ACTUARIAL ASSOCIATION OF EUROPE

NLWG Update to Insurance Committee September 2021

Agenda

- SF USPs Survey
- SF Risk Mitigation Techniques Survey
- Surveys: next steps
- AAE paper on Environmental Liability Directive
- Nat Cat Insurance Protection Gap
- *Appendix: Standard Formula RI Aggregation*

SF USPs SURVEY

USPs 2021 Survey

NLWG issued a survey to member associations in March.

The purpose was to update on the previous 2017 survey and to focus on

(i) barriers to take-up; and

(ii) guidance.

Response rate was quite low, with just 8 responses:

Belgium, Denmark,

Finland, Hungary,

Ireland, Italy,

Latvia and Poland

USPs Key survey results

- The use of USPs is still very low and generally has not increased since 2017 (except for Belgium and Italy).

- Despite low usage for regulatory SCR, USP approaches are very commonly used for internal purposes, particularly in the ORSA and assessing appropriateness of the Standard Formula.

- The biggest barriers to using USPs for regulatory SCR are:
  - Data requirements;
  - Approval Process; and
  - Restricted Methods.

USPs Key survey results (continued)

- Local guidance, to supplement EIOPA guidance was available in only 2 of the 8 countries responding.

- Most countries would like to see additional guidance from EIOPA and/or local supervisors.

- The key areas for additional guidance are:
  - Data;
  - Expert Judgment; and
  - Application Process.

USPs other results

- Other barriers reported but not prompted in the survey included
  - The level of aggregation at which USPs must be calculated is not aligned with internal processes
  - The requirements for statistical validation of assumptions are not clear
  - The uncertainty of success in the approval process
- Barriers in respect of data requirements are all similarly ranked in importance
  - Dealing with changes over time in claims processes, new product lines, business acquisitions
  - Volume of data required
  - Inability to adjust data appropriately

USPs other results (continued)

- Guidance required
  - More clarity on interpretation of the statistical testing to checking assumptions, , particularly with practical examples.
  - Existing guidance is aimed at national supervisors. Further guidance aimed applicants would be helpful
  - Greater guidance on the documentation process
- Other
  - a more defined structure for the approval process would help; e.g. in determining the criteria for acceptance and particularly the framework for monitoring and ongoing supervision of the USPs post-approval
  - Some USPs for life business would be welcome: longevity/expense/lapse/CAT

SF RISK MITIGATION TECHNIQUES SURVEY

RMTs 2021 Survey

NLWG issued a survey to member associations in March.

The purpose was to is to obtain European non-life (re)insurers' assessment of the current methodology for applying reinsurance in the Standard Formula.

We obtained 6 responses from national actuarial associations (Ireland, Belgium, Italy, Latvia, Denmark, Spain) and 3 responses from French insurance companies.

RMTs Key Survey Results

- The guidelines leave much room for interpretation.

  In practice, 2 families of approaches:

  - **Single equivalent scenario**: aggregation / disaggregation of all sub-modules before the application of any reinsurance arrangement
  - **"By blocks":** aggregation perimeters reflecting the reinsurance arrangements' scopes

- Companies with similar RI programmes may interpret the guidelines differently, which can lead to different results.

- Applying the guidelines can lead to complex calculations.

RMTs Key Survey Results (continued)

- Single equivalent scenario approach
  - Easy to implement
  - Initial diversification across all the SCR Cat sub-modules (or separately within the Nat Cat and Man-made sub-modules)
  - Can lead to low gross loss amounts

- "By blocks" approach
  - Many sub-options possible
  - Can be very complex
  - More consistent with the guidelines?

Additional comments

- EIOPA's recent opinion on the use of risk mitigation techniques by insurance and reinsurance undertakings rreminds companies that they
  - must demonstrate the efficiency of reinsurance covers
  - Should also consider the shortcomings of the Standard Formula, which often fails to reflect the efficiency of some rather standard covers.

[AAE Survey: "Do you think the Standard Formula properly reflects the risk mitigation provided by reinsurance covers for (re)insurers in your country? e.g., Stop-Loss covers."?

