



THE INLAND EMPIRE BANKRUPTCY FORUM PRESENTS A WEBINAR:

**SPECIALTY
CREDIT CLE:
ELIMINATION
OF BIAS**

EXPLORING RACIAL DISPARITIES AND BIAS IN BANKRUPTCY CASES

*This activity has been approved for Minimum Continuing Legal Education by the State Bar of California in the amount of **1.0 hour for Elimination of Bias** and **1.0 hour Bankruptcy Law Legal Specialist Credit**. The Inland Empire Bankruptcy Forum certifies that this activity conforms to the standards for the approved education activities prescribed by the rules and regulations of the State Bar of California governing minimum continuing legal education.*

SPEAKERS:

SASHA INDARTE

*Asst. Professor of Finance
Wharton School of Business*

EDWARD R. MORRISON

*Charles Evans Gerber
Professor of Law
Columbia Law School*

LARRY D. SIMONS

Chapter 7 Trustee

MODERATOR:

MISTY PERRY ISAACSON

Pagter and Perry Isaacson, APLC

SEPTEMBER 12, 2023

12pm-1pm

Zoom Webinar

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The Inland Empire Bankruptcy Forum

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Sasha Indarte is an Assistant Professor of Finance at the Wharton School of the University of Pennsylvania. Her primary areas of research are household finance, banking, and macroeconomics.

Her research investigates the causes and consequences of financial distress using big data, quasi-experimental research designs, and structural economic models. Her current research focuses on the drivers of personal bankruptcy, racial disparities in personal bankruptcy, and the impact of social insurance on household debt. Recently, her project “The Origins of Serial Sovereign Default” was awarded an NSF grant. She completed her PhD in Economics at Northwestern University in 2019 and her BA in Economics and Applied Mathematics & Statistics at Macalester College.



Ed Morrison is an expert in corporate finance and restructuring, household finance and consumer bankruptcy, and contract law. He is co-editor of the *Journal of Legal Studies*.

Morrison’s scholarship has addressed corporate reorganization, consumer bankruptcy, the regulation of systemic market risk, and foreclosure and mortgage modification. His recent work studies patterns in inter-creditor agreements, valuation disputes in corporate bankruptcies, racial disparities in Chapter 13 bankruptcy filings, and the relationship between financial distress and mortality rates.

Morrison teaches Contracts, Bankruptcy Law, and Corporate Finance. He is co-director of Columbia University’s Richard Paul Richman Center for Business, Law, and Public Policy and is faculty director of the Law School’s Executive LL.M. Program.

Morrison was the Paul H. and Theo Leffmann Professor of Commercial Law at the University of Chicago Law School from 2013 to 2014. He first began teaching at Columbia Law School in 2003 and from 2009 to 2012 was the Harvey R. Miller Professor of Law and Economics. Morrison clerked for Justice Antonin Scalia of the U.S. Supreme Court and for Judge Richard A. Posner of the U.S. Court of Appeals for the 7th Circuit.



Larry D. Simons is a Certified Specialist in Bankruptcy Law by the State Bar of California, Board of Legal Specialization since 2004. He was admitted to the State Bar of California in 1995, and is also admitted to U.S. District Court, Southern, Central and Eastern Districts of California and U.S. Court of Appeals, Ninth Circuit.

Larry is a member of the California Bar Association and the Bankruptcy Forum, and a member of the private panel of Chapter 7 bankruptcy trustees for the Central District of California, Riverside Division. He is a former chair of the Bankruptcy Law Advisory Commission, which oversees the certification and recertification of legal specialists with the State Bar of California.

Sasha Indarte

Updated: September 4, 2023

Department of Finance
The Wharton School
University of Pennsylvania

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Website: <https://sashaindarte.github.io/>
Citizenship: USA

Academic Positions

Assistant Professor of Finance, The Wharton School, University of Pennsylvania	Jul. 2020 –
Assistant Professor of Finance and Economics, Fuqua School of Business and Department of Economics (secondary appointment), Duke University	Jul. 2019 – Jun. 2020

Education

Ph.D. Economics, Northwestern University Dissertation: "Essays in Empirical Macroeconomics and Finance"	2019
M.A. Economics, Northwestern University	2015
B.A. Economics and B.A. Applied Mathematics & Statistics, Macalester College	2013

Research Interests

Empirical Macro • Household Finance • Financial Intermediation • Monetary Policy • Financial History

Papers

Publications

1. ["Moral Hazard versus Liquidity in Household Bankruptcy"](#)
Journal of Finance, 2023 (lead article)
Winner of the Marshall Blume Prize (2022)
2. ["Financial Crises and the Transmission of Monetary Policy to Consumer Credit Markets"](#)
Review of Financial Studies, 2023

Working Papers

3. ["Bad News Bankers: Underwriter Reputation and Contagion in Pre-1914 Sovereign Debt Markets"](#)
4. ["The Impact of Social Insurance on Household Debt"](#) (with Gideon Bornstein)
5. ["Explaining Racial Disparities in Personal Bankruptcy Outcomes"](#) (with Bronson Argyle, Ben Iverson, and Christopher Palmer)
6. ["The Costs and Benefits of Household Debt Relief"](#) (*prepared for the INET Initiative on Private Debt*)

Selected Work in Progress

7. "The Origins of Serial Sovereign Default" (with Chenzi Xu)
8. "The Roles of Beliefs versus Constraints in Consumption Decisions of Low-Income Workers" (with Ray Kluender, Ulrike Malmendier, and Michael Stegner)

Seminars & Conferences

Invited Seminars (includes scheduled)

- 2023–** Berkeley (economics, workshop) Berkeley Haas (real estate) • Penn State (economics) • Bocconi •
2024: LSE • Georgetown • Baruch College (real estate)
- 2022–** Columbia (economics) • University of Virginia (economics) • Bank of Canada • Babson College •
2023: UIUC Gies • Federal Reserve Bank of Philadelphia (invited lunch talk) • Chicago Booth • Federal Reserve Bank of Minneapolis (lunch talk) • Johns Hopkins (macro/finance joint seminar) • Columbia Business School • University of Wisconsin (economics) • Berkeley (economics) • Virtual Corporate Finance Seminar • Opportunity Insights (Harvard) • NYU (economics, joint with Stern macro) • University of Oregon • Federal Reserve Bank of Philadelphia (lunch talk) • Federal Reserve Bank of Atlanta
- 2021–** Yale SOM • Global Financial Literacy Excellence Center (George Washington University and the Fed-
2022: eral Reserve Board) • PUC-Chile • Banque de France • FDIC • University of Minnesota (economics, lunch talk) • Federal Reserve Bank of New York • London School of Economics (economics) • Rutgers (economics) • Imperial College Business School • Rochester (economics) • INSPER • George Washington University (economics)
- 2020–** Federal Reserve Bank of Minneapolis (postponed due to COVID-19) • Macalester College • Prince-
2021: ton • Dartmouth (Tuck/econ joint seminar) • Stanford GSB • UCL • USC Marshall • NYU Stern (PhD guest lecture) • Michigan Ross • USC (Macro-Finance Reading Group) • Berkeley Haas • Bank of Israel • University of Zurich
- 2019–** Sveriges Riksbank • IIES • Wharton • Federal Reserve Bank of Boston • Harvard Business School
2020:
- 2018–** Rice Jones • Notre Dame Mendoza • Boston College Carroll • Federal Reserve Board of Governors
2019: • London School of Economics (finance) • London Business School (finance) • NYU Stern • Federal Reserve Bank of New York • Toronto (Rotman/Scarborough) • Duke Fuqua • University of British Columbia (Vancouver School of Economics) • University of Maryland • HEC Montreal • Bocconi University (finance)

Conference Presentations (includes scheduled)

- 2023–** NBER Summer Institute (Micro Data and Macro Models*, Household Finance) • Housing, House-
2024: hold Debt, and the Macroeconomy (University of Chicago) • CEPR European Conference on Household Finance • Fiscal Policy in an Era of High Debt Conference (IMF) • AFA
- 2022–** SITE 2022 Financial Regulation (Stanford) • Red Rock 2022 • Texas Finance Festival • Carey Finance
2023: Conference • CFEA • European Midwest Micro-Macro Conference • 6th CFPB Research Conference • AFA 2023 • European Winter Finance Conference • RCFS Winter Conference • UCSB LAEF Conference of Racial Inequality • STLAR Conference (Federal Reserve Bank of St. Louis) • Discrimination in the 21st Century (BFI, Chicago)*

- 2021-2022:** SITE 2021 Financial Regulation (Stanford) • Federal Reserve Bank of Philadelphia's 11th biennial New Perspectives on Consumer Behavior in Credit and Payments Markets* • Women in International Economics Conference (Dartmouth) • Chicago Household Finance Conference • 2021 Economic History Association Meetings • Southern Economic Association Annual Meeting • Second Conference on the Interconnectedness of Financial Systems (Federal Reserve Board) • Colorado Finance Summit • 2022 AEA • 2022 Econometric Society* • INET Private Debt Initiative • QSIDE Colloquium • Midwest Finance Association • NBER Corporate Finance Program Meeting (Spring) • 4th Women in Macro Conference (University of Chicago) • Federal Reserve Bank of Atlanta Monetary and Financial History Workshop • SFS Cavalcade • Data and Welfare in Household Finance (University of Chicago, Booth) • 3rd Workshop on Household Finance and Housing (Bank of England and Imperial College) • SED 2022
- 2020-2021:** NFA • Virtual Macro Seminar (VMACS) Junior Conference* • Bank of Finland and CEPR Joint Conference on Monetary Policy Tools and Their Impact on the Macroeconomy • Virtual Junior Household Finance Seminar (Fall) • Kelley Junior Finance Virtual Conference • Becker Friedman Institute's International Economics Initiative's 8th International Macro Finance Conference* • 3rd European Midwest Micro/Macro Mini Conference (EM4C)* • AEA • AEA* • Virtual Macro Seminar (VMACS) • MFA • ECB-RFS Macro-Finance Conference • 2021 Housing and Corporate Lending Conference (Chicago Booth) • CEPR Sixth European Workshop on Household Finance • 2nd Biennial Conference on Consumer Finance and Macroeconomics (Consumer Finance Institute, Federal Reserve Bank of Philadelphia)* (occurred in following year due to COVID-19) • 5th CFPB Research Conference on Consumer Finance • SFS Cavalcade • 5th Rome Junior Finance Conference (occurred in following year due to COVID-19) • American Real Estate and Urban Economics Association National Conference • 15th NY Fed/ NYU Financial Intermediation Conference • Virtual Junior Household Finance Seminar (Spring) • Western Economic Association International Annual Meeting
- 2019-2020:** Conference on Housing, Financial Markets & Monetary Policy (UCLA) • New Perspectives on Consumer Behavior in Credit and Payments Markets (Consumer Finance Institute, Federal Reserve Bank of Philadelphia) • WAPFIN@Stern • MIT Sloan Junior Faculty Finance Conference • 2nd European Midwest Micro/Macro Conference • 2019 Financial Stability Conference: Financial Stability: Risks, Resilience, and Policy (Federal Reserve Bank of Cleveland and the Office of Financial Research) • SFS Cavalcade • Barcelona GSE Research Webinar: Macroeconomics and (Social) Insurance* • WFA • 3rd Columbia Workshop in New Empirical Finance • MFA • EFA
- 2018-2019:** NBER Summer Institute (Law & Economics)
- 2017-2018:** Macro Financial Modeling Winter meeting (Becker Friedman Institute) • The Becker Friedman Institute's Macro Financial Modeling Summer Session for Young Scholars
- 2016-2017:** Society for Economic Dynamics Meeting • CITE Conference (Becker Friedman Institute)
- 2015-2016:** Fall Midwest Macro Meeting (Federal Reserve Bank of Kansas City) • Economics Graduate Students Conference (Washington University in St. Louis) • Empirics and Methods in Economics Conference • Macalester College • Becker Friedman Institute's Macro Financial Modeling Summer Session for Young Scholars

* presentation by coauthor

† postponed due to Covid-19

Discussions (includes scheduled)

2023: Matteo Benetton, Marianna Kudlyak, and John Mondragon, "Dynastic Home Equity." ITAM Finance Conference, February, 2023.

David Matsa, Brian Melzer, and Michael Zator, "Dual Credit Markets: Income Risk, Household Debt, and Consumption." UNC/Duke Corporate Finance Conference, April, 2023.

Deniz Aydin, "Forbearance vs. Interest Rates: Tests of Liquidity and Strategic Default Triggers in a Randomized Debt Relief Experiment." WFA, June, 2023.

2022: Emma Harrington and Hannah Shaffer, "Brokers of Bias in the Criminal System: Do Prosecutors Compound or Attenuate Earlier Racial Disparities." Discrimination in the 21st Century: Fostering Conversations Across Fields, BFI, University of Chicago, May, 2022.

Niklas Hüther and Kristoph Kleiner, "Are Judges Randomly Assigned to Chapter 11 Bankruptcies? Not According to Hedge Funds." AIM Investment Conference, University of Texas at Austin, April, 2022.

Marco Di Maggio, Angela Ma, and Emily Williams, "In the Red: Overdrafts, Payday Lending and the Underbanked." Institute for Law & Economics, University of Pennsylvania, March, 2022.

Abe de Jong, Peter Koudijs, and Tim Kooijmans, "Going for Broke: Underwriter Reputation and the Performance of Mortgage-Backed Securities." MFA, March, 2022.

Teng Li, Wenlan Qian, Wei A. Xiong, and Xin Zou, "Employee Output Response to Stock Market Wealth Shocks." AFA, January, 2022.

2021: Mark Jansen, Hieu Nguyen, and Amin Shams, "Rise of the Machines: The Impact of Automated Underwriting." BYU Marriott Red Rock Finance Conference, September, 2021.

Erica Jiang, Gregor Matvos, Tomasz Piskorski, and Amit Seru, "Banking without Deposits: Evidence from Shadow Bank Call Reports." WFA, June, 2021.

2020: Sumit Agarwal, Xudong An, Larry Cordell, and Raluca A. Roman, "Bank Stress Test Results and Their Impact on Consumer Credit Markets." 2020 Federal Reserve Stress Testing Research Conference, October, 2020.

Tal Gross, Feng Liu, Matt Notowidigdo, and Jialan Wang, "The Economic Consequences of Bankruptcy Reform." MoFIR Virtual Seminars on Banking, May, 2020.

Alejandro Drexler, Andre Guettler, Daniel Paravisini, and Ahmet Ali Taskin, "Competition Between Arm's Length and Relational Lenders: Who Wins the Contest?" AFA, January, 2020.

2019: Natalie Bachas, Olivia S. Kim, and Constantine Yannelis, "Loan Guarantees and Credit Supply." The Fourteenth New York Fed / NYU Stern Conference on Financial Intermediation, November, 2019.

J. Anthony Cookson, Erik Gilje, and Rawley Heimer, "Shale Shocked: The Long Run Effect of Wealth on Household Debt." NFA Annual Conference, September, 2019.

Marco Macchiavelli and Luke Pettit, "Liquidity Regulation and Financial Intermediaries." 8th MoFIR Workshop on Banking, June, 2019.

David Echeverry, "Information Frictions and Mortgage-Backed Security Design: Lack of Sophistication or Opaque Assets?" Notre Dame Real Estate Roundtable, May, 2019.

Ramin P. Baghai, Rui Silva, and Luofu Ye, "Teams and Bankruptcy." Duke/UNC Innovation and Entrepreneurship Research Conference, April, 2019.

Professional Service

Refereeing

AEJ Macro • AEJ Policy • American Economic Review • Explorations in Economic History • Journal of Banking and Finance • Journal of Finance • Journal of Financial Economics • Journal of Public Economics • Journal of the European Economic Association • Management Science • PLOS One • Quarterly Journal of Economics • Review of Economic Studies • Review of Financial Studies

Committee Work and Other Service

2022– CEPR European Conference on Household Finance (program committee) • Wharton junior recruiting committee • FIRS (program committee) • SFS (program committee)

2021– SFS (program committee) • Wharton seminar organizer • The Mortgage Market Research Conference (program committee) • MoFiR Workshop (program committee) • SFS (Household Finance session co-chair)

2020– MoFiR Workshop (program committee)

2019– Midwest Finance Association (program committee) • Duke Fuqua Seminar organizer • SITE Financial Regulation (session moderator)

Grants, Awards & Fellowships

2023: Cynthia and Bennett Golub Endowed Faculty Scholar Award, Wharton School (2023-24)

2022: Marshall Blume Prize (for "Moral Hazard versus Liquidity in Household Bankruptcy")

2021: National Science Foundation Grant (for "The Origins of Serial Sovereign Default" with Chenzi Xu)

Dean's Research Fund Grant (for "Inflation Expectations and Household Consumption-Savings Decisions: Evidence from Linked Survey-Transactions Data", with Ray Kluender, Ulrike Malmendier, and Michael Stepner)

Jacobs Levy Center Grant (for "Inflation Expectations and Household Consumption-Savings Decisions: Evidence from Linked Survey-Transactions Data", with Ray Kluender, Ulrike Malmendier, and Michael Stepner)

2020: Rodney L. White Center Research Grant (for "The Impact of Social Insurance on Household Debt," with Gideon Bornstein)

NBER Small Grants for Household Finance Research (for "Explaining Racial Disparities in Personal Bankruptcy Outcomes," with Bronson Argyle, Ben Iverson, and Christopher Palmer)

Wharton Teaching Excellence Award (for FNCE 611, MBA Corporate Finance)

2017: Macro Financial Modeling Initiative Dissertation Fellowship, Becker Friedman Institute

2016: Susan Schmidt Bies Prize for Doctoral Student Research on Economics and Public Policy, Northwestern University (for "Bad News Bankers: Underwriter Reputation and Contagion in Pre-1914 Sovereign Debt Markets")

2013: First-Year Doctoral Studies Fellowship, Northwestern University

First Place Term Paper, Minnesota Economic Association Student Paper Contest (for "Mutually Reinforcing Debt and Financial Crises in Spain and Ireland: A VAR Approach")

Outstanding Paper, Twelfth Annual Carroll Round, Georgetown University (for "Financial and Sovereign Debt Crises in Spain: Fiscal Limits and Spillovers")

Robert L. Bunting Prize in Economics, Macalester College

2012: John M. Dozier Prize, Macalester College

2011: Research Poster Award, Joint Mathematics Meetings (for "Estimating Survival Functions for Symmetric Distributions under Peakedness Order Constraints")

2010: Research Poster Award, Society for the Advancement of Chicanos and Native Americans in Science (for "Estimating Survival Functions for Symmetric Distributions under Peakedness Order Constraints")

IBM Scholarship, Macalester College

Lowell Thomas Endowed Prize for Public Speaking, Macalester College

2009: DeWitt Wallace Scholarship, Macalester College

Bob Kommerstad Scholarship, South High Foundation

Teaching

University of Pennsylvania

FNCE 611: Corporate Finance (MBA)

FNCE 100/1000: Corporate Finance (BA)

FNCE 9260: Empirical Methods in Corporate Finance (PhD, co-taught with 6 other faculty)

Duke University

MMS 525: Foundations of Corporate Finance (MA)

Northwestern University (teaching assistant)

ECON 201: Introduction to Macroeconomics (BA)

ECON 362: International Finance (BA)

Macalester College (preceptor/teaching assistant)

ECON 420: Quantitative Macroeconomic Analysis (BA)

ECON 371: Intermediate Macroeconomic Analysis (BA)

ECON 242: Economics of Gender (BA)

ECON 119: Principles of Economics (BA)

MATH 137: Single Variable Calculus (BA)

MATH 155: Introduction to Statistical Modeling (BA)

Advising (* indicates main advisor)

PhD:

Taha Ahsin (Duke Fuqua, 2023, initial placement: University of Pittsburgh) XX

Sarah Raviola (Duke Economics, 2023, initial placement: Analysis Group)

Undergraduate:

Oliver Stewart (Wharton, 2023)

EDWARD R. MORRISON

Charles Evans Gerber Professor of Law
Columbia Law School
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New York, NY 10027
erm2101@columbia.edu

CURRICULUM VITAE

17 August 2020

EMPLOYMENT

Columbia Law School

Charles Evans Gerber Professor of Law, 2014-present
Harvey R. Miller Professor of Law and Economics, 2009-12
Professor, 2007-09; Associate Professor, 2003-07; John M. Olin Fellow, 2002-03

University of Chicago Law School

Paul H. and Theo Leffmann Professor of Commercial Law, 2013-2014
Professor, Fall 2012; Visiting Professor, Spring 2008

Hon. Antonin Scalia, Supreme Court of the United States

Law Clerk, 2001-02

Hon. Richard A. Posner, United States Court of Appeals for the Seventh Circuit

Law Clerk, 2000-01

EDUCATION

University of Chicago Law School, J.D., High Honors, 2000

Articles Editor, U. Chi. L. Rev., 1998-99; Staff, 1997-98
Order of the Coif; John M. Olin Prize; Joseph Henry Beale Prize

University of Chicago, Department of Economics, Ph.D., 2003; M.A., 1997

Thesis: "Bankruptcy Decision Making: An Empirical Study of Small-Business Bankruptcies"
Teaching Assistant for Gary S. Becker, James J. Heckman, and Jose Scheinkman
State Farm Foundation Dissertation Award; Bradley Foundation Scholarship

University of Utah, Honors B.S. (Economics and Accounting), *summa cum laude*, 1994

Phi Beta Kappa; Phi Kappa Phi Graduate Fellowship; Honors Baccalaureate Scholarship;
full-tuition scholarship

TEACHING

Courses

Bankruptcy
Contracts
Corporate Finance

Seminars

Advanced Topics in Corporate Reorganization
Empirical Law & Economics
Law & Economics

PUBLICATIONS

Books

BAIRD AND JACKSON ON BANKRUPTCY, 5th edition (Foundation Press: 2020) (with Barry E. Adler and Anthony J. Casey)

ECONOMICS OF BANKRUPTCY (Edward Elgar Press: Edward R. Morrison, ed., 2012)

Articles

Business Bankruptcy and Corporate Restructuring

Valuing Firms In A World Of Pandemic-Induced Bankruptcies, in Law360.com (June 9, 2020) (with Andrea Okie and Kerri Leonhardt)

Bankruptcy's Role in the COVID-19 Crisis (with Andrea C. Saavedra), in LAW IN THE TIME OF COVID-19 (Columbia Law School: Katharina Pistor, ed., 2020)

Beyond Options (with Anthony J. Casey), in HANDBOOK ON CORPORATE BANKRUPTCY (Edward Elgar Press: Barry Adler, ed., forthcoming)

Valuation Disputes in Corporate Bankruptcy, 166 U. PENN. L. REV. 1819 (2018) (with Kenneth M. Ayotte)

Rules of Thumb for Intercreditor Agreements, 2015 UNIV. ILL. L. REV. 721

Creditor Control and Conflict in Chapter 11, 2 J. LEGAL ANAL. 511 (2009) (with Kenneth M. Ayotte)

Modified version published in ENTERPRISE LAW: CONTRACTS, MARKETS, AND LAWS IN THE US AND JAPAN (Edward Elgar Press: Zenichi Shishido, ed.)

Bargaining around Bankruptcy: Small Business Distress and State Law, 38 J. LEGAL STUD. 255 (2009)

Bankruptcy's Rarity: Small Business Workouts in the United States, 5 EUR. CO. & FIN. L. REV. 172 (2008)

Who Needs Bankruptcy Law?, in 1000 WORDS OR LESS: SESQUICENTENNIAL ESSAYS OF THE FACULTY OF COLUMBIA LAW SCHOOL (Columbia Law School: Elizabeth S. Scott, ed., 2008)

Bankruptcy Decision Making: An Empirical Study of Continuation Bias in Small Business Bankruptcies, 50 J. L. & ECON. 381 (2007)

Serial Entrepreneurs and Small Business Bankruptcies, 105 COLUM. L. REV. 2310 (2005) (with Douglas G. Baird)

Bankruptcy Decision Making, 17 J. LAW, ECON. & ORG. 356 (2001) (with Douglas G. Baird)

Financial Contracts and the Bankruptcy Code

Rolling Back the Repo Safe Harbors, 69 BUS. LAWYER 1015 (2014) (with Mark J. Roe and Christopher S. Sontchi)

Financial Contracts and the New Bankruptcy Code: Insulating Markets from Bankrupt Debtors and Bankruptcy Judges, 13 AM. BANKR. INST. L. REV. 641 (2005) (with Joerg Riegel)

Derivatives and the Bankruptcy Code: Why the Special Treatment?, 22 YALE J. REG. 91 (2005) (with Franklin R. Edwards)

Modified version published in SYSTEMIC FINANCIAL CRISES (World Scientific Press: Douglas D. Evanoff and George G. Kaufman, eds., 2005)

Consumer Bankruptcy, Housing, and Mortgage Policy

Race and Bankruptcy: Explaining Racial Disparities in Consumer Bankruptcy, J. L. & ECON. (forthcoming) (with Belisa Pang and Antoine Uettwiller)

Consumer Bankruptcy Pathologies, 173 J. INSTIT. & THEORET. ECON. 174 (2017) (with Antoine Uettwiller)

“Coasean Bargaining in Consumer Bankruptcy,” in RONALD H. COASE (Univ. Chicago Law School: Omri Ben-Shahar, ed., 2014)

Mortgage Modification and Strategic Behavior: Evidence from a Legal Settlement with Countrywide, 104 AM. ECON. REV. 2830 (2014) (with Christopher Mayer, Tomasz Piskorski, & Arpit Gupta)

A New Proposal for Loan Modifications, 26 YALE J. REG. 417 (2009) (with Christopher Mayer & Tomasz Piskorski)

Bankruptcy and Financial Institutions

Dodd-Frank for Bankruptcy Lawyers, 19 AM. BANKR. INST. L. REV. 287 (2011) (with Douglas G. Baird)

Discussion remarks, *Legal Aftershocks of the Global Financial Crisis, Panel 3: Bankruptcy & Restructuring of Financial Institutions*, 6 N.Y.U. J. L. & BUS. 241 (2010)

Is the Bankruptcy Code an Adequate Mechanism for Resolving the Distress of Systemically Important Institutions?, 82 TEMPLE L. REV. 449 (2009)

General Bankruptcy Law

Extraterritorial Avoidance Actions: Lessons from Madoff, 9 BROOKLYN J. CORP., FIN & COMM. L. 268 (2014)

Timbers of Inwood Forest, *the Economics of Rent, and the Irrelevance of Supreme Court Precedent*, in BANKRUPTCY STORIES (Foundation Press: Robert K. Rasmussen, ed., 2007)

Adversary Proceedings in Bankruptcy: A Sideshow, 79 AM. BANKR. L. J. 951 (2005) (with Douglas G. Baird)

Other

Comment, *Judicial Review of Discount Rates Used in Regulatory Cost-Benefit Analysis*, 65 U. CHI. L. REV. 1333 (1998)

Off-Balance Sheet Risks: What Are They and Why is Their Disclosure Important?, 11 J. ACCT. EDUC. 313 (1993)

Impact of the Salt Lake City Airport on the Utah Economy, 53 UTAH ECON. & BUS. REV. 1 (1993)
(with Boyd L. Fjeldsted)

ARTICLES IN PROGRESS

Business Bankruptcy and Corporate Restructuring

“Restructuring vs. Bankruptcy” (with Jason Roderick Donaldson, Giorgia Piacentino, and Xiaobo Yu) (in draft)

“How Large are Bankruptcy Distress Costs: Evidence from Judicial Assignments” (with Belisa Pang) (in progress)

Consumer Finance and Bankruptcy

“Home Equity Mitigates the Financial and Mortality Consequences of Health Shocks: Evidence from Cancer Diagnoses” (with Arpit Gupta, Scott Ramsey, and Catherine Fedorenko) (available on SSRN)

