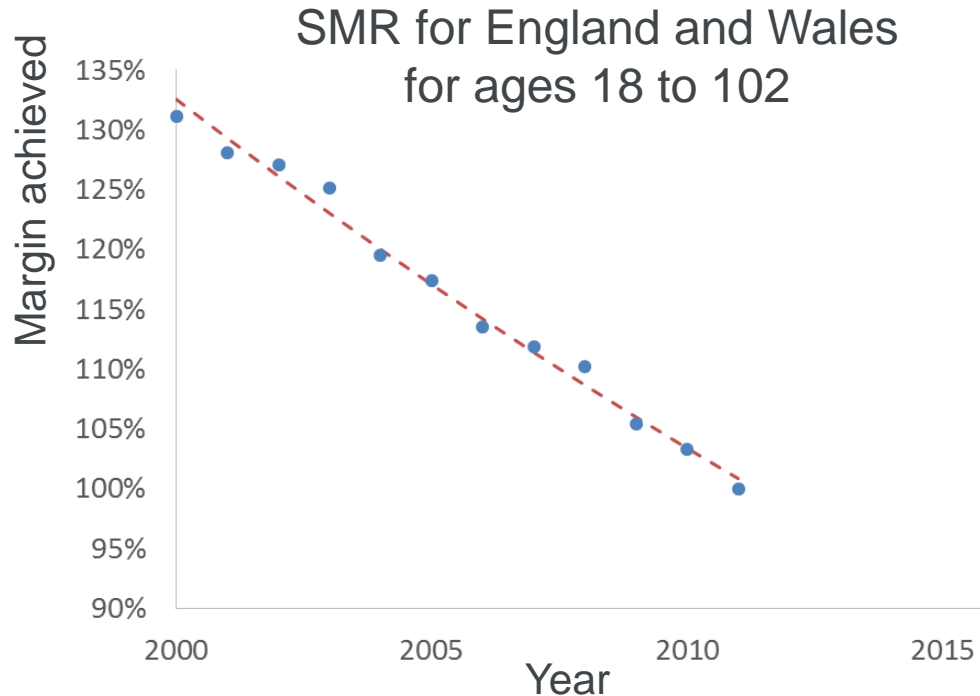


...so transaction is 60% more profitable than expected at pricing?

For a £1bn transaction, this is equivalent to £25m of additional profit!



Standardised mortality ratio



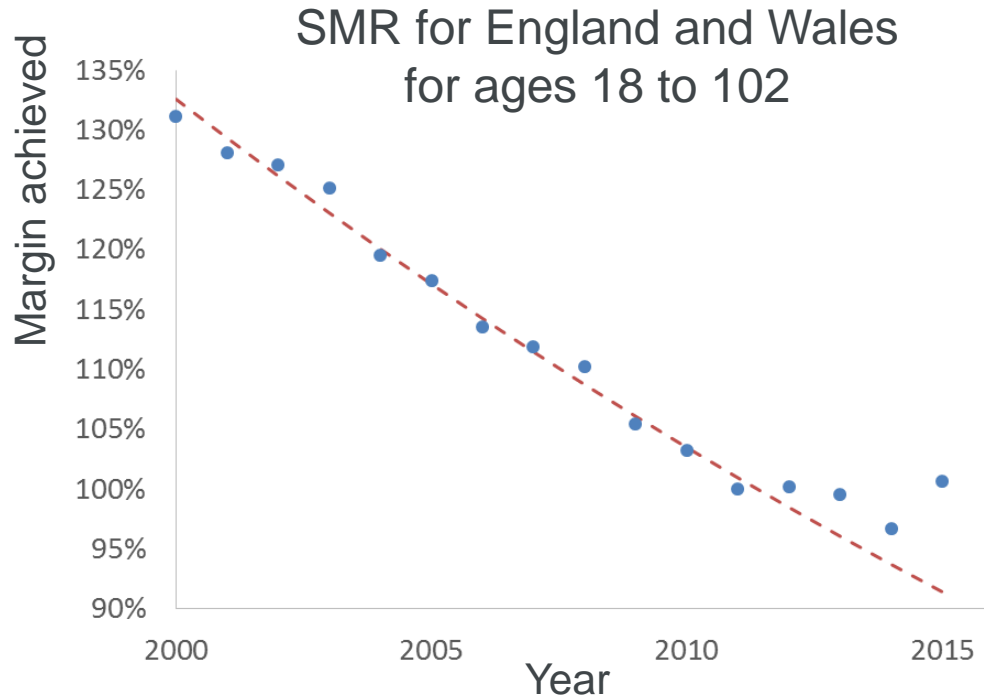
Source: Barnett Waddingham analysis of ONS data

