

Disaster Flags: Credit Reporting Relief from Natural Disasters

Benedict Guttman-Kenney (Chicago Booth)

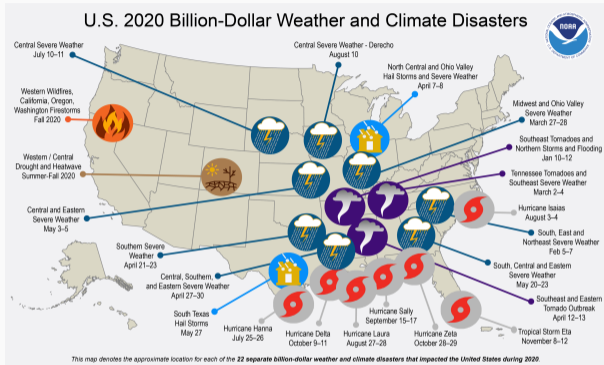
APPAM, 11 November 2023



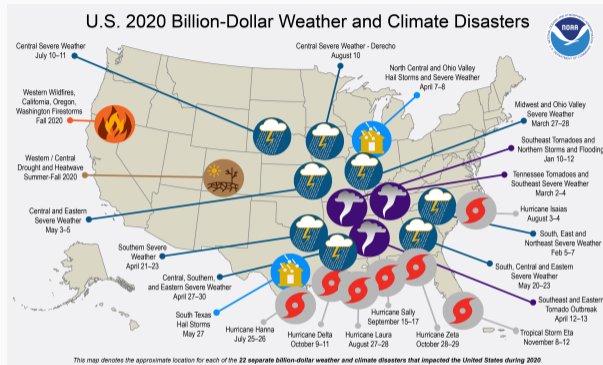
Thanks to NBER and Chicago Booth's Kilts and Stigler centers for supporting my research.

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Policy Motivation: Natural disasters more frequent + damaging in last 5-10 years



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- **What role for credit reporting relief from natural disasters?**
 - Policy issue raised by Consumer Financial Protection Bureau, FinRegLab, National Consumer Law Center, Urban Institute.

One Slide Summary

Research Question:

- Role for masking defaults during natural disasters to alleviate financial distress?

Data:

- University of Chicago Booth's TransUnion Consumer Credit Panel (BTCCP)

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Key Findings:

- 'Disaster flags' widely used.
- Flags temporarily ↑ credit scores
 - ...gains concentrated among most financially distressed
 - ...*but* do **not** improve credit access
- Counterfactual policy masking all disaster defaults appears proportionate.

1. What Are Disaster Flags?
2. Consumer Benefits of Disaster Flags
3. Counterfactual Policy Masking Disaster Defaults

1. What Are Disaster Flags?

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- Voluntarily added and removed at lender discretion.
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- Eligible if affected by natural / declared disaster.
- Applied at account-level (e.g. a mortgage not all products) masking defaults in VantageScore credit score not in FICO.

How many consumers have credit report disaster flags?

FACT 1:

59m people with disaster flag on their credit report
(2010 - 2020)

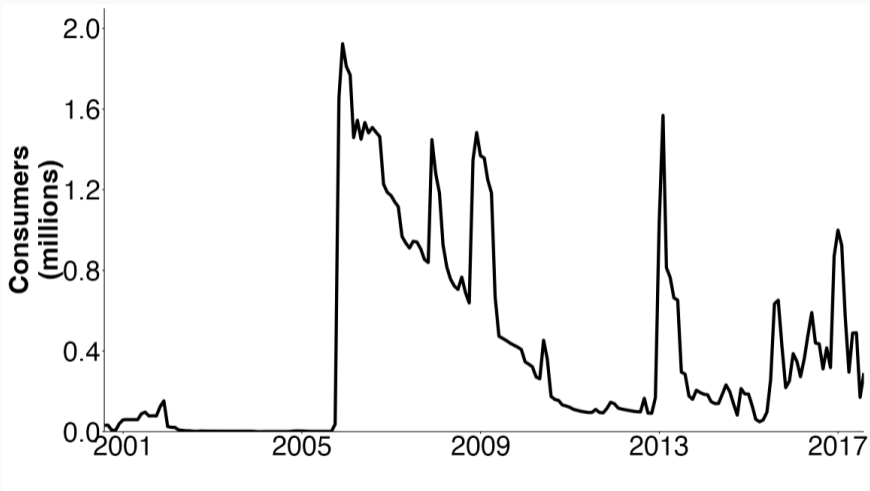
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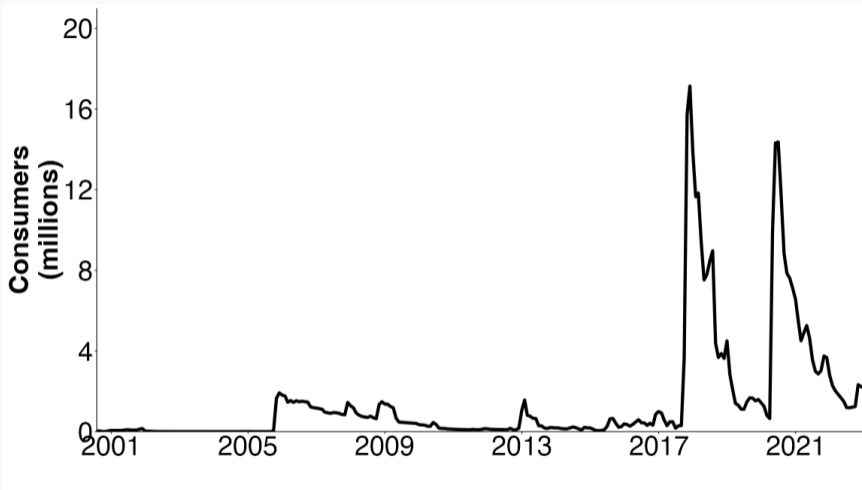
59m people with disaster flag on their credit report
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- 59m > 3.5 times bankruptcies

Disaster flags mainly used since Hurricane Katrina in 2005



FACT 2: A level shift in disaster flag use in 2017 with Hurricanes Harvey and Irma



Y-axis is 10x prior chart!

