Explaining Racial Disparities in Personal Bankruptcy Outcomes

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BYU

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Motivation

• Bankruptcy is a major source of debt relief in the US
  ▶ 1 in 10 Americans have filed at some point in their life (Keys, 2018)
  ▶ Average $149k per filer ⇔ $832/adult/year discharged annually (US Courts, 2019)

• There are significant racial disparities in financial outcomes in the US
  ▶ Median wealth of white households is 10x Black and Hispanic wealth: ($171k vs. $17k) (2016 SCF)
  ▶ Minorities pay higher interest rates than whites with the same credit score (Ghent Hernández-Murillo Owyang, 2014; Bayer Ferreira Ross, 2017, Butler Mayer Weston 2021)
  ▶ Black household consumption falls 50% more in response to the same income shock (Ganong Jones Noel Farrell Greig Wheat, 2020)
This Paper

- **Question:** What racial disparities exist in personal bankruptcy? And why?

- **Approach:**
  - What observable *filer* characteristics explain disparities in bankruptcy outcomes?
  - Quantify *racial homophily* between filers and judges/trustees
  - Random assignment of judges/trustees ⇒ detect & partially identify *racial bias*

- **Main findings:**
  - Black filers’ cases are more likely to be **dismissed** (without debt discharge) on average
    - Chapter 7: 4 pps more often (118% higher) than non-black filers
    - Chapter 13: 28 pps more often (55% higher) than non-black filers
  - Observable variables reduce disparities to **0.6 and 12.5 pps** for Chapters 7 and 13
  - Random assignment to white trustees ⇒ Ch 13 dismissal rate ↑ **13-20 pps** for black filers
Contributions to Related Literature

- **Racial disparities in household finance:** Munnell, Browne, McEneaney, and Tootel (1996); Braucher et al. (2012); Reid Bocian, Li, and Quercia (2017); Bayer et al. (2018); Begley and Purnanandam (2020); Barlett, Morse, Wallace, and Stanton (2019); Fuster, Goldsmith-Pinkham, Ramadorai, and Walther (2020); Morse and Pence (2020); Blattner and Nelson (2021); Goldsmith-Pinkham, Scott, and Wang (2021)
  - New focus on racial disparities in bankruptcy and drivers

- **Impact of legal decision-makers:** Anwar et al. (2012, 2019a, 2019b); Arnold, Dobbie, and Yang (2018); Arnold, Dobbie, and Hull (2020); Iverson (2020); Iverson, Madsen, Wang, and Xu (2020)
  - Highlight role of bias and importance of bankruptcy trustees

- **Methods for detecting and quantifying bias:** Becker (1957, 1993); Knowles, Persico, and Todd (2001); Anwar and Fang (2006); Arnold, Dobbie, and Yang (2018); Arnold, Dobbie, and Hull (2020); Canay, Mogstad, and Mountjoy (2020).
  - Formalize link between homophily and bias, and partially identify bias
Outline

1. Background and Data

2. Racial Disparities in Bankruptcy Dismissals

3. Detecting and Quantifying Racial Bias

4. Conclusion
Background and Data
What is Personal Bankruptcy?

- Discharge unsec. debt (credit card, medical, etc.); make partial payments to creditors

- Households file under one of two Chapters:
  - **Chapter 7**: discharge received upon initial legal ruling (~3 month process)
  - **Chapter 13**: discharge received after completing 3-5 year repayment plan

- Three important legal decision makers (DMs):
  - **Judge**: ultimately decides case outcomes (e.g., dismissal)
  - **Trustee**: evaluates filer’s accuracy and honesty; facilitates payments to creditors
  - **Attorney**: advises filer on Chapter choice and reporting
• **Lexis Nexis** and **Federal Judicial Center** bankruptcy case data
  - Docket header info: filer name, address, chapter, case outcomes, **DM names**
  - Detailed schedule data: assets, debts, income, expenses
  - Today: FL and MN (*full US in progress*)

• **Imputing race** (*today’s results*)
  - Bayesian prediction of race using location and surname (Imai and Khanna, 2015)
  - Uses Census Surname List (and Spanish Surname List) and 2010 block-level data on race

• Self-reported race from public records (*in progress*)
• Hand-coding of judge and trustee race (*in progress*)
The Bankruptcy Process

Chapter 7

Filer initiates by submitting schedules

Meeting of Creditors (run by trustee)
The Bankruptcy Process

Chapter 7

Filer initiates by submitting schedules

Meeting of Creditors (run by trustee)

Trustee recommends discharge

Trustee recommends converting chapter

Trustee recommends dismissal

Refile under Ch 13
The Bankruptcy Process

Chapter 13

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Filer completes payments

Filer doesn’t complete payments

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Chapter 13

Filer initiates by submitting schedules

Meeting of Creditors (run by trustee)

