TAKING THE PLUNGE: FLOOD INSURANCE AND CANADIAN HOMEOWNERS

WHEN ONE THINKS OF PROPERTY INSURANCE, the peril that usually comes to mind is fire. This has always been true: the first property insurance policies were introduced for protection from fire following the Great Fire of London in 1666, and the first modern fire departments were operated by insurance companies.1

While fire coverage remains an important part of today’s home insurance policies, it is being overtaken by a rapidly growing peril: water damage. For example, water damage accounts for nearly half of the amounts paid for home insurance claims in Québec, more than fire and theft combined (see Figure 1), and one insurer reported an increase of 160% in the average cost of a water damage claim from 2000–2010.3

The rise has been attributed to several factors, including:

• More severe weather events. Across Canada, annual mean precipitation has increased by about 12% over the past 50 years.4

• In some areas, municipal infrastructure is being operated beyond its intended life and capacity5 and is believed to be inadequate for the demands being placed on it, particularly during severe weather.

• Lifestyle and behavioural changes—more finished basements, homeowners’ increasingly busy lives, and less attention being paid to maintenance and prevention activities.

WHAT IS COVERED?

Home insurance policies in Canada typically cover some, but not all, causes of water damage:

• Water main breaks or overflowing/leaking sanitary installations (e.g., hot water tanks, washing machines): damage is covered by the basic homeowners’ policy.

• Water entering the home through sewer system backup: covered by an optional endorsement, which might require the installation of a device to prevent any damage.

• Seepage of surface water, caused by heavy rainfall or snowmelt overwhelming drainage systems: covered by an optional endorsement, but only in Québec. Coverage is generally not offered in other provinces.

• Flooding when a river, lake, stream, or other body of water overflows is not covered by any home insurance product that is widely available in Canada. Many industrialized nations, including all other members of the G8, have residential flood insurance programs operated either by government agencies, insurers, or a combination of both.6 Several Canadian insurers offer flood as an optional coverage, but only on commercial property policies.

When homeowners are exposed to potentially catastrophic risks for which no insurance coverage exists, the situation is undesirable from a public interest perspective. Furthermore, the rules governing

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1. Investopedia: bit.ly/sbr31
2. The CIA: bit.ly/sbr32
3. ILSTV: bit.ly/sbr33
what is covered are nuanced and generally poorly understood by the public—as demonstrated by coverage disputes following the 2013 flooding in Calgary and southern Alberta.\(^7\) Not only are many Canadians uninsured for some types of water damage, they often do not discover this until their claim is denied, adding stress to an already traumatic experience. With no insurance available, homeowners are forced to turn to government disaster relief programs that may provide limited assistance and could take a long time to process claims. This is bad for insurers, bad for governments, and especially bad for homeowners.

Something must be done.

**WHY IS FLOOD INSURANCE NOT AVAILABLE TO CANADIAN HOMEOWNERS?**

Insurers price their policies by starting with the cost to them of the product being sold, then adding a mark-up to cover their expenses and a margin for profit. For many products (e.g., shoes), this calculation is straightforward. The difference with insurance is that the seller’s cost is unknown at the time the product is being sold; the insurance policy may end up being worth anywhere between a few million dollars and zero, depending on whether a claim is made (see Figure 2).

To fill in the unknown amounts needed to calculate the final price, insurance companies’ actuaries use statistical analysis to predict the likelihood of a claim and the average cost should one occur. The analysis must consider all risk factors specific to a given policy. For flood coverage, this would include information about the local geography, climate, and infrastructure.

In practice, such information is very difficult for insurers to obtain. Provincial governments produce flood zone maps, but they are for land use planning and are often not detailed enough for insurance use.\(^8\) At a time when insurers are increasingly automating their quoting and underwriting, the maps are not available in a machine-readable format that is standardized, country-wide, and easily accessible to the industry—each address, postal code, etc., must be looked up manually. Also, detailed infrastructure information is generally not published by municipalities. Furthermore, the research paper recently prepared for the CIA by KPMG, Water Damage Risk and Canadian Property Insurance Pricing, raises the possibility that factors such as climate change and deteriorating infrastructure may weaken the predictive value of actuarial models or analyses derived from past flooding events.\(^9\)

The quantity and quality of available information have a significant impact on the precision with which actuaries are able to set prices. With good information, the cost of claims can be predicted with a high degree of precision. Without it, estimates can be produced, but they may be rendered inaccurate by unforeseen factors or rapidly changing circumstances. Insurers have decided that the risk of mispricing is too much for them and their shareholders to bear.

