

## GUEST EDITORIAL

### ACTUARIES SHOULD TAKE THE LEAD!

New ways of transferring risk, particularly those posed by catastrophic exposures, are being explored by investment bankers. Options derived from the United States windstorm and earthquake exposures are being traded on the Chicago Board of Trade. International petroleum companies are examining alternative ways to transfer their huge risks, in excess of very large retentions. The embryonic California Earthquake Authority received 10 proposals from investment bankers to use specially designed debt securities to provide \$ 1.5 billion of capacity in excess of \$ 7.0 billion. Standby surplus note facilities have been organized. And many other innovative approaches are being explored.

All of this is driven by the increasing realization that traditional methods of dealing with catastrophe risk are probably inadequate. As a result of several severe storms and earthquakes in the last several years, catastrophe models are being used much more rigorously, their sophistication has improved, and, most importantly, insurance company managements are paying attention to their indications. Potential insured losses of \$ 100 billion are no longer inconceivable, and it is recognised that losses of even \$ 20 billion would be difficult for the industry to handle.

At the same time, markets for derivative securities have developed many new and innovative ways of transferring risks related to securities, currencies and commodities. It is a natural extension of that activity to search for ways to handle the risks related to insurance. While the hazards of wind and earthquake are the ones being investigated initially, there is no inherent reason why other insured risks cannot be handled in this manner. Pollution liability, health care costs, epidemics—all are possibilities.

In response to the developments in derivatives, a new group of professionals is beginning to emerge. Known as financial engineers, they have formed an association, the International Association of Financial Engineers. Courses in financial engineering are starting to appear in business schools, and textbooks are being published. One definition of financial engineering refers to a knowledge base of financial economics, and talks of “the application of economic principles to the dynamics of securities markets, especially for the purpose of structuring, pricing and managing the risk of financial contracts.”

The similarities with actuarial work are obvious, and it will be a challenge to coordinate the two professions.

The actuarial profession, as the older and more established, should take the lead. And we should look for ways to be inclusive, to bring the financial engineers into the actuarial profession.

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