

## Disaster Risk Finance Requires Public and Private Partnership

The essential role played by ministries of finance in disaster risk financing and insurance

In many countries, disaster risk management has traditionally been seen as an agenda belonging to specialized agencies such as the national disaster management agency, civil protection, or the ministry of environment. In this case the disaster risk financing and insurance agenda can be an entry point for the ministry of finance to engage in disaster risk management, which, in turn, can inform development that is resilient to disaster and climate risks through better integration of risk considerations in public investments.

While risk financing cuts across different government agendas, successful disaster risk financing and insurance measures are almost always anchored in and driven by the country's ministry of finance. In a growing number of developing countries, the ministry of finance is adopting integrated approaches to risk management, including against natural hazards. Numerous countries, such as Colombia, Indonesia, Panama, and Peru, have established fiscal risk management divisions within the ministry of finance tasked with identification, quantification, disclosure, and management of fiscal risks associated with natural disaster. These teams are often best placed for leading the disaster risk financing and insurance agenda, in partnership with other public entities for respective policy areas—for example, the ministry of agriculture for agricultural insurance programs or disaster risk management agencies for risk reduction and preparedness measures—as well as the private sector and the international community. Anchoring financial protection to disasters within the ministry of finance also supports

comprehensive approaches to fiscal and debt risk management, and allows governments' to build on existing capacity in managing other contingent liabilities such as debt.

Even where dedicated risk management teams are not in place, the ministry of finance is typically best placed, and benefits the most from, implementing disaster risk financing. In this case other units within the ministry of finance, for example those dealing with budget management, asset and liability management, debt management, economic policy, or sometimes insurance divisions or insurance supervisors can make sensible homes for the agenda. Depending on the counterpart within the ministry of finance the focus of the disaster risk financing engagement is likely to differ.

### Challenges and opportunities for public financial management of a successful disaster risk financing and insurance agenda

Section II detailed the financial strain that disasters place on governments' budgets. In principle, countries can take advantage of both pre- and post-disaster sources of financing for disasters, but the use of proactive financial protection instruments requires a certain level of experience for advance planning within the government.

Strong public financial management of natural disasters depends on the ministry of finance's capacity to develop financing solutions before a disaster hits. This requires strong public financial management experience and trained officials, including the ability to conduct complete fiscal forecasts that incorporate different disaster scenarios and that are then regularly monitored. This includes a comprehensive overview of the aggregate

fiscal risk arising from various contingent liabilities, for example from natural disasters or from large state-guaranteed infrastructure projects. These elements for fiscal monitoring are, however, not found in most countries. An analysis of over 350 Public Expenditure and Financial Accountability (PEFA) assessments—international assessments reviewing the condition of national public financial management systems—show that most low- and middle-income countries either monitor the government’s fiscal position only once a year, with a consolidated overview often missing or incomplete, or do not do any kind of regular monitoring at all.

Adopting a proactive risk financing approach also has multi-year budget implications. Multi-year forecasts for revenues, medium-term expenditure totals for mandatory expenditure, and potential debt financing would need to be in place. This medium-term budget framework is led by the ministry of finance, but requires other ministries to complete the budget plan with specific line items. Information from diagnostic tools such as the PEFA confirms, however, that most developing countries do not have good medium-term budget frameworks in place, which makes it more complicated to ensure that future expenditure is aligned with longer-term, strategic investment decisions.

While post-disaster financing mechanisms, such as increasing taxes and borrowing, do not require advance planning, they do rely on strong capacities in areas like tax administration and debt management. Here, too, evidence indicates that the challenges are significant. For example, increasing the tax burden in the wake of the kind of economic contraction often seen after a disaster can be almost impossible in countries without a well-organized system for defining tax policy and tax administration. Even where processes for budget mobilization are in place, officials may

not be familiar with their use as they are only activated in exceptional circumstances.

*Contribution by Monica Rubiolo, State Secretariat for Economic Affairs of Switzerland*

### The private sector’s role in the disaster risk financing and insurance agenda

The private sector plays an essential role in the ongoing development of, and access to, disaster risk financing and insurance solutions. It does this primarily by providing capital and technical expertise, and by driving innovation. The private sector also plays a crucial role through public-private partnerships in insurance programs, for example in the delivery of payouts to beneficiaries as well as in the education of consumers.

