Considerations for setting economic assumptions

A group of Life actuaries, working as part of the IFoA Covid-19 Action Taskforce (ICAT) have been considering various ways that the pandemic has affected Life insurers.

In this article, they consider potential pandemic impacts on economic assumptions and aim to support actuaries in deciding whether to adjust these assumptions.

Introduction

Due to the current pandemic, equity markets and interest rates have declined, credit spreads have widened, and implied volatilities have increased. Each of these movements has affected fixed income and equity investments held by life insurers to back the liabilities, creating balance sheet and earnings volatility. These impacts have come at the time when insurers were already tackling implications of multiple regulatory changes across the globe including international financial reporting standard 17 (IFRS 17), principle-based reserving (PBR), and long-duration targeted improvements (LDTI).

The decrease in yields affects the income of insurers, particularly in the case of life portfolios with high investment guarantees stemming from products sold in the past. The combination of negative duration gap (i.e. longer duration for liabilities than for assets), reinvestment in lower yields and the long-term duration of liabilities is expected to put additional strains on the medium to long-term profitability of life insurers. The Covid-19 pandemic and the resulted central banks' response measures to alleviate the impact on economic activity will contribute to the continuation of the low interest rate environment.

Insurers need to assess the effectiveness of their current hedge programs and consider their cash flow expectations over the next year. Insurers should also consider the impact of reduced or increased sales and unpredictable policyholder behavior, which could challenge their ability to optimize investment strategies and opportunities. The volatility in insurance liabilities will likely require increased attention and analysis due to an increased strain on capital positions. Insurers might need to refresh their macroeconomic scenarios and assumptions for current market conditions. They might also need to consider the potential impact of prolonged economic recession (such as unemployment or negative GDP growth) and include the use of extreme economic scenarios. Insurers might also need to perform a sensitivity analysis to capture the impact of the pandemic on their investment portfolio.

Important Considerations

The following are important areas from an investment strategy perspective, which insurers may want to consider under the current pandemic scenario:

- **Equity Exposure –** this can impact the solvency position which will be further based on the hedge position. It may have a more limited impact where a substantial share of investment assets held are directly passed on to policyholders (like in investment-linked products).
- **Credit deterioration -** some corporate exposures are downgraded below the desired investment grade by reputed credit rating agencies. Credit rating downgrades might be a significant problem, due to the requirement for capitalisation of higher risk exposures. With a potential increase in credit defaults, insurers should consider their impact on credit exposure and risk appetite limits defined in the risk framework.

- **Liquidity** - with an increase in claims due to Covid-19, insurers may need to hold more liquid assets than they held before the onset of the pandemic. Insurers should also consider the impact of product lapses and surrenders that may have increased sharply for some products along with new business and renewals declines in the face of deteriorating economic conditions.
- **Investing new business premiums -** insurers need to reconsider the balance between risky and less risky assets, given the relative spreads available on these assets and potential changes in the risk appetite of both insurers and policyholders. The sectors that are less affected by the pandemic, for example, healthcare, education (specifically online), e-commerce and packaged consumer goods (including essentials) can also be considered while reviewing the investment strategy.
- In particular, for annuity business, the impact of **spread widening** should be reflected in the pricing of the new business as annuities may come within scope of the matching adjustment (MA); the fundamental spread (allowance for defaults and downgrades) is relatively insensitive to market movements.
- **De-risking of investment portfolios -** insurers might consider de-risking of their investment portfolios if they have concerns around the second wave of a market fall. For example, they may de-risk from market linked assets like equities or corporate bonds into less risky assets like fixed interest assets.

Considerations for different types of products

- **Unit and investment-linked products**
  Insurers selling unit-linked products are directly affected by market falls through a reduction in underlying assets via the reduction of total income that would be expressed as a percentage charge that is applied through annual management charges to funds under management. The impact of lower asset values could mean a proportionate reduction in fee income. However, the impact on future charges will depend on the current hedge position of insurers where they may have used unit matching to 'hedge' their underlying unit-linked liability. Insurers also need to consider the impact on liquidity risk due to uncertainty in the market and expect significant regulatory scrutiny of liquidity risks during the period of economic uncertainty, for example, increased information requests and additional reporting requirements, etc.

  The current market turmoil may increase full or partial surrenders and paid-up policies on investment-linked savings business as policyholders may need to restrict spending and access savings to help them through the crisis. Such policyholder behavior will need to be considered while hedging investment-linked portfolios as this will lead to a reduction in future fee income for insurers, which in turn might create a reinvestment risk. Insurers need to consider the above impacts on fees and charge income while determining the risk discount rate for non-unit reserves which will further depend on the current hedge position. For universal life type of products, insurers might consider a reduction in the crediting rate offered to policyholders based on the revised estimates of the future expected returns and Policyholders reasonable expectations.

- **Annuity products**

  Under the current scenario insurers selling annuity products are exposed to the widening of credit spreads, credit defaults, and the risk of falling property prices and rental income where the underlying assets are property. As credit spreads widen, insurers need to consider the effect of offsetting these through MA relative to a fall in asset values via a higher discount rate for annuity liabilities. However, the extent of this offset will depend on the fundamental spreads (the part of the bond yield attributable to the cost of defaults and downgrades), which may remain constant under stressed conditions as the probability of defaults increases.

