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 :**

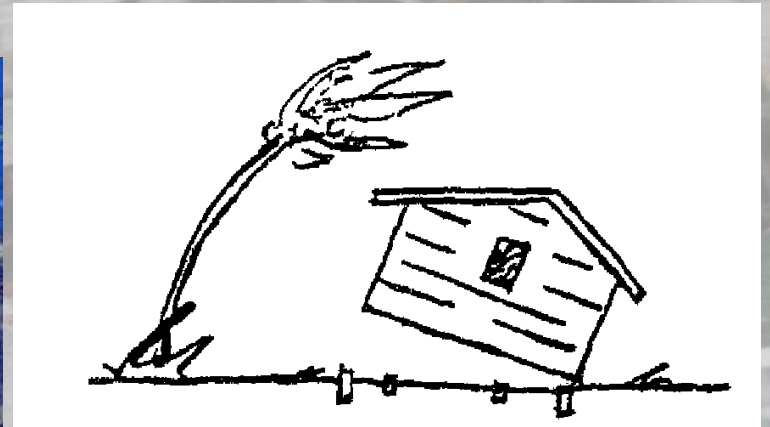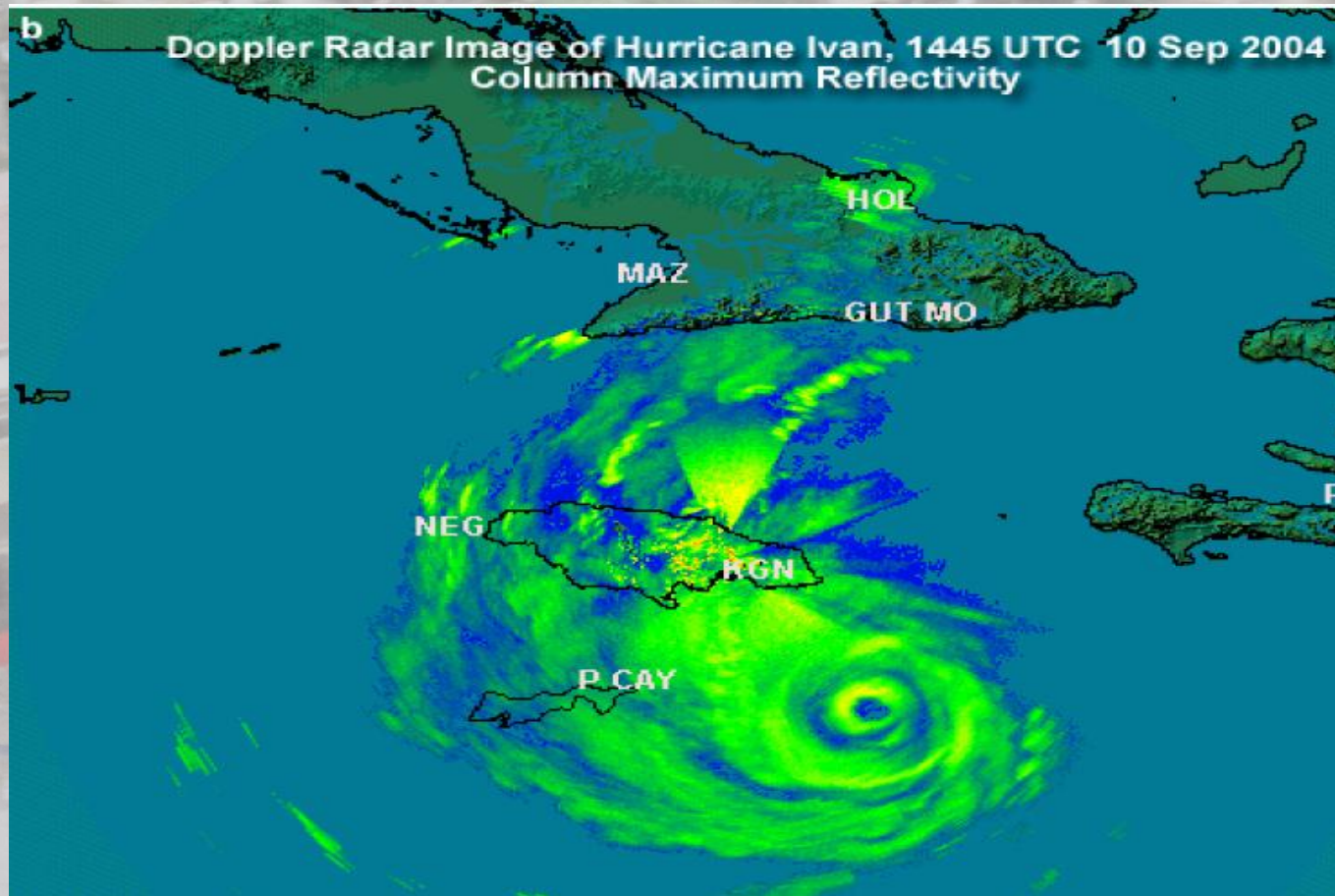1. **Need to follow Households over time (i.e., panel data):**

Before	Event	After

INTRODUCTION

2. Tropical Storms need to be modeled as `local' phenomena

Doppler Radar Image of Hurricane Ivan, 1445 UTC 10 Sep 2004
Column Maximum Reflectivity

