# How Insurance Claim Delays Shift Mortgage Costs After Disasters?

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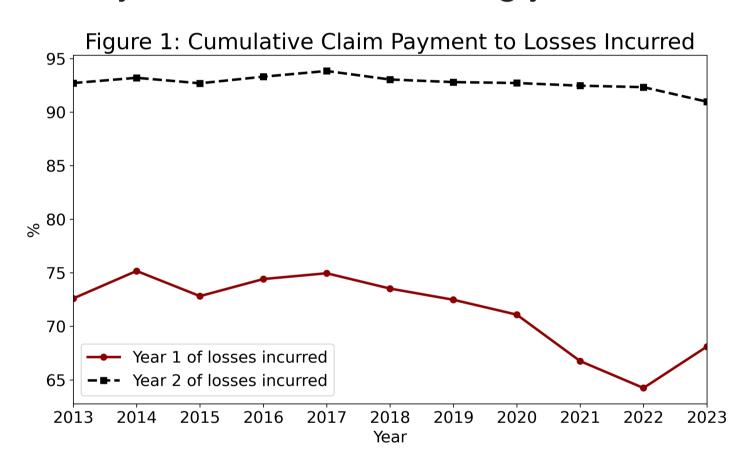


### **Research Questions**

- Does the timing of insurance claim payments after natural disasters influence mortgage outcomes?
- When insurers delay payments, who ultimately bear(s) the resulting costs?

#### **Motivation**

- Timely homeowner insurance payments are essential for post-disaster recovery.
- Insurers are required by most states to respond to claims in 90 days.
- Yet, the payment share in the year of loss incurred is significantly lower than the following year.



#### **Stakeholders**

- Borrowers: late fees and financial strain from delayed mortgage payments.
- GSEs: costs associated with loss mitigation.
- Investors: asset prices marked to mortgage risk.

## Data

- NAIC schedule P: insurance claim payment progress by year.
- Freddie Mac single family loans: origination and monthly performance since loan acquisition.
- SHELDUS: property damage after natural disasters.

## Measure of regional insurance payment speed

- For each insurer, calculate the share of claim payment in the year of losses incurred on homeowner multiple perils nationwide.
- Slow insurers: those below the median level payment share each year.
- SlowShare: the market share of premium written by slow insurers per zip-MSA.

## Event study - Hurricane Irma in Sept. 2017

$$Y_{i,t} = \sum_{k=-12, k \neq -1}^{12} \beta_k \cdot \text{Post}_{t=k} \cdot \text{SlowShare}_{i,2017Q2} + \gamma X_{i,t} + \delta_i + \lambda_t + \varepsilon_{i,t}$$

- $Y_{i,t}$ : Value share of mortgages in certain status over unpaid balance, for each zip-MSA i in FL and month t.
- SlowShare<sub>i,2017Q2</sub>: market share by slow insurers in 2017Q2 for the payment of losses in 2017 per zip-MSA i.

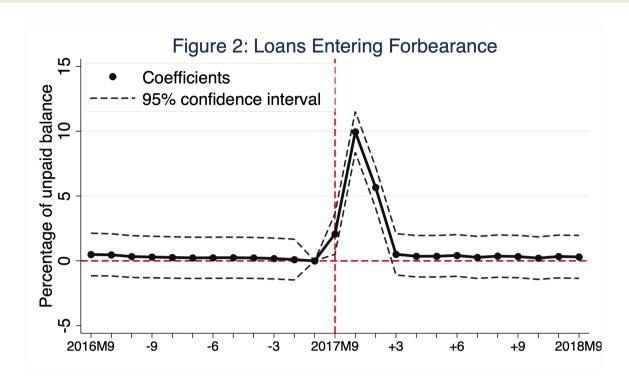
## **Important controls**

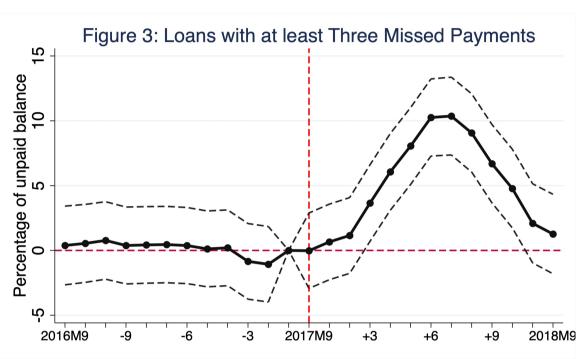
- Slow-insurer share defined by cumulative loss payment by end of 2018: to isolate the effect of instant payment ability from the payment performance in an extended term.
- log(property damage): to isolate the effect of insurers from the direct effect of natural disasters on mortgage performance.

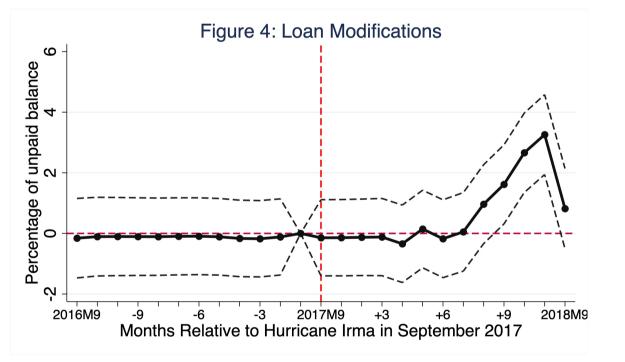
# Key findings

- Insurance payment delay MATTERS!
- Controlling for 2-year cumulative claim payment performance, a zip-MSA with 100% slow insurers in loss-year would see 10% more GSE forbearance, 10% more severity delinquency, and 4% more loan modifications at peak, compared to one with no slow insurers.
- Differences dissipated within twelve months.

#### Post-Irma Loan Status







# Back-of-the-Envelope Cost Estimates

- 1st-year claim payment rate: 58% (slow insurers) vs. 75.6% (fast insurers).
- If all 246173 loans in the sample were with slow insurers:

Component	Amount (Million USD)
Insurer interest earnings on 1-year payment delay	20
GSE payments to servicers for forbearance/loan mods	33
Late fees paid by delinquent borrowers	5.7
Minimum net welfare loss	18.7