Barriers to Debt Relief through Bankruptcy: Evidence on the Filing Decision from a Legal Technology Platform*

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Abstract

Fewer than 10% of households who would increase their net worth by filing for bankruptcy actually file in any given year, a puzzle dating back to White (1998). We study the bankruptcy filing decision and barriers to filing using data from Upsolve, a non-profit technology organization that provides free bankruptcy preparation software. We study 13,396 Upsolve users who have completed all of their bankruptcy-filing paperwork, 51% of whom file. We characterize drivers of the bankruptcy filing decision and, using a regression discontinuity design based on an income-based eligibility threshold for a waiver of the $338 filing fee, we estimate that the fee reduces the filing rate by 6.1 percentage points. Waiver-ineligible non-filers forgo an average of $49,181 of debt relief. Our results shed light on how even small institutional barriers prevent vulnerable populations from accessing debt relief through bankruptcy.

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1 Introduction

Prospective beneficiaries of government policies frequently do not access the benefits for which they are eligible (Currie, 2006). Barriers to access are policy choices that can enhance welfare when they are less costly for the targeted beneficiaries and vice versa (Nichols and Zeckhauser, 1982; Finkelstein and Notowidigdo, 2019). These barriers can include means testing, application costs, administrative ordeals, and complexity. Despite the centrality to optimal policy design, understanding whether programs are targeted efficiently is often hampered by difficulty observing persons who forgo benefits and estimating the causal deterrent effect of barriers to access.

We study the consumer bankruptcy filing decision, where the benefits of access typically imply tens of thousands of dollars of debt relief and the barriers to access have long been a central component of the policy design.[1] The average Chapter 7 bankruptcy relieves approximately $115,000 of debt (US Courts, 2023). White (1998) estimated that as many as 15 percent of households could increase their net worth by filing for bankruptcy and this remains true of between 8 and 16 percent of individuals, even after a 2005 reform made it less beneficial to file (see Appendix Figure A.1). Yet, fewer than one percent of households file in a typical year. Given the high stakes of the bankruptcy filing decision, it is important to understand how debtors decide whether to file and how barriers to access like court fees affect filing.

New technologies like artificial intelligence are transforming access to financial and legal services, as the costs of distribution and providing personalized service decline with automation (Gisbert, 2024; Strange et al., 2024). We partner with Upsolve, a 501(c)(3) nonprofit that provides technology tools to help debtors complete bankruptcy filing forms without hiring an attorney.[2] Upsolve provides a free substitute for bankruptcy attorneys, which typically cost around $2,000 (O'Neill, 2023), and creates an opportunity to explore who gains access to debt relief through bankruptcy when labor-replacing technologies lower cost barriers.

Upsolve additionally provides a valuable setting in which to study the targeting properties of bankruptcy and the filing decision for three reasons. First, we observe both filers and *prospective*

[1] The bankruptcy code has an unusually punitive policy history with roots in debtors' prisons and highly stigmatized treatment of debtors. See American Bankruptcy Institute (n.d.) for more on this history and examples.

[2] The tool is similar to tax preparation software such as TurboTax, H&R Block, or IRS Free File.

filers who did not file, which enables a rich characterization of who follows through on filing conditional on considering bankruptcy as an option. Specifically, we observe 13,396 Upsolve users who completed their bankruptcy filing paperwork with an average potential discharge above $47,000, only 51% of whom file. Second, the bankruptcy filing petition and associated schedules include much more complete and granular data on prospective filers' debts, assets, income, and expenses than is available in virtually any other dataset on household finances. By partnering with Upsolve, we are also able to supplement this rich data with a survey of their users' financial lives and reasons for considering bankruptcy. Third, Upsolve serves a large number of debtors in difficult financial circumstances who may particularly benefit from debt relief through bankruptcy, and who may be marginally deterred by barriers to filing. In particular, we estimate the effect of the $338 court fee on whether a debtor files using variation in exposure to the filing fee generated. We observe a significant number of debtors around the eligibility threshold for a waiver of the filing fee, which is set at 150 percent of the federal poverty level.

We use a regression discontinuity (RD) design around the fee-waiver eligibility threshold and estimate that debtors are 6.1 percentage points (12%) more likely to file when they qualify for a waiver of the $338 filing fee in our preferred instrumental variables (IV) estimate. In our first stage, we estimate a stark 86.7 percentage-point increase in receipt of the fee waiver for prospective bankruptcy filers below the FPL threshold. We find no evidence of bunching or differences in prospective filers' characteristics around the threshold, which supports the validity of the research design. Our RD results are broadly robust to the specification, included controls, and bandwidth selection. This effect is remarkably large given that waiver-ineligible non-filers just above the threshold have an estimated $49,181 of dischargeable debt on average (median $38,862) and the filing fee is just $338. It is even starker given that 50.8% of waiver-ineligible filers between 150-299% of the FPL pay the filing fee in installments. Consistent with this finding, 96.5% of Upsolve users report that they would be unable to file (56.9%) or would need to delay filing (39.6%) if they had to pay for an attorney. Our results suggest that even small, seemingly innocuous barriers to filing may prevent the neediest debtors from accessing the benefits of debt relief through bankruptcy.

The large effect of the filing fee on filing has important implications for the design of bankruptcy policy. Prior work shows that discharging debt through bankruptcy improves finances, increases

earnings, reduces mortality, and decreases mortgage default (Li et al., 2011; Dobbie and Song, 2015; Dobbie et al., 2017), and these effects could be especially large given the vulnerability of the population we study. Imposing a filing fee as a barrier to accessing the benefits of bankruptcy will only increase welfare if it is more costly for the households who are more likely to abuse the bankruptcy system. We find little evidence that those who are marginally deterred by the filing fee are debtors policymaker might have intended to exclude. On average, they have dischargeable debt equivalent to 15 months of their monthly household income. While policymakers must weigh the cost of more accessible and generous access to bankruptcy against higher costs and lower supply of credit (Mitman, 2016; Gross et al., 2021), it is unlikely that modest fees are an effective screening tool. Liquidity constrained filers are likely to be shunted in Chapter 13 filings with high rates of failure despite having few assets to protect (Argyle et al., 2023). This paper demonstrates that expanded eligibility for fee waivers, technology that lowers filing costs, and policy proposals that would allow Chapter 7 filers to pay filing costs over time (as is allowed in Chapter 13) are likely to have outsized effects on the ability for low-resource households to access debt relief through bankruptcy.

Our research contributes to the literature on the bankruptcy filing decision and the implications for bankruptcy policy. Early papers used data from the SCF and the Panel Study of Income Dynamics (PSID) to examine drivers of the filing decision and showed that the financial benefit, asset exemptions, stigma, and the option to file later all play a role (Gropp et al., 1997; White, 1998; Fay et al., 1998; Chakravarty and Rhee, 1999; Fay et al., 2002). Recent work focuses on the role of credit expansions (White, 2007; Skiba and Tobacman, 2019) and adverse events like job loss (Keys, 2018) and health events (Himmelstein et al., 2005; Dobkin et al., 2018a,b; Himmelstein et al., 2019; Gross et al., 2021). We build on these literatures by analyzing granular new data from prospective filers, half of whom do not file, and their finances and reasons for considering filing. Our regression discontinuity evidence is most closely related to Gross et al. (2014), who find that anticipated liquidity provided by tax rebates increased bankruptcy filings by 2% in 2001 and 6% in 2008 (when rebates were higher), and to Indarte (2023), who finds that filing is five times more responsive to cash-on-hand than the financial benefit using variation in mortgage payment

reductions.[3] We provide new evidence on liquidity barriers to filing by analyzing the causal effect of a direct policy choice – the filing fee and fee waiver eligibility threshold – and provide a rich characterization of who this excludes from debt relief through bankruptcy.

Our results also contribute to the literature on how program design affects the take-up and targeting of social programs. While bankruptcy is an unusual social program in that the primary costs are borne by other borrowers (Gross et al., 2021), these policy choices are especially consequential given the magnitude of the debt eligible for relief for many debtors. Prior studies examine barriers to enrollment by notifying potential beneficiaries of their eligibility for college financial aid (Bettinger et al., 2012), earned income tax credit (EITC) eligibility (Bhargava and Manoli, 2015; Linos et al., 2022), and the supplemental nutritional assistance program (SNAP) (Finkelstein and Notowidigdo, 2019). Our fee waiver RD provides new evidence on how fees, even if small relative to the benefits of the program, can prevent interested recipients from accessing benefits.

The paper proceeds as follows. Section 2 provides background on the U.S. bankruptcy code and Upsolve, Section 3 describes the data, Section 4 provides a simple theoretical model to motivate the empirical analysis, Section 6 describes the results, and Section 7 concludes.

2 Setting

2.1 U.S. Bankruptcy Code

The U.S. bankruptcy code includes two chapters to discharge eligible debts through personal bankruptcy. Chapter 7, intended to give "honest" debtors a "fresh start," enables debtors to discharge eligible debts in exchange for forfeiting their non-exempt assets (US Courts, 2024d). Eligible debts typically include credit card debt, medical debt, utility bills, auto loans, personal loans, and payday loans.[4] Asset exemptions are specified both federally and by state, and they typically

[3] Using variation in wage garnishment rules, Argyle et al. (2020) find that an additional $100 in monthly cash flows actually delays bankruptcy filing by an average of one month.

[4] Three categories of debt are non-dischargeable in Chapter 7 bankruptcy. First, secured debts are not discharged if the underlying collateral is retained (e.g., an auto loan linked to an exempt vehicle). Second, priority claims–unsecured debts whose creditors have priority over general unsecured creditors in bankruptcy, such as domestic support obligations or government fines–are typically not discharged. Finally, student loans are excluded from the standard Chapter 7 discharge. To discharge student loans, a filer must initiate an adversary proceeding and fill out an attestation of "undue hardship." In deciding whether to grant a student loan discharge, the judge considers the filer's current and future ability to repay and whether they made "good faith" efforts to repay before filing (NCLC, 2023).

include exemptions for one's primary residence ("homestead"), motor vehicle, household essentials, health aids, jewelry, and professional implements. In addition, federal and most state exemptions include a "wildcard" exemption that can be used to protect any otherwise non-exempt property. In 31 states, filers are required to use the state's exemptions, while in remaining states filers can select between the state or federal exemptions.

Chapter 13, or a "reorganization" bankruptcy, allows debtors to keep their assets but establishes a judge-approved repayment plan under which the debtor forfeits all of their disposable income over three to five years in order to repay their debts. Filers only receive a discharge if they complete all plan payments on time, unless they request and receive court approval for a "hardship discharge" (US Courts, 2024c). While Chapter 7 requires payment of filing fees and attorney's fees upfront, Chapter 13 allows filers to pay these fees over time as part of their repayment plan.[5] With the exception of the asset protection, Chapter 13 is generally viewed as a worse option for debtors and the majority of Chapter 13 filers fail their repayment plans. Since 2008, only 44% of Chapter 13 filers received a debt discharge (Argyle et al., 2023).

Most bankruptcy filers elect to file using Chapter 7, with 58% of filers using this option in 2023 (US Courts, 2023), but access to Chapter 7 is limited in a few ways. First, eligibility for Chapter 7 bankruptcy is determined by the "means test," which was instituted in 2005 under the Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA). A debtor is automatically eligible if their average monthly household income over the past 6 months exceeds their state's median for their household size. If a debtor's income exceeds this level, they may still be eligible if their disposable income (income less allowed expenses such as housing, child care, and secured debt payments) is insufficient to repay their unsecured debts. Second, debtors may opt for Chapter 13 if they have assets that exceed their eligible exemption levels, including their home even if they have missed mortgage payments or a lender started a foreclosure. Third, debtors may file under Chapter 13 if they cannot afford to pay the filing costs upfront, as is required by Chapter 7.

This paper focuses on the process of filing for Chapter 7 bankruptcy, which requires passing the means test, completing the required forms, and paying upfront costs of around $2,500. The

[5] Porter (2011) writes, "To pay attorney's fees in a lump-sum payment at the time of filing, as is required to file for Chapter 7 bankruptcy, families may have to save up for many months. Chapter 13 permits debtors to pay their attorney's fees as part of their repayment plans. Most attorneys require a modest down payment."

