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# Property and Casualty Reinsurance

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Aller au sommaire du numéro

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Résumé de l'article

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# Property and Casualty Reinsurance*

by

**Christopher J. Robey****

*La période de renouvellement des traités de réassurance approche. Elle s'annonce plutôt calme même si les changements survenus depuis 5 ans dans le domaine de la réassurance au Canada sont sans précédent.*

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The coming reinsurance treaty renewal season looks like being the quietest we have had in some time. But the last five years have seen more change in Canadian reinsurance than the twenty years before that. Some of these changes were purely Canadian, others the result of pressures in the worldwide reinsurance market. I shall look at these changes and the impact they have had on our business to-day.

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* Delivered at a seminar organized by KPMG Peat Marwick Thorne on November 1, 1994.

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The two major insurance lines in Canada are automobile and property and it is in these lines, for the most part, that the changes have come. So, at the risk of upsetting any specialists here to-day in the other lines, I shall concentrate just on these two. I shall also take a look at changes in the insurance and reinsurance markets. Finally, I shall discuss the pressure these changes put on the reinsurance community—insurer, reinsurer and broker—including pressure for better understanding, design and documentation of the reinsurance product.



## Property

For reinsurance purposes, property can be split into two parts, individual risks and catastrophe.

### Individual risks

The single risk exposure is reinsured either through a surplus contract or a per risk excess contract, or a combination of the two. Most of the risks reinsured are commercial so we can look to the commercial property market for an indication of where the individual risk reinsurance market has been and is heading.

From 1990 to 1993, the commercial property loss ratio was 76.78%, according to the IAO Quarterly Report. Given these primary results, the last few years have been marked most clearly by reinsurers refusal to continue supporting insurers' unwillingness to do something about them. However, so drastic have been the changes in reinsurance terms that reinsurers will be ready to renew all but the very worst surplus contracts in 1995 on the same terms as for 1994—it is the ceding companies which are wondering now if they are worth renewing.

What have these changes been?

First and foremost, minimum commissions are now much lower than the ceding companies' expenses, or even their acquisition costs. At the same time, capacities have been reduced. When this was not enough to persuade insurers to

improve their underwriting, loss participation corridors were introduced. Typically, these require the ceding company to pay half the losses normally recoverable from the surplus between a loss ratio of 80% and 90%, effectively reducing the true commission by 5 points. Any company which did not calculate its commission adjustment quarterly in 1993 probably had a jolt when it did the final adjustment at year-end.

Despite this year's results so far, however, all indications are that commercial property is seeing a slow recovery. In fact, the first quarter was the real problem this year, with a loss ratio of 87.50%. The second quarter was back down to a more normal level—for recent times—of 74.43%.



Even from 74.43%, it will take a further across the board rate increase of 15% after inflation to get down to the 65% loss ratio probably needed for insurers to break even. Increases of that size seem to be more common now, but even if competition does not break out again, always a doubtful scenario when slow economic growth generates little genuine new business, it will be 1996 before we reach break-even. To be practical, though, we have not had a quarter under 70% since the third quarter of 1990 and the chances of putting together six consecutive quarters below 70% without competition kicking in again seems remote.

There are still plenty of surplus contracts in the market, but as I said, at to-day's terms it is ceding companies wondering if they are worth renewing. Even if loss ratios do come down to 65%, the loss carry-forward provisions in profit commission formulae will keep commissions at the minimum level for a few years and reinsurers will be reluctant to give up their hard-fought for gains of recent years for what history suggests could be a short period of profit. More likely they will choose to give up the deficits so that ceding companies can share in the profit they will be ceding to reinsurers. The alternative is a much greater shift to per risk contracts.

This is not an attractive proposition for either party because a per risk produces a radically different exposure to loss for both insurers and reinsurers.

For insurers it takes away a cushion for the effects of poor underwriting, since these effects are no longer shared with reinsurers. The full impact of under-pricing falls on the insurer.

Most cases we have looked at suggest that an insurer would be better off with a surplus contract at 0% commission than a per risk contract. That equation would change at better gross results, but a surplus contract adapts automatically to changes in the market, providing capacity and support only as needed. Capacity provided by a per risk contract is paid for up front, even if it is never used and support is limited to the largest losses, not the great bulk of them. In addition, changing to a per risk structure will increase the catastrophe exposure on the net account and force the ceding company into the market for higher catastrophe limits, not a cheap proposition to-day.



For reinsurers, the attraction is more one of control over their own fate, since they price their own risk, rather than relying to a great extent on the pricing of their ceding company. Reinsurers can price surplus contracts through changes to the commission, but the rating of per risk is a much more direct method.

