




Disaster Financing in OECD and Emerging Countries



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Abstract: The OECD Country Case

- The purpose of this project is to analyze natural disaster risk financing programs of selected OECD countries with the purpose of understanding how current programs may provide lessons for non-OECD countries.
 - An analysis of Australia, France, Japan, Spain, United States and the United Kingdom was undertaken.
 - For each country, we investigated:
 1. the exposure of each country to natural hazard risk;
 2. their institutional framework for disaster management;
 3. a comparative analysis of the government-sponsored disaster insurance programs based on a recently completed OECD study.
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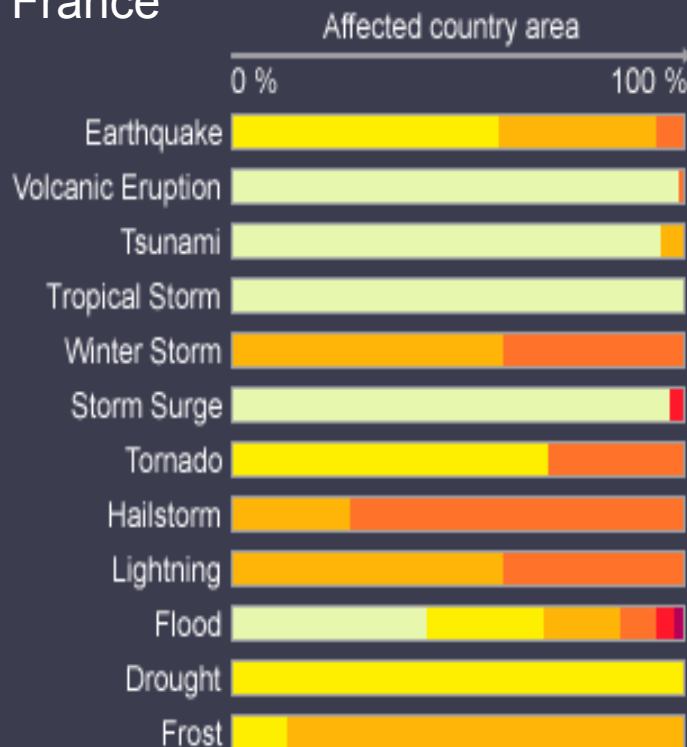
Abstract (continued):

- Several conclusions emerge:
 1. The assumption of natural hazard risk by national governments is a phenomenon since World War II. Before developing risk programs for natural hazard risk, governments tend to cope with other risk first. Generally, these other risks are related to business development and protection of labor rights;
 2. All the studied OECD had a government supported risk financing program for its highest natural hazard vulnerability. For countries with comparatively low vulnerability, the government tended to cover all risks with its insurance programs;
 3. The type and extent of government involvement is a reflection of fundamental political principles in OECD countries that may vary over time.
 4. The observations made about OECD countries prove to be helpful as a guideline for emerging countries as they begin to address disaster mitigation and the degree of their government risk assumption.
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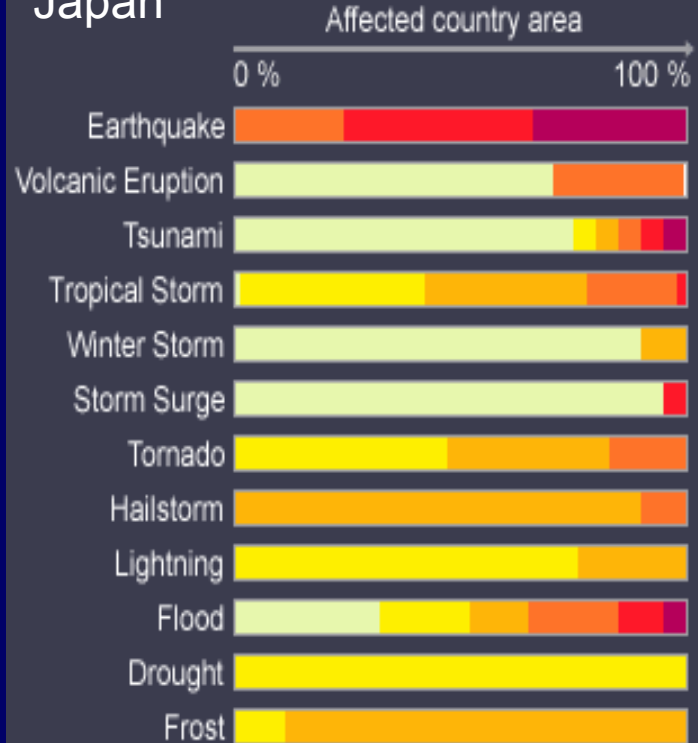
Natural Disaster Exposure in OECD Countries