Chapter 7 forms include (1) a voluntary petition which initiates the bankruptcy filing; (2) schedules of assets, liabilities, income, and expenses; (3) a statement of financial affairs which covers any legal proceedings, property transfers, and other relevant financial activities; and (4) a statement of current monthly income used to confirm eligibility under the means test (US Courts, 2024d).

The upfront costs include fees for mandatory pre-filing credit counseling and post-filing debtor education courses which cost up to $50 each,[6] the court fee of $338,[7] and, attorney fees, which are typically the largest component of the cost of filing at around $2,000 (O'Neill, 2023). Most filers work with an attorney, but 6.5% percent of filers file *pro se* (i.e., on one's own behalf) (Federal Judicial Center, 2024). Filers with incomes below 150% of the federal poverty line (FPL) are eligible to apply for a waiver of the $338 court fee (US Courts, 2024b). If ineligible, filers may request to pay the filing fee in up to four installments, with the last installment no more than 120 days after the filing date (US Courts, 2024a).

Debtors who discharge their debt through Chapter 7 are ineligible to file again for eight years and their credit reports include a record of their filing for ten years (US Courts, 2024e). While this negative signal is visible to potential lenders, landlords, and employers, Chapter 7 filers see credit score *increases* of around 80 points in the year after filing with the discharge of their unpaid debts (Jagtiani and Li, 2013).

2.2 Upsolve

We partner with Upsolve, a 501(c)(3) nonprofit organization that provides free online resources to help struggling debtors in the US understand their debt relief options. Upsolve provides informational content and online tools that help debtors dispute their debt, negotiate their debt, or file for personal bankruptcy. Upsolve's leading service is a "TurboTax for Bankruptcy" application that helps users prepare their Chapter 7 bankruptcy filing forms without incurring the cost of an attorney. Through this tool, Upsolve has helped over 13,000 individuals discharge more than $700

[6] Upsolve partners with non-profits that offers the credit counseling course for $14.95 and the debtor education course for $9.95. Regardless of the provider, debtors with incomes below 150% of the FPL are eligible to apply for a fee waiver for these courses but we do not observe these waivers in our data.

[7] The $338 court fee consists of a $245 filing fee, a $78 administrative fee, and a $15 trustee surcharge, and payable upon filing the petition. The Chapter 7 court fee is constant throughout our study period. The fee was last adjusted in December 2020, increasing from $335 to $338 (Rao, 2020).

million of debt since its founding in 2016. Upsolve also maintains a Learning Center website with attorney-written articles on debt- and bankruptcy-related topics such as asset exemptions, debt collection practices, and wage garnishment. Most users arrive at Upsolve's website through web searches that lead them to their Learning Center.

Upsolve's bankruptcy application auto-populates users' Chapter 7 bankruptcy filing paperwork based on their responses to a detailed questionnaire that covers sources of income, secured and unsecured debts, real and personal assets, expenses, and household characteristics. To assist users with filling out the questionnaire, Upsolve pulls their most recent credit report. At the end of the questionnaire, the tool helps users assess their eligibility and apply for the filing fee waiver. To improve accuracy, the application includes built-in logic that restricts unfeasible answers and prompts users to address conflicting answers. These features are designed to replace consultation with a bankruptcy attorney. Upsolve's bankruptcy tool ultimately lowers the costs of filing by eliminating attorney fees, reducing ordeals associated with completing the filing forms, and potentially increasing users' perceived benefits from filing.

Upsolve offers a valuable setting to study the bankruptcy filing decision. We observe all components of 13,396 users' filing forms, including asset and liability-level information, paired with their stated motivations for filing from an intake survey. This granular data allows us to examine the factors that lead users to experience financial distress and consider bankruptcy. While all users in our sample completed their filing paperwork, only 6,855 (51%) ultimately filed, allowing us to compare filers and non-filers. We observe the same detailed information for both sets of users and can thus can explore a large set of observable factors that influence the filing decision. Further, 62% of users have incomes below the fee waiver eligibility threshold (150% FPL), which provides identifying variation for a regression discontinuity (RD) design.

Prospective filers who use Upsolve tend to have lower incomes and fewer assets than the broader population of prospective bankruptcy filers. Appendix Figure A.2 highlights that the median monthly real income among Upsolve users is $1,874, about half of the median for all Chapter 7 filers ($3,510). This skew is driven both by Upsolve's mission of providing cost-free resources and by technical limitations of the bankruptcy tool. Debtors with larger bankruptcy estates and shared ownership of assets (e.g., with a spouse) have complex bankruptcy cases that require more

personalized legal assistance, which the bankruptcy tool is not equipped to provide. Upsolve restricts access to the tool to individuals with simple cases, excluding debtors who own homes, plan to file jointly with a spouse, or are involved in personal injury lawsuits. The tool also does not serve users with high incomes that are likely to fail the means test. Upsolve instead connects these users with a bankruptcy attorney in their area.

While our sample is not representative of all prospective filers, it speaks to the filing decision of liquidity constrained debtors who would significantly benefit from bankruptcy but cannot afford to file through traditional means. Improved targeting of bankruptcy policy would broaden access to filing among this subset of debtors. Some non-profits aim to help low-income debtors by offering personalized filing assistance, but this solution is expensive to implement and challenging to scale due to human capital constraints. Upsolve's fully automated tool circumvents these limitations, providing a scalable technology intervention that could expand access to debt relief through bankruptcy. Appendix Figure A.3 plots the number of Upsolve-eligible filings in the FJC data (non-joint, pro se, no real property), overlaid with the the number of Upsolve filings since 2017 Q2. While total filings dropped sharply during the COVID-19 pandemic and have yet to recover to pre-pandemic levels, the rising number of filings from Upsolve users suggests that Upsolve has expanded access to bankruptcy among low-income, low-asset debtors. Upsolve now accounts for over 20% of Upsolve-eligible filings each quarter.

3 Data

We obtained deidentified data on 13,396 users who completed the bankruptcy filing forms using Upsolve's application between September 2021 to August 2024. We observe each field required to complete the forms including income and expenses, account-level assets and debts, and exemptions used. We also observe responses to an intake survey that asks users their motivations for considering bankruptcy, other actions taken to improve their financial situation, whether they would file in the absence of Upsolve, and basic demographic questions. We can determine whether the user qualified for a filing fee waiver based on their income. Upsolve tracks whether users applied for a fee waiver, filed for bankruptcy, and received a discharge. Over three-quarters of users that filed can be linked to the Federal Judicial Center (FJC) Integrated Database, which records all bankruptcy filings in

the US. For filers in the FJC data, we observe whether a fee waiver was ultimately received.[8]

Table 1 compares the Upsolve sample to all Chapter 7 and Chapter 13 personal bankruptcy filers in the FJC database during our sample period. We present statistics for both non-filers and filers in the Upsolve sample, as well as filers who successfully matched to the FJC database. Consistent with Upsolve's focus on cost-free filing assistance, nearly 100% of Upsolve filers filed *pro se*, in contrast to just 6.5% of all Chapter 7 filers. Approximately 15% of the 44,543 *pro se* Chapter 7 filers during this period used Upsolve to complete their filing forms. The average Upsolve user has significantly lower income ($1,978 vs. $3,707) and assets ($13,621 vs. $82,523), and this difference holds for both filers and non-filers. Accordingly, they are an order of magnitude more likely to have received a fee waiver (49.7% vs. 4.1%). While the average Upsolve user has lower total debt than the average Chapter 7 filer ($79,674 vs. $124,013), this difference is entirely attributed to secured debt ($8,349 vs. $55,760) as homeowners cannot use Upsolve's bankruptcy tool. The average Upsolve filer has higher unsecured debt than the average Chapter 7 filer ($75,935 vs. $69,177), and perhaps surprisingly, the average Upsolve non-filer has nearly as much ($64,954). The combination of lower assets and higher unsecured debt suggests that Upsolve users, both filers and non-filers, would benefit more from Chapter 7 bankruptcy than the average filer.

Table 2 summarizes Upsolve users' demographics and reasons for considering bankruptcy, along with the differences between filers and non-filers. Upsolve users are predominantly middle-aged (59.4% between 35 and 64), unmarried (80.6%), and female (60.5%). 42.4% have dependents and 32.5% receive income from government benefits. Upsolve users are more likely to be Black (28.3%) than the national population. Filers tend to be older and are less likely to be married or have dependents. They are also more likely to receive government benefits and have unstable housing. For both filers and non-filers, the most commonly cited reasons for considering bankruptcy are falling behind on bills (64%), losing one's job (38%), spending irresponsibly (38%), and medical bills (25%).

Appendix Tables A.3 through A.5 provide detailed breakdowns of Upsolve users' assets and liabilities, including an overview of available exemptions and debt dischargeability. Prospective

[8] We do not observe whether users applied for or received fee waivers for the pre-filing credit counseling or post-filing debtor education courses. Some providers automatically waive these fees if the US Bankruptcy Court waived the debtor's filing fee, while other require eligible debtors to complete a form requesting a fee waiver.

filers are in extremely difficult financial circumstances. Of the $79,674 average total debt, we estimate $47,755 to be dischargeable through bankruptcy. In other words, the average Upsolve user stands to discharge debt amounting to over two years worth of income by filing for bankruptcy.

4 Model

4.1 Overview

This section presents a simple theoretical model to motivate our empirical analysis. There is one period. There are many heterogeneous households. Some households receive a private benefit from filing for bankruptcy. These households do not internalize that filing for bankruptcy can impose a negative externality on other households (e.g., higher interest rates).[9] A social planner chooses the cost of filing for bankruptcy. A low filing cost lets more households realize private bankruptcy benefits. A high filing cost raises government revenue and mitigates the negative externality associated with bankruptcy filings.

We introduce two frictions in this model. First, some households are liquidity constrained: they cannot file for bankruptcy, regardless of their potential benefit from filing. Note that we assume the planner can raise filing costs without exacerbating liquidity constraints by allowing for deferred payment or changing the dischargeability of tax claims. In this sense, our liquidity constraints correspond to constraints on paying lawyers. Second, some households underestimate the potential benefits they would receive from filing for bankruptcy.

We prove that both of these frictions harm welfare. Specifically, easing liquidity constraints or educating households about bankruptcy benefits would improve welfare. While both of these interventions lead to more bankruptcy filings, a social planner can mitigate the associated negative externality by increasing the filing cost (or lowering the dischargeability of tax claims). Intuitively, these frictions lead to the "wrong" households filing for bankruptcy. A planner can improve welfare because the marginal bankruptcy that is induced by reducing frictions creates a larger welfare benefit than the marginal bankruptcy that is prevented by raising filing costs. In this sense, liquidity

[9] Our results continue to hold if we instead assume that bankruptcy filings create a positive externality. We focus on negative externalities because the positive-externality version is mechanical: the interventions we consider lead to more bankruptcy filings, so welfare is automatically improved unless there is some offsetting negative externality.

constraints and bankruptcy misinformation are inefficient because they distort the allocation of bankruptcy relief.

4.2 Model Assumptions and Results

There is a unit continuum of households. A social planner chooses the cost c of filing for bankruptcy. Each household i has a private net benefit $B_i - c$ from filing for bankruptcy, where B_i is uniformly distributed on $[B_L, B_H]$ for parameters $B_L < 0 < B_H$.

A fraction μ_L of households are liquidity constrained. Specifically, if the binary random variable $L_i \sim \text{Bernoulli}(\mu_L)$ is equal to one, then household i cannot file for bankruptcy.

A fraction $\mu_M \in [0, 1/2]$ of households are misinformed about bankruptcy. Specifically, if the binary random variable $M_i \sim \text{Bernoulli}(\mu_M)$ is equal to one, then household i believes its private net benefit from filing is $B_i - c - \lambda_M$ for a parameter $\lambda_M \geq 0$. We assume B_H is sufficiently large that $B_H - c - \lambda_M > 0$ for the planner's optimal c, so some misinformed households file for bankruptcy. We assume that B_i, L_i, M_i are mutually independent.

