Longevity assumptions and the questions a board should ask

For board and risk committee members at UK life insurers that write annuities: what sits behind a longevity assumption, what has changed in the evidence since 2025, and six questions that test whether the assumption is well founded.

IN BRIEF

The problem

Longevity assumptions drive annuity reserves, capital and pricing for decades, yet boards often see them only as a single life expectancy figure in an appendix.

Why it happens

The assumption is technical, it changes slowly, and the judgements inside it are rarely set out in a form a board can challenge.

What to do

Ask for the assumption in its three parts, see what it would cost to be wrong, and know what evidence last moved it.

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Why longevity deserves board time

An annuity book makes payments for decades, so small changes in how long people are expected to live move reserves and capital by large amounts. The table shows the scale for an illustrative £1bn book of pensions in payment.

ILLUSTRATIVE EXAMPLE

How longevity assumptions move a £1bn annuity book

Change to the assumption	Life expectancy at 65	Liability	Change
Current basis	21.0 years	£1,000m	–
Base mortality 5% lighter	21.5 years	£1,020m	+£20m
Improvements 0.25 points a year faster	21.4 years	£1,009m	+£9m
Improvements 0.5 points a year faster	21.8 years	£1,018m	+£18m
Base mortality about 10% lighter	22.0 years	£1,041m	+£41m

Illustrative: equal level pensions at each age from 60 to 90, paid yearly in arrears; Gompertz base mortality with cohort life expectancy of 21.0 years at 65; improvements at a flat 1.5% a year (1.75% and 2.0% in the faster rows); discount rate 4.5%; reserves only.

One more year of life expectancy, from lighter base mortality, moves this book's liability by about 4%. The same extra year from faster improvements would add only about 2%, because the extra payments fall further in the future. That is why a board benefits from understanding how the assumption is built, not only the number it produces.

02 The three parts of a longevity assumption

Base mortality: how long the firm's annuitants live today. It starts from the firm's own experience, compared with standard tables, and adjusted for the factors that predict life expectancy, such as postcode, pension size and, for some products, health. The questions are how much of the firm's own data supports the view, and whether the same rating factors are used in pricing, reserving and capital.

Improvements: how fast mortality will fall. UK insurers generally build this from the Continuous Mortality Investigation (CMI) projections model, choosing their own parameters, including the long-term rate of improvement. Those choices carry much of the judgement in the assumption.

Uncertainty: how wrong it could be. Sensitivities and stresses show the cost of being wrong in either direction. Reinsurance can transfer part of the risk, at the cost of a counterparty to watch.

03 What has changed in the evidence

The CMI changed its approach with CMI_2024, released in June 2025, giving full weight to every year's data and allowing for the pandemic years separately. CMI_2025, released in March 2026 using 2025 data, raised life expectancy at 65 by about eight weeks for men and six weeks for women, and 2025 mortality was the lowest on record.

A firm still using an older version of the model, or parameters chosen during the pandemic years, may hold a different view of longevity from the latest evidence. The difference could run either way, which is a reason to know it rather than to assume it.

04 Reinsurance is part of the assumption

Many annuity writers reinsure part of their longevity risk. That changes what the board is exposed to rather than removing the question. The firm keeps the risk on the share it hasn't reinsured, takes on each reinsurer as a counterparty, and could have to take the risk back if a reinsurer fails.

Where the reinsurance is funded, the PRA already expects boards to see what an immediate recapture would cost and to approve recapture plans (supervisory statement SS5/24, July 2024). In April 2026 it also proposed a larger allowance for the risk of reinsurer default (CP8/26), applying from July 2027 to arrangements not fully in place by 30 September 2026. A paper that shows the longevity position after reinsurance should also show it before, with the cost of taking the risk back.

FROM EXPERIENCE

Early in my career at Aviva I researched socio-economic rating factors for annuity pricing, and monitored annuity experience and profitability to propose rate changes. At Partnership I sat on the Retirement Pricing Committee alongside executive board members, where longevity assumptions were turned into prices for new business.

The lesson I took from both is that a longevity assumption is mostly a set of judgements built on data, and a board is entitled to see the judgements as clearly as the data.

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Reading a longevity paper

A good paper on the assumption shows the three parts separately, states the main judgements and the alternatives considered, and gives the cost of the main sensitivities in money and in solvency cover. It also says what changed since the last review and why. If the paper offers only a life expectancy figure and a statement that the assumption remains appropriate, ask for the rest. The actuaries writing it work to the Financial Reporting Council's Technical Actuarial Standards, including TAS 100 (version 2.0, in force since July 2023), which covers how material judgements are communicated, and TAS 200 for insurance.

Questions for the board

01 How does our annuitants' mortality compare with the standard tables, and how much of our own data supports that view?

02 Which version of the CMI model do we use, with which parameters, and what would moving to the latest version change?

03 Which rating factors do we price on, and do pricing, reserving and capital all use the same view?

04 How much would reserves and capital change if our annuitants live a year longer than we assume?

05 How much longevity risk have we reinsured, with whom, and what happens if a reinsurer fails?

06 When did we last change the assumption, in which direction, and what evidence moved it?

The longevity assumption is one of the largest judgements on an annuity writer's balance sheet. Six questions, asked once a year with the paper in front of the board, go a long way to showing whether it is well founded.

If this is on your table, a 30-minute conversation is usually enough to tell whether I can help.

Talk to Mark

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ABOUT THE AUTHOR

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