Discussion of

The Inflationary Costs of Extreme Weather in Developing Countries

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Issue

- **Measurement of climate change related damages (impacts)**
  - Connecting changes in climate variables to economic impacts
    - Sea level, agriculture, labor productivity, diseases, tourism
- Necessary for the assessment of climate change policies
- Involves complex interactions between human and natural systems
- **Weakest link in climate modeling**
- Two main approaches
  - Damage functions (aggregate)
  - Case-by-case damages using local data

This paper

- Caribbean islands (Jamaica)
- Carefully constructed hurricane destruction indexes from
  - Wind (non-linear in speed)
  - Flooding (linear in precipitation)
- Document extreme weather effect on **inflation**
- Welfare implications
- **Finding:** Expected welfare loses small, but sizable if rare event occurs

Inflation

- Inflation about 4.8% annually over 2001-2012
  - Rises over hurricanes
- Regress inflation rate on contemporaneous hurricane/flood indices
  - Both have a positive and significant effect on monthly inflation
    - Evidence of persistence sensitive to hurricane threshold
- Is this expected?
- Is it a problem?

Welfare Costs

- Jamaica
- Measure change in households' consumer surplus
  - Compensating variation: change in expenditure needed to maintain constant utility after change in prices due to hurricane/flood
    - Hurricanes, floods rare events; not independent
- Significant findings
  - Distributional effects across income groups
  - Nonlinearities in severity of hurricanes
    - Threshold sensitivity

An RBC Perspective

- Extreme weather event like an aggregate productivity shock
  - Some inflation is what we should expect
- **Given** frequency of such events, inflation an **optimal** response of the economy to the shock
  - Given weather shock, less inflation not necessarily better
- Hurricane is bad news
- GIVEN hurricane, inflation might not be
- Policy implications

Welfare Costs (ctd.)

- Welfare costs of inflation usually small
  - Lucas (10% inflation cost is 1% of GDP)
  - Cooley and Hansen (10 per cent inflation is 0.4% of GNP)
  - Imrohoroglu (10 per cent inflation is 1.1% of GDP)

What is Different Here?

1. "General equilibrium" effects:
   - Producer surplus
   - Inflation re-distributional (borrowers/lenders, etc.)
2. It pays off to look closer:
   - Heterogeneity of population/damages
   - Developing economy, large fraction at/near poverty

- More research needed
- Looking at specific episodes to determine mapping from climate to economic damages to welfare is a promising direction
  - Not yet convinced inflation at the center