



Hazard Reduction & Recovery Center

1989 - 2019

#HRRC30for30

“Local Economic Impacts of Natural Disasters.”

By Yu Xiao 2011

The relationship between environment and economic growth is an important area of investigation in regional science. On one hand, economic growth influences environmental quality, such as qualities of air and water. On the other hand, environmental annoyance, such as the presence of hazardous waste generators and toxic release sites, can impact regional housing markets. In the past three decades, a lot of progress has been made in regional science to model and simulate responses of economic systems to disaster shocks. However, very little research has examined long-term impacts of disasters on local economies through observation.

Findings

This paper introduces a time-series analysis approach to look at the county-level economic impacts of the 1993 Midwest flood, the most expensive flood in the United States in the twentieth century. It finds that local economies in the group are resilient to an extreme flood event. The flood’s impact on overall employment were small and even though the flood did not seem to have long-term influence on total employment and average income, its impacts on agriculture were big and long lasting to some Midwestern communities. Higher levels of commercial and industrial damage are associated with higher total loss of income. The study finds that the farm income losses are only significant for the low-damage group in the seven and ten-year long-run, indicating an average permanent farm income drop of \$3.5–\$4.1 million in those flooded counties.

Implications

Consistent documentation of disaster damage at local levels is important to this type of disaster impact research. According to the study, future research should map the paths of local economic adjustment to natural disasters and examine how local economies’ adjustment trajectories are influenced by pre-disaster socioeconomic conditions, disaster damage and external disaster assistance. This understanding would help make simulation models for predicting economic impact of natural disasters and testing disaster relief strategies.



“Natural hazards threaten human society and its economic systems. Each year, many natural disasters in the United States affect thousands of people. In the past four decades, both the number of events and costs of damage have risen. According to the Federal Emergency Management Agency (FEMA), between 1966 and 1985, there were 27 major presidential disaster declarations in the United States per year, increasing to 43 declarations per year from 1986 to 2005.”