



Insuring Black Holes

Governments and (re)insurers need to better collaborate to leverage the industry's risk management expertise and access to capital to lighten the financial burden placed on taxpayers as a result of natural catastrophes.



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When there is a catastrophic loss, such as a natural disaster, taxpayers are generally left to cover a substantial portion of the associated costs. Not only must they pay the deductible for their own insured property damage and pay out-of-pocket for any uninsured damage, but their tax dollars must also go towards paying for first response, evacuation costs, damage to public infrastructure, overtime expenses for government and/or public utility employees, and overall government disaster assistance.

It is generally a falsehood that disaster loss costs are paid out of several different pockets (both public and private) as, ultimately, all pockets essentially have the same funder — the taxpayer.

The costs associated with repair or replacement of public infrastructure can be quite high, and insurance, if it is in place, does not cover 100% of the loss. Indeed, when experts speak of the "coverage gap" — which is the generally identifiable and quantifiable divide that exists between insured and uninsured damage caused by an event — they often note that uninsured or underinsured damage to public infrastructure is one of the main contributors.

In addition to the coverage gap, there are certain areas of government finance that are particularly

difficult to plan and budget, primarily because the past is not always a good indicator of what can be expected in the immediate future or in the next budget period. These challenging areas have been referred to by some as financial black holes because of their tendency to not only exceed the original budget, but to do so by multiples rather than incrementally.

The various agriculture ministries in Canada, for example, have relevant real-world experience with such black holes.

MANAGING BLACK HOLES: A CASE STUDY

Prior to implementation of the current crop insurance system in Canada, these ministries recognized that they would have to make large *ad hoc* payments to distressed farm producers from time to time. It is inevitable that given enough time, the next drought or extreme weather event will occur, causing financial hardship.

The challenge in these scenarios is that it is not possible to know when, or how much, *ad hoc* funding will be required. Budgeting for the worst case is clearly inefficient (and is seldom financially or politically possible), while budgeting anything less than the worst case guarantees that *ad hoc* supplements will be required at some



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point. In either case, the difference, ultimately, trickles down to the general population where taxpayers eventually fund the balance. This is the real issue.

With these challenges in mind, an intelligent crop insurance scheme was developed to properly fund the inherent volatility in the exposure being assumed by the federal and provincial governments.

The crop insurance scheme is essentially a user-pay system, with costs shared with government. The program absorbs peak loss activity while insulating governments from extreme losses. The crop insurers, in turn, use reinsurance to manage the risk in their own portfolios.

Taxpayers are protected from the risk of crop failure when substantial losses are funded by the government. Budget deficits and tax increases may be the outcome.

The crop insurance scheme is a reasonable solution that insulates the tax base from unfriendly budget volatility.

The California Earthquake Authority and various wind pools in the United States are comparable examples of insurance plans that accomplish the same objective while providing a social benefit.

WANTED: A PARADIGM SHIFT

Not every government exposure or program requires an insurance scheme serving tens of thousands of policyholders and, in fact, most do not. The crop insurance model has merit, but is limited in its application.

Fortunately, many of the existing black holes are more suited to customized one-off (re)insurance solutions. Examples include the following:

- snow removal costs;
- debris removal costs (such as tree removal after ice storms and bulk trash removal after basement flooding events);
- overtime payment costs (such as city forestry and hydro crews after an ice storm); and
- wildfire suppression costs.

These cases present many challenges to those in charge of setting government budgets, as all frequently prove to be

quite volatile, ensuring that there is often great variation in year-over-year costs.

The 2015 North American wildfire season is the most recent example of how budgets can be exceeded by multiples. British Columbia, Alberta and Saskatchewan exceeded their respective wildfire suppression budgets this year.

Other examples are the severe winter weather conditions in 2015 that presented substantial financial challenges to a number of North American cities.



In each of these cases, it is possible to risk manage budget variability with the use of insurance and reinsurance coverage. The reinsurance industry, in particular, is well-positioned to apply intellectual and financial resources to developing customized products, in contrast to the insurance industry, which tends to be more focused on mass retailing.