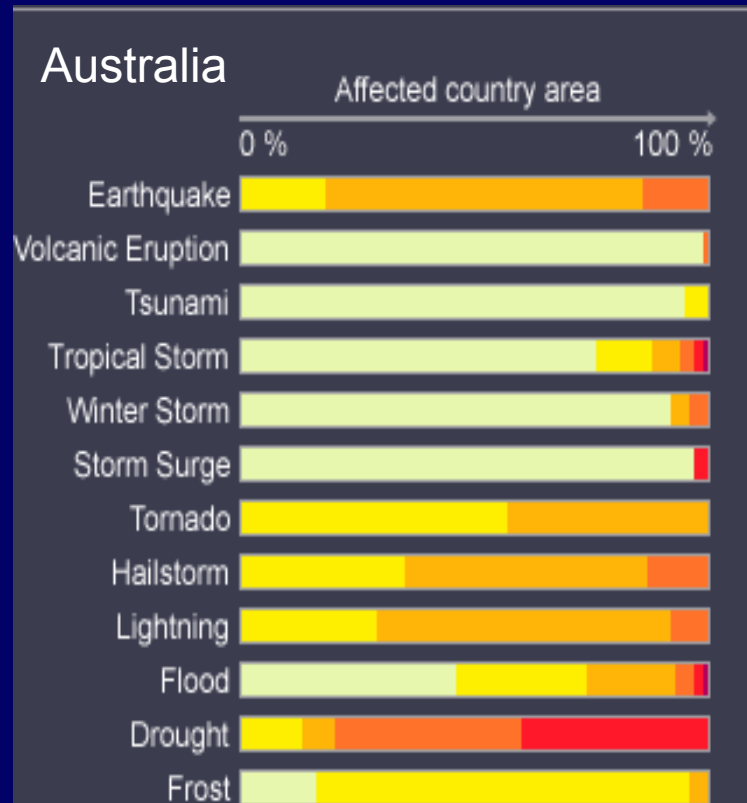
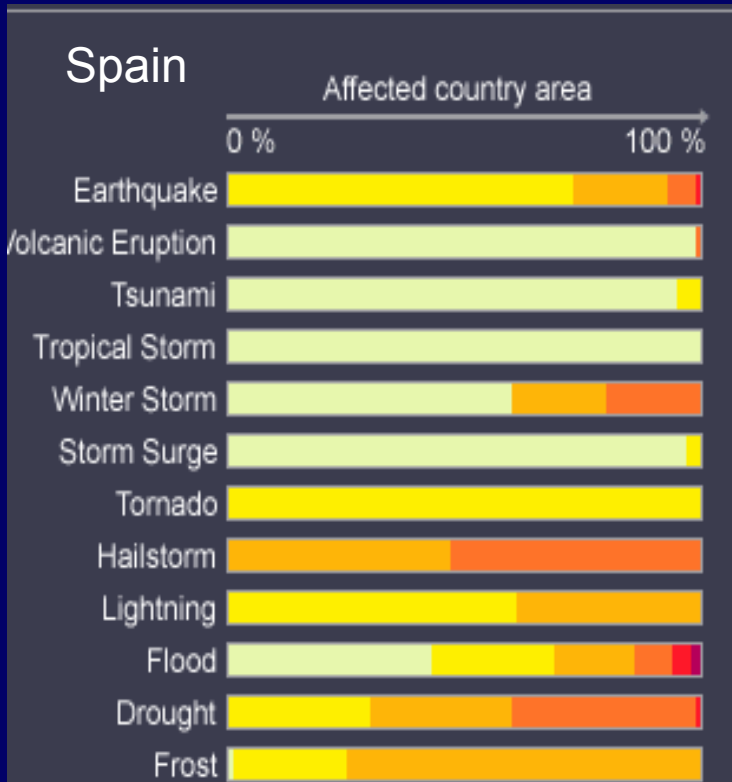
France



