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Protection for Those Who Need It Most: Sustainable Property Insurance in High-risk Areas

Jason Thistlethwaite and Daniel Henstra

Key Points

- Private property insurance is an efficient, resilient and legitimate approach to disaster recovery, but flood insurance premiums in high-risk areas are too expensive for many property owners to afford.
- Comparing flood insurance regimes in other states demonstrates the difficult balance between ensuring coverage is available and keeping it affordable for policyholders.
- Sustaining property insurance in high-risk areas in Canada requires a partnership whereby governments invest strategically in risk reduction and inform Canadians about the location of high-risk areas, while insurers provide coverage and adjust premiums to reward community-level actions that reduce risk.

Introduction

Disaster risk tends to be concentrated in areas where geography makes exposure to damage more likely. Many cities, for example, have been built along rivers that regularly flood. This concentrated exposure is a significant challenge for disaster risk governance, in particular the cost of post-disaster recovery, which governments have historically been responsible for financing. These recovery costs are increasing to unsustainable levels, however, due to factors such as population growth in hazardous areas and climate change, which is increasing the frequency and intensity of extreme weather events. In Canada, disaster assistance costs over the last six years exceeded the previous 39 years combined (Office of the Auditor General of Canada [OAG] 2016).

Private property insurance is frequently identified as an alternative to costly government disaster assistance. The United Nations Sendai Framework on Disaster Risk Reduction, for example, argues that governments must “promote mechanisms for disaster risk transfer and insurance, risk-sharing and retention and financial protection, as appropriate, for both public and private investment in order to reduce the financial impact of disasters on governments and societies, in urban and rural areas” (United Nations Office for Disaster Risk Reduction [UNISDR] 2015, 19).

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Insurance is a more efficient, resilient and legitimate approach to disaster recovery than dependence on government assistance. Recovery is funded by individual premiums that are collected across a wide pool of policyholders so no single stakeholder is unfairly burdened with the cost. Resilience is promoted through premiums that are either lowered in return for property-level flood protection or increased in response to behaviours that contribute to higher risk (for example, purchasing property along a coastline). Insurance is also considered more legitimate, since property owners can freely decide to pay the premium and accept that they are responsible for financing their recovery (Calamai and Minano 2017).

The problem, however, is that households in high-risk areas are largely uninsurable, because premiums are too high for property owners to afford. If insurers offered coverage at affordable levels, damages could exceed the cost of claims and threaten their financial solvency (Mills 2009; Thistlethwaite 2012). The deployment of insurance in high-risk areas is often described as a trade-off between the interests of insurers who want to price risk at levels that cover potential claims and the interests of governments who want insurance coverage to lower the burden on public disaster assistance. This tension is evident in Canada: insurers argue premiums cannot be made affordable in high-risk areas while the Government of Canada views insurance as important to "limit the federal government's fiscal exposure" (Public Safety Canada 2015). Moreover, both provincial and federal disaster assistance programs specify that property owners are ineligible for funding if they could have purchased private insurance to cover the losses (Contant 2018).

The behaviour of property owners themselves is also a critical ingredient for insurance availability and affordability (Seifert et al. 2013). If they are unwilling to purchase coverage, demand will be insufficient to generate a pool of reserves large enough for insurers to pay claims. Property owners in Canada, as in many other countries, are not effective flood risk managers, in that they are generally unwilling to pay for insurance or property-level flood protection measures (Henstra et al. 2018).

How can policy makers ensure that insurance is available and affordable in high-risk areas? Other jurisdictions have employed various strategies to achieve this objective; this policy brief will explore these approaches. It begins by describing the emergence of flood insurance in Canada and its current policy design. The next section analyzes how Australia, the United Kingdom and the United States have managed the issue of flood insurance in high-risk areas. The final section identifies policy recommendations that should be considered in the Canadian context.

Insurance and Disaster Risk Management in Canada

In 2013, the city of Calgary and many communities in southern Alberta experienced Canada's costliest flood disaster to date. As property owners started their cleanup, insurance adjusters assessed whether any of the damage would qualify for coverage. Many property owners were surprised to learn that they did not qualify for an insurance claim because the damage was caused by "overland flooding." Overland flooding results from water seeping into buildings through windows, doors and cracks, rather than sewer backup, which was then the only type of flooding that qualified for coverage. Vocal outrage among flood victims over this coverage gap created a serious reputational risk for insurers, who ultimately decided to offer payouts by abandoning the limitations outlined in existing contracts. This confusion prompted the Government of Canada to announce in 2015 that it would encourage insurers to expand coverage to include overland flooding (Thistlethwaite 2016).

