



Strategic Framework for the Financial Management of Disaster Risk



Abbreviations and Acronyms

CAPRA	Comprehensive Approach to Probabilistic Risk Assessment
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CEPREDENAC	Coordination Center for the Prevention of Natural Disasters in Central America
DICRE	State Directorate of Investment, Concessions, and Risks
DPI	Directorate of Investments Programming
FAP	Panama Savings Fund
GDP	gross domestic product
GFDRR	Global Facility for Disaster Reduction and Recovery
GoP	government of Panama
IDB	Inter-American Development Bank
MEF	Ministry of Economy and Finance
PML	probable maximum loss
PNGIRD	National Policy on Integrated Disaster Risk Management
PNGRD	National Disaster Risk Management Plan
SINAPROC	National Civil Protection System
SINIP	National Public Investment System
UNISDR	United Nations Office for Disaster Risk Reduction

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Background

With promulgation of Executive Decree 578 of November 13, 2014, the government of Panama (GoP) formalized its guiding framework for the management of fiscal risk in the event of disasters related to the impact of natural hazards. The decree approved the adoption of the Strategic Framework for the Financial Management of Disaster Risk¹, making Panama the first country in the region to implement such a framework under an executive decree.

Adoption of the Strategic Framework represents the culmination of a series of public reforms, consultations, and studies undertaken by the GoP in recent years. These efforts have created a strong legal mandate in Panama for establishing a financial management strategy that addresses natural disasters. One of the milestones in this process was enactment of Law 7 of February 11, 2005, which reorganized the National Civil Protection System (Sistema Nacional de Protección Civil, or SINAPROC), assigning it responsibilities for the planning, investigation, direction, supervision, and organization of policies and actions designed to prevent material and psychosocial risks and to gauge the potential danger of natural and anthropogenic disasters in the country (Government of Panama 2012).

In 2005, the Panama National Committee of the Center for the Prevention of Natural Disasters in Central America (Centro de Coordinación para la Prevención de Desastres Naturales en América Central, or CEPREDENAC), which was established under Executive Decree 402 of December 12, 2002, was given responsibility for developing the National Risk Management Platform (Plataforma Nacional de Gestión de Riesgos). This platform became a multi-stakeholder mechanism that fostered a broad participatory process and led the GoP to adopt the National Policy on Integrated Disaster Risk Management (Política Nacional de Gestión Integral de Riesgo de Desastres, or

PNGIRD) in December 2010. The policy establishes the principles of integrated risk management for the country and identifies five pillars for coordination with the stakeholders responsible for its implementation.²

The PNGIRD assigns responsibility for financial management of disaster risk to the Ministry of Economy and Finance (MEF) through the State Directorate of Investment, Concessions, and Risks (Dirección de Inversiones, Concesiones y Riesgos del Estado, or DICRE). Thus the MEF, through DICRE, is responsible for implementing a financial protection strategy in coordination with the General Directorate of SINAPROC, as well as for implementing the National Risk Management Platform. To ensure that these functions are performed, Executive Decree 479 of November 22, 2011, assigns additional responsibilities to DICRE, specifically the design, development, and implementation of investment policies for financial protection through risk management programs applicable throughout the state, including disaster risk management.

Pursuant to the terms of the PNGIRD, in 2011 SINAPROC approved the National Disaster Risk Management Plan 2011–2015 (Plan Nacional de Gestión de Riesgos de Desastres 2011–2015, or PNGRD), which was prepared with the support of the National Risk Management Platform. Along with the National Emergency Plan, the PNGRD is the main programmatic instrument for implementation of the PNGIRD.

¹ See text of Executive Decree 578 which approves adoption of the Strategic Framework for the Financial Management of Disaster Risk, at http://www.gacetaoficial.gob.pa/pdfTemp/27662_A/48878.pdf.

² The PNGIRD coordinating pillars are (i) investment in disaster risk reduction for sustainable economic development; (ii) social development and compensation for reducing vulnerability; (iii) environment and climate change; (iv) territorial management, governability, and governance; and (v) disaster management and recovery.

Financial management of disaster risk is addressed in the National Disaster Risk Management Plan 2011–2015. The plan's first thematic pillar focuses on including disaster risk reduction in the processes of investment planning and financial protection. Its objectives include (i) incorporating disaster risk analysis in public investment planning processes; (ii) developing instruments and measures for implementing a financial protection strategy in the event of disasters; (iii) systematizing information on and appraisals of investments in disaster prevention, mitigation, preparedness, response, and reconstruction; and (iv) promoting public and private investment in risk management. These strategic objectives were accompanied by creation of an expenditure classification in the government's Manual of Budget Classifications for public investment in disaster risk reduction initiatives.

In negotiating credit facilities, Panama made certain policy commitments, and these have catalyzed efforts to strengthen the financial management of disaster risk. Certain commitments assumed by the GoP—those made in the context of programmatic loans from the Inter-American Development Bank (IDB) to support policy reforms for developing the Program to Reduce Vulnerability to Natural Disasters and Climate Change, as well as policy commitments assumed in signing a contingent credit line with the World Bank³—have stimulated much of the relevant progress.

³ Expansion of the roles and responsibilities of DICRE was one of the commitments assumed by the GoP for approval of the World Bank Development Policy Loan with a Catastrophe Deferred Drawdown Option (DPL with a Cat DDO). Similarly, the program series negotiated with the IDB under the Program to Reduce Vulnerability to Natural Disasters and Climate Change included commitments related to the financial protection component, including the formulation of guidelines for a financial risk management strategy, which later contributed to development of the Strategic Framework.

Over the last four years, the GoP has implemented several financial tools for managing disasters' negative impact on public finance. These include disaster set-asides through the Panama Savings Fund (FAP) and two disaster contingent credit lines, one each with the IDB and the World Bank.

The GoP is moving forward with implementation of its strategy for financial management of disaster risk. The GoP understood the need for a guiding framework based on Panama's national disaster risk profile within the context of climate change, and adopted the Strategic Framework in November 2014. The framework emphasizes efficient management of available instruments and offers guidelines for developing new risk retention and transfer instruments in the event of disasters.