Significant proportion of response "no" to this question]

SURVEYS – NEXT STEPS

Surveys: next steps

USPs and RMTs:

- Document the results of the surveys in a format that can be shared with Member associations and EIOPA

RMTs:

- Encourage EIOPA to provide more clarification on aggregation methods to help harmonise practice across member states (also to help avoid simply applying a blunt "use the maximum" rule)
- Propose that the Actuarial Functions should include a view on RI aggregation in the RI Opinion.

PAPER ON ENVIRONMENTAL LIABILITY DIRECTIVE

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Paper on Environmental Liability Directive

- Arose from a contact with Esko Kivisaari by Finnish MEP Sirpa Pietikäinen.
- Aim is to produce an AAE paper on how insurance can be used to provide the financial security to support the polluter pays principle.
- Small group working on this, so progress is slow, but target is to have the final paper for the 2022 Spring IC meeting.
- Draft paper has 5 main sections
  i. History & Background of ELD
  ii. Insurability of ELD liabilities
  iii. Accessibility of Insurance
  iv. Mandatory versus Voluntary Insurance
  v. Insurance Schemes and national/EU pooling
- We have a first draft of sections i-iii and will share this with Esko shortly
- We will also contact Ms Pietikäinen to give a progress update.

NAT CAT INSURANCE GAP DASHBOARD

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Nat Cat Insurance Gap Dashboard

- AAE (Daphné de Leval, Jan Martinek, Declan Lavelle) attended a workshop in June on the EIOPA Nat Cat Protection Gap dashboard.
- EIOPA's aim is to create a dashboard which tracks the protection gap for Nat Cat Risks across the EU.
- Project is still very much in its infancy.
- EIOPA is linking up with the right experts: regulator, reinsurers, cat modellers, academia
- The key problem is the availability of data both in terms of granularity and consistency across member states, and in particular the desire to use only open source, freely available data.
- Other issues are
  - the consistency / comparability of the to the measures of the historical and current protection gap
  - The choice of "return period". Different RPs can produce very different results.

Nat Cat Insurance Gap Dashboard

- It will be key that EIOPA clearly communicate the purpose, assumptions, strengths and weaknesses of the dashboard to all stakeholders.
- In July EIOPA provided a short feedback statement on its Q1 2021 consultation. AAE has not yet analysed this feedback
- **AAE Input**
  - EIOPA were very receptive to the AAE's views and comments, and we can expect to be invited to participate further.
- **Next steps**
  - Late 2021: EIOPA expects to send a data request to NCAs
  - 2022: new dashboard reflecting developments
- **Question for IC:**
  - would this sit more naturally in the SCrR WG, or should it stay in the NLWG?

APPENDIX: STANDARD FORMULA RI AGGREGATION

APPENDIX

Reinsurance application and aggregation: introducing the issue

- Context: Standard Formula - Non-life catastrophe risk sub-module
- Issue: the order in which we apply the following steps:
  - Aggregation / diversification
  - Disaggregation / allocation
  - Application of reinsurance
- 3 dimensions
  - Risks (sub-modules)
  - Territories
  - Entities
- Guidance provided in the EIOPA guidelines and their technical annex

APPENDIX

EIOPA "Method 0" vs. EIOPA "Method 1"

- Method 0
  - "Apply the joint cover to the output from each sub-module separately and ensures the reinsurance recoveries assumed are within the policy limits"
  - Simple to understand, but not expected to be used when a contract covers different sub-modules
- Method 1
  - "Identify the most granular component (or earliest common ancestor) within the flowchart for non-life underwriting risk which spans the relevant sub-modules"
  - Aggregate / diversify before application of reinsurance

  [We later illustrate two variants of Method 1]