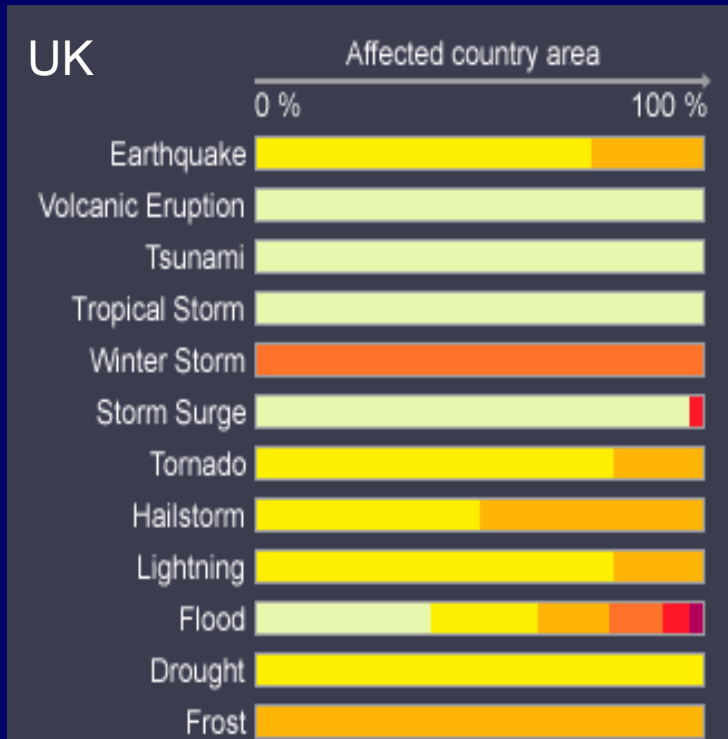
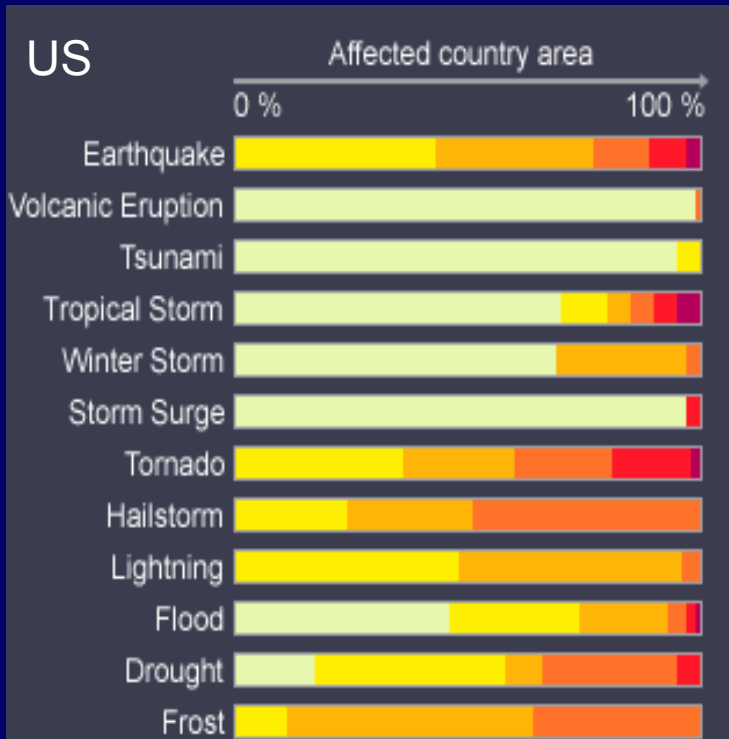
Japan



Natural Disaster Exposure in OECD Countries

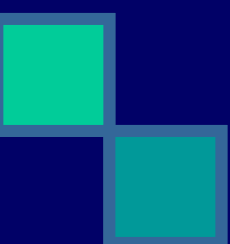



Natural Disaster Exposure in OECD Countries





Vulnerabilities


- It is important to note that the United States has very high vulnerability to floods, earthquakes, hurricanes, and tornadoes (although in limited geographic regions);
 - Japan has very high vulnerability to earthquakes and floods;
 - France and Spain have only very high vulnerability to flooding, and then only in very limited geographic regions.
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OECD Government Involvement

| <i><u>Country</u></i> | <i><u>Year</u></i> | <i><u>Perils Covered</u></i> |
|--|--------------------|--|
| Australia: Federal Flood Recovery Fund | 2000 | Floods |
| Australia: Commonwealth Flood Assistance | | Floods |
| Australia: Natural Disaster Relief Arrangements | | Bush fires; cyclones; earthquakes; floods; storms; storm surge; landslide |
| France: National Disaster Compensation Scheme (CAT NAT) | 1982 | earthquake; flood; earth slides, hailstorm, avalanche, tidal waves, dryness |
| Fonds national de garantie des calamités agricoles | 1964 | Floods, drought, storms, hail, illness |
| Japan: The Japan Earthquake Reinsurance | 1966 | Earthquake, volcanic eruptions and any resulting tidal waves |
| Spain: Consortio de Compensacion de Seguros (CCS) | 1954 | Earthquakes; tsunamis; tidal waters; extraordinary floods; volcanic eruptions; atypical cyclonic storms; meteorites |
| United States National Flood Insurance Program (NFIP) | 1968 | Damage caused by floods (rivers flooding, erosion and/or subsidence caused by flooding) |