As it continues to strengthen its financial management of disaster risk program, the GoP has the support of the Global Facility for Disaster Reduction and Recovery (GFDRR), which contributed World Bank technical expertise for a final review of the Strategic Framework and provided funding from its own resources for its publication.

In addition to the role it will serve in Panama, the Strategic Framework will ideally serve as a reference for other countries considering the development of a strategic document for financial management of disaster risk.

Introduction

Disasters associated with the impact of natural hazards have had adverse social and fiscal effects on Panama over time, and the GoP is therefore committed to strengthening the financial management of disaster risks. Recognizing the importance of mitigating the consequences of disasters associated with natural hazards, the GoP has implemented a number of measures to strengthen financial management of disaster risk in its policies and programs. This approach is evidenced in the inclusion of specific guidelines on the subject in the PNGIRD and the PNGRD.

Actions taken by the GoP in financial management of disaster risk are consistent with Law 34 of June 5, 2008, the Law on Social Fiscal Responsibility. This law aims to establish norms, principles, and methodologies for consolidating fiscal discipline in national financial management of the public sector, a necessary condition for continuous and sustainable economic growth. The law stipulates that the government's strategic plan (which includes an economic and social strategy) should consider possible contingent liabilities and other risks that could affect budget execution. It also states that medium-term macroeconomic and macro-fiscal assumptions should include an assessment of the main fiscal risks and the contingent liabilities that could affect the financial situation.

The management of expenditures stemming from disaster situations should take the provisions of Law 34 of 2008 into account. The law sets a ceiling on the absolute nonfinancial public sector deficit, calculated in relation to the gross domestic product (GDP), but it allows for temporary suspension of the ceiling in the event of natural disasters. In addition, the law's regulations require that, starting in fiscal year 2011, the proposed General Budget Law include a budget allocation for general contingencies to cover any contingent liabilities that arise during the fiscal year.

MEF Executive Decree 578 of November 13, 2014, is a guiding document for managing fiscal risk in the event of disasters, and it is consistent with both the PNGIRD and the PNGRD. The Strategic Framework for the Financial Management of Disaster Risk is a guiding document developed by the MEF for managing fiscal risk in the event of disasters associated with the impact of natural hazards. This document with its respective strategic pillars emerged in response to the MEF's interest in having a guiding document for financial management of disaster

risk, one that would help it meet the responsibilities entrusted to it under Objective 1.2 of the PNGRD—namely, to develop instruments and measures for implementing a financial protection strategy for disasters. The Strategic Framework is consistent with the objectives of the PNGIRD, which was adopted under Executive Decree 1101 of December 30, 2010. It establishes Strategic Articulating Pillar A, “Disaster Risk Reduction for Investments for Achieving Sustainable Economic Development,” which includes financial investment protection as one of its measures.

The Strategic Framework was developed with the support of regional and international entities. The MEF drafted this document with support from various organizations, including the CEPREDENAC at the regional level, along with the World Bank, the IDB, and the GFDRR. The document incorporates a number of important lessons learned from international experience: (i) include disaster risks as part of an integrated framework of fiscal risk management; (ii) ensure that governments have access to immediate funds following a disaster; (iii) consider the creation of a national disaster fund; and (iv) reduce the government's contingent liabilities against disasters associated with the impact of natural hazards by insuring critical public assets and promoting the private insurance market for catastrophic risks and agricultural insurance.⁴

The Strategic Framework has the following five strategic pillars: (i) identification, quantification, and understanding of fiscal risk due to disasters; (ii) incorporation of disaster risk analysis in the planning of public investment; (iii) formulation of components for developing and implementing risk retention and transfer instruments; (iv) development of the domestic insurance market; and (v) strengthening of the DICRE so it can fulfill its role in designing and implementing financial protection strategies.

Disasters associated with the impact of natural hazards pose a major challenge for social inclusion, poverty reduction, the regulation of public finance, and the prudent administration of Panama's public debt and its assets. Panama's geographical location and geotectonic characteristics expose it to a variety of hydrometeorological and geophysical hazards. These hazards will likely generate increasing economic losses as the country

⁴ Some of the lessons mentioned are described in Cummins and Mahul (2009) and Ghesquiere and Mahul (2010).

experiences economic growth, especially given the social factors related to growth and to the attendant concentration of population and assets. Accordingly, the GoP is committed to developing strategies for managing the fiscal risk associated with hazard events in order to mitigate negative impacts on poverty, inequality, and malnutrition.

The steps taken by the GoP to manage fiscal risk due to events associated with the impact of hydrometeorological hazards will also play an important role in the country's efforts to adapt to climate change. Agriculture, water resources, forests, coastal areas, and public health are especially susceptible to the effects of climate change in Panama. Hurricanes, floods, and droughts are likely to get worse in terms of their physical parameters. These events are already causing major economic losses and affecting the livelihood of the poorest and the most marginalized sectors of the population (ANAM 2013).

From 2015 onward, the hazards associated with climate variability could well become the main cause of the increase in extreme events. This situation could call for comprehensive risk assessments as well as for development planning that more closely incorporated disaster risk planning and adaptation to climate change (World Bank 2012). In particular, transfer mechanisms for risk associated with climate change in Panama's agricultural sector are particularly important, given the vulnerabilities to climate change that have been identified for this sector in Panama. Studies such as the First National Communication (Primera Comunicación Nacional) have noted the vulnerability of the agricultural sector to changes in rainfall patterns in the central provinces (ANAM 2010).

Box. 1. Exposure to Disasters Associated with Natural Hazards

Panama's geographical location and geotectonic characteristics expose it to a variety of hydrometeorological and geophysical hazards. As a result of its territorial configuration, it ranks 14th among countries of the world most exposed to multiple hazards; 15 percent of its total area is exposed, and 12.5 percent of its total population is vulnerable to two or more hazards (World Bank 2005).

