

Discussion of:
**“Does Information about Climate Risk Affect
Property Values”**
by Miyuki Hino and Marshall Burke

Discussant: Daniel Hartley
Federal Reserve Bank of Chicago

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Question: How is information about flood risk priced in residential real estate markets?

- How much do home prices drop when a FEMA flood risk map is redrawn such that a home switches from being outside the 100 year flood area to within it?
- Side question: How are price changes related to buyer information?
 - Whether the buyer is commercial or household
 - The number of flood disclosure items required by the state.

Predicted Effects

- Depend on:
 - Whether the insurance was available before the map change and is now required after the map change.
 - Whether the price of the insurance is more or less than actuarially fair.
 - Whether buyers are aware of flood risk.
 - Whether buyers can calculate the actuarially fair price of insuring against that risk.

Predicted Effects

- Does a change in floodplain status from one map to the next represent a change in underlying flood risk or a change in information about flood risk?
 - It could just be information revelation
 - Or both a change in risk and information
- Going from optional to required flood insurance makes the owner worse off but only if the flood insurance is priced higher than actuarially fair or is expected to become priced higher than actuarially fair.

Drexler, Hartley, and Melzer (no draft)

- Use regression discontinuity design (RDD) at boundaries between 500-year in 100-year flood zones.
 - Idea is that after controlling for elevation in a non-parametric way (and any other available spatially continuous measure of flood risk) the only thing that changes at the boundary is going from an option to buy flood insurance to a requirement to buy it.
 - In practice, this requirement is usually enforced through mortgage lenders at the time of purchase.

Drexler, Hartley, and Melzer (no draft)

- In Florida, we find a 3% drop in price moving from the 500-year flood plain to the 100-year floodplain.
 - This price drop is larger at times when search intensity for flood insurance is higher
 - And when the premium for a house in the same price decile is higher.
- Flood risk is likely particularly salient in Florida

Hino and Burke Results

- Being zoned into the 100-year floodplain reduces property values by 2.1%.
 - Large confidence interval given large sample points to likely heterogeneity of effects
- Explore heterogeneity along 2 dimensions
 - Flood disclosure stringency by state. States requiring all 3 types of disclosures have larger 100-year flood plain price reduction: 4.1% (dropping FL which requires no disclosures but where flood risk is particularly salient strengthens this result).
 - Commercial buyers have a larger price reduction (6.9%) vs. non-commercial (1.8%)

Synthesis of Results

- Disclosure analysis: Flood risk is particularly salient in FL. Elsewhere disclosure requirements may help inform buyers of potential flood risk and stream of flood insurance payments.
- Commercial buyers
 - Are they better at valuing a stream of cash flows (premium payments)?
 - Or is do they specialize in buying properties where the flood risk has increased a lot (and thus are more heavily discounted)

Suggestions

- Add controls for flood risk such as elevation data from USGS or flood risk models from CoreLogic or other providers.
- Present value of premia calculation. I would like to see more detail about the insurance premium data to comfortable with the conclusions in the discussion section.
- The issue is that concluding many of the 3.8 million floodplain homes in the US are overvalued requires knowing more about how actual flood risks are changing when the maps are changed as well as knowing whether the price of flood insurance is above or below the actuarially fair price.