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Flood Risk and Shared Responsibility in Canada: Operating on Flawed Assumptions?

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Key Points

- Floods cause more property damage than any other hazard in Canada, and water-related losses now exceed fire and theft as the main source of property insurance claims.
- Public spending on flood relief has grown, and is projected to increase dramatically over the next decade, so governments have been changing their policies to reduce their financial exposure by shifting responsibility to homeowners.
- An implicit assumption of this policy shift is that individual homeowners must share greater responsibility for protecting their property by purchasing newly available flood insurance. Evidence is presented suggesting that consumer demand for flood insurance may be insufficient for economic viability. Low risk perception and a moral hazard created by government disaster assistance limit incentives for purchasing insurance.

Introduction

Flooding is the most costly source of property damage in Canada, and has surpassed fire and theft as the principal source of property insurance claims (KPMG 2014; Oulahen 2014; Public Safety Canada 2015b). Flood damage is expected to increase considerably in the future, as a result of expanding urban development and more frequent extreme weather triggered by climate change (Cherqui et al. 2015; Kundzewicz et al. 2014). Flooding is currently responsible for nearly 80 percent of all government disaster assistance costs, and it is projected that payments under the Disaster Financial Assistance Arrangements (DFAA) — a federal program that reimburses provinces and territories for a portion of disaster response and recovery costs — will top $670 million annually in the coming years (Office of the Parliamentary Budget Officer [PBO] 2016).

The federal and provincial governments have recognized their escalating financial liability and have begun to adjust flood management policies. Notable changes include higher expense thresholds for federal disaster assistance, tightened guidelines for provincial disaster assistance, renewed public education efforts, and funding for flood maps, risk assessments and small structural protection projects to mitigate flood damages. An implicit assumption of this policy shift is that individual homeowners must share greater responsibility for protecting their property

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from flooding. The logic underlying this policy appears to be that once property owners recognize their eligibility for disaster assistance has been curtailed, they will seek out information on flood exposure and potential impacts and take action to reduce and manage their own flood risk, principally through buying residential flood insurance.

This policy brief examines the potential for, and barriers to, flood risk sharing in Canada. It begins by discussing risk sharing as a flood risk management mechanism, including its operative logic and implementation instruments, with a specific focus on flood insurance. It then presents evidence from a national survey of Canadian property owners, which probed their experience with flooding, flood risk awareness, uptake of property-level flood protection measures (or willingness to pay for them), and expectations about who should be responsible for both protecting against a flood and paying for the damage after a flood occurs. The third section offers recommendations about how flood risk sharing could be effectively implemented in Canada. The final section provides general conclusions and outlines priorities for policy research in this area.

Flood Risk Sharing

In the context of flood management, *risk sharing* involves the distribution and delegation of some of the financial burden of flood-related losses, as well as the responsibility and costs for measures to avoid, prevent and mitigate flood risk, across multiple parties (World Meteorological Organization 2013, 12). Traditionally, flood management has been dominated by government officials and funded through the public treasury. In principle, risk sharing is intended to shift some of this legal and financial burden to other societal actors who benefit from flood protection or whose behaviour increases the exposure of people and property to flooding. Notably, this includes parties involved in land development, such as planners, developers and builders, and parties involved in real estate transactions, such as sellers, purchasers, agents, appraisers, lawyers, lenders and insurers (Treby, Clark and Priest 2006).

It is argued that sharing flood risk with non-governmental actors improves efficiency by maximizing the benefits of public spending (Penning-Rowsell and Priest 2015). It also increases the legitimacy of flood management by engaging a wider range of interests and tapping into a broader pool of expertise (Mees, Driessen and Runhaar 2014). There are many policy instruments to implement flood risk sharing, such as flood mapping (graphically depicting probable flood hazards to inform target audiences), subsidies (for example, funds to encourage the installation of a backflow prevention valve), hazard disclosure (legal requirement for property sellers to disclose flood risk) and warning systems (mechanism to warn exposed populations about impending threats) (Henstra and Thistlethwaite 2017).