Given these assumptions, household i files for bankruptcy if $L_i = 0$ and $B_i - c - M_i\lambda_M > 0$. The fraction $F(c)$ of households that file for bankruptcy is thus given by

$$F(c) \equiv \mathbb{P}\left(B_i - c - M_i\lambda_M > 0 \text{ and } L_i = 0 \right) = (1 - \mu_L)\frac{B_H - c - \mu_M\lambda_M}{B_H - B_L}.$$

The planner collects $F(c) \times c$ in filing fees and redistributes pc to all households. In other words, the planner can lower taxes overall if they collect more filing-fee revenue.

Finally, there is a negative externality $-X(F(c))$ if a fraction $F(c)$ of households file for bankruptcy, where $X : [0, 1] \to [0, \infty)$ is continuously differentiable. This represents, for example, a deterioration of credit markets that could arise if too many households file for bankruptcy.

The social planner chooses the filing cost c to maximize welfare:

$$\text{Welfare} \equiv \max_c \quad \underbrace{F(c) \times c}_{\text{Filing-fee revenue}} \quad - \quad \underbrace{X(F(c))}_{\text{Credit-market externality}} \quad + \underbrace{\mathbb{E}\big[(B_i - c) \times \mathbf{1}\left(\text{ Household i files }\right)\big]}_{\text{Private bankruptcy benefit}}.$$

Proposition 1. *Welfare is decreasing in μ_M: fixing misinformation about bankruptcy improves*

welfare. Further, if B_H is sufficiently high, then welfare is decreasing in μ_L: easing liquidity constraints improves welfare.

Proof: See Appendix B.

5 Empirical Framework

We use an RD design to estimate the causal effect of the $338 filing fee on the decision to file for bankruptcy. We use the threshold for fee waiver eligibility at 150% of the FPL to estimate the discontinuity in receipt of the fee waiver (and thus exposure to the filing fee). Our running variable is measured at the time when Upsolve evaluated the prospective filer's eligibility for the fee waiver. Applying for the fee waiver is optional, and 93% of those eligible complete the paperwork to apply. Further, users may retroactively change their income after using Upsolve, affecting their eligibility for the waiver. Among waiver applicants who filed and matched to the FJC database, 85% ultimately received a waiver. To account for these cases, we use a fuzzy RD design that instruments for waiver application using the user's reported income. We estimate a two-stage least squares regression with the first stage and second stages taking the following forms:

$$W_i = \alpha_0 + \alpha_1 E_i + \alpha_2(FPL_i - 150) + \alpha_3 E_i \times (FPL_i - 150) + \alpha_4 X_i + \gamma_s + \delta_t + \varepsilon_i \quad (1)$$

$$F_i = \beta_0 + \beta_1 \hat{W}_i + \beta_2(FPL_i - 150) + \beta_3 E_i \times (FPL_i - 150) + \beta_4 X_i + \gamma_s + \delta_t + \varepsilon_i \quad (2)$$

where i indexes users, FPL_i is income as a percentage of FPL, E_i is an indicator for waiver eligibility (determined by $\mathbb{1}[FPL_i < 150]$), and W_i is an indicator for fee waiver application. F_i is the outcome of whether the user files for bankruptcy. The running variable, $(FPL_i - 150)$, represents the percentage-point distance from the 150% eligibility threshold. X_i represents controls for user characteristics, and γ_s and δ_t are calendar year and state fixed effects, respectively. β_1, the effect of receiving the fee waiver ($\hat{W}_i$) on filing (F_i), is our coefficient of interest.

Our baseline specification uses a 149 percentage-point bandwidth and assumes linear relationships above and below the threshold.[10] We additionally present results with quadratic relationships

[10] We select a 149 percentage-point bandwidth to avoid bias from users with zero income, which account for 18% of the sample.

and varying bandwidths to assess robustness to functional form and the bias-variance tradeoff (Lee and Lemieux, 2010). In the X_i term we incrementally add controls for demographics, the log of each category of debt, the log of each category of assets, and indicators for users' reasons for considering bankruptcy. The demographic controls include indicators for age (under 35, 65 or older, or missing; 35 to 64 omitted), gender (female, other, or missing; male omitted), race (black, Hispanic or Latino, or other; white omitted), having dependents, being married, renting housing, having unstable housing, and receiving government income. In all specifications, the X_i term additionally controls for the amount of time the user spent on the questionnaire.

The identifying assumption is that, absent the discontinuity in fee waiver eligibility, the filing rate and any relevant factors for the filing decision would trend smoothly through the discontinuity. In support of this assumption, we use the McCrary (2008) and Cattaneo et al. (2020) tests for manipulation of the running variable, which could suggest selection into eligibility for the fee waiver on unobservable characteristics. We present these tests in Appendix Figure A.4 and find no evidence of bunching around the threshold (p-values of 0.311 and 0.617, respectively). This is also visually evidenced in Figure 1.

To further examine this assumption, we test for discontinuities at the threshold in demographics, amount and composition of debt, amount and composition of assets, and reasons for filing. We present these results in Appendix Table A.6. None of the covariates show statistically significant differences at the threshold under the quadratic specification and only a small number are statistically significant under the linear specification. One natural concern is that eligibility for other government programs might vary around the 150% FPL threshold and additionally influence the filing decision. Appendix Figure A.5 plots eligibility for government benefits as a function of income and shows that the decline in eligibility begins around 100% of FPL and is smooth through the discontinuity.

As additional support for the identification assumption, observe that both the first and second-stage RD estimates are remarkably stable to the sequential addition of controls for demographics, debt, assets, and reasons for filing (Table 3).

6 Results

6.1 Predictors of the Filing Decision

With detailed information on both filers and non-filers, the Upsolve data provides a uniquely rich opportunity to understand how debtors consider the option to file for bankruptcy. We begin by analyzing responses to an intake survey question that asks users why they are considering bankruptcy and which reason is most important. Table 2 summarizes these responses and illustrates that motivations for filing are largely similar across filers and non-filers. Adverse shocks are central drivers of filing: 59% of users list income shocks (job loss, reductions in work hours or wages, or wage garnishment) and 40% list medical shocks (medical bills, illness, or disability) as reasons for considering bankruptcy. These shocks are listed as the main motivation among 31% and 13% of users, respectively. 38% of users report spending irresponsibly as a factor, with 12% citing it as their primary motivation. Other reasons include falling behind on bills (20%) and divorce (5%). While filers are more likely to report income shocks and less likely to report health shocks or irresponsible spending as their top reason for filing, these differences are mostly insignificant and small in magnitude.

While the above characterization provides insight into why these debtors considered bankruptcy in the first place, it does not explain why – conditional on completing the paperwork to file for bankruptcy – only 51% follow through with filing. By observing both filers and interested non-filers, we can use this sample to better understand the bankruptcy filing decision and how factors like the financial benefit, debt, income, assets, demographics, and reasons for considering bankruptcy correlate with the decision to file.

Consistent with existing research (e.g., Fay et al., 2002), Figure 2 shows that the financial benefit a prospective filer stands to gain from filing is a key driver of the bankruptcy filing decision. Panel A plots the distribution of the financial benefit, defined as dischargeable debt minus non-exempt assets and the cost of filing. The mean financial benefit is $41,684 and the median benefit is $31,234. Given the low incomes within our sample (mean annual household income of $23,732), even those with smaller benefits may significantly increase their net worth from filing. Panel B shows that the financial benefit is strongly associated with the decision to file: a 10% increase in

the benefit of filing increases the likelihood of filing by 0.7 percentage points.

Figure 3 plots the coefficients from a multivariate regression of an indicator for filing on demographics, household finances, and reasons for filing, with controls for income, questionnaire completion time, and state and year fixed effects. By controlling for income, we account for the covariance between income and the other regressors. Several relationships are worth highlighting. Surprisingly, not all debts are positively correlated with following through on filing in the Upsolve sample. Credit card, medical debt, and priority claims are strongly positively associated with filing, while auto debt and debt in collections are *negatively* associated with filing. The auto debt relationship may reflect an aversion to asset forfeiture, as these loans are secured by a vehicle and only dischargeable if the vehicle is surrendered. Debt in collections may be less of a factor because little of this debt is ever repaid and it has smaller financial consequences than other types of debt (Kluender et al., 2024). Upsolve users with more assets, particularly liquid assets, are much more likely to file, which reflects that available resources may be an important driver of filing. Among the reasons for considering bankruptcy, only wage garnishment has a significant positive coefficient, suggesting this is an important trigger for filing.

6.2 Effects of the Filing Fee

Figure 1 presents the first-stage estimates of income on application for the filing fee waiver, as estimated in equation 1. Panels A and B present the distribution of income, with the colors of the bars indicating who opted to apply for a fee waiver (red), apply to pay the fee in installments (blue), or pay the fee in full (green). Panel C plots the first-stage RD estimate from our baseline specification, which includes a 149-percentage-point bandwidth, a linear polynomial fit, and the full set of controls. Users just below the threshold are 86.7 percentage points more likely to receive the fee waiver than those just above the threshold. The majority of prospective filers who are ineligible for the fee waiver receive an accommodation which allows them to pay the filing fee in installments rather than upfront. Given this partial remediation of the liquidity barrier to filing for bankruptcy for those above the threshold, we will understate the impacts of the $338 filing fee on the filing rate relative to a world in which the fee much be paid in full by everyone who does not receive a waiver.

Figure 4 presents the second-stage estimates of the fee waiver on bankruptcy filing. We observe

a positive relationship between income and filing below the fee waiver eligibility threshold that flattens above the threshold, and a clear discontinuity in filing at threshold. The $338 filing fee significantly reduces the likelihood of filing by 6.1 percentage points (12%, p-value = 0.002). We emphasize that this estimate reveals an extraordinary degree of sensitivity to the financial barriers prospective filers face in order to obtain debt relief. This sensitivity would be difficult to generate in any theoretical model that does not include extreme binding liquidity constraints or non-financial perceptions that generate ambivalence toward filing (making individuals more sensitive to small marginal barriers).

Our results are broadly robust to alternative specifications. Table 3 presents first- and second-stage estimates for both the linear and quadratic specifications, incrementally adding controls for demographics, debt, assets, and reasons for considering bankruptcy (our baseline specification includes the full set of controls). The RD estimate generally increases in magnitude with the number of controls, varying from 4.2 to 6.8 percentage points across specifications, and it broadly remains significant at the 5% level. In Appendix Table A.7, we vary the bandwidth from 50 to 150 percentage points around the fee waiver eligibility threshold (our baseline uses a 149-percentage-point bandwidth). The magnitude and direction of our estimate is robust to bandwidth selection up to 75 percentage points. As expected given the drop-off in sample size, the significance declines with narrower bandwidths.

7 Conclusion

We analyze the decision to file for bankruptcy using an RD that exploits an income threshold discontinuity in eligibility for a fee waiver, we find the $338 bankruptcy filing fee reduces the filing rate by 6.1 percentage points among prospective filers. Those marginally excluded from filing forgo an average of $49,181 of debt relief.

Future versions of this paper will provide more thorough characterizations of the filing fee "compliers" and the targeting implications of the effects we estimate.