Flood insurance is now available in Canada, but not for those located in high-risk areas. According to Robert Harrison, the chairman of the Insurance Brokers Association of Canada, premiums "would be outrageous" for the eight to 10 percent of Canadians living in highly vulnerable areas (Meckbach 2018). This gap in coverage is largely a consequence of Canada's privatized approach to flood insurance, in which coverage is purchased voluntarily by

individuals (rather than automatically bundled into policies), premiums are risk-adjusted and governments provide no subsidy to reduce prices.

This lack of insurance availability in high-risk areas is likely to undermine the federal government's goal of reducing the costs of publicly funded disaster assistance, in particular because these areas are expected to experience more frequent and severe flooding in the future. Although flood insurance is at an early stage in Canada, other countries have significant experience in supporting its availability in high-risk areas, and their approaches offer potentially instructive lessons.

Sustaining Insurance in High-risk Areas

Australia

Australia is often viewed as a suitable comparator to Canada since flood insurance was not available in the country until significant flooding in 2011. Moreover, as in Canada, flood insurance in Australia is voluntary and premiums are risk-based (Commonwealth of Australia 2015). After the 2011 flood disaster, the Government of Australia launched a Natural Disaster Insurance Review to identify ways of ensuring that insurance is consistently available and affordable. Among the findings was a recommendation to improve property owners' understanding of flood risk through the dissemination of flood risk maps. The government achieved this objective by creating a Flood Risk Information Portal where property owners can access maps that indicate their property's flood risk.¹ Australian insurers responded by expanding their flood insurance coverage.

Although this approach encouraged property owners to purchase insurance, it has not been effective in transferring risk from property owners to insurers in high-risk areas. For instance, Munich Re found that only two percent of property owners in high-risk areas of New South Wales and five percent of those

¹ See www.ga.gov.au/scientific-topics/hazards/flood/afrip.

in Queensland had purchased flood insurance. Annual premiums in these areas ranged between AU\$10,000 and AU\$20,000, compared to an average of about AU\$1,000 in lower-risk areas.² Moreover, shortages in insurance are growing as risk modelling has improved the data that insurers use to underwrite premiums (McAneney et al. 2016). Many Australians have responded by dropping their coverage, leaving their properties unprotected from flood risk (Hannam 2013; Booth and Tranter 2017).

In sum, the Australian model benefits insurers but works against the interests of governments in curbing disaster assistance costs, and it reduces the capacity of property owners to protect their financial security. A study commissioned by the Australian Treasury to explore options to improve the affordability of coverage found that publicly funded flood mitigation — specifically, subsidies for property- and community-level protection measures — represented “a sustainable way of reducing premiums over the long run” (Insurance Council of Australia 2017). There is little evidence to date, however, that such mitigation policy has been implemented.

United Kingdom

The United Kingdom’s approach attempts to improve affordability while maintaining an efficient insurance market that supports risk-adjusted pricing. The most recent initiative to achieve this objective is the Flood Re scheme, launched in 2016, which requires insurers to contribute to a fund that can be drawn upon by an individual insurer to cover disproportionate claims from a high-risk area. The availability of this financial backstop encourages insurers to offer coverage at reduced rates in areas where coverage is needed most (Surminski 2017).

The industry agreed to support this mechanism for 25 years in exchange for a government commitment to invest in flood mitigation in the high-risk areas where Flood Re provides coverage. An analysis reveals that 95 percent of property owners have purchased flood insurance even in the highest-risk areas, since premiums are subsidized through the Flood Re scheme. This same analysis, however, argues that subsidizing

coverage in high-risk areas limits incentives for governments and property owners to take actions that reduce risk. For this reason, the expectation that insurance can sustain affordability in high-risk areas “appears to be wishful thinking rather than a sound strategy” (ibid., 32).

United States

In contrast to Australia and the United Kingdom, the US flood insurance system involves a much more significant role for government and prioritizes the affordability of coverage rather than costs to the public treasury. Most policies sold in the United States are purchased through the National Flood Insurance Program (NFIP). Although coverage is risk-adjusted — premiums are determined through risk maps generated by the Federal Emergency Management Administration (FEMA) — property owners located in the 100-year flood zone must purchase coverage to qualify for a mortgage.

