access to insurance initiative

IAIS
INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS

Report of the 22nd A2ii – IAIS Consultation Call

The Importance of Insurance Regulation in Disaster Resilience

18 May 2017

The A2ii Consultation Calls are organised in partnership with the IAIS to provide supervisors with a platform to exchange experiences and lessons learnt in expanding access to insurance.

The 22nd Consultation Call, held on 18 May 2017, addressed the topic of the importance of insurance regulation in disaster resilience. The topic was identified from discussions at the 9th A2ii-IAIS-MIN Consultative Forum[1] where it was highlighted as an important issue that has been little explored by supervisors and regulators.

Technical experts Carlos Montalvo Rebuelta (PricewaterhouseCoopers) and Philippe Dérieux (AXA Global P&C) explored key questions around disaster resilience, such as the scale and nature of disaster risk exposure, specific laws and regulations facilitating resilience and existing good practices from various jurisdictions. Country experts Amal Souaifi (Moroccan Supervisory Authority of Insurance and Social Security, ACAPS) and Pedro Aguilar Beltrán (Mexican Comisión Nacional de Seguros y Fianzas, CNSF) shared their jurisdictions' experience with the topic. Four calls were held: two in English, one in French and one in Spanish.

Introduction: disaster risk and the insurance protection gap

Disaster and risk make no distinction between rich and poor or public and private interests. Nevertheless, the consequences of a catastrophe disproportionately affect the poorest and most vulnerable in countries with limited capacities to absorb the associated costs. Given the magnitude of large-scale disasters, especially on the most vulnerable of society, there is a clear role that insurance can play in mitigating the impact of catastrophic risk and promoting sustainable development.

Insurance at all levels is a key tool for assessing, transferring, managing and mitigating the risks associated with disaster. While insurance at the micro or individual level can help households manage losses after a catastrophe, complementary insurance arrangements at the sovereign and sub-sovereign level can further help absorb the economic and social impact of disasters, thereby minimising future losses incurred from volatile events.

The widening protection gap

Although innovations in areas like Big Data, InsurTech and digitalisation have been making insurance easier and cheaper to access and administer, there has been a shocking rise in the number of uninsured in both developing and developed countries alike, and a growing gap between economic losses and insured losses from natural disasters (the "protection gap"). Counterintuitively, as the insurance sector has evolved, the lack of coverage and resultant uninsured losses have become a mounting burden for both individuals and governments. This widening protection gap between current penetration and the full potential of the insurance industry not only hinders but also poses a threat to economic development and societal wellbeing. Disaster is indiscriminate and without adequate protection, its impacts can be devastating.

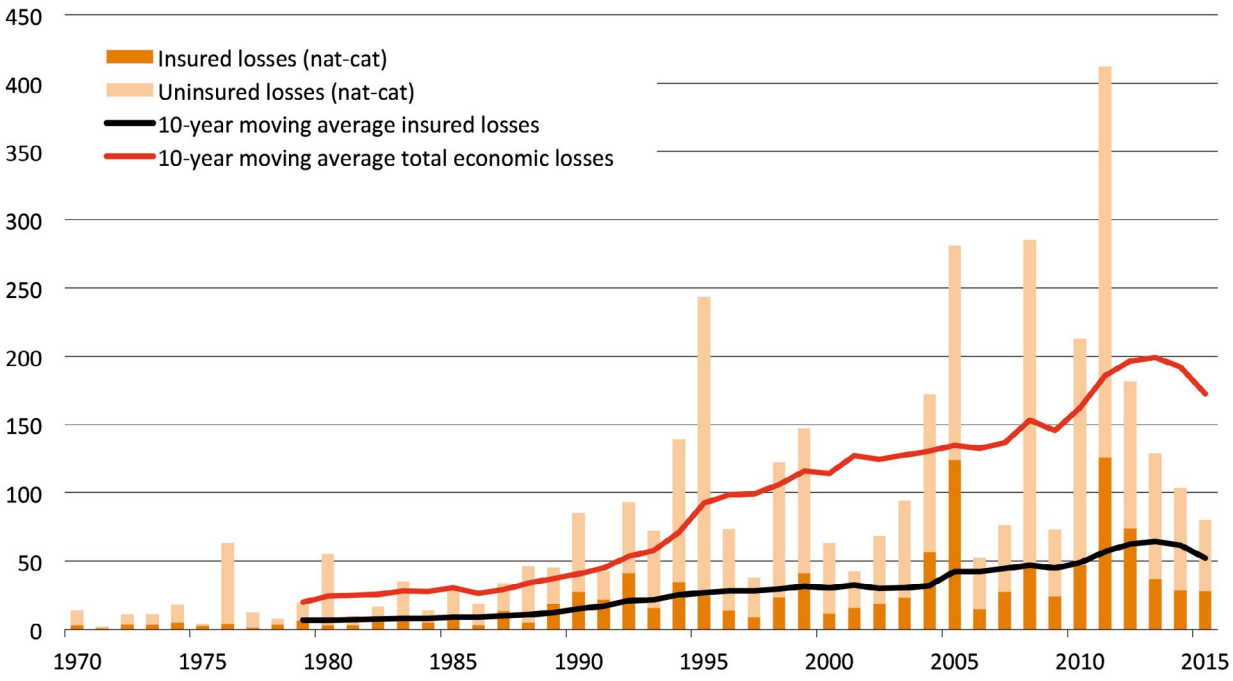
Insurance's fundamental mechanisms of risk-pooling and transferring can provide vital support and stability to all strata of society (e.g. individuals, households, businesses, regions) and is critical for boosting society's