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Table 1. Summary Statistics: Upsolve Users vs. All Chapter 7 Filers

	Upsolve				FJC	
	All (1)	Non-Filers (2)	Filers (3)	∩ FJC (4)	Ch. 7 (5)	Ch. 13 (6)
Panel A: Filing characteristics (%)						
Prior filer	.	.	.	3.5	7.9	36.4
Chapter 7	.	.	99.8	99.7	100.0	0.0
Joint filing	.	.	.	0.2	14.4	17.0
Applied for waiver	58.4	59.3	57.4	57.1	.	.
Received fee waiver	.	.	.	49.7	4.1	0.0
Pro se	.	.	98.8	97.3	6.5	7.3
Panel B: Filing outcomes (%)						
Discharged	.	.	70.4	89.8	77.5	0.6
Asset case	.	.	.	4.3	5.6	99.7
Panel C: Monthly income ($)						
Monthly household income	1,978	1,931	2,022	2,017	3,707	5,109
Panel D: Assets ($)						
Total assets	13,621	13,075	14,143	14,240	82,523	166,666
Panel E: Debts ($)						
Total debt	79,674	74,583	84,530	82,487	124,013	177,515
Secured debt	8,349	8,635	8,076	8,076	55,760	127,323
Unsecured priority debt	3,755	3,404	4,090	3,882	2,356	4,421
Unsecured non-priority debt	66,819	61,550	71,845	69,960	66,821	58,366
Panel F: Region (%)						
Northeast	14.0	13.0	15.0	14.9	11.6	10.2
Midwest	24.1	25.9	22.3	22.2	28.1	22.2
South	32.6	34.1	31.1	30.8	35.3	56.0
West	29.3	27.0	31.6	32.0	24.4	9.9
Observations						
N	13,396	6,541	6,855	5,304	682,286	462,113

Notes: Table compares Upsolve filers and non-filers to individuals in the Federal Judicial Center (FJC) Integrated Database who filed for personal bankruptcy (Federal Judicial Center, 2024). We also present statistics for Upsolve filers who were successfully matched into the FJC database. The FJC sample is limited to individuals with consumer debt who filed new Chapter 7 or 13 bankruptcy cases between September 1, 2021 and June 30, 2024. Income, assets, and debts are deflated to August 2024 prices and winsorized at the 99^{th} percentile. For the Upsolve sample, monthly income, assets, and debt are as of the Upsolve interview date. For the FJC sample, data are as of the closing date if the bankruptcy case is closed, and they are as of June 30, 2024 if the bankruptcy case is still pending.

Table 2. Demographics and Reasons for Bankruptcy: Upsolve Filers vs. Non-Filers

	Means			t-test	
	Full sample	Filers	Non-filers	Difference	p-value
	(1)	(2)	(3)	(4)	(5)
Panel A: Demographics (%)					
Age 18 to 34	34.3	31.9	37.0	-5.1	0.00
Age 35 to 64	59.4	60.8	57.9	2.9	0.00
Age 65 or older	6.3	7.3	5.1	2.2	0.00
Male	38.2	38.4	38.0	0.4	0.62
Female	60.5	60.4	60.7	-0.3	0.72
Black	26.6	26.6	26.6	-0.0	0.96
Hispanic or Latino	12.1	11.8	12.4	-0.5	0.35
White	56.7	55.9	57.5	-1.6	0.06
Panel B: Household characteristics (%)					
Has dependents	42.4	40.4	44.5	-4.1	0.00
Married	19.4	18.0	20.8	-2.8	0.00
Rents housing	53.2	54.7	51.6	3.1	0.00
Unstable housing	3.6	2.7	4.5	-1.8	0.00
Government benefits	32.5	33.7	31.2	2.5	0.00
Panel C: Census region (%)					
Northeast	14.0	15.0	13.0	2.0	0.00
Midwest	24.1	22.3	25.9	-3.5	0.00
South	32.6	31.1	34.1	-3.0	0.00
West	29.3	31.6	27.0	4.6	0.00
Panel D: Reasons for considering bankruptcy (%)					
Behind on bills	63.8	61.9	65.8	-4.0	0.00
Lost job	37.8	37.9	37.7	0.2	0.85
Spent irresponsibly	37.6	36.7	38.6	-1.9	0.02
Medical bills	25.1	23.8	26.6	-2.8	0.00
Sick or disabled	23.6	22.9	24.2	-1.3	0.07
Hours or pay cut	19.9	19.8	20.1	-0.3	0.66
Wages garnished	13.2	13.0	13.4	-0.4	0.47
Divorce	11.7	11.3	12.1	-0.8	0.17
Other reason	48.5	47.9	49.1	-1.2	0.16
Panel E: Top reason for considering bankruptcy (%)					
Behind on bills	20.1	19.4	20.8	-1.4	0.04
Lost job	17.6	17.9	17.3	0.6	0.33
Spent irresponsibly	12.4	12.0	12.7	-0.7	0.21
Medical bills	2.9	2.6	3.2	-0.7	0.02
Sick or disabled	10.4	10.4	10.5	-0.1	0.78
Hours or pay cut	5.2	5.7	4.8	0.9	0.01
Wages garnished	8.2	8.5	7.9	0.6	0.22
Divorce	4.5	4.6	4.4	0.2	0.56
Other reason	18.6	18.9	18.3	0.6	0.39
Observations					
N	13,396	6,855	6,541		

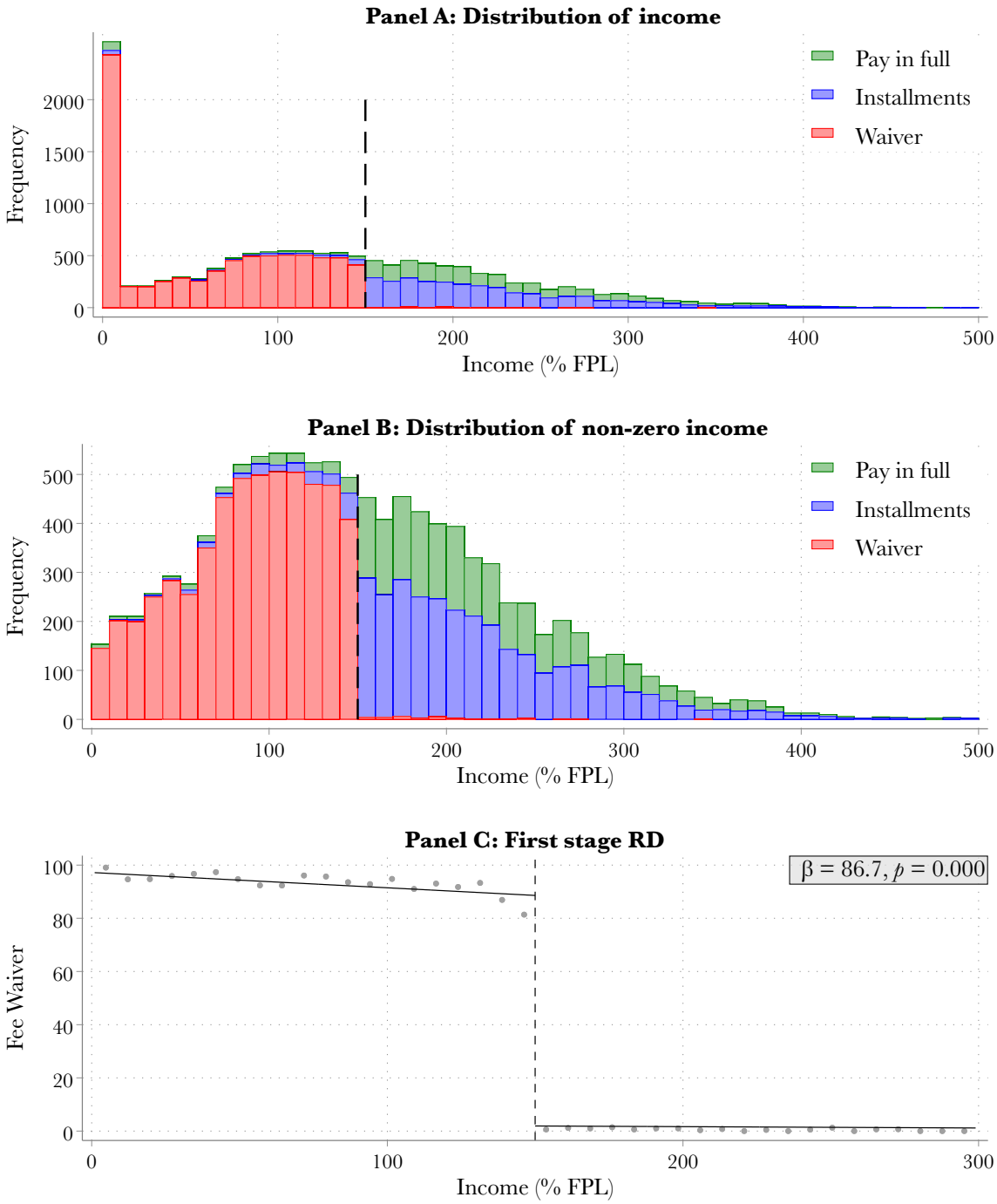
Notes: Table presents summary statistics for the full Upsolve sample, those who file for bankruptcy, and those who do not file. The two rightmost columns report the difference in means between filers and non-filers and the p-value for the difference in means t-test. 648 users do not report gender, 3,292 do not report age, and 798 do not report race or ethnicity; these users are excluded from the respective statistics. Users may select multiple race and ethnicity categories and multiple reasons for considering bankruptcy, but only one top reason for considering bankruptcy.

Table 3. Upsolve Fee Waiver Eligibility RD Estimates

	(1)	(2)	(3)	(4)	(5)
Panel A: Linear RD					
Coefficient on Below 150% FPL (E_i)	87.3	86.8	86.8	86.7	86.7
	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Coefficient on Waiver ($\hat{W}_i$)	4.6	4.2	5.7	6.2	6.1
	(2.1)	(2.1)	(2.0)	(2.0)	(2.0)
	[0.025]	[0.042]	[0.005]	[0.002]	[0.002]
R^2	0.017	0.028	0.058	0.065	0.071
Panel B: Quadratic RD					
Coefficient on Below 150% FPL (E_i)	83.8	83.9	83.9	83.9	83.9
	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Coefficient on Waiver ($\hat{W}_i$)	6.0	6.2	6.8	6.7	6.6
	(3.2)	(3.1)	(3.1)	(3.1)	(3.1)
	[0.060]	[0.049]	[0.028]	[0.030]	[0.033]
R^2	0.018	0.029	0.058	0.065	0.071
Observations					
N	10,376	10,376	10,374	10,374	10,374
Controls					
State FE	Yes	Yes	Yes	Yes	Yes
Year-month FE	Yes	Yes	Yes	Yes	Yes
Demographics		Yes	Yes	Yes	Yes
Debt			Yes	Yes	Yes
Assets				Yes	Yes
Reasons for considering bankruptcy					Yes

