

Making the Most of the Capital Markets

Securitization, Part II

by John J. Kollar

It began with insurance companies looking beyond the limits of traditional risk financing. In the \$27 trillion U.S. capital market, they found the only private sector source with the capacity to cover their exposure to catastrophes. The urgency was clear: the past decade has witnessed three of the costliest natural disasters in U.S. history—Hurricane Hugo in 1989, Hurricane Andrew in 1992 and the Northridge, California earthquake in 1994—with a total \$35 billion in insured property/casualty losses.

And the future appears likely to be stormy as well. According to the Insurance Services Office's study, *Financing Catastrophe Risk: Capital Market Solutions*, recent advances in catastrophe computer modeling indicate that the United States is exposed to potential hurricane and earthquake damage that could exceed \$100 billion in a single year, especially as the populations in particularly susceptible areas—Florida, the Midwest and California—continue to grow. Yet, ISO estimates the p/c industry's total surplus through 1998 at only \$333.5 billion. Just one mega-event could wreak havoc, resulting in numerous unpaid claims and unprecedented insurer insolvency.

In *securitization*, many insurance companies have found an alternative risk transfer mechanism for catastrophe risks that allows them to share risk with investors, reduce the likelihood of insolvency, protect financial ratings, curb premium volatility and limit economic and market disruptions.

Likewise for risk managers, securitization provides an alternative market for coverage. Although this market has been almost solely the domain of insurers, the financial tools that are evolving from securitization can add value to complicated programs for non-insurers' catastrophe coverage in especially prone areas, such as hotels and resorts in Florida, franchises in the Midwest, local government entities along the Texas Gulf Coast or large corporate facilities in California.

When the commercial insurance market eventually tightens, the search for new financing methods is likely to intensify. Those risk managers who understand and can use securitization and other alternative means will be better positioned to guide their organizations safely through potential catastrophes.

The Possibilities

ISO estimates that through May 1999, investors had committed almost \$3 billion to the capital markets for securitizing insurance

risk. There are a variety of products available, fitted to the different needs and limitations of the investor and the risk bearer.

The most common entities are *catastrophe*, or “*Act of God*,” bonds. These corporate bonds, offering higher yields to investors, are structured such that payment of some or all of the interest or principal is forgiven or deferred when catastrophe losses exceed a specified trigger. This can be based on the catastrophe losses of the risk bearer or of the property/casualty industry as a whole. Particular events—wind speeds for hurricanes or Richter scale magnitudes for earthquakes—can also activate the trigger.

The risk bearers, however, do face higher transaction costs for providing substantial amounts of customized information that allows investors to assess exposure to catastrophe losses and the consequent risk of the CAT bonds they are considering.

Catastrophe options are also growing in popularity. These standardized contracts provide the purchaser (the risk bearer) with a cash payment if a specified index of catastrophe losses reaches a predetermined level or strike price. If catastrophe losses are too low for the index to reach the specified strike price, the option expires.

Option indices are traded on the Chicago Board of Trade and the Bermuda Commodities Exchange. The CBOT index is based on insurers' total catastrophe losses and the BCOE index is keyed to insurers' weather-related losses on homeowners' policies.

The standardized option contract makes it easier for buyers and sellers to liquidate their positions. All a seller needs to do is buy the same number of options with the same strike price as the options he or she sold. Correspondingly, buyers can sell the same number of options with the same strike price as the options they bought.

The key disadvantage of catastrophe options, though, is basis risk—an individual risk bearer's loss experience may not match up with the catastrophe index used in a particular option.

For the investor, the incentive to sell catastrophe options is the premium they receive from the purchasers.

And unlike catastrophe bonds, investors need not rely on the individual risk bearer's superior knowledge of its exposure and disclosure because the options settle based on the index. Transaction costs are also significantly lower.

Both these and other forms of securitization offer investors a new means of reducing portfolio risk through diversification. Since catastrophes are independent of market or economic conditions, CAT bond performance is unaffected by the trends of other stocks and bonds.

In Play

The right mix of techniques is the key to a successful risk financing recipe. Through the use of computer models and business information, insurers have been able to calculate their potential catastrophe losses. The next step is figuring out how to combine the various methods to create an effective risk financing strategy.

ISO used real exposure data to show how companies can evaluate potential reduction in the cost of CAT risk financing using catastrophe options, along with reinsurance and their own capital.

For example, the cost for a mid-sized carrier, whose exposure distribution resembles that of the index, is as follows: \$53 million with its own capital; \$51.6 million (2.6 percent less) with a combination of reinsurance and its own capital; \$44.8 million (15.6 percent less) with a combination of catastrophe options and its own capital; and \$44.5 million (16.1 percent less) with its own capital, reinsurance and catastrophe options.

For a large national insurer, whose exposure distribution is less similar to the index, the cost pattern, in the same combinations, is as follows: \$144.3 million, \$143 million (less than 1 percent less), \$132.6 million (8.1 percent less) and \$132 million (8.6 percent less), respectively.

Obviously, the benefits of securitization depend on the type and size of the business (and particularly with options, the business' similarity to index patterns), and on what combination of these financing tools is

brought into play.

Next in Line

Recently, for the first time, a non-insurance company tapped the capital market to finance a natural hazard risk through catastrophe-linked securities. According to various published reports, the Japan-based Oriental Land Company, owner and operator of Tokyo Disneyland, placed two \$100 million catastrophe bonds with two Cayman Island-based special-purpose reinsurers to protect against earthquakes.

The first bond provides Oriental Land with up to \$100 million in earthquake coverage. This is provided for a five-year period and the payment depends solely upon the magnitude, location and depth of an earthquake, regardless of actual property damage. The second transaction provides Oriental Land with a \$100 million fully collateralized post-earthquake financing facility. In that case, Oriental Land will issue a \$100 million five-year bond to the reinsurer, with no obligation to pay any interest for the first three years.

Clearly, primary insurers—and now self-insureds—can use securitization to supplement traditional reinsurance. Reinsurers can also use securitization to supplement traditional retrocession—reinsurance for reinsurers. And, if and when the insurance market hardens, risk managers will want to explore the use of catastrophe risk securitization as a supplement or alternative to the more common methods of risk transfer.

Securitizing risk with capital market instruments is still relatively new. But is it an emerging trend in risk funding that innovative and alert risk managers will adopt? Or is it an unproven gambit that investors and risk managers want to assess from the sidelines before calling into play? As availability and cost improve, market demand is likely to create a place for securitization in the risk manager's risk transfer arsenal for reducing costs and increasing capacity.

