CONCLUSIONS

The comparative review and stocktaking conducted in this section of the publication show that there is a wide variety of policy strategies and approaches to the financial management of large-scale disasters, with different degrees of private and public sectors participation and responsibilities, and different types of explicit or implicit coordination mechanisms.

From a normative perspective, bearing in mind that - due to the different exposure to disaster risks, different social and political instances, as well as different legal and cultural backgrounds - finding a standard institutional solution applicable to all countries cannot be the goal of comparative analysis in this field, a clear and transparent allocation of risks and responsibilities among public authorities, firms and individuals emerges as a key component of effective coordination schemes, and a driver to the success of any catastrophe risk management program. Another critical element is the ability to link policy tools (i.e. the technical features of a coordination scheme) with the underlying policy objectives pursued by the government, such as providing adequate financial protection to all individuals and entities, or simply making coverage available.

In those systems that rely on insurance solutions to compensate for property losses due to catastrophes (such as: Belgium, Chinese Taipei, California, Denmark, Florida, France, Iceland, Indonesia, Japan, New Zealand, Norway, Spain, Switzerland, Turkey and the US NFIP), the level of disaster insurance penetration often remains a key concern. Even if disaster insurance coverage is made compulsory by operation of law, the enforcement of the regime may prove to be very difficult (this is the case, for instance, in Turkey), especially if there is a lack of insurance culture among the population. Promoting disaster risk awareness and educating the population to the financial consequences of large-scale disasters becomes, therefore, extremely important. At present, in several countries there seems to be a lack of awareness and a lack of education regarding catastrophic risks: this also applies to central and local governments and the public sector in general.

From a comparative viewpoint, it seems appropriate to distinguish between the situation in developed countries and that in emerging economies. In emerging economies very often the private insurance market is still underdeveloped: the cost of insurance in such economies can be an impediment to growth of the sector[1]. In consideration of the above, alternative risk sharing, risk financing and risk transfer tools, such as micro-insurance solutions at community level, or parametric coverage purchased directly by the government to obtain the necessary liquidity for emergency response measures in case of a disaster, may be more appropriate and easier to implement. Developing countries, furthermore, too often rely on foreign donations to finance rehabilitation and reconstruction: this reduces the incentives to adopt a proactive strategy *ex ante*.

In general, the challenge is to identify financial solutions that provide the right incentives to invest in cost-effective preventive measures with a view to reducing vulnerability and the total cost of disasters. The total cost of disasters is the sum of the cost of disaster losses (insured and uninsured), the cost of preventive measures to avoid or mitigate disaster losses, and transaction costs (i.e. the costs of implementing the scheme)[2]. On the other hand, it is important to bear in mind that public and private investments in disaster risk reduction and mitigation measures, by limiting exposure and vulnerability to disaster risks, facilitate the development of new risk financing, risk sharing and risk transfer tools. In light of the above, it becomes clear that disaster risk reduction, mitigation and financing efforts are closely linked to one another, and should be carefully coordinated by policymakers.

The financial management of large-scale catastrophes has become a central topic in the political agenda of OECD and non-member countries worldwide. The situation is rapidly changing in several legal systems and this confirms the need for constant monitoring and information sharing, with a view to being able to learn from the experience of others. Notwithstanding the differences in the policy approaches and in the various institutional solutions adopted by the countries under review, it clearly emerges that disaster insurance is called upon to play an increasingly important role in this field, with the aim to minimize the total costs of disasters and to highlight the importance of individual responsibility in disaster prevention and mitigation.

NOTES

1. In emerging economies, one of the most critical financial threats is the exposure of households and SME. SME, in particular, play a crucial role in many emerging economies and it takes a long time to restart their operations after a major disaster. This also entails additional indirect costs (*e.g.* unemployment, loss of tax revenues, trade disruption, etc.).

2. See: G. CALABRESI, *The Cost of Accidents: A Legal and Economic Analysis*, Yale University Press, 1970.

Table 1

NATURAL CATASTROPHE INSURANCE SCHEMES IN SELECTED OECD AND NON MEMBER ASIAN COUNTRIES: COMPARATIVE TABLE.