Among the hazards to which the country is exposed are intense, long-lasting rains; storms; strong electrical surges; floods; forest fires; waterspouts; earthquakes; tsunamis; and El Niño–La Niña episodes. Global climate change models indicate that Panama will undergo severe changes in its weather patterns, with heat waves, droughts, heavier rainfall, more frequent storms, and rising average sea levels.

According to studies by the University of Panama, the country can be divided into four hazard zones based on the presence and intensity of earthquakes, hurricane winds, floods, and landslides (figure B1.1).

Figure B1.1. Classification of Zones According to Hazards

Azuero Zone	<ul style="list-style-type: none"> • Droughts • Floods • Earthquakes • Hurricane winds
Western Zone	<ul style="list-style-type: none"> • Floods • Earthquakes • Hurricane winds
Metropolitan Zone	<ul style="list-style-type: none"> • Floods • Hurricane winds • Earthquakes
Eastern Zone	<ul style="list-style-type: none"> • Earthquakes • Floods

Source: University of Panama Institute of National Studies 1990.

Over the last decade, floods have posed serious challenges for the agricultural sector in Panama and for the concentrations of poor people living in rural areas. More recently they have begun to cause increased damage in urban areas. Heavy rains in December 2010 caused serious floods and landslides, forcing a temporary shutdown of the Panama Canal and leaving large sectors of the Panama City Met-

ropolitan Area without drinking water following damage to the city's main treatment plant. According to calculations by official sources, the cost of repairing damaged infrastructure and restoring economic activity in affected areas was US\$149.3 million. Two years later, in November 2012, more heavy rains caused floods and landslides in Colón and throughout the western Caribbean region of Panama. In this case the damage was estimated at US\$123 million, leading the GoP to declare a national emergency and approve a waiver lifting restrictions on the deficit ceiling.

The country also sits on an active seismic area, the Panama microplate, and is exposed to a number of geological faults, the most important of which are the Tonosí Fault, the Panama Fracture Zone, the Gatún Fault, and the North Panama Deformed Belt. Technical studies conducted in 2014 by the Caribbean Catastrophe Risk Insurance Facility (CCRIF)⁵ estimated that for Panama, the annual probable maximum loss (PML^a) produced by earthquakes with a 200-year return period would be at least 5.32 percent of the 2013 GDP.^b For a return period of 500 years, the annual PML would reach approximately 12.88 percent of the 2013 GDP. In 2012, in a technical assistance project carried out through the Comprehensive Approach to Probabilistic Risk Assessment (CAPRA) program, probable maximum losses and expected annual losses due to an earthquake in David, the country's urban area at greatest seismic risk, were calculated for the housing, health, and education sectors.^c The total expected annual losses come to approximately US\$46.3 million for three sectors, which together correspond to an exposure value of US\$3.842 billion.

- Cummins and Mahul (2009) define PML as the total annual losses that could equal or exceed a specific probability. Thus, a return period of 200 years is equivalent to an annual probability of 0.5 percent for a loss that amounts to 5.13 percent or more of GDP.
- See CCRIF (2014). Percentages were calculated on the basis of CCRIF estimates at current 2013 prices and of GDP at current estimated purchasing prices for 2013, using data from Comptroller General of the Republic of Panama, National Institute of Statistics and Census.
- CAPRA is a tool for understanding disaster risk through probabilistic assessment. It originally focused on Central America but has now been expanded to other Latin American countries.

⁵ CCRIF (Caribbean Catastrophe Risk Insurance Facility). 2014.

Strategic Pillars of the Strategic Framework

The MEF defined five strategic pillars in its Strategic Framework for managing fiscal risk due to disasters associated with the impact of natural hazards. The intent was to present approaches for reducing fiscal risk when disasters occur. The strategic pillars recognize financial management of disaster risk as a component of both fiscal management policy and policies on integrated disaster risk management. They are as follows:

1. Identification, quantification, and understanding of fiscal risk due to disasters
2. Incorporation of disaster risk analysis in the planning of public investment
3. Formulation of components for developing and implementing risk retention and transfer instruments
4. Development of the domestic insurance market
5. Strengthening of the DICRE so it can fulfill its role in designing and implementing financial protection strategies

As activities are developed along these five pillars, the government's capacity to respond to disasters will improve, and the long-term fiscal and social impacts of these events will be mitigated.

Strategic Pillars 1

IDENTIFICATION, QUANTIFICATION, AND UNDERSTANDING OF FISCAL RISK DUE TO DISASTERS

The identification, quantification, and understanding of fiscal risk due to disasters constitute the critical first step toward managing disaster risk. This pillar cross-cuts all the other pillars in the Strategic Framework.

Panama has conducted studies to identify the natural hazards it faces, but further research is needed in order to improve knowledge about vulnerability and exposure. According to studies by the University of Panama (1990), the country can be divided into four hazard zones, based on the presence and intensity of earthquakes, hurricane winds, floods, and landslides (figure B1.1). Further research on vulnerability and exposure will help to produce complete and accurate information for robust studies of risk quantification.

Panama has already conducted studies on the quantification of fiscal risk⁶. According to an IDB study based on 2008 data, the Disaster Deficit Index shows that an extreme event with a return period of 100 years or more would probably produce losses for Panama equivalent to between 5.44 percent and 9.05 percent of GDP. In such a scenario, the GoP would not have sufficient resources of its own to cover such losses and to replace the affected capital stock.

More recent studies conducted by the CCRIF (2014) estimated how losses during the period from 1904 to 2003

would have been affected if the GoP had possessed catastrophic insurance of the kind currently under consideration through CCRIF. The finding was that such insurance would have covered at least 48.4 percent of the government's losses arising from the three major seismic events of that period.