Requiring the purchase of insurance creates a large risk pool that can be drawn upon in the event of a significant loss event. However, in many areas, risk adjustment produces premiums that are unaffordable, which has led to political pressure to subsidize prices. Recent analysis found that almost 25 percent of policies are subsidized and account for only 35 to 50 percent of the risk. Since prices do not reflect risk, the NFIP is US\$24 billion in debt to the US Treasury and accrues an annual deficit of about US\$1.5 billion (Atreya et al. 2015).

As a way to reduce both insurance premiums and flood risk, the NFIP includes a Community Rating System (CRS) to reward communities that implement flood risk reduction activities by reducing the premium rates of policyholders. The premium discounts range from five to 45 percent for different actions that reduce flood risk. Examples of these actions include open space preservation, floodplain management planning, acquisition and relocation of properties, and flood data maintenance and mapping (FEMA 2018). This program addresses an important weakness in most insurance markets, in that it encourages property- and community-level mitigation. Nevertheless, community participation in the CRS is voluntary and has historically been weak, which explains, in part, why high-risk areas continue to contribute to insurance losses.

² See www.munichre.com/australia/australia-natural-hazards/australia-flood/economic-impacts/index.html.

Policy Recommendations

This policy brief has analyzed how different jurisdictions have sought to balance the interests of insurers, governments and property owners in high-risk areas. The Australian system aligns largely with the interests of insurers in providing coverage that limits exposure to high-risk areas. The UK model maintains a precarious balance between all three stakeholders but will be unsustainable without effective mitigation in high-risk areas. The US model supports property owners in securing available and affordable coverage at the expense of the government's interest in lowering public costs.

How can Canadian policy makers benefit from the experiences of these jurisdictions? First, insurance availability and affordability are related to the willingness of governments to support flood risk mitigation in high-risk areas. In all three of the jurisdictions examined, governments have struggled to implement policy that strategically reduces risk in areas where insurance is needed most. This weakens the incentive for insurers to design affordable policy and fails to limit the exposure of property owners to flood risk. Second, governments have tried to encourage demand for insurance by promoting flood risk awareness through publicly available flood risk maps. These maps serve different purposes, with implications for insurance. Australia's maps support public risk awareness, while the United Kingdom and the United States use maps as a transparent means to determine premium adjustments.

Canada should explore the following two recommendations to support insurance in high-risk areas.

Adopt a Canadian community rating system to inform federal government funding allocation for disaster mitigation. In 2017, the Government of Canada announced a CDN\$2 billion Disaster Mitigation and Adaptation Fund (DMAF). This program was designed to address a funding gap that has limited investment in flood risk mitigation. According to a 2016 Auditor General report, the federal government has systematically failed to fund flood risk mitigation. The report identified four spending programs that were notionally intended to support mitigation,

including the 2011 Flood Mitigation Investments program, the New Building Canada Fund, the National Disaster Mitigation Program and the Disaster Financial Assistance Arrangements, but it concluded that these initiatives were, in fact, “not designed to support long-term mitigation investment, nor did they encourage large-scale, multi-year mitigation projects” (OAG 2016).

DMAF suffers from the same poor design as its predecessors. Funding is distributed via grants to lower-tier governments who have to contribute 50 percent of the costs.³ This represents a significant cost burden for many jurisdictions; therefore, they will be unlikely to apply (as with previous programs) (ibid.). More significantly, there is no guarantee that the funding will be allocated to high-risk areas with the specific objective of improving insurance availability and affordability. For example, most disaster mitigation funding allocated at the local level is directed toward areas that suffered damage in the last major disaster (Henstra and Thistlethwaite 2017). This approach is politically expedient, but other areas with higher risk exposure and more expensive insurance rates may not receive any funding.

The federal government should address this weakness by developing a Canadian version of the US CRS. Through collaboration with insurers, the government should identify areas at the highest risk of flooding where investment would have the most significant impact on insurance availability. Insurers should then commit to lower premiums based on the ambition of the project. While premiums are designed to reward property-level actions that reduce risk, they are difficult to measure and monitor. As a result, there is little evidence that insurers use premiums to encourage such actions in Canada or elsewhere (Atreya et al. 2015). Flood risk reduction at the community level is easier to measure and can be evaluated over time.