	Year	Perils Covered and Triggers	Compulsory Nature	Role of Public and Private Sectors	Financial Capacity
BELGIUM	2006	Earthquake, flood, storm, landslide and ground subsidence.	Compulsory natural disaster extension on all property damage policies purchased on the voluntary market.	Loss-sharing arrangement between the private sector and the public sector. The *Caisse nationale des calamites* acts as reinsurer of last resort.	The intervention of the *Caisse nationale des calamites* is limited on a per event, market aggregate basis, to EUR 700 million in case of earthquake and to EUR 280 million for the other natural catastrophes covered. If this ceiling is reached, the indemnity to be paid to the insured parties is reduced proportionally.

	Year	Perils Covered and Triggers	Compulsory Nature	Role of Public and Private Sectors	Financial Capacity
CALIFORNIA CALIFORNIA EARTHQUAKE AUTHORITY (CEA)	1996	Earthquake losses.	California law requires all insurers to offer earthquake insurance with every homeowners policy.	The CEA is a privately financed, state-run insurance program.	The State offers not guarantee; if losses exhaust the CEA fund, claims will be paid out on a pro-rated basis.
CHINESE TAIPEI CHINESE TAIPEI RESIDENTIAL EARTHQUAKE INSURANCE POOL (TREIP)	2002	Earthquake shock and, <u>if caused by earthquake</u>: fire or explosion; landslide, land subsidence, earth movement and rupture; tidal wave, surge and flood.	Compulsory earthquake extension on all fire policies.	The pool is designed to share earthquake risk between private insurance companies and the government and to diversify such risk through a combination of local co-insurance, a non-profit fund, international reinsurance and government funds.	TWD 60 billion. In the event that losses exceed the capped amount, the losses paid to policyholders will be proportionally reduced (proration).
DENMARK	1991	Losses resulting from the floods caused by overflowing of sea and windstorm damage in woods. An official declaration of the	All property insured against fire is automatically covered by the scheme.	The scheme is administered by the Storm Council (*Stormrådet*), a central government entity assisted by the	N/A

	Year	Perils Covered and Triggers	Compulsory Nature	Role of Public and Private Sectors	Financial Capacity
		Storm Council is required to trigger coverage under the scheme.		insurance companies.	
FLORIDA FLORIDA HURRICANE CATASTROPHE FUND (FHCF)	1993	Hurricane Losses. The Fund reimburses a fraction of insurers' losses caused by severe hurricanes, declared by the National Hurricane Center.	Contribution to the Fund is compulsory for insurers that write primary coverage on personal and commercial residential properties.	The FHCF is tax-exempt. The private industry is responsible for losses up to a certain level.	An important provision limits the Fund's obligation to pay losses to the sum of its assets and borrowing capacity.
FRANCE NATIONAL DISASTER COMPENSATION SCHEME (CAT NAT)	1982	Natural disasters in general. Coverage is triggered when the state of natural disaster is declared by inter-ministerial decree.	Law n. 82-600 of 13 July 1982 provides for a compulsory natural disaster extension on all property damage policies purchased on the voluntary market.	Primary disaster coverage is offered and managed by private carriers, as an extension to property damage policies. Private insurers can obtain full catastrophe reinsurance from the *Caisse Centrale de Réassurance* (CCR), a state-owned company.	Thanks to the government guarantee, CCR is able to offer catastrophe reinsurance without limits.

	Year	Perils Covered and Triggers	Compulsory Nature	Role of Public and Private Sectors	Financial Capacity
ICELAND ICELAND CATASTROPHE INSURANCE	1975	Earthquake, volcanic eruption, snow avalanches, landslides and floods.	Purchase of catastrophe insurance is mandatory.	Iceland Catastrophe Insurance is a publicly run company.	ICI is liable, for each individual event, for up to 1 per cent of total insured capital at the time of the loss event. Should the total of payable claims in Iceland exceed this amount, the claims of all of the insured are proportionately reduced.
JAPAN JAPANESE EARTHQUAKE REINSURANCE (JER)	1966	Earthquake, tsunami, volcanic eruptions	Not compulsory. Primary carriers sell earthquake policies with large deductibles on the voluntary market and then reinsure with JER.	JER, a government entity was established by law in 1966. JER retrocedes part of the risk to the Japanese government and part of it to the private insurance market.	JPY 5,500 billion: if the ceiling is reached, residential policyholders' claims are proportionately reduced. JER's solvency is not guaranteed, but it is improved by arrangements with the Japanese government.