“Manipulating Random Assignment: Evidence from Consumer Bankruptcies in the Nation’s Largest Cities” (with Belisa Pang and Jon Zytneck) (available on SSRN)

“Health and Financial Fragility: Evidence from Car Crashes and Consumer Bankruptcy” (with Arpit Gupta, Larry Cook, Heather Keenan, and Lenora Olson) (available on SSRN)

Older Drafts of Modified Projects

“Chrysler, GM and the Future of Chapter 11” (available on SSRN)

“Optimal Timing and Legal Decisionmaking: The Case of the Liquidation Decision in Bankruptcy” (with Douglas G. Baird) (available on SSRN)

GRANTS

National Science Foundation, “Understanding the Determinants of Household Default Decisions in the Mortgage Crisis,” September 2011-August 2015, with Christopher Mayer & Tomasz Piskorski, SES 1124188, \$347,811

Pew Charitable Trusts, Conference on Strategies to Improve the Housing Market, “Analysis of Second Liens and a New Proposal,” 2012, with Christopher Mayer & Tomasz Piskorski, \$25,000

AWARDS

2018 Willis L.M. Reese Prize for Excellence in Teaching, Columbia Law School

2012 Judge Wesley Steen Law Review Writing Prize, presented by the American Bankruptcy Institute, for *Dodd-Frank for Bankruptcy Lawyers* (with Douglas G. Baird)

2009 Par Excellence Award, presented by the University of Utah Alumni Association and Young Alumni Board

AMICUS BRIEFS

Signatory, Amicus Curiae Brief of Bankruptcy Law Professors in Support of Appeal and Reversal, *In re Irving H. Picard, Trustee for the Liquidation of Bernard L. Madoff Investment Securities LLC*, 2nd Circuit, Case No. 17-2992 (Jan. 17, 2018)

Signatory, Brief of Amicus Curiae Bankruptcy Scholars in Support of Brief for Defendants-Appellants Transeastern Lenders, Group 1, *In re Touse, Inc.*, 11th Circuit, Case No. 17-11545 (Jun. 6, 2017)

Signatory, Brief of Bankruptcy Law Professors as Amici Curiae in Support of Petitioner, *Husky International Electronics, Inc. v. Ritz*, Supreme Court of the United States, Case No. 15-145, 2015 WL 9488261 (Dec. 28, 2015)

Signatory, Brief of Amici Curiae Bankruptcy Scholars in Support of Plaintiff-Appellant in Support of Reversal, *In re TOUSA, Inc.*, 11th Circuit, Case No. 11-11071, 2011 WL 3006869 (May 2, 2011)

Signatory, Brief of Amici Curiae in Support of Appellant, *Lucent Technologies, Inc. v. Shubert*, 3rd Circuit, Case No. 07-2659, 2007 U.S. 3rd Cir. Briefs LEXIS 2146 *(Oct. 3, 2007)

POLICY WORK

Co-Organizer, Bankruptcy Scholars Working Group on the COVID-19 Crisis, 2020

Co-Reporter, Advisory Committee on Financial Contracts, Derivatives, and Safe Harbors, American Bankruptcy Institute (ABI) Commission to Study the Reform of Chapter 11, September 2012-April 2014

Co-Author, "A Proposal for Amending Chapter 12 to Accommodate Small Business Enterprises Seeking to Reorganize" (January 2010) (with members of the Small Business Working Group, National Bankruptcy Conference)

Testimony, "Promoting Bank Liquidity and Lending Through Deposit Insurance, Hope for Homeowners, and Other Enhancements" (February 3, 2009) (before the Committee on Financial Services, U.S. House of Representatives)

Co-Author, “A New Proposal for Loan Modifications” (January 2009) (with Christopher Mayer and Tomasz Piskorski)

Author, “Small Business Bankruptcy and the Bankruptcy Abuse and Consumer Protection Act of 2005” (September 22, 2008) (commissioned by the Small Business Administration pursuant to Government Contract No. SBAHQ-06-A-0023)

SELECTED CASE STUDIES AND CLE MATERIALS

“Safe Harbors for Financial Contracts: Proposed Reforms and Unanswered Questions” (prepared for NYU’s 2015 King/Seligson Bankruptcy Workshop)

“Sufficient Conditions for Valuation in Fraudulent Transfer Actions” (prepared for NYU’s 2013 King/Seligson Bankruptcy Workshop)

“The Legal Architecture of Delphi’s Emergence” (prepared for the 2012 TMA Distressed Investing Conference)

“General Growth Properties: Stage 2” (prepared for the 2011 TMA Distressed Investing Conference)

“Circuit City’s Perfect Storm” (prepared for the 2010 TMA Distressed Investing Conference)

“Chrysler, GM, and the Future of Chapter 11” (prepared for NYU’s 2009 King/Seligson Bankruptcy Workshop)

“Vertis/American Color Graphics: First (Not Last?) Dual Prepack Merger” (prepared for the 2009 TMA Distressed Investing Conference)

“Westpoint Stevens: A Clash of Titans” (prepared for the 2008 TMA Distressed Investing Conference)

RECENT PROFESSIONAL ACTIVITIES

Conferee, National Bankruptcy Conference, 2007-present
Chair, Capital Markets and UCC Committee, 2020-present

Member, Advisory Committee on Rules of Bankruptcy Procedure, Judicial Conference of the United States, 2010-2016 (appointed by Chief Justice Roberts)

RECENT COLUMBIA UNIVERSITY SERVICE

Co-Director, Richman Center for Business, Law, and Public Policy, 2011-12, 2014-present

Faculty Director, Columbia Law School Executive Education, 2015-present

Co-Director, Columbia-Amsterdam-Leiden Summer Program in American Law, 2006-12, 2014-present

Co-Chair, Global Business Forum (2016-2018, 2020), sponsored by Freshfields and the Richard Paul Richman Center at Columbia University

Board of Directors, COLUMBIA BUSINESS LAW REVIEW, 2005-2012, 2015-present

JSD Committee Member: Giuseppe Dari-Mattiacci (now at Columbia Law School), Adi Marcovich Gross (in progress), Maya Shaton (in progress)

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New York City Bar Association, January 2020

"Puerto Rico's Bankruptcy"
Federal Bar Council, 2019 Fall Bench & Bar Retreat, November 2019

"Manipulating Random Assignment: Evidence from Consumer Bankruptcies in the Nation's Largest Cities"
Conference on Empirical Legal Studies, November 2019
Columbia Law School, October 2019

“Speeding Up Solvency: Bankruptcy Reform in India”
Columbia Business School Conference, Mumbai, India, January 2019

“Race and Bankruptcy”
Washington University in St. Louis School of Law, April 2019
UC Hastings College of Law, January 2019
Conference on Empirical Legal Studies, November 2018
Columbia Law School, September 2018
University of Southern California Law School, February 2018

“Valuation Disputes in Corporate Bankruptcy”
University of Pennsylvania Law School, October 2017
Columbia Law School, September 2017

RECENT COMMENTARY ON ACADEMIC WORK

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Young Bankruptcy Scholars’ Work-in-Progress Workshop, Brooklyn Law School, 2018 (Abbye
Atkinson, “Rethinking Credit as Social Provision;” Sadie Blanchard, “An(other) Autopsy of
Cooperation: The Case of Reinsurance”)

NBER Law & Economics Mid-Year Meeting, 2018 (Edward Stiglitz, “Folk Theories and
Constitutional Values”)

Young Bankruptcy Scholars’ Work-in-Progress Workshop, Brooklyn Law School, 2017 (Jared
Ellias, “An Empirical Study of Bankruptcy Claims Trading;” Chris Bradley, “The Deadbeat
Debtors of Debtors in Bankruptcy”)

AFFILIATIONS, SHORT-TERM VISITS, AND OTHER POSITIONS HELD

Fred Hutchinson Cancer Research Center, Division of Public Health Sciences (Seattle, WA),
Affiliate Investigator, Cancer Prevention Program, 2013-present

University of Amsterdam Business School, Center for Law & Economics, Visiting Professor in
Financial Markets and Corporate Governance, Nov. 2013

University of Granada (Spain), Department of Economic Theory and History, Visiting Scholar,
Spring 2011

Wachtell, Lipton, Rosen & Katz (New York, N.Y.), Summer Associate, 1999

Jackson & Kelly (Washington, D.C.), Summer Associate, 1995

Bureau of Economic and Business Research (Salt Lake City, Utah), Research Associate, 1993-94

JUDICIAL CITATIONS

Valuation Disputes in Corporate Bankruptcy, 166 U. PENN. L. REV. 1819 (2018) (with Kenneth M. Ayotte)

- *Transwestern Pipeline Co. v. Arizona Dep't of Revenue*, No. 1 CA-TX 19-0006, 2020 WL 4529622 (Ariz. Ct. App. Aug. 6, 2020)

Extraterritorial Avoidance Actions: Lessons from Madoff, 9 Brooklyn J. Corp., Fin & Comm. L. 268 (2014)

- *In re Picard, Tr. for Liquidation of Bernard L. Madoff Inv. Sec. LLC*, 917 F.3d 85 (2d Cir. 2019)
- *In re Ampal-Am. Israel Corp.*, 562 B.R. 601 (Bankr. S.D.N.Y. 2017)
- *In re Arcapita Bank B.S.C.(c)*, 575 B.R. 229 (Bankr. S.D.N.Y. 2017)

Financial Contracts and the New Bankruptcy Code: Insulating Markets from Bankrupt Debtors and Bankruptcy Judges, 13 AM. BANKR. INST. L. REV. 641 (2005) (with Joerg Riegel)

- *In re Nat'l Gas Distributors, LLC*, 556 F.3d 247 (4th Cir. 2009)
- *In re Peregrine Fin. Grp., Inc.*, 510 B.R. 190 (Bankr. N.D. Ill. 2014)
- *McKittrick v. Nat'l Fuel Mktg.*, No. ADV 11-3039, 2011 WL 2078527 (Bankr. D. Or., May 25, 2011)
- *In re Nat'l Gas Distributors, LLC*, 369 B.R. 884 (Bankr. E.D.N.C. 2007)

Creditor Control and Conflict in Chapter 11, 2 J. LEGAL ANAL. 511 (2009) (with Kenneth M. Ayotte)

- *In re Jevic Holding Corp.*, 787 F.3d 173 (3d Cir. 2015)

Explaining Racial Disparities in Personal Bankruptcy Outcomes

Bronson Argyle

BYU

Sasha Indarte

Wharton, UPenn

Ben Iverson

BYU

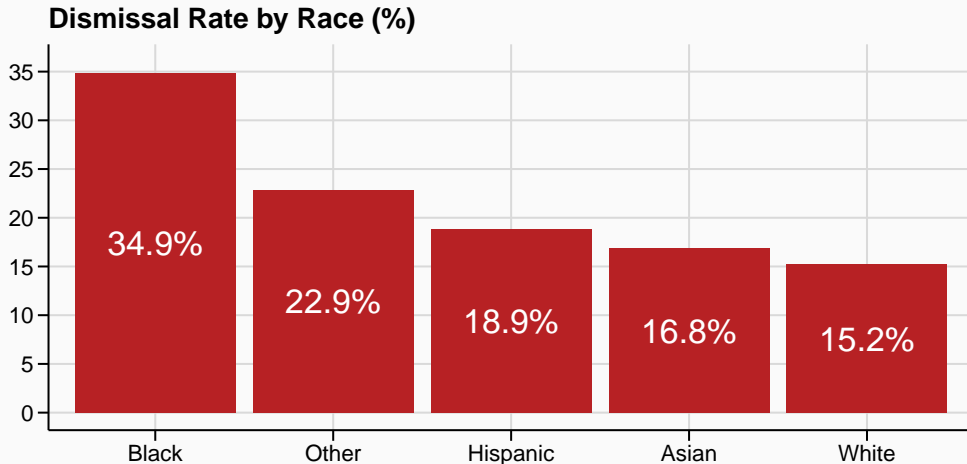
Christopher Palmer

MIT & NBER

Exploring Racial Disparities and Bias in Bankruptcy Cases

September 2023

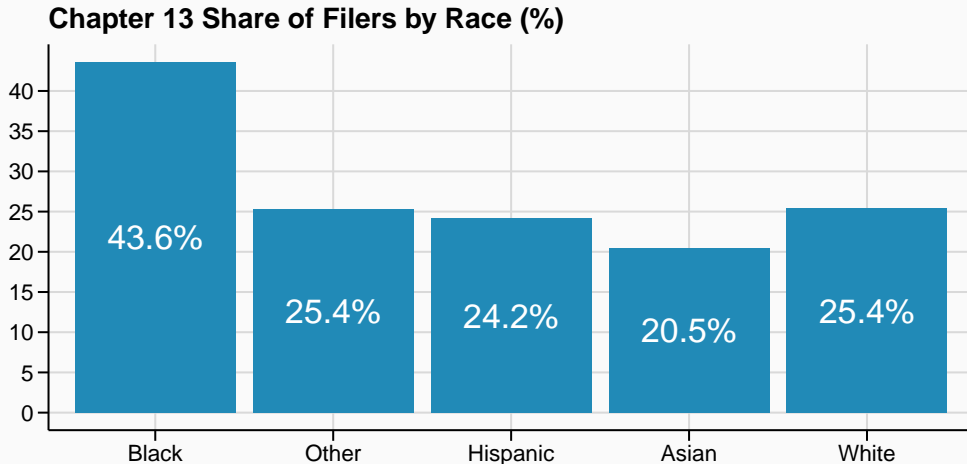
Racial Disparities in Dismissal Rates



Data used includes 8 million cases from 2008+

20

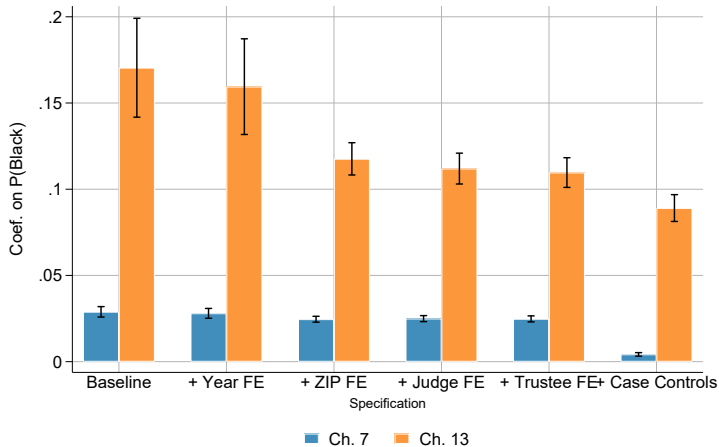
Racial Disparities in Chapter Choice



Data used includes 8 million cases from 2008+

21

Racial Disparities in Dismissal Rates by Chapter



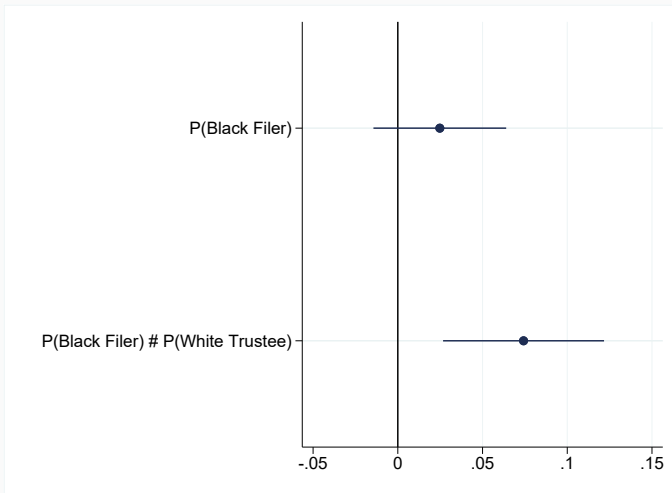
Unconditionally, Black filers are 3% and 17% more likely to be dismissed in Chapters 7 and 13 (respectively)

Avg. Ch 7: 3%

Avg. Ch 13: 61%

Dismissal Rates: The Role of Trustee Race

Ch 13: assignment to White trustees increases $\Pr(\text{dismissal})$
7.4% for Black filers



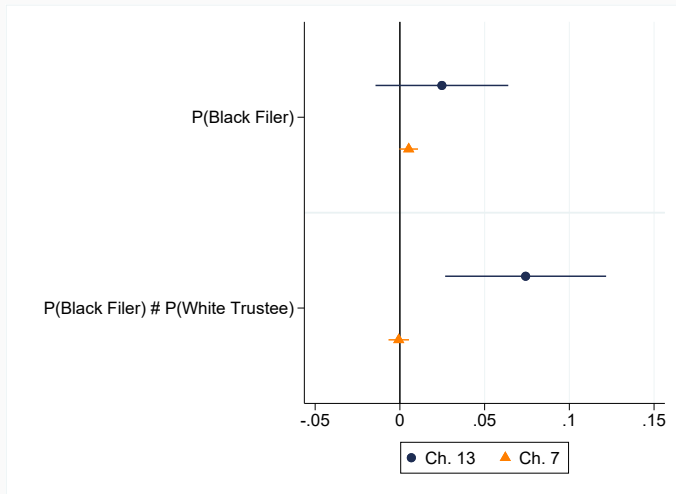
Dismissal Rates: The Role of Trustee Race

Ch 13: assignment to White trustees increases $\Pr(\text{dismissal})$

7.4% for Black filers

Ch 7: assignment to White trustees increases $\Pr(\text{dismissal})$

0% for Black filers

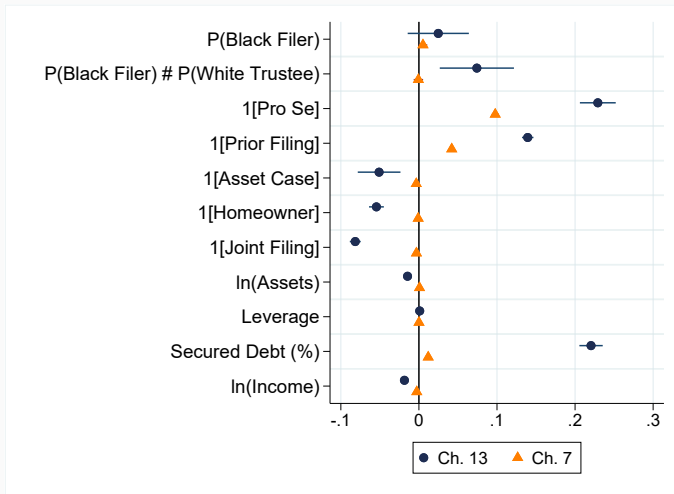


Dismissal Rates: The Role of Trustee Race

Ch 13: assignment to White trustees increases $\Pr(\text{dismissal})$ **7.4%** for Black filers

Ch 7: assignment to White trustees increases $\Pr(\text{dismissal})$ **0%** for Black filers

Trustee race is one of the stronger predictors of dismissal



Race, Trustee Shopping, and Bankruptcy

Edward R. Morrison

COLUMBIA LAW SCHOOL

Belisa Pang

YALE LAW SCHOOL

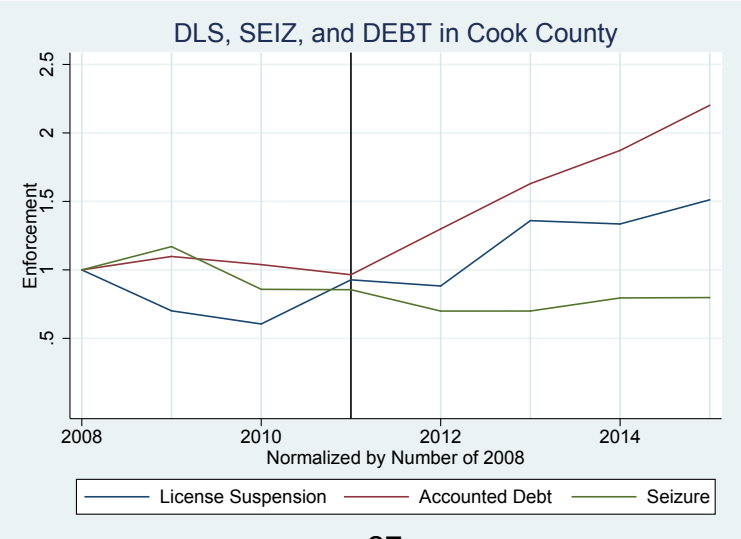
Antoine Uettwiller

IMPERIAL COLLEGE BUSINESS SCHOOL

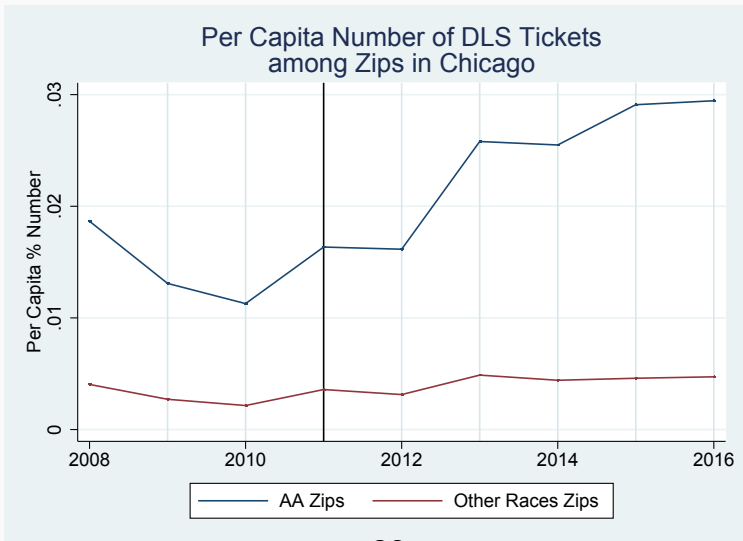
Jonathon Zytnick

GEORGETOWN LAW CENTER

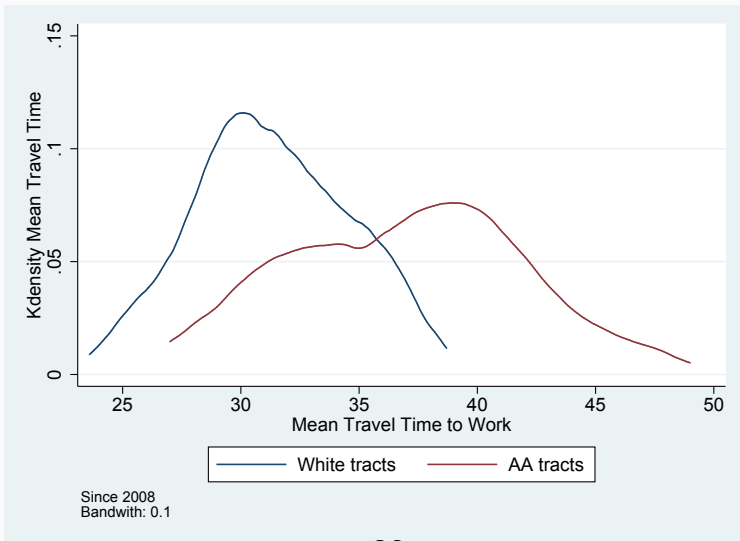
Neutral Policies Can Have Disparate Impacts



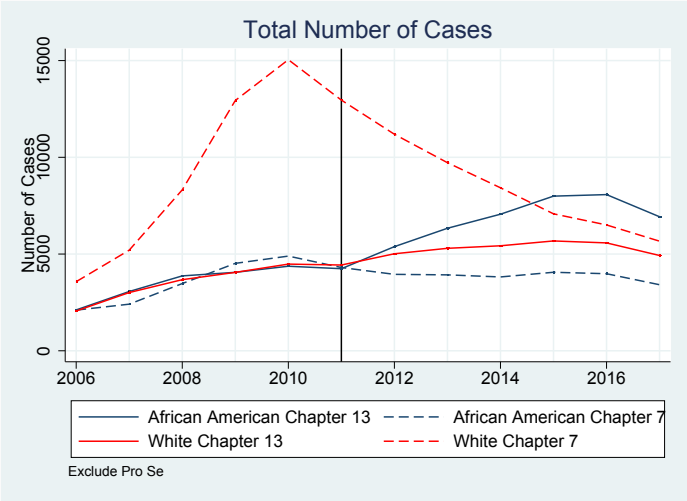
More Suspensions in African American Neighborhoods



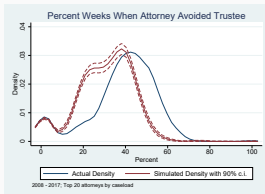
Where Travel Times are Longer



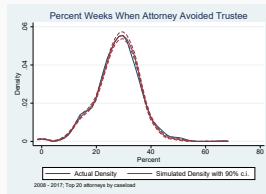
Producing Big Racial Disparities in Chapter 13



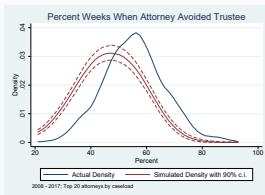
Lots of Chapter 7 Trustee Shopping Across the Country



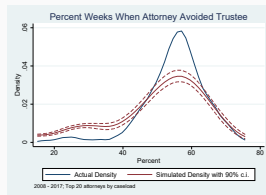
(a) Chicago (NDIL)



(b) Los Angeles (CDCA)

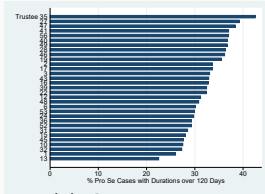


(c) Brooklyn (EDNY)

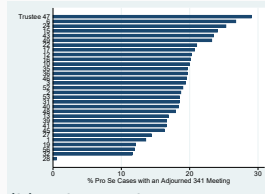


(d) Long Island (EDNY)

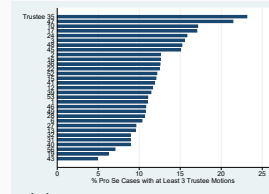
With Big Impacts on Pro Se Cases, Where Racial Disparities are Large



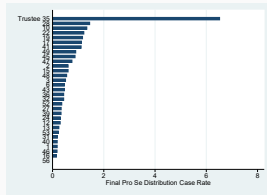
(a) Case Duration



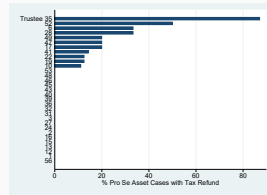
(b) Adjourned 341 Meetings



(c) ≥ 3 Trustee Motions



(d) Distribution to Creditors



(e) Distribution to Creditors
Includes Debtor's Tax Refund

Explaining Racial Disparities in Personal Bankruptcy Outcomes*

Bronson Argyle[†] Sasha Indarte[‡] Benjamin Iverson[§] Christopher Palmer[¶]

July 2023

(preliminary)

Abstract

We document substantial racial disparities in consumer bankruptcy outcomes and investigate the role of racial bias in contributing to these disparities. Using data on the near universe of US bankruptcy cases and deep-learning imputed measures of race, we show that Black filers are 21 and 3 percentage points (pp) more likely to have their bankruptcy cases dismissed without any debt relief in Chapters 13 and 7, respectively. We uncover strong evidence of racial homophily in Chapter 13: Black filers are 10 pp more likely to be dismissed when randomly assigned to a White bankruptcy trustee. To interpret our findings, we develop a general decision model and new identification results relating homophily to bias. Using this framework and our homophily estimate, we conclude that at least 40% of the 21 pp dismissal gap is due to either taste-based or inaccurate statistical racial discrimination.