1 The 9th Consultative Forum took place in Singapore from 14-15 March 2017 and focused on the topic "Exploring challenges in scaling up insurance as a disaster resilience strategy for smallholder farmers".

ability to absorb and diversify risk. To promote financial inclusion and thereby enhance resilience, policymakers must spread awareness of people's risk exposures and the virtues of insurance, cultivating a culture of insurance and encourage risk-transferring practices. Complementary to this, fostering mature and effective regulatory frameworks is another key component of mitigating risk and protecting those who continue to suffer from lack of coverage. As such it is critically important that insurance regulators be key partners in policy discussions on how to address disaster risk and work towards achieving sustainable development and providing access to the resources of the global insurance sector, while ensuring sound financial and market conduct regulation and the development of local insurance markets.

Over the past thirty years the protection gap has increased tenfold, and the reality is that over time we will be faced with ever more volatile catastrophes. Given the scale, scope and complexity of underinsurance, closing the protection gap requires the joint action of all relevant public and private stakeholders. Addressing the issue requires bringing together the right partnerships within a robust regulatory framework, harmonising efforts at the micro, meso and macro levels.

Figure 1. Widening protection gap: Natural catastrophe losses, 1970-2015 (in 2015 USD billion)

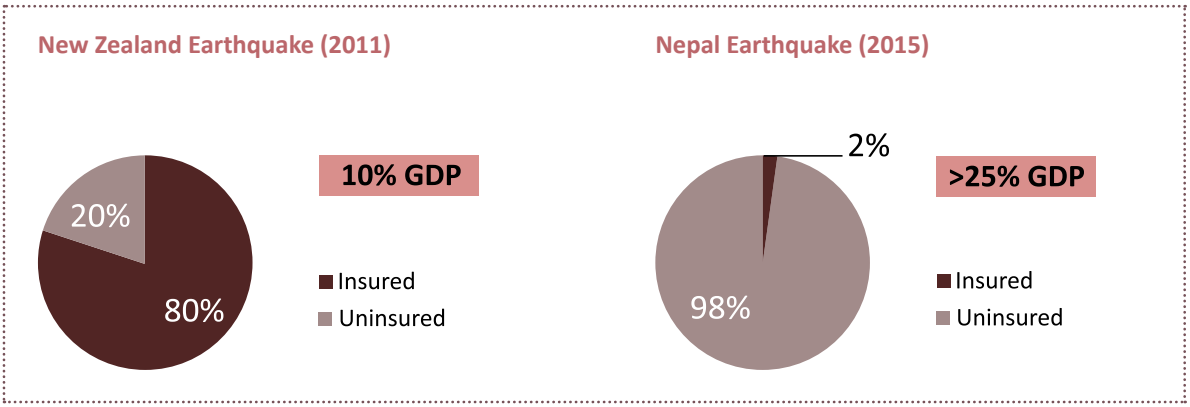


Source: Swiss Re Economic Research & Consulting and Cat Perils

Major catastrophic events in Oceania and Asia: the examples of New Zealand and Nepal

In 2011 and 2015, respectively, New Zealand and Nepal were hit by massive earthquakes. Although the events were similar in nature, the impacts in each country were drastically different. New Zealand, on the one hand, had a statistically high penetration rate at around 80% coverage, while in Nepal coverage was at about 2% of the population. The different responses and outcomes illustrate that while disaster is indiscriminate, if properly and holistically addressed, its cost to society can be mitigated and catastrophe can in fact become an opportunity for accelerating penetration and growth. Insurance can play a central role in this process.