To better understand the fiscal risk due to disasters, the GoP plans to do the following:

- ✓ **Improve information.** Improving information about the exposure of buildings and infrastructure, as well as historical data on disaster losses, will help to improve understanding of the country's fiscal risk profile.
- ✓ **Use complete and accurate information.** Having access to complete and accurate information about the exposure and risks to be managed will help to improve the coverage and quality of insurance on the asset portfolio. It will also support decision making with regard to investments in disaster risk mitigation.
- ✓ **Conduct probabilistic studies as part of disaster risk assessment.** These studies will serve as a basis for financial decision making under conditions of uncertainty. They will make it possible to estimate the extent of both the expected annual loss and the PML to be assessed. Dynamic financial analysis in turn will make it possible to define the strategy for retention and for risk transfer to the market.

⁶ "Indicadores de Riesgo de Desastre y de Gestión de Riesgo", Panamá, 2010. Banco Interamericano de Desarrollo. Notas Técnicas No. IDB-TN-169

Having better information makes it possible to negotiate the best conditions with the (re)insurance sector. The less uncertainty there is about the risks to be cov-

ered, the better the terms and conditions, including coverage and rates, that the insurance industry can offer.

Strategic Pillar 2

INCORPORATION OF DISASTER RISK ANALYSIS IN THE PLANNING OF PUBLIC INVESTMENT

The Ministry of Economy and Finance, through its Directorate of Investment Programing (DPI), will incorporate disaster risk management among the tools for planning and monitoring of public investment. The DPI will design economic assessment methodologies that include risk management in the process of public investment approval within the National Public Investment System (Sistema Nacional de Inversiones Públicas, or SINIP), and it will incorporate disaster risk criteria in the conceptual model to be developed for the purpose. The idea behind these steps is to automate the planning, monitoring, and evaluation processes for projects related to SINIP management.

Within this context, the GoP plans to do the following:

- ✓ **Include risk analysis in the pre-investment stage.** The DPI has developed both a draft protocol for evaluating public investment projects and a comprehensive catalog of risks (which includes the risk of disasters), with a view to incorporating disaster risk analysis in the pre-investment stage.
- ✓ **Make risk analysis a compulsory step in the public investment process.** A planned change to the SINIP regulations will require all proposed public investment projects to include risk analysis so that their viability and technical sustainability can be determined.

- ✓ **Consider amending the General Budget Law of Panama.** A plan has been proposed that would tie the allocation of budgetary funds for public investment projects to SINIP standards and procedures; doing so would certify the technical viability of all public investment projects before the funds were allocated.
- ✓ **Enact the Public Investment Law.** The draft law is intended to ensure that progress in risk analysis in the public investment process is reflected in a new normative framework.
- ✓ **Provide training in tools for including disaster risk in the public investment process.** There is a plan to implement and provide training in use of the Basic Methodological Guidelines for the Inclusion of Disaster Risk Management in the Public Investment Projects of Panama, which are to be developed by the DPI.

This strategic pillar will be supplemented with a classification of expenditure for risk management. The MEF has incorporated a classification of expenditure for risk management within its current version of the Manual of Budget Classifications for public investment in disaster risk reduction initiatives. This classification of expenditure will help to identify, channel and monitor resources allocated by the state to activities for disaster risk reduction.

Strategic Pillar 3

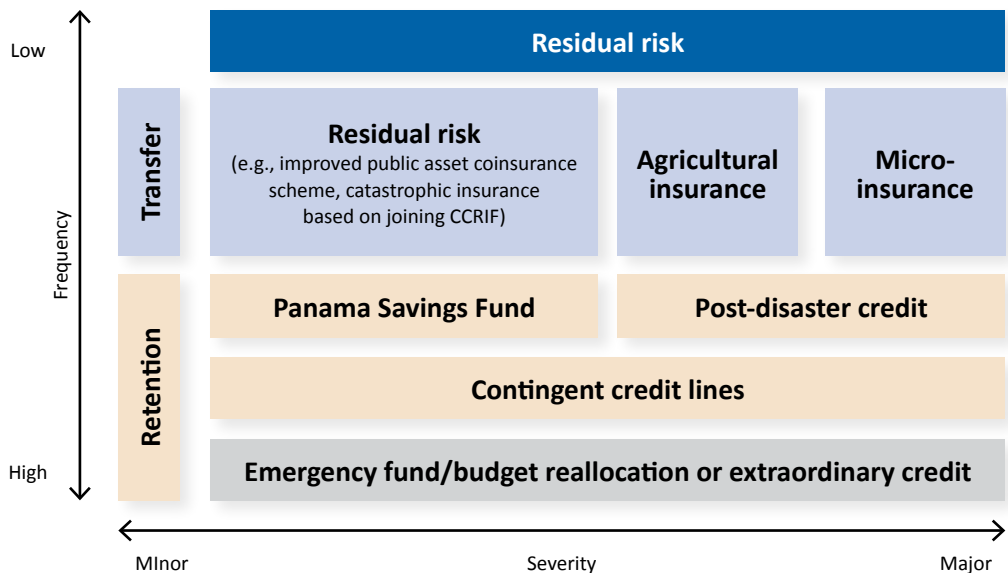
FORMULATION OF COMPONENTS FOR DEVELOPING AND IMPLEMENTING RISK RETENTION AND TRANSFER INSTRUMENTS

Disasters associated with the impact of natural hazards create budget volatility for the GoP because they require sudden unexpected expenditures during and after the event. The government should have timely access to financial resources so that it can effectively respond to disasters without affecting its fiscal stability.

The Ministry of Economy and Finance has made significant progress in designing and implementing a strategy for the financial management of disasters. The ministry's

strategy involves ex ante and ex post instruments, including funds allotted for use in the event of major disasters (the FAP), contingent credit lines with the World Bank and the IDB, and a public asset coinsurance scheme, with a view to complementing the ex post financial resources that should be guaranteed following an event. The MEF promotes the ex ante development of a layered strategy for financial management of disaster risk, as illustrated in figure 1.