However, per risk produces less predictable results and reinsurers could see their loss ratios swing with much greater volatility. This may be preferable to high loss ratios from surplus contracts, but when commercial property business makes money—assuming one day it does—reinsurers will have lost the opportunity to ride along with it. And at to-day's low commissions, reinsurers come out ahead even when ceding companies are losing money.

Reinsurers will also see a reduction in their premium base—per risk premiums may be only a tenth of the surplus premiums they replace. Since per risk is no cheaper to administer, reinsurers' net expense ratios will go up and increased pressure on administrative costs will follow.

**Catastrophe**

While the individual risk market has had its problems, it has been the result of local market pressures. The disruption of the catastrophe market has been the result of international pressures.

I shall not go over the list of catastrophes in recent years, both natural and man-made. Anyone in our business has surely heard them often enough now. Suffice to say that hurricane force winds in the United Kingdom and other parts of Europe in October 1987 blew in a worse series of disasters for property insurers and reinsurers than even the most pessimistic would have predicted.

Hurricane Andrew in 1992 was the worst of the series, costing insurers and reinsurers about U.S.$15.5 billion. By comparison, 1993 seemed quite tame, but still produced the March Break blizzard for nearly $2 billion and the mid-west floods for nearly $1 billion.

1994 has been quieter again in terms of numbers, but the Northridge earthquake has made up for that in size, with a current estimate of more than U.S.$10 billion. Clearly the pattern of the last seven years is not an aberration but the new norm.

We have not been without our losses in Canada either, though nothing on the scale of those in other countries. Nevertheless, we have seen three losses in Canada costing the industry over $100 million—the Edmonton tornado of 1987 ($148,377,000), the Calgary hailstorm of 1991 ($342,745,000) and last year's Winnipeg floods (estimated at $160,000,000, excluding damage to vehicles insured by the Manitoba Public Insurance Corporation). There have been four others since 1990 costing over $20 million each, close to 0.5% of the industry's annual property premium income.

Again it has been quieter this year, with no one loss standing out. Nonetheless, we have had three approaching the $10 million level as well as plenty of hail, although this year the hail hit crops not buildings. But just in case we were getting

complacent, the papers reminded us that this year is the fortieth anniversary of Hurricane Hazel, a repeat of which would do more than $1 billion of insured damage to-day.

These losses, international and Canadian, have resulted in major changes in the catastrophe reinsurance market.

One change has been the introduction of an occurrence limit in most surplus contracts. The purpose of the occurrence limit is not to improve the results of the contract—for the most part, they are higher than the largest loss the contract has suffered. Rather they result from the need of the reinsurer to have a better idea of what its natural perils exposures really are and its desire not to protect them for free. A by-product is the transfer of part of the catastrophe exposure from surplus contracts to the net account, to be protected by the excess of loss catastrophe program.



Catastrophe retentions are now higher, partly to escape the higher prices, but also to free up some money to pay for the higher limits many insurers have come to realize they need.

One result of all these changes is a different split of loss between insurers and reinsurers. Insurers to-day are paying much more for much less. As a result, their share of a catastrophe is greatly increased from just a few years ago.

A billion dollar loss does not shake up the international reinsurance community anymore—even three or four one billion dollar losses a year will not have a big impact on the catastrophe market, such is the level of retentions and pricing. The initial reaction to the Northridge earthquake was largely that it should stop, or at least slow, the expected slide in catastrophe prices this year. Although the estimated loss has increased six-fold since then, the reaction has not grown proportionately and we are still expecting some price reductions on the higher layers of catastrophe programs for 1995.

Of course, this does not mean that smaller losses would not have an impact locally. Certainly a $1 billion loss in Canada would push prices higher, close to those paid in other parts of the

world where major losses are more common. In fact, the process we have been going through over the last few years is really one of bringing Canadian prices up to the level where we contribute our share to the world pool of catastrophe premiums.

A study done by Canadian Reinsurance Company shows that the average cost of a catastrophe program has increased 222% between 1990 and 1994. For top layer coverage—earthquake only for most companies—the price has gone up by an average of 284%.



That prices are now at world-wide levels is evident from the markets which are now interested in writing Canadian catastrophe contracts, more than replacing those which have withdrawn from the market in the last few years. I shall look a little more closely at these market changes shortly, but it has to be noted that most of the markets which have pulled out were licensed, while most of those which have replaced them are not.

