



The Actuarial Profession
making financial sense of the future

GIRO Conference and Exhibition 2012
Juggling uncertainty the actuary's part to play

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**Towards optimal reserving: best
practice in the new world**
Neil Bruce

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Agenda and scope

- Caveats!
- Working party aims
- Trending requirements
- Granularity is king
- Mapping of regulatory bases
- Organizational issues and dependencies
- Example “hints”
- Discussion/opinions

Caveats

- This presentation is based on my personal views
- I do not pretend to know all (or even any of) the answers
- Much of this may be general knowledge
- This work is aiming to provide a baseline of knowledge
- Regulations and “acceptable” methods/structures will vary by company and regulator.

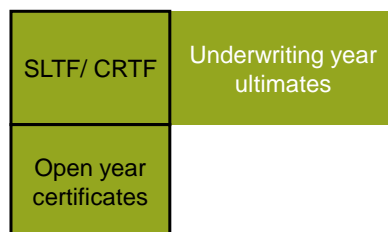
Working party aims

- This presentation is part of “Securing the baseline” under ROC
- This working title for this year is “Towards the optimal reserving process”
- This work is aiming to provide a baseline of knowledge for all GI actuaries (and to some extent their stakeholders)
- The scope of the WP has the potential to be enormous (reserving function procedure manual)
- Hence we’re aiming to cover issues at a relevant level of detail, which will be more granular where we think guidance is valuable.

Trending requirements

How did we get here?

1980's – Lloyd's SAO

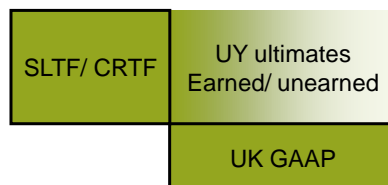


Actuarial processes were a new feature.

Trending requirements

How did we get here?

1990's – GAAP reserving

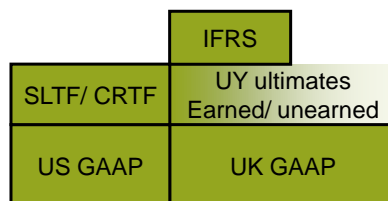


Actuarial processes were developing to include accounting concepts.

Trending requirements

How did we get here?

2000's – US/UK GAAP reserving and IFRS

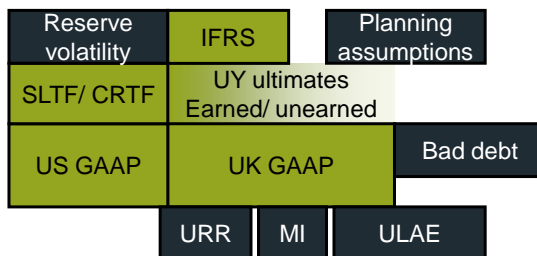


Increase in international reporting and evolving of IFRS standards.

Trending requirements

How did we get here?

Mid-2000's – Additional reporting, ICA

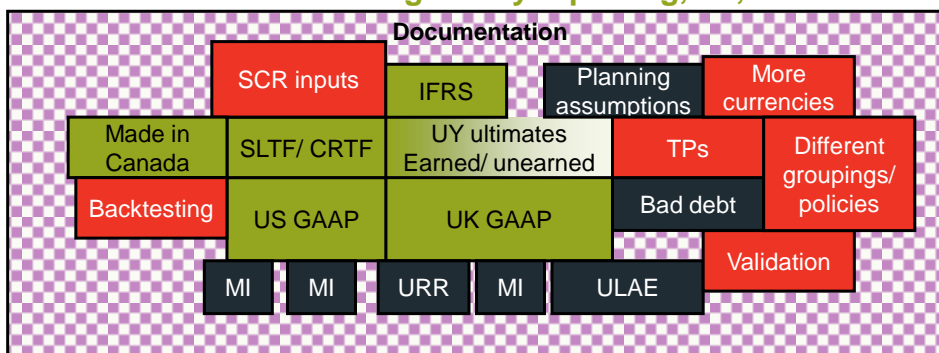


Planning and capital modelling use reserving outputs and analyses.

Trending requirements

How did we get here?