OECD Country Observations


- Country vulnerability analysis leads us to three main observations:
 - 1) All the studied countries have some government sponsored insurance program, primarily directed to its high vulnerability risks;
 - 2) All the programs are of relatively recent origin. None existed before the mid-1950's;
 - 3) In countries that do not have high vulnerability to any one natural hazard, but low grade vulnerability to multiple hazard risks like Spain and France, government-administered insurance programs cover all disasters.
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Detailed Analysis: United States

- **Federal programs: National Flood Insurance Program (NFIP)**
 - losses from flooding through private insurance policies which the federal government underwrites
 - those who are allowed to participate in NFIP reside within communities that have been assessed and identified as flood risk areas and that have subsequently implemented suggested techniques and structures to alleviate losses from flooding
 - NFIP is voluntary
 - Deductible amounts to \$500
 - Federal Emergency Management Agency (FEMA) sets the premium rates, which rarely reflect actuarial prices
- **State programs: California Earthquake Authority (CEA)**
 - Insurance companies can voluntarily purchase earthquake coverage from the CEA for residential units and offer it to their policy holders
 - Deductible amounts to 15% of the entire value of the residence
 - CEA reinsurers its risk in the private market
- **Hurricane Catastrophe Fund (HCF)**
 - Hurricane Catastrophe Fund provides reinsurance protection to insurance companies which carry the burden of hurricane risk in Florida

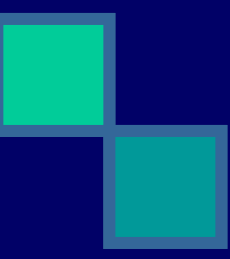



United States Approach Reflects Political Values

- An important component of the American system is federalism. This notion of having significant authority reside at the state level is also important for disaster policy. Although FEMA is the central national disaster management agency, states have their own disaster agencies that carry out similar activities within the state. The size and scope of these agencies varies from state to state, depending on the types of risk each state faces
 - The government's regulation of and involvement in financing of disasters is minimal. There are no mandatory insurance programs.
 - Other than setting the insurance premiums on flood insurance policies, the federal government defers to the states or the private market.
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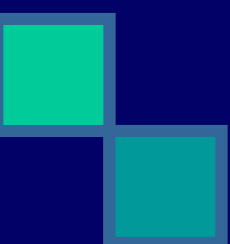



Detailed Analysis: France

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- France's financial tools include National Disaster Compensation Scheme (CAT NAT) and the Agriculture Fund
 - Characteristics of government involvement:
 - hybrid of private and public risk sharing
 - any non-life insurance policy taken out in France contains an additional charge to cover economic losses in the event of a natural disaster (usually 9% surcharge)
 - government fixes insurance premiums
 - CAT NAT covers both personal and commercial losses, which kicks in after insurance companies compensate up to 150% of insured property damages
 - deductible for individuals is 380 Euros
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How does the French government's involvement reflect its political culture?

- Classic example of governments which share disaster risk burden with private insurance companies
 - Form of mandatory disaster insurance, it is not separate from other forms of insurance and it is applied equally → individuals cannot cancel or change the amount of disaster insurance
 - The surcharge, which is applied to everyone regardless if one's property lies in a disaster-prone area, reflects the egalitarian spirit of France
 - Because the surcharge is administered through private insurance companies, the French government refrains from interfering in its laissez-faire capitalism
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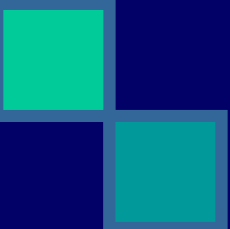



Historical Evolution of Government Assumption of Risk

- David Moss in his book *When All Else Fails: Government as the Ultimate Risk Manager* details the role of governments as risk managers. Historically, governments address different risks as their societies move through stages of development.
 - Governments tend to first focus on risks associated with business development. In the second phase, governments focus on risks associated with the employment of labor in the economic development process. In the third phase, governments increasingly assume more risk of their citizens. In this third phase, governments assume greater responsibility for consumer, environmental and natural hazard risk.
 - Moss argues that governments have two main roles in risk: (1) reallocate/shift risk away from citizens/consumers; (2) reduce risk through subsidies or mitigation programs.
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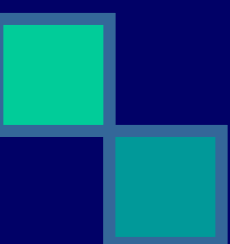