Unlicensed reinsurance can be a problem and we do not see it often to-day in proportional contracts or low level excess of loss, which generate policy and claims reserves. However, in the higher layers of catastrophe reinsurance, where most of the new markets play, there can be an advantage to having reinsurers which get only a little of their business from Canada and do not rely on the Canadian economic system for their operations.

Imagine the state of Canadian financial institutions in the weeks after a major earthquake in Vancouver, not just insurance companies but banks, the securities market, public institutions, just about any organization which impacts our daily lives.

The insured loss could be $10 billion and the economic loss more like $20 billion. The value of the dollar will fall quickly. So will stock markets and the value of bonds issued by the British Columbia government and their crown corporations. Insurance companies are staffed for normal everyday events, and to-day staffed at the minimum even for them. After Hurricane Andrew, Allstate sent adjusters from its Canadian company to Florida to help out because an American company even of that

size—about the same size as the entire Canadian property/casualty market—did not have enough people to deal with the losses.

Suffice to say, the maximum effort will be required from everyone just when they are least able to provide it. But a reinsurer in Bermuda or Tokyo, with only a small part of its business affected by the loss and an even smaller part of its investments in Canada, will barely be affected at all. So unlicensed reinsurance for a major natural catastrophe may not be such a bad thing. I am not suggesting that Canadian reinsurers would be unable to pay their losses. These same reinsurers have to contemplate insured damage many times greater from a California earthquake or an east coast hurricane. And even they are tiny compared to the loss from an earthquake in Tokyo Bay.



The changing market for catastrophe cover has had another impact on Canadian insurers. Just as reinsurers have introduced occurrence limits in surplus contracts to control their exposure, so they have insisted on knowing better what their exposure is under catastrophe contracts. They already have an occurrence limit of course, but now they want to know how likely they are to reach it.

Insurers must provide their exposures by Cresta zone for earthquake, with exposure to wind in the Golden Horseshoe around Lake Ontario an issue for some.

Computer models for estimating the total sum insured and probable maximum loss for an earthquake have become available in the last couple of years. The one most popular in Canada is the IRAS system from Risk Management Solutions, which is used by some of the largest property writers in the country. An eastern Canada system is now available to go along with their one for the West Coast and a windstorm system should be available soon. Interestingly, Risk Management Solutions consider a repeat of Hurricane Hazel to be so unlikely that they have not yet modeled it into their windstorm system, but I suspect that client demand will result in it being one of the early upgrades.

Of course, IRAS and the other systems are only as good as the accuracy of the model and the quality of the information entered into it. The models themselves are continuously being refined, based on actual experience. One thing discovered in the Northridge earthquake, apart from the existence of the previously unknown fault itself, is the potential for sprinkler losses. The risk of fire following has been well-known and estimates for it are built into some of the systems, but in Northridge, the fire losses were not that great. However they were added to by water damage in buildings which did not have a fire, because the earthquake itself set off the sprinklers. Another factor in this earthquake, which accounts in part for the very low original estimate, is the number of buildings which were found to be total losses only after repairs on what was thought to be minor damage were started.



Something else the models do not yet show is the effect of local hyper-inflation. It is no secret that it cost more to repair a roof just after the Calgary hailstorm than just before. Hurricane Andrew rescued the lumber business from recession and was of such a size that it has given the experts valuable information on the effect of local inflation on losses, which will also be built into future versions of the models. This local inflation effect is estimated at about 30% for Hurricane Andrew and 20% for the Northridge earthquake.

But these are all just models. We shall know the real cost after the real thing hits. Nonetheless, numbers of some sort are needed by reinsurers to-day and a company will pay higher premiums if it cannot produce them.

For 1994, the credibility of the numbers supplied by insurers was not a big issue. Reinsurers know something of the expert systems and have some feel for their credibility. The next step will be for reinsurers to start asking what went into the numbers and on what basis the probable maximum loss was calculated. The systems can give you a number for the quake of your choice, the key quake in the IRAS system being a 7.5 Richter on Vancouver Island. This quake has a ninety-seven year

return period and is estimated to have a 27% probability of happening in the next thirty years.

Reinsurers will also want to know if all the risks were entered into the system. Imagine you are the underwriter on the Royal Bank account. You have picked out the key locations—perhaps the main offices in Toronto, Montreal and Vancouver—and put them in the system. But what about the suburban Montreal branches? Or those in Richmond, B.C.? They are buried deep in the list of values and not really a part of your underwriting evaluation, but they are of great importance to your company's earthquake control system. Do you put them in? Today perhaps not, but you will have to soon or your earthquake costs will be surcharged for lack of credible information.



