The Equilibrium Effect of Information in Consumer Credit Markets: Public Records and Credit Redistribution

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Information is key to consumer credit

- Credit records and credit scores are used to determine availability and cost of consumer credit
  - Increasingly used in other areas: employment, rental housing
  - Information used in credit scoring is exanding: utility payments, cashflow data
- Yet little is known about equilibrium effects of information, necessary for understanding public policy tradeoffs
  - Select exceptions: Liberman et al. (2018) in Chile, Bos and Nakamura (2014) on bankruptcy flag length, Einav, Jenkin, and Levin (2013) on introducing credit scoring
- This paper: use large removal of derogatory information to estimate individual and equilibrium effects of information in consumer credit markets

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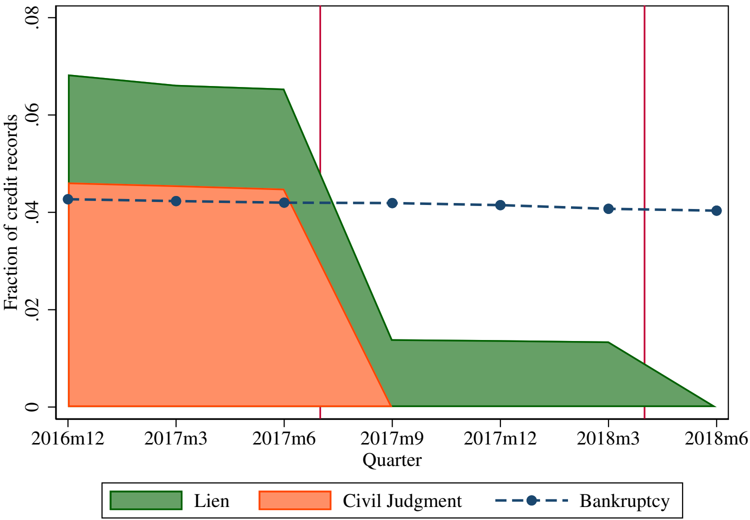
Public records

- *Public records* in credit reporting derived from court filings. Include:
  - Bankruptcy
  - State and federal tax liens
  - Civil judgments
- More concentrated in high percentage Black areas
- In June 2017:
  - 6.3% of all credit records and 11.8% of low-credit-score records had a non-bankruptcy public record
- In July 2017:
  - The three major credit bureaus removed all civil judgements and half of state and federal tax liens
  - Part of National Consumer Assistance Plan (NCAP), 2015 settlement to improve accuracy in reports

Public records



Key findings

- Individual removal effect for people with a public record:
  - Likelihood of having a credit card increased by 2.6 percentage points
  - 5.3% increase in existing credit limits and a 4.2% increase in credit card debt
- Equilibrium effect of information removal for people without a public record:
  - Use cross-state variation in public records incidence to identify equilibrium impact
  - Significant credit redistribution away from consumers who can no longer distinguish themselves
  - Can reject large decreases in available credit
- Overall effect to promote more equal racial distribution of credit

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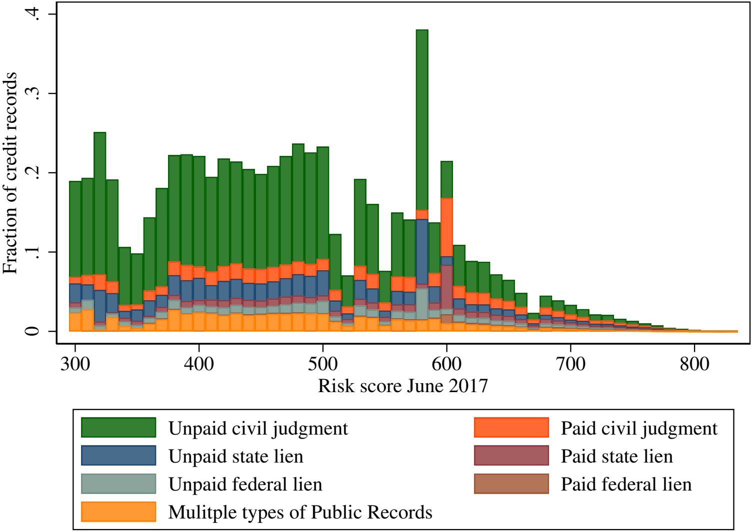
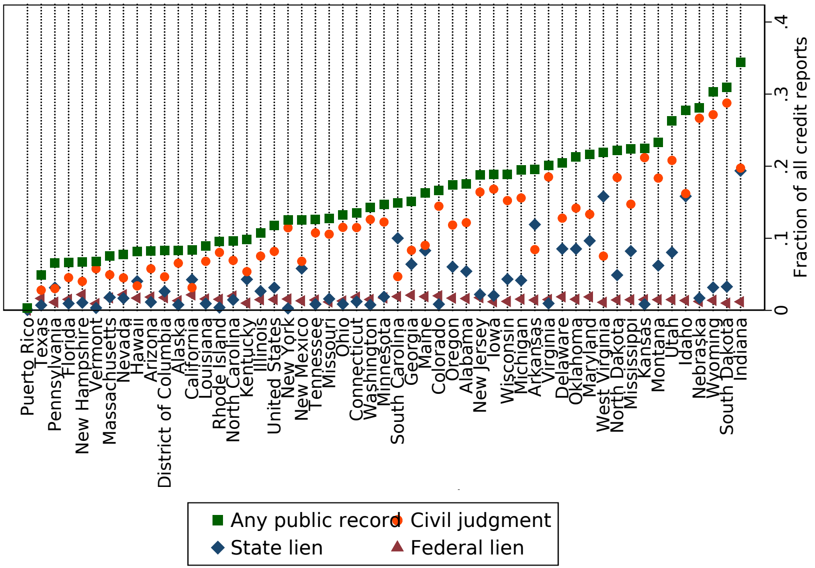
Public records on credit reports