Figure 1. Layered Financing Strategy for Disasters Associated with the Impact of Natural Hazards (existing instruments and instruments yet to be assessed)



Note: The instruments currently in effect include the coinsurance scheme for public assets, agricultural insurance (managed by the Agricultural Insurance Institute [ISA]), and the FAP, as well as post-disaster credit, contingency lines of credit, and budgetary reallocation or extraordinary credit. The instruments still to be evaluated are the improved coinsurance scheme for public assets and catastrophic insurance, which could be obtained through participation in the CCRIF; micro-insurance (to be implemented by the Superintendency of Insurance and Reinsurance); and the emergency fund.

Although the MEF already has financial instruments for responding to disasters, these will be supplemented with additional instruments. The MEF will be assessing additional financial protection instruments with a view to establishing a strategy for solid and robust financial management of disaster risk.

The GoP's selection of financial instruments will take into account the need for resources over time. In selecting the ideal combination of instruments for its financial management of disaster risk strategy, the GoP will consider the needs for resources over time—from the moment the funds are required (first response), to recovery and reconstruction, as shown in figure 2.

At all times, the GoP will respect the guidelines on use of the instruments pursuant to the Law on Social Fiscal Responsibility. This law distinguishes the various instruments for the financial management of disaster-related expenditure based on whether they require a waiver or not (the latter are instruments that correspond to financing and fiscal income, which do not impact the deficit and can therefore be implemented without a waiver).

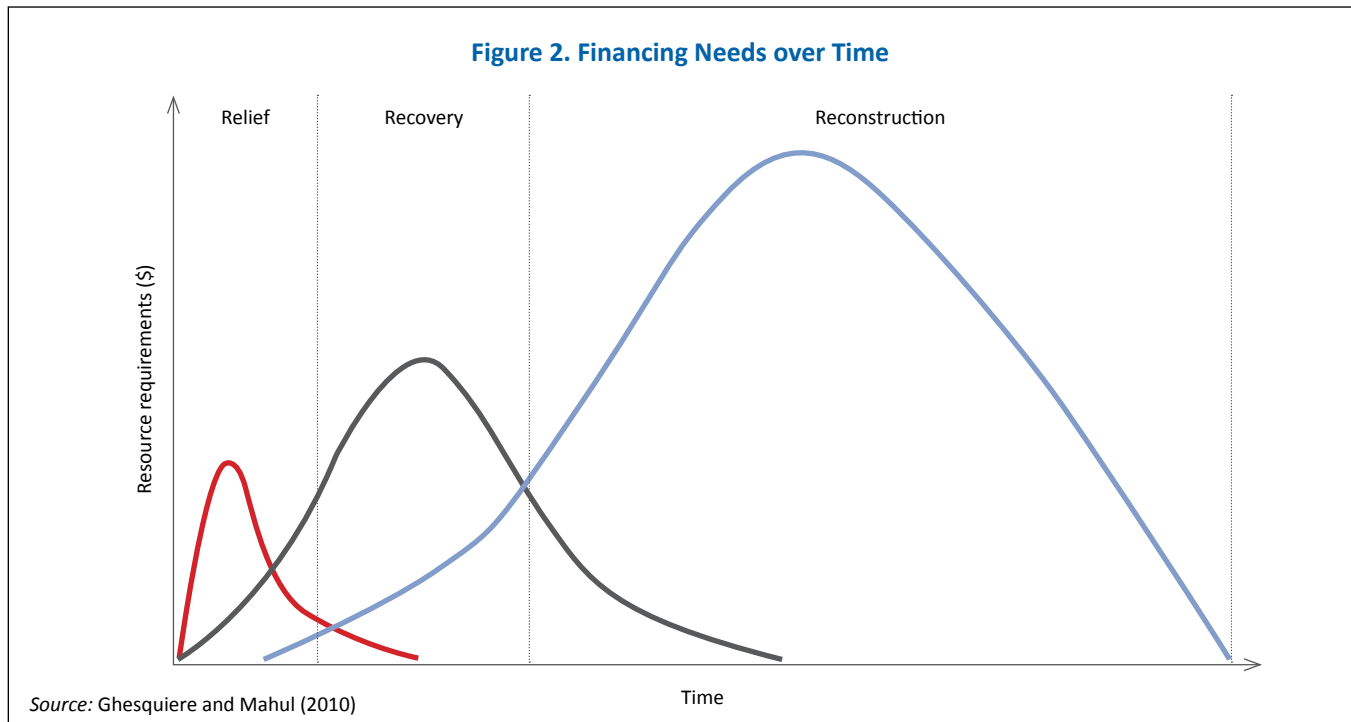
The GoP has risk retention and transfer instruments for responding to both low- and high-severity events. For frequent low-severity events, it can use retention instru-

ments such as budget reallocations and general contingency funds in the budget, which do not require a waiver for their use. For less frequent and more severe events, it can use contingent lines of credit, as well as resources from an emergency fund that require a waiver for their use.⁷ For rare and very serious events, the government can use other retention and transfer resources, such as the FAP and catastrophic insurance. It should be kept in mind that the first response phase requires short-term resources, whereas the reconstruction phase calls for medium-term resources, since it involves a planning process that can take a year or longer.

The following mechanisms and instruments are currently in place for use in response to a disaster:

- **Budget reallocations and extraordinary credits.** According to the General Standards for Budget Management, when a disaster occurs, budgeted funds may be reallocated and extraordinary credits may be requested. These are the budgetary mechanisms available for implementing an expansion of the deficit limit.
- **Panama Savings Fund.** This fund, created under Law 38 of June 5, 2012, establishes mechanisms to ensure

⁷ The emergency fund is one of the financial instruments that the government intends to evaluate.



long-term savings for Panama and stabilization in the event of emergencies and economic slowdowns; it is also meant to reduce the need to use debt instruments in response to such situations. According to the regulations on financing limits, the GoP can request permission to raise financing limits up to a maximum of 1.5 percent of GDP in the event of especially large disasters. According to the drawdown rules, the GoP may use FAP resources when a state of emergency has been declared by the Cabinet Council and a request to raise the deficit ceiling up to 1 percent of GDP has been approved by the National Assembly, as long as the costs associated with the event exceed 0.5 percent of GDP and the FAP continues to have assets greater than 2 percent of the nominal GDP for the previous year.