In addition to providing information for the placement of the catastrophe protection, of course, these systems can give the insurer an idea of the adequacy of its current reinsurance protection. A reinsurer speaking in Vancouver earlier this year took five large unnamed insurers as examples and concluded that each would lose more than its capital and surplus, after reinsurance recoveries, if an earthquake produced a loss of 5% of its total sums insured in Greater Vancouver. Even at 3%, they would all be in trouble.

We can expect a number of companies to be buying substantially higher catastrophe limits in 1995, perhaps increasing their retentions to help pay for it. On the other hand, there may be a few which will buy less, perhaps because their exposure turned out to be less than they thought, but more likely because the increased information now available to them has enabled them to re-underwrite their portfolio to reduce their business in the most exposed areas. Of course this business has to have gone somewhere; if your Vancouver production has been unusually successful this year, perhaps you should take another look at it.

The reason companies would prefer to reduce their catastrophe exposures instead of buying additional protection is a simple one of pricing. If a company writes a high-rise in

downtown Vancouver, it might get to-day a 10¢ rate—which is more than it would have got a year ago. For $100 of exposure, it collects 10¢ premium. If it pays 20% commission, it is left with 8¢. If the earthquake PML on the building is 25%, the company must buy $25 more catastrophe protection. We know that to-day it will cost at least 2% rate on line, or 50¢. Since it collected 8¢ premium, it has already lost 42¢ on the risk, and it has not yet issued any paper, let alone paid any everyday losses. Even if the earthquake PML is only 5%, probably a bottom figure for the Vancouver area, its catastrophe protection still cost 2¢ more than the net premium.



Some numbers derived from recent hurricanes give another view of the problem.

Losses from Hurricane Andrew in Florida and Louisiana were about five times the direct property premiums from these states in 1992. Losses from Hurricane Iniki were about ten times the premium from Hawaii and losses in South Carolina from Hurricane Hugo were also about ten times that state's annual property premium.

Allstate said that Andrew wiped out all the profit it had made in Florida in all lines of business in the fifty-three years it had been operating there.

The Caribbean presents an even more dramatic example of the dilemma. Natural perils reinsurance is still available but at a much greater cost than before Hurricane Gilbert in 1988. Non-hurricane years have to produce loss ratios in the teens to generate the profits needed to pay for catastrophe reinsurance. Governments are looking at setting up catastrophe funds to provide reinsurance capacity, but the only source of money, whether for a government fund or insurance premiums, is the local economy, and it is not large enough to supply those funds. It is doubtful that reinsurers would stay after another Gilbert if it comes in the next few years.

If an island gets blown down, it may stay down, unless other nations pay for the rebuilding. But what is the rationale for

rebuilding in an area which has demonstrated that it cannot support itself? There are wonderful hotels there on beautiful beaches, but if you own a hotel and it gets blown down, would you rebuild it or put your money into a cruise ship, which can still visit the beaches but can sail away from the wind?

Canada has some of the same problems and we may be forced to face them in the coming years. Insurance companies used to distribute catastrophe premiums to each province in proportion to the premium from that province. That was all right when top layer catastrophe cover cost $7,500 per million, but now that it costs three times that insurers must get a better idea of what the cost of doing business really is.



Probably only a British Columbia or Quebec earthquake exposes the top layer or two of protection for a national company. The next layer down is probably also exposed in Ontario to a repeat of Hurricane Hazel, or a hailstorm the intensity of the one which hit Calgary in 1991 coming down through Markham and hitting the 401 at five o'clock on a week-day.

The larger remaining provinces, particularly Alberta, would expose layers below that level. Prince Edward Island probably does not even expose the bottom layer for many companies.

If the top layer is only bought to cover exposures in British Columbia and Quebec, it makes sense to charge the whole premium to those provinces and see how much writing business there really costs.

But it is doubtful the British Columbia and Quebec economies could survive being charged the true cost of earthquake protection, so how much should people not exposed to major natural disasters subsidize those who are? For flood losses, the insurance industry has stopped being the source of such a subsidy, the price of flood insurance now being such that only those not exposed to it can afford it. This does not stop people from building in flood plains and governments still provide some subsidy through disaster relief funds.

Other perils offer different problems though, since they seem more subject to the whims of nature, rather than the inevitability of spring flooding in some areas.

With Alberta having a regular dose of small catastrophes, small in international terms that is, one might feel that the premium to cover them should come entirely from that province. Is the same true of the exposures created by the potential of an earthquake? Or is there an extra degree of hazard which British Columbia and Quebec cannot be expected to absorb?