  It may be possible that with credit spreads widening, fundamental spreads will not widen materially in the short term as these are based on the 30-year long-term average spread and were envisaged to change slowly over time. This may be beneficial to insurers in the short term as they will be able to take the majority of the spread widening through the MA and avoid the need to restructure portfolios in depressed market conditions. Insurers might need to consider the own funds movements resulting from mark-to-market changes in asset prices some of which may be compensated by the Volatility adjustment (VA). As the crisis unfolds, downgrades and defaults in the corporate bond portfolio may lead to further increase in the market risk, putting additional strain on insurers' solvency ratios. Regulators might also intervene to remove the sub-investment grade cap on the MA. This will lead to insurers rebalancing their portfolios to increase credit quality to previous levels. Given the current pandemic scenario, credit downgrades in the corporate bond market are anticipated especially for bonds issued by certain industries like hospitality. These downgrades will also impact the solvency position and Solvency capital ratio (SCR) of the insurers with MA portfolios (through higher discount rates).

  Insurers should also consider the impact of falling interest rates on their Risk Margins (RM) under Solvency II. Changes in interest rates may impact the value of RM in two ways: firstly, through changes in level of future capital requirements, and, secondly, though the impact of discounting the cost of such future capital. For these reasons, the sensitivity of RM to interest rates is usually higher for insurance liabilities with longer durations. For example, for an annuity portfolio the longevity SCR is a significant component of the capital requirement. The present value of Best estimate (BE) liabilities and SCR will increase significantly in falling interest rates, due to the very long-term nature of the insurance business. This increased longevity SCR would then be expected to push up the RM. Furthermore, falling interest rates would mean the cost of future capital requirements in the RM is less heavily discounted. Thus, both effects would be expected to contribute to the increase of RM when interest rates fall.

- **With-profit products**

  In the current pandemic scenario, asset shares for with-profit products will reduce, due to credit spreads widening and falls in equity/share market, etc. In many cases, with-profit funds are backed by significant equity holdings, corporate bonds, and fixed interest assets. The actual impact on each fund will depend on its portfolio composition and hedging strategies in place. Insurers also need to consider the impact of reduction in asset shares on the cost of guarantees (like guaranteed bonus levels), as greater equity volatility and the fall in interest rates will act to increase these costs and weaken the solvency position of the fund. On the other hand, for insurers providing guaranteed annuity options, costs of guarantees could potentially reduce, as policyholders would convert a lower fund at the guaranteed rate.

To protect the solvency position of with-profits funds, insurers should consider potential management actions such as revising bonus rates, changing asset allocations, changing target pay-out ratios, and expanding hedging programs. These actions can also be allowed for when calculating the SCR through the Loss Absorbing Capacity of Technical Provisions.

- **Non-participating products**

  Technical liabilities under non-participating, including the protection and savings (endowment) business, are valued using risk-free rates (RFRs). Under the Solvency II regime, RFRs are prescribed by EIPOA. Due to the COVID-19 outbreak, EIOPA carries out extraordinary calculations to monitor the evolution of relevant risk-free interest rate term structures in order to support insurance and reinsurance undertakings with monitoring of their solvency and financial positions. Insurers need to assess the impact of the fall in the RFRs on technical provisions along with the sensitivity to change in these RFRs on the asset and liability profiles. Sensitivity analysis gives an indication of how sensitive the excess of assets over liabilities is with the change in interest rates and other market movements caused by the pandemic scenario. This might also impact the profitability of the insurers as insurers typically have negative duration gaps and factoring in reinvestment at lower rates as well the effect of high guaranteed rates due to old products, considerable strain might be put on their profitability. Insurers hold assets, bought in the past, yielding high coupons which might compensate to a certain extent the overall effects of low interest rate environment in the short to medium term, but because of the negative duration gap, not in the long term.

  The Covid-19 shock added pressure on insurers' solvency ratios as market consistent valuations of assets and liabilities are sensitive to financial market volatility, movements in bond yields and credit spreads and might be negatively affected by bonds downgrades. Changes in interest rates lead to increases in the valuations of liabilities and an increase in their durations that might impact the solvency position of insurers. The extent to which increases in liabilities exceeds changes in asset values determines any reduction in solvency ratios. The positive side is that before the pandemic outbreak, insurance companies were well capitalised and some of them hedged and/or used derivatives to offset the effects of further decline in interest rates.

Conclusion

COVID-19 may have a significant impact on insurers due to extensive financial dislocations across asset classes and potentially large increases in morbidity and mortality (due to the pandemic) which further increase the uncertainty of the future cash flows. Mortality rates in severe scenarios could trigger huge pay-outs relative to capital held which might increase liquidity risk. Also, widespread asset-rating downgrades and persistently low-interest rates could add to the difficult environment. Insurers need to understand their interest rate sensitivity, outlooks for capital position, and should have clarity around significant estimates and assumptions. Insurers should carefully consider the impact of the current market volatility on the solvency position and de-risking strategies for their investment portfolios.

This article is one in a series of articles and blogs published on behalf of the ICAT Life 3 Workstream – *Assumption setting in current uncertainty*. The Workstream is researching the impact on the year-end 2020 valuation assumptions setting process due to the recent COVID-19 pandemic. The members are Anjali Mittal, Burcin Arkut, Isha Aggarwal, Isha Kulkarni, Jagrit Bagga, James Gillespie, Justine Morrissey, Mcebisi Dhlamini, Nainjeet Juneja, Natalia Mirin (Workstream Lead), Roy Perlson, Sanjoli Choudhary and Thomas Treacy.