USING (RE)INSURERS' IMAGINATIONS

Considering the many ways that reinsurance or financial engineering tools might be used by governments to reduce black hole volatility, the list of actual uses in Canada is quite short.

Wildfire suppression cost coverage purchased by the Province of Alberta on a pilot basis several years ago may be the best known case of using private reinsurance to help a government manage volatility. But since there are no publicly available records of such purchases, it

is only possible to estimate how many other comparable coverages have actually been put in place.

The general impression is that there are just a few live transactions, leaving observers to ask why the opportunity to insure these exposures are not acted on more often.

Followers of risk finance would largely agree that (re)insurance or some form of risk mitigation can be used to manage unwanted volatility within government finances. Tools used to manage such risks may include the following:

- insurance;
- traditional reinsurance;
- non-traditional reinsurance
 - catastrophe bonds
 - other index-linked securities
 - parametric covers; and
- other capital markets solutions.

Yet governments typically do not leverage the options that are available to them, perhaps because of a reluctance to deal with the up-front costs of implementing the solution.

MEETING HALFWAY

Research indicates that while private citizens tend to be risk averse (and, therefore, purchase insurance to ensure a soft landing if a loss occurs), governments tend to be risk neutral, not insuring their assets or insuring only certain asset classes and, usually, paying for losses directly out of public coffers.

This is particularly true as public entities increase in size. Municipalities, especially small ones, often, at least partially, insure while more senior levels of government tend not to do so.

Some governments are showing a desire to get away from this model, as paying for increasingly costly events makes it challenging to finance projects and/or balance the books.

Consider the June 2013 southern Alberta flood. The event required the federal government to direct a reported \$2.8 billion to Alberta for disaster assistance, a substantial unbudgeted funding amount. At the time of the disaster, the federal government entered a period of austerity with planned budget cuts.

Likely as a direct result of this unplanned outlay, the federal government subsequently altered the Disaster Financial Assistance Arrangements (DFAAs) with the provinces and territories. A key amendment to the DFAAs included changing the initial threshold of \$1 per capita of an affected province's population to \$3 per capita, effective February 1, 2015. Additionally, the next two levels of eligible expenditures were changed from \$2 per capita to \$6 per capita.

The change means that provinces or territories impacted by a significant loss event will now have to absorb significantly more of the costs going forward.

Aside from questions regarding risk aversion versus risk neutrality, it appears that most governments are not used to thinking in terms of mitigating risk beyond traditional property/casualty coverages. Some large corporations operate the same way. However, corporations are risking their own equity while governments are dealing with public funds.

Conversely, (re)insurers may need to shift their focus towards dedicated problem-solving and away from the historical business model that tends to emphasize product distribution.

The opportunity to help governments manage and temper expenses associated with large single losses or typical ongoing budget volatility does not fit the existing business template. That said, there are examples around the world where private (re)insurers work well with governments in the creation of very innovative risk transfer programs.

There is not a long tradition of such collaboration in Canada, but this could easily change.

CONCLUSION

With governments at all levels showing a desire to get out of the business of financing volatile losses — both those associated with large single loss events like natural disasters and those related to normal, run-of-the-mill budget vola-

tility — government officials need to be open to taking advantage of the capital strength and expertise of the (re)insurance industry in order to lighten the financial burden placed on taxpayers.

The (re)insurance industry has a responsibility to work with all levels of government to develop solutions for sharing and transferring public risk. This needs to happen within the budgetary systems in which all governments exist.

Smoothing volatility is a shared objective. However, the mechanics may need to be more innovative to address the unique financial needs of governments.

This is an imperative as the pressure is on for governments to manage expenditures while also maintaining or improving services to constituents, investing in public infrastructure and performing other tasks typically associated with government responsibility.

For (re)insurers, it is a natural opening to grow organically in a challenging environment. ≡