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Résumé de l'article

Les coûts reliés aux catastrophes naturelles, quoique élevés, ne semblent pas menacer la santé financière des réassureurs canadiens. Toutefois, le problème le plus aigu au plan des risques catastrophiques est celui des tremblements de terre. L'auteur s'interroge sur les conséquences qu'un séisme de grande magnitude pourrait avoir sur la réassurance. Il tente d'identifier les meilleurs moyens pour faire face au problème. Il en énumère six : des primes acceptables, des franchises en rapport avec la valeur assurée, des sous-limites, certaines restrictions territoriales et certains encouragements fiscaux.

The Reinsurance Industry in 1994

The Earthquake Problem *

by

John P. Phelan**

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We are on the eve of yet another treaty renewal season and I know that there is a great deal of apprehension in the air. Apprehension about the renewal of proportional reinsurance, the cost of catastrophe reinsurance, the capacity available to reinsure catastrophic exposures and how to best manage the exposures presented to the industry by Bill 164's influence on the cost of long term care as a result of automobile accidents in Ontario.

I do not propose to speak to Bill 164 but I will try to do the other topics justice.

* Notes for address to the Society of Fellows, Toronto, October 13, 1993.

** President and Chief Executive Officer of Munich Reinsurance Company of Canada.

At the outset, let me make it clear that when I speak about natural disasters I speak about earthquakes. At the risk of alienating some of you, I do not think that hailstorms or windstorms are a particular problem for insurers and reinsurers in Canada. Sure they can be costly and are especially troublesome for those regions most affected like Alberta.

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However, the costs of hailstorm and windstorm losses have been well within the ability of our industry's financial capacity to absorb. It is interesting that following the most recent storm in Calgary, the insurance industry reacted with some authority in correcting rating and coverage problems for homeowners policies. Premiums were raised as were deductibles. Coverage was restricted, an example was the reluctance to continue providing replacement cost insurance.

Reinsurance terms and conditions have also reacted to these storms over the years, but never in a manner truly reflective of their costs. The tendency has been to permit hail and storm losses to exhaust premiums charged and to ignore the need to accumulate funds to pay for other natural disasters, particularly earthquake.

Our main problem is earthquake. It is earthquake that represents the peril of utter destruction. Destruction of economic life as we know it, unless we properly prepare to meet the consequences of "the big one".

Having earthquake as the natural peril of consequence has advantages and disadvantages. An advantage of earthquake over storm or flood is that earthquakes release pressure and as such will not be repeated until that pressure has been built up again. Storms and floods, on the other hand, can recur at any time.

The disadvantage of earthquake is, paradoxically, that they occur so infrequently in our country. I know you are aware of the record of earthquakes in British Columbia and Quebec but I am referring to destructive earthquakes causing very serious disruption to an economic centre of importance to the national economy. We have been spared these thus far and, in the past,

our good fortune has bred a dangerous complacency which, of course, led to inaction. This has now been replaced by increasing concern.

Why have we changed? Why must we now be concerned? Why the anxiety about the cost of reinsurance and the capacity available? After all, we have not yet suffered a serious earthquake loss in Canada. Hail and windstorm losses are not occurring with undue frequency or severity. The cost of natural disaster losses in Canada has not wreaked havoc on the worldwide system of reinsurance and retrocession. Reinsurers in Canada are suffering but they are not going broke. Why then is the Canadian insurance market facing such difficulty in the purchase of property reinsurance?

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To find the answer to this question we must distinguish between the business of insurers and reinsurers. We must also recognize that the Canadian insurance and reinsurance market needs to purchase capacity on world markets to insure and reinsure large individual risks as well as natural perils, especially earthquake.

