



Sovereign Disaster Risk Financing

Background

There has been increasing interest in recent years in using financial instruments to help developing countries cope with financial needs resulting from natural disasters. Experience suggests that governmental policies of risk neutrality do not hold for most developing countries: small islands are too small to diversify their risks; high levels of indebtedness of some countries does not allow them to access post-disaster credit, thus limiting their ability to distribute losses between generations; and budget processes in many countries do not allow governments to reallocate budgets post-disaster, creating liquidity crunches.

Various new instruments have become available that allow governments to more easily access the international financial markets, enabling them to transfer their risk in order to better manage budget volatility resulting from natural disasters. A key lesson from the experience of the last decade, however, is that there is no magic bullet. Governments interested in strengthening their response capacity will generally have to combine a number of complementary financial instruments and policies.

Disasters have a much more disruptive impact on less advanced economies. Although major disasters catch the attention of the public, they rarely impact the economy (and budget) of advanced economies. In absolute terms, the costliest disasters primarily occur in developed countries, where the concentration of assets, and thus potential losses, is highest. In such economies, however, the damage as a proportion of GDP is limited to a few percentage points. For example, Hurricane Katrina's economic impact in the US in 2005 caused direct losses of 1.1% of GDP. Conversely, Hurricane Ivan's hitting Grenada caused direct losses of greater than 300% of GDP.

A government facing a natural catastrophe will not require funding for its entire recovery and reconstruction program immediately following the event. While immediate resources will be necessary to support relief operations, the bulk of needed funds will only be required several months later, when the actual reconstruction program starts. Indeed, the planning of reconstruction programs, the designing of infrastructure to be rebuilt, and the tender of major

At a glance

- Natural disasters slow long-term development and lead to increased poverty in developing countries.
- Sovereign disaster risk financing increases the financial response capacity of governments of developing countries in the aftermath of natural disasters, while protecting their long-term fiscal balances.
- Governments are usually better served by retaining most of their natural disaster risk while using risk transfer mechanisms to manage the excess volatility of their budgets or to access immediate liquidity after a disaster.

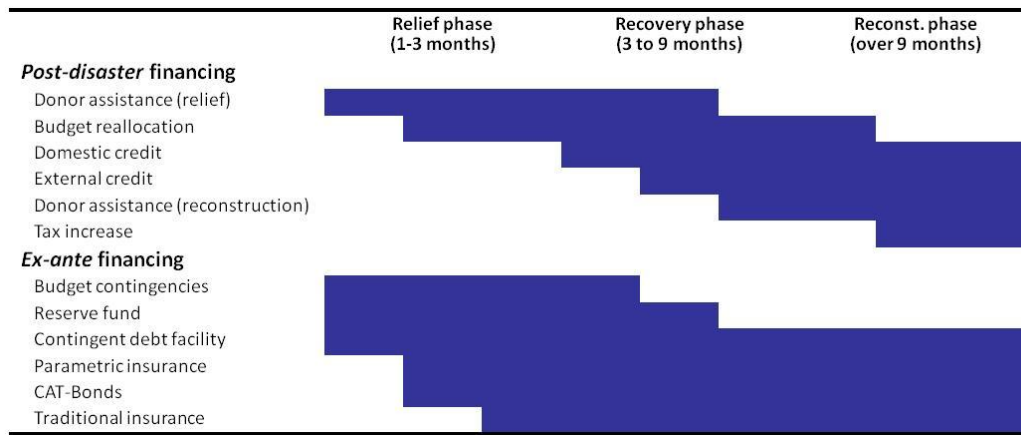
works can take several months or even years. The design of an efficient financial protection strategy must take this time dimension into account to ensure that funding requirements are matched with capacity to disburse funds when required.

Sources of Post-Disaster Financing

Governments generally have access to various sources of financing following a disaster. These sources can be categorized as ex-post and ex-ante financing instruments. Ex-post instruments are sources that do not require advance planning. These instruments include budget reallocation, domestic credit, external credit, tax increase, and donor assistance. Ex-ante risk financing instruments require proactive advance planning and include reserves or calamity funds, budget contingencies, contingent debt facility, and risk transfer mechanisms. Risk transfer instruments are instruments through which risk is ceded to a third party, such as traditional insurance and reinsurance, parametric insurance (where insurance payouts are triggered by pre-defined parameters such as the wind-speed of a hurricane), and Alternative Risk Transfer (ART) instruments such as catastrophe (cat) bonds.

Figure 1 lists the instruments that can be used by governments to mobilize funding after a disaster. It provides an assessment of the time necessary to mobilize funds through these instruments. The main advantage of ex-ante instruments is that they are secured before a disaster and thus allow for quick disbursement post disaster. On the contrary, ex-post instruments can take some time to mobilize.

Figure 1: Sources of Post-Disaster Financing

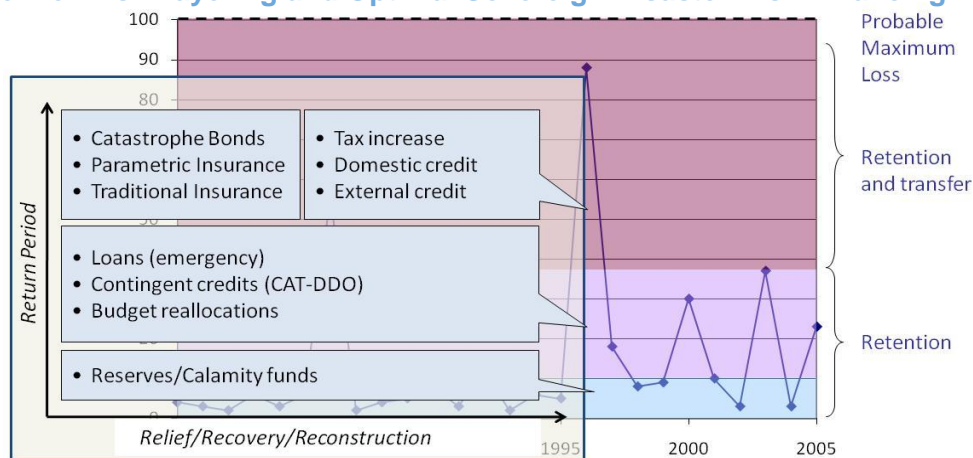


Optimal Mix of DRF Instruments

Catastrophe risk layering can be used to design a risk financing strategy (see Figure 2). Budget contingencies together with reserves are the least expensive ex-ante risk financing source and generally cover recurrent losses (low risk layer). Other financing sources, such as contingent credit, emergency loans, and possibly insurance should be used only once reserves and budget contingencies are exhausted or cannot be quickly accessed (medium risk layer). Finally, major disasters can be financed through risk transfer instruments, such as catastrophe risk insurance or cat bonds (high risk layer).

A “bottom-up” approach is recommended: the government first secures funds for recurrent disaster events and then increases its post-disaster financial capacity to finance less frequent but more severe events. The level of fiscal resilience to natural disasters, which drives the optimal financial strategy, is a decision based on economic and social considerations.

Figure 2: Three Tier Risk Layering and Optimal Sovereign Disaster Risk Financing



Further Reading

Cummins, J.D. and O. Mahul (2009). Catastrophe Risk Financing in Developing Countries: Principles for Public Intervention. The World Bank, Washington, D.C. ISBN 978-0-8213-7736-9

Ghesquiere F., and O. Mahul (2010). Financial Protection of the State Against Natural Disasters: A Prime. World Bank Policy Research Working Papers #5429

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