LEARNING THE HARD WAY: HURRICANES AND COMMERCIAL REAL ESTATE VALUES

Discussion by
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* The views and opinions expressed herein are mine alone and do not necessarily reflect those of the Board of Governors of the Federal Reserve System, its members, or its staff.
Tropical Systems (Atlantic)
Hurricane Landfalls

Note: When comparing values for counties/parishes/boroughs, differences in geographical size should be considered.

Total number of hurricane strikes by counties/parishes/boroughs, 1900-2010

Major Hurricane Landfalls

Note: When comparing values for counties/parishes/boroughs, differences in geographical size should be considered.

Total number of major hurricane strikes by counties/parishes/boroughs, 1900-2010

Hurricane Risk
Key Research Questions

• Do CRE prices reflect hurricane risk prior to hurricane landfall?

• Do CRE prices respond to hurricane landfall?
  – CRE prices within hurricane landfall area?
  – CRE prices outside hurricane landfall area?

• Do pricing effects fade over time?

• Hurricane Sandy: Boston vs NYC
Key Findings

• Hurricane risk not priced in Boston or NYC before Sandy
• Hurricane risk was priced in NYC after Sandy (learning)
• Hurricane risk not priced in Boston after Sandy (proximity)
• Price impact of hurricane risk dissipates over time (forgetting)
Comment on diff-in-diff

• Spillover effects
  – Maybe Boston did learn something, but being compared to NYC who learned a lot, so diff-in-diff suggests Boston learned “nothing”

• Compare Boston to Detroit or Chicago?

• Include controls from Table 4 in Table 5?
  – Trace out annual effects for Boston and NYC
Comment on hurricane risk proxy

• Hurricane risk ~ distance to coastline

• Pros:
  – Seems to work fairly well
  – Many effects concentrated near coast

• Cons:
  – Every hurricane is different

• Use predicted property damage?
Hurricane Hazards

- High winds
- Heavy rainfall and inland flooding
- Tornados
- Storm surge
Harvey: High Winds

Hurricane Harvey Peak 10-meter Wind Gusts - Aug 25-29, 2017

Wind Gusts (mph)
- 39-73 (TS)
- 74-95 (Cat 1)
- 96-110 (Cat 2)
- 111-129 (Cat 3)
- 130-156 (Cat 4)

Hurricane wind gusts are highlighted in blue.

Source: National Weather Service Post Tropical Cyclone Reports
(Incomplete and unrepresentative data have been removed from this analysis. Non 10-m winds have been modified to a 10-m value.)
Harvey: Heavy Rainfall

Observed Precipitation

Valid Ending Friday September 1st, 2017 at 3 PM CDT

Graphic Created
September 1st, 2017
3:59 PM CDT
Harvey: Tornados
Harvey: Storm Surge

HURRICANE HARVEY
Peak Storm Tide Observations

Legend:
Red: NWS Survey
Black: Tide Gauge

Middle Texas Coast

6" water depth in home in Long Mott

Preliminary
Fri Aug 25, 2017
Harvey: Storm Surge
Katrina: Storm Surge
Katrina: Storm Surge
Katrina: Storm Surge
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Katrina: Storm Surge
Storm Surge
Summary of Comments

• Diff-in-diff spillover effects?
  – Use Detroit or Chicago as baseline
  – Use Table 4 controls in Table 5

• Hurricane risk proxy: distance to coastline
  – Use predicted property damage
Conclusion

• Very nice paper!!!
• Interesting research question
• Topical and important
• Enjoyed reading!!!