Can Insurance Keep Up With Catastrophic Weather Losses?

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What's going on?

Canada's property and casualty insurers paid record claims of $3.2 billion in 2013. In excess of $2.6 billion of these claims were attributable to catastrophic weather events. Claims of this magnitude are somewhat to be expected since payouts due to severe weather events in Canada have been increasing since the 1980s (Figure 1). Windstorms, snow storms, ice storms, thunderstorms, tornados, hail, heavy rains, flooding, droughts, and forest fires are causing such catastrophic losses. Many insurance underwriters agree that these hazards seem to be occurring with greater regularity and greater severity than in the past.

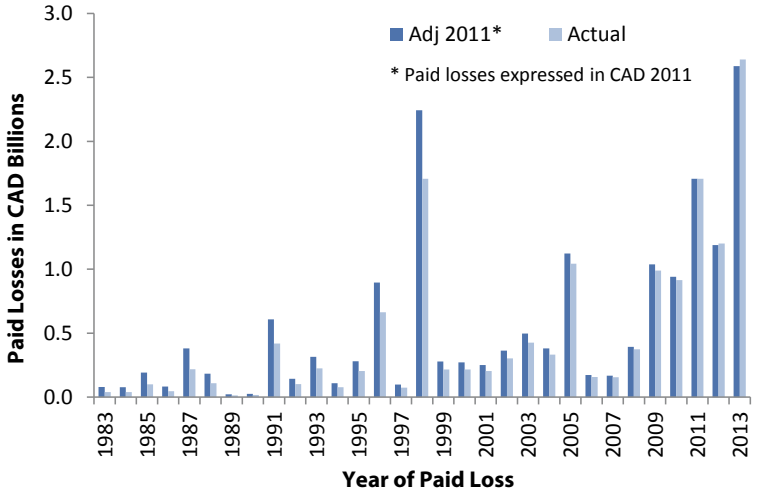

Figure 1: *Canadian catastrophic paid losses (in CAD Billions) are showing a general increase over time*[1].

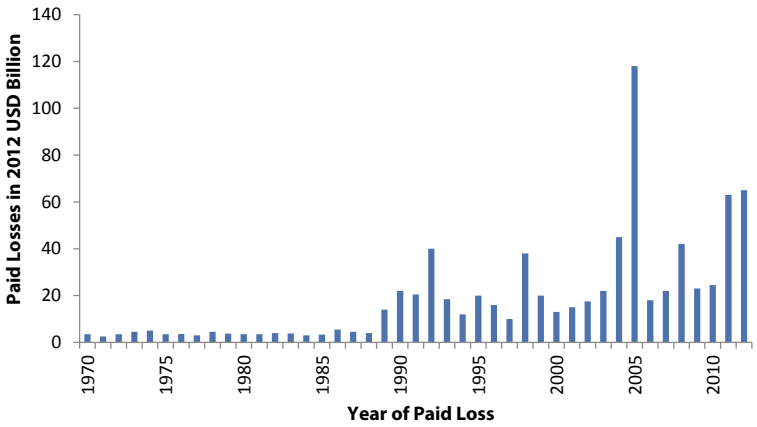

Figure 2: *World-wide catastrophic paid losses*[2].

World-wide insurance claims for catastrophic weather events have also been increasing (Figure 2). In 2012, widespread drought in the American mid-west created a claims response of 17 billion USD and Hurricane Sandy on the eastern seaboard created a claims response of 25 billion USD.

In general, insurance claims due to catastrophic weather events have been trending up in both Canada and in the rest of the world. The question is, can insurance keep up with these catastrophic weather losses?

What's coming up?

Insurers are for-profit entities. Therefore insurers will need to adjust to the increasing claims paid for losses due to catastrophic weather events in order to keep profits intact and maintain business solvency. Insurance profits are determined with the equation:

"insurers will need to adjust to the increasing claims paid for losses due to catastrophic weather events"

Insurer Profit = Premium Income + Investment Income - Claims Paid - Operating Expenses.

Since investment income and operating expenses are generally unrelated to weather losses, the places to look for insurer's adjustments are:

1) increasing premiums commensurate with increased claims paid;
2) managing claims exposures by increasing deductibles, reducing coverage limits, introducing exclusions for certain weather-related losses (e.g. exclusion for property damage due to overland water);
3) requiring technological upgrades for policyholders (e.g. improved infrastructure for handling sudden large volumes of water).

Does this matter?

All of this matters because, in one way or the other, it costs more money to the individuals and firms with exposure to catastrophic weather risk. Premiums become more expensive, individuals and firms are left to self-insure a greater portion of the losses, and costly technological upgrades become necessary to reduce the severity of the losses.

Table 1 shows the catastrophic losses in 2012 and the extent to which they were self-insured. In North America, roughly half the losses were self-insured and the other half was laid off to insurers. In other jurisdictions the self-insurance proportion is higher. If firms and individuals do not have the appetite or capacity to pay higher premiums to cover increased claims for weather events, the self insurance portion of losses will need to rise.

Can insurance keep up?

Aside from turning back the clock on increasing regularity and severity of catastrophic weather events, insurers can keep up with increasing claims by increasing premiums to policyholders, by requiring greater self-insurance by policyholders, and by requiring policyholders to adopt technological methods of mitigating weather losses. All of these adjustments will cost more money for individuals and firms exposed to catastrophic weather risks because in the end it is these individuals and firms who bear the costs. This will also affect agricultural costs on the Prairies.

Table 1: *World-wide catastrophic losses, total and insured (2012)*[2].

Jurisdiction	Total Loss (Billions USD)	Insured Loss (Billions USD)	Insured Loss as % Total Loss
North America	118.5	64.6	54%
Latin America & Caribbean	4.2	.9	21%
Europe	26.8	5.5	20%
Africa	1.5	.2	13%
Asia	30.5	3.4	11%
Oceania / Australia	1.1	.3	27%
Seas & Space	3.1	2.4	77%
TOTAL	**185.7**	**77.2**	**42%**