

The recent Texas winter storms in February, 2021, a combination of "Uri" and "Viola," produced the most significant winter storm loss in U.S. history, with current industry loss projections ranging between \$10 billion - \$18 billion, or more. The low end of the range would establish a new winter storm record by many multiples. This recent event in Texas has also caused me to reflect and make observations about other large catastrophes I have observed during my 40 year career.

Once again, a catastrophe has produced a severity of loss that the insurance/reinsurance industry had not contemplated in its pricing models. It is less a matter of the industry's failure to price the recurrence of such extreme loss events than the existing models' inability to calibrate an effective pricing matrix inclusive of such outlier events. The shortcoming of catastrophe model outputs is not unique to our industry. Indeed, the model outputs utilized by professionals in the capital markets often fail to capture extreme tail events in their pricing – think Long-term Capital Management or the 2008 financial crisis.

The traditional form of aggregate and occurrence-based reinsurance protections, which indemnify ceding companies based on their actual losses under an "Ultimate Net Loss" ("UNL") contract clause, protects the cedant against such unmodeled extreme tail-risk events. "UNL" policies protect the cedent from all risks, known and unknown, subject to an agreed-upon set of exclusions.

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The "UNL" product is not explicitly limited to a specific set of perils or circumstances, such as we see with parametric or industry loss warranty types of protections. The "UNL" product offers the broadest form of client protection for its actual losses, provided those losses fit within the boundaries of the negotiated contractual terms between the client and its reinsurers.

Many losses, however, are subject to debate. A successful disposition of which rests with the depth of the cedent-reinsurer relationship. Long-term trust-based relationships help ensure that coverages renew

every year, allowing cedants and their reinsurers to achieve proper risk-adjusted margins over time. It is also crucial for cedent buyers not to get distracted by alternative capital options that have seemingly lower costs, or of reinsurers dramatically changing their views.

Few of the most significant catastrophe losses over the last several decades were properly modeled by our industry. The examples that follow reflect severe events where the losses were neither



adequately anticipated, modeled, or priced by the insurance/reinsurance industry and for some of the more recent events, not by the alternative capital options either.

Hurricane Hugo (1989): Industry experts noted that they had never seen a hurricane spawn so many tornadoes after it hit landfall. Tremendous rains before and during the event also spawned a new phenomenon called "root-balling." Mighty trees easily toppled while others became projectiles. The degree to which tornados spawned from hurricanes and the effect of the root-balling was without precedence. Today, we understand the big difference between a "wet hurricane" and a "dry hurricane."

Oakland Hills conflagration (1991): Despite California's long history with wildfire loss, the heat's intensity from this event left behind a surface resembling the moon. Many in the industry had to look up the word "conflagration" and then pondered where else such risks might reside. Insured losses rapidly escalated, in part due to government intervention that effectively ordered insurers to settle all claims on a replacement cost value ("RCV") basis. At the time, it was common policyholders practice that knowingly



purchased loss coverage on an actual cash value ("ACV") basis. At the risk of challenging the governmental mandate in court (insurers were not so subtly reminded that a court loss would result in treble damages and they were also threatened with intrusive market conduct audits) the insurers settled the claims as directed. The result was a significant measure of loss that was not priced in by the industry or paid for by the insureds.

These additional losses naturally reached into reinsurance layers. However, the reinsurance contracts explicitly stated that the reinsurer would indemnify the insurer for claims covered "within the terms covered by the original (insurance) policies." Accordingly, the reinsurers argued that if the original policy was issued to a policyholder on an "ACV" basis, then the settlement amount for collection purposes must also be on that same "ACV" basis. The reinsurers argued that if the insurer chooses to make "ex-gratia" payments or is mandated by a regulator to settle on an "RCV", or any other basis, the difference is not subject to the catastrophe reinsurance program. The insurer must therefore retain any further loss settlement amounts beyond those covered under the original policies.

Illustrating the value of having established long-term trust-based relationships, Holborn, in response to the Oakland Hills catastrophe, found a creative extra-contractual solution for its clients and their reinsurers. While most catastrophe reinsurance programs provide coverage for "extra-contractual obligations" ("ECO"), and while technically the additional losses created by governmental decree were not an "ECO", Holborn successfully collected claims under this contract provision with their clients' reinsurance partners. Our clients' success was significantly aided by their having maintained secure, trust-based, long-term relationships with their reinsurers.