Inform Canadians about the location of high-risk areas. While it is critical for governments and insurers to support mitigation to improve affordability, property owners are unlikely to support this use of public funds without transparency on flood risk. In other jurisdictions, this transparency is facilitated via publicly

3 See www.infrastructure.gc.ca/dmaf-faac/details-eng.html.

available flood risk maps. Not only does this motivate consumers to purchase insurance, but it also prompts a necessary discussion on the balance between insurer and government interests in coverage availability in high-risk areas. While no jurisdiction has an optimal approach, they are all predicated on different stakeholders having the same level of knowledge of flood risk. Governments and insurers have an information advantage over property owners because of their knowledge of flood risk. Without similar levels of public awareness and understanding, any strategy lacks the legitimacy it needs to protect those who need it most.

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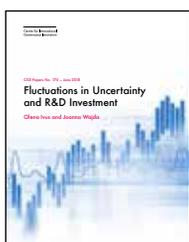
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An Ironic Outcome: The United States — Even under Trump — Is Closer to Meeting Its Emission Targets Than Canada

CIGI Paper No. 177
Jeff Rubin

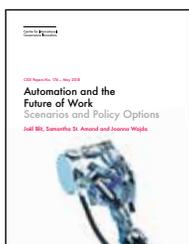
This paper compares Canadian and US emission performance relative to both countries' near-term emission reduction targets. The comparison focuses on the energy sector, which has been a premier source of carbon emissions in both countries. It then investigates why energy sector emissions have continued to rise in Canada while they have fallen steadily in the United States. It considers the impact of policy measures, changing market conditions and technological change.



Fluctuations in Uncertainty and R&D Investment

CIGI Paper No. 175
Olena Ivus and Joanna Wajda

Efforts at stimulating economic growth are shifting away from factor inputs as governments seek to establish an innovation-friendly environment. This paper investigates the effect of macro uncertainty on research and development (R&D). Against that background, it discusses what the Group of Twenty and its member states can do in this regard to facilitate increased innovation. Using data on 30 countries covering 1982–2012, the relationship between fluctuations in macro uncertainty and R&D growth is studied. The analysis shows that increased macro uncertainty is associated with lower R&D growth, and that business enterprise expenditure on R&D appears to be the leading culprit for lower expenditure during times of higher uncertainty.



Automation and the Future of Work: Scenarios and Policy Options

CIGI Paper No. 174
Joël Blit, Samantha St. Amand and Joanna Wajda

This paper presents several possible scenarios for the future of work and draws on the Industrial Revolution to offer a historical perspective. It ends with a discussion of different policy options that could be deployed. Foremost, it highlights the urgent need for further international collaboration to broaden the tax base, both because tax avoidance is likely to become a bigger problem as wealth and income become increasingly concentrated and mobile and because of the likely need to expand the social safety net in the face of potentially massive and long-lasting disruptions.



Restoring Debt Sustainability in African Heavily Indebted Poor Countries

CIGI Policy Brief No. 133
Cyrus Rustomjee

Debt sustainability among the 30 African low-income countries that previously received debt relief has deteriorated sharply. More than one-third are either back in, or at high risk of, debt distress. Outcomes of the 2017 review of the International Monetary Fund and the World Bank Debt Sustainability Framework for Low-Income Countries and improvements in country-specific debt sustainability assessments can help strengthen the diagnosis of debt vulnerability and improve the quality of policy recommendations respectively.



Green Shoots for the African Blue Economy?

CIGI Policy Brief No. 132
Cyrus Rustomjee

There is an enormous untapped opportunity to develop Africa's maritime, or blue, economy, which in turn will help reduce poverty; create employment, growth and exports; and strengthen food and energy security. However, a number of challenges have held back progress. Recent initiatives by a growing number of African countries, the African Union and multilateral development partners, have made slow but important progress. Several further steps are also needed, including strengthening African maritime security and coastal protection, developing national blue economy strategies, accelerating training, raising private sector awareness of blue economy opportunities and sharing emerging good practices more widely.



Buyer Beware: Evaluating Property Disclosure as a Tool to Support Flood Risk Management

CIGI Policy Brief No. 131
Daniel Henstra and Jason Thistlethwaite

This policy brief examines property disclosure as a potential tool to improve public understanding of flood risk and support disaster risk reduction. Property disclosure offers a potential tool by which buyers could become informed about a home's history of flood damage and its exposure to future flood risk. Property disclosure to inform buyers about flood hazards has been entrenched in public policy in many other jurisdictions, but this approach has not been embraced in Canada. An effective flood risk property disclosure regime requires accurate, up-to-date and publicly available flood risk maps, clarification of legal liability associated with disclosures and a neutral third party to prepare and distribute property disclosure information.

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