Credit When You Need It

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This Paper

- Paper on Disaster Loans
- Question: Can households reduce the consequences of severe events through borrowing?

Motivation

- Fulford Low (2024) HH liquidity shocks are important for macro modeling and many areas of Economics
- Expense shocks understudied relative to income shocks
- Expense shocks 80% of HH income are more likely than a comparable drop in income
- These shocks have important implications for precautionary savings, consumer loan delinquency, financial distress, and more...
- Large disaster shocks are likely to get more common due to climate events – for example the California wildfires – and have wide implications from how we model recovery plans to prices of MBS

Main Findings

- Receiving a loan after a disaster:
  - Lowers bankruptcy (-61%) and delinquencies (-31%)
  - Increases car purchases
  - Does not crowd out private lending

Data

- Data from 2005-2013 on federal disaster loan applicaitons
- Merge disaster loan application data to Experian credit records
- Observe each application around a disaster, merge that to 2 data points per year (June/Dec)

IV - above or below 40% DTI

- Estimating the first stage

$$\mathbb{1}_{t=h} \times approved_i = \sum_{h=-a}^{b} \alpha_h(\mathbb{1}_{t=h} \times below_i) + \delta_0 DTI_i + \delta_1(DTI_i \times below_i) + \pi_{zd} + \tau_{td} + \mu_{it}$$

- Use first stage to predict $\widehat{\mathbb{1}_{t=h} \times approved_i}$
- Cragg-Donald first stage F-statistic: 962 $\Rightarrow$ stong instrument for loan approval

IV - above or below 40% DTI (cont'd)

- Estimate the 2nd stage using predicted variable

$$y_{it} = \sum_{h=-a}^{b} \alpha_h(\mathbb{1}_{t=h} \times \widehat{approved}_i) + \gamma_0 DTI_i + \gamma_1(DTI_i \times below_i) + \phi_{zd} + \kappa_{td} + \mu_{it}$$

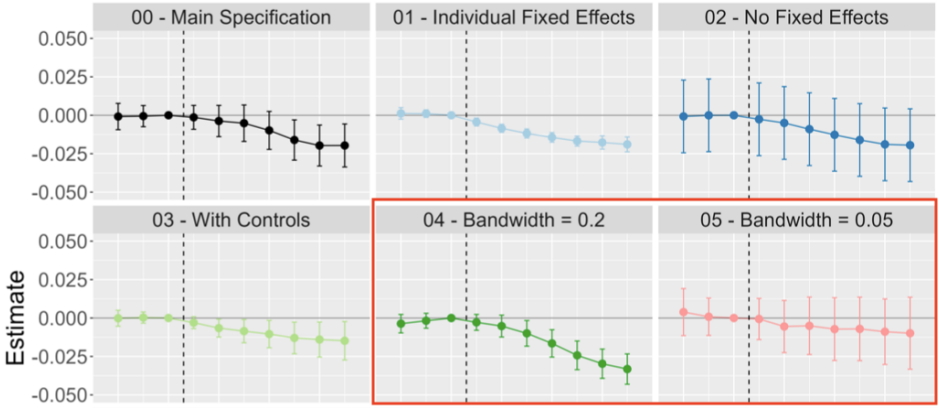
- Control for DTI as the running variable, because how far above or below the threshold may affect approval
- Relies on assumption that we predict approval just with portion of information contained in whether borrower's above or below 40% DTI
- If you believe this random assignment $\Rightarrow$ approved borrowers less likely to default
- Local Average Treatment Effect (LATE) - local around the 0.40 DTI

Major Comment 1: As if Random Assignment?

- DTI is likely correlated with things like borrower's income, how much other debt they have
- DTI controls won't fully remove correlation with things like FICO, credit lines, income, etc
- Main specification does not use other controls for borrower FICO, income, number of Experian credit lines
- In robustness, results dissipate with narrower DTI bandwidth
- Combined with summary stats on additional variables showing accelerating trends at 0.3-0.35 DTI, (credit card debt, other credit lines) suggest that these are correlated with result significance moving from 0.05 bandwidth to 0.2 bandwidth

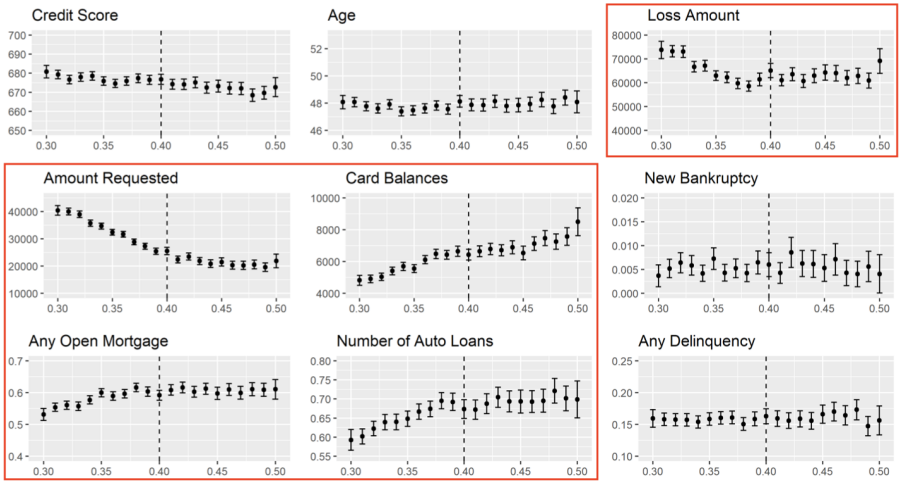
Major Comment 1: Effects of Loan Approval on Bankruptcy, Alternative Specifications

- Diminishing results as bandwidth shrinks suggests that omitted variables from larger bandwidth may contribute to results



Major Comment 2: Applicant Characteristics by DTI

- .35 to .45 (0.05) DTI bandwidth looks more steady than .30 to .50 (0.10)



Wealth Effect Comment

- **Result:** find similar decline in delinquency for high int rate and low int rate borrowers $\Rightarrow$ implies liquidity effect, not wealth effect
- Show menu of available interest rates
- Wealth effects would depend on variations in interest rates received in treated vs control
  - What did the interest rate environment look like during this time period? At each FICO, report probability of receiving given interest rate, suggesting rate varies across individuals
  - Do all people with credit score above 700 get same rate, or their equivalent mortgage rate? Is it a fixed rate?
  - Recommend controlling for $below40DTI_i \times mktRate_t$ to control for differential effect of market interest rate on treated and control within each stacked DiD
- Could also use the group of people who receive the grant of <$25k and study around cutoff to establish the wealth effect

Minor Comments

- Would be good to include a discussion of timing, for example:
  - Not clear whether authors see only the loan applications in the application data or also performance on disaster loan - matters because would help to clarify whether *Post* is pre/post taking out the loan, or pre/post disaster event.
  - I believe that pre/post is pre/post of the disaster, and the disaster loan origination is assumed to take place in the same bi-annual month as the disaster (ie June or December)
  - Given that the merge is from application data to individual level credit records bi-annually, I believe authors see performance on other credit lines that individuals have, but not the disaster loan. Though it is mentioned that charge off is observed on the disaster loan.
- Paper states question asks whether access to low interest credit affects borrowers. why does it have to be low interest rate credit? Are there bounds on what the interest rate needs to be to yield this effect?
- Wealth effect regression around cutoff for the grant vs loan could help tease out elasticity of default to a one unit increase in interest rate.
- External validity - disaster loan relief setting - borrowing to repair a person's home.

Thank You!