- **FACT 3.** Increasingly broad geographic usage of flags
- **FACT 4.** Flags typically only remain for a few months
- **FACT 5.** Flags typically only applied to subset of accounts
- **FACT 6.** Flagged consumers are more indebted and riskier

2. Consumer Benefits of Disaster Flags

Methodology for isolating effects of flags separate from disaster

Exploit **exogenous variation in timing** (+ location) of natural disasters.

Estimate stacked difference-in-differences (DiD).

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$$Y_{i,c,t} = \sum_{\tau \neq -1} \delta_{\tau} (FLAG_i \times D_{c,t}^{\tau}) + \gamma_i + \gamma_{c,t} + \varepsilon_{i,c,t}$$

i, c, t are individual, cohort, time.

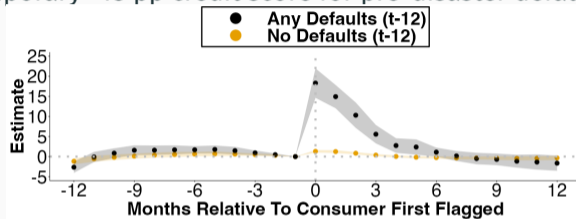
$FLAG_i = 1$ if consumer flagged, 0 otherwise.

1. 1st month person has disaster flag added.
2. Matched unflagged 'clean' control in census block group-zipcode.
3. Keep observations ± 12 months to flag addition date.
(cohorts first flagged Jan 2010 - Dec 2018)

Standard errors clustered at cohort-level.

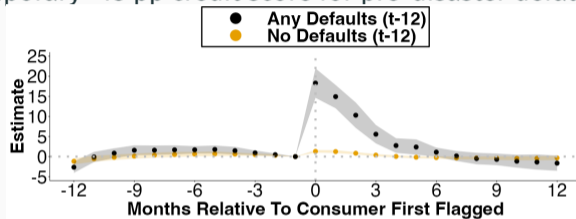
Effects on credit score and credit access

Temporary +18 pp credit score for pre-disaster defaulters

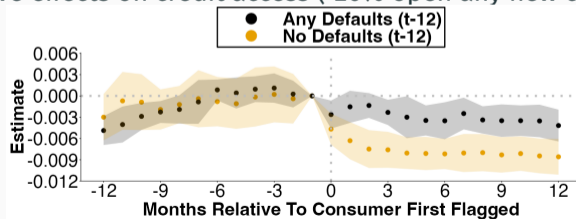


Effects on credit score and credit access

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No positive effects on credit access (-20% open any new credit card)



3. Counterfactual Policy Masking Disaster Defaults

Methodology for evaluating information loss if *all* disaster defaults masked

Construct credit scoring models predicting *new* defaults in next 24 months.

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automatically + permanently masking disaster defaults in credit reports.

Consumer Financial Protection Bureau (2018), National Consumer Law Centre (2019, 2023),
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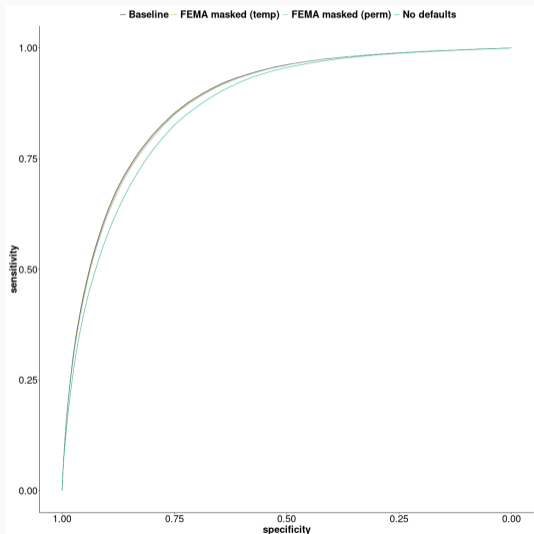
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Merge Federal Emergency Management Agency (FEMA) records of disasters.

Two counterfactuals:

- **‘Temporary’**: Mask defaults occurring within six months from FEMA event.
(lower bound)
- **‘Permanent’**: Mask defaults that *started* within six months from FEMA event.
(upper bound)

Masking FEMA defaults (5, 6) far more efficient than masking all defaults (7)



Model	AUROC	Baseline %
Baseline	0.8790	
Flag masked	0.8786	-0.05%
FEMA masked (temp)	0.8777	-0.15%
FEMA masked (perm)	0.8764	-0.30%
No defaults	0.8641	-1.70%

FEMA masks 6.7% - 18.4% of all defaults.

Conclusions

- Lenders voluntarily mask defaults during natural disasters with 'disaster flags'.
- 'Disaster flags' widely used (59 million people, 2010 - 2020)
- Flags temporarily ↑ credit scores
 - ...gains concentrated among most financially distressed
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- Counterfactual policy masking all disaster defaults appears proportionate.

THANK YOU!



Thank you!

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P.s. I'm on the job market ;)