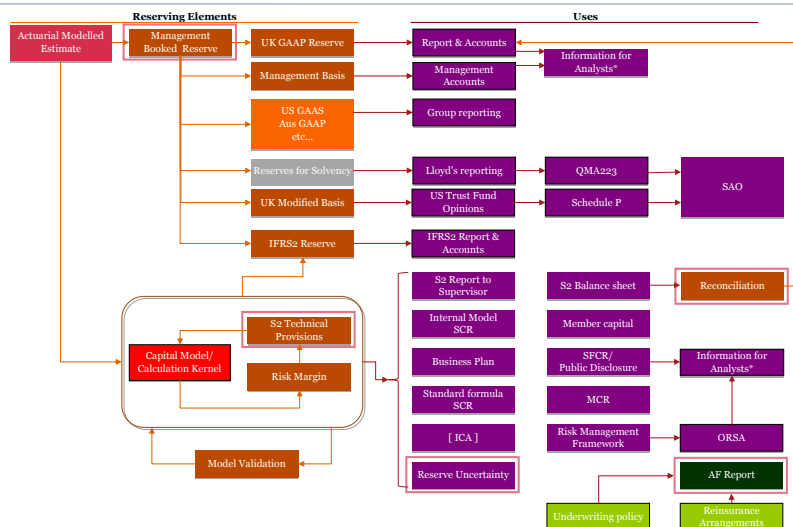
Now/soon – Additional regulatory reporting, SII, enhanced MI



Different bases and analyses introduced.

Reserving process and outputs

A more structured view:



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Is there a better way?

Reporting has mushroomed over a short space of time

- Actuarial resources have increased, but potentially **not fast enough**
- IT capabilities and resources have increased, but potentially **piecemeal** rather than strategically
- Changes to procedures may have been **“bolted on”** to meet what was a “non-core” additional piece of work
- Higher level of scrutiny and increased documentation requirements make the **analysis process slower**.

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Granularity is king!

Ground up analysis of reporting requirements

- Worth looking at the requirements from **each source** and assessing what **level of detail** is needed
- The **frequency** of each request is important as well
- Are there **similar analyses** on slightly different bases and/or frequencies?
- Where can **approximations** be used/justified to convert from core processes to ancillary exhibits and reports?
- Where timing conflicts occur, can AvE or other **roll-forward** processes be implemented?
- Can documentation be used to streamline the review processes and **avoid duplication**?

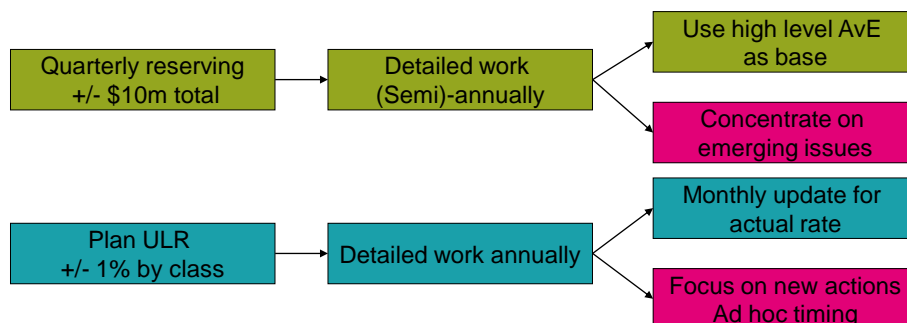
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Possible vs. practical

Uncertainty can help!

- Managing user expectations of volatility on particular exercises allows targeting of resources:



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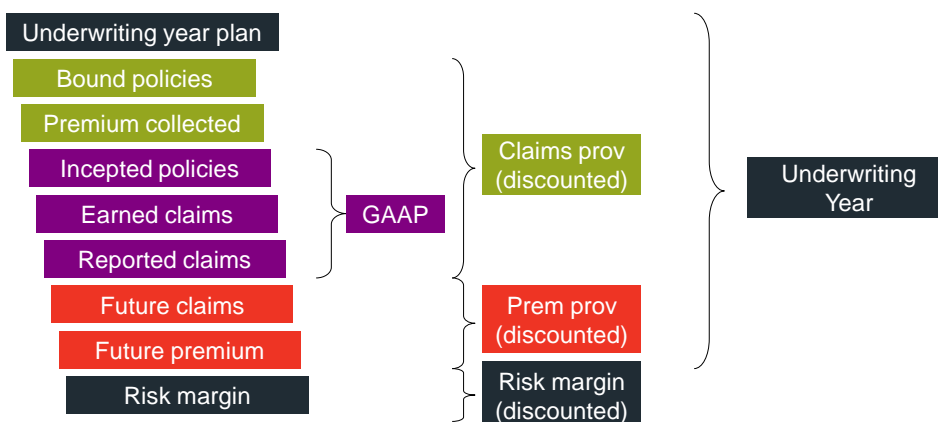
Possible vs. practical

Balance detail and importance

- Be open in the level of accuracy expected in (ancillary) processes and get **buy-in from the users** of the output
- Be prepared to use (and justify the use of) **risk-based metrics** to target resources for some/all exercises
- Ensure all outputs are reviewed to a detail and frequency that is **appropriate**, rather than aiming for the impossible
- Use TAS R to your benefit! Aggregate reports can **refer to standard methodology descriptions**
- If possible, **automate**.

