THE IMPACT OF HURRICANES ON HOUSEHOLD POVERTY

Evidence from Jamaica

presentation by

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Panel on “Risk, Poverty, and Financial Solutions”
INTRODUCTION

• Few would doubt that tropical storms have some impact on household poverty – but how much and how long?

• Handful of studies on impact on households (Azreen & Noy, 2014)

• General conclusion: negative impact, but little consensus on how much
INTRODUCTION

- Two empirical challenges:

1. **Need to follow Households over time (i.e., panel data):**

   Before  | Event  | After

   ![Before](image1.png)  | ![Event](image2.png)  | ![After](image3.png)
INTRODUCTION

2. Tropical Storms need to be modeled as ‘local’ phenomena.
INTRODUCTION

THIS PROJECT: A case study of Jamaica using household panel data

(joint with Nekeisha Spencer, U of the West Indies & Michael Henry, U of Birmingham)
JAMAICAN HOUSEHOLD PANEL DATA

- Survey of Living Conditions (SLC): rotating household panel
- Can follow 9,500 households from 1990-2012
- Detailed Information on consumption & expenditure
- Information on location (enumeration district) & building
HURRICANE DAMAGE MODELING

- Tropical storm tracks & wind field model → wind speed for each storm in each enumeration district
HURRICANE DAMAGE MODELING

- Household damage (vulnerability) Function?
- 1989 SLC: collected information on damages after Hurricane Gilbert
- Info on Hurricane Gilbert damage & housing wall type

→ Household specific damage proxy for each subsequent storm
ECONOMETRIC RESULTS

- Result #1: Negative impact of hurricanes on Consumption/Capita
- Result #2: Cross-sectional data overstates impact
- Result #3: Effect only lasts one year & is not very large
- Possible reasons for Result #3
  1. Damage proxy is poor
  2. Informal insurance
  3. Budget reallocation
ECONOMETRIC RESULTS

(ii) Informal Insurance

- Ex – Remittances?

- Result: some mitigating role...
CONCLUDING REMARKS

• Role for household hurricane insurance in Jamaica?

• Possibly, but:
  i. Need clearer understanding of ‘informal’ mechanisms in place
  ii. Would have to be heavily subsidized