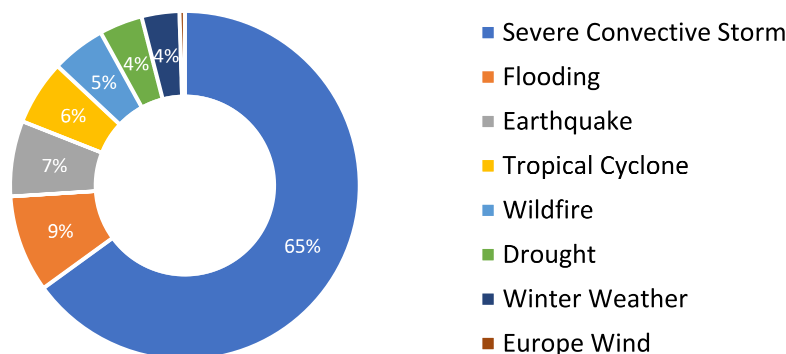
TENAXCAPITAL
Asset Management

Don't Let Secondary Perils Be Your Primary Concern

Now that catastrophe bond investors have weathered what was anticipated to be an active hurricane season, attention is turning to the January 1st renewals. It was projected that record sea surface and global temperatures would negate the effects of El Niño, resulting in a hurricane season reminiscent of 2005. However, this scenario did not fully materialize. Although Hurricane Otis struck Mexico as a devastating Category 5 storm, cat bonds covering US perils experienced a relatively quiet year. Hurricane Idalia was the only storm to briefly concern cat bond investors before making landfall in Florida as a non-event for the industry.

While industry insiders are aware, those outside the loop may not know that the secondary peril season in the USA has been the costliest on record this year, with damages between USD 50-60 billion as of the end of Q3, according to PCS. 2023 also set a new benchmark with 18 events each causing over USD 1 billion in damages, adding a heightened sense of severity to the high frequency of events. As a helpful refresh, in property insurance, secondary perils are those generating frequent small to medium size losses, generally from events that are not named storms (tropical cyclones) or earthquakes.

Insured Loss by Peril, Q1-Q3 2023, USD 93bn total



Source: Gallagher Re, Natural Catastrophe Report, October 2023

Risk models need further improvements to capture new climate patterns

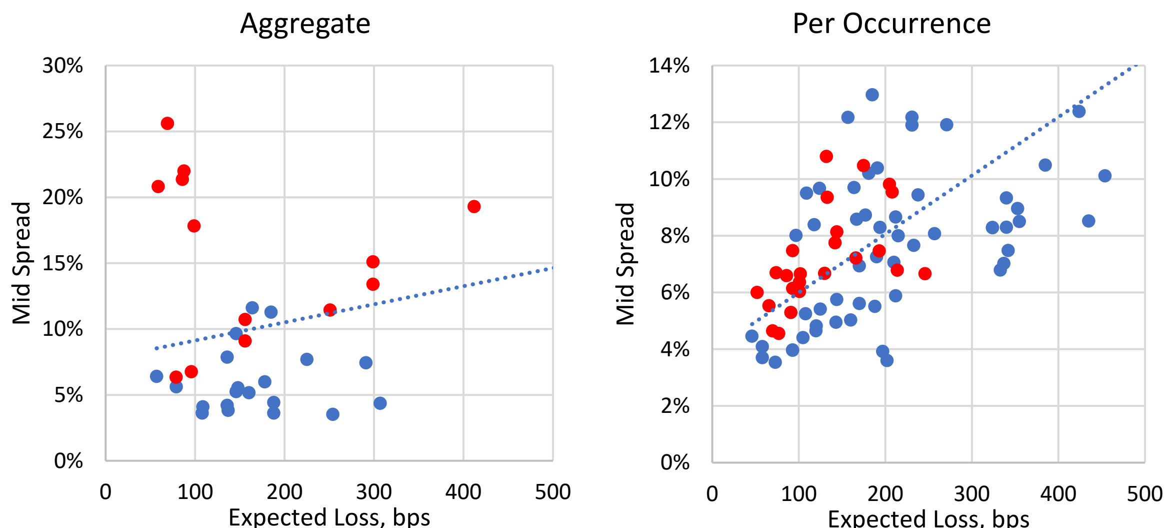
The shifting climate is leading to less predictable loss trends, compounded by factors like inflation, population growth in catastrophe-prone areas, and rising construction costs. However, the crux of the matter is risk selection. Cat bond investors and underwriters understand that there is not much they can do to influence the loss outcome when a peak peril zone is struck by a major storm, irrespective of the underlying risk quality and selection. Yet, the same doesn't hold true for losses stemming from secondary perils such as hail, tornadoes, and non-named storms.