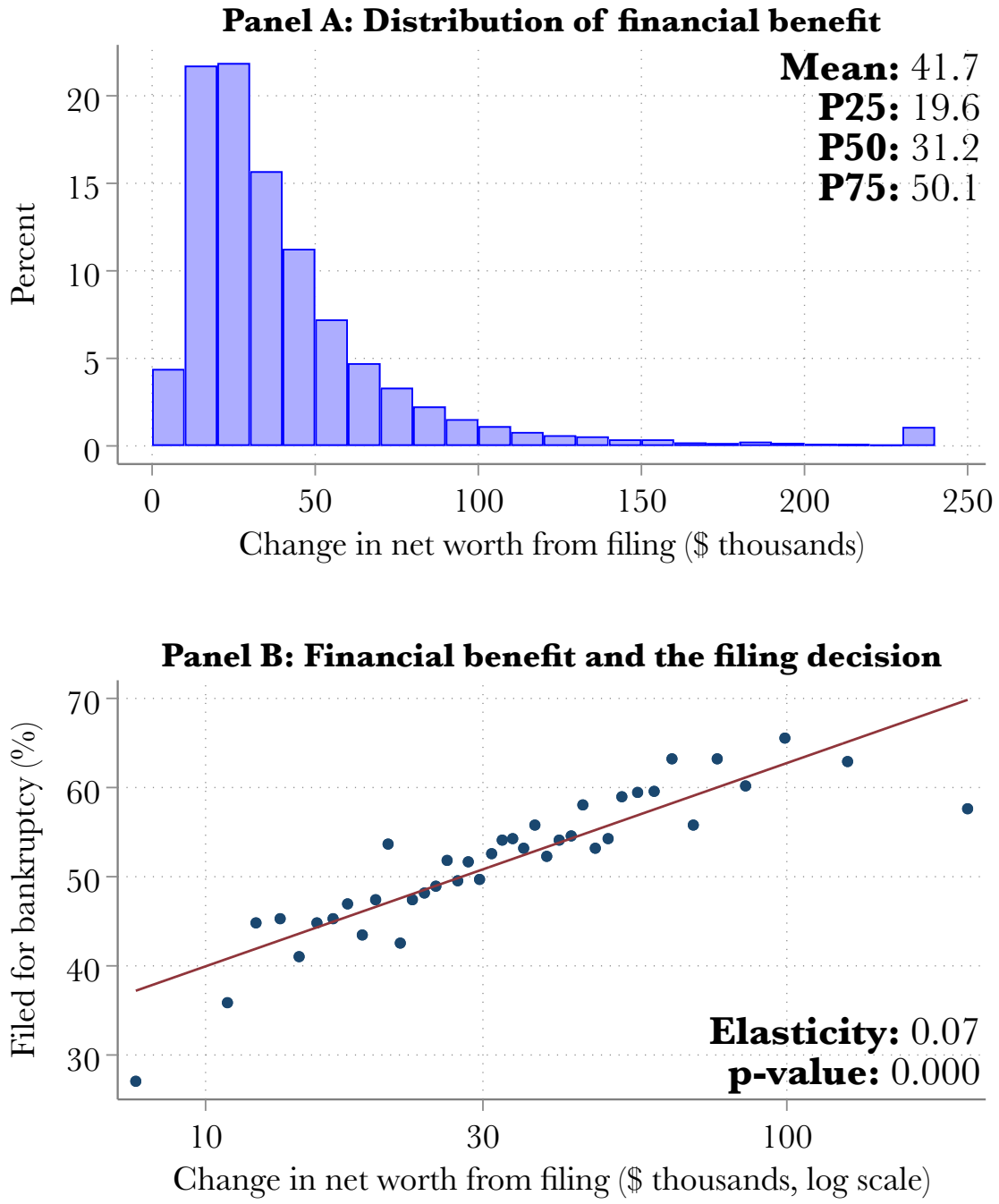
Notes: Table presents linear and quadratic RD estimates from the Upsolve fuzzy RD model outlined in Equations 1, using a 149-percentage-point bandwidth. All columns include state and year-month fixed effects and control for time to complete the questionnaire, and each column incrementally adds controls for demographics, debt, assets, and reasons for considering bankruptcy (these controls are outlined in Section 5). The coefficients on "Below 150% FPL" are first-stage estimates, and the coefficients on "Waived" are second-stage estimates. Robust standard errors and p-values are reported in parentheses and square brackets, respectively, below the point estimates.

Figure 1. Distribution of Applicant Income and First Stage



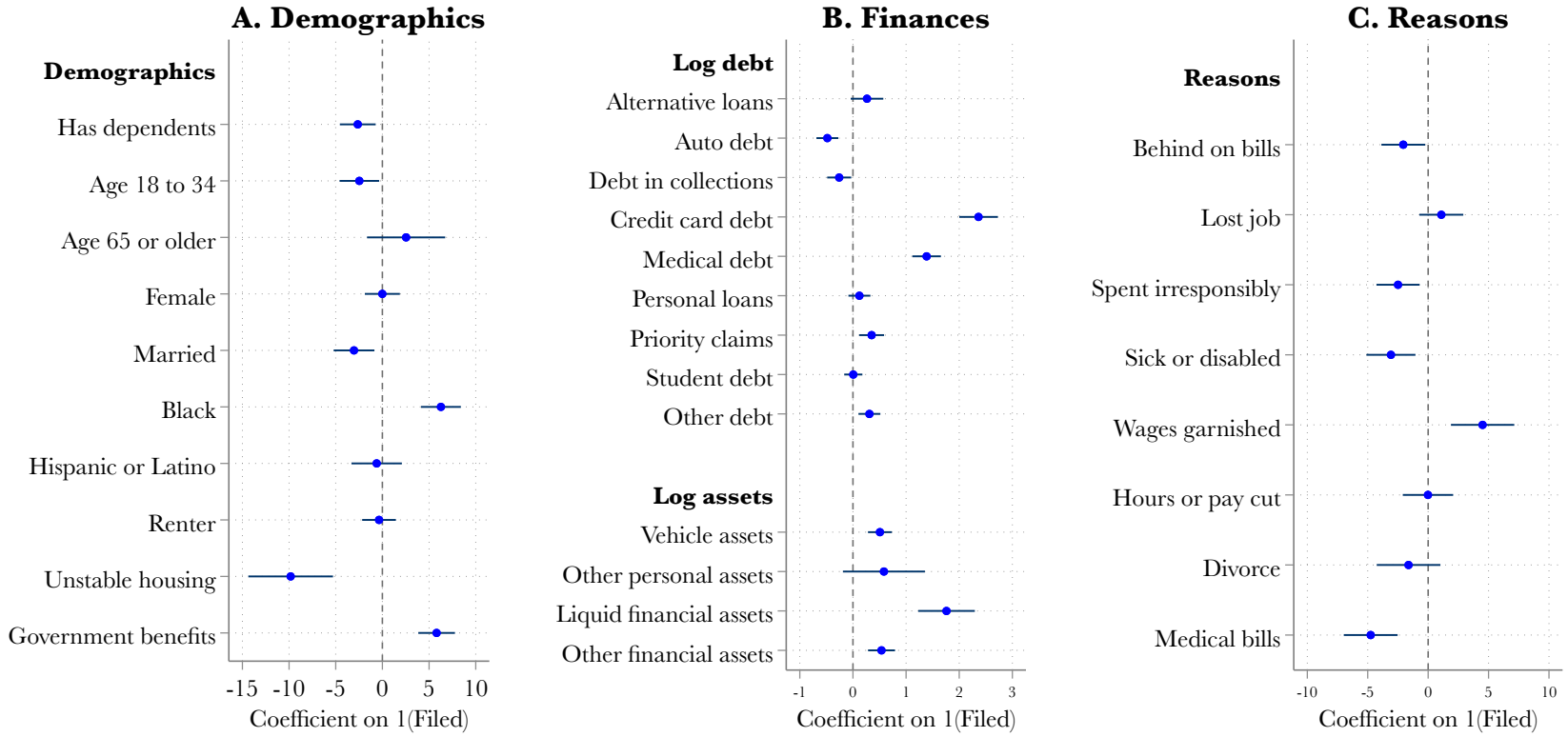
Notes: Panel A presents the distribution of income as a percent of the FPL, highlighting users who received a fee waiver, paid the fee in installments, or paid the fee in full. Excludes 18 outliers with income above 500% of the FPL. Panel B shows the same distribution, excluding 2,405 users with zero income. Panel C shows the first-stage effect of fee-waiver eligibility (income below 150% FPL) on receiving a fee waiver, using a 149-percentage-point bandwidth, state and year-month fixed effects, and controls for questionnaire completion time, demographics, debt, assets, and reasons for considering bankruptcy (outlined in Section 5). The RD estimate and corresponding p-value is included in the top right of panel C. Dots show the mean approval rate for 40 quantile income bins. Solid lines are fitted values from a second-order polynomial.

Figure 2. Upsolve Financial Benefit from Filing and the Filing Decision



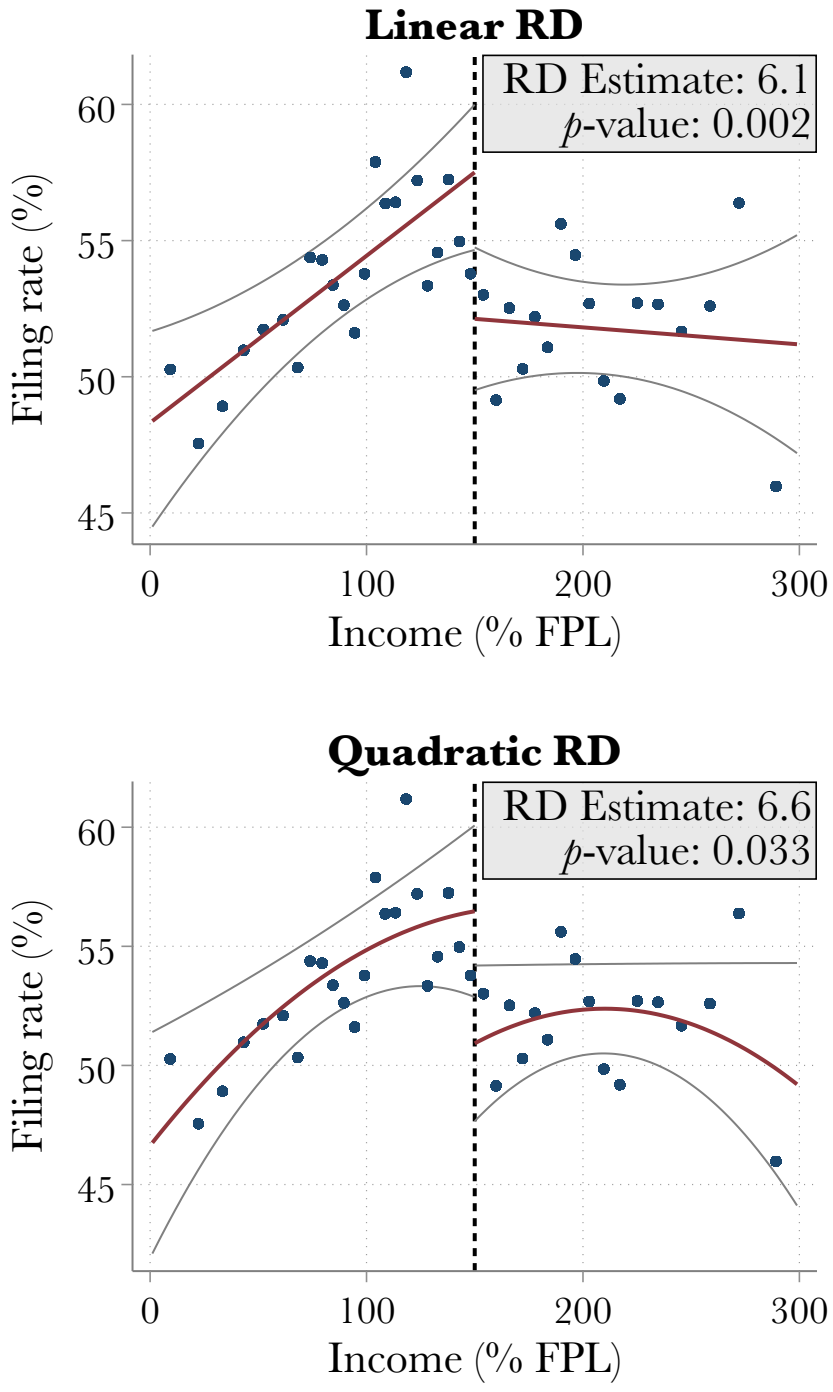
Notes: Figure shows the distribution of Upsolve users' financial benefit from filing (Panel A) and the relationship between the financial benefit (on a log scale) and the likelihood of filing (Panel B). The financial benefit from filing is the change in net worth one would experience if they filed for Chapter 7 bankruptcy, calculated using Equation A. The financial benefit is deflated to August 2024 prices and winsorized the at the 99th percentile. In Panel B, the binned scatterplot includes 40 quartile bins, and the red line represents a fitted line from the regression of the filing decision on log financial benefit. The estimated elasticity and p-value from this regression are in the bottom right of the plot.

Figure 3. Multivariate Regression of Filing Status on Controls



Notes: Figure plots estimated coefficients from a multivariate regression of Upsolve users' filing decision on demographics, the log of each debt and asset category, indicators for users' primary reasons for considering bankruptcy, income (percent of FPL), questionnaire completion time, and state and year-month fixed effects. We exclude the coefficients on income, questionnaire completion time, and fixed effects from the coefficient plots. "Alternative loans" includes payday loans, cash advances, lease-to-own debt, and buy-now-pay-later (BNPL) debt. The bands around each coefficient represent 95% confidence intervals.

