



CBI natural catastrophe (Nat Cat) modelling thematic review

The Central Bank of Ireland's (CBI) most recent Insurance quarterly newsletter provides some fascinating insights into the current state of affairs of natural catastrophe (Nat Cat) Modelling, as well as understanding across the Irish insurance industry. In this article the Forvis Mazars Actuarial & Risk Services team discuss some of the best practices insurers should work towards and the weak practices to avoid as per the thematic review findings.

The [CBI newsletter](#) outlines how the review was conducted. Insurers across Ireland have a wide range of approaches to Nat Cat modelling, governance over modelling decisions, and understanding of underlying exposures. While the CBI's insights are not prescriptive requirements for firms to implement, it vital that firms do take action to improve their processes, noting that iterative improvements are expected year-on-year across the Climate Risk space. Further next steps for insurers are provided at the end of this article.

What does 'Good Practice' look like for Nat Cat Modelling?

Here are some examples of 'good practices' that are exhibited in the Irish insurance market:

- Local entities should maintain **independent** governance and oversight arrangements particularly when activities are outsourced to **Group services**, to leverage Group capabilities while clearly demonstrating local control. The CBI cited ***“local representation on Group Nat Cat modelling committees”*** as a good practice.
- It is recommended that insurers consider the impact of extreme scenarios on their **reinsurance protection**. For example, prolonged weather events may exceed hours clauses or an extreme event may impact multiple insurers within a global Group and as a result limit the effectiveness of reinsurance coverage.
- It is important for insurers to have second line oversight to identify and mitigate against possible **insurance and reinsurance mismatches** due to tightening wording and conditions within reinsurance policies.
- An Own Solvency Needs assessment should be conducted and documented by insurers to identify limitations in the Standard Formula when being relied upon. The CBI outlines an example of good practice would be to ***“compare relevant results based on the vendor model to those implied by the Standard Formula”***.

What does 'Weak Practice' look like for Nat Cat Modelling?

Here are some examples of 'weak practices' that are exhibited in the Irish insurance market:

- The CBI observed that “**Board oversight of Nat Cat risks generally seems to be an area for improvement across the industry**”. Management teams were observed to have varied levels of communication of Nat Cat model limitations. This restricts the Board’s capacity to debate and challenge. The CBI have recommended that the volume of Nat Cat training should be consistent with the nature, scale and complexity of the undertaking’s Nat Cat exposures.
- Many insurers had weak or **no locally defined model-change and validation processes** for governing changes to models. This is especially important for insurers using vendor models, which are not tailored to the risk profile of the entity. Material changes to the model should be documented formally in a model change log and the validation work performed should be tracked.
- **Irish Flood** is not covered in the Standard Formula (as currently calibrated, however this is under review by EIOPA). The CBI noticed weak practice where many insurers had not identified this key limitation when using the Standard Formula with exposures to Irish Flood risk.

Next Steps

While reasonable efforts to model catastrophe and climate risks are being made in the industry, continued emphasis and challenge is required by insurers. The impacts of climate change is already changing the nature of Nat Cat risk and this is likely to continue to be an area of focus from regulators. It is expected that a reasonable degree of training be provided to Boards and Committees to enable key decision makers to better challenge model outputs, limitations and sensitivities and therefore demonstrate oversight of material Nat Cat risks.

It is recommended that insurance undertakings strongly consider the CBI feedback and internal processes are reviewed with the above points in mind.