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EIOPA's catastrophe risk work stream (CAT WS) - Draft conclusions for 24-25 August 2017 meeting

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1. General announcements

- 13/14 Sep 2017 and choice of time slots confirmed: starting Wed, 13 Sep 2017 at 12h00 (lunch)/12h45 (first session), until around 18h00 CEST; reconvening at 09h00 on Thu, 14 Sep 2017, close meeting at 14h00; dinner envisaged for 13 Sep 2017 evening;
- Some two or three members will only be able to dial-in during Sep meeting due to a parallel event in Monte Carlo.

2. NatCat recalibration: discussion of remaining topics for the recalibration process

Timeline for remaining recalibration work until final meeting in September 2017

- timeline document with detailed deadlines was provided by EIOPA;
- CAT WS received information on tight timeline until 06 Sep, and 13/14 Sep 2017 respectively (and beyond) for remaining steps on calibration to be largely finished and expressed commitment;

Level of information and confidentiality

- Level and granularity of information necessary for justifying the new calibrated factors depend on whom will be receiving this information:

- *At CAT WS level*, all documents labelled "For CAT WS only" (or similar) should not be distributed to anybody else than CAT WS members;

  Granularity of the information should be the highest possible; where model owners do not feel sufficiently comfortable with this "gentlemen's agreement" for a given piece of information, they should abstain from specifying the information;

  In such case, model providers should submit reasoning for their abstention, with a view to justifying the omission in the documentation;

  The level/detail of information provided will be part of the elements to consider when each member will have to choose a value for the recalibration.
- *At SCR review PG and EIOPA BoS level*, the information should be the same as for the CAT WS for the following reasons:
  - EU supervisors are all working under strict confidentiality rules.
  - EU supervisors are used to mask any origin of confidential information, and potentially "telltale" details: it is an essential part of their job;
  - for future revisions, it is important that an audit trail of the inputs provided and the discussions of the current exercise is made available
- *At public level*, the level information should be such that:
  - CAT WS can justify the new numbers (i.e. respond to the question why they have change) at any time;
  - undertakings are able to use the outcome of our work to measure and manage their risks

° Agreed process: information still to be sent to/by Eduard, with Roy and Camille in cc, and when sending the information one should say which level of information is given for whom (CAT WS / public; further details on e.g. perimeter of information requested along with parameter value proposals are given under the DE WS dry run topic ["3."]).

° Eduard reported, only two out of nine draft non-disclosure agreements (NDAs) have been signed as of 24 Aug 2017; up to the recipients to decide whether they will sign or not.

Open issues on description of recalibration process:

Case of no model available

° example of SI windstorm scenario: no CAT WS members has currently a model available; **Ian and Michael** will try to deduct a country factor based on the factor of neighbouring countries and zones; **Gabriela** will calculate a proxy based on a windstorm model that is available for northern Italy;

° All three outcomes will be used to calculate the loss (in EUR) for the country in a 1-in-200a event by using the exposure data that one model owner can provide;

° resulting figures will be compared to the SCR for SI, such that the materiality of the risk can be assessed. The aim is to assess whether CAT WS should recommend factors or rather abstain due to materiality potentially found insufficient; **EIOPA staff** will check on which basis this scenario was included in the mandate;

Calibration of zone factors and aggregation matrices

- averaging proposal values from several available source models could be an option (as opposed to making an average for country factors, which would not be methodologically sound);
- several model owners will be asked to provide figures for the zone factors and for the aggregating matrix; outliers to be identified; potentially proceed with an average on the basis of the remaining input;

Other comments on the recalibration process document

- **EIOPA staff** to correct the calibration process document: add "yes" in "Country factor to be calibrated?" clolumn for IT earthquake and ES windstorm in table under section "3.3. Decision on recalibration of more granular parameters";

ES windstorm and CCS

- Javier and Enma presented findings on the Spanish feature of the "Consorcio de Compensaćion de Seguros" (CCS) was presented (see item document);
- CCS cannot be treated as a risk-mitigation technique because it is directly responsible for claims compensating; thus, the country factor needs to be net of the effect of the CCS;
- Methodology *including CCS* for ES windstorm scenario: MINECO fitted occurred per-event losses of selected severe events to parametric and non-parametric distributions, estimating a country factor of around 0.009%, which corresponds to 30% of the claims remaining with the undertakings (70% paid by CSS); CAT WS members concluded on this basis that the 0.0495%, proposed by one model owner for ES WS country factor recalibration, are plausible: this value was calculated without taking CSS into account -> bluntly assuming that this would correspond to the non-CSS adjusted SCR, 0.009 is roughly 20% of 0.0495, which means, it is of the same magnitude, but just 10 percentage points less than the average remainder of claims for the undertakings;
- **The model owner** providing the 0.0495% agreed to recalculate under the assumption of CSS covering accordingly; this new number was expected to be roughly of the same order as 0.009%;
- **Javier and Enma** will provide a complete documentation for the next meeting;

