intelligent insurer

intelligent insurer

- You are now logged in.

Karen Clark interview: the vital development of cat risk models

05-10-2020

Cat risk modelling pioneer Karen Clark, founder of KCC, shares her unique insights on the past, present and future of the discipline and its key role for re/insurance.

“We had to spend months explaining how the models worked and why they could trust them.” Karen Clark, founder, KCC.

· Clark, inventor of cat risk modelling, credits “early adopters” in the market for sticking with innovations

· Hurricane Andrew marked “turning point” for industry trust in cat models

· Launch of cat bonds in 1996 paved the way for ILS market to develop

· Transparency of future models to drive greater confidence and usher in “new paradigm”

Industry-wide views on cat risk modelling shifted dramatically after loss figures of more than $13 billion for Hurricane Andrew were proved right. Re/insurers now acknowledge the discipline as a crucial part of business, but Clark has never stopped innovating and is already looking ahead at future cat risk needs.

In the 1980s, the industry was comfortable. Underwriters had been making money and there were few catastrophe losses. But, in 1992 Hurricane Andrew hit and upended an industry, forcing the re/insurance sector to realise it desperately needed to pay attention to catastrophe models.

Karen Clark, co-founder and chief executive officer of Karen Clark & Company—who is widely regarded as one of the pioneers of catastrophe risk models—sat down with Claire Churchard, deputy editor of Intelligent Insurer in a Re/insurance Lounge session, where she talked through the history of the catastrophe modelling and the role she's played. Intelligent Insurer's Re/insurance Lounge is an online platform where interviews and panel discussions are held live on a weekly basis and content is available on demand at any time to members. The fireside chat style session is called 'An in-depth interview with Karen Clark, cofounder and CEO, Karen Clark & Company'.

Before the rise of cat modelling, the market was a very different place—at the time, there was no Bermuda market for catastrophe reinsurance, and it was mostly written out of London.

"The US was in a lull of hurricane activity in the 1970s and 1980s. The largest loss the industry had experienced was $1 billion from Hurricane Alicia in 1983 and this was considered a large loss," explained Clark.

"The industry thought the largest possible loss was about $7 billion, but our model for the time says it was $60 billion."
In 1987, Clark founded the first catastrophe risk modelling company, AIR Worldwide. Five years later, in 1992, Hurricane Andrew hit.

Four hours after the hurricane made landfall, AIR sent a fax to its clients, stating that losses could exceed $13 billion.

"Nobody believed it, not even our own clients," Clark recalled. "There was disbelief, even from the underwriters using the models."

It turns out Hurricane Andrew was a real turning point in the industry. It wasn't an overnight realisation—it took nine months for loss to develop and for the industry to realise they were going to pay out $15 billion for a storm, noted Clark.

She added that companies soon realised that they had to understand models, and rating agencies began to ask insurers for model results.

In 1996, the first catastrophe bond was launched. Clark recalled that it was a struggle.

"We had to spend months explaining how the models worked and why they could trust them," she said. Cat bond models played a key role in allowing the insurance-linked securities (ILS) market to develop.

“The cat bond market required the models as they had to be rated and the only way to rate them was to get loss estimates from the models,” said Clark, adding that the models were instrumental in the market’s development.

No secrets

Clark, by her own admission, is seen as the inventor of the cat model industry, but she gives a lot of credit to the “early adopters”, industry legends who signed up and stuck with her company.

Even after Hurricane Andrew, it took a while to persuade companies to “settle in and say this is going to be the standard technique”.

But AIR grew quickly, with a push to develop and approve more models.

In 2002, Clark sold AIR but, five years later, returned to the cat modelling industry. However, this hadn’t been her intention.

“When we started Karen Clark & Company, we had no intention of ever being in cat modelling,” she said. “At the same time, we were being called in by global companies, at the CEO and board level, as independent expert consultants on the models. We would consult, we just didn’t plan to build.”

Clark soon discovered however that key decision-makers weren’t completely satisfied with the models, so the company developed a CEO “wish list” of six items, including more efficient and cost-effective modelling processes, and more accurate models.

“We chewed on that and said we think we can fill these gaps,” said Clark. “We had a vision of how we could implement science in a better way and package it.”

Again there was scepticism, but there were forward-thinking market leaders who believed in the vision, continued Clark. Now, the company has 20 global models and expects to complete many more by the end of the year.

She added that all components of the models are fully transparent, so there are “no secrets”.

“People say if you don’t keep things secret, how do you protect your IP? That’s very counterintuitive as models are more valuable to clients if they have more confidence in them,” Clark noted.

She concluded: “It’s a whole new paradigm for cat modelling. Our clients are very excited about the additional value they’re getting.”

*To watch the full video interview, on which this write up is based, and find out more about what Karen Clark thinks about the future, click here. For more insightful sessions with senior industry leaders, visit Intelligent Insurer's Re/insurance Lounge

X