Figure 2. Economic Costs of Major Catastrophic Events and Percentage of Population Insured



New Zealand

New Zealand experienced two consecutive earthquakes, in 2011 and 2012, that resulted in 180 casualties and caused significant infrastructural damage at the cost of roughly 10% of GDP[2]. In response, the government adopted an immediate action plan of reconstruction and implemented preventative legislation to mitigate the impact of future events. Coordinated action from different parties and the prudent use of funds, including insurance claims as 80% of the population was insured, allowed New Zealand to leverage the catastrophe as an opportunity to boost their economy, invest in infrastructure, create jobs and ultimately catalyse growth[3]. The insurance industry in particular seized the earthquake as an opportunity to position themselves as a benign force, offering a proper assessment of the incurred losses and the promise to reduce similar risk exposure in the event of a future disaster. From a regulatory perspective, policymakers took on an active role by scrutinising their past mistakes and revisiting old legislation that had been loosely implement in the 1930s. Following an earthquake in 1931, specific construction terms were adopted but due to perceptions of the rarity of disasters and the need to quickly expand, the regulation was laxly implemented and many houses were built on wetlands that did not meet the legislative requirements. In the reconstruction process, the insurance industry contributed by promising to insure but under the condition that the same construction mistakes not be repeated to forego similar ramifications in the future.

2 Gross domestic product
3 A 2014 report from the IMF acknowledged that the commercial and investment activity following the 2011/2012 earthquakes were significant drivers of growth in New Zealand, attributing to more than 3% of GDP.

Nepal

In stark contrast to New Zealand, the 2015 earthquake in Nepal had a deep and resonating impact on the country. The earthquake caused over 5000 casualties and affected a total of more than 8 million people. According to the International Monetary Fund (IMF), the economic impact of the earthquake left damages at over one-quarter of Nepal's GDP. As opposed to New Zealand, pre-disaster penetration rates in Nepal were extremely low – at roughly 2% of the population. The low level of insurance coverage meant that there was virtually no room for the insurance sector to play an active role in rebuilding the economy and insuring future risk. Reconstruction in Nepal was thus slow, and even a year after the event little activity had started.

The New Zealand and Nepal examples illustrate how similar events can have drastically different impacts due to the effects of underinsurance as well as the speed and coordination of responsiveness. As indicated in the case of New Zealand, if properly harnessed, insurance can play a key role in turning a catastrophe risk into an opportunity.

Sovereign and sub-sovereign risk

A unique aspect of the protection gap is the uninsured exposure of sovereign and sub-sovereign entities. Sovereign and sub-sovereign insurance arrangements include insuring at the country, state, provincial, district, county or civil level, as opposed to at the individual or household ('micro') level. Sovereign and sub-sovereign entities have an important role when it comes to closing the protection gap. Many developing and emerging markets are subject to severe disaster risks yet have penetration ratios in the single digits. Approaching resilience from both the macro and micro levels in a coordinated way can help smooth the impact of catastrophic events for society as a whole and offer wider protection, as sovereign and sub-sovereign initiatives can complement efforts at the traditional policyholder level in order to prevent disincentives for those who have elected to purchase coverage.

Supervisors must find the proper balance between narrowly taking care of the proportion of the population that is insured and adopting broader protection in which all members of the population are covered, regardless of whether they have an insurance contract or not. There is a fine line between creating the right incentives to increase penetration and ensuring that catastrophic hazards do not erode the assets of the most vulnerable segments of society.

Sovereign and sub-sovereign arrangements face unique issues that supervisors must consider when adopting a disaster resilience action plan.

Natural catastrophe losses can have substantial negative impacts on budgets, government programmes, overall strength and resiliency of national or local economies.

It is a matter of fact that whenever a catastrophe hits, it will have a significant impact on one's budget. In New Zealand, for example, the combined effects of the 2011 and 2012 earthquakes and subsequent need to revitalise the economy increased public debt ratios by 15%. Budgets exist at all layers of government – local, national and regional – and are subject to planning and resource constraints. In investing in resilience, regulators can either wait and see if crisis will strike during their term or strive to address future volatility by hedging against disaster risk today. Which road is taken often boils down to conflict of interest or lack of political will. The willingness to invest in disaster resilience is often a function of risk aversion – with a set amount of time to govern and historical disaster trends suggesting a low probability of catastrophe, regulators may opt

to gamble that no event will happen during their tenure and allocate the resources elsewhere, leaving any future resilience efforts to future administrations. On the other hand, due to a variety of factors, policymakers may choose to invest resources today to avoid future volatility, hedging the risk and writing off a fixed budgetary cost to limit future losses to a level that is deemed affordable. It is important that regulators properly assess risk to determine the benefits of addressing future volatility today, within the context of varying needs, resources and risk appetites.

(Sub) sovereigns have different needs, resources and risk appetite.

