The Long-Lasting Economic Aftermath of Natural Catastrophes

A Tale of Two Cities

Ilan Noy

Department of Economics University of Hawaii, USA & School of Economics and Finance Victoria Business School, Wellington, New Zealand

The Problem

- 1. Economic costs of natural disasters are increasing
- 2. Most of the cost is caused by a few catastrophic events
- 3. Increase is projected to continue because of:
 - a. Increasing value at risk due to coastal migration, urbanization, population growth, and increasing prosperity.
 - b. Changing climate patterns

Problems #1 and 2: Increasing costs

Estimated damages (1975-2011 in US\$B)



Source: EM-DAT

Problem #3a: Increasing exposure



Source: IPCC, 2012.

Problem #3b: Projected increase

Estimated damages from tropical storms due to climate change (in 2100 in US\$M)



Source: Mendelsohn et al., 2012.

What About the Long-Term?

• What do we think we know of the long-term impact of catastrophic events?



What do we need to know?

The depth of the initial drop

• Deeper in poorer countries.

- The magnitude of the reconstruction boom
- Depends on the access to resources. The boom is bigger in richer countries with bigger governments and access to foreign funds.
 The duration of the reconstruction boom
 - Not more than a couple of years, though reconstruction typically lasts longer.

Where does the economy eventually settle to a new equilibrium?



Source: Asian Development Bank, 2012

First (and worst) possibility

Reconstruction never happens...

Pompeii after the volcanic eruption

The best of all the best possibilities





Build-Back-Better: Port-au-Prince, 2010



A Tale of Two Cities

San Francisco





Kobe

The Two Cities' Tales

- 1. Some people leave and do not return.
- 2. People return, but to a permanently depressed economy.

San Francisco (1906)



Source: Lynham, Noy and Page, 2013

Kobe (1995)



Source: duPont and Noy, 2012

A bit of Optimism

"It's snowing still," said Eeyore gloomily.

"So it is."

"And freezing."

"Is it?"

"Yes," said Eeyore. "However," he said, brightening up a little, "we haven't had an earthquake lately."

—A.A. Milne, The House at Pooh Corner

Disaster Risk Management

 Processes for designing, implementing, and evaluating strategies, policies, and measures to improve the understanding of disaster risk, foster disaster risk reduction and transfer, and promote continuous improvement in disaster preparedness, response, and recovery practices, with the explicit purpose of increasing human security, well-being, quality of life, resilience, and sustainable development. (IPCC, 2012, SREX report, p. 5)

Early Warning Systems

 EWS for hydro-meteorological events are easy and affordable, but should also include evacuation and risk reduction mechanisms.
 EWS for geological events are more difficult but there are positive externalities.

Insurance



Disasters in 2011	Insurance Coverage (estimates)
Tohoku earthquake	20%
Bangkok floods	25%
Hurricane Irene - USA	45%
Christchurch earthquake	80%
Source: MunichRe	

Realistically....