- Data source throughout:
  - CFPB's Consumer Credit Panel, an anonymized 1/48 sample of credit records from one of the three national credit bureaus
- Public records in credit reporting are collected from public filings, typically court records
- Information in credit records:
  - Date of judgment/lien
  - Amount
  - Date of payment or "satisfaction"
- Unpaid public records more detrimental
- Removed after 7 or 10 years, depending on type

Public records across scores

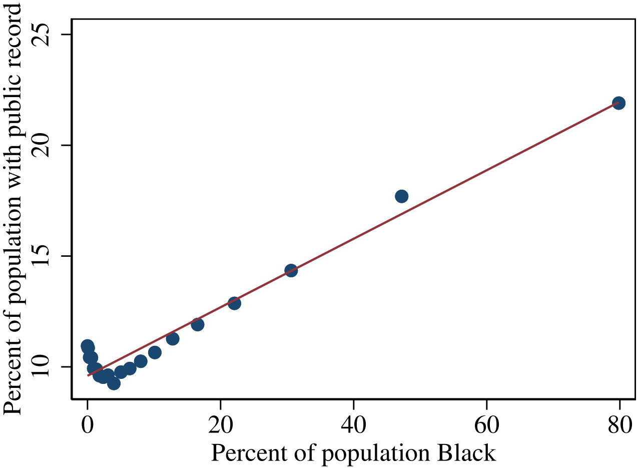


Public records across states



Below 700 population

Public records across race



Also holds within state.

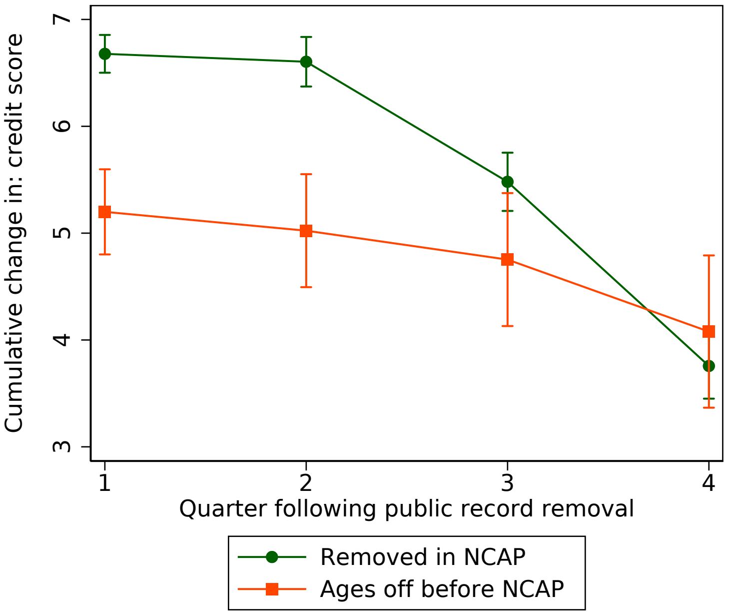
Model

- In paper: Model of consumer credit markets with many signals of creditworthiness than can be incrementally added/removed
- Show the removal of derogatory information:
  - Leads to an increase in credit for those consumers who had the derogatory information removed
  - Leads to a reduction in credit for consumers who are otherwise ex-ante identical and who did not have the derogatory information prior to the removal
  - This pooling effect is stronger the more pervasive the derogatory information is.