Figure 4. Linear and Quadratic RD Estimation



Notes: Figure plots the linear and quadratic RD models outlined in Equations 1 and estimated in Table 3, using a 149-percentage-point bandwidth. Includes state and year-month fixed effects and controls for demographics, debt, assets, and reasons for considering bankruptcy (all covariates shown in Figure 3). The RD estimate and corresponding p-value is included in the top right of each plot. Dots show the mean approval rate for 40 quantile income bins. Solid lines are fitted values from the first- and second-order polynomials with a uniform kernel; bands show 95% confidence intervals.

A Financial Benefit from Filing

Following White (1998), we calculate the percent of US households that would benefit from filing for Chapter 7 bankruptcy using data from the Survey of Consumer Finances (SCF). The financial benefit from filing is defined as the increase in net worth that results from filing. Bankruptcy affects a household's net worth through (1) the relief of dischargeable debts, (2) the sale of nonexempt assets, and (3) the imposition of bankruptcy filing costs (e.g., the filing fee, legal fees, the cost of required credit counseling and financial management courses). White (1998) ignores the filing costs and calculates the financial benefit from bankruptcy as follows:

$$FinBen_i = max(Discharged_i - Nonexempt_i, 0)$$

Asset exemptions are set at the state level; however, some states allow filers to select between state exemptions and federal exemptions.[11] Federal and state exemptions can vary widely, with some states much more or less generous than the federal exemptions. Table A.1 shows the main exemptions that are typically included, along with the current federal limits. In the federal exemptions and in many states, married couples who file jointly may claim two sets of exemptions.

Table A.1. Bankruptcy Exemptions

Exemption	**Typical Coverage**	**Current Federal Limit**
Homestead	Equity in one's primary residence	$27,900
Vehicle	One motor vehicle	$4,450
Personal Assets	Personal items (e.g. furniture, appliances, clothing)	$14,875
Jewelry	Jewelry	$1,875
Tools of the Trade	Tools used for work (e.g., books, instruments, tools)	$2,800
Life Insurance	Life insurance policy with cash value	$14,875
Wildcard	Any assets not covered by other exemptions	$1,475
Unused Homestead	Any assets not covered by other exemptions (only available if homestead exemption was not fully used)	Up to $13,950

In our calculation, we apply the federal exemptions to all households as we do not have access to restricted SCF data, which includes information on each respondent's state of residence. We assume that all households would use all available exemptions, including the wildcard and unused homestead exemptions. This exercise requires assumptions about the order in which households would apply exemptions, both across and within categories. Table A.2 below illustrates the order in which we apply exemptions.

Next, we calculate dischargeable and nondischargeable debt. Dischargeable debt includes credit card debt, consumer loans, and secured debt associated with nonexempt assets. Nondischargeable

[11] As of November 2023, 17 out of 50 states allow filers to choose between state and federal exemptions. In these states, filers cannot mix and match state and federal exemptions —they must apply the same set of exemptions across all assets.

Table A.2. Financial Benefit Calculation Example

	Step	Household Assets	Remaining Exemptions	Explanation
#1:	Homestead	Home Equity: $10,000 (E)	Homestead: $17,900 Wildcard: $1,475 Unused Homestead: $13,950	Homestead exemption covered all of home equity.
#2:	Motor Vehicles	Vehicle #1: $20,000 (NE) Vehicle #2: $3,500 (E) Vehicle #3: $1,200 (E)	Vehicle: $950 Wildcard: $275 Unused Homestead: $13,950	Cannot exempt vehicle #1 because equity is higher than the vehicle, wildcard, and unused homestead exemptions combined. Covered higher-value vehicle with vehicle exemption, then lower-value vehicle with wildcard.
#3:	Businesses	Business #1: $5,000 (E)	Wildcard: $0 Unused Homestead: $9,225	No business exemption; applied wildcard and unused homestead.
#4:	Other Property	Property #1: $2,000 (E)	Wildcard: $0 Unused Homestead: $7,225	No other property exemption; applied wildcard and unused homestead.
#5:	Non-Motor Vehicles	Motorcycle: $2,500 (E)	Wildcard: $0 Unused Homestead: $4,725	No other vehicle exemption; applied wildcard and unused homestead.
#6:	Personal Items	Fridge: $600 (E) Dishwasher: $600 (E) Bed: $500 (E) Couch: $400 (E)	Personal: $12,775 Wildcard: $0 Unused Homestead: $4,725	Personal items exemption covered all personal items.
#7:	Jewelry	Wedding Ring: $1,250 (E)	Jewelry: $225 Wildcard: $0 Unused Homestead: $4,725	Jewelry exemption covered all jewelry.
#8:	Life Insurance	Cash Value: $16,000 (E)	Life Insurance: $0 Wildcard: $0 Unused Homestead: $3,600	Unused homestead covered remainder of policy.
#9:	Financial Assets	Checking: $750 (E) Savings: $500 (E) IRA: $5,000 (E)	Wildcard: $0 Unused Homestead: $2,350	Unused homestead covered checking and savings accounts. Retirement accounts are covered by a separate exemption with no dollar limit.

This table demonstrates a hypothetical example of how we apply bankruptcy exemptions in the financial benefit calculation. The rows indicate the order in which we apply exemptions. Next to each asset, "E" indicates the asset is exempt and "NE" indicates the asset is nonexempt. With each asset category, we first exempt the highest-value asset that fits within the combined value of the applicable exemption and the remaining wildcard and unused homestead exemptions. We repeat this process with remaining assets in the category, then move to the next category.

debt includes student debt and secured debt associated with exempt assets. For example, any debt associated with Vehicle #1 in the table above would be exempt, while any debt associated with Vehicle #2 would be nonexempt.

Finally, we update the framework from White (1998) in two ways. First, we show what portion of households that would financially benefit from bankruptcy are actually eligible to file. This

distinction is important because the Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) of 2005 implemented a new means test that imposed eligibility requirements on who can file for Chapter 7 bankruptcy. Previously, all prospective filers could select between Chapter 7 and Chapter 13. The means test requires the filer's monthly income, less any allowable expenses (e.g., mortgage, rent, food, medical bills), to be below the median monthly income in his or her state of residence. Given data limitations with the SCF, we compare the filer's income less mortgage and rent payments to the national median income (.

Second, we incorporate a portion of bankruptcy filing costs by subtracting the filing fee from net worth. As of November 2023, this fee is $338 for Chapter 7 bankruptcy. The financial benefit equation is shown in Equation A below.

$$FinBen_i = max(Discharged_i - Nonexempt_i - Fee_i, 0)$$

The results are shown below in Figure A.1.

B Model Details

Recall: The social planner chooses the filing cost c to maximize welfare:

$$\text{Welfare} \equiv \max_c \quad \underbrace{F(c) \times c}_{\text{Filing-fee revenue}} \quad - \quad \underbrace{X(F(c))}_{\text{Credit-market externality}} \quad + \underbrace{\mathbb{E}\big[(B_i - c) \times \mathbf{1}\left(\text{ Household i files }\right)\big]}_{\text{Private bankruptcy benefit}}.$$

Proposition 1. *Welfare is decreasing in μ_M: fixing misinformation about bankruptcy improves welfare. Further, if B_H is sufficiently high, then welfare is decreasing in μ_L: easing liquidity constraints improves welfare.*

Proof:

The c terms in the welfare expression cancel. We are left with

$$\begin{aligned}
&- X(F(c, \mu_M, \mu_L)) + (1 - \mu_L) \left(\mu_M \int_{c+\lambda_M}^{B_H} \frac{b}{B_H - B_L} db + (1 - \mu_M) \int_{c}^{B_H} \frac{b}{B_H - B_L} db \right) \\
&= -X(F(c, \mu_M, \mu_L)) + (1 - \mu_L) \left(\mu_M \frac{B_H^2 - (c + \lambda_M)^2}{2(B_H - B_L)} + (1 - \mu_M) \frac{B_H^2 - (c)^2}{2(B_H - B_L)} \right).
\end{aligned}$$

Differentiate with respect to c:

$$-X'(F(c, \mu_M, \mu_L))F_c(c, \mu_M, \mu_L) + (1 - \mu_L) \left(\mu_M \frac{-(c + \lambda_M)}{(B_H - B_L)} + (1 - \mu_M) \frac{-c}{(B_H - B_L)} \right) = 0.$$

Noting that $F_c = -(1 - \mu_L)/(B_H - B_L)$, this simplifies to

$$X'(F(c, \mu_M, \mu_L)) = c + \mu_M \lambda_M.$$

This is optimal because the second derivative is always negative so long as $X'' \geq 0$

$$-X''(F(c, \mu_M, \mu_L))(F_c(c, \mu_M, \mu_L))^2 + \frac{-(1 - \mu_L)}{(B_H - B_L)} < 0.$$

Let $c^*(\mu_M, \mu_L)$ denote the value satisfying this equation. Now, differentiate the planner objective with respect to μ_L:

$$
\begin{aligned}
&- X'(F(c^*,\mu_M,\mu_L))\ \left(\ F_c(c^*,\mu_M,\mu_L)c^*_{\mu_L} + F_{\mu_L}(c^*,\mu_M,\mu_L)\ \right)\\
&- \left(\ \mu_M \frac{B_H^2-(c^*+\lambda_M)^2}{2(B_H-B_L)} + (1-\mu_M)\frac{B_H^2-(c^*)^2}{2(B_H-B_L)}\ \right)\\
&+ c^*_{\mu_L}(1-\mu_L)\left(\ \mu_M \frac{-(c^*+\lambda_M)}{(B_H-B_L)} + (1-\mu_M)\frac{-c^*}{(B_H-B_L)}\ \right).
\end{aligned}
$$

Applying the first order condition for the optimal c^* (Envelope theorem),

$$
-X'(F(c^*,\mu_M,\mu_L))F_{\mu_L}(c^*,\mu_M,\mu_L) - \left(\ \mu_M \frac{B_H^2-(c^*+\lambda_M)^2}{2(B_H-B_L)} + (1-\mu_M)\frac{B_H^2-(c^*)^2}{2(B_H-B_L)}\ \right).
$$

Note that $F_{\mu_L} = -\left(\ \frac{B_H-(c^*+\mu_M\lambda_M)}{B_H-B_L}\ \right)$, so this simplifies to

$$
X'(F(c^*,\mu_M,\mu_L))\ \left(\ B_H-(c^*+\mu_M\lambda_M)\ \right) - \frac{1}{2}\left(\ B_H^2-(c^*)^2-2\mu_M c^*\lambda_M-\mu_M\lambda_M^2\ \right).
$$

Applying the condition that $X' = c^*+\mu_M\lambda_M$, and omitting the $*$ superscript,

$$
(c+\mu_M\lambda_M)\ \left(\ B_H-(c+\mu_M\lambda_M)\ \right) - \frac{1}{2}\left(\ B_H^2-c^2-2\mu_M c\lambda_M-\mu_M\lambda_M^2\ \right).
$$

Expanding terms,

$$
cB_H - c^2 - c\mu_M\lambda_M + \mu_M\lambda_M B_H - c\mu_M\lambda_M - \mu_M^2\lambda_M^2 - \frac{B_H^2}{2} + \frac{c^2}{2} + \mu_M c\lambda_M + \frac{\mu_M\lambda_M^2}{2}.
$$

Cancelling terms,

$$
cB_H - \frac{c^2}{2} - c\mu_M\lambda_M + \mu_M\lambda_M B_H - \mu_M^2\lambda_M^2 - \frac{B_H^2}{2} + \frac{\mu_M\lambda_M^2}{2}.
$$

Note that

$$
\frac{1}{2}(B_H-c-\lambda_M\mu_M)^2 = \frac{B_H^2+c^2}{2} - B_H c + \frac{\lambda_M^2\mu_M^2}{2} - \lambda_M\mu_M(B_H-c),
$$

so the derivative is

$$
-\frac{1}{2}(B_H-c-\lambda_M\mu_M)^2 + \frac{\mu_M\lambda_M^2}{2}\ \left(\ 1-\mu_M\ \right).
$$

The first term is negative while the second term is bounded by $\lambda_M^2/8$. Note that $c-\lambda_M\mu_M = X'$ is bounded, so this is negative for large B_H.