Mapping of regulatory bases

How do regulatory bases interact?

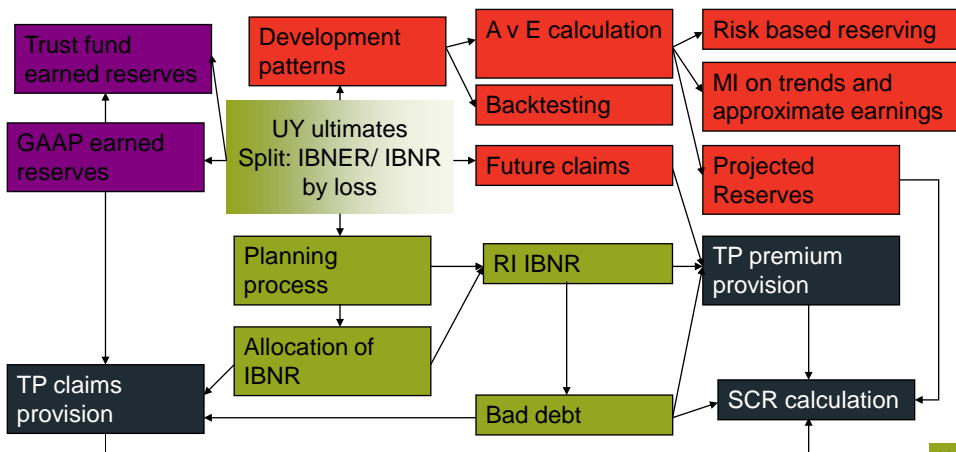


Can you design the core process to give this split naturally?

Mapping of regulatory bases

Linking of assumptions

Aim: to indicate where efficiencies can be gained



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Organizational issues

Data flows

- Data required from:
 - Finance (Earned premium, expenses)
 - Ceded Re (Proposed programmes)
 - Risk (Risk Margin calculation)
 - Capital team (complex recoveries, allocations, AFR)
 - Management (plan)
- Data required by:
 - Finance (reserves)
 - Ceded Re (analysis of proposed RI, commutations, RI IBNR)
 - Risk (risk register)
 - Capital team (reserve volatility etc)
 - Management (Statutory reports, MI)

Data flows work on both directions, so should be controlled as a whole process
Not piecemeal!

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Organizational issues

Principles

- **Rationalise** process for collection and provision of data
- **Educate** department (heads) as to the extent of the connections
- Consider “external” sources in the same way as the internal reserving process:
 - smoother process flows
 - **better appreciation of the whole picture** (both for the reserving and other departments)

Helpful hints (1)

Documentation

- **Tiering** of documentation to avoid repetition:
 - policy (aims of the process) – infrequently amended
 - process/methodology – how the process is carried out, with guidelines as to which method to use when etc.
 - link to MI – such as A v. E analyses to provide additional information (component report)
- Use “notes” during the reserving selection process for documentation of specific selections (Excel or reserving software packages)
- **Report** is used to fill in specifics of deviations from standard procedure and **concentrate on current issues** and changes of assumptions.

Helpful hints (2)

Binary events

- Within the reserving process this can be approached in many ways
- Use of **catastrophe models** to give indications of tail-shape for known perils, which could be applied to less well known perils
- Loadings for “**unknown unknowns**”: zero is wrong!
- Modelling within the **SCR**: choosing a frequency limit in excess of the capital measure makes life easier.

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Helpful hints (3)

Reserving process efficiencies

- Use of **databases** as the core reserving system:
 - Level of detail required is increasing volumes of data
 - Judgement is always required at some points in the process(!)
 - Use of standard process to provide a “first-cut” can help concentrate resources on areas of concern
 - Assists in storing many assumptions in a easy-to-extract format, which can be useful for e.g. deriving capital model inputs.

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Helpful hints (4)

Presentation of results

- Gaining buy-in from underwriters/management:
 - Allow **alternative** views to be captured in the report
 - Provide back-testing information to a wide audience
 - Use graphical exhibits to highlight issues on **particular** lines (rather than all lines).
- When discussing it regular MI, refer to the implied reserving effect to emphasise the importance of the reserving process.
- Similarly, tie reserving results into indications for effects on plan ULRs etc.

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Discussion

- Does this work look useful?
- Are there any areas in particular that are/would be useful, even if not mentioned here?
- What other ideas do you have to make life easier?
- War stories

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Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

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