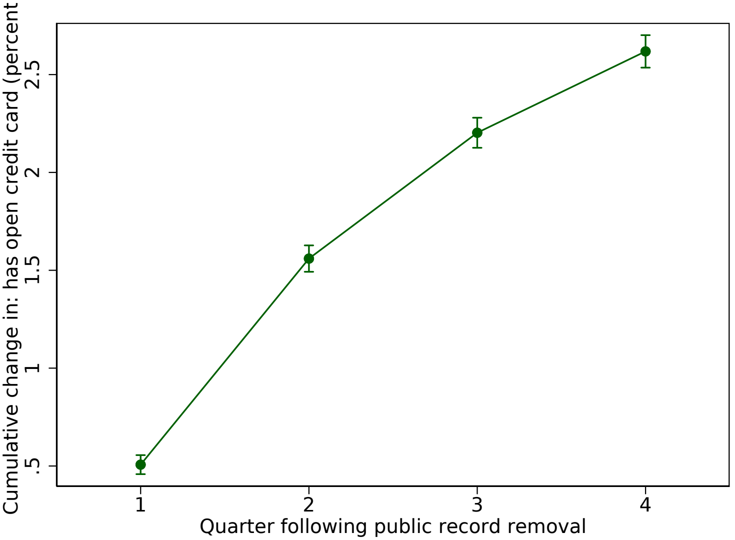
Empirical approach: individual effects

- Complications:
  - Dynamic effects: it may take time for someone to apply for a new credit card, use newly available credit
  - Dynamic endogeneity: following a change in credit score, someone may take on more debt, reducing their credit score
  - Many effects: Different kinds of public record/age at removal/reason for removal
- Estimate dynamic causal impacts using Local Projection Instrumental Variables (LP-IV)
  - Just 2SLS, but applied to correct horizon to capture the dynamic endogeneity
  - Scales and combines multiple instruments efficiently
  - In paper: Also show reduce form results

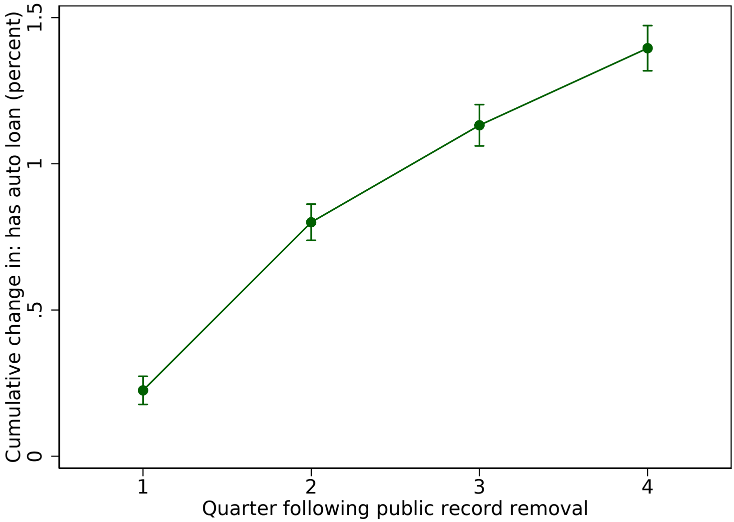
Impact of removing average unpaid PR on score