#### Providers of risk capital

As a provider of risk capital, the private sector (including insurers, reinsurers, banks, and investors) is a crucial risk bearer. To guard against insolvencies from larger-than-expected losses—and to comply with regulatory requirements that maintain the financial stability of the industry—insurance companies must have sufficient capital. Capital in the reinsurance market alone is estimated at over \$500 billion.

In addition, convergence between insurance and reinsurance markets and capital markets through the emergence of alternative risk transfer solutions (such as catastrophe bonds and catastrophe swaps) has allowed the pool of catastrophe risk-bearing capital to increase flexibly over the past decade. For example, investors such as pension funds who typically would not have interacted with the world of catastrophe risk have had the opportunity to put their capital to work in instruments such as catastrophe bonds. Risk takers such as insurance and reinsurance companies have

been able to increase their capacity to underwrite risk by passing excess risk on to new capital sources.

The availability of risk-bearing capital in the insurance and capital markets has allowed a number of developing country governments to transfer excess risk to private sector risk carriers such as international reinsurance companies. Furthermore, this pool of capital has shored up domestic insurance markets in developing countries by allowing accumulated catastrophe risk to be passed out of the country and into the international markets. It is notable, for example, that an estimated 95 percent of the \$8 billion of insured loss incurred in the aftermath of the devastating 2010 Chilean earthquake was passed out of the domestic market and onto international reinsurers. Access to international reinsurance can support the sustainable growth of a domestic insurance market.

Within domestic markets, private sector entities that provide risk-bearing capital help individuals, businesses, and the government manage shocks. At the business and household level, a developed domestic insurance market for property catastrophe risk can speed household and business recovery through provision of rapid financial liquidity following an event; use premiums to signal risk and promote risk reduction; and reduce the burden on the fiscal budget in the aftermath of a disaster by reducing the need for state compensation of businesses and individuals.

### *Providers of technical expertise and innovation*

The private insurance sector also offers extensive technical expertise in quantifying and managing risk accumulations—the total combined risks that could be involved in a single loss event, designing products,

underwriting catastrophe exposure, and settling claims. Drawing on this expertise can help overcome the challenges that impede the development of catastrophe insurance markets in developing countries. These challenges include a lack of data and trained people, the high cost of offering products, and a generally low level of awareness and understanding of catastrophe risk exposure. Private sector insurance companies and banks can improve catastrophe risk modeling, the collection of data on the cost of extreme events, and the promotion of risk awareness through educational programs. The Global Index Insurance Facility is one example how the World Bank helps bring this private sector expertise to developing countries.

### **Global Index Insurance Facility**

Established in 2009, the Global Index Insurance Facility (GIIF) is a multi-donor trust fund, jointly operated by the IFC and the World Bank, supporting the development and growth of local markets for weather and disaster index-based insurance in developing countries, primarily Sub-Saharan Africa, Latin America and the Caribbean and Asia Pacific. GIIF's implementing partners have issued more than 600,000 policies to cover farmers, pastoralists and micro-entrepreneurs with US\$119 million in sums insured and reached over one million with information and access to index insurance. GIIF's objective is to expand the use of index insurance as a risk management tool in agriculture, food security, disaster risk reduction and access to finance. To this end GIIF works with Swiss Re as its main technical partner to assist implementing partners on the design of index insurance products, policies, and on managing claims processes.

Index insurance is a relatively new but innovative approach to insurance provision that pays out benefits on the basis of a pre-determined index (e.g. rainfall level, seismic

activity, livestock mortality rates) for loss of assets and investments, primarily working capital, resulting from weather and catastrophic events, without requiring the traditional services of insurance claims assessors. It also allows for the claims settlement process to be quicker and more objective.

