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Actuarial decisions under Pressure: Mind the gap … … between reserving and capital

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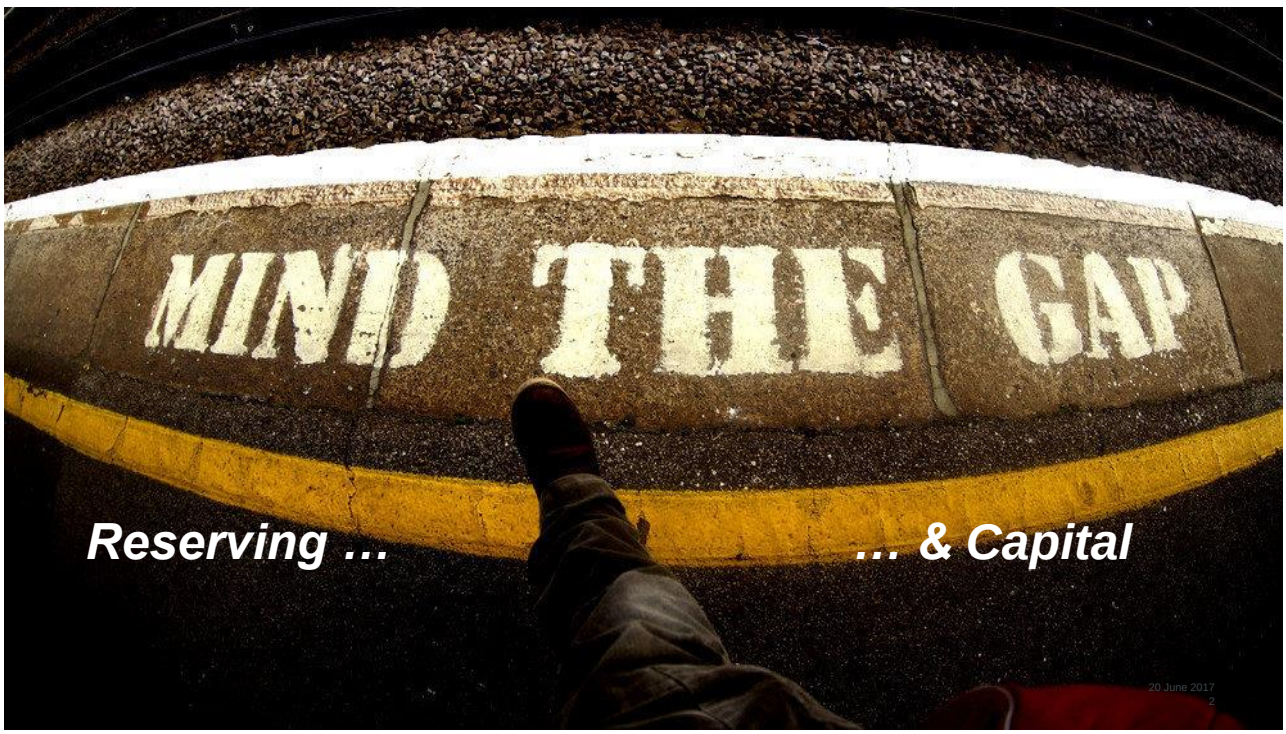


"Coming together is a beginning. Keeping together is progress. Working together is success."

--Henry Ford (Industrialist)

"A good marriage would be between a blind wife and a deaf husband."

