

# Models for a new age of risk

In this economic environment, catastrophe modelling has never been more important, says Richard Clinton, president of EQECAT.



**Rates are softening, there is turbulence in the financial markets and economic conditions are bad. Are cat modelling tools less relevant in such an environment?**

These issues should lead people to conclude that cat modelling tools are even more relevant. The causes of the financial market's problems are a lack of understanding, or appreciation, of the risks associated with the mortgage markets and the potential magnitude of those risks. The insurance industry faces a similar problem every day with respect to its catastrophe exposure. Therefore, the financial markets should serve as a good lesson for the industry on the importance of understanding and acting on

their catastrophe risk, which can only be achieved through cat modeling. This is equally true in soft or hard market conditions.

**Can we expect to see more cat modelling tools that are specific to lines of business?**

EQECAT views this as an important evolution in cat modeling and is working on incorporating more industry specific models within its WORLDCATenterprise™ platform. The reason that this is necessary is that many industries have unique risk characteristics that require special handling to model them correctly. The Gulf of Mexico offshore industry is a classic example of this, where wave action is a critical element to the modelling, and business interruption and contingent business interruption are key loss drivers.

**After KRW, models were criticised in some quarters for their inaccurate output. But was that also a function of inaccurate inputs?**

There are many elements within a model that contribute to the loss output, one of which is the input data. Obviously, the better the data is that goes into the model, the better the models will be able to provide reliable loss estimates. However, data is not the only issue that impacts the loss estimates. There are other elements within the models themselves that need to be looked at carefully by users when evaluating a model. As an example, the robustness of the event set within the models is critical when trying to identify the loss drivers within a portfolio. How a model handles uncertainty or correlation are also major factors contributing to its ability to provide reliable results.

I am always surprised by re/insurers' willingness to stay with a model that has not performed up to their expectations after

an actual event. My suggestion is that if you are not satisfied with your current model's performance in actual events, then you should test the market to see if one of the others would have performed better. Look at the total loss estimate for past events (2004 and 2005) and then drill down to see if the model was able to properly identify the drivers of the loss. The ability of the models to identify the drivers of the loss is the true test of a model and will become even more important as you improve your data and/or do more detailed modelling.

**A source of unexpected claims for many insurers as a result of a big event was BI and CBI, has EQECAT addressed that in its models?**

BI and CBI are very difficult coverages to model and we are always working on improving our ability to provide reliable loss estimates for these coverages. Our Gulf of Mexico Offshore Energy model released last year includes a network analysis of the underwater pipelines, including the impact of underwater landslides, which are one of the key drivers of BI and CBI losses. We will continue to look at ways of improving our loss estimates for these coverages with a strong focus on the specific industries where BI and CBI can be a major factor in the loss.

**What about the issue of demand surge where labour and materials prices are pushed up by demand?**

Demand surge is an interesting area of cat modelling and one where there are differences of opinion between the various cat models. By definition, demand surge is the temporary increase in reconstruction and other costs that may occur following catastrophic events. Following the 2004 and 2005 hurricane seasons, EQECAT spent a lot of time studying this issue and we updated our model to reflect our latest findings on this phenomenon. An interesting tidbit on our research is that while demand surge had a significant impact in Hurricane Katrina due to its unique characteristics, it did not have a significant impact in 2004 when multiple events hit Florida.

**Some users have called for more standardisation of input data related to exposure and terms. Why is that important?**

EQECAT fully supports standardization of input data related to exposure and terms. There is no reason not to from a modeling perspective, since there is nothing proprietary about the exposure data between cat models. The reason this is important is that many re/insurers want to use multiple models and the lack of a standardised input data format makes this more difficult and inefficient to do. Managing catastrophe risk is too important to the industry and if our clients want to use multiple models we should all work together to support this decision. ●

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