- **Post-disaster credit.** After a disaster has occurred, the government can negotiate loans from the multilateral or commercial banking systems.
- **Coinsurance scheme.** According to the provisions of Cabinet Decree 17 of June 12, 1991, in order to transfer the risk of public assets, all state institutions must have a risk management system that considers the GoP a single client. This means that a standardized, collective, and centralized scheme exists, but it could be improved. Toward that end, all public assets will be inventoried, risk assessment studies will be conducted, and proposals will be submitted for improving the terms and conditions of the insurance policies.

- **Contingent credit lines.** Contingent credit lines are signed for the purpose of ensuring liquidity in the event of emergencies due to disasters associated with the impact of natural hazards. The GoP has negotiated credit facilities with the World Bank and the IDB that guarantee the financial resources needed to deal with disaster-related contingencies. A Development Policy Loan with a Catastrophe Deferred Drawdown Option (DPL with a Cat DDO) in the amount of US\$66 million was signed with the World Bank effective March 7, 2012. This instrument is a line of credit that becomes active when a national state of emergency is declared, the Government decides how to spend it, i.e., emergency, reconstruction, etc. In addition, a Natural Disaster Contingency Loan for US\$100 million was signed with the IDB, effective October 3, 2012. This loan is a parametric instrument covering floods and earthquakes with characteristics specified in the loan agreement.

To strengthen and supplement these instruments, the MEF will evaluate the following approaches:

- **Contracting catastrophic insurance through participation as a member country in the Caribbean Catastrophe Risk Insurance Facility.** The CCRIF is a platform through which member countries share risks and capital to ensure more economical access to the reinsurance markets. This joint reserve mechanism gives Caribbean governments access to short-term liquidity during rare and severely destructive cata-

strophic events, specifically hurricane winds and earthquakes—an arrangement that protects public finance and supports the government’s response capacity. A product for excessive rain should also be available to current members of CCRIF at some time in the future. The GoP is evaluating whether this regional initiative should supplement its current financial instruments. As part of the process, studies are being conducted that will make it possible to assess the risks to be covered. In addition, the country’s average annual loss has been estimated, as well as its losses according to different probabilities of occurrence. The results will form the basis for setting prices on risk transfer products. In short term, coverage under the CCRIF earthquake parametric insurance policy will be evaluated.

Any consideration of catastrophic insurance must keep in mind the provisions of Law 38 of 2012, which created the FAP. Under the law, in 2015 the MEF may contract catastrophic insurance as a preventive measure to guard against possible disasters due to natural phenomena, and it may maintain this insurance as long as the assets in the FAP do not exceed 5 percent of the GDP for the previous year and the cost of the premiums is no greater than 0.3 percent of fund assets.

- **Strengthening the coinsurance scheme.** Cabinet Decree 17 of 1991, which sets the terms for the management of state insurance, distinguishes between standard and special insurable risks, as stipulated in the Insurance Tariff Manual. The state is regarded as a sole client, for which an insurable value is covered by payments on a property insurance policy. Basically, the GoP has a standardized, centralized, collective insurance scheme that covers its standard risks.

The MEF seeks to improve the efficiency of contracting insurance for infrastructure buildings and public services. Accordingly, it plans to (i) conduct an inventory of public property and information systems for

managing the risk of these assets; (ii) carry out studies to assess the risks for public assets; (iii) strengthen the government’s insurance contracting policy by updating the Insurance Tariff Manual and negotiating and updating new terms and conditions for the insurance policies (considering first loss insurance) and bonds contracted for by the state; (iv) conduct studies on maximizing the benefit of having a standardized, centralized, and collective insurance system; and (v) develop a Risk Management Policy for the government.

- **Creating an emergency fund.** According to the IDB (2013), recurring events are partially covered with budget reallocations. The cost of these events is estimated to range between 0.18 and 0.22 percent of GDP (US\$63 million to US\$77 million in 2012) and may reach as high as 0.4 percent of GDP in some years. To avoid impact on programmed investments, the GoP is considering creation of an emergency fund to cover events of this kind. This instrument, which is provided for in the PNGIRD, would require clear identification of the mechanisms for allocating resources and specifying their use, and would also need to be tied with the National Emergency Plan.

Creation of the emergency fund would affect any plans for obtaining catastrophic insurance through participation in the CCRIF, since holding resources in this fund would be considered a retention mechanism that would have to be quantified as a deductible amount in the catastrophic insurance scheme.

- **Establishing standards for insuring concessions.** The generation and maintenance of national infrastructure through the modality of concessions are a very important activity for the GoP. It is therefore in the GoP’s best interest to have these assets insured according to the best international standards. The MEF, through DICRE, will analyze and recommend policy improvements for the concession’s insurance.

Strategic Pillar 4

DEVELOPMENT OF THE DOMESTIC INSURANCE MARKET

Panama's average insurance penetration is high compared with the rest of Latin America's, and the government is interested in increasing it. In 2012, Panama's insurance penetration ratio (personal and general lines of business) was 3.2 percent, compared with 3.0 percent for Latin America as a whole. Panama's ratio thus represents a sizable penetration of the national insurance market.⁸ Developing the domestic insurance market would increase access to insurance for both private companies and the population in general. This would in turn reduce the demand for state resources in the event of disasters and enable the government to concentrate its resources on restoring affected infrastructure and supporting the most vulnerable sectors of the population.

