Rating Refinement in Liability Insurance

Roundtable explores emerging dimension of insurance pricing

Insurers know that catastrophes are an unavoidable part of doing business when insuring first-party property losses.

An insurer can limit its "property cat" losses through spread of risk, reinsurance arrangements, and flood and earthquake exclusions, but no property insurer can seriously expect to avoid property catastrophe losses entirely.

To help manage the exposure, property insurance has been transformed over the past two decades by the advent and refinement of property catastrophe modelling applications.

Cat modelling allows for ever more refined and "granular" pricing of exposure to insured catastrophic perils, including terrorism, windstorm, wildfire, and fire following an earthquake, plus flood and earthquake when covered.

A similar development is now underway in liability insurance, and it will be addressed during the Commercial Lines Roundtable discussion at the 2014 AAIS Main Event, April 6-8 in Hilton Head Island, S.C.

Participating in that roundtable will be David Loughran, chief economist and director of casualty risk analytics for Praedicat, the world's first casualty catastrophe risk modeling company.

Praedicat was created in 2012 by the RAND Corporation and Risk Management Solutions, Inc. after the two companies collaborated on research and development to improve the identification and prioritization of emerging liability risks.

Avoidance

What is a liability catastrophe? It's the prospect that a substance or a process used in commercial activities will be found to have caused widespread injury to people or damage to property, triggering coverage among untold numbers of policies.

In contrast to property perils that are well-known and dramatically visible, a liability catastrophe can develop undetected. A company can be writing what it thinks is a book of "plain vanilla" BOP accounts, and learn later that a common substance used by those accounts caused damage or injury.

In insurance shorthand, a liability catastrophe is commonly called "the next asbestos," and it poses dramatically different pricing challenges than property coverage.

"Nobody on the property side asks if a hurricane will hit again," Loughran says. "They think about it probabilistically. They ask what the likelihood is that hurricane will strike different locations."

"On the liability side," he continued, "people are still inclined to ask: 'What is the next asbestos?' Emerging risk committees want to know what that exposure will ➤

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be and their first line of defense is often to exclude coverage for it.

"Of course, we can't know for sure what the next asbestos is going to be," he adds. "What we can know is that there are many substances or processes that could be the next asbestos, and assess the relative likelihood that any one of them will turn out to cause mass litigation."

Two tails

Liability insurance is often underwritten and priced in a manner analogous to "locking the barn door after the horse is gone."

Occurrence-based policies are written, exposures develop undetected without being reflected in rating, claims erupt and threaten solvency, and insurers respond with exclusions and/or surcharges, most often the former.

Praedicat was established, in part, is to allow liability rating to function more like property insurance rating, in that the probability of low-frequency, high-severity events is systematically factored into rating.

"Liability catastrophes differ from property catastrophes in that they present two tails that need to be considered," says Loughran.

"There's the familiar tail of the exceedance probability curve, the idea that there are low-probability, high-consequence types of events.

"Then there is what we call the long tail of latency, the fact that you rate many policies for which exposures accumulate over many, many years without any rigorous acknowledgement of the timing risk."

Science

Liability catastrophe modeling relies on rigorous analysis of trends in science and the law, Loughran says.

"The key thing that we have to do in modeling liability catastrophe is to forecast the direction of science," he says. "We also have to think about how the law will support liability claims in the future."

According to a recent article in *Bermuda Reinsurance Magazine*, Praedicat monitors more than 24,000 publications to detect scientific hypotheses that may lead to liability risks.

The article adds that Praedicat is researching a wide range of potential liability risks currently known to the public, including sports-related concussions, pesticides, electromagnetic frequencies, and more.

Loughran believes that U.S. courts are utilizing science in a credible manner that can be factored into liability rating.

"To get through the courthouse door for bodily injury litigation, you have to prove there is a reasonable scientific consensus that a defendant's activities could have led to the harm that the plaintiff claims," he says. "If, say, the plaintiff is alleging that exposure to a certain chemical caused his or her cancer, there has to be to be a scientific literature that supports that hypothesis.

"In today's legal environment, if you don't have good science to prove general causation, you're not likely to get to trial."

For a discussion of the assessment of legal trends, see the sidebar next page.

Benefit

The threat of a liability catastrophe may seem remote to insurers writing small commercial accounts, especially those with a relatively small share of their premium derived from liability exposure.

But Praedicat believes its work can benefit all carriers by creating new ways to measure liability risk and, thus, create more opportunities for insuring liability exposures.

"New analytics ought to lead to increased opportunities over time for more transparency, precision and innovation in both insurance and reinsurance, says Fred Kipperman, vice president for global client development for Praedicat. ■

Law Professor Provides Framework for Categorizing Legal Liability Cost Drivers

While most property perils are well-known and well-quantified in historical loss data, the pricing of liability depends heavily on the assessment of physical hazards and legal trends that are largely unknown.

It may seem impossible to quantify the impact of legal trends, given that they emerge from thousands of cases in thousands of court jurisdictions with varying (sometime contradictory) outcomes, and varying degrees of influence.

Tom Baker, a law professor at the University of Pennsylvania and a nationally recognized expert in the economics of liability insurance, has systematically identified and categorized cost drivers for liability insurance.

In his work, however, Baker has systematically identified and categorized cost drivers for liability insurance. These include four basic categories:

- Baseline liability risk, the existing risk of loss based on past experience;
- Liability developments risk, the wide array of changes in society, law, technology, and other fields that increase or decrease the potential to cause harm (detailed below);
- Contract risk, the uncertainty about the implications of a contract issued at one time on occurrences that are discovered later; and
- Financing risk, the costs or benefits liability insurers incur depending on current investment conditions and the underwriting cycle.

Baker's categories include subcategories, including (as indicated above), the following subcategories of "liability developments risk:"

- Injury developments risk, developments that change the frequency or magnitude of injuries subject to insurance compensation (including development of new techniques for detecting injuries that may previously have gone undetected);
- Injury costs developments risk, developments, particularly in medical care, that affect the cost of injuries;
- Standard of care developments risk, changes in legal standards of care that affect determinations of legal liability and corresponding insurance compensability; and
- Legal developments risk, itself subdivided into developments in liability law, the awarding of damages, and procedural developments (e.g., discovery requirements).

In all, Baker's work is an example of the type of systematic breakdown of liability insurance cost drivers that might begin to provide a counterpart to the granular pricing of property perils.

Baker is the person who suggested Praedicat to AAIS for the Main Event conference. Praedicat is familiar with Baker's work and holds it in high regard, says Fred Kipperman, Praedicat's vice president for global client development. ■