

ACTUARIAL INSIGHTS
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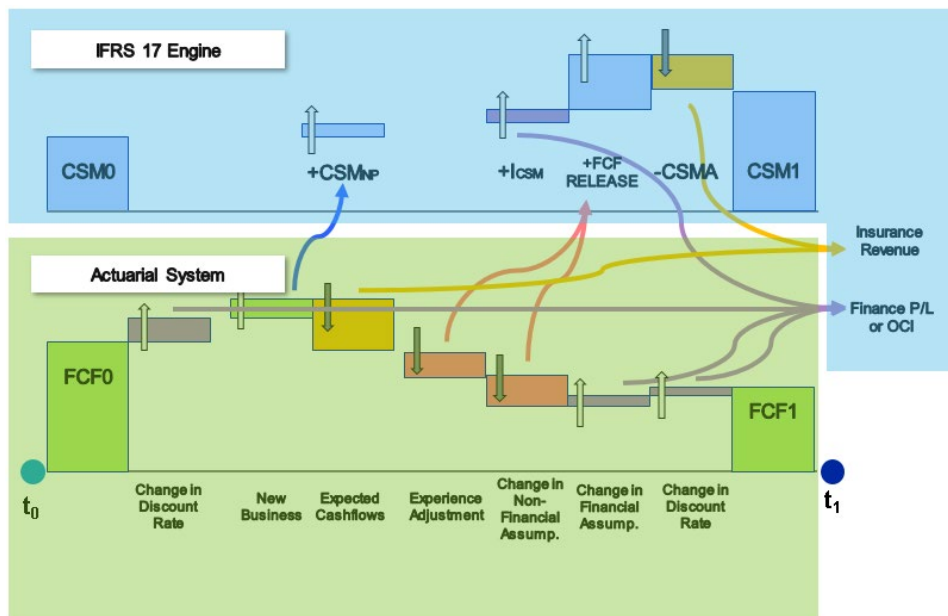
Preparing for IFRS 17, is Your Actuarial System Ready?

IFRS 17 represents the most significant accounting change to the insurance industry for more than two decades. The new standard requires updates to insurers' actuarial systems and time is of the essence. Insurers should be using 2022 to address the software issues that arise when moving from existing reserving methodologies to those required for IFRS 17.

The first step for insurers is to determine the interaction between the accounting system and actuarial system. IFRS 17 necessitates a closer integration of these two departments and their systems, and insurers need a clear understanding of who is responsible for each part of the process. In this article, we will assume a separation of the IFRS 17 engine which rolls forward the Contractual Service Margin (CSM) from the actuarial system.

Figure 1 shows this split and the resulting interactions. The IFRS 17 engine manages the rollforward of the CSM and hands it over to the accounting system, which translates it into postings in a sub-ledger. There, this accounting journal is subject to analysis and validation, before being sent to a general ledger and fed into a financial statement.

