

Closing the gap

Whye Loon Chan examines the widening gap between accumulated assets in cat-prone regions and the limited (re)insurance protection exposed by the Tohoku earthquake

➤ **In the first three months of 2011 an unprecedented accumulation of severe natural disasters afflicted the Asia-Pacific region.**

Vast areas of Australia were hit by heavy storms and floods while, following last year's earthquake, another major tremor struck Christchurch in New Zealand. The most severe event was, of course, the Tohoku earthquake and resulting tsunami.

Large parts of north-east Japan were devastated by the magnitude 9.0 earthquake – which was one of the five most severe tremors recorded over the past 100 years. And one of the most serious nuclear disasters in history unfolded in the immediate aftermath. The total number of casualties could exceed 28,000, with many people still unaccounted for. Most of these fatalities have been caused by the tsunami. This death toll compares with 6,400 victims of the Kobe earthquake in 1995.

Total economic losses from the Tohoku earthquake are estimated at around \$300bn, which makes it the world's costliest natural disaster on record. Insurers and reinsurers are expected to pick up 10 percent of this amount, translating into the third most expensive loss event in the industry's history (following KRW in 2005 and the 11 September terrorist attacks in 2001).

Even though GDP generated in the affected prefectures contributes less than 5 percent

to Japan's total GDP, some highly specialised manufacturing facilities are located in the area. The stoppage of their operations has created adverse ripple effects not only in domestic Japanese supply chains but also globally, where final assemblers experienced major disruptions, especially in the automotive and electronics sectors.

Meanwhile, the Tohoku disaster has clearly exposed the vulnerability of the just-in-time inventory system and highlighted the frequently ignored trade-off between economic efficiency and operational security.

The enormous radiation released by the Fukushima nuclear power plant due to serious damage paralysing the plant's cooling system is likely to have the longest-term impact on the Japanese and global risk landscape. It has already led to a dramatic widening of the gap between public perception about the safety of nuclear power facilities and the reality.

In the wake of the Fukushima disaster a number of major countries have decided to abandon any form of nuclear power generation, most notably Germany, which is now facing the challenge of replacing the 25 percent share of total national energy production contributed by nuclear power so far. Meanwhile, 30 percent of Japan's energy comes from nuclear power plants at present, and it remains to be seen how its power mix will change as a result of Fukushima.

From a global perspective, the Q1 insured catastrophe losses in Asia-Pacific stand at an estimated \$40bn-\$50bn (with an estimated \$20bn-\$30bn accounted for by the Tohoku earthquake alone), markedly reducing excess capital in reinsurance markets. The catastrophe loss estimate for Q1 exceeds losses incurred by 9/11 but falls short of the \$72bn loss for hurricanes Katrina, Rita and Wilma in 2005. As such, the Q1 events should at least help stem a further erosion in rates.



In addition, the accumulation of events, compounded by still incalculable implications from the Fukushima disaster, has heightened insurers' and reinsurers' awareness of their vulnerability to a series of events that could greatly impair their earnings or even capital base.

This is expected to provide support for increased reinsurance demand in future. The same effect can be expected on the retail side: Policyholders are likely to purchase more insurance cover, as they did after the Kobe earthquake in 1995 – where only 3 percent of the total economic loss of about \$100bn was insured.

The Asia-Pacific region displays the world's most dynamic economic development and rapid industrialisation and urbanisation. At the same time, it also has the planet's most severe catastrophe exposure. In 2010, economic losses resulting from natural and man-made disasters in Asia amounted to approximately \$75bn – more than a third of the world's total. In total, 139 catastrophes were counted in Asia, which was almost 50 percent of the global total.

In stark contrast, as little as 3 percent of Asia's total economic losses were insured, which was the lowest ratio worldwide (Source: Swiss Re, Sigma 1/2011). Even in a highly industrialised country such as Japan, insurers and reinsurers are expected to bear as little as 10 percent of the total economic loss caused by the Tohoku earthquake. At the same time, exposures are significantly up, given the rapid growth in insurable assets and Asia's vital role in global supply chains. Therefore, the potential for insurance and reinsurance in Asia is enormous.

Against this backdrop, managing and mitigating the surging loss potential from natural disasters is one of the biggest challenges

facing policymakers and industry leaders in Asia. Both the private and the public sector need to contribute in order to meet this challenge – which will be of utmost importance to ensuring continued smooth growth in personal wealth and corporate assets in Asia.

Traditionally, reinsurers play a major role in raising public awareness of natural perils through research and publications. They also make regular headlines as reliable “lenders of last resort” following major disasters – in other words, they are the ones that pick up most of the insured losses incurred.

community to cap their overall exposure by tapping into global reinsurance markets.

There are also regional risk capacity pooling platforms without any government involvement which, by pooling capacity from participating Asian domestic insurers and national reinsurers, are able to provide fairly priced catastrophe reinsurance solutions, benchmarked to the local conditions of the Asian risk landscape.

Participants can cede their undiversified natural catastrophe accumulation risk into the facility. In return, they receive a well-diversified and balanced book of

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Reinsurers are able to operate with more capital efficiency than most of their clients – namely the local insurers that are confined to certain domestic markets or business lines. In a competitive marketplace, the unrestricted availability of reinsurance cover should ultimately translate into less expensive insurance policies for retail and commercial clients alike.

As such, based on their inherent superior capital efficiency, reinsurers can make an essential contribution to addressing what is a major obstacle to higher catastrophe insurance penetration in Asia – affordability.

In addition to traditional reinsurance, national and regional pool solutions are well-established concepts designed to increase catastrophe insurance penetration.

National vehicles such as the Japan and Taiwan residential earthquake pools are usually a joint effort between governments and the domestic insurance

pan-Asian natural catastrophe business and, at the same time, gain a deeper understanding of various Asian risk exposures as well as best-practice risk modelling techniques and pricing methodologies.

The recent string of disasters has once again highlighted a trend in the Asia-Pacific region that started to emerge at the end of the 20th century – a widening gap between the ever faster accumulation of assets in areas prone to natural perils on the one hand, and the limited level of insurance and reinsurance protection to mitigate the potentially disruptive effects of natural disasters on the other.

The experience of the major losses recorded in Q1 2011 will certainly raise awareness of this disconnect among policyholders and insurers, and is likely to fuel demand for catastrophe protection. Reinsurers will need to adhere to pricing discipline to make a long-term, sustainable contribution to this demand.



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