

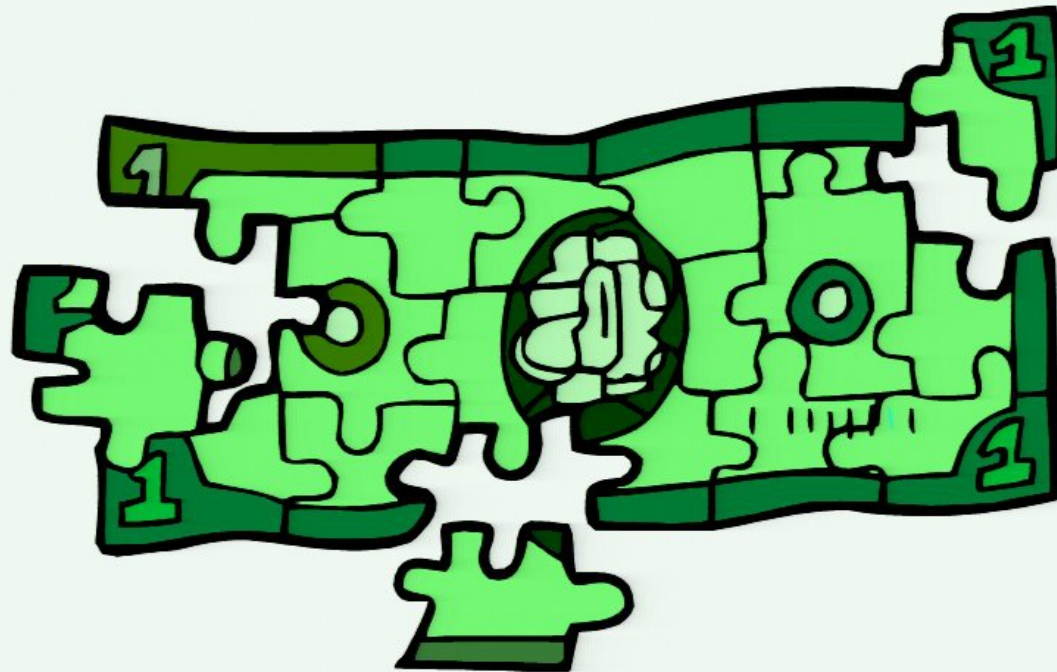
Economics and Disasters

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



Center for Natural Hazards Research

Disasters and GDP-short run

The immediate repercussions of natural
disasters on economic activity-

Disasters and GDP-short run

The immediate repercussions of natural disasters on economic activity-

Gross Domestic Product (GDP) goes **UP** after a natural disaster.

Dacy and Kunreuther (1969), Albala-Bertrand (1993), Otero and Marti (1995)

Is there a linkage between disasters,
investment decisions, total factor
productivity, long run economic
growth?



Is there a linkage between disasters, investment decisions, total factor productivity, long run economic growth?

- 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



Long run Impact

- Frequency of climatic (flood, hurricane, drought) disasters is positively correlated with
 - Human Capital Accumulation
 - Total Factor Productivity Growth
 - G D P 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...



Center for Natural Hazards Research

Long run employment growth

- Growth rate Improves and is More Stable

- Hurricane and Tornado

U.S. (Ewing, Kruse, Thompson 2003, 2004, 2005)

- Earthquake

Turkey (Ewing, Kruse, Ozdemir, 2005)

Housing Market

- rebounds quickly after hurricanes and tornadoes

US sample (de Silva, Kruse and Wang, 2006) (Ewing, Kruse, Wang, 2007)



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



???



Center for Natural Hazards Research



Fre'de'ric Bastiat (1801-1850)

The Parable of the Broken Window

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



Center for Natural Hazards Research

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.



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.

opportunity cost





Center for Natural Hazards Research



Center for Natural Hazards Research





Center for Natural Hazards Research



Center for Natural Hazards Research

- 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?



Center for Natural Hazards Research

“...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.”



....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.”

Principles of Political Economy, 1896



Center for Natural Hazards Research

....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.”

Principles of Political Economy, 1896

John Stuart Mill



Center for Natural Hazards Research

....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.”

Principles of Political Economy, 1896

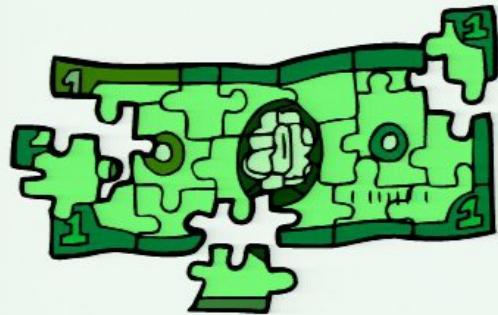
John Stuart Mill

Resilience



Center for Natural Hazards Research

The Puzzle of Economics and Disasters



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



Center for Natural Hazards Research

Challenge

- Identify activities and interventions that foster resilience.
 - Reduce initial losses
 - Promote recovery



We can do better....



Center for Natural Hazards Research



We can do better....
there is so much more to accomplish.



Center for Natural Hazards Research

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 publically available hazard risk information
- Create markets for all hazard insurance at actuarially sensible rates.

Thank you.



Center for Natural Hazards Research