Naturally, there exist different layers of jurisdiction that might have differing realities and needs – at the local, provincial, national and regional levels. Risk exposure and the respective resources and risk appetite to address the risk will also differ. It is important that this element is factored into the regulatory approach to ensure that any solution is adapted to the unique profiles of each sovereign entity. It is critical to have a clear mapping of these differences to make sure that they do not become an obstacle but rather an opportunity for a bespoke and tailored solution.

The insurance laws and regulations surrounding these risks may be different, but can also be relevant to the broader market.

As with disparate needs, resources and risk appetites, regulations may also differ across sovereign and sub-sovereign entities. It is imperative to have a coordinated regulatory infrastructure to ensure that any efforts to close the protection gap will be facilitated and not hampered.

The role of the insurance sector in disaster resilience

The insurance sector can enhance resiliency to natural catastrophes through numerous mechanisms at the sovereign and sub-sovereign levels. The sector brings in experience in:

- **Risk measurement:** risk mapping, modelling, underwriting
- **Risk awareness:** projections of loss, high-risk areas, risk factors. Risk awareness is important as it incentivises clients to transfer some of the perceived risk via insurance. It is essential that all relevant parties (regulators, policymakers, etc.) work towards enhancing awareness.
- **Risk pricing:** properly pricing risk; premiums as an indicator of real exposure. Artificially decreasing the price of coverage and hedging so as to increase penetration distorts the perception and awareness of clients of the underlying risk, thereby undermining both service and trust. This creates the danger of perverse incentives and under-representing the reality of the underlying risk.
- **Risk transfer:** transfer of risk from the balance sheet of the insured and placing it on the balance sheet of the insurer. Mutualisation and diversification of risk is critical. It is extremely important to have the capacity to take risk from a given place and be able to allocate it elsewhere. Transferring risk simultaneously increases the capacity of the sector or economy to be more proactive, to take more risk and to be able to grow.
- **Risk mitigation:** an important by-product of risk measuring, awareness, pricing; industry knowledge of mitigation tools. Transferring risk is an element intimately linked to risk mitigation.
- **Loss recovery:** source of funding post-event; advice rebuilding, recovery steps. What happens the day after matters; insurance has demonstrated time and time again the capacity to quickly compensate clients, which has an extremely positive effect on society. Advice regarding rebuilding is an important element that will materialise in the future by diminishing the impact of such events.

Insurers are constantly striving to improve their risks models – notably natural catastrophe – in order to gain more accuracy and granularity for the service of their customers. As speed and innovation are key to disaster resilience, especially at a time of rapid climate (volatility, frequency and severity) and economic changes (higher complexity and higher sum insured), regulators must play an active role in creating a conducive legal and regulatory environment to support the deployment of insurance sector capabilities to enhance disaster resilience.

Insurance regulation as a cornerstone for building a resilient society

A wide range of laws, regulations and policies are needed to facilitate the deployment of insurance sector capacities – tax law, procurement and contractual law, commercial law and budget-setting policies, amongst others. While insurance regulation is only a part of this broader ecosystem, it rests nevertheless at its centre. The insurance sector has years of experience in the disaster risk business; mapping, modelling, calibrating, pricing and underwriting natural catastrophe risk with bespoke solutions. From a regulatory perspective, intimate cooperation with the industry can help supplement any in-house capacity that supervisors may lack, establishing a mutually beneficially relationship by facilitating risk-based supervision which in turn enhances regulatory certainty and good business. The industry's expertise in risk (taking, managing, mitigating, cancelling) and servicing (physical or monetary compensation), paired with a conducive regulatory environment, can help foster trust in insurance mechanisms and greatly proliferate protection. The array of relevant insurance sector skills and capabilities demonstrate the need of having the insurance sector as a main actor in disaster resilience efforts.

Key areas of insurance regulation for disaster resilience

For the virtues of insurance to materialise, there needs to be sound and effective insurance regulation. As a starting point, regulators and supervisors must first examine the existing laws outlining their role, authority, mandate, powers and responsibilities. Are the powers endowed sufficient for performing the tasks at hand? And how do the responsibilities align with the resources and expertise available?

Within this context, supervisors should consider the following important elements of regulation:

- **Authorisation/licensing requirements:** how companies are authorised and under which conditions. It is important to clarify which areas and activities will be brought into regulation and to ensure that competition is enhanced.
- **Solvency requirements**
  - **Capital requirements (amount, quality, location)**: capital requirements must be commensurate to the risk and risk mitigants.
  - **Investment rules**: business must be examined comprehensively as a whole, not only on the liability side but also on the asset side.
  - **Risk management**: there must be sound governance and risk management.
  - **Transparency and disclosure**: necessary in order to enhance the credibility and reputation of the sector.
- **Risk-based pricing of insurance risks:** it is extremely important to price accurately on the basis of the underlying risk.
- **Treatment of Insurance-Linked Securities (ILS):** is transferring risk to capital markets permitted? Who will be buying these bonds?
- Intermediary regulation
- Authorisation of reinsurers to operate within the jurisdiction

- **Authorisation of cross-border reinsurance transaction:** there is often an embedded opportunity of transferring risk outside of one's own jurisdiction. The broader the transfer and the capacity of the wider market to absorb the risk, the greater the benefit from such diversification. Should regulation be protective or more open to increased commercial activity and competition?