It makes no more economic sense to build in the Caribbean, or Florida, or Los Angeles, or Vancouver, than it does in an area which gets flooded three years out of five, but we do, and we shall keep on doing so. And we shall all pay part of the cost, because it is a small price to pay for avoiding the upheaval which the application of pure economic sense would bring.

### Automobile

Enough of natural disasters. Let us discuss a man-made one—Ontario automobile.

The Ontario Motorist Protection Plan came into force in June 1990, but reinsurers did not come to grips with it right away. The basis of reinsurance did not change despite the major change in the product. This was mainly because the pricing barely changed either, so the alternative products, although they may have been technically better, were not competitive on price. Reinsurers finally increased their prices for the 1993 renewals and did a lot more preparation for 1994 and Bill 164 than they had for the original plan. Part of that was to bring in the actuaries.

There were several actuarial reports produced, none supposedly for general distribution, but it was a rare report which did not get bootlegged around the market. That was part of the problem, since none of the reports were prepared on the same basis or for the same purpose, so comparing them was like comparing apples and bananas. But compared they were, and by

the end of last year, we suffered from that computer-age disease—so much information that we seemed to know less than when we started.

I do not know if the current reinsurance pricing is right and we shall not know for a few years. But this is only the beginning and major changes in the way automobile is reinsured could be in the offing—even if the next change in government does not bring with it another change in the product.



There was some fuss earlier this year over life companies writing the personal accident part of Ontario automobile, although this has now been approved by the regulators. Actually, life reinsurers have been doing this sort of "carve-out" for quite a long time. The catastrophe workers' compensation market in the United States is dominated by life reinsurers, including some Canadian ones, and my firm has used them on Ontario automobile going back to 1990.

Whether written by life reinsurers or not, the first party bodily injury cover is sufficiently different from the old tort system that it is a mistake to assume that it should be reinsured the same way. It is also a mistake to assume that the right type of reinsurance for one company is also right for another. As a result, you will see different ways of reinsuring no-fault automobile in the future.

The biggest reinsurance problem to emerge from the change to no-fault is certainly the introduction of commutation clauses—not the idea of commuting but the wide variety of clauses and the interpretations being given to them. The Reinsurance Research Council has introduced a new clause this year which hopefully will bring more consistency, although the Canadian Re has also introduced a new clause which is not quite the same as that of the RRC.

Clauses in use since 1990 are triggered after anything from three to seven years after the accident; some clauses commute the whole treaty while others only commute individual claims; some clauses commute the claim before applying the deductible

and others commute the reinsurers' liability after the deductible has been applied. Some of the clauses kick in without doubt, others only if the circumstances are right and still others only if the ceding company wants them to. Few say how disagreements between the ceding company and reinsurers will be handled and none say how disagreements between reinsurers will be handled.

The difficulty is going to be one of expectations. Since 1990, reinsurers and ceding companies alike have had time to think about what should happen and they do not all agree. Even amongst reinsurers there is a wide variety of expectations. The first commutations may come in 1995 and we shall all be eagerly awaiting their outcome. However, since they will be private affairs between the ceding company and its reinsurers, we shall only learn slowly unless some body, perhaps the Reinsurance Research Council, publishes some sort of report on them which protects the privacy of those involved, not least the original insured, while educating the rest of the market.



Hopefully for 1995 the reinsurance structures will settle down. Everyone has had a full year now to study the impact of Bill 164 and look at the interplay between per person and per occurrence carve-out covers and the main programs they supplement, so structures now should be sounder and ceding companies should have clearer explanations of what they are buying. Nonetheless, it is difficult for any of us to grasp the interplay of per person and per occurrence covers, with reinstatement limitations and warranties as to how many people must be injured for the cover to apply, so programs need to be tested carefully against loss models to make sure they provide adequate protection for the particular portfolio of the ceding company.

While structures should settle down, it is unlikely that prices will. It was reported in Thompson's World Insurance News that a recent study suggests the cost of reinsurance excess of $1 million should be about half that calculated by IAO Actuarial Services a year ago, although no direct comparison of the two studies is yet available. Interestingly, the IAO study

estimating the higher cost was commissioned by reinsurers, while the more recent one estimating lower costs was commissioned by a group of insurers.

After such a short time with the new product, reinsurers are not likely to be sympathetic to claims that they are overcharging. Insurers, on the other hand, are sufficiently disillusioned with the experience with no-fault in Ontario that they are backing off their push for it in the Atlantic provinces, so they will be looking to reduce their expenses in the class wherever they can, and reinsurance is a major expense.