Why do (re)insurers continue to incur substantial losses from secondary perils? This is not a new topic: Swiss Re even wrote a paper in 2019 titled "Secondary Perils – Not so Secondary." For how long can we attribute poor results to unpredictable weather patterns instead of risk selection?

There's no denying that modelling natural catastrophes poses a significant challenge. When there are cat bonds covering all natural perils (ANP) with an expected loss inside 1% and a mid-double-

digit issuance spread, alarm bells should start ringing. We certainly don't believe that cat bond pricing should be as simple as a spread over an expected loss, but it looks clear to us that the best proxy for a cat bond's risk profile is the spread where it trades, more than the probabilistic indications of risk models. The disconnect between modelled risk probabilities and bond spreads, especially where secondary perils are involved, indicates that models have room for improvement.

Secondary perils add to risk premia, *ceteris paribus*



The above charts show the simple relation between the expected loss (EL) and the indicative mid spread for a sample of indemnity cat bonds, differentiated by cover type (aggregate and per occurrence). The sample includes bonds covering US seasonal perils (e.g. there are no earthquake only bonds). Red dots indicate bonds with the highest expected loss contribution from secondary perils. We observe two aspects:

1) The market is in fact demanding a higher premium to hold secondary perils, compared to a named storm only exposure, and, on average, there appear not to be significant differences between aggregate and per occurrence structures in that respect
2) We note a slightly more defined divergence as the contribution of secondary perils increase within the aggregate structures, which reflect the very nature of these perils of higher frequency, hence potentially more harmful for aggregate cat bonds

Both findings are in line with what we were expecting and should not surprise anyone involved in insurance. The billion-dollar question is whether this is enough to compensate for the rising risk posed by non-peak perils. We think the answer is not yet, and we fear this can hinder the market to grow at full potential.

We all want the market to grow, after all

Despite being off their peak, cat bond spreads still offer one of the most attractive entry points in a long time. Wordings are the tightest they've been in years, and structures are skewed toward per-occurrence coverages rather than aggregate. However, there is a risk that secondary peril loss trends

might deter some new capital from entering the market, as well as cause some existing investors to reassess their commitment to cat bonds.

For insurance to fulfil its social mandate and to help close the protection gap, secondary perils must remain within the scope of coverage all along the value chain. But at the same time, they need to be structured both to maximise capacity and to adequately remunerate investors. We identify four ways that can work in this direction in addressing market concerns on secondary perils:

1) **Dedicated non-peak perils classes of notes**: there are already transactions where peril coverage differs by tranche. Taking this further would involve structuring an ANP deal into a named storm class and a non-peak peril one, perhaps with some contingency mechanics to ensure both get issued. Pricing will more accurately reflect the risks, avoiding the "free-ride" that secondary perils have taken. Investors with more conservative and risk-averse strategies can maximize their participation in the peak-peril class without passing on the whole deal. Other investors, and perhaps even new, non-dedicated ILS capital, might see the case to invest at a likely +20% yield, adding diversification to their multi-asset portfolios. Overall, investors would be better off as they could structure their portfolios more tailor-made. Issuers may not achieve the same level of pricing compared to the all-in solution, but they would broaden the available capacity.

2) **Event caps and deductibles should become the norm**: Very few cat bonds that cover secondary perils have a defined maximum event loss contribution. In a stringent market, these should be standard. By introducing, or raising deductibles and lowering caps, investors will be better protected from attritional losses that should be absorbed by working layers of (re)insurance.

3) **Consider inflation variability and volatility**: Inflation varies significantly across US states, so a blanket inflation guard across a portfolio is suboptimal. Better granularity around which factors are being applied, and where, would benefit investors. Demographics should also be carefully considered, as wealth accumulation and construction in disaster-prone areas continue to influence losses. Also, after years of low inflation and low inflation volatility, we have now experienced several quarters of reversal in both trends. This can influence the development of claims and ultimately the net loss an investor would suffer. As the inflation regime has changed, so should the way inflation is embedded in cat bond structures.

4) **Better transparency of risk coding**: Cat bond offering material can improve with respect of the key information that would help investors make more informed decisions. Construction quality is often obscured into an 'unknown' category, roof age is typically provided on an ad-hoc basis outside of Florida, distance to the coast is rarely provided, and loss trends by individual risk type are not usually included. Underwriters in traditional markets have access to this information, yet it is often omitted for cat bond investors.

Tenax Capital Team

The team is available to answer your questions, discuss topics and provide material upon request.

Please direct your queries to Marco della Giacoma at dellagiacoma@tenaxcapital.com and Toby Pughe at tpughe@tenaxcapital.com

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