CMI working paper 83 showed that the fall in mortality is fast and relatively steady between 1995 and 2011



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Standardised mortality ratio



Source: Barnett Waddingham analysis of ONS data

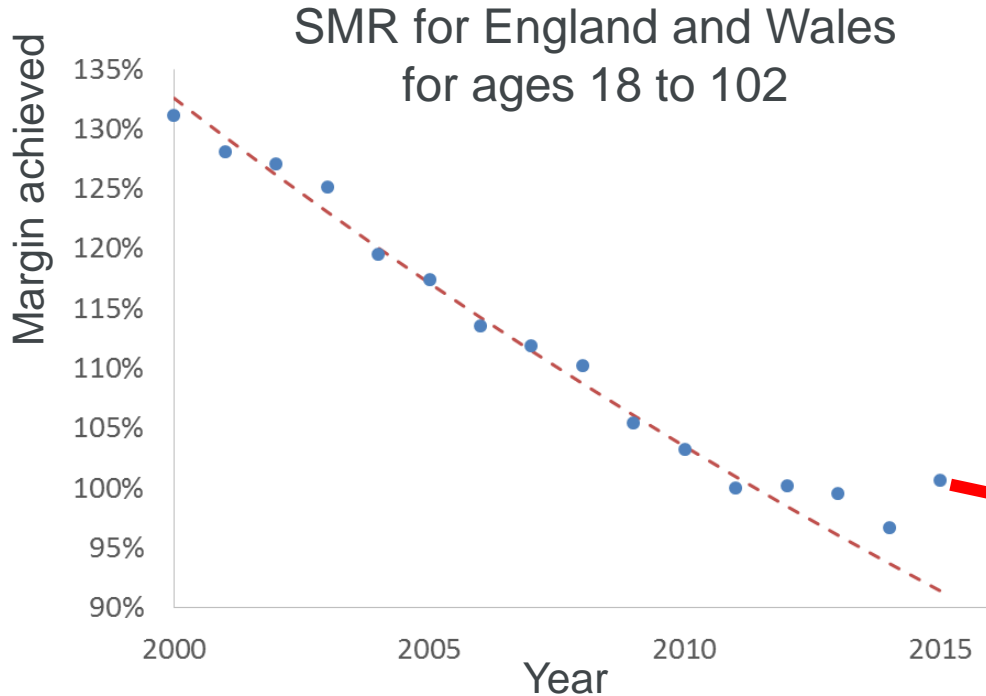
Very little mortality improvement
in the last four years

A step change in mortality
improvements?



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Projecting forward with CMI 2015