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Filer completes payments

Filer doesn't complete payments

Refile under Ch 7
• Possible case outcomes: **discharge**, **conversion** of chapter, and **dismissal**

• What are the main reasons for **dismissal**?
  ▶ Fraudulent reporting by filer (e.g., concealing property)
  ▶ Failure to make promised payments in Chapter 13 over 5-year period

• **Trustees** and **judges** make **subjective** evaluations of filers
  ▶ Procedural **error** vs. intentional **fraud**?
  ▶ Did Chapter 13 payments stop due to **severe** hardship **beyond filer’s control**?
  ▶ Assessment of reasonableness of filer’s Chapter 13 repayment plan
Racial Disparities in Bankruptcy Dismissals
### Disparities and Decisions Makers (Outcome = 1[Dismissal])

#### Panel A: Chapter 7 ($\mu = 0.04$)

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#### Panel B: Chapter 13 ($\mu = 0.53$)

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- Year FE: ✓ ✓ ✓ ✓ ✓ ✓
- County FE: ✓ ✓ ✓ ✓ ✓ ✓
- ZIP FE: ✓ ✓ ✓ ✓ ✓
- Judge FE: ✓ ✓ ✓ ✓ ✓
- Trustee FE: ✓ ✓ ✓
- Attorney FE: ✓
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| **Panel B: Chapter 13 ($\mu = 0.53$)** |         |         |         |         |         |         |
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|                | (0.011) | (0.008) | (0.006) | (0.006) | (0.006) | (0.006) |
| N              | 319,413 | 319,413 | 319,334 | 319,331 | 319,293 | 318,885 |
| R2             | 0.06    | 0.10    | 0.11    | 0.16    | 0.20    | 0.21    |
| Year FE        | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       |
| County FE      | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       |
| ZIP FE         | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       |
| Judge FE       | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       |
| Trustee FE     | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       |
| Attorney FE    | ✓       |         |         |         |         |         |

Argyle Indarte Iverson Palmer – Explaining Racial Disparities in Personal Bankruptcy Outcomes
### Racial Disparities in Dismissal Rates

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**Case controls:** 1[filing fee paid in full], 1[repeat filer], debt/assets, % secured debt, 1[joint filing], 1[nonexempt assets], 1[homeowner], ln(monthly income), ln(assets), income - expense gap

**Fixed Effects:** Year, ZIP, Judge, Trustee

**Clustering:** ZIP and Trustee (two-way)
Detecting and Quantifying Racial Bias
Partially Identifying Bias from Homophily

- Random assignment of DMs ⇒ identify difference in bias between DMs

- Difference in black/non-black bias is a lower bound for average bias
  - Requires assumption that black DMs are weakly biased against black filers
  - Psychology research documents pro-white implicit bias among US minorities
    Nosek et al. (2002); Livingston (2002); Ashburn-Nardo et al. (2005)

- Econometric specification:

\[
\text{Dismissed}_{ijktz} = \beta_0 \text{BlackFiler}_i + \Delta \beta \text{BlackFiler}_i \times \text{WhiteTrustee}_k + \alpha_t + \gamma_z + \delta_j + \mu_k + \epsilon_{ijktz}
\]
Identification: Random and Quasi-Random Assignment of Trustees

- **Chapter 7** trustees are assigned to cases via a blind rotation system (random ✓)

- **Chapter 13** Standing Trustees hired by local U.S. Trustees Office
  - Each court has at most several Ch. 13 trustees at a given time; seem rotated
  - Variation in regimes of local trustee race distribution ⇒ quasi-random to given borrower
    - e.g., assume Florida is not more likely to have a black Chapter 13 trustee at times when unobs. factors make black households are less likely to have their case dismissed

- Balance tests do not find systematic correlations in filer characteristics w/ trustee race

- Pairing of filer-trustee by race consistent with random assignment
Filer Characteristics Are Balanced by Trustee Race

Pro Se Filer
Probability Black
Joint Filer
Fees Paid in Full
Prior Filing
Has Non-Exempt Assets
log(Assets) z-score
Owns Home
Debt-to-Assets z-score
Secured Debt Share
log(Income) z-score
Income-Expenses z-score

Coefficient
Chapter 7
Chapter 13
Trustee-Filer Race Matching Consistent with Random Assignment

![Graph showing race matching for trustees, attorneys, and judges.](image)

- **Judge**: Actual vs. Random
- **Trustee**: Actual vs. Random
- **Attorney**: Actual vs. Random