Since there are no burning issues in property and liability for the reinsurance market this year, it looks like Ontario automobile will easily hold on to its position at centre stage.

### Changes in the reinsurance market

Enough of changes in the reinsurance product. Let us now look at changes in the reinsurance market. To realize the extent of the changes in the last few years, it is worth going back to the sixties, the early days of a truly Canadian-based market.

In 1966, the largest reinsurance operation was the Sterling Offices Group, consisting of eleven branches of foreign companies, including Abeille, Great Lakes and Storebrand, which are still operating to-day, although independently and, in the case of Storebrand, under the name of Christiania General.

Mercantile & General followed the Sterling Group in size, then came Canadian Re and General Re. Munich Re of Canada had less than half the volume of Mercantile & General and Canadian Re, but the Munich Re Canadian Branch was still part of the Sterling Group, so the Munich Re Group was getting business from two sources.

Treating the Sterling Group as one reinsurer, there were about eight licensed companies in Canada writing strictly reinsurance, and perhaps two or three others, including Lloyd's, writing both insurance and reinsurance.

You will have to forgive me for not being precise on these numbers but the information available back then was not too precise either and I am relying quite a lot on my memory.

I am more confident of the recent numbers though.

In 1988, there were fifty-seven companies writing reinsurance on a licensed basis in Canada, forty-nine writing reinsurance only and eight writing both insurance and reinsurance.

By 1991, that had dropped to fifty. Three new reinsurers had arrived, but ten had left.



Between the beginning of 1992 and now, thirteen more reinsurers pulled out of the market, while five moved in—two others both arrived and left in that short period. In total there are eight fewer reinsurers active now than in 1991 and fifteen fewer than in 1988. Only forty-two companies write reinsurance on a licensed basis in Canada to-day, a loss of more than a quarter in numbers since 1988. Of those forty-two, eight are only minor players, leaving thirty-four truly active licensed reinsurers.

And the ones which left are not just the smallest. In 1991, Skandia had the ninth highest gross reinsurance assumed, National Re the thirteenth, NW Re the nineteenth, Royal Re the twenty-first.

It was not just Canada the reinsurers withdrew from, but reinsurance. Of the twenty-five companies which have pulled out of the Canadian reinsurance market since 1988, only nine are still writing reinsurance somewhere, and usually on a much reduced basis.

In many cases, another company took over the portfolio of the departing reinsurer. This has meant that the capacity available at the level of the individual risk is still adequate, but there is less competition. At the catastrophe level, it represents a significant reduction in the total capacity available, undoubtedly one factor accounting for the sharp rise in catastrophe prices.

And none of this includes the reduction in capacity available from Lloyd's, which is probably the equivalent of losing another Skandia. Three years ago, there were about a hundred and sixty syndicates writing Canadian reinsurance. To-day there are about sixty. Three years ago there were ten to fifteen strong leads; to-day there are seven. Three years ago you could expect to place $120 million on a competitively priced catastrophe program in Lloyd's. To-day, for a top priced program, you could place $80 million; less as the price becomes more competitive.



**New markets**

I mentioned that five of the licensed markets active now are new since 1992. However all but one are amongst the minor players. Most of the new capacity is unlicensed and most of that is from the new catastrophe markets in Bermuda.

Mid-Ocean was the first, being set up in 1992. The others followed last year. There are now eight of them, with combined equity of U.S.$4 billion and total capacity per program of about U.S.$180 million. The whole capacity is rarely used, certainly not on Canadian programs where the rates are still below what is available in other parts of the world. Nonetheless, these new markets have written significant lines on some Canadian programs, usually in the top end where there have been no prior losses. If they like a program, a total $50 million authorization is not unusual, although, as new markets, they would not usually have got that much for 1994. For 1995 though, they may well be able to write that sort of line on new top layers.

There is a lot of speculation over how long these markets will be around. Most of the money comes from pools of capital managed by major investment houses and it moves easily from one investment to another looking for the best return, and reinsurance has not been famous for its returns.

The managers have suggested returns in the 20% range and to achieve this the companies will have to write a lot of business with a good international spread and not too many multi-billion

dollar losses. The feeling is that they did not write as much as they thought they would for 1994 and this has caused concern amongst other reinsurers that they may start pushing down catastrophe prices and perhaps get into other classes. Ironically, if they had been successful in writing more, they would have had a bigger loss from the Northridge earthquake, which might have slowed them down a bit.

If their investors cannot get the sort of return which they have aimed for, they will move on and either sell their investment or cash it in for a distribution of the profits realized. If they have stuck to catastrophe business, it will not take long to wind them up.