APPENDIX

Illustration - Reinsurance Structure

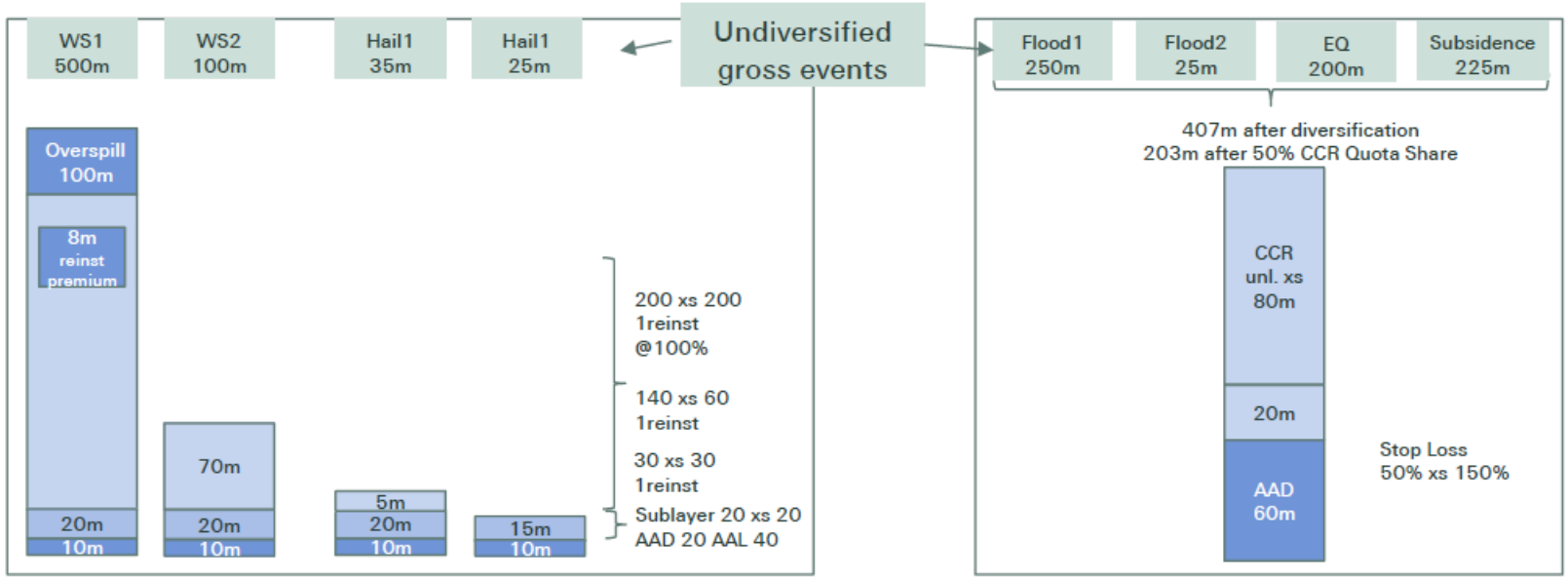
- Per event program Hail/Storm
  - Sublayer 20m xs 20m, Annual Aggregate Deductible (AAD) 20m and Annual Aggregate Limit (AAL) 40m
  - 30m xs 30m, 1 free reinstatement
  - 140m xs 60m, 1 free reinstatement
  - 200m xs 200m, 1 reinstatement @100% (8m upfront premium)
- "CCR" (or French National Public) reinsurance cover for Nat Cat (Premium for Nat Cat: 80m)
  - Quota Share 50%
  - Stop Loss unlimited xs 200% on the net of Quota Share
- SL Cat French National Loi 82
  - Stop Loss 50% xs 150% on the net of CCR Quota Share

APPENDIX

Illustration - Nat Cat SCR (Method 1 - "By Blocks")

- Application of per event layers on an undiversified basis
- Aggregates (AAD/AAL) applied after diversification
- AAL: if capital relief provided by a layer is higher than AAL, difference is added to the combined SCR

- QS and Stop Loss applied after diversification



SCR without sublayer 20 xs 20: Storm 168m, Hail 55m ⇨ 177m
SCR with sublayer 20 xs 20: Storm 128m, Hail 20m ⇨ 130m
} 47m benefit before AAD/AAL

⇨AAL is sufficient (no horizontal overspill after consideration of diversification)
⇨SCR Wind/Hail = 130m + 20m = 150m