Actual (albeit smoothed)
experience to 2015

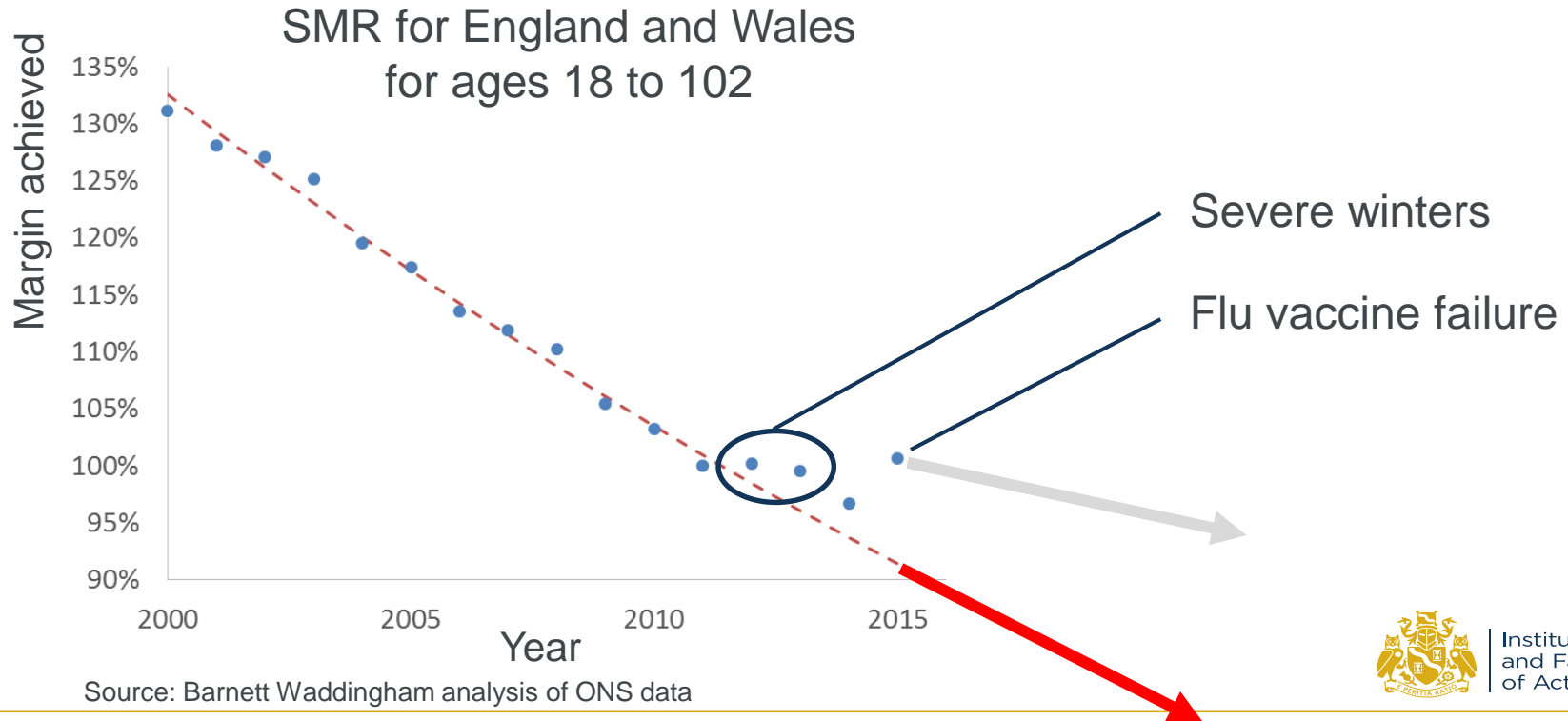
2011-15 experience
influences future trend