Next, differentiate with respect to μ_M:

$$- X'(F(c^*, \mu_M, \mu_L)) \left(F_c(c^*, \mu_M, \mu_L) c^*_{\mu_M} + F_{\mu_M}(c^*, \mu_M, \mu_L) \right) + (1 - \mu_L) \left(\frac{-\lambda_M^2 - 2c^* \lambda_M}{2(B_H - B_L)} \right)$$

$$+ c^*_{\mu_L} (1 - \mu_L) \left(\mu_M \frac{-(c^* + \lambda_M)}{(B_H - B_L)} + (1 - \mu_M) \frac{-c^*}{(B_H - B_L)} \right).$$

Once again, we can apply Envelope theorem to get

$$-X'(F(c^*, \mu_M, \mu_L)) F_{\mu_M}(c^*, \mu_M, \mu_L) + (1 - \mu_L) \left(\frac{-\lambda_M^2 - 2c^* \lambda_M}{2(B_H - B_L)} \right).$$

Noting that $F_{\mu_M} = -(1 - \mu_L)\lambda_M / (B_H - B_L)$ and $X' = c^* + \mu_M \lambda_M$,

$$(c^* + \mu_M \lambda_M)\lambda_M - (\frac{\lambda_M^2}{2} + c^* \lambda_M) = \lambda_M^2 (\mu_M - \frac{1}{2}) < 0.$$

Appendix Tables

Table A.3. Filers vs. Non-Filers: Assets and Debts

	Means			t-test	
	Full sample (1)	Filers (2)	Non-filers (3)	Difference (4)	p-value (5)
Panel A: Total assets and debt ($)					
Total assets	13,621	14,143	13,075	1,067	0.00
Total debt	79,674	84,530	74,583	9,947	0.00
Secured debt	8,349	8,076	8,635	-559	0.03
Unsecured debt	70,842	76,174	65,251	10,923	0.00
Dischargeable debt	47,755	51,764	43,551	8,213	0.00
Non-dischargeable debt	29,442	30,093	28,760	1,334	0.11
Panel B: Average age of debt (years)					
Average age of debt	4.5	4.7	4.4	0.3	0.00
Panel C: Asset types owned (%)					
Vehicle assets	65.2	68.0	62.4	5.5	0.00
Other personal assets	100.0	100.0	100.0	0.0	.
Liquid financial assets	100.0	100.0	100.0	0.0	.
Other financial assets	78.0	80.1	75.8	4.2	0.00
Panel D: Asset values ($)					
Vehicle assets	6,876	7,148	6,591	557	0.00
Other personal assets	2,134	2,190	2,076	114	0.00
Liquid financial assets	460	499	419	80	0.00
Other financial assets	3,979	4,131	3,820	311	0.09
Panel E: Debt types owed (%)					
Alternative loans[1]	19.8	19.9	19.7	0.2	0.76
Auto debt	60.4	57.7	63.3	-5.6	0.00
Credit card debt	93.9	95.6	92.1	3.5	0.00
Debt in collections	65.6	61.8	69.6	-7.9	0.00
Medical debt	29.6	33.1	26.0	7.1	0.00
Personal loans	37.0	37.6	36.4	1.2	0.17
Priority claims	24.9	26.8	23.0	3.7	0.00
Student debt	49.5	49.5	49.5	0.0	1.00
Other debt	58.8	58.7	58.8	-0.1	0.94
Panel F: Debt balances ($)					
Alternative loans[1]	455	486	422	64	0.02
Auto debt	13,305	12,588	14,058	-1,471	0.00
Credit card debt	17,290	20,332	14,101	6,231	0.00
Debt in collections	5,875	6,052	5,688	364	0.04
Medical debt	1,970	2,154	1,777	377	0.01
Personal loans	3,595	4,043	3,126	917	0.00
Priority claims	3,755	4,090	3,404	686	0.03
Student debt	23,403	24,422	22,335	2,087	0.01
Other debt	7,820	8,074	7,555	519	0.18
Observations					
N	13,396	6,855	6,541		

Notes: Table presents summary statistics for the full Upsolve sample, those who file for bankruptcy, and those who do not file. The two rightmost columns report the difference in means between filers and non-filers and the p-value for the difference in means t-test. Panels D and F reflect the amount of debt and assets conditional on having the respective debt or asset category. Each category of debt and assets is winsorized at the 99^{th} percentile before calculating totals.

[1] "Alternative loans" includes payday loans, cash advances, buy now pay later, and lease-to-own debt.

Table A.4. Composition of Assets

	Covered by exemption			Distribution of non-zero assets ($)			
	Federal	State	N	Mean	P25	P50	P75
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Vehicles							
Vehicles	✓	✓	8,740	10,540	2,627	6,437	15,324
Total			**8,740**	**10,038**	**2,500**	**6,143**	**14,677**
Panel B: Other personal assets							
Books	✓	✓	2,487	137	41	91	162
Clothes	✓	✓	13,383	284	102	201	338
Collectibles			1,673	339	68	153	356
Electronics	✓	✓	12,724	841	280	586	1,139
Farm animals	✓	✓	43	256	22	112	224
Non-farm animals	✓	✓	5,393	138	10	52	121
Firearms		✓	1,281	394	159	271	462
Furniture	✓	✓	10,174	566	135	321	712
Health aids	✓	✓	2,050	210	21	64	157
Instruments	✓	✓	1,288	264	61	113	254
Mobile homes		✓	109	7,063	511	1,577	8,625
Recreational items			2,706	211	45	105	225
Tools of the trade	✓	✓	1,109	1,475	307	763	1,509
Wedding rings	✓	✓	1,850	392	69	159	507
Other jewelry	✓	✓	5,848	171	43	103	203
Other personal items			403	1,521	213	521	1,231
Total			**13,396**	**2,030**	**660**	**1,375**	**2,570**
Panel C: Liquid financial assets							
Liquid financial assets		✓	13,396	460	39	157	512
Total			**13,396**	**437**	**36**	**150**	**491**
Panel D: Other financial assets							
College savings accounts	✓	✓	35	4,309	111	662	2,910
Domestic support	✓	✓	688	19,295	2,819	9,814	25,227
Government benefits	✓	✓	39	11,840	1,041	3,263	11,136
Government payments			3,248	1,799	1,261	1,278	1,788
Health savings accounts		✓	630	398	25	126	479
Illiquid investments			594	997	25	146	619
Insurance	✓	✓	2	158,118	52,591	158,118	263,646
Intangible assets		✓	198	1,100	5	100	422
IRAs	✓	✓	556	5,171	66	376	3,019
Retirement plans	✓	✓	2,829	8,672	652	2,405	8,367
Rental security deposit		✓	4,332	1,165	518	932	1,555
Other deposits			714	267	113	206	316
Other claims			377	4,847	316	1,071	3,486
Other financial assets			6,067	54	1	1	13
Total			**10,448**	**4,853**	**300**	**1,204**	**3,326**
Observations							
N			13,396				

Notes: Table shows the number of Upsolve users with each category (in bold) and sub-category (not in bold) of assets, along with the distribution of asset values among asset holders. The "Covered by Exemptions" columns indicate whether (1) the asset sub-category is covered by the federal exemptions and (2) the asset sub-category is covered by an exemption in at least one state. Asset categories are winsorized at the 99^{th} percentile, while asset sub-categories are not due to small sample sizes for some sub-categories.

Table A.5. Composition of Debt

	Discharged	N	Distribution of non-zero debt ($)			
			Mean	P25	P50	P75
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Auto debt						
Secured auto debt	✓(if surrendered)	5,256	19,497	9,773	16,828	25,454
Unsecured auto debt		4,310	17,569	7,877	13,317	22,812
Total		**8,088**	**21,001**	**9,560**	**16,970**	**27,415**
Panel B: Credit card debt						
Secured credit cards		408	2,540	306	593	1,679
Unsecured credit cards	✓	12,544	18,377	3,663	12,103	25,314
Total		**12,575**	**17,566**	**3,536**	**11,563**	**24,256**
Panel C: Debt in collections						
Debt in collections	✓	8,791	8,953	1,764	4,991	11,575
Total		**8,788**	**8,480**	**1,682**	**4,754**	**10,981**
Panel D: Medical debt						
Medical debt	✓	3,974	6,645	634	1,934	5,876
Total		**3,971**	**6,301**	**601**	**1,857**	**5,626**
Panel E: Predatory debt						
Buy now pay later	✓	1,240	1,141	276	682	1,429
Lease-to-own debt	✓	741	2,896	1,097	2,130	3,624
Payday loans	✓	1,170	2,183	306	802	2,556
Total		**2,653**	**2,182**	**406**	**1,188**	**2,783**
Panel F: Personal loans						
Personal loans	✓	4,964	9,706	2,309	6,215	12,703
Total		**4,961**	**9,259**	**2,196**	**5,906**	**12,076**
Panel G: Priority claims						
Domestic support		571	14,589	801	4,602	16,137
Fines and restitution		1,308	15,191	658	2,032	7,197
Priority judgment debt		202	42,669	2,453	6,777	14,173
Past-due taxes		1,930	11,421	1,165	3,510	10,143
Other unsecured priority debt		96	11,681	2,014	5,659	13,292
Total		**3,340**	**14,382**	**1,116**	**3,907**	**12,171**
Panel I: Student debt						
Student debt		6,630	47,298	11,534	29,930	63,542
Total		**6,627**	**45,019**	**11,012**	**28,635**	**60,640**
Panel J: Other debt						
Overdrafted bank accounts	✓	631	2,047	369	810	1,839
Debt owed to peers	✓	752	12,050	2,119	5,117	10,355
Government debt	✓	308	25,904	3,525	10,029	25,073
Insurance debt	✓	213	1,785	208	431	988
Non-priority judgment debt	✓	2,173	16,250	3,892	8,320	17,050
Secured mortgages		94	110,709	12,854	64,398	185,448
Unsecured mortgages	✓	125	63,506	5,950	18,078	63,940
Past-due rent	✓	695	7,733	1,756	4,460	9,287
Retirement plan loans		25	5,133	1,902	3,466	6,964
Utilities debt	✓	3,869	1,987	423	1,023	2,369
Other secured debt		158	13,645	997	4,607	12,824
Other unsecured non-priority debt	✓	3,560	6,424	655	2,339	7,743
Total		**7,872**	**12,802**	**1,292**	**4,755**	**12,971**
Observations						
N		13,396				

Notes: Table shows the number of Upsolve users with each category (in bold) and sub-category (not in bold) of debt, along with the distribution of balances among debt holders. The "Discharged" column indicates our assumption for whether each sub-category of debt is discharged in bankruptcy. Debt categories are winsorized at the 99$^{\text{th}}$ percentile, while debt sub-categories are not due to small sample sizes for some sub-categories.