Keywords: personal bankruptcy, racial disparities, racial bias, homophily

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1 Introduction

Each year, close to one million US households enter consumer bankruptcy, receiving debt relief worth more than the resources given through all state unemployment insurance programs combined (Lefgren, McIntyre and Miller, 2010).¹ Given its scale, a first-order policy concern is understanding whether and why the bankruptcy system works less well for different households. For example, Lefgren and McIntyre (2009) show that bankruptcy rates in zip codes that are predominantly Black are nearly twice as large as White zip codes, and Kiel and Fresques (2017) find that personal bankruptcy filers from Black zip codes are more than twice as likely to have their cases dismissed (without any debt relief) than observationally similar filers from White zip codes.

Racial disparities in financial outcomes are large and widespread. For example, the median wealth of White households is more than ten times that of Black and Hispanic households (\$171,000 versus \$17,000, SCF, 2016). Minorities also pay higher interest rates than Whites with similar observable characteristics (Ghent, Hernandez-Murillo and Owyang, 2014; Bayer, Ferreira and Ross, 2018; Butler, Mayer and Weston, 2023). Racial disparities in consumer bankruptcy, a key part of the social safety net, may further compound existing economic and financial disparities by limiting access to this major source of debt relief.

This paper presents new facts on racial disparities in consumer bankruptcy and provides the first evidence of the role of racial bias in contributing to these disparities. Our analysis uses a new dataset containing the universe of US bankruptcy cases over the past two decades, containing detailed data on tens of millions of bankruptcy cases. To investigate the role of bias, we develop a decision model and new identification results that formalize when and how homophily between bankruptcy filers and their legal counterparts (judges and trustees) can both signal the presence of racial bias and quantify the share of observed disparities due to racial bias.² Although the role of bankruptcy trustees is under-explored in both the economics and law literatures, we find bankruptcy trustees play an important role in determining case outcomes. We focus on bias on the part of bankruptcy trustees (legal official involved in the bankruptcy process).

¹Bankruptcy-system leniency is positively related to debtor wages, credit access, homeownership, and longevity (Dobbie and Song, 2015; Dobbie, Goldsmith-Pinkham, and Yang, 2017; Dobbie, Mahoney, Goldsmith-Pinkham, and Song, 2020).

²As we discuss below, homophily in our context is when there are differences in the treatment of filers when the filer and the legal decision-maker are of the same versus different races.

Understanding what drives disparities across groups of filers, particularly with regard to race, is important for assessing the efficacy of bankruptcy policy and has important implications for other economic outcomes. Bankruptcy is a frequently used form of social insurance—over 10% of US households have filed for bankruptcy at least once (Stavins, 2000; Keys, 2018). If in practice the institution of bankruptcy works poorly for certain disadvantaged groups, it could exacerbate wealth and welfare gaps caused by racial bias in financial and labor markets. For example, (Ganong, Jones, Noel, Greig, Farrell and Wheat, 2020) show that Black households cut consumption 50 percent more than White households in response to a similar-sized income shock. If Black households on average lack access to liquidity to smooth consumption—potentially due to fewer labor market opportunities or less access to savings and credit—the insurance provided through the bankruptcy system could be particularly valuable for these households. However, if racial bias diminishes the benefits that these groups receive in bankruptcy, the system is potentially providing less relief to those individuals that need it most. If the primary mechanism for individual debt relief in the US exhibits racial bias, such biases could amplify the effects of other racial disparities in financial markets and ultimately have important differential effects on wealth and wellbeing across groups.

To test for racial bias in the personal bankruptcy system, we assemble a nationwide dataset of detailed bankruptcy outcomes where meaningful demographic characteristics of the judge, trustee, and filer can be either observed or more confidently imputed than in previous work. Our primary analysis subsample is the near universe of consumer bankruptcy cases since 2008, containing over 13 million bankruptcy cases. We impute race by training a deep learning model, based on Kotova (2021), on voter registration data from Florida, which contains names, addresses, and self-reported race for over 20 million individuals. We then test for and analyze the role of bias in explaining disparities in several bankruptcy outcomes, many of which have not been studied before because of data limitations. Traditional bankruptcy outcomes include dismissal (when the judge rejects the filing), chapter selection (Chapter 13 is less generous), bankruptcy refiling rates, and discharged debts. Richer outcomes not usually available to bankruptcy researchers include conversion (when the judge forces a conversion from Chapter 7 to Chapter 13), net debt forgiveness (defined as discharged assets minus payments out of seizable assets), home valuation, which debts are discharged, and whether the court made filing eligibility exceptions to time-since-filing,

income means-testing thresholds, or asset holding thresholds.

Our first finding is that Black filers are 21 percentage points more likely to have their personal bankruptcy petitions dismissed in court without any debt relief in Chapter 13. This rate is 41% higher than the average Chapter 13 dismissal rate for White filers. In Chapter 7, Black filer's cases are dismissed 3 percentage points more often, which is 167% higher than the Chapter 7 dismissal rate among White filers. Conditional on a rich array of fixed effects and case-level controls, these gaps drops to 11 and 0.6 percentage points (for Chapters 13 and 7, respectively).

Next, we examine how the racial disparity in dismissal rate varies with trustee race (homophily). For Chapter 13, we find that when Black filers are randomly assigned to a White trustee, their dismissal rate rises by 10 percentage points. When assigned to a non-White trustee, the Chapter 13 dismissal rate gap falls to one percentage point (and is statistically insignificant). For Chapter 7, we find no impact of trustee race on the racial disparity in dismissal rates.

To guide the interpretation of our homophily results, we develop a general decision model and econometric results relating homophily to bias. The generality of our framework makes it readily usable to study bias and homophily in other contexts, such as lending, bail, or jury convictions. A key advantage of our approach is that it does not require that the econometrician observes (or even knows) the outcomes over which biased decision-makers (DMs) optimize. We formalize conditions that are sufficient and necessary for homophily to identify the relative difference in racial bias across DMs of different races, yielding a test for the presence of bias. To further quantify the impact of racial bias requires additional assumptions. To this end, we present a menu of increasingly strong assumptions that lead to increasingly informative lower bounds on the share of disparities due to racial bias.

In the model, a decision-maker (DM) makes a binary choice that affects another individual (e.g., a trustee chooses whether to dismiss a filer's case). She maximizes her expected utility when making this choice, solving a prediction problem where she forecasts how her decision will impact a vector of outcomes that she cares about (detecting fraud, giving access to debt relief, her own compensation, etc.). Her decision can be influenced by three forms of racial bias. First, taste-based racial bias can arise if the race of the filer alters the utility she receives when a particular outcome is realized (e.g., a trustee dislikes fraud more when committed by a Black filer). Second, inaccurate statistical discrimination can lead to dismissals if DMs have inaccurate beliefs about how a

filer's race predicts the outcomes they care about. Third, accurate statistical discrimination can influence dismissals if filer race (accurately) predicts differential likelihoods of outcomes DMs value. Despite our use of the terms accurate or inaccurate statistical discrimination, we stress that any statistical discrimination is potentially problematic, especially given that the non-race characteristics used in statistical discrimination models are themselves often the product of historical discrimination (Spriggs, 2020). We refer to the effect of taste-based and inaccurate statistical discrimination as " $\beta\mu$ -racial bias" and the combined effect of all three biases as "total racial bias."

We show that homophily identifies the relative differences in DMs' total racial bias if, and only if, dismissal decisions exhibit "parallel disparities."³ In the bankruptcy context, parallel disparities means that if (counterfactually) Black filers were instead White but still had the same non-race characteristics, the gap in Black-White dismissals would be the same for filers assigned to either Black or White trustees. We then show that if, and only if, decisions exhibit parallel accurate statistical discrimination, then the relative differences in total racial bias equal the difference in $\beta\mu$ -racial bias across DMs. This second assumption means that, in the absence of $\beta\mu$ -racial bias, the effect of filer race on dismissal decisions would be the same for filer assigned to either Black or White trustees. We propose two tests to check for failure of these assumptions. The first is a standard balance test, which checks whether DM race predicts filer race or non-race characteristics. The second tests whether non-race characteristics *differentially* predict dismissals across cases assigned to White versus non-White DMs. Applying these tests in our application suggests that violation of these key assumptions is unlikely.

These theoretical results make homophily a potentially a powerful tool for isolating $\beta\mu$ -racial bias from total racial bias. This framework leads to two implications of the substantial homophily we find in Chapter 13. First, it implies that trustees of at least one racial type exhibit some form of $\beta\mu$ -racial bias (i.e., taste-based or inaccurate statistical discrimination). Second, if non-White trustees are either unbiased or biased against Black filers on average, then at least 40% of the 21 percentage point dismissal disparity is due to $\beta\mu$ -racial bias.

³We term this assumption parallel disparities because of its similarity to the parallel trends assumption required for identification using a difference-in-differences estimator.

Related Literature In this section, we briefly contextualize our findings in related literatures on personal bankruptcy, racial bias in credit markets and institutions, and law and economics.

First, we build on a growing literature on racial disparities in household financial outcomes through a new focus on disparities and bias in personal bankruptcy. Prior work documents disparities in lending outcomes, such as minorities experiencing lower loan approval rates, higher interest rates, and higher rates of CFPB complaints (Munnell, Tootell, Browne and McEneaney, 1996; Reid, Bocian, Li and Quercia, 2017; Bayer, Ferreira and Ross, 2018). More recently, a growing literature documents the challenges faced by algorithmic advances in underwriting struggle to eliminate racial disparities and bias in credit outcomes (Bartlett, Morse, Stanton and Wallace, 2019; Fuster, Goldsmith-Pinkham, Ramadorai and Walther, Forthcoming; Morse and Pence, 2020; Blattner and Nelson, 2020).

Studying bankruptcy in particular, Braucher, Cohen and Lawless (2012) find that Black households file for Chapter 13 at a much higher rate.⁴ Their experimental evidence suggests that attorney steering plays a role in explaining this disparity, with attorneys are more likely to recommend that clients with Black-sounding names file under Chapter 13 than otherwise identical filers with White-sounding names. In this paper, we contribute new evidence on disparities across a range of bankruptcy outcomes, document the role of trustees in shaping these disparities, and quantify the role of racial bias. A key difference in this paper relative to previous work is that we focus on documenting disparities *after* and individual has entered bankruptcy while holding constant all filer characteristics that existed at the time of the bankruptcy filing. As such, the racial differences that we find arise mostly due to the bankruptcy system itself rather than choices that consumers make prior to filing.

Second, we build on a law and economics literature exploring the importance of decision-maker characteristics in legal outcomes. In the context of bankruptcy, court congestion and inexperienced judges lead to worse bankruptcy outcomes, such as lower creditor recovery rates (Iverson, 2018; Iverson, Madsen, Wang and Xu, 2020). Other work on bias in the legal system finds evidence of racial bias in bail decisions (Arnold, Dobbie and Yang, 2018; Arnold, Dobbie

⁴Chapter 13 is generally considered a “worse” form of bankruptcy for several reasons. First, Chapter 13 can require filers to make larger repayments to creditors (statute requires it be no less in Chapter 13 than what creditors would receive in Chapter 7). Second, Chapter 13 filers are less likely to receive a discharge at the conclusion of their case. Third, the Chapter 13 discharge is not received until completion of the payment plan, which is most often five years after filing. See Section 2 for background on the personal bankruptcy system.

and Hull, 2020). Additionally, juror race, gender, and political ideology impact conviction rates (Anwar, Bayer and Hjalmarsson, 2012, 2019a,b). We contribute by highlighting the role of trustee bias in shaping disparities in personal bankruptcy outcomes. Bankruptcy trustees have received little attention in prior work, and our findings suggest that they have a significant influence on bankruptcy outcomes, similar to that of judges. Recently, Morrison, Pang and Zytnick (2019) finds that, in several cities, lawyers appear to help clients strategically time their bankruptcy filings to improve their chances of obtaining a lenient trustee, suggesting that lawyers believe that trustees can dramatically impact bankruptcy outcomes. Importantly, such steering is unlikely a source of bias in our empirical analysis. We document that trustee race does not predict filer race nor a variety of case and non-race characteristics. We are also able to account for trustee differences in overall leniency by including trustee fixed effects.

Third, this paper makes a methodological contribution to the literature on detecting and quantifying racial bias. Homophily between agents and DMs has been widely-studied in many contexts, such as police stops and searches (Anwar and Fang, 2006), jury convictions (Anwar, Bayer and Hjalmarsson, 2012), and mortgage lending (Jiang, Lee and Liu, 2021; Frame, Huang, Mayer and Sunderam, 2022). However, there is limited prior econometric and theoretical work guiding the interpretation of homophily. A notable exception is Anwar and Fang (2006), which presents results in which homophily can test for bias. Our framework generalizes their decision model to allow for complex decisions (described below) and for DMs to make prediction errors, which can result in inaccurate statistical discrimination. We also formalize identification results *quantifying* the impact of bias.

Our homophily framework has the advantage of providing a test for bias in a variety of scenarios in which a Becker-style outcome test for bias is not feasible (e.g., Becker, 1957, 1993; Knowles, Persico and Todd, 2001; Arnold, Dobbie and Yang, 2018; Canay, Mogstad and Mountjoy, 2020; Hull, 2021). Notably, our test does not require that the researcher observe the outcome(s) over which the decision-maker optimizes. In contrast to bail decisions, where judges have a clear objective to minimize pre-trial misconduct, bankruptcy decisions are more subjective. For example, when evaluating whether dismissal is appropriate, bankruptcy judges and trustees try to detect whether misreporting of assets is due to intentional fraud or procedural error, proposed payment

plans are feasible, or if filer hardship is “beyond their control.”⁵ Our homophily approach offers a way to quantify bias in decision-making in a variety of abstract settings where the decision-maker’s objective is unknown, difficult to measure, and/or a function of multiple outcomes. Additionally, we allow preferences over these outcomes to vary across decision-makers. For example, this allows trustees to differ in how they value their personal compensation from handling a case and the substitutability of this outcome with respect to preventing bankruptcy fraud. Our framework also does not require that there is an objectively correct decision (knowable to either the decision-maker or the researcher).

There are several limitations to our framework. We show that homophily may fail to detect bias when it is present, but homophily reliably indicates bias when it is detected.⁶ In this sense, homophily is a conservative test for the presence of bias. And in general, our results quantifying bias partially identify the influence of bias, rather than point identify it. However, it is possible to obtain a sharp lower bound, as we do in our application. Additionally, although our homophily framework does not strictly require random assignment of decision-makers, in practice, this is likely necessary for identifying assumptions to be credible.

The rest of the paper proceeds as follows. Section 2 presents relevant institutional background on personal bankruptcy in the US. Section 3 presents our decision model and econometric results. We describe our data and present descriptive facts on personal bankruptcy outcomes by groups in Section 4. Section 5 presents our results, and Section 6 concludes.

⁵In bankruptcy cases, judges and trustees evaluate the accuracy and completeness of a petitioner’s reported assets, liabilities, income sources, and expenses—and whether the petitioner has strategically manipulated any of these variables. Perceived manipulation can warrant modifying the calculations using these variables that determine the amount petitioners must pay their creditors to successfully discharge their debt, making it harder to avoid dismissal due to missed payments. Perceptions of egregious manipulation can trigger immediate dismissal without debt relief. Additionally, Chapter 13 filers that encounter financial hardships during their (three to five year) repayment plan can request a hardship discharge, which requires a subjective evaluation by a court over the extent to which the petitioner’s hardship was “out of their control” and makes repayment infeasible. These abstract criteria are not as readily measurable as pre-trial misconduct.

⁶Formally, our test is inconsistent (underpowered) but has exact size.

2 Background: Personal Bankruptcy in the US

2.1 The Costs and Benefits of Personal Bankruptcy

Nearly one million households every year seek to discharge consumer debts by filing for Chapter 7 or Chapter 13 Bankruptcy. Bankruptcy can help households cope with financial distress—for example, stemming from job loss or medical expenses—by reducing required debt payments and preventing wage garnishment. In doing so, bankruptcy offers households an implicit form of insurance that can help them better smooth consumption across states of the world (for evidence on the insurance value of bankruptcy see Livshits, MacGee and Tertilt, 2007; Chatterjee, Corbae, Nakajima and Ríos-Rull, 2007; Indarte, 2023; Dávila, 2020)(for evidence on the insurance value of bankruptcy see Livshits et al., 2007; Chatterjee et al., 2007; Indarte, 2023; Dávila, 2020). The scale of the debt relief offered under Chapters 7 and 13 is substantial, totaling \$187 billion in a typical year.⁷ During the Great Recession, the annual debt write-downs provided by bankruptcy were similar in size to the annual transfers from unemployment insurance and larger than those of measures like the Home Affordable Modification Program (Auclert, Dobbie and Goldsmith-Pinkham, 2019).

Receiving a debt discharge through bankruptcy can benefit filers in many dimensions. Financially, filers typically see better credit scores and credit access in the years after filing compared to insolvent non-filers (Albanesi and Nosal, 2018). Filers that receive a discharge (versus those whose case is dismissed) also experience higher earnings, lower foreclosure rates, higher homeownership rates, and lower mortality rates (Dobbie and Song, 2015; Dobbie, Goldsmith-Pinkham and Yang, 2017). Consistent with smoothing and stabilizing consumption, Auclert, Dobbie and Goldsmith-Pinkham (2019) find that access to bankruptcy increased employment by nearly 2% during the Great Recession.

Even in situations where the filing is dismissed and debt is not ultimately discharged, there can still be beneficial effects of filing. Filing a voluntary petition for bankruptcy with the court triggers an automatic stay of creditor’s legal ability to pursue outstanding debts (both secured and unsecured obligations), which allows filers to keep assets such as a vehicle or a home. This stay can be especially meaningful in minimizing the disruption of financial distress.

Filing for bankruptcy also entails a number of costs. Court, attorney, and mandatory debt

⁷Source: Annual BAPCPA report (Tables 1A and 1D).

counseling fees average \$1,400 in Chapter 7 and \$3,400 in Chapter 13 (GAO, 2008). Additionally, filers can be required to make payments to creditors out of assets (Chapter 7 bankruptcy) or out of disposable income (Chapter 13 bankruptcy). Non-monetary costs like stigma may also be an important deterrent to filing (Indarte, 2023). In the long-term, the “bankruptcy flag” that appears on a filer’s credit report for seven to ten years can depress credit access (Musto, 2004; Dobbie et al., 2020; Herkenhoff et al., 2019; Gross et al., 2020). Filing today also costs filers the option to file in the near future, as discharges can only be granted every two to eight years.⁸ If a filer’s petition is dismissed, not only do they not receive the debt discharge, but they will still bear many of the costs of bankruptcy—including receiving a “bankruptcy flag” on their credit report.

2.2 The Bankruptcy Process

Below we describe the bankruptcy process, highlighting the role played by trustees and judges as well as the relevant differences between Chapter 7 and Chapter 13 bankruptcy. To initiate bankruptcy proceedings, a filer/petitioner first must complete schedules thoroughly detailing their assets, liabilities, income sources, and expenses. Within 15 days of submitting this paperwork, the filer must also provide proof of completing a credit counseling course. The course helps filers prepare a budget and explore options for repaying their debts. The course also offers an assessment of the feasibility of repaying debt, which judges can take into account when ruling in bankruptcy cases.

After completing these two steps, filers then participate in a Meeting of Creditors (341 Hearing). This meeting is run by the bankruptcy trustee. If the filer fails to attend their case may be dismissed; if the filer has hired a lawyer, they will also attend. Creditors may attend but rarely do so (Elias and Bayer, 2017). This meeting is an important step for the trustee to form a recommendation to the judge and detect fraud.

The trustee compares the paperwork detailing the filer’s financial data to financial documents (tax returns, bank statements, auto titles, etc.) to ensure its accuracy and to detect fraud. The trustee must verify that the filer qualifies to file under the Chapter that they have chosen (to file for Chapter 7, the filer’s income must be below the state’s median). Additionally, the trustee

⁸Chapter 7 filers must wait eight years to file again under Chapter 7 and four years to file under Chapter 13. Chapter 13 filers must wait two years to file again under Chapter 13 and six years to file under Chapter 7.

may question the filer about the reasonability of asset valuations and expenses, the ability of the filer to sustain a high enough income to afford monthly payments under a proposed Chapter 13 repayment plan, and whether misreported values reflect fraud or innocent mistakes. In Chapter 7 bankruptcy, the trustee gains the power to sell the filer's assets with value in excess of state-specific exemption limits.⁹ Other forms of fraud the trustee will look for are transfers of assets that were intended to reduce the value of nonexempt assets and credit-financed purchases where the filer had no intention of repaying the debt. Within 60 days after the Meeting of Creditors, the filer must complete a debtor education course, which emphasizes budgeting and rebuilding credit after bankruptcy.

Bankruptcy cases terminate in one of three ways: discharge, conversion, or dismissal. If the filer succeeds in receiving a discharge at the conclusion of their case, their debts are wiped out after making required payments to creditors. The main differences between Chapters 7 and 13 are the timing and amounts of payments to creditors. In Chapter 7, the filer pays the value of assets in excess of their state's exemption limits. This occurs soon after the Meeting of Creditors if the trustee and creditors have no objections.

In Chapter 13, the filer attends a court hearing, with both the judge and trustee present, to confirm their proposed repayment plan. Statute requires that the sum of Chapter 13 payments are at least as high as what the creditor would have received under Chapter 7 (the value of non-exempt assets). The payments can be higher, in which case they equal the filer's disposable income (income minus "necessary" expenses). Chapter 13 filers make monthly payments for three to five years, and the discharge is not received until after the completion of payments.

Chapter 13 filers may also receive an early discharge of their debt if they encounter financial hardship that makes their initial payment plan infeasible. When the filer experiences a major income loss or rise in expenses – for example, due to the closing of a plant or illness – the judge and trustee may determine that the filer qualifies for a hardship discharge. If the hardship is not seen as beyond the control of the filer or insufficiently severe, missed payments may instead result in a dismissal (Elias and Bayer, 2017). However, the judge and trustee may also approve of a modified Chapter 13 plan.

⁹The filer can purchase nonexempt assets in order to retain them. For example, if the filer's home equity exceeded its exemption limit by \$15,000 but their retirement savings were fully exempt, they could use their retirement savings to pay the \$15,000 to keep their home.

When cases end in conversion, the filer is forced to file under a different Chapter. A conversion from Chapter 7 to 13 typically happens if the filer's income is above the state's median, which usually disqualifies them from Chapter 7. It may also happen if the judge and trustee believe that the filer can feasibly repay more of their debt under Chapter 13. Conversions from Chapter 13 to 7 typically occur when the judge and trustee believe the proposed Chapter 13 repayment plan is infeasible. After a case is converted, the filer still has the chance to successfully obtain a debt discharge in a new case under a different Chapter.

An unsuccessful outcome for the filer is a dismissal, in which case the filer does not receive a debt discharge, though they have benefited from the automatic stay against creditors mentioned above. If the case is dismissed without prejudice they can refile again immediately. If dismissed with prejudice, the filer typically has to wait one year to file again, but the exact timing is at the discretion of the judge (Elias and Bayer, 2017), and creditors can also bring suit granting exception of the automatic stay if the subsequent filing is ruled by the judge to be "in bad faith." Cases are commonly dismissed for several reasons: fraud, failure to complete mandatory educational classes, failure to file forms or submit documents, failure to pay court fees, missing the Meeting of Creditors, perceived infeasibility of the Chapter 13 payment plan, and missed Chapter 13 payments. When filers simply make a procedural mistake, they are more likely to receive a dismissal without prejudice.

Scope for Bias. Bankruptcy trustees and judges face several subjective evaluations. If racial bias can affect their perceptions of honesty and hardship, trustees may suggest – and judges may opt – to dismiss cases at different frequencies for otherwise similar filers of different races. Race may be made especially salient to trustees, who meet face-to-face with filers (of all chapters) during the Meeting of Creditors and any court hearings. In Chapter 7, filers rarely need to attend a court hearing with the judge. But race may be more salient to a judge in Chapter 13 cases, which require a confirmation hearing to approve the Chapter 13 plan.

The trustee plays a central role in evaluating whether a filer's actions constitute *intentional* fraud as opposed to a *procedural error*. This includes assessing whether a transfer of property was intended to reduce the value of nonexempt assets, the filer intended to repay a recent credit-financed purchase, misreported income was an oversight or a mistake, or an event merits a hard-

ship discharge. Additionally, the trustee may disagree over the reasonableness in counting some expenses as necessary and forecasts for future income. If bias leads to more expensive Chapter 13 plans for Black filers, they may be more likely to have their case dismissed due to perceived infeasibility or actual difficulties in making payments. Trustees make recommendations for discharges and dismissals based on their evaluations, but ultimately a judge must form their own opinions to decide the outcome of a case.

3 Decision Model and Econometric Framework

This section presents the framework that guides the interpretation of our empirical analysis. We ground our exposition in the context of personal bankruptcy. However, we emphasize that the framework developed here can be applied to study bias in a variety of other settings. Notably, our framework can be used in settings where bias is otherwise difficult to study with outcome tests (e.g., the tests formulated in Becker, 1957; Arnold et al., 2018; Hull, 2021; Bohren et al., 2022) due to the complexity and/or lack of observability of the outcomes that the decision-maker optimizes over.

We begin by developing a model of the bankruptcy dismissal decision. In the context of the model, we define three sources of discrimination that may influence the decision: accurate statistical discrimination, inaccurate statistical discrimination, and taste-based discrimination.¹⁰ We then define causal parameters and discuss their interpretation as measures of bias. With these definitions in hand, we show how differences in racial disparities across legal decision-makers with different races (homophily) can be used to test for the presence of racial bias and partially identify the share of observed disparities attributable to racial bias.

3.1 Decision Model

3.1.1 Notation and Setup

A bankruptcy case is characterized by a random set

¹⁰Our focus on these three sources of bias parallels that of Hull (2021), who relates similar notions of these forms of bias to outcome tests.

$$(J, R_J, I, R_I, X, D, Y_1, Y_0)$$

where J indexes an individual decision-maker (DM) who has race $R_J \in \{b, w\}$, in the context of bankruptcy, this could be either a judge or a trustee. The other party in the case is a filer, indexed by I with race $R_I \in \{b, w\}$ and non-race characteristic $X \in \mathbb{R}$. We simplify this setting by having only two races: Black (b) and white (w) and by having only a scalar non-race characteristic. Our results are not sensitive to this choice and can be extended to accommodate a larger, finite number of racial identities as well vectors of non-race characteristics. Additionally, without loss of generality, we could alternatively interpret x as a noisily-measured signal of a non-race characteristic (but for simplicity, below we do not explicitly model measurement error in x).

The DM selects a binary decision $D \in \{0, 1\}$; in our context $D = 1$ denotes dismissing the bankruptcy case and $D = 0$ denotes not dismissing the case. The DM's decision influences the "outcome" of the case $Y_D = Y_0 + (Y_1 - Y_0)D$. We allow this outcome to be a vector containing multiple "sub-outcomes", that is, Y_D is an $m \times 1$ vector with $m \geq 1$. In the context of bankruptcy, sub-outcomes could include whether the filer receives debt relief, whether the filer committed fraud in the bankruptcy process, whether the filer makes the required bankruptcy payments, or the compensation received by the DM. We use lower case letters (j, r_j, i, r_i, x) to refer to specific parties and their characteristics. We refer to DMs with she/her/hers pronouns and filers with he/him/his pronouns.

3.1.2 The Decision-Maker's Problem

The DM's utility depends on the outcome of the case. She chooses whether to dismiss in order to maximize her expected utility. Formally, she solves

$$\max_{d \in \{0, 1\}} E_j[u(Y_d; j, r_i, x) | r_i, x].$$

Her utility function $u(\cdot)$ is parameterized by (j, r_i, x) . This flexibly allows utility functions $u(\cdot)$ to vary with the DM's identity j . This means that, for example, DMs can have different preferences for preventing bankruptcy fraud. It also allows utility to vary with the filer's race r_i and non-race characteristic x for a given outcome and DM. This would allow, for example, for a given DM to

prefer when low-income or White filers receive debt relief (relative to high-income or Black filers).