First, let's distinguish between the business of insurers and reinsurers. Typically, insurers write both personal and commercial business and write all major classes. There are exceptions but these are few. Reinsurers, on the other hand, write mainly commercial business. Again there are exceptions such as high valued homes and special quota share automobile treaties but, again, these are not significant. Leaving aside these exceptional and, in some instances, short term arrangements, most personal lines business written by reinsurers is excess of loss and usually excess of single loss limits. For example, it represents a great deal of our catastrophe exposure. Reinsurers, therefore, mostly reinsure commercial property and liability business as well as personal lines catastrophe exposures.

Commercial property and all liability business (I was not able to subdivide this class) amounts to less than 15% of the insurance industry's net premiums written in 1992. I think you will appreciate that if 85% of insurers' business provides good

results, scant attention is paid to the remainder. Certainly, recent history bears this out. Commercial property alone accounted for a little less than 9% of the insurance industry's writings in 1992 and it has been a disaster with little or no sign of improvement despite harsh reinsurance terms, by historical standards.

Reinsurers, on the other hand wrote about half a billion commercial property premium income. This was roughly 25% of the net written premiums for this class in 1992 and amounted to an astonishing 42% of reinsurers' total premium income.

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Nine per cent for the insurance industry, 42 per cent for reinsurers! Is it any wonder that reinsurers are feeling the pain? There has not been a sufficient sharing of fortunes between insurers and reinsurers of commercial property business to prompt the rehabilitation of this class. Perhaps this will change as reinsurers react to unacceptably high loss ratios—25% of reinsurers had loss ratios in excess of 90% for commercial property in 1992.

Next, let's consider the need of the Canadian market to purchase capacity on world markets. This is necessary for large individual risks and for earthquake exposures. I do not need to dwell on individual risks. Even with a contraction of worldwide capacity these could be insured within the Canadian market, to a much greater extent than at present, by the use of subscription policies and licensed Canadian reinsurers. Rates may have to increase as well they should.

Earthquake presents a very different problem. The harsh fact is that we do not, under any circumstances, have sufficient capacity to manage this peril without significant participation by markets abroad. Even if we begin today to do everything properly we will not create sufficient resources to manage this peril ourselves for a very long time, if ever.

In 1992, MROC issued a report estimating the cost of a credible earthquake in the Vancouver region to the insurance industry to be between \$6.7 and \$12.7 billion. If government insurers are excluded, the industry wrote \$14.9 billion in

premiums in 1992. At the present time in Canada, premium income is probably a poor measure of our ability to finance catastrophe losses. Nevertheless, it shows the magnitude of the problem when you compare about \$15 billion of premiums with an insured loss estimate as high as \$12.7 billion. We need every bit of capacity we can find to manage exposures of this daunting size.

To put another perspective on this, 200 million Europeans can absorb the cost of a worst case European storm loss of \$20 billion. While a worst case California earthquake, costing \$50 billion, would be a problem for 30 million Californians, it would be more easily absorbed by 260 million Americans.

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Our study of the economic impact of a severe earthquake in the lower mainland of British Columbia estimates a worst case economic loss of \$32 billion. Imagine the challenge for 26 million Canadians, already up to their necks in debt, trying to wrestle with an economic loss of that magnitude. You will now better understand the immense value of recoveries from the worldwide reinsurance and retrocession mechanism when such losses occur.

However, world markets have suffered grievously, and for some even fatally, from a dramatic increase in the incidence and cost of natural disaster related losses since 1987. Last year, I mentioned this during a talk to the property casualty underwriters club so I will only briefly repeat the figures today.

The figures I use are approximate, everyone seems to have their own numbers but all agree on the trend and the order of magnitude we have to deal with.

For 26 years until 1986, major disasters cost about \$12.8 billion. For the next 5 years, the cost was \$30 billion. In 1992, we had Andrew and Iniki amongst others and you have probably heard enough about them. Over the same period, the number of natural disasters also increased significantly. 1993 seems to have been reasonably quiet although Japan has suffered a few typhoons and had a 7.1 Richter earthquake, too close for

comfort, just a couple of days ago. This morning's news mentioned major earthquakes in New Guinea.