Perhaps the most significant risk-sharing mechanism is insurance, whereby individual property owners buy protection against flood losses from private companies. While most property insurance policies include coverage for basement flooding caused by sewer backup or broken pipes, until recently Canadians could not buy insurance against overland flooding, which results from water seeping into buildings through windows, doors and cracks. This is because it was deemed to lack economic viability due to a lack of randomness (i.e, we can predict with relative certainty where flooding is more likely to occur) and mutuality (i.e., only a minority of all homeowners are exposed to flood risk) (Sandink et al. 2015). Despite these economic barriers, several insurers began offering overland flood insurance in 2015 in response to pressure from governments and consumers (Thistlethwaite 2016).

Operating on Flawed Assumptions?

Governments clearly regard flood insurance as a means to defray some of the costs of disaster financial assistance. For instance, a document in the briefing book prepared for incoming Minister of Public Safety and Emergency Preparedness Ralph Goodale stated that a residential flood insurance market "would help mitigate the escalating draw on the Disaster Financial Assistance Arrangements" (Public Safety Canada 2015a). Moreover, one of the primary objectives of the National Disaster Mitigation Program (NDMP), a $200-million initiative established by the Government of Canada in 2015, is to fund "work to facilitate private residential insurance for overland flooding" (Public Safety Canada 2017).

In 2016, the Government of British Columbia officially notified the public that, because overland flood insurance is now "reasonably and readily available," homeowners would no longer be eligible for disaster financial assistance in flood disasters (British Columbia 2016). Guidelines for the federal DFAA program state explicitly that costs of restoring or replacing items that were insurable — that is, for which insurance coverage was available in the area at a reasonable cost — are not eligible for reimbursement (Public Safety Canada 2015c). Similarly, provincial disaster assistance programs specify that only uninsurable losses are eligible for compensation (see, for example, Manitoba 2017; New Brunswick 2009; Sécurité publique Québec 2017a).

Since flooding is the most frequent and severe type of disaster, Canadians will need to purchase insurance to ensure they do not pay out-of-pocket for flood damage to their property. The affordability of coverage is also contingent on a large pool of insured, because the cost of covering high-risk properties is spread among many property owners (Thistlethwaite 2016). This is particularly important in high-risk areas where insurance will be expensive if there is insufficient demand. Coverage also needs to be widespread to qualify for governments' "reasonably and readily available" clause to avoid increasing financial burdens on public disaster assistance.

For these reasons, consumer behaviour, specifically the recognition of benefits of insurance and willingness to pay for coverage (Seifert, Botzen and Aerts 2013), represents an important factor in ensuring flood insurance is affordable and available in Canada. Consumers often choose not to buy coverage because they discount flooding as a low-probability event (Kunreuther, Hogarth and Meszaros 1993). Awareness of flood risk is therefore an important condition necessary for insurance demand. The next section will explore recent findings on consumer behaviour in Canada that, while supportive of flood insurance, raise questions about its economic viability.

Flood Insurance Demand in Canada

In the spring of 2016, researchers at the University of Waterloo surveyed 2,300 Canadians in all 10 provinces; the results offer important information on the viability of overland flood insurance (Thistlethwaite et al. 2017).[1] The survey targeted homeowners living in "high-risk" areas, as defined by

1 All survey results discussed in this section are from this study unless otherwise identified. More information on survey results and methodology are available at: https://uwaterloo.ca/climate-centre/news/canadian-voices-changing-flood-risk-findings-national-survey.

the federal government's Flood Damage Reduction Program. Respondents supported the use of insurance for recovery. When asked who should be responsible for the costs of recovery, 78 percent of respondents identified insurance companies, followed by municipalities (37 percent), provincial governments (36 percent), homeowners (32 percent) and the federal government (30 percent). In addition, 83 percent of Canadians believed they should have some responsibility for protecting their own property.

Despite support for risk sharing with insurers, respondents demonstrated considerable confusion and uncertainty about flood insurance availability and the implications for protecting their property. Most Canadians either believed or were unsure whether their policy covered overland flooding. If property owners believe they already have coverage, it is unlikely there will be sufficient demand to support economic viability. Indeed, when property owners were asked if they would purchase insurance should it be made available, only 23 percent expressed interest. More worrying, however, is that 67 percent of respondents identified less than $100 per year as their willingness to pay for overland coverage. Although people in some areas of the country are likely to qualify for a premium of less than $100 per year, respondents living in high-risk areas where coverage is critical for recovery might find flood insurance to be unaffordable.