The expectations operator E_j denotes an expectation calculated using DM j 's beliefs about the likelihood that various possible outcomes Y_d are realized. Ex ante, Y_d is unknown to the DM. And our setup also does not require that the DM ever fully learns Y_d after making her decision. This means that she could be concerned with reducing bankruptcy fraud, but fraud could be committed without her confirming that it did occur. We also do not require that the DM has correct beliefs (i.e., her beliefs do not have to coincide with the true, objective probabilities). We assume that she observes the filer's race and non-race characteristic and may condition her expectation on these variables. She may therefore (correctly or incorrectly) believe that, for example, the likelihood of the filer completing all plan payments is predicted by the filer's race and employment status. We do not explicitly model other non-race characteristics that are *unobserved* by the DM and influence outcomes. Rather, we capture this in a simplified way by allowing the case outcome Y_d to be uncertain.

It will be convenient to focus on the difference in utility under the dismissal choices facing the DM:

$$\Delta(j, r_i, x) \equiv u(Y_1; j, r_i, x) - u(Y_0; j, r_i, x).$$

With this notation in hand, we can write the DM's optimal decision as:

$$D(j, r_i, x) = \mathbf{1}\{E_j[\Delta(j, r_i, x)|r_i, x] \geq 0\}.$$

The DM dismisses the case when her expected utility from doing so is weakly higher.

3.1.3 The Sources of Bias and their Influence on Decisions

Bias Decomposition. We next highlight how different forms of bias can influence decisions. Note that we use the terms "bias" and "discrimination" interchangeably. Distinguishing types of bias is important because the nature of discrimination affects the efficacy of different policy tools that could be used to reduce bias. Defining different forms of bias in the context of the model also clarifies the economic meaning of the identification assumptions and results ahead.

We begin by decomposing the DM's payoff into three components that highlight channels

through which distinct forms of bias can impact dismissal decisions. The first component corresponds to prediction error:

$$\mu(j, r_i, x) \equiv E[\Delta(j, r_i, x)|r_i, x] - E_j[\Delta(j, r_i, x)|r_i, x].$$

Above, μ equals the difference in the DM's expected payoffs under the true conditional distribution of (Y_1, Y_0) versus her believed distribution. Importantly, this difference holds constant the conditioning variables and parameterization of the DM's utility function. Differential prediction error by filer race can result in *inaccurate statistical discrimination* or "stereotyping" (e.g., as in Bordalo, Coffman, Gennaioli and Shleifer, 2016; Bohren, Haggag, Imas and Pope, 2020). Specifically, this form of discrimination can arise when prediction errors change when the race of the filer changes, holding constant the DM and the filer's non-race characteristic (i.e., $\mu(j, b, x) \neq \mu(j, w, x)$). Our definition of prediction error mirrors that of Canay, Mogstad and Mountjoy (2020), defined in the context of our generalized decision problem.

The second component corresponds to *taste-based discrimination*:

$$\beta(j, r_i, x) \equiv E[\Delta(j, w, x)|r_i, x] - E[\Delta(j, b, x)|r_i, x].$$

Here, β captures how the DM's expected payoff changes when her utility is evaluated for a white versus Black filer. The two differenced terms both use the same, correct conditional distributions when evaluating the expectations. They also both have same non-race characteristic x parameterizing the utility function. A nonzero β therefore arises when there exists some outcomes Y_d where the DM's payoff varies with the the race of the filer. For example, they dislike missed payments more when the filer is white.

The third component relates to *accurate statistical discrimination* for a reference group. Here, we use White filers as a reference group (this choice does not affect the results).

$$E[\Delta(j, w, x)|r_i, x].$$

The above expression is the true expected utility gain from dismissal (Δ) when utility is parameterized for a White filer. Crucially, the expectation above conditions on the filer's true race, r_i .

Accurate statistical discrimination can arise when changing whether we condition on the filer being White or Black changes the DM's true expected payoff, when utility is parameterized by the reference group (i.e., $E[\Delta(j, w, x)|b, x] \neq E[\Delta(j, w, x)|w, x]$). Accurate statistical discrimination occurs when race is correlated with factors that affect the DM's utility, leading the DM to partially base her optimal decision on the filer's race. For example, suppose that the DM's utility depends on preventing bankruptcy fraud and that the propensity to commit fraud is not directly observed by the DM but is correlated with the filer's race. In this case, the DM may choose to dismiss a case for a filer of a given race when she would not dismiss the case if the filer had a different race since the filer's race gives an indication the fraud is more likely to occur.

We decompose DM's expected payoff into these three components:

$$E_j[\Delta(j, r_i, x)|r_i, x] = E[\Delta(j, w, x)|r_i, x] - \mu(j, r_i, x) - \mathbf{1}[r_i = b]\beta(j, b, x).$$

A positive accurate statistical discrimination term (first component) implies that the filer's race and non-race characteristic (accurately) predict that the DM would prefer to dismiss when utility is parameterized by a white filer. A positive μ means that the DM's prediction errors lead her to underestimate the true utility gain from dismissing, decreasing her preference for dismissal. A positive β (taste-based discrimination) indicates that the DM has a lower expected utility gain when dismissing a Black filer, holding constant the other facts of the bankruptcy case, decreasing her preference for dismissing Black filers. Negative μ and β terms would instead increase the DM's preference for dismissal.

The above decomposition does not a priori rule out taste-based discrimination against White filers. The β term disappears in the equation above when the filer is White ($r_i = w$). However, we can rewrite the above instead using Black filers as the reference group for the accurate statistical discrimination term; this version would instead contain a $\mathbf{1}[r_i = w]\beta(j, w, x)$ term.

Defining Racial Bias. We present two definitions of bias, defined at the case-level.

Definition 1: Total racial bias.

- (a) A bankruptcy case is said to exhibit total racial bias if $D(j, b, x) \neq D(j, w, x)$.
- (b) A bankruptcy case is said to exhibit total racial bias against Black filers if $D(j, b, x) > D(j, w, x)$.

(c) A bankruptcy case is said to exhibit total racial bias favoring white filers if $D(j, b, x) < D(j, w, x)$.

The term “total” emphasizes that this definition allows any of the three forms of bias to influence the dismissal decision. Whether DM biases *alter* the DM’s decision when the filer’s race changes is central in this definition. Note that a DM may still have differing payoffs when dismissing two otherwise identical White and Black borrowers, but that need not alter their decision. Such a case, under our definition, would not be *exhibiting* total bias. This notion of total bias is similar to the “local bias” of Canay, Mogstad and Mountjoy (2020) in that allows for a given DM to be biased in some cases and not in others, or biased against Black or White filers depending on the non-race characteristic. Our definitions of bias are also similar to that of Hull (2021) in that they relate to the *decision* made by the DM (as opposed to the outcomes over which the DM optimizes).

Our second definition of bias pertains to the influence of taste-based and inaccurate statistical-discrimination. To introduce it we decompose the DM’s decision into two components:

$$D(j, r_i, x) = \tilde{D}(j, r_i, x) + \tilde{\beta\mu}(j, r_i, x)$$

where

$$\tilde{D}(j, r_i, x) \equiv \mathbf{1}\{E[\Delta(j, w, x)|r_i, x] \geq 0\}$$

$$\tilde{\beta\mu}(j, r_i, x) \equiv D(j, r_i, x) - \tilde{D}(j, r_i, x).$$

The \tilde{D} term characterizes the decision that a DM would make if only influenced by accurate statistical discrimination with a White filer reference group. The $\tilde{\beta\mu}$ term captures the net influence of both taste-based and inaccurate statistical discrimination. When $\tilde{\beta\mu} = 1$, this indicates that the case was dismissed but would *not* have been dismissed in the absence of taste-based and inaccurate statistical discrimination. When $\tilde{\beta\mu} = 0$, taste-based and inaccurate statistical discrimination on net did not alter the dismissal decision. Lastly, when $\tilde{\beta\mu} = -1$, taste-based and inaccurate statistical discrimination resulted in a case avoiding dismissal that otherwise would have been dismissed.

We next define a second case-level definition of racial bias.

Definition 2: $\beta\mu$ -racial bias.

- (a) A bankruptcy case is said to exhibit $\beta\mu$ -racial bias if $\widetilde{\beta\mu}(j, b, x) \neq \widetilde{\beta\mu}(j, w, x)$.
- (b) A bankruptcy case is said to exhibit $\beta\mu$ -racial bias against Black filers if $\widetilde{\beta\mu}(j, b, x) > \widetilde{\beta\mu}(j, w, x)$.
- (c) A bankruptcy case is said to exhibit $\beta\mu$ -racial bias favoring Black filers if $\widetilde{\beta\mu}(j, b, x) < \widetilde{\beta\mu}(j, w, x)$.

This second type of racial bias reflects the combined influence of taste-based and inaccurate statistical discrimination.

Policy Significance of Different Forms of Bias. Understanding the importance of different components of bias is important for identifying which policies can most effectively reduce racial bias. Black-white dismissal disparities due to accurate statistical discrimination can be alleviated through several types of policies. One variety targets reducing the predictiveness of race for outcomes Y_D that the DM optimizes over. For example, policies that make Black and White filer income risk more similar would make their likelihood of completing bankruptcy payments more similar. Another policy instead offers DMs financial incentives based on filer race to bring their decisions into alignment. A third type of policy that could reduce bias from accurate statistical discrimination is to standardize the DM process, limiting the role of subjective predictions. At one extreme, this could be implemented if DMs were blinded to filer race and based dismissal decisions on formulaic rules based only on non-race characteristics (in effect, automating decision-making). Such rules can still result in racial disparities due to correlations between race and non-race characteristics (Fuster, Goldsmith-Pinkham, Ramadorai and Walther, Forthcoming).

How can inaccurate statistical discrimination be reduced? The rules-based approach mentioned above could also help lessen the impact of this form of discrimination. Differences in DM ability to accurately predict filer outcomes could be erased if all DMs were compelled to use the same decision rule. However, the design of a such a rule could nonetheless still reflect prediction error among the parties designing the rule. Additional policy variants that could alleviate inaccurate statistical discrimination include providing DMs data or guidelines to help reduce prediction errors. If own-group prediction error also tends to be smaller, another policy type that could reduce this form of bias would be increasing diversity among DMs. A more controversial variant on this policy would be to explicitly match DMs and filers on the basis of race. Matching could also create unequal workloads if Black DMs are underrepresented and Black filers are over-

represented. If DMs make more prediction errors when facing a large number of cases, this policy could potentially backfire.

Taste-based racial discrimination could also be alleviated by increasing DM diversity or matching DMs and filers based on race. Another policy tool that could reduce taste-based racial bias is debias training of DMs, which aims to reduce implicit bias. Sanctioning DMs exhibiting explicit bias can also limit the influence of taste-based racial discrimination. Ahead, we develop a set results isolating the influence of taste-based and inaccurate statistical discrimination. This focus is motivated by two reasons. The first is that the policy prescriptions vary with the nature of discrimination. The second is that it is possible to modify dismissal decisions to reduce taste-based and inaccurate statistical discrimination and at the same time *increase* average DM utility (net of preferences for discrimination). In contrast, modifying dismissal decisions to reduce accurate statistical discrimination generally reduces average DM utility.

3.1.4 Causal Parameters of Interest

We present two causal parameters that quantify the influence of racial bias on bankruptcy dismissal decisions. We first define the causal effect of filer race on Black filer's outcomes:

$$\delta^{ATT} \equiv E[D(j, b, x) - D(j, w, x) | r_i = b].$$

This estimand describes on average how Black filers' race changes whether their case is dismissed when holding constant their non-race characteristic x . A positive value means that Black filers on average experience more dismissals than they otherwise would if the only characteristics of theirs that changed was their race. The model highlights three channels through which such discrimination can arise. The above estimand corresponds to the total effect on Black filer's dismissals of all three channels. More specifically, it is the average amount of Black filers' cases altered by *total racial bias*, where total bias against Black filers enters positively and total bias favoring Black filers enters negatively.

Our second estimand focuses on the extent to which $\beta\mu$ -racial bias (i.e., operating through both taste-based and inaccurate statistical discrimination) impacts Black filer dismissals:

$$\delta^{\beta\mu} \equiv E[\widetilde{\beta\mu}(j, b, x) - \widetilde{\beta\mu}(j, w, x)|r_i = b].$$

Recall that $\widetilde{\beta\mu}$ describes how taste-based and inaccurate statistical discrimination alters dismissal decisions. The estimand above therefore describes the average causal impact of the filer’s race on their dismissal outcome via these two sources of bias.

3.2 Identification: Detecting and Quantifying Bias with Homophily

We now turn to how homophily can help researchers detect and quantify bias. Homophily is a widely-studied phenomenon in a variety of settings, often interpreted to be informative about bias.¹¹ The econometric framework we introduce below illustrates assumptions that make it possible to draw such conclusions from observational data.

In what follows, we assume that the researcher observes the filer and DM’s races and the dismissal decisions (R_I, R_J, D) . Notably, we do not require that the researcher observes the outcome vector over which the DM optimizes (Y_D) , the filer’s non-race characteristic (x) , nor how DM preferences vary with their identity $J(u(\cdot))$. Indeed, our framework allows for a setting where the researcher does not know *what* outcomes the DM cares about (i.e., the components of the outcome vector Y_D). It is in this sense that our framework applies to settings where DMs make abstract or complex decisions. For simplicity, we abstract away from non-race characteristics observable to both the DM and researcher, as the framework below can be readily modified to condition on additional observables.

Identification Challenges. We highlight two distinct identification challenges. The first is that simply comparing differences in dismissal rates across filer outcomes does not identify the average total racial bias experienced by Black filers (δ^{ATT}):

$$E[D|r_i = b] - E[D|r_i = w] = \underbrace{E[D(j, b, x) - D(j, w, x)|r_i = b]}_{=\delta^{ATT}} + \underbrace{E[D(j, w, x)|r_i = b] - E[D(j, w, x)|r_i = w]}_{=\text{selection bias}}.$$

¹¹For example: police stops/searches (Anwar and Fang, 2006), jury convictions (Anwar, Bayer and Hjalmarsson, 2012), and mortgage lending (Jiang, Lee and Liu, 2021; Frame, Huang, Mayer and Sunderam, 2022).

The selection bias term can be nonzero if non-race filer characteristics, observed by the DM but not observed by the researcher, are correlated with filer race and influence the DM’s decision. For example, if Black filers face greater risk of job loss, DMs that value avoiding filers failing to make plan payments may be more likely to dismiss Black filers not (directly) because of their race but because of employment risk.

The second identification challenge is separating $\beta\mu$ -racial bias from total racial bias. Total racial bias is the sum of accurate statistical racial discrimination and $\beta\mu$ -racial bias:

$$\delta^{ATT} = E[\tilde{D}(j, b, x) - \tilde{D}(j, w, x)|r_i = b] + \delta^{\beta\mu}.$$

Even with an estimator for δ^{ATT} , we cannot identify $\delta^{\beta\mu}$ without either estimates of accurate statistical discrimination or the assumption that it equals zero. Estimating accurate statistical discrimination directly would be especially difficult as it describes the *hypothetical* decisions that DMs would make in the absence of taste-based and inaccurate statistical discrimination.

3.2.1 Homophily and Identifying Assumptions

We next show how homophily can help researchers learn about either total racial bias (δ^{ATT}) or $\beta\mu$ -racial bias ($\delta^{\beta\mu}$). We start by making minimal assumptions and then show how increasingly strong assumptions can help researchers obtain sharper conclusions about the presence and size of racial bias. By gradually adding assumptions, we aim to present a “menu” of assumptions that researchers could use to determine what conclusions they can draw from homophily estimates. We also suggest several tests that can help falsify some of the assumptions.

The Homophily Estimand. Let τ denote the homophily estimand:

$$\tau \equiv \{E[D|r_i = b, r_j = w] - E[D|r_i = w, r_j = w]\} - \{E[D|r_i = b, r_j = b] - E[D|r_i = w, r_j = b]\}.$$

To minimize notation, going forward we will write the conditional expectation $E[D|r_i, r_j] = E_{r_i, r_j}[D]$. That is, $E_{bw}[D]$ denotes the average dismissal rate conditional on having a Black filer and White

DM. Under this notation, the homophily estimand is

$$\tau = \{E_{bw}[D] - E_{ww}[D]\} - \{E_{bb}[D] - E_{wb}[D]\}.$$

The homophily estimand describes the differences in racial disparities among cases assigned to White versus Black DMs.

Identifying Total Racial Bias Under Parallel Disparities. Our first results highlight a necessary and sufficient condition for the homophily estimand to identify the average *difference* in racial bias (towards Black filers) among White versus Black DMs. Let

$$\delta_B^{ATT} \equiv E_{bb}[D(j, b, x) - D(j, w, x)]$$

$$\delta_W^{ATT} \equiv E_{bw}[D(j, b, x) - D(j, w, x)],$$

which correspond to average total bias experienced among Black filers assigned to Black and White DMs (respectively).

The key assumption for our first identification result is bankruptcy cases exhibit “parallel disparities”, defined below.

Assumption 1: Parallel Disparities.

$$E_{bw}[D(w)] - E_{ww}[D(w)] = E_{bb}[D(w)] - E_{wb}[D(w)].$$

To minimize notation, we suppress the dependence of the dismissal decision on DM identity j and the filer’s non-race characteristic x . The parallel disparities assumption is so-named because it resembles the “parallel trends” assumption from the difference-in-difference estimator. Indeed, it may be helpful to note that the homophily estimand τ is analogous to a difference-in-differences estimator where the first difference is across filer races and the second difference is across DM races. As opposed to the parallel trends assumption requiring that counterfactual time trends to be equal across Black and White DMs, parallel disparities requires counterfactual racial disparities to be equal across Black and White DMs. Intuitively, parallel disparities says that the difference

in Black and White filer outcomes due to non-race characteristics, which may be correlated with race, is the same among filers assigned to either White or Black DMs.

Parallel disparities is a weaker assumption than assuming random assignment of DMs to cases. However, random assignment of DMs—that is, assignment independent of DM and filer characteristics (x, j) —implies parallel disparities. Unlike random assignment, parallel disparities would allow, for example, Black trustees to be more likely to face Black filers or White trustees more likely to face unemployed filers. However, it would need to be the case that these correlations result only in level differences in outcomes and not differences in *disparities* across Black and White filers. It may be difficult to be certain that such correlations are not also resulting in differential disparities. Thus, in practice researchers would likely prefer to have the stronger assumption of random DM assignment met.

Parallel disparities allows for level differences in outcomes. It does not impose that the non-race characteristics influencing the dismissal decision (x) are the same across Black and White filers, allowing for different average dismissal rates across Black and White filers. It also allows for DM leniency to be correlated with DM race. For example, Black DMs could be more lenient on average, dismissing fewer cases. There are two main scenarios that could violate parallel disparities.

The first arises if non-race characteristics x are differently correlated with filer race across filers facing Black versus White DMs. We would most likely worry about this scenario if filers could choose their DMs or vice versa. For example, suppose older White filers prefer (and could choose) to work with White DMs, while age doesn't change Black filer preferences. If DMs are generally more lenient toward older filers, parallel disparities could fail to hold. To test for violations of this sort, we recommend researchers conduct balance tests to verify that filer race and non-race characteristics do not predict DM race.

The second scenario occurs if Black and White DM decisions respond differently to non-race characteristics that are correlated with race. For example, if Black DMs are more lenient to low-income filers, and this characteristic is correlated with filer race, parallel disparities could fail to hold. This violation would lead to the homophily coefficient estimating a combination of racial bias and bias towards other characteristics that are correlated with race. The equivalent challenge in a standard difference-in-differences context would be if two events occurred simultaneously in

the treated group, preventing separately identifying the the effect of either event. To test for this kind of violation, we recommend researchers interact non-race characteristics with DM race to look for evidence of systematic differences in decision-making. We present the results of such tests in Section 5.3, showing that non-race characteristics do not generally predict differential dismissal rates for White trustees.

Proposition 1: Identification of Difference in Average Total Racial Bias. *If parallel disparities (Assumption 1) holds, the homophily estimand identifies the average difference in total racial bias between Black and White DMs. That is,*

$$\tau = \delta_W^{ATT} - \delta_B^{ATT}.$$

Proof. First, rewrite the estimand in terms of potential outcomes:

$$\tau = \{E_{bw}[D(b)] - E_{ww}[D(w)]\} - \{E_{bb}[D(b)] - E_{wb}[D(w)]\}.$$

Note that we can add and subtract additional potential outcome terms to rewrite the two terms in brackets, respectively, as

$$\underbrace{E_{bw}[D(b) - D(w)]}_{=\delta_W^{ATT}} + E_{bw}[D(w)] - E_{ww}[D(w)]$$

$$\underbrace{E_{bb}[D(b) - D(w)]}_{=\delta_B^{ATT}} + E_{bb}[D(w)] - E_{wb}[D(w)].$$

With the above, we can apply the parallel disparities assumption to rewrite the homophily estimand as simply:

$$\tau = \delta_W^{ATT} - \delta_B^{ATT}. \quad \square$$

Intuitively, under parallel disparities, homophily overcomes the initial selection problem by differencing out the impact of non-race characteristics on decisions. With only the parallel disparities assumption, the homophily estimand could reflect either accurate statistical, inaccurate statistical, or taste-based discrimination. We next introduce a second assumption, “parallel accu-

rate statistical discrimination” that further affects the interpretation of the homophily estimand.

Assumption 2: Parallel Accurate Statistical Discrimination (PASD).

$$E_{bw}[\tilde{D}(b) - \tilde{D}(w)] = E_{bb}[\tilde{D}(b) - \tilde{D}(w)]$$

Assumption 2 (PASD) states that, on average, the effect of changing Black filers’ race on the dismissal decision that would arise in the absence of prediction error and taste-based discrimination is the same across Black and White DMs. In other words, if Black and White DMs made decisions based purely on accurate statistical discrimination, the effect of the filer’s race on dismissal would be similar across both groups of DMs. Recalling the definition of $\tilde{D}(j, r_i, x) = \mathbf{1}\{E[\Delta(j, w, x)|r_i, x]\}$ highlights that varying the filer’s race only changes the (true) conditional distribution used by the DM to predict the likelihood of various outcomes in the PASD assumption.

Possible violations of this assumption are similar in nature to those that we would worry about regarding parallel disparities. For example, suppose that low-income status is correlated with filer race and Black low-income filers are more likely to have a Black DM (but not low-income white filers). PASD could fail to hold in this case if low-income status and race (correctly) jointly predict different case outcomes Y_D . Random assignment of DMs (independent of filer characteristics) would similarly alleviate this concern. Hence, the balance test suggested for attempting to falsify parallel disparities can also provide evidence against violations of PASD.

The second scenario again relates to differences in DM preferences for outcomes by race. If DMs only made decisions based on accurate statistical discrimination, PASD could fail to hold if Black and White DMs have different values of outcomes that are (accurately) predicted by filer race. Under a null hypothesis of no taste-based or inaccurate statistical racial discrimination (i.e., no $\beta\mu$ -racial discrimination), testing for nonzero interactions between DM race and filer non-race characteristics in predicting dismissals could also falsify PASD. Under the alternative hypothesis (nonzero $\beta\mu$ -racial discrimination among some DMs), the same test would only fail to falsify PASD in the knife-edge case where $\beta\mu$ -racial bias perfectly offsets differences in DM preferences for dismissal under accurate statistical discrimination.

The additional assumption of PASD results in the homophily estimand identifying the average

difference in $\beta\mu$ -racial discrimination between Black and white DMs. We formalize this result below.

Proposition 2: Identification of Difference in Average $\beta\mu$ -racial Bias. *If parallel disparities (Assumption 1) and parallel accurate statistical discrimination (Assumption 2) holds, the homophily estimand identifies the average difference in $\beta\mu$ -racial bias between Black and white DMs. That is,*

$$\tau = \delta_W^{\beta\mu} - \delta_B^{\beta\mu}.$$

Proof. First, using Assumption 1 and Proposition 1, rewrite the homophily estimand as

$$\tau = \{E_{bw}[D(b) - D(w)]\} - \{E_{bb}[D(b) - D(w)]\}.$$

The above corresponds to the average difference in total racial bias across Black and white DMs. Next, substituting in the decomposition of the decision D , the two terms become:

$$E_{bw}[D(b) - D(w)] = E_{bw}[\tilde{D}(b) + \tilde{\beta}\mu(b) - \tilde{D}(w) - \tilde{\beta}\mu(w)]$$

$$E_{bb}[D(b) - D(w)] = E_{bb}[\tilde{D}(b) + \tilde{\beta}\mu(b) - \tilde{D}(w) - \tilde{\beta}\mu(w)].$$

Under PASD, the \tilde{D} terms cancel, leaving

$$\tau = E_{bw}[\tilde{\beta}\mu(b) - \tilde{\beta}\mu(w)] - E_{bb}[\tilde{\beta}\mu(b) - \tilde{\beta}\mu(w)] = \delta_W^{\beta\mu} - \delta_B^{\beta\mu}. \quad \square$$

Proposition 2 illustrates that the additional assumption of PASD result in the homophily estimand isolating differences in $\beta\mu$ -racial discrimination rather than total racial discrimination.

Testing for the Presence of Bias. Under Assumptions 1 and 2, the homophily estimand can be used to test for the presence of $\beta\mu$ -racial bias (or total racial bias under only assumption 1). The remark below summarizes several implications that affect the properties of such a test.

Remark 1 *Under Assumption 1 (and Assumption 2), the following are true.*

1. *Non-zero homophily ($\tau \neq 0$) implies that at least one case was affected by total ($\beta\mu$ -)racial bias.*
2. *Positive homophily ($\tau > 0$), does not imply that there is only total ($\beta\mu$ -)racial bias against Black filers, nor does $\tau < 0$ rule out some DMs exhibiting total ($\beta\mu$ -)racial bias against Black filers.*
3. *Zero homophily ($\tau = 0$) does not imply that no cases are affected by total ($\beta\mu$ -)racial bias, as this scenario could arise if there are DMs with opposing biases that cancel out on average.*

The above has direct implications for the ability to test for the presence of racial bias ($\delta^{ATT} \neq 0$ or $\delta^{\beta\mu} \neq 0$ for at least one case) by testing the null hypothesis of zero total bias on average ($H_0 : \tau = 0$). Such a test may fail to reject a null of zero racial bias even when some cases are affected by racial bias. However, a nonzero τ can only arise if racial bias affects at least one case. In this sense, the test is conservative. Formally, testing $\tau = 0$ is an underpowered test for the presence of bias but it still has exact size.

Quantifying the Impact of Bias. Our last result highlights what can be inferred about the scale of racial bias from an estimate of homophily. Without further assumptions, the homophily estimate can be used to partially identify average racial bias. We then show that the identified set for average racial bias can be further narrowed under additional assumptions, potentially yielding tight and informative lower bounds on the impact of racial bias on decisions. Our exposition here assumes both Assumption 1 (parallel disparities) and Assumption 2 (parallel accurate statistical discrimination) and hence focuses on quantifying $\beta\mu$ -racial bias. Analogous results without Assumption 2 can be derived for total racial bias. The additional assumptions we consider are stated below.