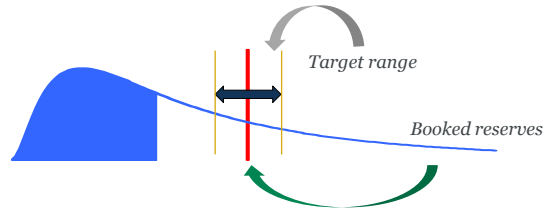
--Michel de Montaigne (Philosopher)

4 examples where we might be FALLING DOWN the gap …

- *Reserve Strength*
- *Scenario Testing*
- *Feedback loops*
- *Methodology Selection*

4 examples where we might FALL DOWN the gap

Reserve Strength



- Reserve distributions are not always used for setting and validating management margins.
- Useful to compare at what percentile the booked reserves sit
- Results in inconsistencies between teams and their views of risk ....
- ...and inefficiencies and additional effort spent

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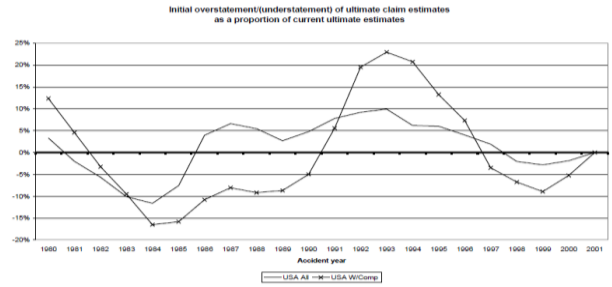
4 examples where we might FALL DOWN the gap

Scenario Testing



- Reverse Stress Testing or (out of model) Scenario testing capturing reserve deteriorations in a soft market
- Not all available data sets used to help quantify scenarios
- Reserving team's expertise not fully used
- May result in incomplete scenarios or scenario sets ...
- ... and potential understatement of reserve risk

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4 examples where we might FALL DOWN the gap

Feedback loops

- Analysis of change – what is really driving reserve, and reserve risk movements?
- Changes to reserving methodology or prudence – how does it impact reserve risk calculations?
- Incomplete consideration of available information
- Results in incomplete understanding of risk and drivers

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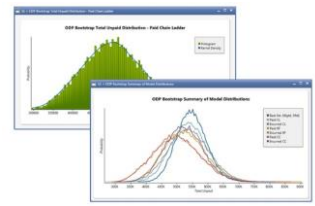
4 examples where we might FALL DOWN the gap

Reserve risk modelling



- Still the most common methods used: Mack and bootstrapping models, some alternatives used (e.g. for inwards reinsurance, liability, etc).
- Popular methods have well-trailed limitations (especially inflation, court awards, calendar year effects, reserving cycle …)
- Not always best methodologies used in view of exposures
- Better insight of data from reserving team (e.g reinsurance trends, PPOs, irregularities, inflationary trends, underlying reasons of reserve releases) can better help inform choice of methodology.

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Recurring themes

- **Hypothesis:**

Separation of the reserving and capital functions contributes to a "gap" in understanding of reserve risk

- At its best, the "gap" can create a healthy tension between the two functions …
  … at its worst, it can generate inconsistency and a gap in understanding

How to make it better?

- Over to Sally and James …

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Actuarial feedback loops in practice

James Toller & Sally Lake
Beazley

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Context - Beazley

- Beazley plc is a FTSE 250 company
- Specialist insurer
- 6 Lloyd's syndicates, 1 reinsurer and overall group
- US business is the main focus
- USD2.2bn gross written premium
- Around half of business is casualty

Context - 2 functions encourages visibility of alternatives

- CFO
- Actuarial
  - Reserving
  - Pricing
  - IM Validation

- CRO
- Risk
  - Capital
  - Planning

Committee governance

- Reserving Peer Review
- Audit Co
- UW Co
- Boards
- Capital Co
- Exposure & Investment Co
- Risk Committees

1 to 1 Director meetings

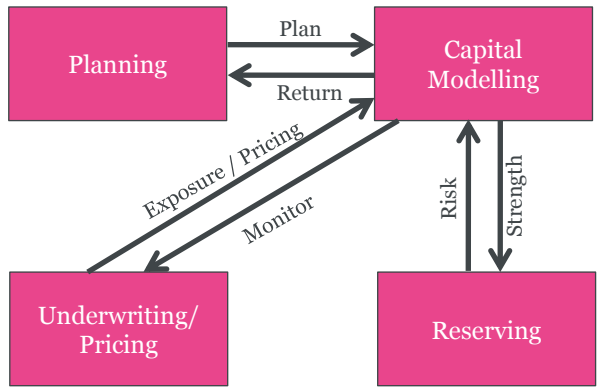
Context – Different Focus

- Actuarial
  - Experience
  - Bottom up
  - Internal data
  - 5 to 10 years
  - Class profitability key metric