Phase I

- In the first phase, governments tend to support businesses as the country shifts from an agrarian to an industrial-based economy.
 - The government uses its law-making power to shift risk among different segments of the economic community to advance trade and development.
 - “By the end of the nineteenth century, American lawmakers had enacted a wide range of risk management policies, all intended to promote trade and investment. Most notable among them were limited liability, banking regulation, bankruptcy law, a fixed exchange rate, and the predictable enforcement of property rights.” (Moss 2002)
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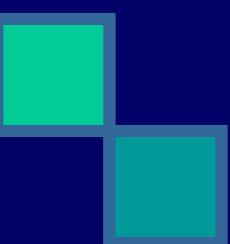



Phase II

- During the second phase, governments shift their focus to labor.
 - Issues related to minimum wage, proper working conditions, health protection, social security, worker's compensation and other risk issues relative to labor are addressed.
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Phase III


- The third phase sees an overall increase in the government's risk burden, assuming broad "social protection" risk for citizens at large.
 - In some cases, the government reallocates risk from consumers and borrowers to manufacturers and lending institutions.
 - In other cases, the national government assumes an increasing role in assuming risk borne by its citizens. The government involvement in natural hazard risk is a reflection of this Phase III role of national governments.
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Man-made Disasters - 2003

- Total Losses in 2003 for all Catastrophes was \$70 billion
- Of that amount, \$12 billion represented losses from Man-made disasters (17% of total).
- Approximately \$2.3 billion of the Man-made disasters were insured.
- Sixty-one percent of all insured losses were in the United States.
- According to Munich RE, Man-made disasters can be divided into six broad categories:
 - Industrial Accidents (Bhopal is 1984)
 - Long-term technological risk (asbestos)
 - Short-term political risk (9/11)
 - Long-term political risk (damages for historical injustices like colonialism, war, slavery and discrimination)
 - Short-term environmental damage (oil tanker accidents)
 - Long-term processes of soil, water and air pollution
- 6. Large-loss scenarios of such complexity raise questions about the extent of liability law and liability insurance. These liabilities involve a complex interaction of first-party property insurance and insurance of the person, social security, state ad hoc funds or provisions in international treaties. On the whole, the issues raise important questions about whether liability law is not overtaxed with questions of cross-generational liability. (Munich Re, *Topics* 2002/2),

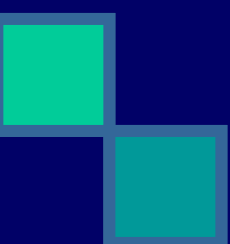



Policy Implications for Emerging countries

- The governments of emerging countries may find themselves in either the first or second phase of risk management as outlined by Moss. While it may take some time for these governments to move through these phases, it is necessary to accelerate this process. For many countries, natural disaster risk may be a barrier to economic development.
 - David Moss aptly points out that developing countries are faced with a tremendous balancing act: “How to manage economically dysfunctional risks without stopping up the wellspring of economic progress is one of the most difficult challenges facing policymakers in every developing country.” (Moss 2002)
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Policy Implications (Continued)

- OECD case countries provide an extensive menu of options from which emerging countries can choose methods of addressing the financing of disasters. Emerging countries can utilize these approaches to help them institutionalize and formalize governmental disaster risk burden sharing, depending on a similar or shared politico-historical context with an OECD country.
 - Although OECD countries supply an important template, disaster policies in emerging countries need to be flexible to accommodate unique circumstances. Most emerging countries have the complex problem of providing social protection for the poor with underdeveloped market mechanisms like insurance. In addition, the level of natural hazard risk in many poor, smaller developing countries outstrips the risk on a proportional basis of any OECD country.
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Policy Implications (Continued)

- Bottom line: For emerging countries in the midst of building political, judicial, economic and social institutions, managing natural hazard risk is difficult. However, with the help of developed countries, which have paved the paths to various unique approaches to disaster financing, the task becomes manageable. The emerging countries are still left with the mission of constructing an institutional framework based on their political orientation and a social consensus. This framework provides a space for disaster mitigation programs which best fits the historical evolution and financial resources of the emerging country.