Assumption 3 *On average, White DMs weakly exhibit bias against Black filers/in favor of non-Black filers: $\delta_W^{\beta\mu} \geq 0$.*

Assumption 4 *On average, Black DMs weakly exhibit bias against Black filers/in favor of non-Black filers: $\delta_B^{\beta\mu} \geq 0$.*

Note that for $\tau > 0$, Assumption 4 implies Assumption 3 (while the reverse is not true). Let $1 - p = \Pr(r_j = w)$, which corresponds to the proportion of white DMs. With this notation we

can write $\delta^{\beta\mu} = p\delta_B^{\beta\mu} + (1-p)\delta_W^{\beta\mu}$. Note that neither assumption requires that all DMs of a given race exhibit the same direction of bias, rather, the assumptions relate to average bias among the groups of DMs.

The following proposition summarizes our partial identification results under Assumptions 1-4.

Proposition 3: Partial Identification of Average Bias *Suppose that homophily is positive ($\tau > 0$) and that parallel disparities (Assumption 1) and parallel accurate statistical discrimination (Assumption 2) both hold, then the statements below follow:*

1. *With no further assumptions, τ partially identifies $\delta^{\beta\mu}$ as follows: $\delta^{\beta\mu} \in [(1-p)\tau - 1, 1 - p\tau]$.*
2. *Under Assumption 3 ($\delta_W^{\beta\mu} \geq 0$), τ implies a higher lower bound, partially identifying $\delta^{\beta\mu}$ as follows: $\delta^{\beta\mu} \in [-p\tau, 1 - p\tau]$.*
3. *Under Assumption 4 ($\delta_B^{\beta\mu} \geq 0$), τ implies a higher lower bound, partially identifying $\delta^{\beta\mu}$ as follows: $\delta^{\beta\mu} \in [(1-p)\tau, 1 - p\tau]$.*

Proposition 3 shows how increasingly stronger assumptions allow researchers to obtain stricter lower bounds on the role of $\beta\mu$ -racial bias in influencing dismissals ($\delta^{\beta\mu}$). Assumptions 1 and 2 imply an upper bound of $1 - p\tau$. With Assumption 4, the lower bound on the impact of $\beta\mu$ -racial bias is the proportion of White DMs multiplied by the homophily estimand: $(1-p)\tau$. Another way to characterize the relative importance of $\beta\mu$ -racial bias is to divide the identified set for $\delta^{\beta\mu}$ by the observed disparity $E[D|r_i = b] - E[D|r_i = w]$, which characterizes the share of the observed disparity due to $\beta\mu$ -racial bias. Proposition 3 may aid future research on racial bias by helping researchers determine the appropriate identified set based on which assumptions they believe are appropriate for their setting. It also provides a “menu” of implications for the various sets of assumptions.

Our empirical analyses turns to estimating racial disparities in bankruptcy and homophily. Guided by the framework above, we test for violations of Assumptions 1 and 2, test for the presence of $\beta\mu$ -racial bias, and report identified sets (using Proposition 3) to quantify racial bias.

Comparison with Related Models and Econometric Frameworks. Our bias detection and identification results build on a growing literature on the detection of bias. A central strand of this literature focuses on outcome tests (Becker, 1957, 1993; Canay et al., 2020; Hull, 2021). The key idea behind the outcome test is that bias can result in the marginal cost to the DM (e.g., default rates in lending) being lower among groups facing discrimination. Arnold, Dobbie and Yang (2018) propose an IV strategy, exploiting random assignment to DMs differing in their leniency, to overcome the challenge of estimating differences in outcomes for marginal agents from different groups. Their key insight is that the LATE identified by the IV can identify group-specific marginal costs.

The primary advantage of our homophily approach, compared to outcome tests, is that homophily does not require the researcher to observe (or know) the DM's objective function. Many economic and legal decisions have complex or abstract objectives, and sometimes additional outcomes such as DM compensation are also affected by their decision (as is the case with bankruptcy trustees). Homophily can therefore be used either as a complement to an outcome test analysis or in place of an outcome test when it is not feasible due to complexity or data limitations. A second appealing feature is that our framework suggests tests that can be used to falsify assumptions that impact whether the homophily estimand indicates $\beta\mu$ -racial bias versus total racial bias (i.e., including accurate statistical discrimination).

Our framework most closely relates to that of Anwar and Fang (2006), which develops a decision model of police searches of motorists and identification results related to homophily. We generalize the decision model in several important dimensions. First, we allow DMs to value *multiple* outcomes and for DMs to differ in their preferences over outcomes. Second, our model allows for prediction errors, which may vary across DMs, and result in *inaccurate* statistical discrimination. Third, our model allows all outcomes (including decision costs) to depend flexibly on filer non-race characteristics that may be correlated with race.¹²

Our framework also has several econometric innovations relative to Anwar and Fang (2006). First, our test for the presence of bias will generally have more asymptotic power. Both tests may

¹²Anwar and Fang (2006) allows the benefit of the decision to flexibly depend on filer race and non-race characteristics, but the cost of the decision is allowed only to depend on the filer and DM's race. This would rule out, for example, police officers experiencing a higher cost of searching motorists with expensive vehicles (e.g., they may fear confronting wealthy/influential motorists).

fail to reject when bias is present. However, while our test will correctly reject the null of no bias in all cases when the Anwar and Fang (2006) test rejects, our test will also correctly reject in cases where the Anwar and Fang (2006) test fails to reject (asymptotically).¹³ Our framework also differs in that we show how homophily can *quantify* bias by partially identifying the net share of dismissals due to bias. Lastly, our framework also emphasizes threats to identification (and proposes falsification tests) such as systematic differences along DM race in terms of how non-race characteristics influence their decisions.

4 Data and Descriptive Facts

We now turn to the data used in our empirical analysis. The backbone of our dataset is court docket header information from the universe of personal bankruptcy filers in the Lexis Nexis Public Records database from 1990-2022. The filing header data includes the identity of the filer, trustee, and bankruptcy judge for a given bankruptcy proceeding. This data allows us to merge our bankruptcy cases with a dataset from the Federal Judicial Center (FJC) Integrated Data Base of all bankruptcy cases filed since Fiscal Year 2008. The FJC data has detailed information sourced from bankruptcy filings beyond the simple header information we observe for the universe of filings.

Panel A of Table 1 reports summary statistics for bankruptcy outcomes and characteristics. Dismissal and chapter status are observed for all 63 million cases in the Lexis Nexis data, while the other characteristics are observed only for the approximately 21 million cases that merge with the FJC data. The main reason for the drop off in the number of observations is the more limited time period covered by the FJC data.

Overall, 16% of bankruptcy cases are dismissed, meaning that the court terminated the case without allowing any debt relief. However, dismissal is virtually nonexistent for Chapter 7 (2% of cases) and prevalent for Chapter 13 cases (56% of cases). As discussed above, Chapter 13 cases involve payment plans; when debtors fail to adhere to the agreed upon settlement plans, their

¹³In our notation, Anwar and Fang (2006) rejects when $E_{bw}[D] - E_{bb}[D]$ and $E_{ww}[D] - E_{wb}[D]$ have opposite signs. For example, their test would reject if Black filers are more likely to be dismissed when facing white DMs and white filers are less likely to be dismissed when facing white DMs. However, suppose all filers are more likely to be dismissed when facing white DMs (making both of the differences positive). Anwar and Fang (2006) would fail to reject bias. However, if Black filers experience a *larger* increase in dismissal rates when moving from Black to white DMs (compared to white filers), our homophily estimand would still be positive and hence reject the null of no bias.

cases are dismissed.

Turning to other characteristics of bankruptcy filers, 6% of petitioners file pro se, meaning they represent themselves instead of being represented by an attorney. About 14% of filers have filed before, especially among Chapter 13 filers (32%). Very few Chapter 7 filers report holding non-exempt assets, whereas almost all Chapter 13 filers report non-exempt assets (indeed, being able to retain possession of non-exempt assets is a common motivation for filing for Chapter 13). Roughly half of filers own a home, and roughly half are filing jointly with a co-petitioner (usually a spouse). The average petitioner has \$3,750 in monthly income, \$400,000 in assets and 7 times as much debt as assets, with about half of their debt being secured. Chapter 7 petitioners anticipate still having \$300 more in monthly expenses than income post-bankruptcy in contrast to Chapter 13 petitioners, who anticipate making \$600 more in income each month than their expenses.

4.1 Imputing Race

We impute the race of various parties (e.g., filers, trustees, judges, and attorneys) using a deep-learning model based on Kotova (2021). Our race imputation model predicts race using full names and addresses (aggregated to the census tract level), the algorithm employs both natural language processing (NLP) and recurrent neural network analysis (RNN).

We train our model using two datasets. The first is a large dataset containing names, addresses, and self-reported race for millions of Americans: the universe of registered voters in Florida as of 2021. An advantage of using data from Florida is that it has both a relatively large Black and Hispanic population, which should lead to more accurate and precise race imputation for minorities. The second dataset is US Census data on tract-level racial composition. We split full names into bi-grams and then apply RNN (using softmax activation) to the bi-grams and census tract racial composition, training the model on the voter data to predict race using self-reported race.

To impute filer race, we input the filer's full name and census tract into the race imputation model. The model returns a predicted probability for the likelihood that the filer is Asian, Black, Hispanic, other, or White. Note that we therefore have a continuous measure for race. We generally use this continuous measure in our analysis (unless otherwise specified). On one hand, our measure of race will generally be subject to measurement error, which would at worst attenuate

our estimates if it is independent. However, a continuous measure may do a better job “measuring” race for bi-racial individuals.

Panel B of Table 1 reports imputed race shares for our sample. We estimate that 74% of US bankruptcy filers are White, 14% are Black, and roughly equal shares of the remaining 12% are Asian, Hispanic, or Other. Comparing across chapters, Chapter 13 filers are twice as likely to be Black (23%) than Chapter 7 filers (11%).

For non-filers, such as judges, trustees, or attorneys, we do not observe their residential address in the bankruptcy court records. For now, we assume that their home residence is within the same MSA as their office address (for trustees and attorneys) or the same MSA as one of the division office (for judges). Judges often serve in more than one court division (e.g., the Alaska bankruptcy district has divisions in Anchorage, Fairbanks, Juneau, and Ketchikan). We treat all of the MSAs of the district’s divisions as a geographical block within which we assume the judge resides somewhere. For example, the Honorable Arthur B. Briskman served for a time in the Florida Middle district. Within the Florida Middle District, there are four division offices (Ft. Myers, Jacksonville, Orlando, and Tampa). We assume that this judge resides somewhere in the union of the MSAs spanned by these four division offices. With this information, we can apply a less granular version of the algorithm described above. We are currently working to supplement addresses data for non-filers using data from Whitepages.com.¹⁴

Panel C of Table 1 reports the results of imputing trustee race. We estimate that 84% of US bankruptcy trustees are White, 8% are Black, and the remainder are roughly evenly split between Asians, Hispanics, and the other category. Although Chapter 13 trustees are slightly more likely to be Black than Chapter 7 trustees (10.4% vs. 7.6%), the distribution of trustee race is fairly similar across chapters.

Armed with an imputed racial identity for each petitioner in the data, we calculate dismissal rates by racial group in Figure 1. Almost 35% of Black filers have their bankruptcy petitions dismissed compared with 23% for other races, 19% for Hispanic filers, and 17% and 15% for Asian and White filers, respectively. As we discuss below, one driver of racial disparities in dismissal rates is chapter choice. However, even if all filers had the same dismissal rates as Whites within

¹⁴For judges, given their relatively low number, we also double-check these ethnicities by hand using internet searches.

that same chapter, overall Black dismissal rates would fall by over 10 percentage points.

Figure 2 plots cumulative dismissal hazards by for Black and White Chapter 13 filers separately. For both races, the high dismissal rate for Chapter 13 cases represents a gradual increase in dismissals over time as debtors' repayment plans fail. Pairing petitioner and trustee imputed race measures, Figure 3 demonstrates that racial distribution of the assignment of trustees to filers in the data is nearly indistinguishable from the expected distribution under random assignment.

5 Results

5.1 Disparities in Personal Bankruptcy

Before testing for racial bias, we first document disparities across the race of the bankruptcy filer. In Tables 2 and 3, we examine what explains whether bankruptcy cases are more likely to be dismissed for Black filers. As discussed above, dismissal is equivalent to denying bankruptcy protection for these individuals and, as shown in Dobbie and Song (2015), case dismissal has severe negative consequences for the consumer including reducing earnings and increasing the likelihood of foreclosure and mortality. Table 2 focuses on Chapter 13 filers. Unconditionally, Black filers are 17 percentage points more likely to be dismissed relative to other filers. This estimate falls to 12 percentage points when including filer ZIP code effects in Column (3), suggesting that some of the disparity between races is related to factors associated with filers they live. Additional fixed effects continue to attenuate the coefficient estimates only slightly. Even in Column (5) with the full set of fixed effects, we still estimate that Black filers are 11 percentage points more likely to be dismissed from Chapter 13 after including all fixed effects. This is a 20% increase from the mean dismissal rate of 56% for these cases. Using the FJC controls in Column (6) attenuates the conditional Black-White dismissal gap, but this is mostly driven by the change in time period rather than an uneven distribution of the observable control variables across races. However, the coefficients on the controls in Column (6) help benchmark the economic magnitude of the racial disparity coefficient. The 9 percentage point effect is almost half of the large pro se effect of filing without professional legal counsel and two thirds of the magnitude of being a repeat filer.

Table 3 provides a useful contrast by examining predictors of dismissal for Chapter 7 filers. Depending on the controls, we estimate that Chapter 7 Black filers are between 0.4 and 3 per-

centage points more likely to be dismissed than other races. Relative to the average Chapter 7 dismissal probability of 2.4%, Black filers are about twice as likely to be dismissed, even when controlling for year, zip code, judge, and trustee fixed effects. Roughly half of the attenuation of the Black-White dismissal gap in Column (6) using controls in the FJC data is mostly driven by the necessary restriction of the Column (6) sample to 2009-2022, with the remainder being explained by the controls.

Taken together, Tables 3 and 2 show that Black filers are significantly more likely to be dismissed from both Chapter 7 and Chapter 13 bankruptcy, but the absolute size of the effect is an order of magnitude larger in Chapter 13. Contrasting the degree to which observable characteristics can explain racial disparities in dismissal rates across chapters, we note that the unexplainable portion of the racial gap is much larger in Chapter 13, where overall dismissal rates are higher and trustees have significantly more discretion in case outcomes. In the sections that follow, we more finely test how racial biases may be driving these outcomes.

5.2 How Much Does Bias Contribute to Disparities?

Table 4 tests whether filer-trustee homophily affects bankruptcy dismissal using specifications of the form

$$Dismissed_{igjkt} = \beta_0 BlackFiler_i + \tau BlackFiler_i \times WhiteTrustee_k + \alpha_t + \gamma_g + \delta_j + \mu_k + \varepsilon_{igjkt} \quad (1)$$

where α_t , γ_z , δ_j , and μ_k are fixed effects for year, geography (county or zip code), judge, and trustee, respectively. Similar to Tables 3 and 2, the dependent variable is a dummy indicating the bankruptcy case was dismissed. $BlackFiler_i$ is the imputed probability that a filer's race is Black. Similarly, $WhiteTrustee_i$ is the imputed probability that a trustee's race is White. Judge and trustee fixed effects control for any fixed biases towards dismissal of the judge or the trustee.¹⁵ These fixed effects also absorb the race of the judge and trustee such that we do not control separately for their race. As outlined in Section 3 above, we are interested in τ , which corresponds to the homophily estimand τ introduced in Section 3.2.1. Recall that that homophily estimand captures

¹⁵See Change and Schoar (2013), Dobbie and Song (2015), Bernstein, Colonnelli, and Iverson (2019) for evidence of fixed judge leniency tendencies. While we presume that trustees also exhibit biases, we are unaware of systematic evidence on this front.

how the difference in Black and non-Black filers changes when cases are assigned to a White trustee. Meanwhile, β_0 tests for differences in outcomes between Black and non-Black filers who are assigned to non-White trustees.

Table 4 reports the results of estimating (1) separately for Chapter 13 and Chapter 7 filings in Columns (1)-(2) and (3)-(4), respectively. For the full Lexis Nexis Chapter 13 sample in Column (1), the coefficient β_0 on the probability the petitioner is Black is 6.8 pp, and the interaction term Black Filer \times White Trustee is 4.7 pp and significant at the 90% confidence level. Conditional on the controls available in the Lexis Nexis-FJC merged sample in Column (2), the Black filer coefficient is small and statistically insignificant, and the filer-trustee race interaction term is positive and statistically significant. Thus, Black filers have similar dismissal rates to non-Black filers when assigned to non-White trustees but are significantly less likely to receive full bankruptcy protection when assigned to a White trustee. As laid out in Section 3, since $\tau \neq 0$, we conclude that there is bias present in how trustees treat bankrupt consumers. Further, as long as we assume that trustees are as lenient towards filers of their own race as they are towards those of a different race, Table 4 is strong evidence of homophily effects among bankruptcy trustee, and this homophily effect is quite large.

Columns (3)-(4) repeat this exercise for Chapter 7 filers, where trustees play a more procedural and less discretionary role. The results show that there is essentially no homophily in Chapter 7 bankruptcy filings. Unconditionally, Black filers are 17 percentage points more likely to be dismissed from Chapter 13 than non-Black filers (Column (1) of Table 2). Thus, we estimate that about 44% of the overall disparity in Chapter 13 outcomes is due to racial bias among bankruptcy trustees. Importantly, Black filers are 77% more likely to use Chapter 13 bankruptcy—precisely the chapter of bankruptcy where bias is likely to work against them.

Returning to the framework of Section 3.2.1, we can bound racial bias using these homophily estimates. By Proposition 3, under Assumptions 1, 2, and 4, the total amount of racial bias $\delta^{\beta\mu}$ due to taste-based discrimination or inaccurate statistical discrimination is bounded by $(1 - p)\tau$ and $1 - p\tau$, where p is the White share of trustees and τ is the average difference in dismissal rates for Black filers facing White and non-White trustees. Using $p = 0.17$ and $\hat{\tau} = 0.074$, we estimate that the racial bias portion of the homophily coefficient τ is between 0.06 and 0.98. Comparing the lower bound with the total unconditional Black-non-Black disparity in Chapter 13 dismissal

rates (17% in Table 2), we conclude that at least 35% of the racial disparity in Chapter 13 filing rates is due to trustee racial bias from either taste-based discrimination or inaccurate statistical discrimination. By contrast, the estimate of $\hat{\tau} = 0$ for Chapter 7 filers in Table 4 means that we have no evidence of racial bias among Chapter 7 trustees.

5.3 Testing for Parallel Disparities

As discussed in Section 3.2.1, the identification of the portion of the homophily coefficient due to racial bias relies on several assumptions. The parallel disparities and parallel accurate statistical discrimination (PASD) assumptions can be violated if filers can choose their DMs or vice versa, which could lead to unequal distributions of non-race characteristics X_i across DM race. In our setting, trustees are quasi-randomly assigned to filers, which should result in balanced case characteristics across trustees. Figure 3 shows that the actual pairing of filers to trustees by race is essentially identical to what would be expected under random assignment. Further, Figure 4 shows that filer characteristics do not meaningfully predict trustee race. This figure displays regression coefficients from a balance test where $WhiteTrustee_i$ is regressed on all filer characteristics, as well as bankruptcy chapter, year, zip code, and judge fixed effects. All coefficients are statistically indistinguishable from zero at the 95% confidence level. Most importantly, filer race is uncorrelated with trustee race. This alleviates concerns that the parallel disparities and PASD assumptions might be violated due to assortative matching between filers and trustees.

Another way that parallel disparities and PASD could be violated in our setting would be if White trustees respond to non-race characteristics differently than non-White trustees do. We test this formally by estimating our main homophily regression with augmented controls that interact $WhiteTrustee_i$ with case-level controls X_i . Because non-race characteristics systematically vary by race, it's possible that our homophily findings actually represent White trustees factoring in non-race characteristics into their dismissal decisions differently than non-White trustees. While such a parallel disparities violation would not necessarily mean that White trustees do not have racial bias, such a finding would cloud the interpretation of homophily as racial bias as it would complicate assigning differences in dismissal rates by trustee-filer race pairings to race per se.

We plot the coefficients on these interaction terms separately by chapter in Figure 5. Focusing on the Chapter 13 results first, the top row plots the interaction term of the probability a trustee is White and the probability a filer is Black, replicating our main homophily coefficient in the presence of controls interacted with trustee race.¹⁶ Even controlling for eight interaction terms with trustee race, the coefficient on filer race is essentially unchanged from our main specification and is statistically significant at the 90% confidence level. With limited exceptions, the remaining coefficients are statistically insignificant. Although the confidence intervals are often wide—power is an issue when estimating all of these interaction terms simultaneously—the coefficients estimates themselves are generally small. The interaction terms are statistically significant at the 95% confidence level for only one characteristic: White trustees are less likely to lower-income filers than non-White trustees are. If Black filers have higher income on average, then this lower sensitivity to income by White trustees could explain some of the homophily effect. However, if the main homophily coefficient were actually picking up differential response to income, we would expect this coefficient to shrink once we account for these interactions. The inability of conditioning on these interaction terms to explain away the main homophily coefficient suggests that these characteristics and White trustee sensitivities do not vary significantly enough with race to violate parallel disparities or PASD. Overall, the results in Figure 5 are consistent with the homophily estimand identifying racial bias.

5.4 Mechanisms

The contrast between the share of Chapter 13 and 7 dismissal rate disparities attributable to trustee racial bias is consistent with an important role played by trustee discretion, which is substantial for Chapter 13 and nearly non-existent for Chapter 7. One of the possible places where any explicit or implicit bias by trustees may affect outcomes is in the determination of Chapter 13 plan payments. Following a Chapter 13 filing, the trustee makes a determination about what level of debt payments to creditors a Chapter 13 petitioner can afford. Planned payments are heavily influenced by an estimate of the filer’s disposable income, defined as the gap between forecasted income and allowable expenses. If trustees forecast higher income or allow fewer expenses, trustees could reach

¹⁶The differential response of White trustees to case characteristics for Chapter 7 filings are very small and, for almost all characteristics, statistically insignificant.

a determination of higher disposable income and therefore more onerous creditor payment plans. Using data on income-expense gaps and the identification strategy leveraging quasi-random assignment of trustees to filers, we can test whether there is a homophily effect in income-expense gaps paralleling the racial homophily in dismissals documented above.

Unconditionally, we find that Black filers have a lower income-expense gap, roughly \$163 lower among Chapter 13 filers. However, for Black filers quasi-randomly assigned to White trustees, the income-expense gap is \$120 higher, suggesting higher planned payments that filers would have a harder time completing. Moreover, the homophily result for the income-expense gap holds even conditional on income, suggesting that White trustees are especially strict with Black filers in their allowable expenses. Combined with the frequency of case dismissals for failure to pay planned payments, the disproportionate share of Black petitioner filings that are Chapter 13, and the growth in the racial dismissal gap over time, this provides evidence that racial bias in discretionary judgments by a key gatekeeper in the personal bankruptcy system play an important role in explaining why Black personal bankruptcy filers are far less successful in obtaining debt relief.

6 Conclusion

An extensive literature documents racial disparities in household finance. In this paper, we provide direct evidence of racial disparities in bankruptcy outcomes, a system that provides more debt relief each year than the resources allocated by all state unemployment insurance programs combined. We leverage a new dataset built on the near universe of US personal bankruptcy filings from 2010-2022, augmented with deep-learning imputed measures of race using names and addresses. Comparing the dismissal rates for filers imputed to be Black against the dismissal rates of filers from all other races, our most conservative estimate controlling for a rich set of non-race case characteristics is a 33% (10 percentage point) higher dismissal rate for Black filers than non-Black Chapter 13 filers. Looking across chapters, chapter choice plays a large role in explaining higher dismissal rates by Black filers, with non-race observable characteristics explaining most of Chapter 7 dismissal disparities by race but on half of the unconditional Chapter 13 dismissal rate gap by race.

After developing new results formalizing how homophily can detect and quantify bias, even in settings where outcome tests are infeasible, we provide novel evidence on the importance of bankruptcy trustees as important and discretionary intermediaries in the bankruptcy process. Black filers filing for Chapter 13 are more likely to have their cases dismissed when randomly assigned to a White trustee, which can explain 70% of the residual disparity in overall dismissal rates between Black and White filers. Additional evidence suggests that White trustees exercise their discretion in part by allowing lower expenses by Black filers, leading to requiring higher required payments to creditors. Interpreting these estimates using our decision-model framework, our estimates are consistent with trustees' taste-based or inaccurate statistical discrimination. We conclude that bias among bankruptcy decision-makers may significantly limit Black households' access to debt relief.

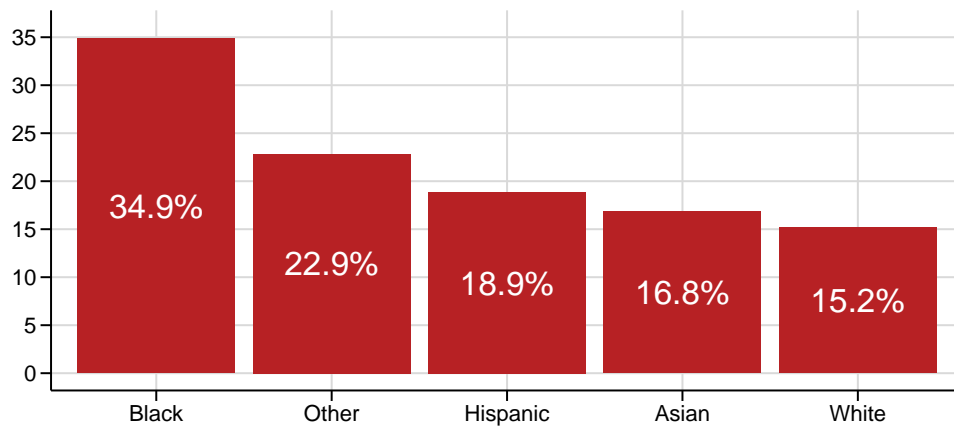
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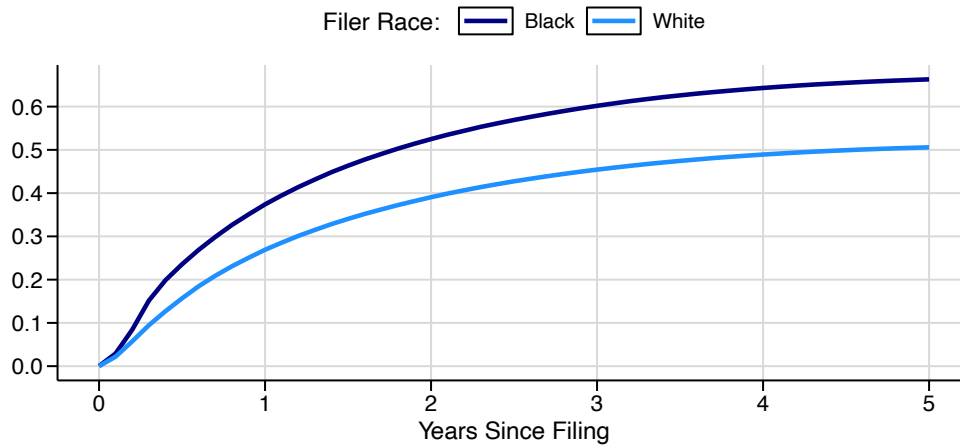
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Figure 1: Bankruptcy Dismissal Rates by Petitioner Race



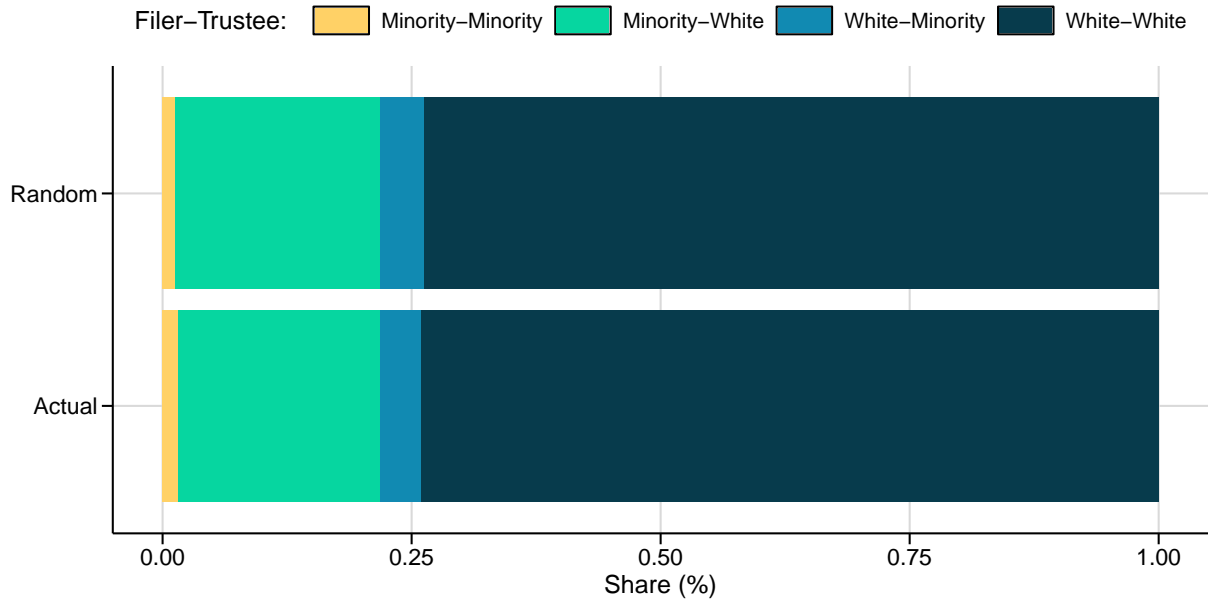
Notes: Figure plots bankruptcy dismissal rates by race for Chapter 7 and Chapter 13 filers. Race is imputed using the deep-learning algorithm described in Section 4.1.