INTRODUCTION

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

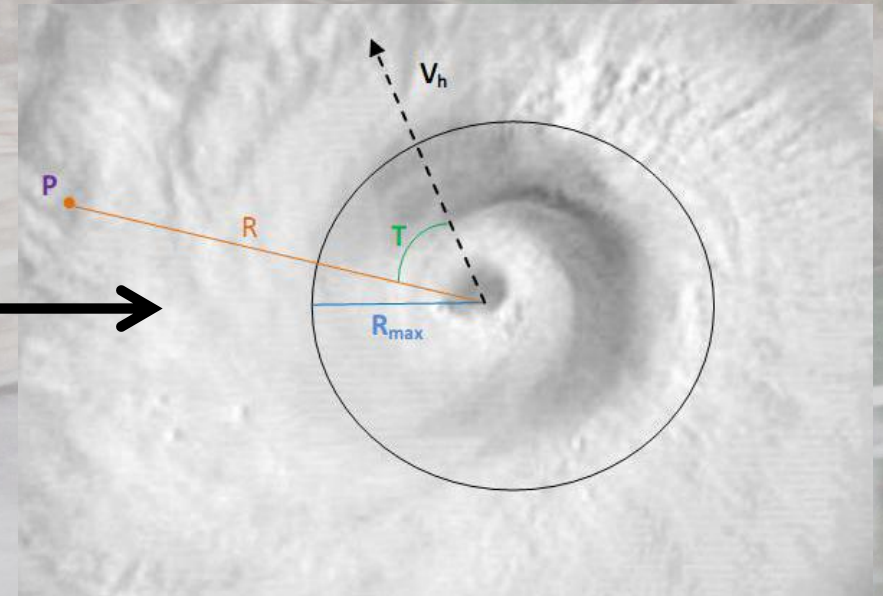*(joint with Nekeisha Spencer, U of the West Indies & Michael Henry, U of*
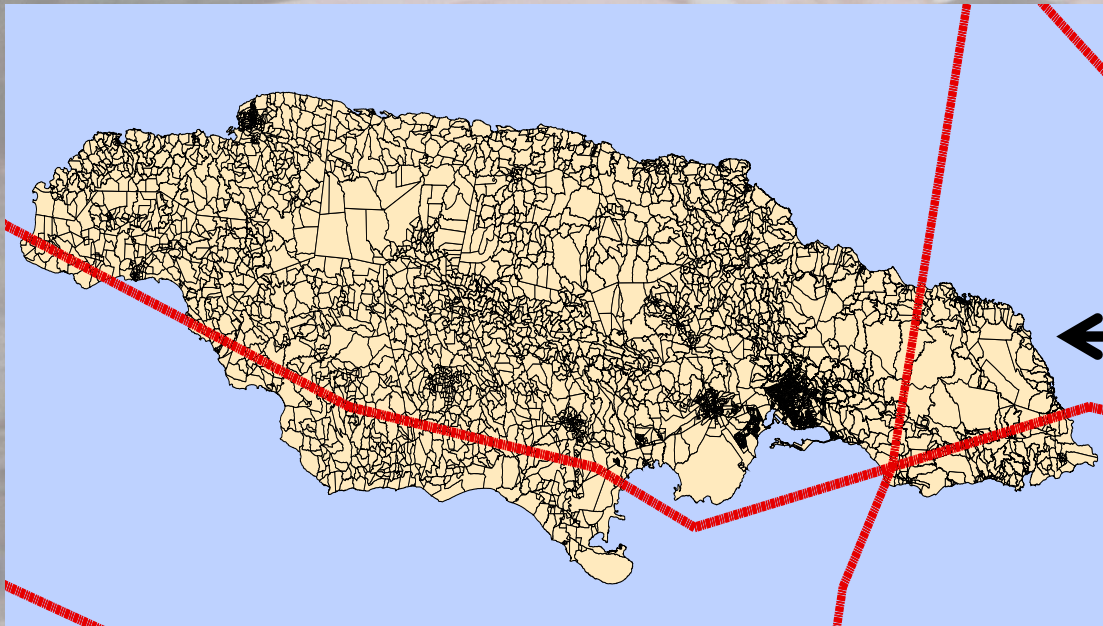
Birmingham)

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**

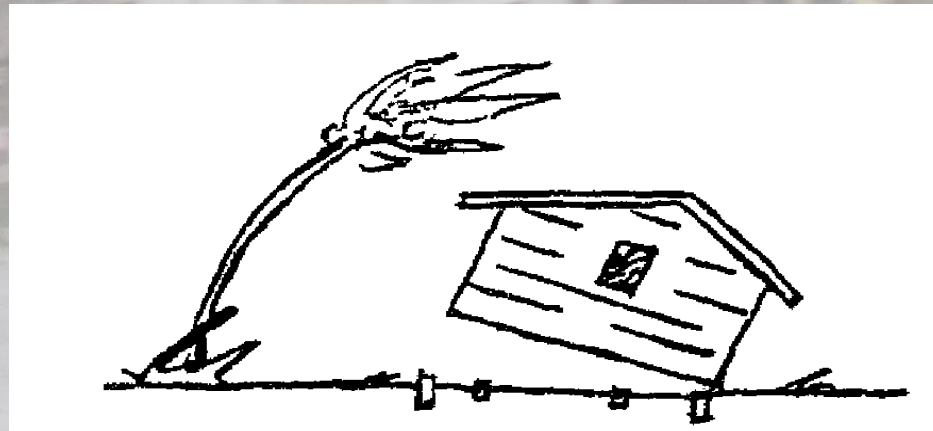- **Information on location (enumeration district) & building**

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**

    (i)   Damage proxy is poor

    (ii)   Informal insurance

    (iii) 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**