Role of insurance regulators and supervisors

Insurance regulators and supervisors should play a central role in disaster resilience efforts. Beyond pure regulation, regulators can contribute in various dimensions.

- **Regulatory certainty**
  - Regulatory certainty is a key success factor for ensuring that efforts to close the protection gap are implemented effectively. Uncertainty on what rules are to be applied, by whom and when is bad for insurance business and creates friction between actors. Regulators can quell regulatory uncertainty by erecting sound regulatory frameworks.
- **Deep knowledge of local markets**
  - There is much know-how and experience in the insurance community. This capability and expertise – from regulators, supervisors and the industry – can be harnessed and leveraged to steer an appropriate action plan.
- **Capacity to help coordinate responses**
  - Insurance supervisors can help coordinate responses with the industry, government and other key actors at the political level in order to bring certainty and security to the market. Insurance regulators can play a leading role in bringing various parties together to make the best out of the diverse array of expertise and know-how.
- **Cooperation role with governments and other supervisors**
  - From day one, insurance regulators and supervisors need to be part of the solution, not only in multi-stakeholder partnerships but also in coordination with supervisors from other local, regional and global regulatory bodies. It is important that such initiatives have a clear, strong push at the political level and that supervisors at all levels are part of the equation.
- **Leveraging progress to enhance penetration**
  - Effective regulation provides an excellent opportunity to leverage any progress on disaster resilience to increase penetration. When insurers align risk, service and trust, the reputation of and confidence in the insurance sector is enhanced. Natural catastrophes can thus present a window of opportunity for supervisors to implement effective regulation and restore trust in business. When the perception and understanding of the role of insurance is increased, renewed confidence can catalyse other initiatives such as microinsurance.
- **Combining micro with macro objectives**
  - It is key that disaster resilience is addressed at multiple levels in a joined-up manner whereby initiatives at the sovereign and sub-sovereign levels are complemented with initiatives at the regional, cross-country and individual levels. As governments typically prioritise macro considerations (e.g. financial stability), insurance supervisors' tendency to focus on other dimensions (e.g. micro level, policyholder protection, competition) uniquely positions them to be at the centre of a robust framework to combine both macro and micro realities.

Example of current initiatives: The Insurance Development Forum

The Insurance Development Forum (IDF)[4] is one of the many current initiatives striving to address disaster resilience. Announced at the Paris Climate Summit (COP21) in 2015, the IDF is a joint venture between public authorities such as the World Bank and the United Nations, and the insurance industry. It seeks to harness government, industry and civil society resources and leverage stakeholders' expertise to enhance resilience and sustainable development. The IDF acknowledges that the way to approach disaster resilience is by providing a proper framework for the insurance sector to conduct business and take risks, and thus is structured to enable such mechanisms at the country and regional levels. While the insurance industry takes the lead role, it also shares information and data with policymakers so that all parties can adequately map risk and development mechanisms that can help avoid mass losses. Through this combined framework, the IDF seeks to find solutions for resilience and sustainable development by ensuring that all key actors are an active part of the process.

Challenges

- ***Many initiatives have started trying to link insurance to society.*** It is important to demonstrate that insurance can be a key player in addressing disaster and enhancing penetration by learning from past successes and failures.
- ***What if things get too political?*** Regulators must be prepared for this scenario and not get isolated or demotivated; it is important to have an action plan to keep pushing forward with the agenda.
- ***How long does it take?*** The outcomes of resilience efforts today will not crystallise overnight. Despite the tendency towards short-termism, the lag should not be offsetting and action should start as soon as possible.
- ***What does win-win mean?*** A situation in which society, the industry, government, regulators and policyholders benefit. It is important to work towards the common objective of drastically reducing the protection gap.
- ***How to measure success?*** Tangible key performance indicators include:
  - 1. **Penetration ratios** *increasing* due to heightened trust and awareness
  - 2. **Protection gap** *decreasing* due to an enhancement of coverage, not due to a lower frequency or severity of events
  - 3. **Less volatility and impact** following such events, on financial markets, GDP and society at large
- ***Intrinsic complexity of natural catastrophes.*** Catastrophe risk is inherently complicated, sometimes its challenges are multifaceted and the benefits from resilience efforts may not be visible today. Regulators should be wary of this challenge and consciously strive to overcome it.