Figure 2: Chapter 13 Bankruptcy Dismissal Survival Curves by Petitioner Race



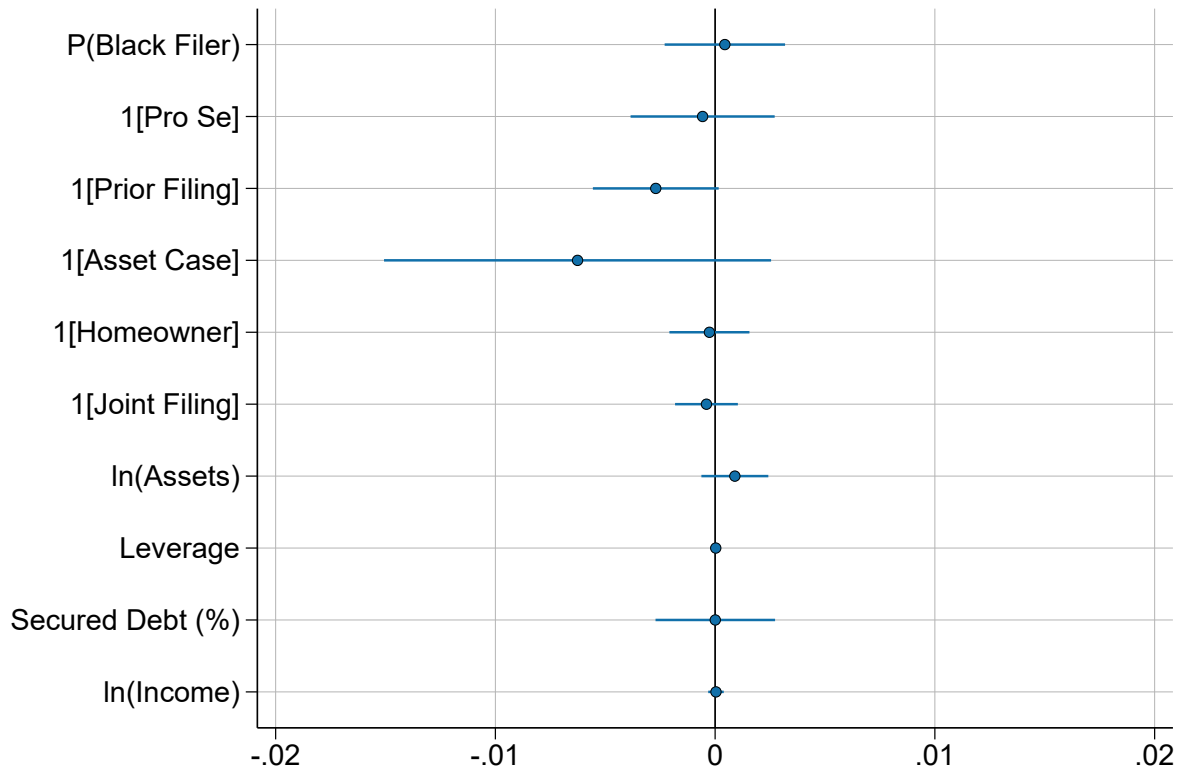
Notes: Figure plots cumulative dismissal hazard curves by race for Chapter 13 filers. The dark and light blue lines show the total fraction of Black and White Chapter 13 filers, respectively, that have had their cases dismissed within the indicated number of years since their initial filing.

Figure 3: Personal Bankruptcy Filings by Match with Petitioner Race



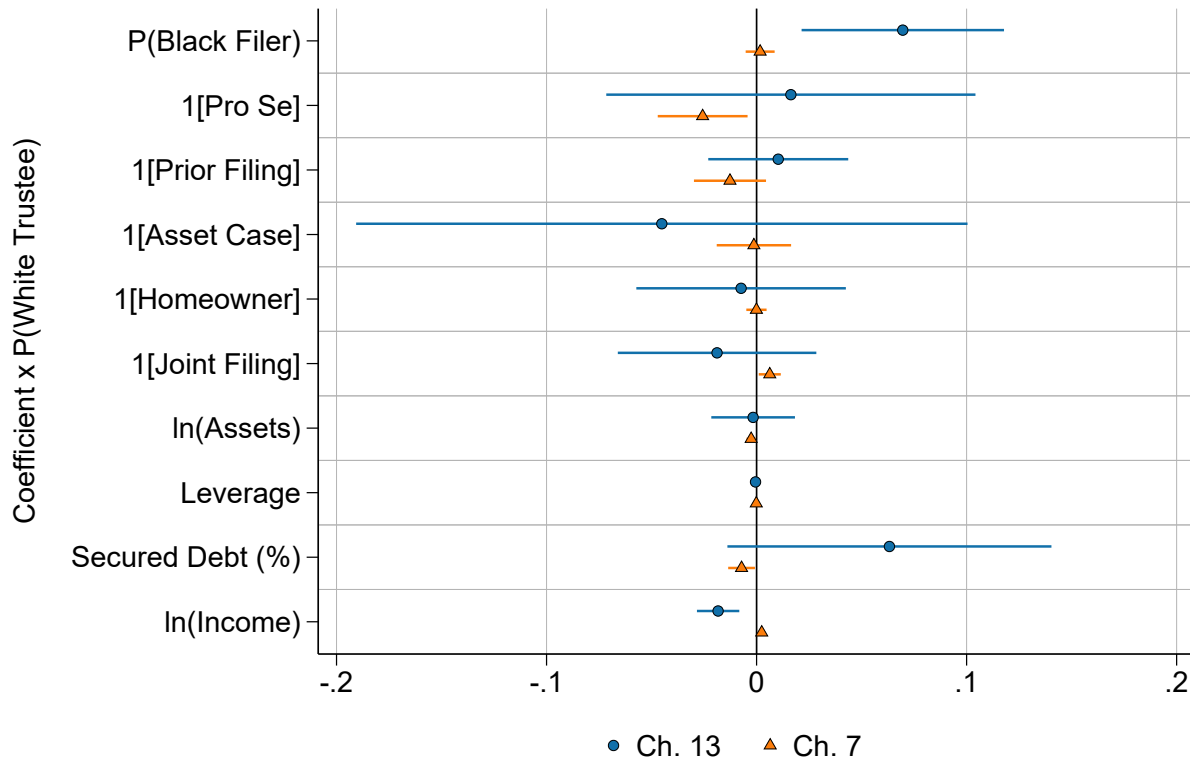
Notes: Figure plots share of cases where the bankruptcy petitioner's race matches with the race of each type of other participant in the bankruptcy proceeding. Bars labeled random report the share of matches that would belong to each race pair category if matching were random nationwide.

Figure 4: Testing for Correlation between Filer Characteristics and Trustee Race



Notes: Figure plots coefficients from a regression testing for balance of filer characteristics by trustee race. The dependent variable is *WhiteTrustee_i*, and the coefficient for each independent variable is shown in the figure. The regression also includes fixed effects for filing year, zip code, and judge, and a Chapter 7 indicator. Standard errors are clustered by zip code and trustee.

Figure 5: Testing for Differential White Trustee Sensitivity to Non-Race Characteristics



Notes: Figure plots coefficients on interaction terms between the probability a trustee is white and several bankruptcy filing characteristics along with 95% confidence intervals clustered at the ZIP level. For each characteristic, blue dots report the interaction coefficient for Chapter 13, and the orange triangles report the Chapter 7 results.

Table 1: Descriptive Statistics on Personal Bankruptcy Petitioners

	Chapters 7 and 13		Chapter 7		Chapter 13	
	Mean	N	Mean	N	Mean	N
<i>Panel A: Bankruptcy Outcomes</i>						
Dismissal	0.16	63,210,223	0.02	46,559,929	0.56	16,650,294
Filed Ch. 7	0.74	63,210,223	1	46,559,929	0	16,650,294
Pro Se	0.06	20,502,247	0.05	14,549,435	0.07	5,952,812
Prior Filer	0.14	20,248,920	0.07	14,491,525	0.32	5,757,395
Has Nonex. Assets	0.35	20,478,568	0.08	14,532,686	0.99	5,945,882
Owns Home	0.55	20,643,958	0.52	14,320,242	0.60	6,323,716
Joint Filing	0.45	21,554,305	0.44	14,702,321	0.48	6,851,984
Assets (\$000s)	400.02	21,554,295	423.60	14,702,314	349.41	6,851,981
Debt/Assets	7.25	19,464,969	8.40	14,157,684	4.18	5,307,285
Secured Debt (%)	0.48	19,384,807	0.43	14,106,056	0.63	5,278,751
Monthly Inc. (\$000s)	3.76	20,673,915	3.82	14,335,967	3.62	6,337,948
Monthly Inc. - Exp.	-1.78	20,661,108	-265.94	14,326,987	595.73	6,334,121
<i>Panel B: Filer Race</i>						
Asian	0.020	53,125,258	0.021	39,002,506	0.016	14,122,752
Black	0.142	53,125,258	0.112	39,002,506	0.227	14,122,752
Hispanic	0.056	53,125,258	0.058	39,002,506	0.052	14,122,752
White	0.742	53,125,258	0.769	39,002,506	0.665	14,122,752
Other	0.040	53,125,258	0.040	39,002,506	0.041	14,122,752
<i>Panel C: Trustee Race</i>						
Asian	0.010	58,566,649	0.011	43,058,405	0.005	15,508,244
Black	0.083	58,566,649	0.076	43,058,405	0.104	15,508,244
Hispanic	0.024	58,566,649	0.025	43,058,405	0.021	15,508,244
White	0.839	58,566,649	0.843	43,058,405	0.829	15,508,244
Other	0.044	58,566,649	0.045	43,058,405	0.042	15,508,244
<i>Panel D: Judge Race</i>						
White	0.81	1,247,291	0.82	922,948	0.79	324,343
Black	0.10	1,247,291	0.10	922,948	0.11	324,343
Hispanic	0.04	1,247,291	0.04	922,948	0.05	324,343
Asian	0.02	1,247,291	0.02	922,948	0.02	324,343
Other	0.02	1,247,291	0.02	922,948	0.02	324,343
<i>Panel E: Attorney Race</i>						
White	0.70	112,933	0.69	87,291	0.70	25,642
Black	0.09	112,933	0.09	87,291	0.08	25,642
Hispanic	0.17	112,933	0.17	87,291	0.17	25,642
Asian	0.02	112,933	0.02	87,291	0.03	25,642
Other	0.02	112,933	0.02	87,291	0.02	25,642

Notes: Table reports summary statistics for bankruptcy outcomes (panel A) and imputed race measures for filers, trustees, judges, and attorneys in panels B-E, respectively.

Table 2: Dismissal Effects by Petitioner Race: Chapter 13

	(1)	(2)	(3)	(4)	(5)	(6)
Black Filer	0.171*** (0.015)	0.160*** (0.014)	0.118*** (0.005)	0.112*** (0.005)	0.110*** (0.004)	0.089*** (0.004)
Pro Se						0.225*** (0.011)
Prior Filer						0.136*** (0.003)
Nonex. Assets						-0.052*** (0.0123)
Owns Home						-0.049*** (0.004)
Joint Filing						-0.078*** (0.003)
ln(Assets)						-0.018*** (0.002)
Debt/Assets						0.001*** (0.0001)
Secured Debt (%)						0.209*** (0.009)
ln(Monthly Inc.)						-0.020*** (0.001)
Constant	0.559*** (0.010)					
N	6,667,799	6,667,798	5,517,052	5,371,214	5,370,748	2,593,043
R ²	0.016	0.042	0.227	0.258	0.277	0.257
Year FE		✓	✓	✓	✓	✓
Filer ZIP FE			✓	✓	✓	✓
Judge FE				✓	✓	✓
Trustee FE					✓	✓

Notes: Table reports regressions of an indicator for whether a Chapter 13 bankruptcy petition was dismissed in court onto the imputed probability the filer's race is Black. Control variables include indicator variables for whether filing was conducted without an attorney (*Pro Se*), if the individual has filed a bankruptcy case in the previous 8 years (*Prior Filer*), if the filing has non-exempt assets that can be distributed to creditors (*Nonex. Assets*), if the individual is a homeowner (*Owns Home*), and if the filing was a joint filing with a spouse or domestic partner (*Joint Filing*). Continuous control variables are the log of total assets (*ln(Assets)*), the total debt-to-asset ratio winsorized at the 1% level (*Debt/Assets*), the share of total debt that is secured (*Secured Debt (%)*), the log of monthly income (*ln(Monthly Income)*), and the difference between a filer's monthly income and expenses winsorized at the 1% level (*Monthly Inc. - Exp.*). Robust standard errors are clustered at the ZIP code and trustee level and are displayed in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Dismissal Effects by Petitioner Race: Chapter 7

	(1)	(2)	(3)	(4)	(5)	(6)
Black Filer	0.029*** (0.002)	0.028*** (0.002)	0.025*** (0.0009)	0.025*** (0.0009)	0.025*** (0.0009)	0.004*** (0.001)
Pro Se						0.098*** (0.002)
Prior Filer						0.042*** (0.001)
Nonex. Assets						-0.003*** (0.001)
Owens Home						-0.001*** (0.0003)
Joint Filing						-0.003*** (0.0003)
ln(Assets)						0.001*** (0.0002)
Debt/ Assets						0.0001*** (0.0000)
Secured Debt (%)						0.012*** (0.001)
ln(Monthly Inc.)						-0.003*** (0.0001)
Constant	0.024*** (0.0006)					
N	18,219,599	18,219,597	14,507,556	13,910,832	13,910,493	7,300,083
R ²	0.002	0.005	0.124	0.119	0.124	0.053
Year FE		✓	✓	✓	✓	✓
Filer ZIP FE			✓	✓	✓	✓
Judge FE				✓	✓	✓
Trustee FE					✓	✓

Notes: Table reports regressions of an indicator for whether a Chapter 7 bankruptcy petition was dismissed in court onto the imputed probability the filer's race is Black. Control variables include indicator variables for whether filing was conducted without an attorney (*Pro Se*), if the individual has filed a bankruptcy case in the previous 8 years (*Prior Filer*), if the filing has non-exempt assets that can be distributed to creditors (*Nonex. Assets*), if the individual is a homeowner (*Owens Home*), and if the filing was a joint filing with a spouse or domestic partner (*Joint Filing*). Continuous control variables are the log of total assets (*ln(Assets)*), the total debt-to-asset ratio winsorized at the 1% level (*Debt/Assets*), the share of total debt that is secured (*Secured Debt (%)*), the log of monthly income (*ln(Monthly Income)*), and the difference between a filer's monthly income and expenses winsorized at the 1% level (*Monthly Inc. - Exp.*). Robust standard errors are clustered at the ZIP level and are displayed in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Dismissal Effects by Trustee and Petitioner Race

Sample	(1)	(2)	(3)	(4)
	Chapter 13		Chapter 7	
Black Filer	0.068*** (0.024)	0.025 (0.020)	0.029*** (0.005)	0.005* (0.003)
Black Filer × White Trustee	0.047* (0.028)	0.074*** (0.024)	-0.004 (0.006)	-0.0007 (0.003)
N	4,193,355	2,044,884	11,126,421	6,004,449
R ²	0.278	0.256	0.117	0.052
Controls		✓		✓
Disposition Year FE	✓	✓	✓	✓
Filer ZIP FE	✓	✓	✓	✓
Judge FE	✓	✓	✓	✓
Trustee FE	✓	✓	✓	✓

Notes: Table reports effects of filer and trustee race on an indicator for whether the bankruptcy petition was dismissed in court for Chapter 13 filings and Chapter 7 filings in columns (1)-(2) and (3)-(4), respectively. Black filer is the imputed probability the filer's race is Black. White trustee is an indicator for whether the court-appointed trustee's race is imputed to be White. Controls include all variables discussed in Table 3, and columns with controls use the FJC sample. Robust standard errors are two-way clustered at the ZIP code and trustee levels and are displayed in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

2020

Race and Bankruptcy: Explaining Racial Disparities in Consumer Bankruptcy

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Race and Bankruptcy: Explaining Racial Disparities in Consumer Bankruptcy

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Abstract

African American bankruptcy filers select Chapter 13 far more often than other debtors, who opt instead for Chapter 7, which has higher success rates and lower attorneys' fees. Prior scholarship blames racial discrimination by attorneys. We propose an alternative explanation: Chapter 13 offers benefits, including retention of cars and driver's licenses, that are more valuable to African American debtors because of relatively long commutes. We study a 2011 policy change in Chicago, which seized cars and suspended licenses of consumers with large traffic-related debts. The policy produced a large increase in Chapter 13 filings, especially by African Americans. Two mechanisms explain the disparate racial impact: African Americans were more likely to have traffic debts and incurred greater costs from car seizures and license suspension due to relatively long commutes. When we match African Americans to other debtors with similar commutes, we find no racial difference in Chapter 13 filing propensities.

1. Introduction

Among those who file for bankruptcy, African Americans are substantially more likely to select Chapter 13 over Chapter 7 when compared with white debtors. This has been documented in prior scholarship such as Braucher, Cohen, and Lawless (2012) and has been the subject of media coverage in the *New York Times* (Bernard 2012; also see Kiel 2017) and ProPublica Illinois (Sanchez and Kam-bhampati 2018). This apparent racial sorting into Chapter 13 is worrisome be-

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cause a Chapter 13 filing is substantially more costly, more time consuming, and less likely to discharge debts than a Chapter 7 filing, as we have discussed elsewhere (Morrison and Uettwiller 2017). Attorneys' fees are more than twice as expensive (\$2,600 instead of \$1,000), payments to unsecured creditors are substantially larger (because some Chapter 13 trustees demand minimum recoveries to the creditors), a Chapter 13 plan takes 3 to 5 years to complete (Chapter 7 cases complete within about 4 months), and around two-thirds of Chapter 13 cases terminate without a discharge of debts (this happens in less than 4 percent of Chapter 7 cases). A commonly cited reason for using Chapter 13 instead of Chapter 7 is to shelter assets that would otherwise be liquidated in Chapter 7. Chapter 13 allows a consumer to discharge debt by giving up future income (all disposable income earned over a 3–5-year period); Chapter 7 allows the consumer to discharge debt by giving up assets, such as cars and houses. Chapter 13 is, therefore, often described as a device for “saving your home,” as argued by White and Zhu (2010). Yet this commonly cited explanation for preferring Chapter 13 seems implausible for the vast majority of filings by African Americans, most of whom have few or no assets vulnerable to liquidation in Chapter 7. A more plausible explanation for these patterns is racial discrimination by bankruptcy attorneys, who may be more likely to steer African Americans into Chapter 13 than their white counterparts. Braucher, Cohen, and Lawless (2012) present experimental evidence consistent with this hypothesis.

This paper tests an alternative hypothesis: In some areas of the United States, financially distressed African Americans are more likely to benefit from Chapter 13 than other consumers. A Chapter 13 filing not only allows consumers to retain assets but also forces the return of assets that have been seized. These assets include physical property, such as cars and homes, and government permits, such as driver's licenses. These benefits are generally unavailable in Chapter 7, as discussed in detail in Section 2. The benefits of Chapter 13 could be more valuable to African Americans than to other debtors for at least two reasons: First, African Americans may be more likely to accumulate and default on debts that entitle creditors to seize assets that cannot be sheltered in Chapter 7. Second, African Americans may face higher costs of asset seizure. Using data from Chicago and supporting evidence from other major cities, we show in this paper that both reasons are important determinants of Chapter 13 filing decisions by African Americans and explain much of the difference in filing rates between African Americans and other debtors.

We study a natural experiment in Chicago. When Rahm Emanuel took office as mayor in 2011, he announced a policy that increased city enforcement of outstanding traffic and parking debts. Chicago identified drivers with large accumulated debts and commenced proceedings to seize their vehicles and suspend their licenses. The Emanuel policy had a much larger effect in African American neighborhoods than other areas. The city identified substantially more drivers (per capita) with large accumulated debts and issued substantially more license suspension notices (per capita) in predominantly African American zip codes

than in other zip codes. This caused an increase in Chapter 13 filings throughout the city, with a much larger increase among African Americans, even though Chapter 7 filings were declining. Indeed, Chicago-area attorneys specifically advertised Chapter 13 as a solution for consumers facing license suspensions and vehicle seizures due to unpaid traffic debts.¹ Among consumers who filed for bankruptcy, the probability of choosing Chapter 13 (instead of Chapter 7) increased across all races, but the increase was 10 percentage points larger among African Americans. Among car-owning consumers who chose Chapter 13, the share of filings by African Americans had been declining prior to the Emanuel policy. After the policy was rolled out, the African American share reversed trend and increased from 42 percent in 2011 to 55 percent in 2015.

These findings show that African Americans were more likely to accumulate city debt, were more likely to be targeted by city enforcement efforts, and consequently were more likely to file Chapter 13 bankruptcy cases in response to the Emanuel policy compared with consumers from other racial groups. The Emanuel policy thus produced a racial disparity that has been attributed to steering by bankruptcy attorneys. We find additional evidence indicating that African Americans experienced higher costs, on average, from vehicle seizure and license suspension. When we control for the number of license suspensions per zip code, for example, we continue to find a larger increase in Chapter 13 filings in African American zip codes, which indicates a greater sensitivity to license suspensions. Consistent with this interpretation, the post-Emanuel-policy increase in Chapter 13 filings is largest in African American zip codes with relatively long commutes to work (defined by the percentage of residents commuting more than 45 minutes). By contrast, in zip codes with short commutes, we see little or no difference between African American and non-African American zip codes. These findings suggest that the differential response to the Emanuel policy—with African Americans filing Chapter 13 cases at higher rates than other consumers—is attributable in part to differences in the value of retaining automobiles. On average, African Americans may have longer commutes to work and live in areas that are farther from schools, medical services, and supermarkets. We test this hypothesis by matching African American bankruptcy filers to non-African American filers on the basis of consumer characteristics, including estimated distance to work and debt to the City of Chicago. Within this matched sample, we cannot reject the null hypothesis that there are no racial differences in the probability of choosing Chapter 13 after the Emanuel policy was implemented.

We conclude that observed racial disparities in bankruptcy are attributable, in

¹ Websites for leading Chicago-area firms included such statements as “Stop Chicago Tickets. Eliminate All Penalties & Fees. Get Your License Back. The state will suspend your driver’s license for unpaid Chicago parking tickets. A DebtStoppers bankruptcy plan can wipe out all parking ticket debt and get your license re-instated immediately” (DebtStoppers.com, Stop Believing Debt Is “Normal” [<https://web.archive.org/web/20140208010235/https://www.debtstoppers.com/>]); “Chapter 13 Can Be the Solution (1 Payment) . . . Lawsuits & License Suspension & Parking Tickets” (Law Offices of Peter Francis Geraci, Chapter 13 Bankruptcy [<https://web.archive.org/web/20111205044445/http://www.infotapes.com/webB/Chapter13.htm>]); see also Siegel (2013).

large part, to underlying differences in the background characteristics (especially commuting times) of African American and other consumers. African Americans are more likely, on average, to experience debt enforcement actions, including seizure of a car or driver's license. African Americans are also more likely, on average, to need that car or license for commuting to work.

We explore alternative explanations for our findings, including the possibility that the postpolicy increase in Chapter 13 filings is attributable to liquidity constraints faced by African American consumers, not to a desire to recover seized vehicles or suspended driver's licenses. Bankruptcy attorneys' fees generally must be paid up front when a consumer files for Chapter 7 but can be paid in installments during a Chapter 13 case. When Chicago identified drivers with large outstanding debts and commenced collection efforts, drivers may have preferred Chapter 13 because it has lower up-front costs. We show that liquidity constraints cannot explain the post-Emanuel-policy increase in Chapter 13 filings among African Americans. First, our regressions include individual-level controls that account for available liquidity (such as monthly income, assets, and secured debt). More importantly, we study the response to the Emanuel policy among consumers who were represented by a pro bono law firm that charges no legal fees, the Legal Assistance Foundation (LAF). We find a sharp post-Emanuel-policy increase in both the number and the proportion of Chapter 13 filings at the LAF. We view this as strong evidence that liquidity constraints, although important to the filing decision generally, are not driving our findings. Instead, the post-Emanuel-policy increase is more plausibly driven by consumers' efforts to recover vehicles and licenses. Consistent with this conclusion is evidence that, regardless of race, we see a sharp post-Emanuel-policy increase in the proportion of Chapter 13 cases in which the debtor was cited for driving without a license during the 12 months preceding the bankruptcy filing.

Our findings indicate that discrimination by attorneys is, at most, a partial cause of observed racial disparities in bankruptcy. In our data, we observe the same racial disparities observed in prior work. However, when we include controls for the consumer's zip code (reflecting driving distance) and debt to the City of Chicago, the racial disparity shrinks by 50 percent. When we include attorney fixed effects, which account for the fact that some attorneys steer all clients to Chapter 13 regardless of race, the racial disparity becomes less than a tenth of its original size (with at most a 2-percentage-point difference in the probability of choosing Chapter 13 over Chapter 7).

Although this paper is motivated by racial disparities in consumer bankruptcy, it has implications for the design of bankruptcy law and public finance. First, our findings indicate that, although we see racial disparities in bankruptcy, Chapter 13 is used as theory predicts: debtors—particularly the working poor—use it to retain assets for which the costs of ownership (through a Chapter 13 repayment plan) are lower than the costs of substitutes (such as renting comparable assets) and that would be lost in Chapter 7, as discussed in Li and Sarte (2006) and White and Zhu (2010). In response to the Emanuel policy, debtors filed Chapter 13

cases to recover their cars and licenses because there are inadequate substitutes for debtors with long commutes and limited access to alternative modes of transportation, and those assets are difficult or impossible to recover through Chapter 7. The racial disparity is driven primarily by nonbankruptcy policies (such as the City of Chicago's ticket enforcement), not by attorney discrimination. Second, our findings indicate that the Emanuel policy triggered an increase in Chapter 13 filings, especially by African Americans, because the Bankruptcy Code permits the discharge of fees and fines only in Chapter 13, not in Chapter 7; the city's lax enforcement policy allowed residents to accumulate debts that could not be managed without a bankruptcy filing; and there is no statute of limitations applicable to fines arising from traffic debts. Reforms along any one of these dimensions would have a substantial effect on the propensity to file for Chapter 13.