Source: Barnett Waddingham analysis of ONS data

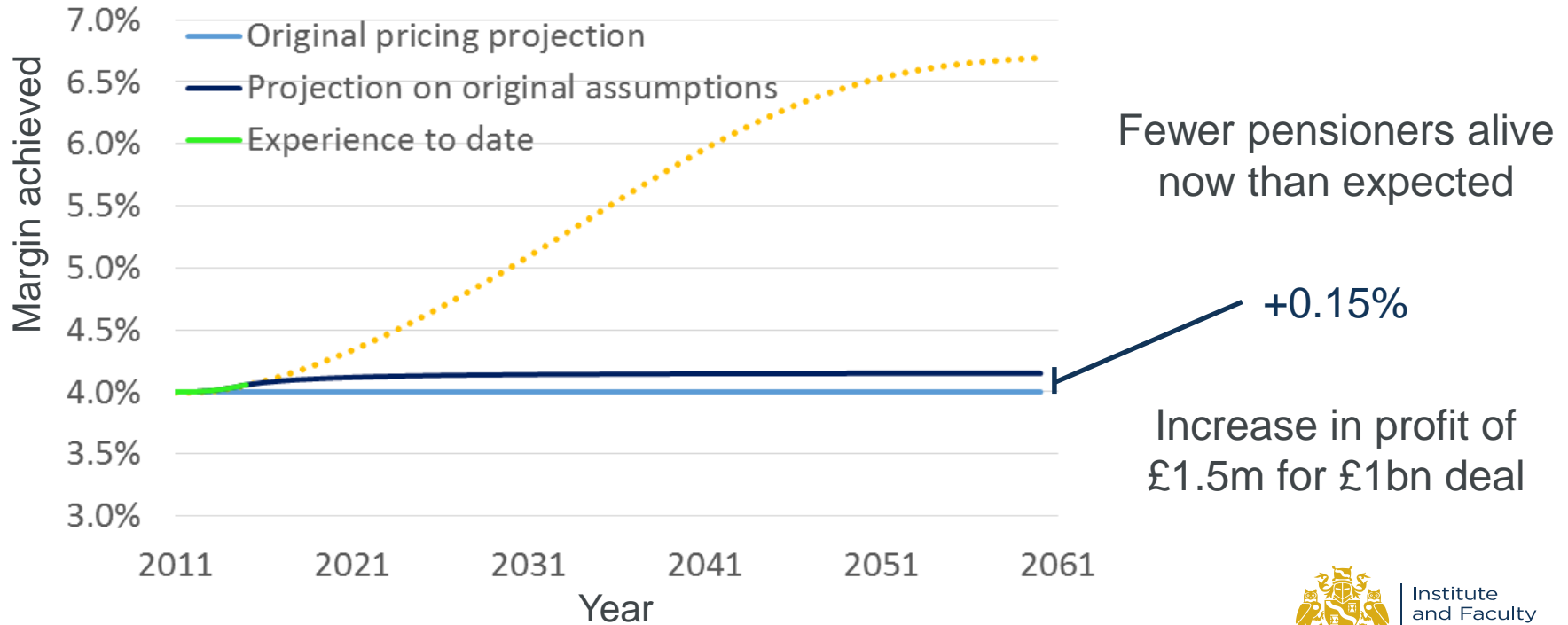


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