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A Proposal for Insuring Public Facilities and Infrastructure Against Disaster Losses

A year has passed since Hurricane Sandy killed more than 100 and wrought damages costing \$70 billion -- the second most costly disaster in recent U.S. history.

Those who were insured have long received their claims payments. But the majority of federal disaster relief provided through the Stafford Act to state and local governments to restore damage to infrastructure and publicly owned buildings has still to be disbursed.

When Sandy made landfall last year, it took Congress three full months to vote \$50 billion in disaster relief. Many legislators questioned whether the federal government should continue to utilize taxpayers' money disaster after disaster and thus increase the public debt even more. Should another disaster hit the country in the near future, it is thus highly uncertain in today's political climate how much funding will be provided to the stricken areas and how long it will take for Congress to reach an agreement.

We propose that states and local governments start purchasing (multi-year) insurance contracts to protect their infrastructure assets, as residents and businesses can do today to protect their property.

Such an insurance program would guarantee that communities will receive pre-specified payments to help rebuild their damaged facilities rather than waiting for Congress to (maybe) authorize funding. Communities will also have a financial incentive to make their public buildings and infrastructure more disaster resistant: their insurance premiums would be reduced to reflect the lower expected damage.

It is fair to say that up to now many states and communities have not invested funds to make their infrastructure more resilient to future disasters because they expect to recoup a large portion of their losses from the federal government. But even following a disaster, states and communities have to go through a time consuming process to get permission to improve their infrastructure and public buildings. The Stafford Act specifies that federal funds can be used only to restore facilities to their pre-disaster condition.

A multi-year insurance program could be complemented by loans to improve facilities. The loans would spread the upfront costs of these investments over time. If the loss-reduction measures are cost-effective, then the annual premium reductions will be greater than the annual cost of the loan. Not only would this strategy make America more resilient, it would also create jobs and reduce taxpayers' expenditures following a disaster.

Actions taken by the New York Metropolitan Transit Authority (MTA) following Hurricane Sandy highlight the need for some type of insurance protection with stable premiums. The MTA system suffered an estimated \$4.8 billion damage from Sandy, as railroad and subway lines, vehicular tunnels, subway stations and power and signal equipment were inundated with corrosive salt water. Fortunately, the MTA had an insurance policy for \$1 billion to cover some flood-related damages.

But the MTA was unable to renew its annual insurance policy following Sandy at pre-disaster conditions. The only policy offered to them was one that halved their coverage and doubled premiums. Their experience is not unique and illustrates the volatility of the disaster insurance market when contracts need to be renewed annually. Insurers often perceive the risk as being much higher after a catastrophe than before the event and pass higher reinsurance costs onto their customer. Creating multi-year insurance policies would provide stability in both premiums and coverage.

One example of such a contract is a catastrophe bond, a market that has been expanding recently. In July 2013, the MTA transferred part of its exposure to future storm surges directly to investors in the financial markets by issuing a \$200 million catastrophe bond with stable premiums over the next three years. The bond will pay the MTA that amount if certain storm surge conditions occur during this period; the funding (currently invested in secure assets) would come shortly after storm surge damage estimates were made.

Given the trillions of dollars of exposure to disasters in the U.S., new insurance products to cover public infrastructure represent a massive untapped business opportunity for insurers, reinsurers and investors alike.

The areas in the Northeast affected by Hurricane Sandy are now fully aware of the need for assistance in facilitating their recovery efforts. Mayor Bloomberg's report "A Stronger, More Resilient New York" issued in June 2013 recommends upgrading utilities, roadways, tunnels, subways and other infrastructure now so as to reduce losses in the future. The Hurricane Sandy Rebuilding Strategy by a Federal Task Force under the leadership of Sean Donovan, Secretary of Housing and Urban Development (HUD), released in August 2013 imparted a similar message: the need for targeted financial incentives to incorporate resilience and risk mitigation into infrastructure projects and increased leverage of non-federal funds for infrastructure.

The proposed program of multi-year insurance and loans for mitigation would be a step in this direction. We know from past experience, however, that recommendations from important reports such as these often do not get implemented. When they do, it is because there is a perceived need for change due to an immediate crisis or a new market that has emerged over time.

Hurricane Sandy has the public's attention as we observe its first anniversary. The country should take advantage of this window of opportunity rather than waiting for the next disaster to occur.

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