Our paper contributes to the literature on racial discrimination in bankruptcy courts, summarized by the American Bankruptcy Institute (2019). We also contribute to a large literature in sociology and (to a lesser extent) economics that explores the extent to which distance to work or amenities (such as supermarkets) is greater for the poor, especially African Americans. A persistent theme in this spatial-mismatch literature is that African American households face substantial disadvantages in commuting to work, as discussed in O'Regan and Quigley (1999) and Kneebone and Holmes (2015).²

This paper is organized as follows. Section 2 presents background on bankruptcy law and prior research on the relationship between commuting distance and race. We also describe the natural experiment presented by the Emanuel policy. Section 3 presents our data and summary statistics. We present our results in Section 4. The concluding Sections 5 and 6 assess the implications of our findings for the attorney-steering hypothesis and for policy more generally.

2. Background: Bankruptcy Law and Chicago Policy

2.1. Bankruptcy Law

The US Bankruptcy Code offers two primary options for distressed consumers seeking to discharge their debts. One is Chapter 7, which offers the consumer a discharge of most debts if she agrees to liquidate nonexempt assets and distribute the proceeds to creditors. Every state exempts certain assets, which the consumer can keep even after debts are discharged. In Illinois, for example, an unmarried consumer can exempt up to \$15,000 of home equity, \$2,400 of the value of a motor vehicle, and \$4,000 of any personal property (exemption limits double for married couples who file a joint bankruptcy petition). The latter amount can be applied to the motor vehicle, which allows the consumer to exempt up to \$6,400 of the vehicle's value. Thus, if the consumer owns a car that is worth less than \$6,400 (the exemption limit), and there is no lien on the car, the consumer

² For example, Andersson et al. (2018) find that a recently unemployed consumer is more likely to find new employment if she lives closer to available jobs, and the effect is substantially larger for African Americans and those living in high-poverty areas.

can keep the vehicle even after her debts are discharged in Chapter 7. If the car is worth more than the exemption limit, it is sold and the exempt value is distributed to the consumer. If the car has a lien on it, it is sold, the proceeds are paid to the secured creditor, and any excess is paid to the consumer, up to the exemption limit.

The other option for a distressed consumer is Chapter 13, which offers a discharge if she distributes all of her disposable income to creditors for 3–5 years (3 years if she has sufficiently low income). The Chapter 13 discharge is broader than the one offered by Chapter 7. For example, Chapter 13 discharges civil fines, such as traffic and parking debts, something not possible in Chapter 7. A consumer who files for Chapter 13 can also retain all of her assets. If a creditor (including a government agency) has seized an asset, the consumer can demand its return in most states.³ Although all assets—exempt or nonexempt—are retained, it still matters whether the assets are exempt. The value of nonexempt assets determines, in part, the minimum payoff that the consumer must distribute to creditors during the repayment period.⁴

The principal advantage of Chapter 13 is, therefore, the ability to retain assets. Prior scholarship, such as White and Zhu (2010), focuses on the ability to retain a home, but retaining a vehicle may be just as important. In addition, a consumer can retain nonconventional property such as a driver's license if it was seized on account of unpaid debts. Thus, for a car owner, Chapter 13 has three distinct advantages relative to Chapter 7: retention of the vehicle, recovery of a suspended license, and discharge of debts arising from parking and traffic fines.⁵

The principal disadvantages of Chapter 13 are its cost and success rate. Relative to Chapter 7, it is substantially more expensive (Morrison and Uettwiller 2017). Attorneys' fees average about \$1,000 in Chapter 7 but \$2,600 in Chapter 13 (with a very large standard deviation). In addition, consumers often must pay substantially more to creditors (over the course of a 3–5-year repayment period) in Chapter 13 than in Chapter 7. Although it costs more than Chapter 7, Chapter

³ There is some disagreement among courts whether the government must return an impounded vehicle. The majority of courts that have considered the question, though, hold that the government must do so. See *In re Fulton*, 926 F.3d 916 (7th Cir. 2019), cert. granted sub nom. *City of Chicago v. Fulton*, 140 S. Ct. 680 (December 18, 2019).

⁴ In practice, however, this minimum-payoff floor is unlikely to be binding because of the requirement that the consumer pay all of her disposable income. Elsewhere, we provide more background on Chapter 13 and the ways it differs from Chapter 7 (Morrison and Uettwiller 2017).

⁵ Technically, it may be possible to recover a suspended driver's license by filing for Chapter 7, which would discharge other debts, thereby freeing up cash to pay parking and traffic fines. This strategy would be feasible only for debtors with sufficient cash flow to pay the fines. Because the average debt owed to the City of Chicago is over \$1,000 among Chapter 13 filers and about 40 percent of these filers have income below 150 percent of the poverty line, this strategy seems infeasible for a large proportion of Chapter 13 filers. To be sure, given much higher attorneys' fees in a Chapter 13 case, this strategy would be attractive if the City of Chicago offered sufficiently generous repayment plans allowing consumers to pay debts slowly over time. In 2019, under Mayor Lori Lightfoot, the city introduced new repayment plans and announced that it had "stopped suspending driver's licenses where the violations involved are non-driving violations such as parking tickets, city sticker tickets, or license plate expiration tickets" (City of Chicago, Suspended License, Booting, Ticketing and Towing Reforms [<https://www.chicago.gov/city/en/sites/newstartchicago/home/suspended-license-booting-ticketing-and-towing-reforms.html>]).

13 is less likely to yield a discharge of debt. A debtor fails to receive a discharge in two-thirds of Chapter 13 cases but in less than 3 percent of Chapter 7 cases, as discussed in Greene, Patel, and Porter (2017). For a car owner, then, Chapter 13 is a high-cost bankruptcy option with a low expected success rate.

2.2. *The Chicago Policy*

Rahm Emanuel became Chicago's mayor in May 2011. In October of that year, he issued a press release announcing that "his administration will implement a new aggressive approach to improve collections owed to the city, including millions of dollars in unpaid parking tickets, unpaid fees, fines and penalties. The reforms are anticipated to bring in up to an additional \$33 million in collections in 2012" (City of Chicago 2011). The press release explains that, in the past, billing and collection were fragmented across several city departments. The new policy would, among other things, "improve collections by consolidating debt types for individuals who owe for more than one type. [The mayor] will also call for contracted collection agencies to increase rates to recover \$5 million in debts. For example, there is one Chicagoan who owes \$87,000 in parking tickets on four different license plates that go back to 2005, \$70,000 on one plate alone. This case is now in the hands of a city law firm" (City of Chicago 2011).

The process for enforcing parking and traffic debt in Chicago has several stages (as described by City of Chicago 2018).⁶ A driver first receives a notice of violation after the city detects a parking or traffic violation. If the driver does not contest the violation within 21 days, she receives a notice of determination, which represents a debt to the city. The debt must be paid by a specified deadline; if it is not, the debt is doubled and the driver is sent a notice of final determination, which may add fines and penalties to the original debt. When a driver accumulates three or more final determinations (or if two determinations are at least a year old), the city sends a notice of seizure, which alerts the driver that the city will boot and impound her car if she does not pay the debt within 21 days. The car is impounded by the city until it receives payment of the outstanding debt, plus towing and daily storage fees. If the vehicle is not redeemed within 15 days, the city can sell or destroy it. When a driver accumulates final determinations for at least 10 parking tickets or five automated-camera violations, the city sends a notice of impending driver's license suspension (DLS). If the driver does not pay outstanding debts, the city alerts the State of Illinois that it should suspend the driver's license. The license remains suspended until the city alerts the state that the outstanding debt has been paid.

There are, therefore, two principal tools by which the city enforces parking and traffic debt: vehicle seizures and license suspensions. Through Freedom of Information Act (FOIA) requests, we obtained zip-code-level data on total parking and traffic debt, number of seizure notices, and number of DLS notices. A single

⁶ In 2019, the city announced modifications to these stages. See City of Chicago, Suspended License, Booting, Ticketing and Towing Reforms (<https://www.chicago.gov/city/en/sites/newstartchicago/home/suspended-license--booting--ticketing-and-towing-reforms.html>).

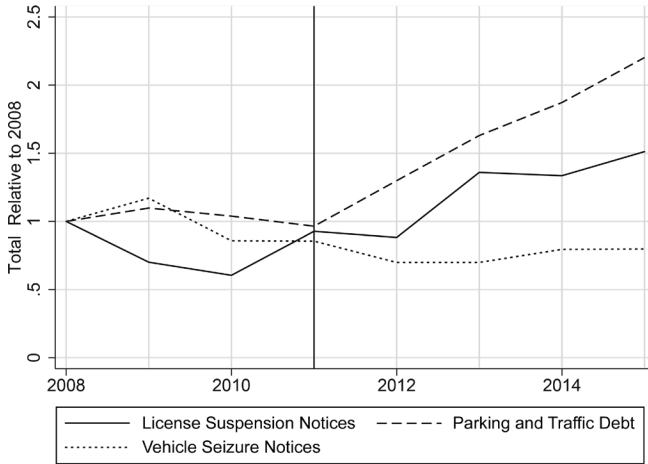


Figure 1. Chicago enforcement policy, 2008–15

driver can (and often does) receive multiple notices. Because our data count all notices, not just the first notice, it measures the intensity with which Chicago communicated the threat of vehicle seizure or DLS.⁷ Figure 1 plots our FOIA data by year. There is a sharp change in trend for DLS notices, which had been declining prior to 2011. The seizure trend remains relatively flat. It appears, then, that the city’s policy primarily operated along the dimension of license suspensions. The trend in DLS notices is mirrored in total debt in Figure 1, which shows a sharp increase after 2011. As we show in the Online Appendix, it appears that, beginning in 2011, the city began collecting long-overdue debts (especially tickets issued more than 7 years earlier) and increased ticket prices (see Figure OA7).⁸

3. Data

Our primary data set includes information about consumer bankruptcy filings in Chicago from 2008 through 2016. We link two data sources. One is the Federal Judicial Center Integrated Database (IDB), which includes information about the consumer’s address (zip code), capital structure (values of real and personal property and secured and unsecured debt), and case characteristics, such as filing date and outcome. The other data source is the Case Management/Electronic

⁷ For example, a driver receives additional driver’s license suspension (DLS) notices after the first notice if she incurs new tickets or fines. The city renotifies the driver that her license is subject to impending suspension. We reran the analysis using data that count only the first DLS notice. We find comparable results, as Figure OA1 of the Online Appendix shows. Figure OA1 shows a spike in first-time DLS notices during 2013, which is studied in Kessler (2020). This spike is less apparent in Figure 1, where we plot the total number of notices, not just first-time notices. This suggests that the Emanuel policy not only increased license suspensions but also increased the number of additional notices. The increase in additional notices is so large that it obscures the spike during 2013.

⁸ Figure OA7 uses ticket-level data obtained by ProPublica via a Freedom of Information Act request. The data are publicly available; see ProPublica Data Store, City of Chicago Parking and Camera Ticket Data (<https://www.propublica.org/datastore/dataset/chicago-parking-ticket-data>).

Case Files Document Filing System for the Bankruptcy Court for the Northern District of Illinois, which encompasses Cook County and nearby counties. We downloaded and scraped every petition for every Chapter 7 and 13 case filed from 2008 through 2016. For Chapter 13 cases, we also scraped the docket sheets, proofs of claim filed by the City of Chicago, Bankruptcy Noticing Center certificates of notice (providing a list of creditors), and proposed repayment plans. Using these data, we can identify the name and address of each debtor, the debtor's occupation and work address, whether any debt was owed to the City of Chicago, and whether the city took steps to seize the debtor's car or suspend her license.

We link these bankruptcy data to several data sets, including monthly zip-code-level data on traffic and parking enforcement in Chicago, census data on racial composition and commuting times by census tract and zip-code tabulation area, and Food and Drug Administration (FDA) data on food deserts, defined as census tracts in which at least a third of the tract's population resides more than a half mile from a supermarket or large grocery store.⁹

Finally, we impute the race of bankruptcy filers on the basis of their names and addresses. Data on race by surname is available from the 2000 census; race by first name is available from an Office of the Comptroller of the Currency database, drawn from mortgage applications and assembled by Tzioumis (2018); race by census tract is available from the 2010 census. We combine these sources, applying the same algorithm recommended by the Consumer Financial Protection Bureau (2014), to estimate the probability that a person in our data is African American. We identify a person as African American if our algorithm predicts a probability greater than 70 percent (our results do not change if we use a higher cutoff).¹⁰

Table 1 summarizes our data, showing that Chapter 13 filings account for about a third of cases. African Americans account for about 40 percent of Chapter 13 filings but less than 20 percent of Chapter 7 filings. Relative to Chapter 7 filers, Chapter 13 debtors have higher incomes, are more likely to own cars, and are more likely to have secured debt.

We begin by documenting the correlation between distance, race, and bankruptcy in Chicago. Table 2 stratifies zip codes by distance from work and supermarkets. Distant from work is defined as the percentage of zip-code residents who travel more than 45 minutes to work. Distant from supermarkets (food desert) is defined as the percentage of residents who live at least 1 mile from a supermarket. We rank zip codes by the percentage of residents who either travel at least 45 minutes to work or live in a food desert. Table 2 reports means for each quintile of this distance ranking.

Chapter 13's share of bankruptcy filings increases nearly monotonically as we move from the first to fifth quintile, consistent with the hypothesis that Chapter

⁹ The Food and Drug Administration (FDA) provides an alternate definition, identifying tracts in which over a third of the population resides more than a mile from a supermarket or large grocery store. These definitions apply only to nonrural tracts. For rural tracts, which are not relevant to this paper, the FDA uses a longer travel time (for example, 10 miles) to identify food deserts.

¹⁰ Our results are similar, but weaker and less precisely estimated, when we impute race solely on the basis of first and last name.

Table 1
Summary Statistics

	Mean	SD
Chapter 13 cases ($N = 154,620$):		
% African American	40.51	
Assets (\$)	107,214	459,858
Debt (\$)	150,654	899,061
Secured debt (among those with this debt) (\$)	134,442	982,443
% Real estate owner	44.44	
% Car owner	82.74	
% With secured debt	80.80	
Monthly income (\$)	3,605	14,421
Monthly expenses (\$)	2,892	4,488
% Below 200% of the poverty line	37.92	
Chapter 7 cases ($N = 286,666$):		
% African American	17.93	
Assets (\$)	108,136	233,903
Debt (\$)	209,036	5,569,225
Secured debt (among those with this debt) (\$)	177,894	286,662
% Real estate owner	45.17	
% Car owner	75.39	
% With secured debt	68.30	
Monthly income (\$)	2,809	6,937
Monthly expenses (\$)	3,210	59,066
% Below 200% of the poverty line	50.07	

13 tends to be more attractive to financially distressed consumers when they live in places where cars are likely an important means of accessing work and amenities. Table 2 also shows that African Americans are much more likely to live in zip codes with high distance rankings. This is consistent with the hypothesis that African Americans are more likely to live in zip codes where cars are likely an important means of transportation and, as a result, are more likely to file for Chapter 13 when they become financially distressed. This phenomenon—the correlation of distance, race, and Chapter 13 filing rates—can be observed in other cities, such as Atlanta and Memphis, which have been the focus of academic and media reports because African Americans account for a disproportionate share of Chapter 13 filings relative to Chapter 7 in these cities. This is illustrated by Tables OA4 and OA5 in the Online Appendix.

4. Evidence from the Policy Change

We hypothesize that African American bankruptcy filers are, on average, more likely to file a Chapter 13 petition than other debtors because they are more likely to accumulate and default on debts that permit creditors to seize assets that cannot be sheltered in Chapter 7 and because they face higher costs from seizure of those assets. We test these hypotheses using the Emanuel policy, which triggered a sudden increase in DLS notices, as shown in Figure 1. Although the process

Table 2
Commuting Distance and Bankruptcy Filing Rates

Distance Quintile	% Distant or in Food Desert	% Distant	% in Food Desert	% African American	% Chapter 13	Chapter 13 Filings per Thousand	Median Income
1	11.86 (2.57)	11.76 (2.61)	.12 (.66)	.64 (1.65)	12.04 (8.21)	.40 (.35)	52.61 (5.24)
2	23.31 (3.24)	21.46 (5.47)	2.10 (5.15)	7.98 (19.03)	17.88 (10.17)	1.08 (1.38)	54.69 (5.77)
3	38.90 (5.96)	26.94 (7.91)	15.14 (12.44)	13.10 (20.57)	24.61 (11.14)	1.53 (1.23)	49.27 (9.53)
4	60.62 (6.81)	22.56 (10.40)	48.06 (10.99)	26.78 (32.99)	28.39 (14.45)	2.47 (2.29)	47.87 (10.37)
5	86.60 (10.30)	23.89 (9.32)	81.85 (14.22)	39.06 (35.56)	32.72 (15.85)	3.19 (2.68)	40.88 (9.04)

Note. The distance measure is a commute to work of more than 45 minutes. $N = 212$.

for suspending a license is mechanical, as described in Section 2, the policy had a much larger impact on African American drivers. This is shown in Figure 2, which plots debt owed to the City of Chicago and DLS notices per capita for zip codes in Cook County. A zip code is deemed predominantly African American if African Americans account for at least 50 percent of its population; the remaining zip codes are defined as “other.” Figure 2 shows that, among African American zip codes, per capita DLS notices roughly tripled after the Emanuel policy commenced in 2011. The increase is smaller (but still substantial) in other zip codes: DLS notices roughly doubled during the years following the Emanuel policy.¹¹

We view the Emanuel policy as a shock to the probability that drivers, especially African Americans, would have their licenses suspended by the city government. Licenses are assets that can be protected through a Chapter 13 filing (and can be recovered, if already seized) but not through Chapter 7. We hypothesize that the policy caused an increase in Chapter 13 filings by African Americans relative to other races. We also hypothesize that DLS notices were more costly, on average, for African Americans than other drivers because African Americans rely more heavily on cars for commuting.¹²

¹¹ We observe a comparable pattern when we count only the number of first DLS notices per capita, as Figure OA2 in the Online Appendix shows.

¹² Although we focus on DLS notices, we cannot rule out the possibility that they are correlated with other enforcement decisions, such as ticketing and vehicle seizures, that may vary by race and induce greater demand for Chapter 13 among African Americans than other drivers. Whether the rise in total DLS notices documented here is indicative of an increase in license suspensions, vehicle seizures, or ticketing that would lead to suspension or seizure, the effect on drivers is the same: they become at risk for losing assets (cars, licenses) that are needed for commuting. Our hypothesis is that, whatever the mechanism, the Emanuel policy imposed relatively higher costs on African Americans relative to other races and that these higher costs explain the increase in Chapter 13 filings among African Americans relative to other drivers after Emanuel took office.

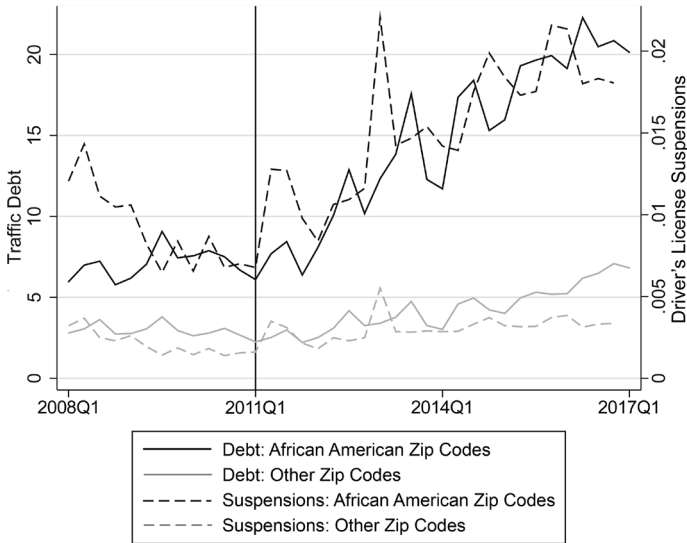


Figure 2. Traffic debt and license suspensions per capita

4.1. Racial Differences in the Effect of the Emanuel Policy on Bankruptcy Filings

Figure 3 plots total bankruptcy filings by race. Figure 3A compares African Americans and non-African American filers; Figure 3B compares African Americans with white filers. The data underlying Figure 3 are drawn from individual-level bankruptcy files. Before the Emanuel policy was announced in 2011, total Chapter 13 filings by African Americans were nearly identical to filings by white debtors. After 2011, we see a divergence, with an increase in African American Chapter 13 filings in absolute terms and relative to others. A very different pattern characterizes Chapter 7 filings, which declined across all races beginning in 2010, with a much sharper decline among non-African American debtors. This decline predates the Emanuel policy and likely reflects the end of the recession; a similar decline in Chapter 7 filings is observed throughout the country.

If the Emanuel policy caused an increase in Chapter 13 filings, especially among African Americans, we should also observe that, among bankruptcy filers, the propensity to select Chapter 13 should increase for all races after the policy went into effect, and this increase should be larger for African Americans. We test this hypothesis using a standard event-study difference-in-difference regression, following Almond, Hoynes, and Schanzenbach (2011) and Autor (2003):

$$\begin{aligned}
 B_{it} = & \alpha + \sum_{k=2008}^{2010} \mu_k \times \text{African American}_i \times \mathbb{1}[t = k] \\
 & + \sum_{k=2012}^{2016} \mu_k \times \text{African American}_i \times \mathbb{1}[t = k] \\
 & + \text{African American}_i + \theta_t + \mathbf{X}_{it} + \varepsilon_{it},
 \end{aligned} \tag{1}$$

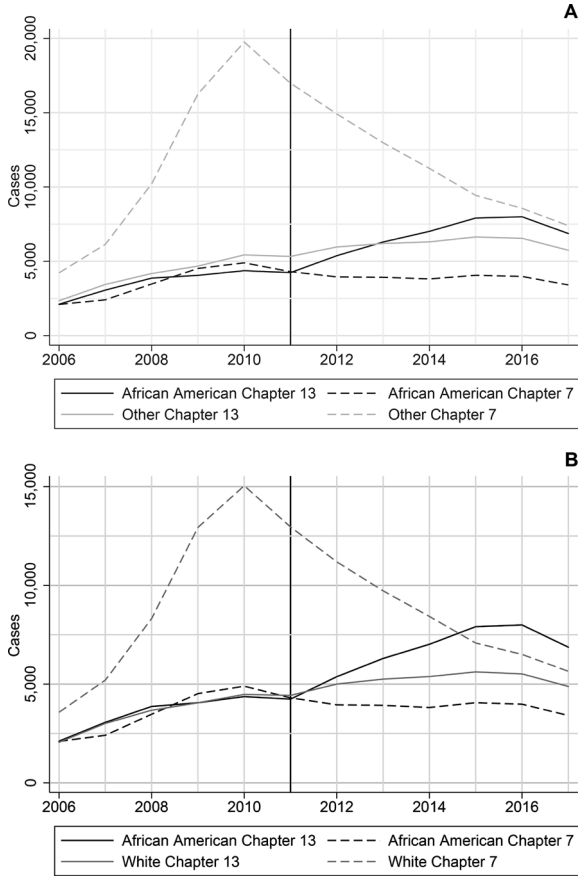


Figure 3. Total bankruptcy filings by race

where B_{it} is equal to one if consumer i filed a Chapter 13 petition in calendar year t and equal to zero if she filed for Chapter 7. The variable $\text{African American}_i$ is equal to one if the consumer is African American, θ_t is a vector of calendar-year fixed effects, and matrix \mathbf{X}_{it} includes a variety of controls, including the (log) value of personal property, real property, total debt, secured debt, and monthly income and expenses.¹³ The coefficient of interest is μ_k , which measures the change in the probability of a Chapter 13 filing among African Americans relative to other debtors, and we calculate it during the calendar years prior to and following 2011, when the Emanuel policy was rolled out. Standard errors are clustered by zip code. The identifying assumption in our model is that, conditional on observables, the timing of the choice between Chapters 7 and 13 is unrelated to the individual's race, up to a constant difference. By interacting $\text{African American}_i$ with

¹³ We avoid zeroes by using the log of the variable plus \$1.

year fixed effects both before and after the policy was rolled out, we can assess whether prepolicy trends are (in)consistent with our identifying assumption.¹⁴

Figure 4 presents the values for μ_k from this model (the baseline estimates in Table 3). We observe a sudden jump upward, immediately after implementation of the Emanuel policy, in the relative probability that an African American debtor selects Chapter 13 instead of Chapter 7. By 2013, African American bankruptcy filers were 5 percentage points more likely to choose Chapter 13, relative to other debtors.¹⁵ The pre-2011 interactions between African American and calendar year show little or no evidence of a prepolicy trend: the difference between African American and other debtors is small, negative, and generally insignificant. We conclude that the Emanuel policy caused an increase in Chapter 13 filing rates, especially among African Americans.¹⁶

4.2. Mechanisms: Race and Distance

Prior work has argued that racial discrimination by attorneys explains the higher propensity of African American debtors, relative to others, to file for Chapter 13. Another plausible hypothesis is that the higher propensity is caused by differences in background characteristics of African American and other debtors. Evidence consistent with this hypothesis appears in Figure 5, which plots the ratio of Chapter 13 filings during a given quarter to DLS notices during the preceding two quarters by zip code. We view this ratio as a measure of the Chapter 13 take-up rate among consumers who received DLS notices. Prior to the Emanuel policy, the ratio was virtually identical for African Americans and others. After the policy was implemented, we see a divergence in the ratio, with DLS notices translating into Chapter 13 filings at a higher rate for African Americans than others. This pattern suggests that license suspensions could be more costly to African Americans, on average, inducing them to file for Chapter 13 at a higher rate than others.¹⁷

One reason why license suspensions could be more costly for African Ameri-

¹⁴ Although we do not have individual-level data for jurisdictions outside the Northern District of Illinois, we can run tract-level analysis comparing outcomes in Chicago tracts with matched tracts outside Chicago. We run that analysis in Section OA2 of the Online Appendix and obtain results comparable to those reported in the main text.

¹⁵ The μ_k coefficients appear to decline in 2015 and 2016, which may reflect a slowdown in enforcement. Figure 2 shows that DLS enforcement decelerated among African Americans around 2015.

¹⁶ Online Appendix Table OA1 shows that the Emanuel policy caused a shift in the composition of debtors filing for Chapter 13. It presents means for debtors who filed Chapter 13 petitions during the 3 years before the Emanuel policy began (2008–10) and for debtors who filed for Chapter 13 during the 3 years after (2012–14). The results for all cases show that, after the Emanuel policy, Chapter 13 filers were more likely to be African American, be unmarried, have income below 200 percent of the poverty line, not own a home, and owe debt to the City of Chicago. Although there is no change in the proportion of filers who own a car, there is a sharp increase in the proportion of filers who own a car but not a home. Among individuals who own a car but not a home, the majority of filers are African American during the post-Emanuel-policy period.

¹⁷ We observe comparable patterns when we count only the number of initial DLS notices, as Online Appendix Figure OA3 shows.