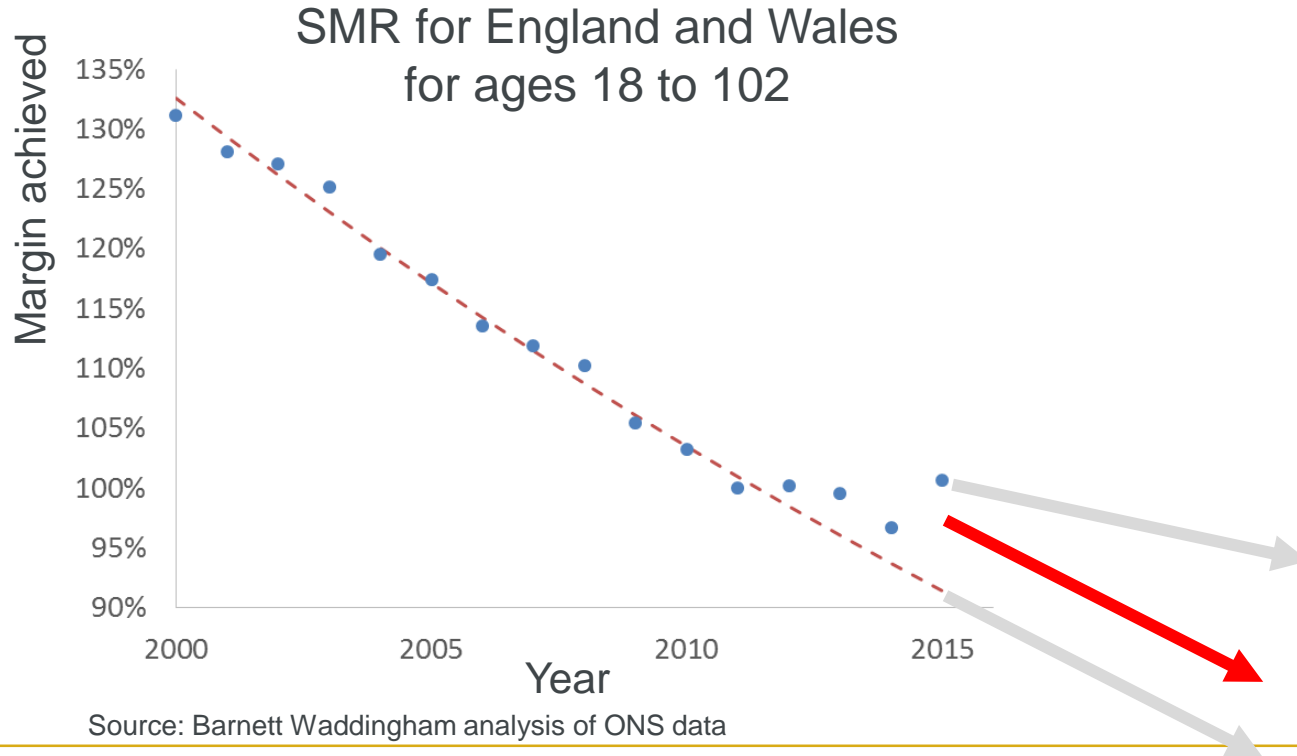
What if the last few years were anomalous?



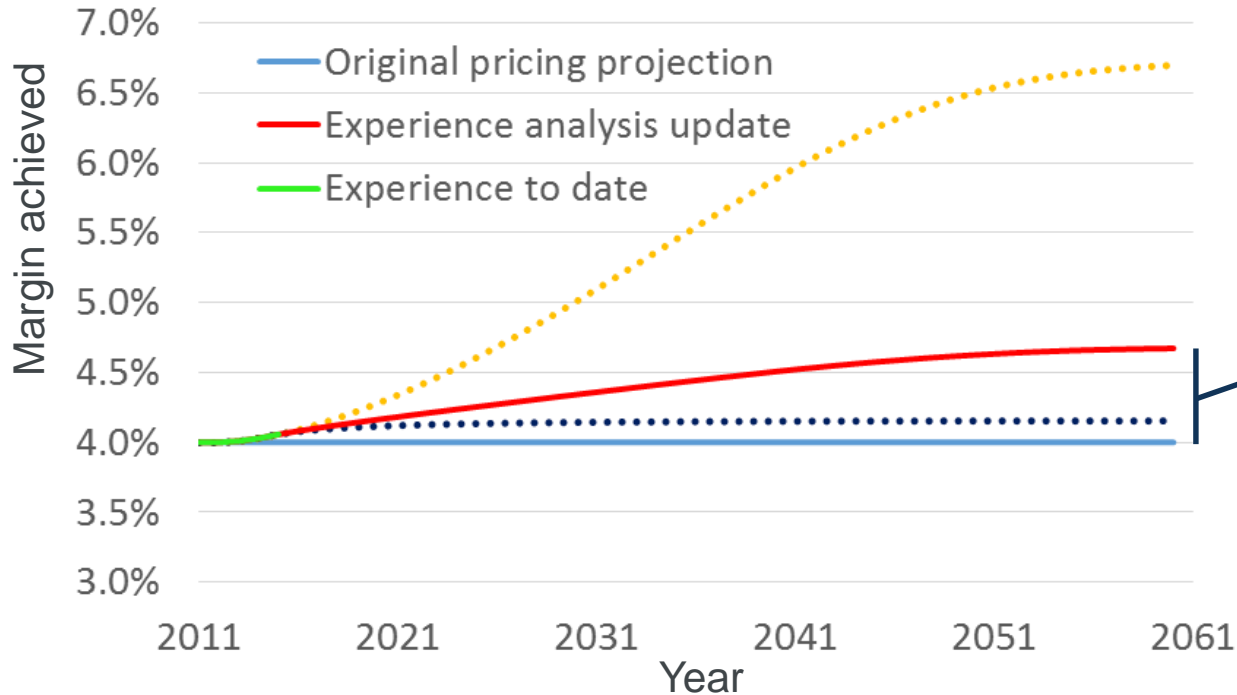
What if the last few years were anomalous?