Source: <http://www.ifc.org/GIIF>

Developed country insurance and reinsurance companies can transfer established tools, products, and methodologies to developing country insurance markets as a way to support their growth. For example, in 2009 the World Bank-supported South-East Europe and the Caucasus Risk Insurance Facility resulted in the establishment of a specialized regional reinsurer, Europa Reinsurance Facility (Europa Re). The initiative is working to build a sustainable mass market for standardized catastrophe risk insurance products in participating countries in South-East Europe. It does this by offering options for reinsurance, standardized products, and web-based tools for underwriting and accumulation management through Europa Re. The facility is using expertise from private sector insurance companies to develop the catastrophe risk models, underwriting platform, and design insurance products to stimulate market development.

Finally, the private sector has proved its ability to innovate to overcome market development challenges. This has produced new products and tools that have increased the efficiency of product offerings, and increased access to cover to previously excluded groups.

### Examples of technical contributions from the private sector

#### *Quantification of risk*

Although catastrophe risk modelling has been undertaken in the academic, public, and private spheres, it is the private sector that has driven this discipline forward the most. High resolution probabilistic catastrophe risk modelling (detailed computer simulations to quantify loss that could be sustained from a particular disaster) was first developed in response to the needs of the private insurance industry, for pricing and accumulation management. These sophisticated modelling tools are now being used in less developed insurance markets around the world, and the improved understanding of risk they enable also informs disaster risk management beyond financial protection.

#### *Risk-based pricing*

One way the insurance industry has managed its catastrophe risk exposure is through risk-based pricing. Insurance companies calculate premiums on the basis of modelled expected loss. The cost of cover then serves as a signal of the risk customers are exposed to and provides an economic incentive to minimize this risk. This could include investing in disaster resistant construction and retrofitting, and settling outside of risk prone areas.

#### *Introduce technical and transparency standards*

Cooperation with the private sector can play an important role in instilling and strengthening technical and transparency standards in public financial management. To access insurance, governments need a solid damage assessment methodology and transparent handling of payouts. Through adopting terms and conditions based on international standards for the insurance contracts themselves, governments can also bring international best practice to domestic insurance markets. In Colombia, the government uses standardized terms and

conditions from international insurance market best practices to purchase catastrophe insurance for its public buildings. The government of Mexico has in place an indemnity-based excess-of-loss insurance contract since 2011. In order to place the contract with the private markets, it was necessary for the government to develop transparent and robust processes for loss reporting. Such improvements will have applications well beyond the contract itself.

### *Product expansion*

The private sector led the development of risk-transfer products that trigger—meaning they pay-out—based on predetermined parameters such as wind speed instead of loss estimates. The development of these parametric products has increased access to insurance to areas and consumers that could not have been reached effectively using a traditional claims-based model of insurance provision.

For example, the first weather insurance product in India, and indeed in the developing world, was a rainfall insurance contract underwritten and designed in 2003 by ICICI-Lombard General Insurance Company for groundnut and castor farmers (Clarke, et al., 2012). This pilot, supported by technical assistance from the World Bank, spurred rainfall insurance product offerings from other insurers, such as IFFCO-Tokio and the public insurer Agriculture Insurance Company of India, leading to a high rate of growth in the number of farmers insured between 2003 and 2007. As a result of this private sector-led pilot, the government of India launched a pilot of the Weather-Based Crop Insurance Scheme in 2007, now a largely compulsory, publicly-subsidized program that insures more than 10 million farmers for a range of crops. While the private sector plays a key role in the design of new products, experience has shown that the public sector is needed to

reach the critical mass required to sustainably scale up such products and initiatives and hence encourage innovation by the private companies.

Similar innovations also supported sovereign risk transfer via parametric products for developing country governments. Sovereign risk transfer initiatives that have used parametric products include: the catastrophe bonds issued by the government of Mexico in 2006, 2009, and 2012 for earthquake and hurricane risk; the first-ever multi-country regional risk pool, established in 2007 as the Caribbean Catastrophe Risk Insurance Facility; the Pacific Catastrophe Risk Insurance Pilot in 2013; and the African Risk Capacity in 2014. Private sector partnerships can also unlock new delivery channels, for example by making agricultural insurance products available to farmers as a bundle with seed purchases.