

A person is silhouetted against a vibrant sunset sky, juggling several balls. The scene is set on a beach with waves in the background. The sky is filled with orange and yellow clouds, and a bright sun is visible on the horizon.

The Actuarial Profession
making financial sense of the future

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

19 September 2012

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**SII TPs – Things we should be
thinking about**

Susan Dreksler, Jeff Courchene, Jerome Kirk, Jonathan Piper

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The working party

Members

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Objectives

- Education/raising awareness
- Helpful insight, suggested approaches including examples
- ...but NOT guidance

Current work, future plans

- Sessional Paper: Early 2013

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Plan for the workshop

- Introduction - Sue
- SII TPs - the requirements - Sue
- Observations from Lloyd's - Jerome
- Contract boundaries - Jonathan
- Validation process - Jeff
- Reinsurance - Jerome
- Wider considerations - Sue
- Anything else you might want to discuss!

**This is a workshop, so we would like your views
and "war stories"**

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Solvency II Technical Provisions

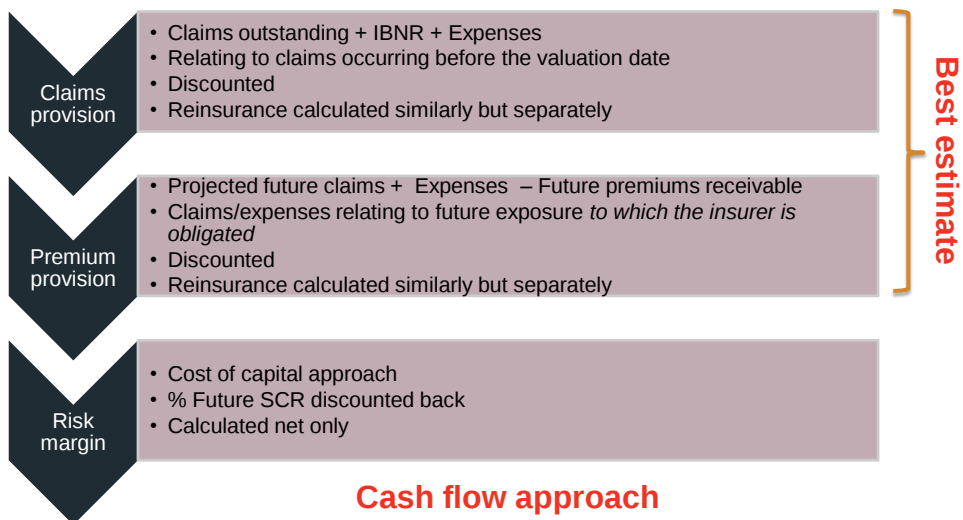
The requirements

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SII – The requirements for TPs

The calculation: its constituent parts



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If only that was it....

Documentation *Segmentation* *Guidance*
Expenses *Data*
Contract Boundaries *Lapses* *Premium Provisions*
“What else is changing?”
IFRS *Cashflows*
Actuarial Function *Expected counterparty default*
Discounting *Reinsurance* *“Best estimate”*
Binary Events *Validation* *Risk Margins*

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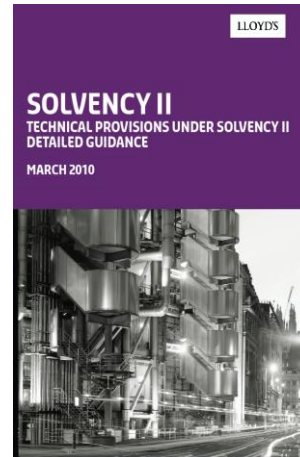
Observations from Lloyd's

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TP thoughts from the Dry Run (1) - 5 things you want to be clear on

1. Currencies
 - settlement versus underlying liability
2. Cashflow
 - definitive cut off for items being in or out
 - especially premiums and reinsurance
3. Acquisition costs / commissions
 - they do need to be included in cashflows
 - what about profit commissions?
4. Risk Margin
 - exactly what SCR is being used as a base
 - and does it relate to existing contracts only
5. Can you report all the SII LoBs?
 - especially Non-life annuities (class "34")?