Figure 1 Interaction between Actuarial System and IFRS 17 Engine



Source: Moody's Analytics

Table of Contents

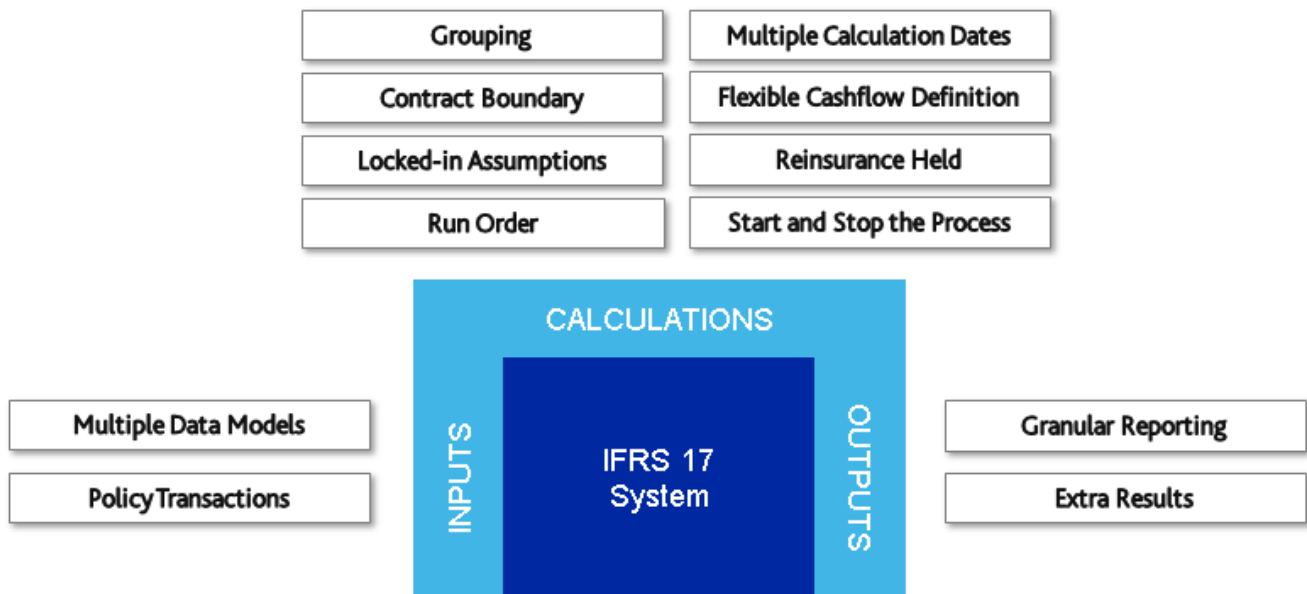
Upgrading actuarial system functionality for IFRS 17	3
Updates required for input data	3
Meeting calculation challenges	4
Managing outputs and reporting	5
Rising to the challenge	5

Upgrading actuarial system functionality for IFRS 17

To date, regulations in most countries require technical reserves to be calculated using a present value of cashflows calculation based on first principles approaches. The good news is that a significant amount of the cashflow projection and discounting calculations needed for IFRS 17 are already available in most insurers' actuarial systems. However, some additional capability will also be required. We can categorize these requirements into three groups:

- » Input data
- » Calculations
- » Outputs and results

Figure 2 Actuarial system enhancements



Source: Moody's Analytics

Updates required for input data

To address IFRS 17, insurers need an actuarial system that can cope with multiple data models and policy transactions. The system must be capable of processing historical records for every policy, including a full record of all events during the reporting period as well as the current state. Actuarial systems need clear rules and logic for each policy event type and transaction. Equally, the system must be able to manage the absence of this data if it is not available.

Most inputs to an actuarial system are policy data and assumptions but under IFRS 17, multiple versions of the policy data are required for a valuation. For example, to calculate and roll forward the CSM accurately, a list of policies today is required as well as the list of policies at the last reporting date. The system will need to process multiple versions of the in force data. In addition to the policy list, all policy movements and transactions will need to be included such as deaths, lapses, new business, reinstatements, and conversions.

Insurers need this data to calculate an Experience Adjustment amount, a reserve change due to the difference between what is built into the reserve assumption vs what actually happened. This creates a further requirement for the actual experience data as it affects the expected experience and resulting projections calculated by the actuarial system.

Meeting calculation challenges

After the challenges surrounding input data are addressed, insurers need to ensure that they can meet the calculation challenges that will arise.

IFRS 17 specifies insurers must group policies based on product, issue date, and profitability. These groups can hold a maximum of one year of new business before another group needs to be created. This requirement affects input data, calculation, and output results.

The calculation of the reserve must happen at this level and all associated data and results must also be tracked and stored at this level. This leads to a higher level of complexity than insurers have previously had to manage and becomes increasingly challenging as the models expand. The actuarial system must be able to manage the direct policy's contract boundary, as well as the reinsurance held contract boundary, and store locked in assumptions by group.

The run order list is vital as this determines how the attribution of the change in reserves develops. The development of this is often an iterative process which can involve a retooling for the actuarial system for each iteration. This can be a complex process and as it involves the actuarial, accounting, and policy teams, is an example of the closer integration driven by IFRS 17.

The actuarial system must also be able to manage multiple assumption sets. It must be able to run multiple calculations for the attribution runs, changing specific aspects of the model on an individual basis. To do this, the system must be able to automate single assumption changes and then rerun the model and capture the results. This often leads to "hybrid" models which are complex to manage.