- Risk
  - Exposure
  - Top down
  - External data
  - All years
  - Drivers of portfolio risk

Feedback encourages reconciling differences

Context - Feedback loops are integrated



Feedback loop examples

- **Example 1 – Reserve risk**
  - Improving assumptions using bottom up view
  - Feedback loops ensure users understand the output
- **Example 2 – Reserving RI recovery**
  - Improving assumptions by ensuring consistency of view – pricing
- **Example 3 – RI Rate change**
  - Improving assumptions by ensuring consistency of view – dependency
- **Example 4 – Reserving vs plan loss ratio**
  - Giving visibility to alternative assumptions
- **Example 5 – Reserve strength for new portfolios**
  - Giving visibility to risk

Example 1 – Reserve risk

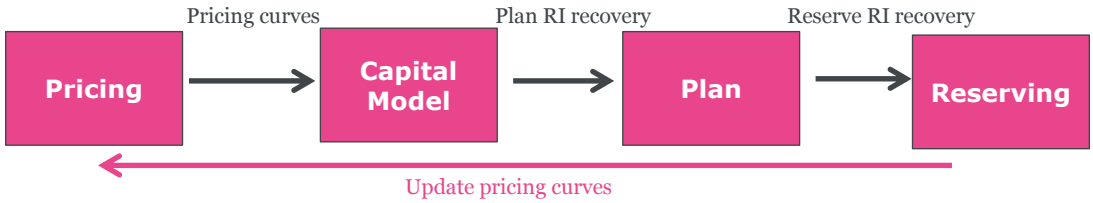
Outcome – Example a – Actual v plan

- Model change
  - Update gross for experience - Small number of large claims
  - Update RI assumptions in reserves - Actual v plan RI
- Plan
  - Reviewed catastrophe load

Outcome – Example b – Consistency

- Changed how model output used

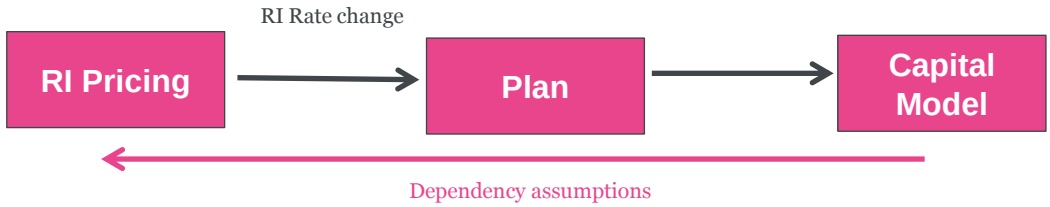
Example 2 – Reserving RI recovery



Outcome – Example – Actual v plan

- Model change
  - Update gross for experience - Small number of large claims
  - Update RI assumptions in reserves - Actual v plan RI
- Plan
  - Reviewed catastrophe load

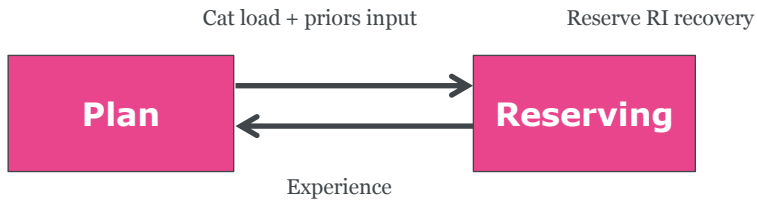
Example 3 – Reinsurance rate change



Outcome – Example – RI Rate change

- Pricing model update
  - Update dependency to align with drivers of risk in Internal Model

