

SAM Common Errors: Life Insurance

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Introduction

The introduction of Solvency Assessment and Management (SAM) to the South African insurance market has brought with it both rewards and challenges. This series of articles looks at some of the challenges that insurers face in the completion of regulatory returns and that have been observed in the Comprehensive Parallel Run (CPR). More specifically, these articles will:

- Outline challenges experienced by insurers in the completion of the Quantitative Reporting Template (QRT)
- Highlight areas where insurers may be applying incorrect standards in the calculation of the Solvency Capital Requirement (SCR)
- Identify areas where the standard formula, accompanied with slightly different business practices, could result in different capital requirements for similar (if not identical) risks

This series of articles will address these issues for both Life and Non-Life insurers. This article deals specifically with life insurers and the issues they face.

Life underwriting capital requirement

LIFE CATASTROPHE RISK, PANDEMICS AND REINSURANCE

The catastrophe shock that is applied as per Prudential Standard FSI 4.2 can be applied with allowance for risk mitigation instruments, including reinsurance. However, pursuant to 10.7, it must be assumed that “...10% of the mortality and morbidity stresses are from man-made or natural catastrophe events, and 90% of the stresses are from epidemic and pandemic causes.”

The consequence is that, in most cases, catastrophe reinsurance will not give significant risk mitigation as epidemics and pandemics are not typically included in catastrophe cover (which is due to epidemics and pandemics lasting longer than 48 or 72 hours and covering wide geographic areas). Special care should thus be taken to ensure that risk mitigation contracts are only used to mitigate a specific risk. The impact will be a larger shock and ultimately a larger SCR than otherwise derived.

While *pandemic* reinsurance is typically not available, quota share and surplus reinsurance treaties will still provide proportional protection. With appropriate reinsurance commission and profit commission structures, arrangements may be possible that mitigate risk and capital requirements at an acceptable cost.

MINIMUM CONTRACT BOUNDARIES FOR LIFE UNDERWRITING RISK

In the calculation of the capital requirements for the mortality, longevity, disability-morbidity, lapse and expense risks, the minimum contract boundary is effectively set to one year for all policies even though it may not be immediately apparent.

For all contracts with an original contract boundary of less than one year, the simplified shocks must be applied. They are specified in Attachments 1 to 5 of FSI 4.2. While the standard formulas used for the calculation of these shocks differ for each risk, the factor n (ordinarily related to the contract boundary) is always subject to a minimum of 1.

This leads to some counterintuitive results. For example, a policy with an *original contract boundary* of 13 months and a remaining contract boundary of six months will generate a lower capital requirement than a policy with an original contract boundary of 11 months and a remaining contract boundary of one month.

In addition, when calculating the cash flow requirement of the Liquidity Shortfall Indicator in accordance with FSI 6, the contract boundaries are similarly subject to a minimum of 1.

MASS LAPSE SHOCK

When applying the Mass Lapse Shock in accordance with FSI 4.2 section 8, expenses must be adjusted. This is detailed in point 3 of FSI 8.9: “An increase in per policy expenses by requiring total expenses (excluding variable acquisition costs and variable costs directly linked to assets under management) to remain constant for one year after the mass lapse event.”

FULL RECOGNITION OF DISABILITY-MORBIDITY RISK

In the application of the disability-morbidity risk shock, the shock applies to both an increase in disability-morbidity rates and a decrease in recovery rates. FSI 4.2 section 7.11 states “...where applicable, a permanent decrease of 20% in disability-morbidity recovery rates relative to best estimate assumptions.”

Technical Provisions for active lives and claims in payment will both be affected.

Valuation of technical provisions

UNDERSTATEMENT OF FUTURE EXPENSES

Pivotal to the assessment of future expenses is the correct classification of expenses as either initial expenses, ongoing maintenance expenses, or once-off expenses. As per FSI Guidance Note 2.2, the insurer should be able to clearly substantiate its classifications.

It is common to classify expenses as once-off simply because those particular expenses are not expected to reoccur, or not expected to reoccur regularly. However, expenses of that nature may reoccur or may have a possibility of reoccurring. FSI 2.2 section 6.3(c) states that “The valuation should consider the variability of cash-flows and ensure that the best estimate represents the mean of the distribution of potential outcomes.” If there is a possibility that the expense or similar expense could occur in the future, this should be included on a probability-weighted basis.

In assessing the future level of expenses, arguments are often made that there will be gains in productivity and consequently a future reduction in expenses. These gains are permitted under SAM, but only in the case that “...such assumptions must be supported by realistic and objective analysis, and based on verifiable data and information.” It would thus be acceptable to allow for a reduction where there is clear data showing a history of cost reduction or future contracts that have been put into place that will result in lower costs.

DATA RESERVES

Technical Provisions in respect of future costs arising out of known data limitations can be appropriate. However, it is only allowed on a best estimate basis, where it can be demonstrably shown that there is a credible *expectation* that the available data would otherwise lead to an understatement of technical provisions. In the case that this

expectation exists, the insurer is then obligated to reflect the *data reserve*.

In the establishment of data reserves it is necessary to account for the full distribution of potential outcomes, in accordance with FSI 2.2 section 6.3(c). The reserve cannot only account for the situation where the poor quality of data leads to increased cash outflows, but must also account for poor data leading to decreased cash outflows and hence represent a best-estimate view of the ultimate liability.

Larger variance in expected cash flows around the mean that is due to data limitations is not sufficient to recognise a Best Estimate Liability in respect of the data problems. Because the Risk Margin itself is also not directly affected by the poor data quality, the total Technical Provision or Solvency Capital Requirement is also unaffected. This type of risk could be captured within the Own Risk and Solvency Assessment if it were meaningful.

Classification of living annuities

In accordance with Attachment 1 of FSI 2.2, living annuities are classified under section 3(d), income drawdown investment policies, and not under Section 2(a), life annuities. The distinction is important as this means that living annuities can be classified as linked policies (iii) and not as market-related policies (ii).

The primary impact relates to the calculation of the operational risk component of the SCR. Because it is classified as a linked product, the operational risk is calculated in terms of FSI 4.4 section 6 (Linked Insurance Obligations) and not FSI 4.4 section 5 (Non-Linked Insurance Obligations). The impact is that instead of being calculated on 0.45% of technical provisions, the linked business SCR is calculated on 0.25% of Assets Under Management (AUM). This percentage lowers as the AUM increase above ZAR 25 billion. This difference in classification can have a significant reduction in SCR for living annuity business.

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