Legend:
- **White-White**: Blue
- **Minority-White**: Green
- **White-Minority**: Red
- **Minority-Minority**: Orange

Argyle Indarte Iverson Palmer – Explaining Racial Disparities in Personal Bankruptcy Outcomes
## Homophily Results

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| N | 510,953 | 430,873 | 79,811 | 1,184,855 | 1,184,855 | 1,184,855 |
| R2 | 0.61 | 0.51 | 0.61 | 0.65 | 0.65 | 0.65 |
| Case Controls | ✓ | ✓ | ✓ | | | |
| Interact Pro Se & Ch w/ Race | ✓ | | | | | |

**Case controls:** 1[filing fee paid in full], 1[repeat filer], debt/assets, % secured debt, 1[Pro Se], 1[joint filing], 1[nonexempt assets], 1[homeowner], ln(monthly income), ln(assets), income - expense gap

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<td>-0.012 (0.009)</td>
<td>0.132 (0.101)</td>
<td>0.091** (0.037)</td>
<td>0.193* (0.098)</td>
<td>0.194** (0.094)</td>
</tr>
<tr>
<td>Black Filer x White Trustee x Ch 7</td>
<td></td>
<td></td>
<td></td>
<td>-0.194* (0.099)</td>
<td>-0.197** (0.094)</td>
<td></td>
</tr>
</tbody>
</table>

- **N**: 510,953, 430,873, 79,811, 1,184,855, 1,184,855, 1,184,855
- **R2**: 0.61, 0.51, 0.61, 0.65, 0.65, 0.65
- **Case Controls**: ✓ ✓ ✓
- **Interact Pro Se & Ch w/ Race**: ✓ ✓ ✓ ✓ ✓ ✓

**Case controls**: 1[filing fee paid in full], 1[repeat filer], debt/assets, % secured debt, 1[Pro Se], 1[joint filing], 1[nonexempt assets], 1[homeowner], ln(monthly income), ln(assets), income - expense gap

**Fixed Effects**: Year, ZIP, Judge, Trustee

**Clustering**: ZIP and Trustee (two-way)
Conclusion
Conclusion

- Black filers’ experience significantly higher bankruptcy dismissal rates
- Observables explain most Ch 7 disparities, but only $\sim50\%$ for Ch 13
- Black filers assigned to white trustees see significantly higher dismissal rates
- Implicit(?) bias among bankruptcy DMs can limit black households’ access to debt relief
- Next steps: expanding data and examining events surrounding Ch 13 dismissal
Defining Racial Bias

- Let $B^F = 1$ indicate that a filer is black.
- Bankruptcy outcome $Y (= 1 \Rightarrow \text{dismissal})$ is chosen by a DM $j \in J$ with race $B^{DM}$.
- Let $Y_1$ denote the potential outcome when black and $Y_0$ when not.
- Econometrician observes $Y = Y_0 + (Y_1 - Y_0)B^F$.

**Definition: Racial Bias**

A DM $j \in J$ exhibits **racial bias** if $Y_1 \neq Y_0$.

- Let $Y_{11} = Y$ when $B^F = 1$ and $B^{DM} = 1$.
- Let $Y_{10} = Y$ when $B^F = 1$ and $B^{DM} = 0$.
- Define $Y_{00}$ and $Y_{01}$ similarly.
Estimand: Average Racial Bias

The average amount of bias against black filers is an ATT (avg. treatment on the treated):

$$ATT = \mathbb{E}(Y_1|B^F = 1) - \mathbb{E}(Y_0|B^F = 1) = \beta_0 - p(\beta_0 - \beta_1)$$

where $\beta_0 = Y_{10} - Y_{00}, \beta_1 = Y_{11} - Y_{01},$ and $p = P(B^{DM} = 1)$. Let $\Delta\beta \equiv \beta_0 - \beta_1$.

Proposition 1: The difference in bias $\Delta\beta$ partially identifies average bias.

If $\beta_1 \geq 0$, then $ATT \in [(1 - p)\Delta\beta, 1 - p\Delta\beta]$. 

We can rewrite the model:

\[ Y = \alpha + \gamma B^{DM} + \beta_0 B^F + (\beta_1 - \beta_0) B^F B^{DM} + \varepsilon \]  

where \( \alpha = \mathbb{E}(Y_{00}) \), \( \gamma = Y_{01} - Y_{00} \), and \( \varepsilon = Y_{00} - \mathbb{E}(Y_{00}) \).

**Proposition 2: Consistent estimation of \( \Delta \beta \).**

When the DM is randomly assigned, OLS yields consistent estimates of \( \gamma \) and 
\( (\beta_1 - \beta_0) = -\Delta \beta \).