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Current issues

Year-end 2021…and beyond – best estimate assumptions and internal model changes

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As we approach year-end 2021, the level of uncertainty experienced by insurers is one of its highest ever. In this article, we cover the challenges that such uncertainties bring for mortality / longevity assumption setting and internal model changes. In each area, we set out what we have seen in the industry and conclude with some forecasts for the future.

Year-end mortality / longevity assumptions

2020 and 2021 have been exceptional years for longevity experience, as has been well publicised. Based on our recent survey, many life insurers saw 10-15% excess deaths in their portfolio as a result of COVID-19. Given the complex interaction of COVID-19 drivers (e.g. relating to future health and the economy), it is particularly challenging to understand the future impact on portfolio experience. Given this, it is not surprising that many companies are considering excluding the impact of 2020 data when setting their year-end base mortality assumptions. Others are considering ways to adjust the data, though that relies on assumptions and judgements that will need to be tested if used for assumption setting.

When it comes to setting mortality improvements, recent CMI models have been predicting a reduction in the rate of increase in life expectancy consistent with the slowdown in mortality improvements seen over the last decade, and many companies have been following this trend. While the impact of COVID-19 on longevity will continue to emerge over the next few years – with various competing factors expected, such as survivorship bias or the effects of global recession – our recent survey suggests the industry practitioners' overall view is that COVID-19 will ultimately have a negative impact on mortality improvements (i.e. lower improvements). This uncertainty has led to many companies considering making no explicit adjustment for COVID-19 in their year-end mortality and longevity trend assumptions, with refinement in the future as more data becomes available.

Key themes within insurers' internal models over this year

Longevity risk and credit risk continue to be the largest risks in the life insurance industry within Internal Models. Over the last few years, there has been a gradual increase in credit risk and a gradual reduction in longevity risk. The increase in credit risk could be related to changes in asset portfolios over the period, market movements, and a general trend of strengthening credit risk models following regulatory feedback. The slight reduction in longevity risk could be due to the overall increase in longevity risk reinsurance, removal of prudence in some longevity risk capital models, or related to the general slowdown in mortality improvements.

Credit risk and longevity risk also continue to be the main topics of major model changes over the last year, as they have been for the previous few years.

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Credit risk

There are a number of key themes within credit risk model changes. First is adding new asset classes to an internal model. While it continues to take time to achieve, we have seen some of the asset allocation limits that the regulator imposes being removed for some asset types as models are accepted by the regulator. Another driver that is particularly key for annuity writers is the matching adjustment under stress – insurers continue to adjust the methodology, mainly to comply with Supervisory Statements.

Turning now to Equity Release Mortgages (ERMs) and other illiquid assets; modelling of the Effective Value Test in stress has been another major development in credit risk models. This has caused some debate between insurers and regulators as insurers seek to understand the regulators' expectations. Investment in illiquid asset continues to grow, from around 14% at YE16 to 29% at YE20. This has brought with it added regulatory scrutiny over the last few years. We expect this trend to continue and we also expect to see significant continued work on credit risk models over the next few years.

Longevity risk

There have also been several longevity risk major model changes as companies seek to revisit the original applications. Several insurers viewed these as being too prudent and are seeking to adjust this. For others, the balance of in-payment and deferred lives is shifting slightly and adjustments are needed for this.

The area receiving the most attention over the past year has been "event risk", also known as "new information risk". Broadly speaking, it relates to the risk of a longevity event occurring beyond what is implied possible by the trends and volatility of past data. The idea is that measuring longevity risk by fitting a stochastic model to past data is not enough; thought needs to be given beyond what could happen in the real world in extreme circumstances.

The typical way to calibrate event risk is to define some scenarios that increase life expectancy, for example the introduction of a new sugar tax or the creation of a new drug for dementia. Once designed, the scenarios are linked to the causes of death they affect to enable mortality stresses to be calculated for input to the valuation model.

There are two major current themes. The first is seeking to improve the expert judgement process around scenario design, usually as a result of independent validation or feedback from the regulator. The second theme is aggregation, which involves placing a limit on payouts if the claims arise from a single event. We have seen an overall aim to remove perceived prudence in the process. This is a subjective area, relying on expert judgement, with more material judgements requiring more justification.

COVID-19 and climate change

There has been a noticeable lack of material model changes specifically related to either COVID-19 or climate change. This is partly due to the length of time it takes for a major model change to go from being on the list of changes of the insurer through to final application and subsequent approval. During the pandemic most companies were asked to limit the number of major model changes included in their annual application.

Therefore, most of the changes we have seen recently have been in progress since before the pandemic. But there is also a question of whether there should be any changes made for either COVID-19 impacts or climate change.

This will depend on an insurer's view as to whether COVID-19, for example, has fundamentally changed the future landscape of longevity risk, credit or other market risks or mortality catastrophe risk. For climate change, debate continues as to whether it is appropriate to hold capital for the risk. Some think it should be a separate risk driver so that an insurer can tell stakeholders how much capital they are holding for climate risk, while others feel it should be captured within each individual risk driver as that is more likely to be how the risk manifests itself. Others question whether it should be captured at all given our internal models are, in theory, looking at the risks to the balance sheet over the next 12 months.

As the years go on, market data will begin to reflect asset side climate risk and so annual calibration data updates will start to include these risks. For liability side risks, there are potential impacts on lapse risk and operational risk due to reputational damage. This could mean ensuring that allowance for reputational damage is sufficient in each of mass lapse and operational

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risk calibrations. It may also be worthwhile considering whether reputational damage to a counterparty could increase credit risk or whether it is viewed that existing credit ratings sufficiently capture that risk.

There appears to be an increasing view from the industry that the regulator may start to require insurers to hold capital in the years to come. A recent publication from the PRA noted that they would make an assessment as to whether the insurance capital regime should be altered for climate risk to better capture that risk. In particular, in relation to reliance on historical data, the short term (one-year) calibration and whether more use could be made of the capital add on regime. See our newsflash for more details.

As you can tell, it has been a very busy last 12 – 18 months and with the number of potential changes on the horizon, we expect this will continue for the next few years. In this short article, we have only been able to scratch the surface of what we have seen in the industry on each of these topics. We have significant experience in supporting clients with all forms of assumption setting and internal model developments and we would be delighted to discuss any of the above or any other related topics with you in more detail. For more information please get in touch.

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