4 http://theidf.org

SUMMARY OF KEY POINTS

- **The protection gap is massive and growing** – the widening protection gap has profound economic, social and political consequences that regulators must understand and address in a coordinated manner.
- **Disaster resilience is a macro, meso and micro issue that affects developing and developed economies alike**
- **Addressing sovereign and sub-sovereign risks can have profound positive impacts on resiliency and economic development**
- **Insurers can assist in a unique way to address and close the protection gap** – through their expertise and data
- **The right legal and regulatory structure is critical** – ensuring that all players have a clear role, that the regulatory framework is proper and that there is regulatory certainty is key.
- **Insurance regulators are key actors and need to play an active part in addressing this issue** – there is a clear role for insurance supervisors to coordinate and catalyse efforts to close the protection gap. Establishing a proper regulatory framework and providing regulatory certainty are the first steps to bringing together public and private actors in a plan that is grounded in reality.

Case Studies: Morocco and Mexico

MOROCCO

In 2016, Morocco established a regulatory system aimed at covering the consequences of catastrophic events. Insuring both natural and man-made catastrophes, the regulation (Law No. 110-14) set up a mixed scheme that, on the one hand, discriminates beneficiaries between those who have taken out insurance contracts and those who have not, whilst on the other ensuring that all citizens have guarantee to minimum compensation in the event of catastrophe loss. In this 'global scheme' of coverage, insurers and reinsurers operate to cover insured policyholders against potential risks, and a state-run 'Solidary Fund against Catastrophic Events' has been created to protect those individuals without insurance contracts. The application of Law No. 110-14 is in the process of being formally adopted and is intended to be fully implemented in Morocco by the end of 2017.

Insurance Component

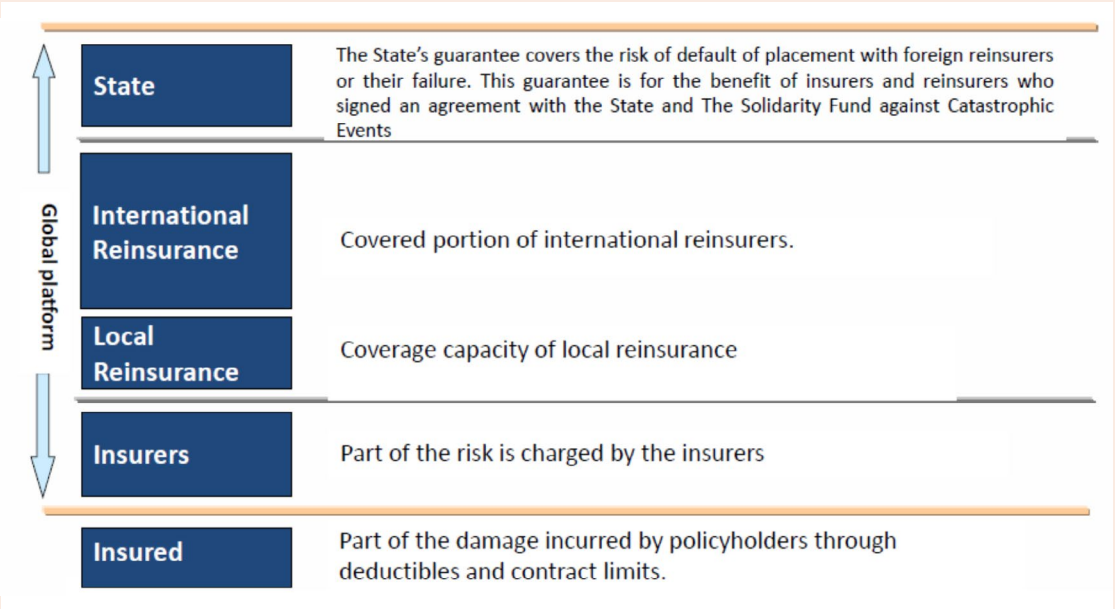
The insurance scheme operates to the benefit of insurance policyholders and guarantees against the consequences of catastrophic events: 1) property insurance contracts, 2) automobile liability contracts, including vehicular damage and personal injuries, and 3) civil liability contracts covering personal injuries. The regulation also defines an overall per-event and per-year indemnity limit as well as contractual limits and deductibles.

Entitlement Component

The entitlement scheme guarantees for non-insured individuals a right to a minimum compensation for personal injury and loss of principal residence in the event of catastrophe. The scheme is financed by the

Solidarity Fund against Catastrophic Events, supported by state grants as well as the proceeds of para-fiscal taxes.

