American Academy of Actuaries

Courting Natural Disaster

By Rade Musulin

When it comes to natural disasters, our nation has been fortunate in recent years. Yes, after several remarkably quiet decades, we experienced a number of hurricanes, notably Hugo and Andrew, and serious earthquakes in California and Washington state. But while these disasters caused great losses, they could have been worse.

When Seattle was rocked by a 6.8 earthquake last February, the damage, according to the Insurance Services Office, totaled $330 million. But the earthquake rumbled 37 miles beneath the seaside town of Nisqually. If the quake had struck closer to the surface—at 10 miles below, a more typical depth—the human and property damage would have been many times greater.

In 1992, Hurricane Andrew brought Florida's property insurance market to its knees. At the time I was chief actuary for a Florida property insurer and saw firsthand the disruption to the market. With insured losses of around $17 billion, Andrew put 11 insurers out of business, forcing almost 1 million policyholders into a state-created insurer of last resort.

But like Seattle, Florida was lucky. Had a Category 4 or 5 storm made landfall over Miami or Fort Lauderdale, losses could have approached $100 billion and led to severe economic problems, both local and national. That nightmare scenario almost became a reality in 1998 when Hurricane Georges threaded a needle by passing directly over one Caribbean island after another. Had its path been as little as 75 miles further north, it could have strengthened over the warm waters north of Hispaniola and slammed into Miami with winds as strong as Andrew. Florida was similarly lucky in 1999 when Hurricane Floyd just missed its east coast, although Floyd caused major damage in the Carolinas.

Even worse is the hypothetical but entirely possible scenario of two major natural disasters in close succession. A major hurricane followed a month later by a temblor on the scale of the 1994 Northridge quake would multiply the havoc and seriously impair the capacity of many major insurers.

Both demographics and climatology are likely to put ever-greater pressure on the nation's insurance system in coming years. Population continues to grow in disaster-prone areas, a trend exacerbated by our wealthier society and an increase in vacation homes, hotels, and condominiums. A recent article in *Science* concluded that "the present high level of hurricane activity is likely to persist for an additional 10 to 40 years. The shift in climate calls for a reevaluation of preparedness and mitigation strategies."

In coming years, natural disasters could result in huge economic losses that would bring significant disruption to the U.S. property insurance market and send aftershocks throughout the nation's financial system. It is important to remember that the issue is more complicated than simply paying claims resulting from an event. Insurers must also have the capacity to renew policies after an event. In post-Andrew Florida, the real problem was the industry's inability to renew policy contracts at pre-Andrew coverage levels and prices.

While the insurance system appears to be flush with capital, looks can be deceiving. Only a small part of the system's capital is actually committed to underwriting property insurance. Emerging capital market products offer great promise to augment the current system's capacity. But while the private sector can handle most natural disasters without public sector help, there comes a point when the magnitude of the losses is overwhelming and government intervention—as a backstop, not a bailout—becomes good public policy.

Currently, Congress is considering two ways to do just that. One approach would allow insurers to set up tax-deferred reserve funds to use in case of catastrophic losses. Proponents note that current federal tax policy significantly increases the cost of underwriting catastrophic perils; opponents say that these reserves would accumulate too slowly to cover the immediate risks.

An alternate approach would set up a federal reinsurance fund as a backstop for private insurers in case of major calamity. Such a fund would provide immediate relief, but critics call it a bailout for insurers and an incentive to more construction in high-risk areas.

In my view, we are not sufficiently prepared for a major catastrophe. It certainly would be better to plan for the next event before it happens, when programs can be worked out with proper study, rather than waiting until afterwards when there will be enormous political pressure for immediate action. Devising complex public policy solutions under crisis conditions is a recipe for disaster.

Both ideas recently considered by Congress would bolster the current system and make property insurance more available and affordable in high-risk areas. Congress and the administration should act now to strengthen the market's ability to deliver the protection we need, rather than waiting to clean up the mess after the fact.

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