Contractual limits

- The method proposed to take into account individual-specific contractual limits was presented;
- General agreement that the proposed method is reasonable;
- Some members asked for it to be an option, such that it does not add complexity where there is no reason to perform this check; CAT WS members concluded that this does not raise prudential concerns, as not performing this method can only lead to a higher SCR, compared to the risk-sensitive approach of applying individual limits;
- **Olav and Silvia** will check with their members the degree of complexity that this proposal adds: is it simple enough to put in place?

3. NatCat recalibration: dry run for selected scenarios

- Two scenarios were selected for dry run: DE WS as a large-country scenario for peril with spatially large impact, and with proposal values from several model owners, plus CZ Hail as a smaller country scenario for a peril with local impact, and with few proposal values from model owners;

- After the DE WS dry run, it was decided to not have CZ Hail as the second dry run case, as the DE WS exercise had revealed a couple of additional requirements on the information set to be provided to members, which needed to be integrated into the process in order to gain better results;
- Changes are necessary to the information set per scenario/proposal value to be gained from model owners; current column headings in the overview of proposal values for recalibrated country factors are:
  - "**Country factor**": containing the proposed value for the country factor as calculated with the given (anonymous) model; this value is in any case envisaged to be part of the documentation (publication), provided that this value was eventually taken into account by CAT WS members at the time of the calibration process; meaning, in case it was submitted first, but then decided to be dropped from the sample due to lack of substantial information, or impediments to publish a substantial part of the information to the CAT WS, it will not become part of the sample that CAT WS take into account when recalibrating this scenario;

    In addition, the full range of country factors for EU scenarios of a given peril as contained in the Delegated Regulation shall be provided by EIOPA along the set of information for a scenario in question;
  - "**Last model revision**": last revision of the model, or substantial parts of it; this information should provide some hint on whether most up-to-date scientific approaches are used in the model;
  - "**Time span input data**": it should be clarified by model owners, what kind of information they provide here (e.g. span of exposure data vs. historical loss data [used for model validation], or rather theoretical time span in terms of # of simulations, …);
  - "**Main model features**": information provided under this heading should include information on as much as possible of the following:
    - whether the peril was physically modelled (as opposed to e.g. some type of fitting to historical losses or claims data);
    - the hazard resolution (size of spatial partitioning cells used in hazard model);
    - the exposure resolution (CRESTA vs. country level or similar statement);
    - whether or not building codes (or similar information on the quality of construction) have been used in the model;
    - whether (and which) LoBs have been modelled separately in terms of vulnerability;
    - whether loss amplification has been built into the model;
    - depending on peril: has clustering been taken into account?
  - "**Policy conditions**": has PERILS IED data been used?; in case not: please provide some rough outline of what type of exposure data has been used (respecting non-identifiability according to your needs); are there particularities of the exposure data that could potentially affect the level of the country factor, such as deductibles or limits?
  - "**Model limitations**": any feature of the model that could in your view have a material impact on the country factor, such as non-modelled secondary effects;

In any case, model owners should indicate which part of the information provided to Eduard could later be used for the documentation of the recalibration work to the public.

4. Motor vehicle liability risk sub-module/MTPL

It was clarified by CAT WS members, who were also part of the previous CAT TF that the issue of domestic vehicle owners with a limited cover contract causing claims through accidents in a neighbouring country with unlimited liability regime was taken into account already by the current SF approach:

Precisely for the reason of taking into account the case of some EU jurisdictions capping the cover that MTPL insurance contracts have to provide in case of car accidents, the term N_b that represents limited cover contracts is split in a part ("$0.05 \cdot N_b$") that contributes directly and in the same fashion as the unlimited cover contracts (i.e. "N_a") and one that contributes less than proportional to the number of limited cover contracts ("$0.95 + \min(N_b; 20\,000)$"). The latter term addresses the risk of an N_b contract causing an accident in a Member State with an art. 129 (1) (a) regime. This means for practical application that, e.g., a HU-based motor insurer, facing a legal limit on cover for MTPL contracts by domestic jurisdiction and having only domestic (HU) clients will just have to plug in the number of contracts to N_b, with no consideration of N_a being necessary for him. At the same time, a French motor insurer with no other than French clients assigns all of her/his book to N_a, as MTPL cover is unlimited in FR by law.