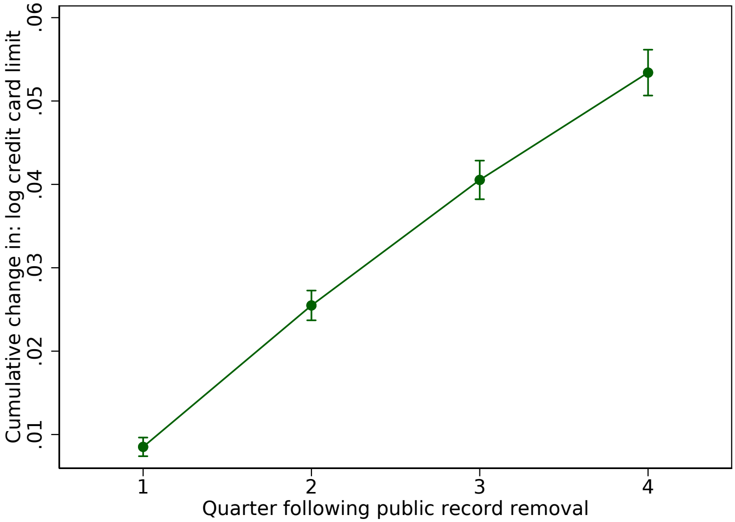
Likelihood of having a credit card



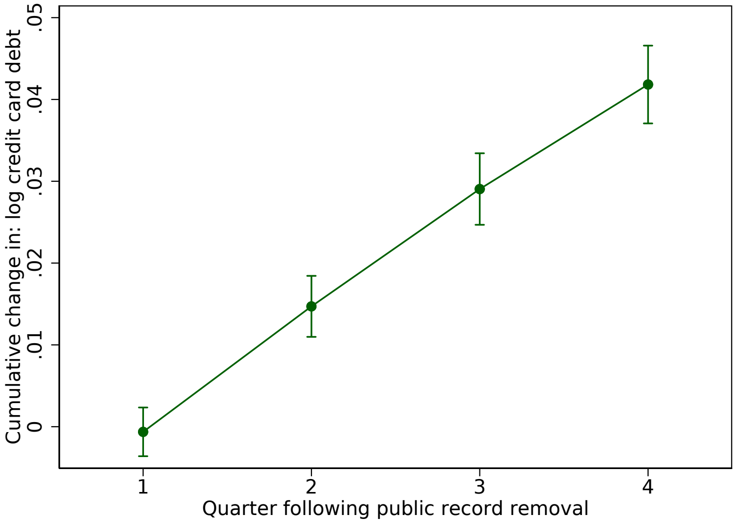
Likelihood of having an auto loan



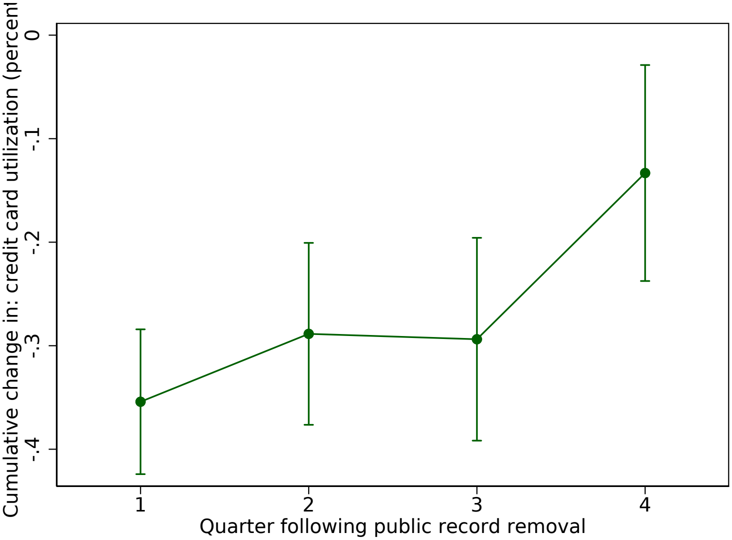
Credit card limit



Credit card debt



Credit card utilization



GE effects - redistribution

- **Redistribution effect:** Did credit fall more for people with greater exposure to public records removal (but who did not have a PR themselves)?
  - Define *Public records exposure* as the fraction of consumers with a public record removed in NCAP in individual i's state and 50-credit-score bin.
  - People with high exposure cannot distinguish themselves from a more risky population after removal
  - Use large cross-state and cross-score variation in exposure

GE effects - redistribution

- **Quantitative estimates:** Relative to consumers with less exposure, a one standard deviation increase in exposure results in:
  - a 0.2 percentage point reduction in the likelihood of having a credit card in year following NCAP
  - a 1 percent reduction in credit limit
  - a 0.13 percentage point reduction in the likelihood of having an auto loan
- Redistribution: Measure changes in credit relative to other consumers, total credit may go up or down

GE effects - overall credit

- **Overall market effect:** In the year following NCAP, did credit fall more for below-700 score segment than for above-700 segment?
  - Causal effect of NCAP only assuming credit changes above 700 capture everything else going on in credit markets
  - Helps bound overall changes in credit
- **Quantitative estimates:**
  - Effects generally small, vary in sign across products and measures of credit availability
  - Suggests NCAP had small overall credit effect, but not conclusive

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Conclusion

- Market-wide removal of derogatory information in July 2017, individual aging off before
- For individuals who lose a public record:
  - Credit score goes up
  - Likelihood of having credit card and auto loan goes up
  - Credit card limit goes up, but so does debt; utilization largely unchanged
- General equilibrium effects for people who did not lose a public record
  - Evidence of more pooling
  - Redistribution of credit from people with high exposure to low exposure, tends to be regressive
  - Can rule out significant market-wide effects on credit
- Public records concentrated in high Black areas, so removal tends to be redistributive along racial dimension

References I

Bos, Marieke and Leonard Nakamura. 2014. "Should Defaults be Forgotten? Evidence from Variation in Removal of Negative Consumer Credit Information." Working Paper 14-21, Federal Reserve Bank of Philadelphia.

Einav, Liran, Mark Jenkin, and Jonathan Levin. 2013. "The impact of credit scoring on consumer lending." *RAND Journal of Economics* 44 (2):249–274.

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