Economics and Disasters

Jamie Brown Kruse
East Carolina University
Lifetime Achievement Lecture 2012

Center for Natural Hazards Research
The Puzzle of Economics and Disasters

Center for Natural Hazards Research
At the macroeconomic level
Disasters and GDP-short run

The immediate repercussions of natural disasters on economic activity-
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Gross Domestic Product (GDP) goes **up** after a natural disaster.

Is there a linkage between disasters, investment decisions, total factor productivity, long run economic growth?
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- Skidmore and Toyo (2002)
- 89 Countries (developed and developing)
- 1960-1990
Long run Impact

- Frequency of climatic (flood, hurricane, drought) disasters is positively correlated with
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- Frequency of climatic (flood, hurricane, drought) disasters is positively correlated with
  - Human Capital Accumulation
  - Total Factor Productivity Growth
  - GDP per capita Growth
Frequency of geologic disasters (earthquake, tsunami) is positively correlated with
Frequency of geologic disasters (earthquake, tsunami) is **positively correlated** with

- Human Capital Accumulation
- G D P per capita growth

(Skidmore and Toya 2002)
At the regional (Metropolitan Statistical Area) level...
Long run employment growth

- Growth rate Improves and is More Stable
- Hurricane and Tornado
- Earthquake
  Turkey (Ewing, Kruse, Ozdemir, 2005)
Housing Market

- rebounds quickly after hurricanes and tornadoes

Joplin, MO May 24, 2011
Joplin, MO
October 29, 2011
Banking Return on Assets

ROA is not harmed by major storms (tornado and hurricane) in fact some improvement for large banks after Hurricane Andrew 1992. (Hein, Ewing, Kruse, 2007)
Possible explanation

We don’t just rebuild—we upgrade

“Creative destruction” of old capital infrastructure. Rebuilding effort leads to technological modernization.
However,

- Evidence of technological upgrading of equipment in developing countries only those with higher GDP per capita.

(Cuaresma, Hlouskova, Obersteiner, 2008)
Haiti
Japan Earthquake/Tsunami
Fre’dé’ric Bastiat (1801-1850)

*The Parable of the Broken Window*

*That Which is Seen and That Which is Not Seen (1850)*
Bastiat

• A shopkeeper’s son broke a window. Bystanders consoled the citizen that at least some good would come of the broken window in that it would mean business for the glaziers.

• Bastiat argued that had the shopkeeper not needed to pay the glazier, the money could have been spent on new shoes, a new book, etc.
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opportunity cost
• Economic measures do not capture all of the effects.
  ▫ Losses of cultural significance and heritage
  ▫ Vulnerable populations
  ▫ Medically fragile
  ▫ intangibles
Does this have to do with our current policies, insurance, federal assistance?
“...what has so often excited wonder, the great rapidity with which countries recover from a state of devastation; the disappearance, in a short time, all traces of the mischiefs done by earthquakes, floods, hurricanes, and the ravages of war. ...
....An enemy lays waste a country by fire and sword, and destroys or carries away nearly all the moveable wealth existing in it; all the inhabitants are ruined, and yet in a few years after, everything is much as it was before.”
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Resilience

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The Puzzle of Economics and Disasters

- Complex Dynamic Problem
- Competing hypotheses
- New analytical and empirical techniques
Challenge

- Identify activities and interventions that foster resilience.
  - Reduce initial losses
  - Promote recovery
We can do better....
We can do better....
there is so much more to accomplish.
Concluding remarks

There is a parallel between POPULATIONS and COUNTRIES in the impact of Disasters ........
Populations

- Vulnerable Populations are hurt the worst...
  - Poor
  - Old and very young
  - Medically Fragile
• Economically strong populations will use their own resources to help rebuild the regional economy.
Countries

• More developed countries will rebuild with modern technologies.
Less developed countries with a large proportion of vulnerable and fragile populations are less likely modernize in the rebuilding process.
Policy Implication-populations

• After a disaster,
  □ Take care of the weak and vulnerable. Provide a safety net for those least able to recover on their own.
Policy Implication-populations

Create ways for economically strong to mitigate and reduce risk, and self-fund recovery.

- Accurate publicly available hazard risk information
- Create markets for all hazard insurance at actuarially sensible rates.
Thank you.