Hurricane Andrew (1992): The best available modeling and thinking at the time suggested that a "maximum foreseeable industry event" resulting from a hurricane was between \$1 billion - \$2 billion. At the one-month mark of Andrew, Prudential was reported to have raised their Florida claims estimate to \$1.2 billion – a fraction of what would ultimately be a \$15 billion industry price tag. On the same day, the industry estimates for claims resulting from the more recent Hurricane Iniki were reported to be \$1.6 billion, roughly one-half of the ultimate cost (the second-costliest Pacific hurricane on record).

Earthquakes can also produce a scale of loss beyond what the models could forecast. For example, the 1994 Northridge earthquake occurred on a previously unknown "blind thrust fault." The event's scale set a new standard in terms of the length of time, or "tail," in settling property claims.

"9/11": The industry had no experience with the scale of the "terror" losses suffered that day. The industry never considered the potential degree of the "clash" of losses which affected virtually every aspect of insurance, including property, liability, workers' compensation, aviation, and life.

In 2004, Florida was hit with four landfalling hurricanes (Charley, Frances, Ivan, and Jeanne) during a six-week window. Three more hurricanes made landfall along the Florida and Gulf Coast in 2005, commonly referred to as "KRW" (Katrina, Rita, and Wilma).

The "The sky is falling" mentality that followed the Florida hurricane events in 2004 and "KRW" in 2005 were followed by a decade of relative infrequency of U.S. landfalling hurricanes. During the latter period, the lack of losses was as confounding to the industry as the hyperactive period preceding it. While the impact that climate change has on such volatility is debated, the unpredictability of the scale of future catastrophe losses cannot.

The relatively calm decade did, however, include Hurricane Sandy in 2012. Sandy is notable because the industry's prevailing wisdom at the time was that hurricanes moving up the eastern coast ultimately bend away from the coast and head out to sea. Sandy refused to follow suit. She took a sharp left turn and made landfall in Southern, N.J., and kept going until she hit the Great Lakes. Similarly, the "derecho" that hit Iowa and the Midwest this past summer was another case of unprecedented insured loss neither anticipated nor modeled.

Though not a new phenomenon, the damages related to the California wildfires remind the industry that modeling damage variables must also consider the impact of human-made consequences. Whether such effects result from malfeasance or the unintended result of environmental or governmental actions, they can significantly contribute to the loss scale. The same might be said for the recent winter storm in Texas. Decisions made related to weather mitigation and redundancy measures certainly contributed to the scale of the loss.



Hurricane Andrew and the outsized hurricanes and earthquakes that followed gave birth to industry "catastrophe modeling companies" which focus on the probabilities of various natural catastrophe loss events and their best estimates of insured property damage from those events. Despite the advent of these capable modeling firms and the sophistication of the modeling outputs, the bottom line is that large-scale catastrophe events have increasingly proven to contain variables that have caught the industry flatfooted. Despite the collective industry's best efforts and advances in technology, our history suggests we do not probability weight the future very well.

None of what is written here suggests or denigrates the modeling profession or the substantial advances in technology and analytics and capital allocation over the past 40 years. Quite the opposite is true. We have witnessed significant improvements in our understanding of risk, technical pricing, and a considerable reduction in insurer/reinsurer insolvency rates through the massive strides made.

That said, all of what is written here is to suggest there are often hidden human-made and other completely unknown and unanticipated elements involved with significant catastrophe events which are impossible to foresee, or model.

It is precisely because of the uncertainty inherent in these "tail" events that the "UNL" coverage offered by the traditional reinsurance marketplace is the most efficient means of protecting cedent/insurers. Catastrophe risk can never be commoditized. History proves there are too many unknowns to quantify and price precisely.

Accordingly, it is critical that ceding companies develop deep, long-term trust-based relationships with their broker and reinsurers. Balance sheets and income statements can only be protected if unwanted volatility is efficiently ceded to "UNL" reinsurance partners. Insurers can generally live with the known and anticipated risks, but the unknown and unanticipated risks generate undesirable volatility and potentially dire consequences, and are best spread across global reinsurers' balance sheets via traditional "UNL" reinsurance programs. Finally, the maintenance of sound trust-based relationships among the parties is critical to ensure the proper resolution of the unanticipated shock catastrophe losses that inevitably will occur and extend beyond the contracts' boundaries.

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