EIOPA staff will amend the MTPL paper accordingly and will suggest to the SCR review PG a clarification either via the established Solvency II Q&A process or via EIOPA's advice to the European Commission, along the lines of what was just outlined.

5. Fire risk sub-module

Basic simplified approach

CAT WS agreed on recommending option 5 of the Discussion Paper ("4.5. Limit the scope of the identification to the largest concentration of risk within a 200m radius circle to, at a minimum, the top five exposures per risk type (industrial, commercial, residential).") to SCR review PG. The proposal was defended by arguing that necessary and sufficient risk-sensitivity is maintained by going through the process of identifying the top 5 exposures within the three lines of business and determining the risk exposure to conflagration and explosion within a 200m radius around each of the 15 buildings. This risk-sensitivity would be lost with any approach avoiding any geocoding, as was demanded by one member.

It was pointed out in addition that the proposed approach simplifies further in case of a homogeneous residential portfolio. In extreme case, it would not be possible to determine the top five exposures, as all individual sums insured would be equal. The proposal counteracts any unjustified reduction in risk sensitivity by including an undertaking-specific underpin, which basically replaces the 200m radius exercise for five individual residential property with equal sum insured by the average sum insured, which is scaled up by number of potentially affected homes (chosen in an appropriate sense by expert judgement) and some market share related (or alternatively premium related) individualisation for the market/segment in which the undertaking is writing business.

Matthew will provide some input to **Olav and Fabrice** to help them finalise the proposal on how to calibrate the underpinning. The final version of the paper should

be circulated to CAT WS members for comments before the 13/14 September 2017 physical meeting.

Regarding the remark of one member, relating to the fact that in the case of ES, the CCS, as mentioned under the NatCat recalibration topic "2." Above, pays for any fire loss triggered by terrorist attacks, the group concluded that the current fire risk approach does not allow for a split between terrorist related and non-terrorist related risk, which should be maintained for any alternative approach for reasons of conceptual soundness. Furthermore, it was argued by other members that the cover provided by the ES CCS might not affect tail fire risk in a way that it should be taken into account when calculating the SCR.

Net vs. gross approach to Man-made Cat risk

SCR review PG has proposed to change the general approach within fire, aviation and marine risk from using exposures gross of reinsurance to net exposures, in order to avoid unintended consequences, such as arriving in certain cases at a lower SCR based on gross exposure, than net exposures would result in. Details, together with some basic impact analysis, are given in the respective document circulated ahead of the meeting.

Response by CAT WS members to the SCR review PG input revealed that not every type of reinsurance has the type of impact on the SCR outcome that is depicted in the example of the SCR review PG issue paper. **Olav** will integrate examples and change the policy proposal accordingly in the SCR review PG document provided as input to the CAT WS meeting in order to show how facultative reinsurance and treaties would be taken into account in the man-made risk calculations..

Commented [RN1]: Reinsurance experts to comment on and improve this part, please!

6. NatCat simplifications

The CAT WS agrees with the examples provided by Michael. It seems there is no real demand for having a simplification at the country level.

Michael will update the note and circulate it next week (to Roy and Camille). **Members** will be asked via written procedure whether they support the "option 5: taking the highest zone factor" as a proposed simplification.

The outcome of this written procedure (organised by **EIOPA staff**) will be incorporated in the document and close on this item.

7. Collective update session on Man-made and Health Cat risk issues

On Health Cat:

Members agreed with Victorien's proposal to delete the 10y scenario and to adjust the factors of the scenarios "1y" and "permanent" (see 28 June 2017 CAT WS physical meeting minutes, topic 5, for more background).

The CAT WS agreed that there is no need to clarify the benefits payable at the level of the Delegated Regulation: each jurisdiction should provide some clarifications if needed (see 28 June 2017 CAT WS physical meeting minutes, topic 6, for more input).

Olav and Silvia to provide impact assessment for the accident concentration proposal (base the calculation on the biggest collective health insurance contract – cf. attached slides), necessary to render valid any recommendation for a change to the European Commission.

On Marine:

It was agreed that rather than adding a new category, the "tanker" scenario should be extended such that it captures all other types of vessels, with the new scenario actually being named "*other_vessels*".

Matthew will provide some materiality assessment from internal sources. **Tom** committed himself in the past to provide some input (see 24 May 2017 CAT WS 2nd physical meeting minutes, topic 9, last bullet, for more detail).

8. AoB, closing remarks

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