Introduction

• TORP working party progress
• Fast close
• Materiality
• Reinsurance
• Summary
TORP Working Party

• The Towards Optimal Reserving Party aims to develop practical thoughts around the design and operation of the reserving process to share current practices and issues.

• This is to promote and spread the expertise gained from those further along the process, to those not as far advanced.

• Previous projects include Actual v Expected techniques in 2013, Fast close options and Reporting in 2014 and this year have focused on the Materiality limits and thresholds and Reinsurance options through the fast close.

• The party looks to tackle a series of common problems that firms face, in order to move towards a robust and risk focused reserving process given the reserving and reporting pressures we all face.

• Always open to suggestions for future papers

AvE measures
Different Metrics for different purposes

- Incurred AvE
- Paid AvE
- Number/ frequency of losses
- Average claim size
- Loss Ratio
- Percentile
- Amounts as a proportion of IBNR or total Reserves
AvE measures
Considerations when assessing results against measure(s)

Materiality limits
What do materiality thresholds represent?

….bit of an obvious question but what are the implications of the various outcomes from the AvE?

<table>
<thead>
<tr>
<th>Experience</th>
<th>Opinion/behaviour phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual vs expected deviation is</td>
<td>Maintain reserves as per roll-forward with ultimates unchanged</td>
</tr>
<tr>
<td>within materiality</td>
<td></td>
</tr>
</tbody>
</table>

Grey area in middle

<table>
<thead>
<tr>
<th>Actual vs expected deviation exceeds materiality</th>
<th>Update ultimates and adjust reserves</th>
</tr>
</thead>
</table>
Schematic of AvE regions of differing reaction

Green area – where experience is within expectation

M = materiality threshold

Pink area – where actual experience deviates from expected above multiple of materiality threshold

N = multiple of materiality threshold which is considered a “major” event
Schematic of AvE regions of differing reaction

Purple area – actual experience exceeds expectation but may be related to expectation being so large – action?

M = materiality threshold
N = multiple of materiality threshold which is considered a “major” event

Note expected experience may be negative
Areas of differing reaction

<table>
<thead>
<tr>
<th>Area</th>
<th>What this means</th>
<th>Reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Deviation within tolerance</td>
<td>No adjustment to original ultimates</td>
</tr>
<tr>
<td>Pink</td>
<td>Significantly in excess of “normal” experience</td>
<td>Specific analyses and adjustments will be carried out on the event(s) that caused the deviation</td>
</tr>
<tr>
<td>Blue</td>
<td>Deviation over materiality threshold</td>
<td>Allow for normal load release. Use specific adjustments within the fast close.</td>
</tr>
<tr>
<td>Purple</td>
<td>Deviation over materiality level, but could be due to random fluctuations which could reverse in future periods.</td>
<td>May decide to smooth by not (or not fully) reacting to the implied deviation.</td>
</tr>
<tr>
<td>White</td>
<td>In between area</td>
<td>Will depend on external factors. Could fully react or not, or react partially.</td>
</tr>
</tbody>
</table>

Selecting M & N

M = materiality threshold

N = multiple of materiality threshold which is considered a “major” event
Selecting M & N - Time period

Potential Year End

Potential Q1–Q3 roll forward

Stakeholders involved and potentially differing views for threshold levels

Bringing it all together and embedding

Mgt / Board / Directors
Others
U/W
External Act. / Auditors
Actuarial
Reinsurance during Fast close

Afterthought? But why?...

Other factors that may play a part in a reinsurance roll forward include:

- Data Quality
- Timing of roll forward
- Time lag on data
- Materiality/Structure of RI
- Complexity
- Loss activity to date

Reinsurance data considerations

Loss type

<table>
<thead>
<tr>
<th>Loss type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catastrophe Losses</td>
</tr>
<tr>
<td>Large Losses above excess</td>
</tr>
<tr>
<td>Large Losses below excess</td>
</tr>
<tr>
<td>Attritional Losses</td>
</tr>
</tbody>
</table>

Typically expect increasing quality and quantity of data as loss quantum increases
Reinsurance projection techniques during detailed review

- Project the reinsurance data
- Project the gross and net data
- Project the gross data in aggregate and apply net to gross ratios

- Large losses considered separately and reinsurance recoveries estimated explicitly
- Each loss is individually fed through reinsurance programme and aggregated

Reinsurance considerations during fast close review

- Options
  - Roll forward of previous quarter/previous reviews
  - Consideration of catastrophe losses and large losses separately
  - Excess loss contracts materiality
  - Pre-determined net to gross ratios for Non proportional contracts
  - Full calculation

- Gross Claims movements
  - Aggregation
  - Size
  - Banding
  - Segmentation

- Reinsurance claims movements
  - Actual movements
  - Data quality
Reinsurance estimation for restricted time and individual data

On an individual Excess Loss contract may consider reserving as follows:
- Considers potential recoveries at each gross loss level at date of estimate allowing for potential development from the current gross loss estimates
- Potential to link to capital model for allowance for variance in gross loss experience

Reinsurance estimation for limited time and data

To estimate a pre-determined reinsurance recovery ratio for non proportional reinsurance across multiple contracts, may want to consider:

- Expected recovery to date
- Gross losses to date given expected recovery
- Expected point of development of losses to date
- Gross development to date
Reinsurance estimation for limited time and data

Summary

• A common understanding of materiality thresholds is required for successful implementation of a fast close within the business. Agreeing them between different stakeholders may be difficult!

• In understanding better the fast close process and materiality thresholds it has operated within, the board can take more confidence in a fast close.

• Reinsurance estimations in fast close may be difficult however different techniques may be utilised.

• A wide range of techniques are used in the market, even within this room today
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