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There are about 400 reinsurers worldwide, including about 100 professional and about 50 Lloyds syndicates. The combined ratios of the 100 professional reinsurers climbed from 108% in 1988 to 111% in 1989 and 120% in 1990. Natural catastrophes accounted for 83% of the claims cost of major insured losses in 1990. For the previous 20 years the average was 57%.

Recent entrants, especially in Bermuda, have brought some capacity back to the market but, so far, not enough to offset the capacity lost. This is particularly true of the retrocession market which is still in a state of near collapse. Difficulties in the retrocession market cause acute problems for reinsurers and serve to restrict the capacity of those still prepared to write catastrophe covers.

In turn, this has led to the imposition of strict natural exposure probable maximum loss limits or caps for catastrophe reinsurers such as ourselves and to a more exacting approach towards the measurement of those PMLs.

One consequence of this is the refusal to continue to provide unlimited earthquake protection by proportional treaties. We simply must be able to calculate our liabilities.

So here we are, another year-end season for treaty renewals. Against the backdrop just described what can insurers expect? My guess is that the renewal season will be difficult. For example, some proportional treaties are beyond redemption.

For the first time ever in Canada, to my knowledge, some proportional treaties will only be renewed with zero or even negative commissions. Proportional treaties will also have occurrence limits imposed. This will shift natural perils exposures to catastrophe excess of loss treaties and will increase the cost of these treaties.

The use of occurrence limitation clauses in proportional treaties will have little or no impact on the industry's capacity to write personal lines insurance. Most of this business is already retained for the net account of most insurers and is therefore hardly ever ceded to surplus treaties.

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Commercial business however, may be subject to some shrinkage of market capacity. This should not be a problem, if current competitiveness is any indication, there is an abundance of such capacity.

In addition to the increased cost of receiving exposures from proportional treaties, the cost of catastrophe excess of loss reinsurance will increase by at least 15 to 20% this year end to reflect the ongoing inadequacy of original rates. I think that the amount of capacity available will be roughly the same as last year because of the increased capacity now in Bermuda.

Where now?

We cannot go on like this forever. We must rehabilitate commercial property insurance as a product, and stop the blatant cross subsidization that has been a feature of this market for the past three years.

We must also deal intelligently with the earthquake problem. There is much that we can do;

- First, we must charge appropriate insurance premiums for natural peril coverages. You would be amazed how affordable reinsurance would become if you charged the right insurance premium in the first place.
- Second, we must use intelligent deductibles to limit our losses and thereby increase our capacity to offer more

insurance to more people. Fixed dollar deductibles make no sense for natural perils, surely a deductible equal to at least 5% of insured values is not too high for once in a lifetime events? Since most losses are partial losses, such deductibles would significantly reduce an insurer's earthquake PML.

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- Third, we must use sub-limits to contain our exposure to affordable limits. We cannot give as much insurance protection to each insured for natural perils losses as we can for fire or other perils less likely to affect a large number of insured properties in one event. Again, this would beneficially reduce earthquake PMLs.
- Fourth, it may be necessary to restrict writings in areas exposed to severe earthquakes.
- Fifth, we should continue to lobby for tax free reserves for natural perils. This is not as common as you might think but that should not stop us especially after we get our act together for the four steps already mentioned.
- Sixth, continuing the tax theme, why not also lobby for favourable tax treatment of premiums paid by businesses and individuals for natural perils. Such encouragement of insurance against natural perils losses would reduce the cost of uninsured losses.

I am sure there is more we can and should do. We are only limited by our willingness to get on with it. You will be pleased to know that the Insurance Bureau of Canada has a committee working hard on these issues, and that there seems to be more determination, than ever before, to come to grips with the threat posed to all of us by severe earthquakes in British Columbia or in Quebec. For the moment however, we live either in very difficult or in very exhilarating times.