Update using the original pricing approach



Update using the original pricing approach



Fewer pensioners alive now than expected and base mortality is heavier

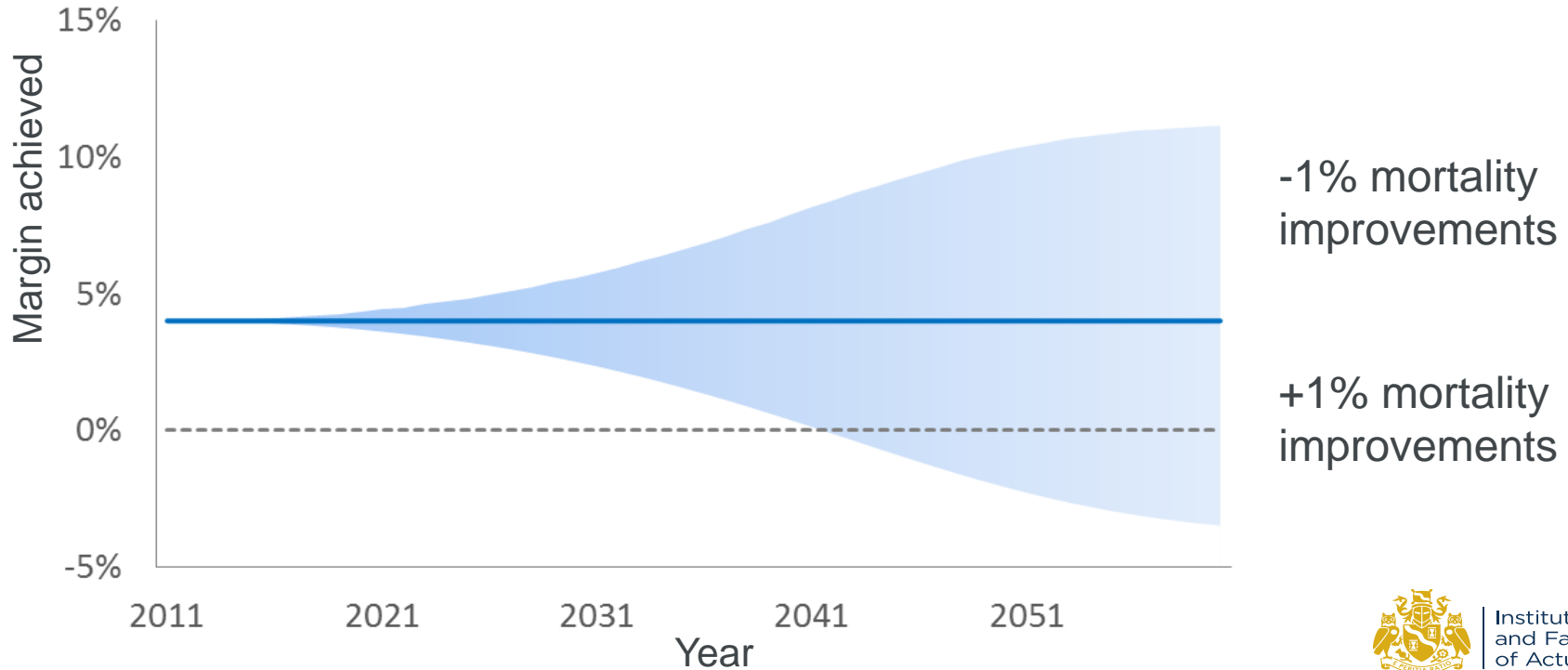
+0.7%

Increase in profit of £7m for £1bn deal

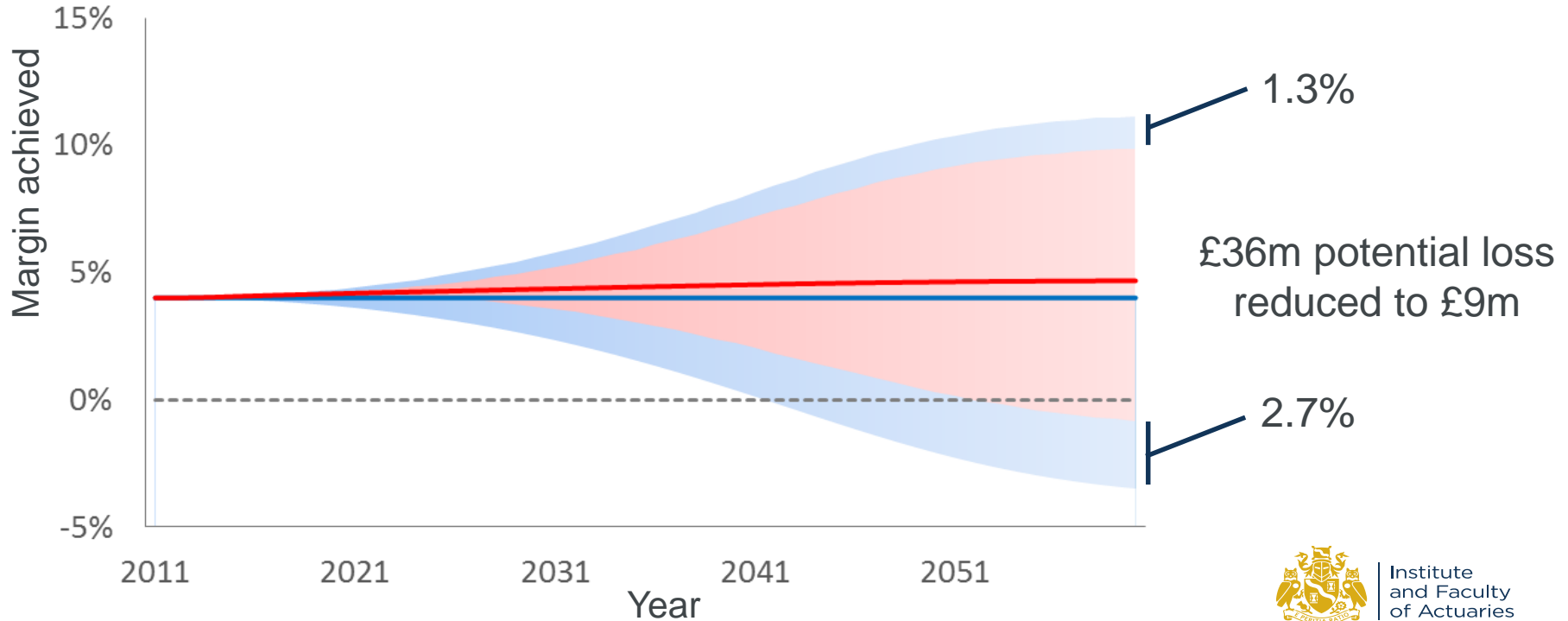


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Risk perceived at pricing



Following basis update



Conclusions

- The market price of hedging longevity risk may have fallen
 - Fee if anything likely to see upward pressure
 - Best estimate a more likely source of reducing prices
- Heavy mortality experience since 2011 means early deals have been profitable for reinsurers so far
- The extent to which recent experience is expected to continue changes the view of overall profitability dramatically
- 5 years of good experience can also dramatically change the perception of the risk