	Year	Perils Covered and Triggers	Compulsory Nature	Role of Public and Private Sectors	Financial Capacity
NEW ZEALAND EARTHQUAKE COMMISSION (EQC) NATURAL DISASTER FUND	1994	Natural disaster losses. Including: earthquake, natural landslip, volcanic eruption, hydrothermal activity, tsunami and, in the case of residential land, also storm or flood.	Automatic earthquake coverage upon purchase of fire insurance from private market. Premiums are added to the cost of the base policy and passed on to EQC by the insurance company.	EQC, a Crown Entity, administers the natural disaster insurance scheme by: collecting premiums via insurance companies; processing claims; administering the disaster fund; organizing reinsurance.	The Government guarantees that the natural disaster fund will meet all its obligations.
NORWAY NORWEGIAN NATURAL PERILS POOL	1979	Landslide, storm, flood, earthquake and volcanic eruption.	Compulsory natural disaster extension on all fire policies purchased on the voluntary market. All fire insurers are obliged to become members of the Pool.	Insurance coverage offered by the Pool is complemented by the Norwegian National Fund for Natural Damage Assistance.	NOK 12.5 billion
SPAIN CONSORCIO DE COMPENSACIÓN DE SEGUROS	1954	Extraordinary Risks: natural events (flood, earthquake, seaquake, volcanic eruption, atypical cyclonic storm and fall of sidereal bodies and meteorites)	The extraordinary risk coverage offered by the *Consorcio* is compulsorily linked with a base policy. The *Consorcio's*	Extraordinary risk insurance is administered directly by the *Consorcio*, a state-owned enterprise, whose solvency is guaranteed by the	Financial capacity is unlimited due to a state guarantee

	Year	Perils Covered and Triggers	Compulsory Nature	Role of Public and Private Sectors	Financial Capacity
		and <u>socio-political events</u> (including riots and terrorism) The event is covered if it occurred in Spain and caused injuries and damage to people and assets in Spain, provided that: (a) the risk is not expressly covered by the base policy; (b) the risk is covered by the base policy, but the company cannot face its obligations.	surcharge is automatically included in the base policy's premium.	State.	
SWITZERLAND NATURAL PERILS POOL	1939	Flood, inundation, windstorm, hail, avalanche, snow pressure, rock and stone fall, and landslide	Natural perils coverage is mandatorily included in fire insurance for buildings and chattels.	The scheme is administered by private insurance companies	N/A

	Year	Perils Covered and Triggers	Compulsory Nature	Role of Public and Private Sectors	Financial Capacity
TURKEY TURKISH CATASTROPHE INSURANCE POOL (TCIP)	2000	Earthquake losses.	Compulsory. Since 2000, earthquake insurance has been made compulsory to all registered residential dwellings in Turkey.	The TCIP is a separate state-owned legal entity, managed by a Council. Local insurance companies act as distributors of the TCIP policies. Excess coverage could be obtained on a voluntary basis from the private market.	N/A
UNITED STATES NATIONAL FLOOD INSURANCE PROGRAM (NFIP)	1968	Flood losses.	Not compulsory. The NFIP makes federally-backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.	The federal government reinsures 100 per cent of the losses at subsidized rates.	Coverage limits offered under the NFIP depend on the community's level of qualification. After the 2005 hurricane season, the NFIP's financial situation became difficult to sustain.

From:

Financial Management of Large-Scale Catastrophes

Access the complete publication at:
https://doi.org/10.1787/9789264041516-en

Please cite this chapter as:

Monti, Alberto (2010), “Part 1. Conclusions”, in OECD, *Financial Management of Large-Scale Catastrophes*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/9789264041516-5-en