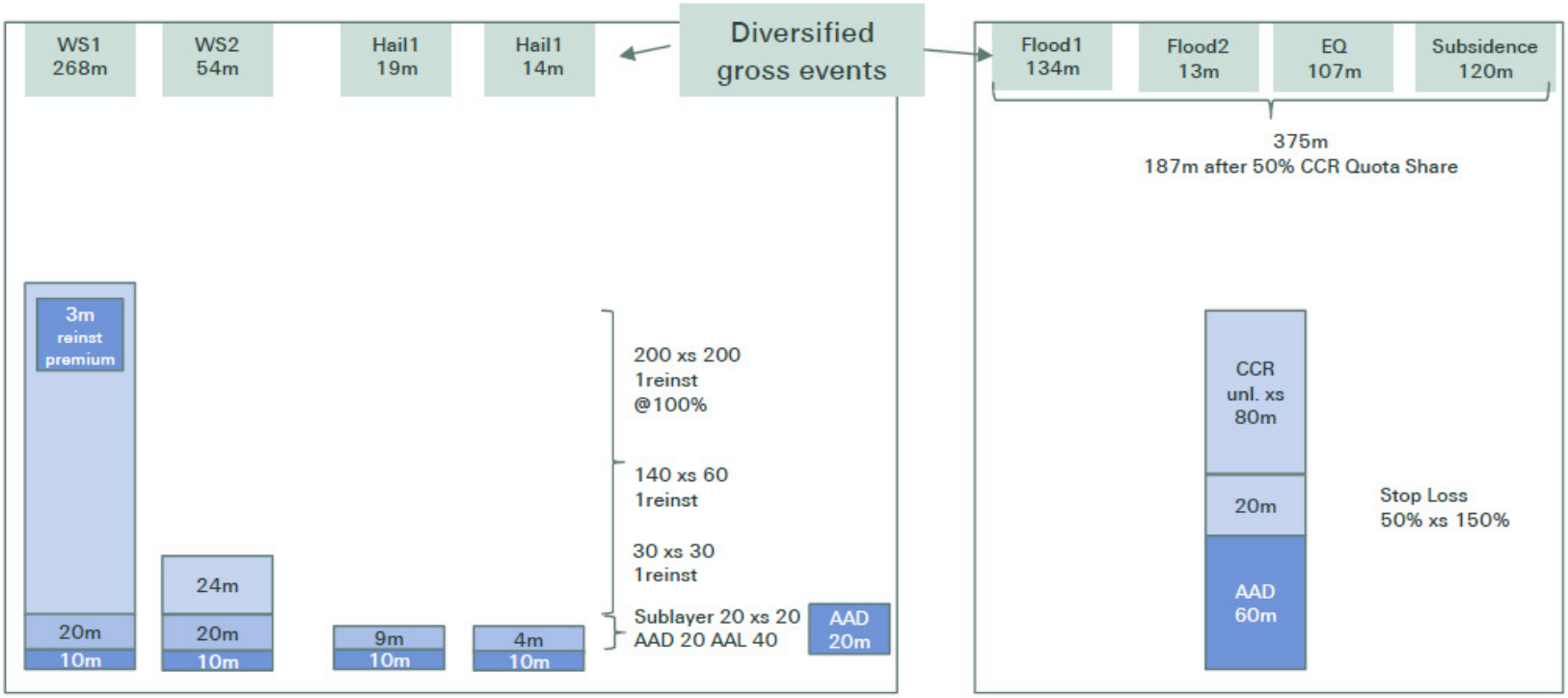
SCR Flood/EQ/Subsidence = 60m

$$\text{SCR Nat Cat} = \sqrt{(\text{SCR Wind Hail}) + (\text{SCR Flood EQ Subsidence})} = \sqrt{150 + 60} = 162\text{m}$$

APPENDIX

Illustration - Nat Cat SCR (Method 1 - Single Equiv.)

- Diversification benefit applied to gross losses before application of reinsurance
- Net losses summed up



Sum of net losses = 123m

SCR Nat Cat = 123m

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