# Discussion on
# “Mortgage Performance and Home Sales for Damaged Homes Following Hurricane Harvey”

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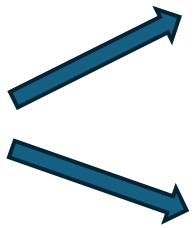
# Re-Cap: a super intriguing and comprehensive work

Valuable data sets:

- Loan performance
- Property transactions
- Property-specific flood insurance and claim



- Loan performance outcomes
  - Short-term: Delinquency
  - Medium-term: Forbearance, modification
  - Long-term: Default, prepayment.
- Sales outcomes
  - Transaction volume
  - Transaction price
  - Time-on-market
  - Sold with bad conditions

Key findings:

- Some disparities between insured and uninsured properties; Non-linear relationships between damages and loan performance outcomes
- The likelihood of prepayment is strongly associated with large damage levels. Sell homes without repair, collecting insurance proceeds to make up for [loan balance – sale price], with price discount, faster sale and bad condition. – sell and leave.

# Comment #1 Specifications + clarifications

- Equation 1, Table 2-6,
- Split column (1) into two columns:
  - The first column: only include policy*claim dummies;
  - The second column: further add in SFHA dummies.
  - This is because, in your current column (1), the two SFHA dummies are highly correlated with policy variables, so they will absorb the effect to some extent, making it difficult to interpret the coefficients of policy-claim dummies.
    - SFHA dummies are merely indicators whether or not flood insurance is mandatory for homes with mortgages. You assume all homes in SFHA should have insurance (the data also supports this, allowing some matching errors). So they may be redundant to some extent.

# Comment #2 Specifications + clarifications

- Table 5: Default outcome
  - Be clear when interpreting the coefficients, they are conditional probabilities (conditional on forbearance and modification probabilities)
  - Since forbearance/modification do increase with damage level (claim size), the overall default likelihood should also increase with it;
  - But after you control for forbearance/modification, this relationship becomes weaker.

# Comment #3: Damage information for uninsured homes

- Ideally, you want to look at two very similar homes (after controlling for home attributes), with similar flood damage level, one with flood insurance and the other without.
  - You use policy claim size as the proxy for damage level, and this info. is only available for insured homes.
  - You have a sub-sample of homes being inspected after Harvey. So, you can further utilize this sub-sample, to measure the damage level for both insured and uninsured homes.
  - Then, you can run regressions with interaction terms of damage level (inspected) * policy YES or NO, to examine the differences in loan performance outcomes and sale outcomes.

# Comment #4  Measures of Damage level, repair cost, and claim proceeds

- Damage level
  - Besides claim-to-value ratio, can you also try claim-to-loan balance ratio? Households should be more sensitive to the latter?
- Claim proceeds
  - There should be an upper limit on the maximum claim amount a policy can provide. What is the effect of that limit?
- Repair cost
  - When households decide whether or not to repair the home (after damage), the repair cost is a key parameter, relative to claim proceeds, outstanding loan balance and market value. Any chance to measure it?

# Comment #5 Look into new mortgage applicants

- You observed a very interesting and robust pattern of “sell and leave” (mobility) for those households whose homes were severely damaged.
- This raises a very interesting question of the compositional changes in those neighborhoods. Who left and who moved in?
- You can look into the new mortgage applicants to get some clue. Whether lower-income households who could afford the cheaper prices now? Upsides and Downsides.

# Comment #6: Policy Implications

- Insurance policy refinement
- “resilience loan” to incentivize upfront resilience investment/retrofit by households.
- Climate gentrification, affordability and inequality

# Comment #7: Causal identification

- Selection issues at various stages: where to buy home, whether to have mortgage, whether to enroll in flood insurance… It is challenging to tease out clean causal effects. Some attempts will be very helpful; and more for future research.

Great work!

Look forward to the next iteration.