Lies, damn Lies and Stochastics

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Or...
If it’s so good, why isn’t it used everyday?

• A quick question or two (or three)
• Where is it used?
• Are there any benefits?
• What are the challenges?

Some quick questions...

1. Do you think stochastic reserving techniques are useful?
Some quick questions...

1. Do you think stochastic reserving techniques are useful?
2. Do you think others do?

3. Specifically, do you think the Management of insurers do?
Survey answers

Survey answers - UK

Survey answers - Australia
Does this tell us anything?

Well if the audience is like the survey...

1. Technically minded actuarial types think it’s great
2. We suspect our colleagues like it – but maybe they’re not as smart as us
3. Management certainly don’t get it
   – If only they’d listen to us!
4. It’s not necessarily that different elsewhere...

Why is this so?

Where is it used?

“...increasing interest in stochastic claims reserving methods, they are still only used by a limited number of practitioners... Main reason is probably lack of need for the methods...” England/Verrall 2002

“curve fitting and stochastic methods are rarely employed outside of motor compulsory third party bodily injury ....This result is perhaps a little disappointing given the potential benefits...” GIPC Australia 2006
Potential uses of Stochastic Reserving

*Stochastic claims reserving methods extend traditional techniques to assist with questions about uncertainty*

- Ranking lines of business according to (reserve) risk
- Comparing a range of best estimates within a distribution of outcomes
- Reinsurance/risk transfer decisions (e.g., adverse development covers and portfolio transfers)
- Investigating the significance of changes in Ultimates
- Developing a companywide range
- Financial reporting, including IFRS risk adjustments
- Variability statements in reserve opinion
- Mergers & acquisition
- Actual vs. Expected analysis
- Feeding into pricing decisions
- Quantifying “data uncertainty” when parameterizing UW risk models
- Informing decisions about closing down lines of business (portfolio management generally?)
- Considering risk appetite and the capacity for new business given reserve risk exposures
- Asset liability matching
- Monitoring against business plans
- Asset/Liability matching
- Assisting with ERM considerations generally

Uses of Stochastic Reserving

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What are the benefits?

• Understanding variability
  – Particularly in the tail
  – ‘How bad can it get’

What are the challenges?

• We like lots of data.....
  – There isn’t always a lot of it

• Complexity of models
  – Over parameterisation
  – Lack of control cycle

• Tying the range to traditional deterministic estimates
What are the challenges?

- Need for judgement
  - We are familiar with the ‘boundaries’ of deterministic judgements
  - And how to explain it
- Validation.....
- Capacity
  - People
  - Time constraints
- Articulation of results to decision makers
  - cf scenario analysis

What needs to change?

- Maybe nothing?
  - Life is too short!
- An external ‘push’
  - IFRS.....
- ‘Integration’ with capital modelling
- Simplify to key drivers
  - Making judgements more explicit
- ‘integration’ with scenario analysis
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 presenter.