Example 4 – Reserving vs plan loss ratio



Outcome – Example – Reserving vs plan loss ratio

- Giving visibility to alternative assumptions

Example 5 – Reserve strength for new portfolios

Outcome – Example – Reserve strength for new portfolios

- Giving visibility to risk

Examples

- Example 1 – Reserve risk
- Example 2 – Reserving RI recovery
- Example 3 – RI Rate change
- Example 4 – Reserving vs plan loss ratio
- Example 5 – Reserve strength for new portfolios

Outcomes

- Improving assumptions using bottom up view
- Improving consistency
- Giving visibility to risk & alternative assumptions

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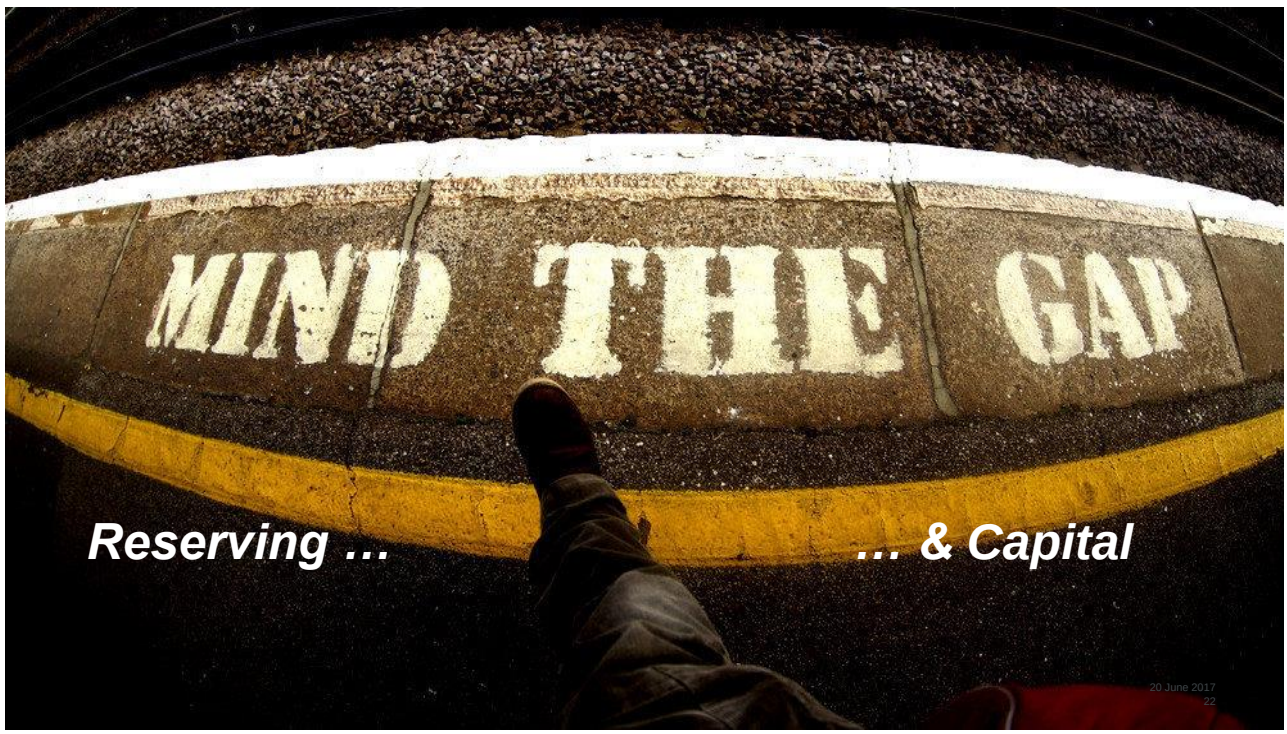

Questions

Comments

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.

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