This possibility is decried by traditional reinsurers as being against the long-term nature of the reinsurance relationship, particularly in catastrophe business where one has traditionally worked at building a bank with one's reinsurers. On the other hand, twenty-five percent of the traditional market has packed up and gone home since 1988, which weakens this argument considerably. NW Re was one of the main writers of catastrophe business and trying to draw on that bank for future losses is a waste of time.

The fact is that catastrophe needs around the world to-day are such that individual markets cannot support themselves. The idea of an individual insurer building a bank with its reinsurers has been replaced by the need for each market to contribute to the international pool of catastrophe premiums, based on the reinsurers' measure of its potential for drawing from that pool. It sounds a lot like the definition of insurance, which perhaps is not such a bad thing.

Because of this, markets coming in and out make placing the business more difficult, but they do not take away a lot of money which really belongs to someone else. Of course, we would prefer not to place business with a market which may not be offering renewal, but we often do not have that luxury to-day, so speculation on the long term future of the new Bermuda markets is more an intellectual exercise than a practical one.

### Changing ownership

It is of course not only the reinsurance market which has seen a major change in its make-up in the last few years. Mergers and acquisitions amongst insurers have been commonplace and are continuing. This year alone we have seen the Bank of Commerce buy the Personal, AXA buy the Boréal, Kohlberg, Kravits, Roberts buy Canadian General and Fairfax Financial buy Continental Canada. The four companies purchased had direct written premiums in 1993 of $1,636 million, 10% of the market.



We do not have to go back far to add General Accident and the Prudential and the Royal and Sun Alliance to the list. Not long before that, we have Zurich and Travelers, ING and Commerce Group, Dominion of Canada and Safeco, and others.

Groups are also consolidating their operations, some merging purchased operations into their existing ones and others reorganizing long-standing multi-company arrangements into a single entity. There is no reason to believe that this trend to reorganizations and acquisitions will not continue and we can expect the number of companies supplying insurance in Canada to continue diminishing. In time, I suspect we shall become a market of large national carriers and smaller niche companies, the niche being based either on product line or geographic region. The future for the smaller general insurer is difficult at best, except perhaps in Quebec.

### Financial reinsurance

Not only the market has changed, but the traditional types of reinsurance are under pressure from more recent innovations, generally going under the name of financial reinsurance. Financial reinsurance is really its old name; to-day it is more likely to be called non-traditional or finite reinsurance, but none of the names really describes it well.

Originally financial reinsurance was designed to manipulate the balance sheet, while traditional reinsurance

looked after the famous four functions—financing, stabilization, capacity and asset protection. The main difference was that traditional reinsurance involved the transfer of risk while financial reinsurance moved the financial consequences of risk from one year to another.

As regulators have insisted that financial reinsurance transactions involve a transfer of risk, and defined more what constitutes risk, the types of contracts and the name of the product has changed. However, at the same time this type of transaction became more difficult to do, a whole market specializing in doing it has grown up. This market is now well established, primarily but not exclusively in Bermuda, and the game of "beat the regulator" is still a popular one.



In the United States it is an easier game to play, since, although the regulator regularly changes the rules, at least the participants are told what the rules are. It is more difficult in Canada, since here all we know is that we cannot do it, but no-one will tell us exactly what "it" is. Generally speaking, if you can do it in the United States you can probably do it here, but that is not guaranteed, and if you cannot do it in the United States you probably cannot do it here, but that is not guaranteed either. You always have the option of putting the contract together and then asking the regulator to approve it, but just asking suggests you have your doubts about it and your chances of approval have dropped right away.

Retrospective covers, such as loss portfolio transfers, are no longer possible under American rules, although they may be in Canada. However, since the specialist markets design products primarily for the United States, the most common product to-day is a catastrophe funding cover. I have had two reinsurers visit me in the last month to talk about financial reinsurance and one showed me their funding product which I was assured met all the American rules, while the other told me that, despite what some reinsurers are saying, no-one has really found a way to do it.

It is still a terrain full of potholes and land mines, and not one to enter into without great care. A reinsurance broker can

answer some of the questions, but accounting and tax experts are equally important in putting together a contract with a chance of standing up to scrutiny.