Figure 1. Morocco's Global Scheme of Insurance Coverage



MEXICO

Mexico's disaster risk management strategy is based on a regulatory framework for insurance companies centred on mandatory data collection of risks and robust catastrophic risk modelling. Designed as preventative action, the approach seeks to quantify catastrophic material losses on the basis of probabilistic estimations, in order to provide elements for risk transfer strategies, capital solvency requirements and the setting up of catastrophic risk reserves.

Mexico is a country highly exposed to a range of natural hazards, including earthquakes, hurricanes, floods, hail, droughts and frost. To address this vulnerability, from 1998 the Comisión Nacional de Seguros y Finanzas (CNSF) initiated the creation of a regulatory framework aimed at building resilience against natural disasters. Beginning with earthquakes, regulation on earthquake insurance was drafted on the basis of a loss measurement study that was developed by a team of seismic risk experts from the National Autonomous University of Mexico. The study provided the first adequate measure of potential losses from a portfolio of insured risks, and set the stage for similar analyses of other natural catastrophic risks. A computer software system was also developed alongside the seismic study to assist in some mathematical complexities of measurement of loss, which allowed for the calculation of a Probable Maximum Loss (PML) value and risk premium. Based on the calculation of the PML figure, the CNSF established the obligation for firms to calculate their capital requirement and catastrophic risk reserves.

Following earthquake insurances, loss measurement studies and computation software were also developed for the estimation of losses from hurricanes, hail, tsunamis, snowfall, frost, landslides and other hydro-meteorological risks, and risk modelling figures calculated accordingly. More recently, additional studies have been developed to measure losses in agricultural and livestock insurance.

The mandatory application of technical studies for catastrophic risks losses assessment, prepared by catastrophe specialists has strengthened Mexico's disaster risk regulation and generated greater confidence in the role insurance can play against natural disasters.

Ensuring Data Quality for Catastrophic Modelling

As a fundamental part of the regulatory framework, the CNSF implemented specific regulation on data reporting to ensure that the figures used to calculate the Probable Maximum Loss (PML) value are accurate. Insurance companies must collect and retain, policy by policy, when they are issued, the appropriate information related to each one of the covered risks, which is based on certain essential valuation data (e.g. location, structure, value, contents). Once the information is collected, on a quarterly basis, the insurer is required to input the data into a standardised software system provided by the CNSF, which automatically calculates the PML and risk premium. Every three months, insurers must send the CNSF the database with which they have made their calculations for verification. When an inspection visit is carried out, the policies and records detailing the information collected on the insured risks are reviewed and if found to be incorrect, the company incurs a fine. The verification of data is crucial as the system of valuation of losses which is used to calculate the PML also forms the basis of the computed risk premium.

Questions and Discussion

Why should supervisors consider sovereign and sub-sovereign risk and what are the benefits of considering those types of programmes compared to looking at the micro or household insurance risk level?

The primary objective of supervisors and regulators, aside from fostering competition and financial stability, is the protection of consumers, which includes their ability to transfer risk. However, the reality is that in many countries a very high percentage of the population remains uninsured. When a catastrophic event hits, it has a huge impact on the economy and budget, hampering the government's ability to respond to those in need, many of whom do not receive compensation from coverage. Addressing risk at the sovereign and sub-sovereign level targets such volatility ex-ante to minimise the impact of future events and enhance financial stability, whilst also protecting consumers by implementing mechanisms to improve overall coverage. Due to their complementarity, regulators and supervisors should work to combine both macro and micro objectives to make sure that risk is transferred not only from individuals but also from the national budget (e.g. through reinsurance, ILS, etc.) to benefit from broader diversification. A sound equilibrium between macro and micro elements will lead to less volatility on the one hand and provide an opportunity to demonstrate and put into effect the role of insurance on the other.

Would designing coverage for a specific area that is exposed to a specific risk (e.g. flooding) lead to adverse selection?

Coverage at the sovereign or sub-sovereign level as well as the mutualisation of risk play an important role in preventing adverse selection and exclusion. Supervisors must be conscious of what factors could lead to adverse selection and construct an effective regulatory framework accordingly. In New Zealand, for example, relaxation in implementing disaster regulation from the 1930s led to adverse selection as consumers widely disregarded the likelihood of a future catastrophe and constructed their housing in risk-prone zones. The insurance industry can play a role, both pre- and post-event, in addressing the issue of adverse selection by properly assessing and pricing risk exposures. Regulation can also help by placing caps on coverage, the extension of claims and benefits, for example.

What are some examples of sovereign or sub-sovereign programmes in different jurisdictions?