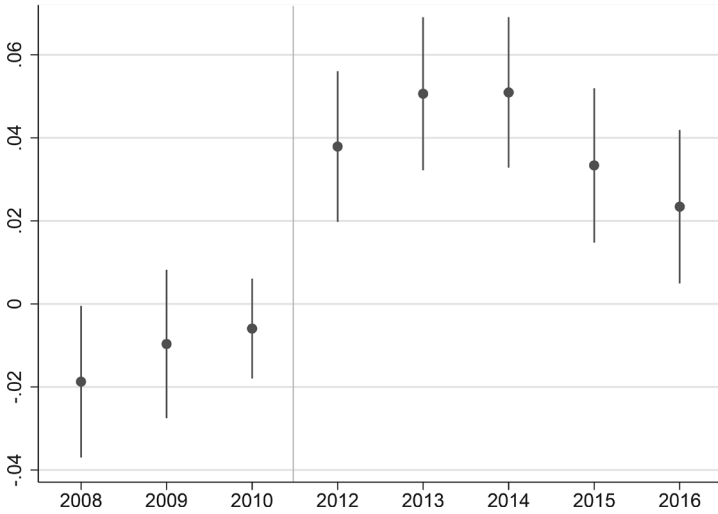


Figure 4. Event-study difference-in-difference estimates

Table 3
Effect of the Emanuel Policy on Share of Chapter 13 Filings

	Baseline	Long Commute	Short Commute	Matching	Matching within Tract
African American \times 2008	-.019* (.044)	-.012 (.318)	-.015 (.688)	-.013 (.223)	-.00050 (.972)
African American \times 2009	-.0096 (.289)	-.010 (.371)	.024 (.459)	-.0037 (.722)	.0030 (.831)
African American \times 2010	-.0059 (.331)	.00042 (.968)	-.067 (.091)	.0014 (.888)	.0059 (.642)
African American \times 2011					
African American \times 2012	.038** (.000)	.037** (.001)	.0072 (.848)	.022* (.024)	.018 (.179)
African American \times 2013	.051** (.000)	.042** (.000)	.000064 (.999)	.033** (.001)	.0095 (.501)
African American \times 2014	.051** (.000)	.050** (.000)	.0015 (.976)	.046** (.000)	.0086 (.545)
African American \times 2015	.033** (.001)	.035** (.002)	-.024 (.456)	.039** (.000)	.012 (.350)
African American \times 2016	.023* (.013)	.027* (.020)	-.059 (.142)	.026** (.007)	-.0043 (.759)
N	259,390	116,652	31,539	154,225	55,259

Note. All regressions include zip-code fixed effects (first column) or tract fixed effects (other columns), year fixed effects, and case controls.

* $P < .05$.

** $P < .01$.

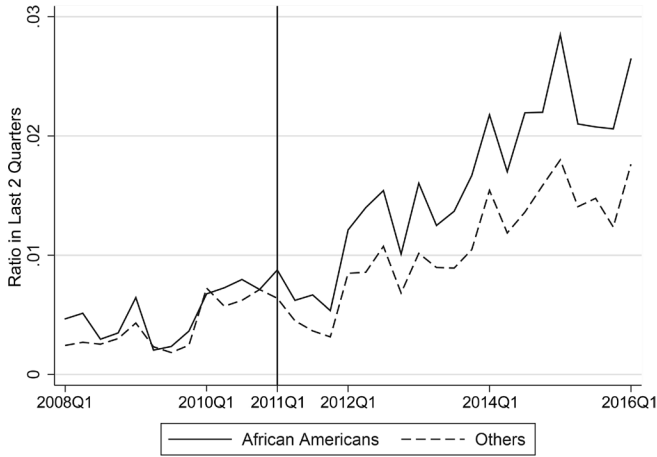


Figure 5. Ratio of Chapter 13 filings to suspension notices by race

cans is that they are more likely to live in geographic areas with longer commutes to work, supermarkets, schools, and other destinations. To explore this hypothesis, we identify long-commute debtors, who are likely to place relatively high value on their licenses and cars and therefore incur relatively high costs from license suspension and vehicle seizure. We assume a debtor has a long commute if she lives in a census tract that is either classified by the FDA as a food desert or in the top quartile of tracts as measured by percentage of residents who travel more than 45 minutes to work. Similarly, we define a short-commute debtor as one who lives in a tract that is not a food desert and is among the bottom 50 percent of tracts as measured by percentage of residents traveling more than 45 minutes to work. We estimate equation (1) separately for each subsample. Figure 6 reports the coefficients, which show relatively small and statistically insignificant effects of the Emanuel policy in short-commute tracts (Figure 6B), indicating that the policy response among African American debtors is indistinguishable from the response among other debtors (coefficient estimates are reported in Table 3). In long-commute tracts (Figure 6A), by contrast, we observe a sharp postpolicy response among African American debtors relative to other debtors.¹⁸ This result is consistent with the hypothesis that commuting time is an important determinant of Chapter 13 filings, but it is unclear why commuting time matters more for African Americans than other debtors living in the same tracts. One possibility is that, even within a given tract, African Americans have longer commutes.

We explore this possibility by matching African American debtors to other debtors who are observationally identical. Our matching algorithm is standard

¹⁸ We observe the same pattern—no effect in short-commute tracts and large effects in long-commute tracts—when we drop food deserts and compare tracts with relatively long and short commutes. We also observe the same pattern when we drop tracts in which one group (African American, Hispanic, or other) accounts for more than one-third of the population.

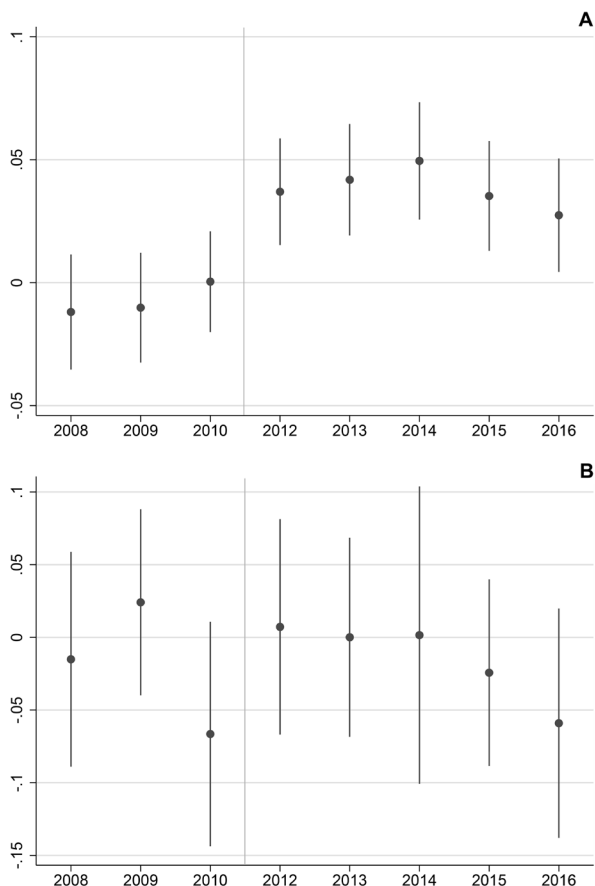


Figure 6. Event-study difference-in-difference estimates by commuting time. *A*, Long-commute sample; *B*, short-commute sample.

nearest-neighbor propensity-score matching with common support and no replacement (the procedure is described in more detail in Section OA1 of the Online Appendix). Figure 7 shows the effect of matching; Table 3 reports the coefficients. We begin by reproducing the baseline regression in Figure 7A. Matching on controls, as we do in Figure 7B, has little effect on the estimates, but matching on both census tract and observables has a marked effect, as we see in Figure 7C. Specifically, when African Americans are matched to others who are not only observationally similar but also live in the same tract, there is a sizable but imprecisely estimated effect in 2012 but no observable effect in subsequent years. We view this as evidence that although the Emanuel policy had a larger effect on African Americans, the typical African American debtor has substantially different characteristics—especially geographic location—than the typical non-African

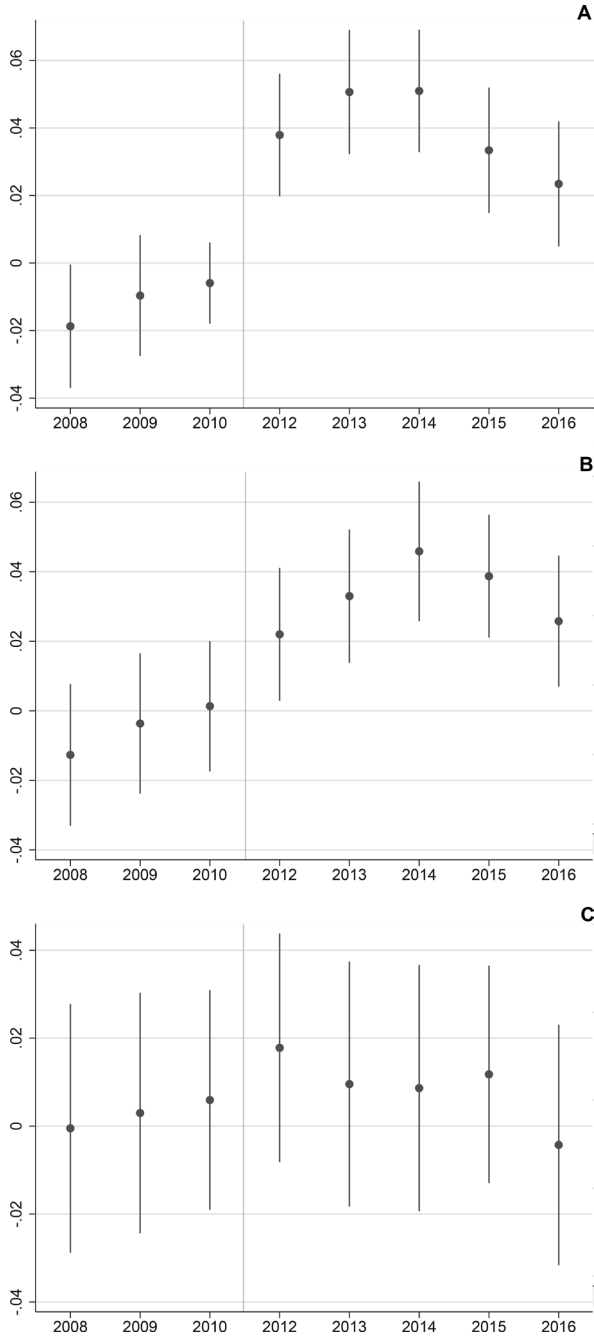


Figure 7. Effect of matching debtors. A, No matching; B, matching on controls; C, matching on tract and controls.

American debtor. These differences rendered African Americans more sensitive to the Emanuel enforcement policy and therefore more likely to file for Chapter 13 bankruptcy, which allows debtors to recover their cars and licenses.¹⁹

4.3. *Alternative Mechanisms*

We have focused on one difference between Chapters 7 and 13 that can generate a preference for Chapter 13 among African Americans: Chapter 13 allows the debtor to recover seized assets, such as driver's licenses. Another potentially important difference is that attorneys' fees generally must be paid in full before a debtor files for Chapter 7 but can be paid in installments after a debtor files for Chapter 13. Liquidity constraints, in other words, can generate a preference for Chapter 13, as documented by Gross, Notowidigdo, and Wang (2014), among others. Because the Emanuel policy effectively placed thousands of drivers into default, it increased demand for bankruptcy generally and especially increased demand for Chapter 13 among liquidity-constrained drivers. Racial differences in liquidity constraints—not differences in commuting distances—might therefore explain the post-Emanuel-policy increase in Chapter 13 filings among African Americans relative to others.

This mechanism is inconsistent with the estimates reported in Figure 7, which explicitly control for liquidity by including (log) income, assets, and debt in the regressions as well as the matching algorithm. Figure 7B, in other words, matches African American and other debtors on liquidity. We can go further, however, and explore the role of liquidity using variation in law firms' pricing. One firm in our sample, the LAF, served indigent clients and charged no legal fees regardless of chapter choice. Unsurprisingly, the LAF's clients were liquidity constrained, as Figure 8B shows by plotting the median income of cases filed by LAF clients and by other firms. If liquidity constraints are the primary reason for the post-Emanuel-policy rise in Chapter 13 filings, we are unlikely to observe an increase among LAF clients. Figure 8A plots the number of cases per year for LAF, showing an increase in the total number of Chapter 13 filings immediately after the Emanuel policy went online. Figure 8C plots the share of Chapter 13 filings, again showing a sharp post-Emanuel-policy increase. What is most striking here is that the postpolicy increase is sharpest for the debtors with liquidity constraints; that is, those represented by the LAF. Consistent with the fact that this pro bono agency selects debtors who are very poor, regardless of race, Figure 8D shows that the postpolicy increase is nearly identical for both African Americans and other debtors. We view these patterns as evidence that liquidity constraints do not fully

¹⁹ Our results reflect both responses along the intensive margin (increased demand for Chapter 13 among consumers who would have filed for some type of bankruptcy in the absence of the policy) and responses along the extensive margin (increased demand for Chapter 13 among consumers who were unlikely to file for bankruptcy in the absence of the policy). Section OA3 of the Online Appendix attempts to isolate responses along the extensive margin by focusing on consumers who had little or no reason to file for bankruptcy in the absence of the Emanuel policy.

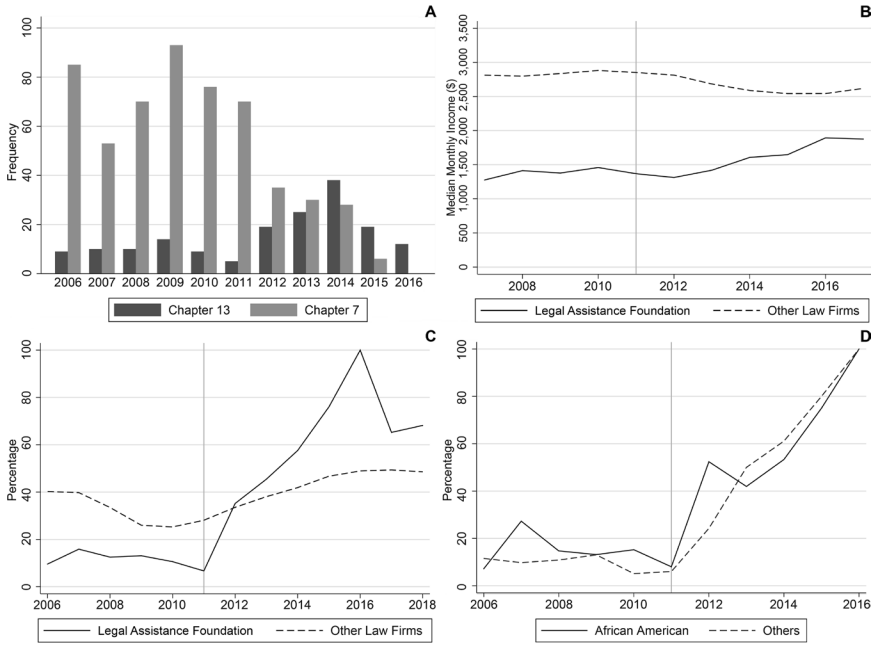


Figure 8. Law firms’ pricing and liquidity constraints. *A*, Cases filed by the Legal Assistance Foundation; *B*, median debtor income; *C*, share of Chapter 13 filings; *D*, Legal Assistance Foundation’s chapter 13 filings by race.

explain the post-Emanuel-policy increase in Chapter 13 filings by African Americans.

4.4. Effect on Total Filings

Our analysis has focused primarily on a compositional change: the Emanuel policy increased the share of Chapter 13 bankruptcy filings, especially among African Americans. The policy had effects on the level of filings as well. To show this, we construct a synthetic control group of non-Chicago zip codes, located anywhere in the United States, that are the nearest-neighbor matches for the Chicago zip codes in our data. We match Chicago and non-Chicago (control) zip codes using 2010 census data, including bankruptcy filing rates, the share of Chapter 13 bankruptcy filings, median income, percentage of residents below the poverty line, and percentage of residents who are African American.²⁰ Figure 9 shows the annual per capita filing rate for Chicago and control zip codes. Figure 9A and B split the zip codes by race, with African American zip codes defined as those where African Americans account for over half of the population. Figure 9A shows little discernible difference in Chapter 7 filing rates between Chi-

²⁰ Section OA1 of the Online Appendix describes the matching procedure in detail.

Table 4
Effect of the Emanuel Policy on Filings: Cases Per Capita

	All Zip Codes	African American Zip Codes	Other Zip Codes
Chicago	.00081** (.008)	.0024* (.038)	.00057* (.018)
After Policy	-.00089** (.000)	-.00035 (.172)	-.0012** (.000)
Chicago × After Policy	.0010** (.000)	.0035** (.000)	.00053* (.022)
Dependent variable mean	.00431	.00914	.00383
N	1,320	320	1,000

Note. All regressions include zip-code controls.

* $P < .05$.

** $P < .01$.

Chicago and control zip codes during the post-Emanuel-policy period, though African American filings in Chicago decline less sharply than filings in the control zip codes. Figure 9B, by contrast, shows a large difference in Chapter 13 filings for both African Americans and others: filing rates in Chicago diverge sharply from the controls during the post-Emanuel-policy period. Figure 9C shows the per capita filing rate for all types of bankruptcy, regardless of race. We see that the postpolicy increase in Chapter 13 filings prevented total filings in Chicago from declining as sharply as they did in the control zip codes.

We can use a simple difference-in-difference estimator to calculate the extent to which the Emanuel policy elevated total filings in Chicago relative to the control zip codes. Table 4 shows that, without the Emanuel policy, per capita bankruptcy filings in Chicago would have been .001 lower. Put differently, relative to the mean per capita filing rate in Chicago (.00431), filings in Chicago would have been over 20 percent lower in the absence of the Emanuel policy. Among African Americans, filings would have been over 35 percent lower. To put this into perspective, there were about 17,000 bankruptcy filings in Chicago during 2012. Our estimates indicate that nearly 4,000 of these filings were caused by the Emanuel policy.

5. The Relative Importance of Attorney Steering

Our analysis shows that selection effects are an important explanation for racial disparities in consumer bankruptcy because Chapter 13 is attractive to consumers seeking to protect key assets such as cars and driver's licenses. Because of geographic disparities, including relatively longer commuting times, African American bankruptcy filers place a higher value on those assets than filers in other racial groups and, therefore, are more likely to file a Chapter 13 case.

Our data point to another potential selection effect: Chicago-area attorneys often specialize in one type of bankruptcy case (Chapter 7 or 13), and the attorneys who favor Chapter 13 are also the attorneys most often used by African American

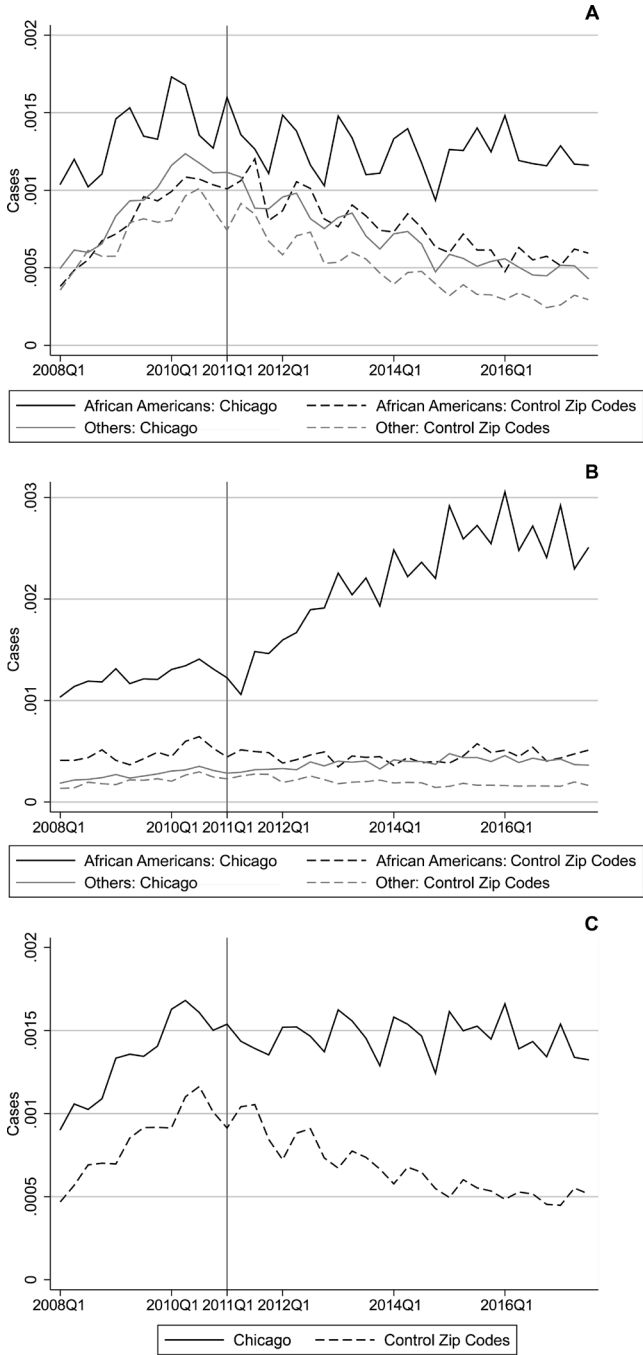


Figure 9. Effect on filings. A, Chapter 7 filings; B, Chapter 13 filings; C, filings per capita

debtors. Indeed, two attorneys (Geraci and Semrad) account for nearly 80 percent of Chapter 13 filings by African Americans. To the extent that consumers select attorneys on the basis of factors that are unrelated to their underlying case characteristics—such as distance (Lefgren, McIntyre, and Miller 2010) or social networks (Miller 2015)—we may observe racial disparities in Chapter 13 simply because African Americans select attorneys who favor Chapter 13 and do so regardless of race.

Table 5 explores racial disparities in Chapter 13 filings after accounting for these potential selection effects. These regressions analyze the subset of Chapter 7 and 13 bankruptcy cases filed by African American and white consumers—the comparison drawn in prior literature. Pro se filings are excluded because our goal is to assess how much of the racial disparity in bankruptcy is attributable to law firms' behavior. Columns 1 and 2 present the results of a simple regression in which the dependent variable is a dummy equal to one if the consumer chose Chapter 13 (and zero if she chose Chapter 7); the only regressor in column 1 is the consumer's race, while column 2 adds time fixed effects. Both columns yield roughly the same coefficient, which shows that African Americans are about 25 percentage points more likely to file a Chapter 13 case relative to non-Hispanic consumers. This coefficient is consistent with prior literature, such as Braucher, Cohen, and Lawless (2012, table 2), which finds a 26.1-percentage-point difference between African American and white Chapter 13 filing rates. Column 3 adds attorney fixed effects, which account for the possibility that some consumers tend to select attorneys with strong preferences for one style of bankruptcy. This control, by itself, reduces the size of the African American coefficient by over 50 percent. Columns 4 and 5 rerun the analysis on two subsamples: consumers with no debt owed to the City of Chicago and consumers with such debt. We create these subsamples to account for the selection effect documented in this paper: Chapter 13 is particularly attractive to consumers who owe debts to the City of Chicago and are therefore at risk of having their cars seized or licenses suspended. Once we separate the two subsamples in this way, the coefficient on the African American dummy drops by 50 percent again.

Finally, in columns 6 and 7 we include zip-code fixed effects, which help account for differences in commuting time across zip codes. This control causes the African American dummy to fall by over 50 percent again. Thus, with the full battery of controls, the share of Chapter 13 among African American consumers is only 1 or 2 percentage points higher than among white consumers. Selection effects might, therefore, be the primary driver of perceived racial disparities in bankruptcy.

6. Conclusion

It is well understood that Chapter 13 is most valuable to distressed consumers hoping to retain assets they would lose in Chapter 7 or outside bankruptcy. That well-understood phenomenon provides an (at least partial) explanation for racial

Table 5
Racial Steering and Selection Effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
African American	.25** (.000)	.24** (.000)	.10** (.000)	.052** (.000)	.046** (.000)	.022** (.000)	.010** (.008)
Year-quarter fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Law-firm fixed effects	No	No	Yes	Yes	Yes	Yes	Yes
Zip-code fixed effects	No	No	No	No	No	Yes	Yes
<i>N</i>	213,263	213,263	205,103	137,540	63,607	137,540	63,607

** $P < .01$.

disparities in bankruptcy, as illustrated by Chicago's policy. As the city increased the rate at which it seized driver's licenses and cars, residents increased the rate at which they filed for Chapter 13, which allows immediate recovery of those assets and permits discharge of city debt, neither of which is possible in Chapter 7. The increase in Chapter 13 filings was largest for African Americans, who are more likely to incur city debt and who appear to experience larger costs from asset seizure because they have longer commutes to work and amenities. Thus, racial differences in debt burdens and in the costs of debt enforcement help explain well-documented racial disparities in bankruptcy filings.

Our findings suggest that Chapter 13 plays an important role in allowing the working poor to retain access to transportation. In this paper, the importance of Chapter 13 is driven, in part, by a quirk of the bankruptcy code: fines, such as parking tickets, can be discharged in Chapter 13 but not in Chapter 7. But even if this rule were eliminated, Chapter 13 would remain important to the working poor because it permits consumers to retain (and recover) assets that are vulnerable to collection by creditors. For example, a Chapter 13 filing allows a consumer to retain a vehicle that might otherwise be seized by a lender. Because of the importance of Chapter 13 to the working poor, it is puzzling that the same rules apply to both poor and nonpoor debtors. For example, bankruptcy courts often require debtors to pay a minimum recovery to unsecured creditors (for example, 10 percent of outstanding debt).²¹ A requirement like this renders Chapter 13 infeasible or unsuccessful for many poor debtors (see Morrison and Uettwiller 2017). Courts might consider relaxing those rules for the working poor.

Our findings also suggest that, because Chapter 13 may function as the only avenue of relief for the working poor faced with collection efforts that threaten their transportation options, the poor may have very weak bargaining power when they seek legal representation. Bankruptcy attorneys, therefore, are able to charge substantial fees for routine cases. Although Cook County is served by a large number of bankruptcy attorneys, 80 percent of African American debtors are represented by two law firms, which suggests substantial market power. Those attorneys can be assured of payment, even though the vast majority of Chapter 13 cases are dismissed before the debtor completes the repayment plan, because attorneys' fees are paid first as the debtor submits payments pursuant to the plan. Poor debtors, therefore, have weak bargaining power, agree to large fees, but typically receive no discharge because their cases are dismissed. Bankruptcy courts might consider limiting attorneys' fees in Chapter 13 cases, which would help mitigate the effects of the disparity in bargaining power.

Finally, our findings point to the role of nonbankruptcy policies (such as the City of Chicago's enforcement policies) in driving racial disparities in bankruptcy. In Chicago, these disparities would attenuate if the city were to reform its policies for collecting fines. Relative to other large cities such as Los Angeles and New York, Chicago allows its residents to accumulate large balances before tak-

²¹ Technically, this requirement is imposed by Chapter 13 trustees, with court consent; see Morrison and Uettwiller (2017) for a discussion.

ing steps such as seizing a vehicle or suspending a driver's license, as discussed in Sanchez and Kambhampati (2018). Not only is the city slow to collect, but there is no statute of limitations on parking tickets in Chicago (unlike Los Angeles and New York, which have 5- and 8-year limitations periods, respectively). Thus, by the time a driver's license is suspended, the outstanding balance may be much larger than a consumer's ability to pay, which triggers a bankruptcy filing. If the city were to act more quickly to collect fines, or if parking tickets were subject to a limitations period, consumers would have smaller balances when collection efforts commenced and would be more likely to pay those balances (or enter a repayment plan) without a bankruptcy filing.

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