### Alternatives to reinsurance

However, we are now moving beyond financial reinsurance. Back in 1991, when the catastrophe capacity worldwide had been greatly reduced by the collapse of the retrocession market and the withdrawal of some reinsurers altogether, my company came up with a way to use bonds to replace earthquake catastrophe covers. The idea was to attract capital which would not normally be available for reinsurance purposes by taking the risk to the capital instead of waiting for the capital to come to the risk. We never used it, but I still think it would work. At about the same time, we discussed the possibilities of counter-investing to offset the costs of an earthquake. After all, not everyone loses in a disaster; construction companies and lumber mills will be unable to keep up with the demand. Counter-investing has only limited applications, but both ideas are examples of the growing trend in reinsurance protection—protection which is not reinsurance.



Companies have long made use of a variety of investment tools in their asset management, including more recently derivatives, a term which seems to cover a whole gamut of products I do not understand. A life insurer, Investors Equity Life, was seized by the Insurance Department of Hawaii in June of this year because it was over-exposed to derivatives. However, the use of derivatives is spreading from the asset side of the balance sheet and turning up as a way of managing liabilities. While reinsurance will remain the main financial method used for liability management, it is no longer the only one available.

The first major step was taken by the Chicago Board of Trade with the introduction of catastrophe futures in December 1992. The original futures contract is not the most popular tool,

however; far more popular is the catastrophe spread using options on the futures.

I understand there is also an over-the-counter market developing for such things as swaps, caps, floors and collars, whatever they are. It is expected that a market will develop shortly for derivatives on United Kingdom and European insurance risks. And a former New Jersey insurance commissioner is attempting to organize a catastrophe risk exchange where, for example, an east coast insurer could swap exposure to windstorm for a west coast insurer's earthquake risk. This is closer to reinsurance than the other products, in fact it is similar to reciprocity, one of the earliest forms of treaty reinsurance. A key difference, however, is that there would be no premium changing hands, a daunting prospect for a broker who lives off a percentage of the premium.



All this sounds too exotic for the average insurer and is certainly too much for the regulator, but some of the new owners coming into Canadian insurance—the banks, Fairfax Financial, Kohlberg, Kravis, Roberts—are more familiar with these types of financial instrument and may be more ready to make use of them than the traditional owners. We can expect therefore that those products which stand the test of time will become a part of our business.

## Technical expertise

To finish up, let us look at the demands all these changes make on the expertise required of insurers, reinsurers and brokers.

I have already talked about the commutation clauses in use for Ontario automobile and sorting them out when the time comes will not be easy.

Loss participation clauses and occurrence limits under surplus property contracts are other developments which must be carefully integrated into a reinsurance program and the contract wordings which document it.

The option of placing earthquake only layers sitting on top of full property catastrophe programs is something which must be designed properly to avoid gaps in cover. The same is true of the accident benefit carve-outs in automobile.

Canadian companies regularly flirt with financial reinsurance, a minefield even for the experts, although a lot more get talked about than get done.



As I said at the beginning, there have been more technical changes in the last five years in Canadian reinsurance than in the twenty years before that. It is essential that those responsible for buying reinsurance in an insurance company have some understanding of how these things work, although they will usually rely on a broker's advice for the details. This makes it more important than ever that the broker understand the new products. And the reinsurer must have a good understanding of them as well, first to price them and then not to say, when a claim occurs, "I didn't realize it worked like that".

But the technical training of many of those working in the market to-day has been neglected, their employers relying on their picking enough up on the job to manage. Insurers have a wide choice of problems on which to spend their time and reinsurance is rarely the most pressing, except at renewal. Brokers have traditionally been better at public relations than the technical stuff, because that used to be what got the job done.

Some reinsurers have always had a strong technical bent, but more and more of them have only a small staff in Canada, if any, and have increasing pressure on their expense ratios, which discourages strong local technical teams. I talked earlier about the effect on reinsurers' expense ratios of the gradual switch from property surplus contracts to per risk excesses and this will not help the maintenance of the technical back room.

All this is happening when the need for strong technical work is greater than ever. Contract wordings have never been the strong suit in the reinsurance industry, either their quality or their timeliness, and, although there has been some improvement in

recent years, our performance is still well below what it should be. And yet, it is ultimately to the contract wording we shall look to understand these new clauses and program structures, particularly if not everyone understood the same thing when they were being put together.

It is an area where the greatest emphasis has to be placed in the next few years and only those who respond to the challenge of technical excellence will stay out of trouble.

## Conclusion



So there is a tour of the Canadian reinsurance market of to-day. It is a lot different from that of only five years ago and the changes are still under way.

The need for strong professionals has never been greater and the economics of keeping them never tougher. But it is those companies which can successfully apply their imagination to the world around them which will prosper and this is true not only of insurers but reinsurers and reinsurance brokers as well. But imagination alone is not enough. The solutions have to work.