Within this context, the following steps will be taken:

- ✓ **Strengthen regulation of the insurance sector.** Law 12 of April 3, 2012, restructured the regulation and supervision of the insurance market. It recognizes the Superintendency of Insurance and Reinsurance as an autonomous agency of the state, one responsible for regulating, controlling, and overseeing the companies, entities, and individuals subject to application of the law for the purpose of guaranteeing the solvency of insurance companies and the adequate protection of insured parties. The Superintendency of Insurance and Reinsurance has established a preliminary work plan for the short, medium, and long term that includes continuous consumer education, strengthening of reserves, regular advisory services from international organizations, and other initiatives, all for the purpose of attaining the objectives set forth in the law.
- ✓ **Expand agricultural insurance.** Law 34 of April 29, 1996, which created agricultural insurance and the Agricultural Insurance Institute (Instituto de Seguro Agropecuario, or ISA), strengthened regulation of the agricultural sector by ensuring that agricultural entrepreneurs were indemnified for fortuitous investment losses and by granting the ISA, among its functions, the power to manage and create new insurance branches for activities carried out in the agricultural sector. The ISA is currently working on a draft bill to update Law 34 of 1996; the aim is to expand the supply of agricultural insurance products in order to reduce the fiscal burden that disasters associated with the impact of natural hazards place on the sector.
- ✓ **Develop new micro-insurance products.** Law 12 of 2012, which restructured the regulation and supervision of the insurance market, defines the supply of micro-insurance products. The GoP is interested in promoting programs aimed at developing new micro-insurance products and expanding penetration in the productive sectors and the general population. The supervisor of Insurance and Reinsurance is looking to expand this kind of insurance program through market channels.

Implementation of this strategic pillar will be enhanced by fostering an insurance risk culture. Among the successful drivers of this pillar is an aggressive education campaign—carried out by the supervisory of Insurance and Reinsurance—that seeks to educate consumers about insurance and its benefits.

⁸ See Sigma (2013) and the Sigma website at <http://www.sigma-explorer.com/index.html>.

Strategic Pillar 5

STRENGTHENING THE DICRE SO IT CAN FULFILL ITS ROLE IN DESIGNING AND IMPLEMENTING FINANCIAL PROTECTION STRATEGIES

DICRE is the unit of the MEF that is responsible for designing and implementing a financial strategy for managing fiscal risk due to disasters associated with the impact of natural hazards. The MEF created DICRE under Executive Decree 110 of 2009 and entrusted it with functions related to the oversight of mixed enterprises. These functions were subsequently modified under Executive Decree 479 of 2011, which made DICRE responsible for designing and implementing a financial policy for disaster risk management.

The risk-related functions of DICRE include the following:

1. Setting standards and defining procedures that will guarantee the establishment of a modern system of risks, insurance, and bonds for assets that require them, including the construction of information systems to track assets owned by the state
2. Drafting policies on state risk management, including policies on risks, insurance, and bonds; and designing, developing, and implementing risk management programs applicable throughout the country that are consistent with these policies
3. With technical assistance from SINAPROC and the National Risk Management Platform, coordinating standardization of the information and criteria for quantifying and assessing damage caused by disasters

4. Representing the MEF on the Executive Committee of the ISA

In 2013, DICRE was also designated the focal point and representative of the MEF on the National Risk Management Platform.

For DICRE to fulfill these functions, its capacity must be strengthened. Accordingly, work in the following areas is under way:

1. Establishment of the Department of Risks, a specialized unit that will be responsible for overseeing compliance with each of the functions assigned to the DICRE
2. Design and implementation of the State Risk Management Policy
3. Creation of a system for monitoring and auditing the State Risk Management Policy
4. Reactivation of the Insurance Technical Committee

DICRE will draw up a plan for each government administration, both in order to set targets with respect to implementation and in order to monitor progress along the pillars of the Strategic Framework for the Financial Management of Disaster Risk.

Summary and Conclusions

Disasters associated with the impact of natural hazards pose a major challenge to the effectiveness and sustainability of public policies related to social inclusion, poverty reduction, the planning of public finance, and the prudent administration of Panama's public debt and its assets. Because of the country's geographical location and geotectonic characteristics, it is exposed to a variety of hydrometeorological and geophysical hazards. In addition to long-standing risk patterns in rural areas, Panama must now address growing urban vulnerability—a product of rapid economic growth that places people and assets increasingly at risk. One of the clearest expressions of these new risk patterns is the increase in losses associated with the occurrence of natural hazards that the country has witnessed in recent years. Given this context, the government is committed to developing strategies to manage fiscal risk in order to strengthen the economic resilience of the state and ensure the continuity and sustainability of development processes.

Through Executive Decree 578 of November 13, 2014, the GoP created its guiding framework for managing fiscal risk in the event of disasters associated with the impact of natural hazards. The Strategic Framework for the Financial Management of Disaster Risk, which was formally approved under the decree, includes the following five strategic pillars: (i) identification, quantification, and understanding of fiscal risk due to disasters; (ii) incorporation of disaster risk analysis in the planning of public investment; (iii) formulation of components for developing and implementing risk retention and transfer instruments; (iv) development of the domestic insurance market; and (v) strengthening of the DICRE so it can fulfill its role in designing and implementing financial protection strategies.

Adoption of the Strategic Framework was an important step within the GoP's integrated approach to strengthening disaster risk management. Having the framework in place represents significant progress toward accomplishing the actions planned along one of the articulating pillars of the National Policy on Integrated Disaster Risk Management. It can also be seen as contributing to the MEF's goals, which include inserting risk analysis in public investment processes, adopting mechanisms to monitor public expenditure on risk management, and collecting information to quantify the exposure of state assets.

