

## Determining the contractual service margin: operational approaches using prior information.

This article considers the operational challenge of requiring prior information when calculating the CSM in the General Model (GM).

### 1. Using prior information

The CSM at the end of a reporting period depends on prior information as well as assumptions about the future cash flows. The use of prior information significantly adds to the challenge of calculating the CSM.

The CSM calculation can be summarised as follows for contracts without direct participation features. For a particular group of insurance contracts, the CSM at the end of the period is

the CSM at the start of the period,  
*plus* interest using inception discount rates,  
*plus* changes in the present value of future cashflows,  
*less* changes in the risk adjustment relating to future service,  
*plus* experience adjustments from premiums received in the period relating to future service  
*less* an amount for services provided in the period based on coverage units.

Further considerations apply for insurance contracts with direct participation features, currency exchange features and where further contracts are being added to the group.

Therefore, in addition to using assumptions about the future, to calculate the CSM at the end of a reporting period requires knowing the CSM for that group of insurance contracts at the start of the period, experience data during the period and the discount rate assumptions at inception.

The use of prior information to determine the CSM adds significant complexity to the modelling of IFRS 17 when compared to other common insurance methods such as Market Consistent Embedded Value and Solvency II, as otherwise all three methods essentially value liabilities by considering the present value of best estimate future cash-flows with an adjustment for risk.

### 2. Operational approaches

The working party is interested to learn the operational approaches being adopted by insurers to calculate the CSM. Approaches being considered to determine the CSM may include, and are not limited to, the following,

- Using a spreadsheet tool outside of the actuarial projection tool.
- Using an integrated software system which interacts with accounting systems and actuarial projection tools.
- Developing the existing actuarial projection tool by taking the CSM for a group of insurance contracts from the prior period as a new input, and using further inputs as required.
- Developing the existing actuarial projection tool as above but instead of using the prior period CSM as an input, recalculating the CSM from inception through to the present day by using stored historic actuarial assumptions.

### 3. Comparison

The working party is interested to learn which approaches are being adopted by insurers and the advantages and feasibility of such approaches. Features of the approaches that could be compared include the following,

- **Ease of running models.** For example, an actuarial projection tool which just requires being updated for the latest best estimate assumptions would be easy to run and would operate in the same way as existing actuarial modelling systems typically operate.
- **System development requirements.** Developing a new software system is likely to be larger project than enhancing an existing actuarial projection tool.
- **Accuracy and confidence in the CSM.** Where the CSM from the prior year is used as a hardcoded input potentially this could risk any errors being carried forward into the current year.
- **Computational intensity and assumptions required.** It is of course advantageous for a tool to run quicker and to require fewer inputs and assumptions.
- **Level of aggregation modelling.** The approach would need to determine the CSM at an appropriate level of aggregation of insurance contracts. This may involve complexities such as determining the risk adjustment at a suitable level of aggregation.

The working party welcomes any suggestions and feedback on our articles.

On behalf of the IFRS 17 CSM Working Party

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