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TP thoughts from the Dry Run (2) - 5 things we thought should happen.....and have

1. Technical "issues" around the RM are surmountable
 - simplifications can work
 - and actually this point extends beyond the risk margin
2. TPs are significantly lower
 - but mainly because the balance sheet has shrunk
3. Premium provisions can be negative
 - in fact the overall provisions can be negative
4. GAAP provisions are a good starting points
 - but they don't have to be a best estimate
5. Homogeneous Risk Groups remain the base
 - but with some tweaks due to reporting



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Contract boundaries

Contract Recognition

EIOPA

- Legal obligations basis = when party to a contract
- 1/1 renewals
- Binders/delegated authority
 - when partner is committed (Lloyd's), or
 - further policies in cancellation period

IASB

- Exposure Draft and Tentative Decisions
- ED : earlier of date bound and inception
- TD : inception date + onerous liability

Contract Boundaries

EIOPA

- To date insurer can cancel or re-price contract
- Reinsurance - Principle of Correspondence

IASB

- Exposure Draft followed by Tentative Decisions
- ED : expiry of cover or can re-price contract
- TD : expiry of cover or can re-price contract or portfolio

Validation process

Validation Process

Validation of Methods and Models

- Tools and processes used throughout the TP calculation process to ensure that the valuation methods, assumptions and results are appropriate, complete, accurate, and relevant.
- Carried out separately for the best estimate (BE) claims provision, BE premium provision, reinsurance recoverable (RR) for claims, and RR for premium.
- All relevant and material assumptions underlying the calculations should be documented and validated.
- Validation techniques can be qualitative as well as quantitative.
- Annual or after significant changes in the external environment.

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Validation Process

Validation of data used in Methods and Models

- Responsibility of the Actuarial Function (AF).
 - The Actuarial Function determines the level of compliance with the standards for data quality and (if applicable) recommends the implementation of improvements in internal procedures with the goal of improving compliance.
- Examples of internal procedures which generally can be improved include:
 1. The segmentation of the portfolio into homogenous risk groups, balancing volume and homogeneity;
 2. The identification and compilation of additional data elements (e.g. pricing index, earned exposures, etc.); and
 3. The introduction of adjustments to the data (e.g. accounting for seasonality effects).
- AF to review and integrate relevant external data too.

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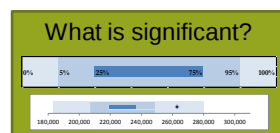
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Validation Process

Back-testing Process (Comparison of actual and predicted)

- Significant deviations from predicted values (Paid loss, Incurred loss, Reported Claims, Closed Claims, etc.) need to be analyzed to identify whether caused by:

1. Random variation in experience;
2. Systematic effect (change in environment);
3. Assumption error; or
4. Parameter estimation error.



- Conclusions included in AF Annual Internal Report
- Caveats of sophisticated approach
 1. Significant additional assumptions required for distribution predictions;
 2. Works well for high frequency segments on a gross of reinsurance basis; and
 3. Bootstrap approach may underestimate inherent uncertainty.

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Validation Process

Issue	Remark
Documentation	Enhanced documentation of what we already do TAS R and ASOP 41 „Actuarial Communications“ discuss the transparency of data used, assumptions, and rationales in the context of reporting actuarial information.
Non-uniformity	Lack of uniformity in the industry (company specific)
Inconclusiveness	Result of validation process <u>supports</u> decision only
Governance	Calculations & independent review (segregation of duties)
Frequency	Dependent on sensitivity of assumption to the result
Complexity	Assumptions based on multiple assumptions (e.g. premium rate index for BF) requires review of raw data, subjectivity, and compiled data
Thoroughness	Use of non-standard approach elevates validation standard
Assumption Consistency	If weight multiple deterministic methods to get BE, 1. predicted value is weighted average of multiple methods (e.g. predicted paid losses based on result of the incurred development method) 2. predicted distribution is weighted average of distributions

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Reinsurance

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Reinsurance – the challenge

- Solvency II requires a separate calculation for gross and reinsurance Technical Provisions
- The reinsurance cashflows should have regard for the gross cashflows but also allow for:
 - possible settlement delays
 - possible disputes
 - possible defaults - which could be dependent on:
 - timing of payments
 - size of losses underlying losses
 - and especially so for large losses and binary events
- And then further considerations of items such as PPOs and profit commissions or premium adjustments etc etc

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Reinsurance – current approaches

- How to calculate reinsurance separately?

Net to Gross Ratios

- How to estimate reinsurance cashflows?

Lag or stretch the gross pattern

- How to allow for bad debt?

Use a simple percentage

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Reinsurance – the question

If you are not using a stochastic cashflow method....



.....how good will the numbers be?

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Wider considerations

Wider considerations

- Balance sheet
 - What's in/out
- Process challenges
 - Interaction with other departments
 - Timescales
- Consistency
 - Capital modelling: stochastic modelling by the back door?
 - Other areas

Strong communication skills will be key

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 presenters.