There have been a host of initiatives that have undertaken a broad range of approaches to establish sovereign or sub-sovereign coverage. Spain, for example, established the Consorcio de Compensación de Seguros in 1941, a public body mandated to deal with a range of extraordinary risks – manmade or natural. Through the Consorcio, whenever someone receives an insurance policy they automatically retain part of the premium that is going towards covering those risks. By contrast in Morocco, different layers of protection are stratified between insured policyholders and the non-insured, though the government also ensures that all citizens are protected to some degree. In the United States and the Caribbean, different types of risks are grouped such that certain exposed areas have special regulations regarding issues such as reinsurance, collateral, etc. Overall, there have been many initiatives of joint action between public and private actors, at the country and regional level, striving to close the protection gap. It would be useful to map these initiatives to draw insights from their successes and failures. It is the ambition of the Insurance Development Forum (IDF), as a joint initiative, to undertake a couple of pilots in different regions in order to gain an understanding of how regulatory frameworks could facilitate a sovereign or sub-sovereign scheme to successfully address the protection gap, with the objective to disseminate learnings to strive towards a joint solution.

How can existing initiatives that focus on developing risk resilience operate together to achieve better results?

Cooperation at the sovereign and sub-sovereign levels requires complementarity and effective communication between the various stakeholders involved. The IDF is a living example of this type of cooperation, an initiative between the private sector and public authorities (including the World Bank and United Nations) aimed at disseminating concrete solutions for disaster resilience. The IDF has a complex structure, separated into various working streams, to leverage the symmetries and know-how of the different actors. Organisation and communication are key for the success of such joint initiatives. Another example of an innovative, multi-stakeholder initiative is the OASIS Loss Modelling Framework[5], a non-for-profit company owned by its members which come from within the insurance and reinsurance business. The OASIS platform is aimed at building and fostering links between those interested in modelling catastrophic risk with the long-term ambition of establishing a marketplace for all available catastrophe models.

What kind of historical data might one need to design a sovereign or sub-sovereign insurance programme?

Relevant historical data comes in the form of risk maps – that is, identifying what natural catastrophe risk a given territory is subject to. Many sources in both the private and public sectors hold vast amounts of historical data. Reinsurance companies, for example, and different public bodies (e.g. geological bodies, environmental agencies, the United Nations) have constructed vast databases of risk from different territories. Yet while the historical data and understanding of these risks do exist, it is often not the case that the data is being used to its maximum capacity. All stakeholders would benefit from known and available data, which would result from an open sharing and combining of data between public and private entities. Establishing channels for a mutually beneficial flow of information would improve existing databases and allow all parties to benefit from more appropriately derived solutions.

How can regulators control the quality of information that insurance companies need in order to apply catastrophe models?

The obligation to verify data lies with the insurer. After all, the insurer has the vested interest in being given the correct information due to the system of valuation of losses and premium calculations. From a regulatory perspective, regulators can define the obligation for all insurance companies to gather and share essential data (e.g. location of property, type of construction, age, etc.) that forms the basis for each policy. This data is difficult to falsify and is easily verifiable. Regulators can require that this information, which forms the basis of the valuation, be submitted to the regulator to certify that the calculations correspond to the insured asset.

Part of the challenge in many developing countries is that a large proportion of low-income, structurally insecure housing is owned by those in the informal sector. How can regulators ensure that this group of the population is protected?

Governments can create funds targeting the low-income population where they 'insure' through economic support in the event of a catastrophe. While there are numerous studies demonstrating that it would be more efficient to protect these segments through microinsurance, rather than through direct government support, until now microinsurance has been unable to reach this segment of the population. Until these people can be financially included, a government fund can act as a good safety net for the vulnerable in a jurisdiction.

5 http://www.oasislmf.org

Does merely relying on economic support in the face of a catastrophe forego the opportunity to educate consumers?

This is likely the case; the challenge is to create mechanisms for those segments of the population where information is lacking – identifying who they are, where they live and the type of damages they are most affected by. Often the circumstances of these people are so special that it is difficult to include them in the formal insurance system. This needs to change. Cultivating insurance awareness and an insurance culture can help efforts towards including this segment of the population. It is also critical to ensure the quality of information collection by involving all parties in the effort.

What is the best model of reinsurance to cover the risks of catastrophic events and natural disasters?

This depends on the specific type of risk and the accumulation of the risk. Reinsurance covering natural disasters should be adapted to the type of catastrophic event as well as to the nature and ability of the insurance companies covering the risk. There is thus not a single model but rather several possible models, varying depending on whether the portfolio is extremely diversified – thus allowing much risk to be absorbed – or whether there is little diversification and a specific risk. In the case of insurers that can absorb significant risk due to diversification, treaty reinsurance can work quite well. In the case of smaller insurers or those that are focused on a specific risk, it would be better to obtain proportional reinsurance in order to free up some of the risk that is concentrated on the insurer. In essence, which reinsurance model depends on each case and the specific circumstances.

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