Important lessons have been learned from the experience of the GoP. The government's progress in designing

and implementing the strategy for fiscal risk management in the event of disasters associated with the impact of natural hazards suggests the value of incorporating financial management of disaster risk within the framework of the National Policy on Integrated Disaster Risk Management. It also suggests the benefits of formalizing this strategy through a decree that reflects the country's commitment to the different instruments that it plans to evaluate in order to supplement the existing instruments. The process that led up to the adoption of this Strategic Framework has produced some lessons learned that may be useful for other countries engaging in similar processes. These lessons include the following:

- Having a national policy in place that promotes comprehensive disaster risk management, including a component on financial risk management, has been fundamental for sustaining the country's commitment to formulating and adopting the Strategic Framework.
- Similarly, the explicit assignment of responsibilities to the MEF and particularly to DICRE in connection with both the National Policy on Integrated Disaster Risk Management and the National Disaster Risk Management Plan 2011–2015 has supported expansion of the roles and responsibilities of DICRE for addressing the issues of financial protection.
- Including indicators or targets related to financial risk management in contingent credit facilities and programmatic and policy loans negotiated with the World Bank and the IDB has served to catalyze these financial risk management processes and fuel their momentum.
- Moreover, the official active participation of the MEF through DICRE in the National Risk Management Platform has made it possible to shield these processes and has gradually empowered the MEF in all areas related to disaster risk management that fall within its competence.
- The incremental approach—defining guidelines for formulating the framework, including the consultation process within the MEF and other relevant institutions, and incorporating lessons learned and good practices suggested by the CEPREDENAC, World Bank, the Inter-American Development Bank, the United Nations Office for Disaster Risk Reduction (UNISDR) and the Global Facility for Disaster Reduction and Recovery (GFDRR)—has been a key factor in arriving at a Strategic Framework that is backed by the necessary consensus to formalize it as an executive decree.

- The retention and transfer instruments currently in place show the feasibility of a legal framework that allows the standardized, centralized, and collective management for the insurance of public assets.
- Carrying out actions along the framework's various strategic pillars has shown the need for a five-year operating plan to guide the framework's implementation.

Glossary

Agricultural insurance: Tool for mitigating risks that enables farmers to transfer to third parties climate risks that threaten their productive activities. Through agricultural insurance, producers can cover biological risks and natural risks such as excess or insufficient rainfall, strong winds, floods, freezes, hail, and landslides or avalanches of climatic origin.

Budget reallocation: The reassignment of resources between one budget line and another, changing the composition of approved expenditures in the budget without affecting the total expenditure.

Contingent liabilities: Defined under Article 7 of Law 34 of June 2008 as obligations originating from specific independent events that may or may not occur in the future.

Critical public assets: Public assets and infrastructure necessary for governability and emergency response.

Disaster: A serious interruption in the functioning of a community or society that causes a large number of deaths, as well as material losses, economic impacts, and environmental impacts that cannot be adequately addressed by the affected community's own resources. It is the result of a combination of factors, including exposure to a hazard, existing conditions of vulnerability, and insufficient capacity to contend with or reduce the possible negative consequences. In addition to death, disasters can cause injury, disease, and other harm to physical, mental, and human social well-being, and can also cause damage to property, destruction of assets, loss of utilities, social and economic upheaval, and environmental degradation.

Disaster risk: Potential damages or losses that may occur due to hazardous natural physical events within a specific time period, determined by the vulnerability of the assets exposed. Hence, disaster risk is derived from the combination of hazard, vulnerability, and exposure.

Disaster risk management: The capacity of a society and its public officers to transform or avoid conditions that lead to disasters by acting upon the causes that produce them. It should be understood as a necessary characteristic of development management rather than a specific separate activity—in other words, its main characteristic is that it is present at all levels of development planning.

Extensive risk: Risk associated with frequent low-severity events, such as floods, landslides, or high winds.

Financial management of disaster risk: The set of policies, guidelines, and instruments for the management of disaster risk that makes it possible to access economic resources on a timely basis in order to improve response capacity at the time of a disaster while also preserving the fiscal balance of the state.

Fiscal risk: Future resource pressure on an entity's budget. The sources of fiscal risk include macroeconomic shocks and the realization of contingent liabilities.

Geophysical hazard: Latent danger from an event of geophysical origin, such as an earthquake, volcanic eruption, tsunami, landslide, or avalanche, among others, that occurs with sufficient severity to cause loss of life, injury, or other impacts on health, as well as loss of or damage to property, infrastructure, means of livelihood, delivery of utilities, or environmental resources.

Hydrometeorological hazards: Natural atmospheric, hydrologic, or oceanographic processes or phenomena that can cause injury or loss of life, damage to property, social and economic upheaval, or environmental degradation. Examples of hydrometeorological hazards include floods, mud or debris flows, tropical cyclones, tidal waves, tempests and hailstorms, heavy rainfall and wind, heavy snowfall, other severe storms, drought, desertification, forest fires, extreme temperatures, sand or dust storms, and severe freezing.

Intensive risk: Risk associated with infrequent events of great intensity that take a high toll on human life. Intensive risk is concentrated in a few locations—generally large urban areas—that combine high exposure to potentially destructive hazards (such as earthquakes) with high vulnerability.

Natural hazards: All atmospheric, hydrologic, and geologic (especially seismic and volcanic) phenomena and fires, which, because of their location, severity, and frequency, have the potential to adversely affect human beings, their structures, and their activities. The “natural” qualifier excludes all phenomena caused exclusively by humans, such as wars and pollution. The term also excludes hazards that are not necessarily related to the structure and function of ecosystems—for example, infections.

Nonfinancial public sector: The sector composed of all the entities of the central government and all nonfinancial public enterprises. In Panama, it does not include public deposit-taking financial institutions, the Panama Canal

Authority, Tocumen International Airport (Aeropuerto Internacional de Tocumen, S.A.), the National Highway Enterprise (Empresa Nacional de Autopistas, S.A.), or the Electric Power Enterprise (Empresa de Trasmisión Eléctrica, S.A.).

Public debt: A passive financial instrument issued by a public entity (country, province, state, department, district, or municipality) that seeks to obtain funds in the local and international markets against the promise of future payment and income; the debt is to be paid at a rate and over a time period specified in said instrument.

Risk assessment: Methodology for determining the nature and degree of risk based on an analysis of possible

hazards and an evaluation of existing conditions of vulnerability which, considered together, could cause potential damage to the exposed population, property, utilities, and means of livelihood, as well as the environment on which they depend.

Risk management system: Tool that guarantees the correct identification, evaluation, control, and monitoring of risks to the portfolio being covered against disaster risk.

Sudden expenditures: Unplanned expenditures that arise unexpectedly.

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