These results raise an important question: why are Canadians supportive of flood insurance, but demonstrate little evidence of the demand needed for its economic viability? The main problem is that Canadians do not know their own flood risk and think they are not vulnerable to flood damage. Seventy-five percent of respondents did not believe their property is vulnerable to flooding, and 50 percent had no concern for flood risk at all. Only 21 percent believed that flood risk is likely to increase over the next 25 years, despite evidence that climate change is increasing the frequency of flood events.

If Canadians are unable to assess the flood risk to their property, flood insurance demand will be insufficient for market sustainability. Research on flood insurance has linked low risk perception to government policy, specifically the moral hazard created by public disaster assistance distributed in the aftermath of floods (Krieger and Demerrit 2015). Federal and provincial governments in Canada routinely give out disaster assistance that property owners then use to rebuild in high risk flood areas (PBO 2016). This policy approach limits the incentives for Canadians to purchase insurance because they know the government will act as the "insurer-of-last-resort." The next section discusses policy recommendations for creating a sustainable flood insurance market in Canada.

Policy Recommendations

Co-produce flood risk awareness through citizen engagement. Gaps in risk awareness represent a significant obstacle in creating demand for flood insurance. This problem has been tackled by governments in other jurisdictions by implementing policies that support the co-production of flood risk management. Co-production is a process of involving citizens and other public stakeholders in developing and delivering public services. In the United Kingdom, for example, funding is available to encourage flood risk awareness at the local level through community flood action groups and voluntary flood wardens. The national government has spearheaded a "know your flood risk" campaign to supplement initiatives at the local level to improve flood risk awareness (Mees et al. 2016).

The Canadian federal government has currently committed $200 million over five years for the NDMP, which encourages local governments and flood authorities to pursue projects that facilitate flood risk management (Government of Canada 2015). A strategic focus of this program should be co-production at the local level, because most municipalities lack the resources to engage citizens directly and to deploy new information on flood risk that supports the uptake of insurance.

Clarify the role of government and insurance in flood recovery. DFAA policy must be updated and standardized to reflect the availability of flood insurance. Most Canadians remain confused about the role of government and insurance in managing flood risk, in that they mistakenly believe disaster assistance will cover all flood damage. Governments need to actively communicate to the public the difference between flood insurance and disaster assistance as there is significant ambiguity in current policy frameworks.

Provinces adopt different standards on disaster assistance and insurance and often change their approach in response to political pressure in the aftermath of a disaster. Ontario's program will cover damage where insurance is available, but only the portion of the damage that is not covered (Ministry of Municipal Affairs and Housing 2016). For example, if a property owner's flood insurance policy covers only $5,000 in damage, the government will pay for any additional costs. Other provinces exclude flood damage from disaster assistance now that flood insurance is available. Whether these provinces will actually enforce these standards remains to be seen. In response to the 2017 floods, for example, the Government of Quebec initially provided assistance only for uninsurable costs, but changed its approach in response to pressure, ultimately agreeing to offer assistance in cases where insurance covered only a portion of the costs (Sécurité publique Québec 2017b).

Demand for flood insurance is unlikely to be sufficient unless governments clarify that disaster assistance will no longer pay for flood damage. Indeed, the country's two most populated provinces are still competing with insurance through their own government programs. More broadly, governments must commit to policies that limit the use of disaster assistance in the aftermath of a flood when political pressure to guarantee assistance is highest. This requires co-production to enhance local flood risk awareness and ensure property owners understand the roles of flood insurance and disaster assistance.

Conclusion

Flood insurance represents a critical component of Canada's efforts to manage the growing financial burden of flood damage. Insurance reduces the cost to taxpayers of recovery while encouraging property owners and municipalities to adopt flood risk management through investment in better land-use and property-level flood protection. Sustainable flood insurance that is available and affordable in Canada, however, faces a number of barriers. Canadians support the idea of flood insurance as a means of recovery, but show little demand or willingness to pay for coverage. This gap in demand is related to a low risk perception of flooding and moral hazard created by government disaster assistance that limits incentives for property owners to purchase insurance. Co-producing flood risk management through a strategic policy focus on local risk awareness and clarifying the role of insurance and disaster assistance represent two means of addressing these barriers.

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