Reserve uncertainty - reserving meets capital
from the GI ROC MUQ Working Party

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With special thanks to current and previous members of the MUQ Working Party

Agenda

• Introducing the Reserve Uncertainty Framework
• Overlap with reserve risk assessments?
• What’s your opinion?
• Summary and questions
Introducing the framework

Percentiles – the uncertain uncertainty

- Reserving ultimates are estimates, and some reserving practitioners illustrate this point by adding percentiles to show the range
- As you know, percentiles also have to be estimated

- Percentiles are often more uncertain than the point estimate and frequently have no mention of their own accuracy
- In reserving, we recommend thinking of the user and using qualitative methods and not to relying solely on percentiles
Framework aims

• Promoting development of best practice in measuring and communicating reserve uncertainty; by

• Supporting the generation of wider risk considerations
  – Breaking the problem down and structuring the thought process

One framework, two levels

• A skilled actuary will undertake comprehensive analysis and then communicate the material elements
Framework uses

By the actuary

- **Base structure** for their own internal framework
  - Record of areas considered
  - Governance and validation
  - Consistency, with little change needed from year-to-year

- **Articulation tool**
  - For example, to support communication to stakeholders

- **Pooling knowledge** and developing best practice in the profession

- **Training tool**

By the user

- **Awareness** of areas of uncertainty
- Provides **inspiration** for users to ask their actuaries powerful questions

The reserving uncertainty framework
Reserve Uncertainty Framework

Framework Example – Ogden rate
“Oblong Rate” – an example response

Best Estimate of Uplift required is £34m

<table>
<thead>
<tr>
<th>New Oblong Rate</th>
<th>Uplift to reserves required £m</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>0.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>1.0%</td>
<td>5.0%</td>
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<tr>
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<td>17.5%</td>
</tr>
<tr>
<td>4.0%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

Key Points
1. Expert input from claims team suggests new rate highly likely to be 0.0%
2. Other insurers suggesting the same
3. Assumes new Oblong rate stays the same for the foreseeable future
4. Does not allow for minimal reinsurance recoveries
5. Includes small uplift for Household Liability

Key Areas of Uncertainty
- We do not know what the Oblong Rate will be when it is announced and the uplift is highly sensitive to this
- We do not know if it will affect claimant behaviour
- Some of the information on the base claims data looks incorrect, which we have attempted to allow for

Build-up of £34m uplift

<table>
<thead>
<tr>
<th>Contributor</th>
<th>Uplift required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Assumption of 0.0%</td>
<td>£29.0m</td>
</tr>
<tr>
<td>Allowance for issues in claims data</td>
<td>£2.5m</td>
</tr>
<tr>
<td>Allowance for change in speed of settlement</td>
<td>£2.5m</td>
</tr>
</tbody>
</table>

The framework document

Reserve Uncertainty Framework
Measuring Uncertainty Qualitatively (M22) Working Party 2018

Exposures

Reserve Uncertainty Framework
Measuring Uncertainty Quantitatively (M22 working party 2018)

January 2018
Our website

- The full framework to download
- References and our other work
- Past presentations


Using the framework with capital modelling
The framework could be extended to reserve risk assessments

- We suggest that the framework is a tool that can be used during a reserve review to help assess and communicate reserve uncertainty
- It could also be used in capital modelling…
  - When undertaking reserve-risk assessments how do you know:
    - You have captured uncertainty from data accuracy or its interpretation?
    - Have you thought about risk from the line of business' changing exposure profile?
    - What about events that may happen that aren’t in the data – for example, the Ogden rate changes?
    - Could you use your thinking about uncertainty whilst determining best estimates again in setting reserve-risk parameters?
    - Do your reserve-risk estimates align to any reserving scenarios?
  - When validating reserve-risk assessments, how do you validate the above if you are not a subject matter expert in reserving the line of business?
    - Could you use the framework for generating ideas and challenge?
- How could our framework help you?

Why not get involved?

- Inspired to lead on this?
  - Apply on the Volunteer pages, or email Keith for more information
- Want to help and contribute to thought leadership in the area but only have limited time
  - There is a rolling vacancy open here
- Need or want to find out more about the reserving side?
  - We have a rolling vacancy looking at wider areas such as IFRS 17 and other topics to help on allowing for reserve uncertainty using qualitative methods
Summary

• We have shown you our Reserve Uncertainty Framework

• Could this be used to help set reserve-risk parameters more accurately by considering more of the influences on reserving?

• Could the framework be used to help validate the capital model or reserve risk?

• We need your help – please give us your view, or even better come and join our working party!

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

The views expressed in this presentation are those of the presenters.