

Life expectancies back on the rise?

What do Arthur C Clarke, Dominic Cummings, Mystic Meg (remember her?) and actuaries have in common? The answer is that they all try to predict the future.

Do they get it right? Arthur C Clarke certainly did, we hope Dominic Cummings and his team of superforecasters will and we really don't know anything about Mystic Meg. But what about actuaries? They are probably never spot on, but they do try to make predictions that are broadly in the right direction.

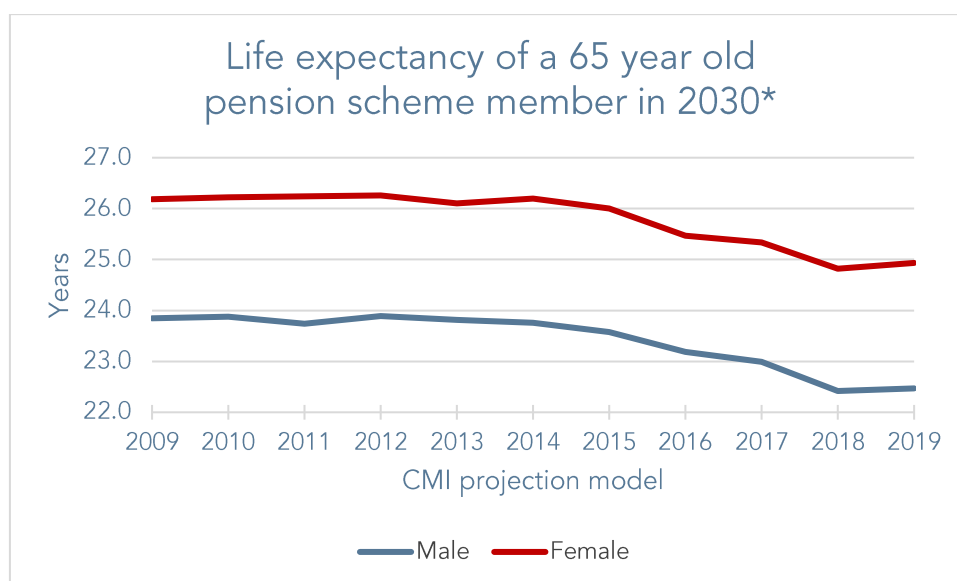
The CMI mortality projection model

Within the Institute & Faculty of Actuaries is the Continuous Mortality Investigation (the CMI). They have the unenviable job of trying to help actuaries make predictions about future mortality trends. The CMI provide a mortality projection model for actuaries to use to extrapolate past mortality trends into the future. Of course, the CMI isn't gung-ho enough to predict the future outright; its model includes lots of inputs to allow individual actuaries to exercise their own judgement and to tailor the model to individual pension schemes.

Each year, the CMI produce a new version of the model. The first such model was CMI_2009 and, except for a major revision in 2016, the updates each year are mainly to incorporate the latest mortality data. The model currently includes forty years of past data and in each update the earliest year of data is lost and the latest year of data is added.

The CMI has just released its latest version of the model, CMI_2019. This is based on forty years of data covering the period 1979 to 2019. The previous model, CMI_2018, included data based on the period 1978 to 2018.

Removing an old year of data and adding in a new year of data can have quite a substantial effect on the results of the model and this year is no exception, with the model predicting a rise in life expectancies. However this should be put into perspective as the rise in life expectancies comes after several years of falling life expectancies. The following graph shows how the life expectancy of a pension scheme member reaching age 65 in 2030 has varied under the different CMI models.



*In each case the S3 mortality tables have been used with a long term rate of future mortality improvement of 1.25% p.a.

Effect on Scheme liabilities

Your actuary is likely to suggest that the latest model is used for calculations going forward and this will lead to a slight increase in life expectancies compared to those using the CMI_2018 mortality projection model. This increase in life expectancy would give rise to a very small increase in liabilities, say 0.5% for a typical pension scheme.

However it should be noted that, for some purposes, the mortality basis is only updated infrequently. For example Scheme Funding valuations are only carried out every three years. For a typical Scheme Funding valuation taking place in 2020, the previous valuation in 2017 may have used the CMI_2016 mortality projection model. Compared to that model, life expectancies calculated using the CMI_2019 mortality projection model will still be lower. The effect of this could be a reduction in liabilities of, say, 2.5% for a typical pension scheme.

However it should be noted that there are lots of other parameters affecting the valuation of pension scheme liabilities. In particular continual falls in interest rates over the last few years are likely to have given rise to much more significant increases in pension scheme liabilities.

A long term trend?

There is uncertainty about the causes of the recent mortality data. The increase in life expectancies predicted using the CMI_2019 mortality projection model should therefore not necessarily be seen as a trend.

The next CMI mortality projection model is due to be released in March 2021 and will incorporate mortality data to 2020. Of course there is a very real concern that the COVID-19 strain of coronavirus could lead to an increase in the number of deaths in 2020. However, if any increase in deaths is considered to be a one-off blip, not to be repeated in the future, then the CMI may look to modify either next year's data or the model in order that it does not impact on future predictions of mortality.

If you would like to discuss this further, please get in touch with your usual contact at Cartwright.

March 2020

Mill Pool House
Mill Lane
Godalming
Surrey GU7 1EY

T: 01483 860201

E: enquiries@cartwright.co.uk

250 Fowler Avenue
Farnborough Business Park
Farnborough
Hampshire GU14 7JP

T: 01252 894883

E: enquiries@cartwright.co.uk

Marlborough House
Victoria Road South
Chelmsford
Essex CM1 1LN

T: 01245 293300

E: enquiries@cartwright.co.uk

The Mansley Business Centre
Timothys Bridge Road
Stratford Enterprise Park
Stratford-upon-Avon
CV37 9NQ

T: 01245 293300

E: enquiries@cartwright.co.uk