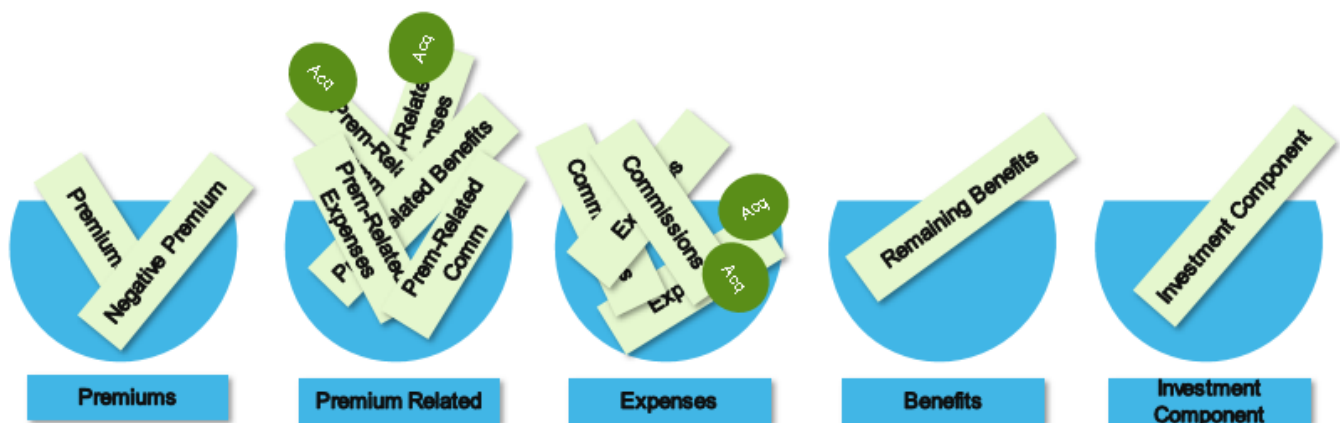
In addition to the modeling, an insurer needs to consider the speed of its actuarial system. Due to the additional runs required and the additional complexity, IFRS 17 calculations may take 10–15 times longer than those required by previous, simpler regimes.

IFRS 17 requires a more granular and flexible classification of cashflows. This includes:

- » Premiums and premium-related cashflows which go to CSM
- » Non-premium related expenses which go to P/L
- » Benefits excluding investment component which go to P/L
- » Investment component which goes to CSM

This means that the actuarial system will need a more granular classification to allocate portions of cashflows accurately. Insurers need to keep in mind that this may only be the case for IFRS 17 cashflows and they may need to keep a separate cashflow classification system for non-IFRS 17 runs.

Figure 3 Increased granularity of cashflow classification



Source: Moody's Analytics

Managing outputs and reporting

Finally, we will look at output and results management. To do this, we need to consider both the extra results insurers will be looking for from their actuarial software and also the granular reporting required.

IFRS 17 requires projections such as:

- » Present value of premiums and acquisition expenses for Premium Allocation Approach (PAA) products
- » Present value of expected cashflows for the Loss Component and Loss Recovery Component when the business is onerous
- » Values needed for the Other Comprehensive Income (OCI) calculation

The actuarial system will need to calculate the Investment Component, both expected and actual amounts. However, companies may not be able to calculate and track the Investment Component in their administration systems. Therefore, it may be prudent and expedient to run these calculations in the actuarial system and pass them to the CSM calculator.

Finally, insurers need to increase the granularity of their reporting capability. IFRS 17 will force actuarial systems to generate and store large amounts of data at very granular levels. This might necessitate a data warehouse and will be reflected in reporting. The amount of data that is generated in the IFRS 17 runs can be significantly more than was required previously for non-IFRS 17 reserving which will be a challenge for an insurer's reporting engine.

Rising to the challenge

We can see the scale of the challenge facing insurers to be ready for IFRS 17 in January 2023. However, these system enhancements and the stronger collaboration between departments can bring about increased insights and value across the business. The opportunity exists for operational and commercial gains as well as regulatory compliance.

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