**WHAT CAN BE DONE?**

Homeowners, the insurance industry, and provincial and municipal governments have roles to play in remedying the lack of flood insurance.

The most obvious solution is to make better information available to insurers assessing flood risk. This will require a long-term resource commitment as well as cooperation between the industry...

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and governments. For flooding caused by overflowing bodies of water, flood maps should be updated, made more detailed, and converted into data tables in a standard format that can be used by computers. For urban “flash flooding” caused by heavy rainfall overwhelming sewer systems, the Insurance Bureau of Canada is working with municipalities to develop the Municipal Risk Assessment Tool (MRAT).

The MRAT technology combines information about the community, current and future climate, and insurance claims to provide colour-coded maps showing where infrastructure is vulnerable. MRAT is currently in a pilot stage in three cities, with more planned to be added this year. The insurance industry and municipal governments should do everything possible to accelerate the widespread availability of MRAT data.

If and when flood insurance is made available to Canadian homeowners, it should be at “actuarial rates”; that is, each homeowner should be charged a price that fully reflects that home’s risk characteristics—a home in a low-lying area of Calgary should be quoted a higher price for flood coverage than a home on top of a hill in Newfoundland. The alternative is “cross-subsidization”: some homeowners pay more than the actuarial rates and others pay less. Cross-subsidization can be justified by maintaining affordability, simplicity, and/or perceived fairness on the part of the public—despite the fact that cross-subsidization is by definition unfair to low-risk policyholders by making them pay more than their fair share of the cost of claims. From an insurer perspective, the problem with such a system is that it requires that the actual mix of high- and low-risk homes in the insurer’s portfolio must closely mirror the expected mix; otherwise, the financial viability of the product could be severely impaired. The flood insurance product will be risky enough in its infancy due to the mispricing risk without the additional risk that would result from cross-subsidization.

The system of actuarial rating, while preferable, is not without its disadvantages. Homes in extremely high-risk areas or homes with past incidences of flooding could be priced at unaffordable rates or declined entirely, which could preclude those who need coverage the most from obtaining it—similar to the way auto insurance can be unavailable or unaffordable for high-risk drivers. The industry has addressed the auto insurance problem by creating two market mechanisms, either or both of which could potentially be adopted for flood coverage:

- **Residual market:** an “insurer of last resort” is established where applicants can find coverage unavailable in the regular market. Prices are high, but lower than full actuarial rates. The residual market is financially supported by an assessment that is charged to all insurance companies operating in the regular market.
- **Risk-sharing pool:** insurers sell coverage at prices that are sometimes less than full actuarial rates. The insurers keep properly-priced risks for their own books, and they send under-priced risks to an industrywide pool where all premiums and claims are shared throughout the industry. Insurers deal directly with policyholders on all claims and are reimbursed by the pool.

Last but certainly not least, the availability of reinsurance will be a critical piece of the puzzle. Reinsurance is a tool that insurers use to manage their own risk, essentially by buying insurance on their entire portfolio of policies. It is generally sold by large international companies, allowing for greater diversification of risk. A reinsurance company might cover potential floods in Alberta, earthquakes in California, and typhoons in Australia; therefore, it would have greater capacity to withstand a large catastrophic event than would an insurer with a less diversified portfolio. Flood insurance carries a high level of “catastrophe risk”, the risk that a single event (such as the 2013 Alberta flood) will damage a large number of insured properties simultaneously and cause a huge financial loss to the insurer. Therefore, it will be especially important for insurers to secure reinsurance coverage before they can consider offering flood insurance to homeowners. Some reinsurers also have access to sophisticated geological modelling software that can help in risk assessment and pricing. Despite its extreme level of catastrophe risk, earthquake insurance is available to homes and businesses across Canada thanks largely to the successful partnership between insurers and reinsurers. This business model can and should be used for flood as well.

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10. IBC: bit.ly/sbr311
12. Ibid.
13. Ibid.
CONCLUSION

The lack of flood insurance availability for Canadian homeowners is a serious and growing problem from the perspectives of insurance customer satisfaction and the public interest. Coverage is offered on commercial properties in Canada and on homes in other countries, so the problem can be solved. In fact, one company started to offer flood coverage to Calgary homeowners on a limited basis in spring 2014.14

Making coverage available on a widespread basis will require cooperation by governments (to provide flood maps and infrastructure data), reinsurers (to partner with insurers by providing catastrophe coverage), and insurance companies themselves. This is a perfect opportunity for the insurance industry, supported by its partners, to demonstrate an entrepreneurial spirit and a commitment to serving the needs of the public. Now is the time to take the plunge!


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