Table A.6. Test for Covariate Balance

	Means			Linear RD		Quadratic RD	
	Full Sample	50-150% FPL	150-250% FPL	Estimate	p-value	Estimate	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Demographics at application (%)							
Has dependents	42.4	52.6	39.3	1.8	0.373	3.3	0.294
Age 18 to 34	25.9	25.2	24.6	-2.7	0.124	4.8	0.073
Age 65 or older	4.7	5.6	5.8	2.9	0.004	-0.4	0.812
Age missing	24.6	24.3	23.9	0.7	0.713	0.3	0.912
Female	57.6	64.0	56.4	2.7	0.180	3.3	0.289
Other gender	1.2	1.2	1.1	0.1	0.880	0.0	0.957
Missing gender	4.8	4.5	4.6	0.1	0.870	-0.1	0.944
Married	19.4	21.3	19.9	5.1	0.002	0.8	0.763
Black	26.6	28.4	25.3	1.1	0.558	4.4	0.111
Hispanic or Latino	12.1	11.5	12.8	-1.8	0.172	-0.9	0.678
Other race or ethnicity	6.2	5.8	5.6	-1.4	0.156	-0.3	0.817
Missing race or ethnicity	6.0	5.7	5.4	-0.4	0.649	-0.9	0.549
Rents housing	53.2	51.9	64.3	1.0	0.609	1.0	0.756
Unstable housing	3.6	3.2	1.7	-0.6	0.373	-1.0	0.301
Government benefits	32.5	45.9	11.3	11.5	0.000	-3.7	0.151
Panel B: Log debt							
Alternative loans	1.4	1.4	1.6	0.0	0.884	0.2	0.315
Auto debt	5.8	5.7	6.4	0.1	0.467	0.4	0.170
Debt in collections	5.5	5.6	5.3	0.2	0.225	0.1	0.583
Credit card debt	8.5	8.2	8.9	-0.4	0.001	-0.4	0.020
Medical debt	2.2	2.1	2.6	-0.3	0.050	0.3	0.134
Personal loans	3.2	2.9	3.8	0.1	0.521	0.1	0.602
Priority claims	2.1	1.8	2.3	-0.2	0.186	-0.1	0.668
Student debt	5.0	4.9	5.2	-0.6	0.007	0.1	0.822
Other debt	4.9	5.0	4.9	0.2	0.372	0.4	0.147
Panel C: Log assets							
Vehicle assets	5.7	5.4	6.6	-0.1	0.640	0.1	0.627
Other personal assets	7.2	7.1	7.4	-0.1	0.044	0.0	0.878
Liquid financial assets	4.9	4.7	5.4	-0.2	0.000	-0.1	0.224
Other financial assets	5.1	4.9	6.0	-0.3	0.046	0.1	0.546
Panel D: Reasons for considering bankruptcy (%)							
Behind on bills	63.8	64.2	64.7	-0.2	0.905	-0.3	0.915
Lost job	37.8	35.3	26.0	-6.5	0.001	4.1	0.150
Spent irresponsibly	37.6	34.6	43.0	-3.8	0.061	2.2	0.477
Sick or disabled	23.6	24.8	19.0	0.1	0.968	-0.7	0.793
Wages garnished	13.2	15.2	14.2	1.8	0.223	-0.3	0.904
Hours or pay cut	19.9	21.5	20.9	0.4	0.800	-2.3	0.384
Divorce	11.7	11.6	12.0	0.6	0.640	0.8	0.711
Medical bills	25.1	24.0	27.2	-2.2	0.232	0.9	0.748
Panel E: Days to complete questionnaire							
Days to finish questionnaire	37.6	37.6	38.6	-4.6	0.288	-4.0	0.532
Observations							
N	10,376	5,490	4,886				

Notes: Table presents summary statistics for the full Upsolve sample and users within the left and right 149-percentage point bandwidths. The four rightmost columns report coefficients on an indicator for fee-waiver eligibility (income below 150% FPL) and p-values from linear and quadratic RD specifications, using a 100-percentage point bandwidth and no controls.

Table A.7. RD Estimation

	Bandwidth selection				
	150	149	100	75	50
Panel A: Linear RD, fixed effects only					
Coefficient on Below 150% FPL (E_i)	88.7	87.3	86.1	84.5	82.7
	(0.7)	(0.8)	(1.0)	(1.1)	(1.4)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Coefficient on Waiver ($\hat{W}_i$)	5.4	4.6	5.6	4.4	4.6
	(1.9)	(2.1)	(2.5)	(2.8)	(3.5)
	[0.005]	[0.025]	[0.022]	[0.122]	[0.191]
R^2	0.021	0.017	0.019	0.018	0.023
Panel B: Linear RD, fixed effects and controls					
Coefficient on Below 150% FPL (E_i)	87.7	86.7	85.8	84.5	82.7
	(0.7)	(0.8)	(1.0)	(1.1)	(1.4)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Coefficient on Waiver ($\hat{W}_i$)	6.5	6.1	6.5	5.3	5.7
	(1.9)	(2.0)	(2.4)	(2.8)	(3.4)
	[0.001]	[0.002]	[0.007]	[0.053]	[0.098]
R^2	0.075	0.071	0.068	0.071	0.078
Panel C: Quadratic RD, fixed effects only					
Coefficient on Below 150% FPL (E_i)	84.0	83.8	81.4	80.7	77.8
	(1.1)	(1.2)	(1.5)	(1.8)	(2.3)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Coefficient on Waiver ($\hat{W}_i$)	5.4	6.0	3.6	4.3	-0.6
	(3.1)	(3.2)	(3.9)	(4.5)	(5.7)
	[0.081]	[0.060]	[0.352]	[0.339]	[0.914]
R^2	0.021	0.018	0.019	0.019	0.023
Panel D: Quadratic RD, fixed effects and controls					
Coefficient on Below 150% FPL (E_i)	84.1	83.9	81.5	80.7	77.8
	(1.1)	(1.2)	(1.5)	(1.8)	(2.3)
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Coefficient on Waiver ($\hat{W}_i$)	6.4	6.6	4.9	5.7	0.6
	(3.0)	(3.1)	(3.8)	(4.3)	(5.5)
	[0.032]	[0.033]	[0.197]	[0.191]	[0.912]
R^2	0.075	0.071	0.068	0.071	0.078
Observations					
N	12,804	10,374	8,466	6,953	4,769

Notes: Table presents linear and quadratic RD estimates from the Upsolve fuzzy RD model outlined in Equations 1, using different bandwidths around the 150% FPL threshold. The bandwidth is indicated in the column header. All panels include state and year-month effect effects and control for questionnaire completion time, and panels B and D additionally control for demographics, debt, assets, and reasons for considering bankruptcy (outlined in Section 5). The coefficients on "Below 150% FPL" are first-stage estimates, and the coefficients on "Waived" are second-stage estimates. Robust standard errors and p-values are reported in parentheses and square brackets, respectively, below the point estimates.

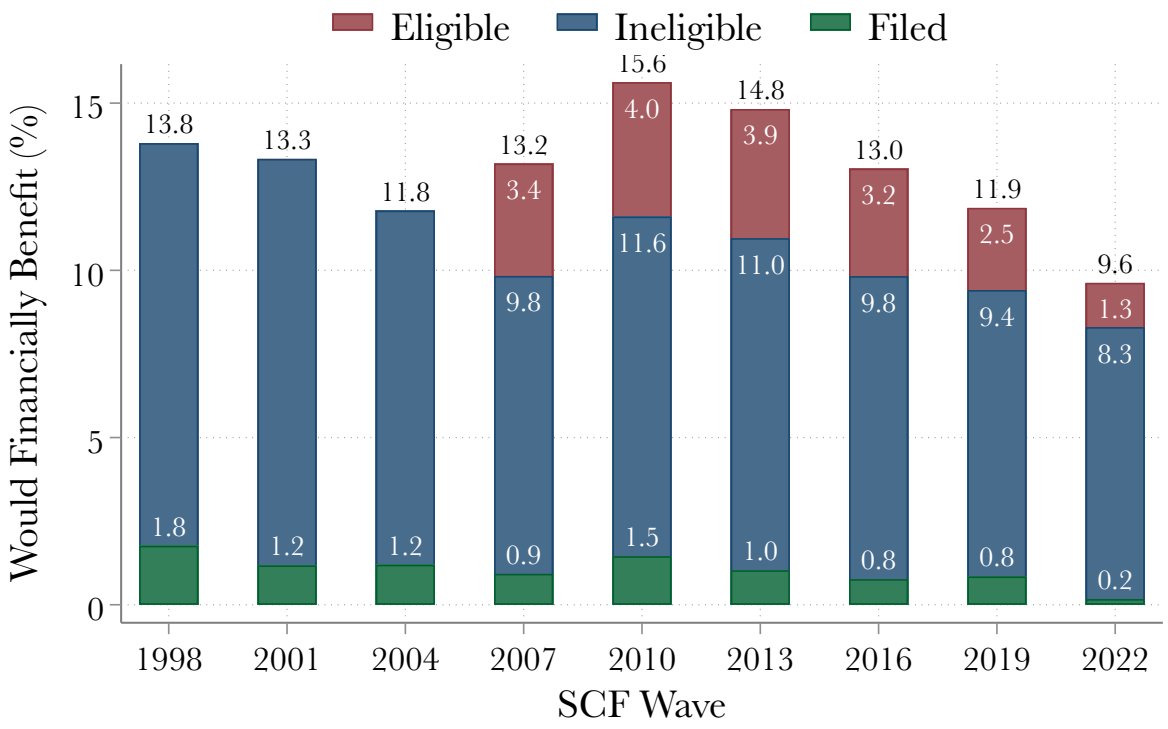
Table A.8. Compliers vs. Always Takers: Assets and Debts

	Filers			Non-Filers		
	Eligible (C + AT) (1)	Ineligible (AT) (2)	p-value (3)	Eligible (NT) (4)	Ineligible (C + NT) (5)	p-value (6)
Panel A: Total debt and assets ($)						
Total assets	11,992	17,790	0.000	11,387	17,070	0.000
Total debt	76,792	89,522	0.000	66,424	84,011	0.000
Secured debt	6,935	10,319	0.000	7,445	11,384	0.000
Unsecured debt	69,629	79,054	0.000	58,387	71,911	0.000
Dischargeable debt	47,383	54,257	0.000	38,477	49,181	0.000
Non-dischargeable debt	28,184	34,431	0.000	27,146	34,397	0.000
Panel B: Average age of debt (years)						
Average age of debt	4.8	4.6	0.088	4.4	4.4	0.785
Panel C: Asset types owned (%)						
Vehicle assets	66.5	76.4	0.000	61.3	72.8	0.000
Other personal assets	100.0	100.0	.	100.0	100.0	.
Liquid financial assets	100.0	100.0	.	100.0	100.0	.
Other financial assets	79.0	86.2	0.000	75.5	83.0	0.000
Panel D: Asset values ($)						
Vehicle assets	6,022	9,139	0.000	5,396	8,884	0.000
Other personal assets	2,061	2,382	0.000	1,994	2,380	0.000
Liquid financial assets	406	620	0.000	345	542	0.000
Other financial assets	3,359	5,489	0.000	3,474	5,169	0.000
Panel E: Debt types owed (%)						
Alternative loans[1]	18.7	23.2	0.000	20.5	22.4	0.115
Auto debt	55.7	63.7	0.000	63.6	68.7	0.000
Credit card debt	94.7	96.6	0.001	90.4	94.5	0.000
Debt in collections	64.0	60.1	0.003	72.8	67.5	0.000
Medical debt	30.6	37.7	0.000	24.9	30.2	0.000
Personal loans	34.6	44.7	0.000	34.2	42.7	0.000
Priority claims	23.3	29.7	0.000	19.7	25.8	0.000
Student debt	49.3	49.9	0.662	48.5	52.4	0.006
Other debt	59.5	59.1	0.787	61.6	57.8	0.006
Panel F: Debt balances ($)						
Alternative loans[1]	419	594	0.000	421	514	0.053
Auto debt	11,820	14,039	0.000	13,244	16,348	0.000
Credit card debt	17,930	21,412	0.000	11,205	16,088	0.000
Debt in collections	5,914	5,952	0.893	5,465	5,813	0.199
Medical debt	1,924	2,182	0.237	1,513	2,022	0.027
Personal loans	3,172	4,977	0.000	2,457	4,283	0.000
Priority claims	3,104	4,690	0.002	2,547	3,860	0.004
Student debt	22,390	26,146	0.002	20,595	25,364	0.000
Other debt	7,999	7,753	0.665	7,346	7,589	0.712
Observations						
N	3,094	2,396		2,823	2,063	

Notes: Table presents summary statistics for four groups of Upsolve users: (1) waiver-eligible users who file for bankruptcy (compliers and always takers, column 1), (2) ineligible users who file (always takers, column 2), (3) eligible users who do not file (never takers, column 4), and (4) ineligible users who do not file (compliers and never takers, column 5). In columns 3 and 6 we present p-values from difference in means t-tests between groups (1) and (2) and groups (3) and (4), respectively. Panels D and F reflect the amount of debt and assets conditional on having the respective debt or asset category. Each category of debt and assets is winsorized at the 99$^{\text{th}}$ percentile before calculating totals.

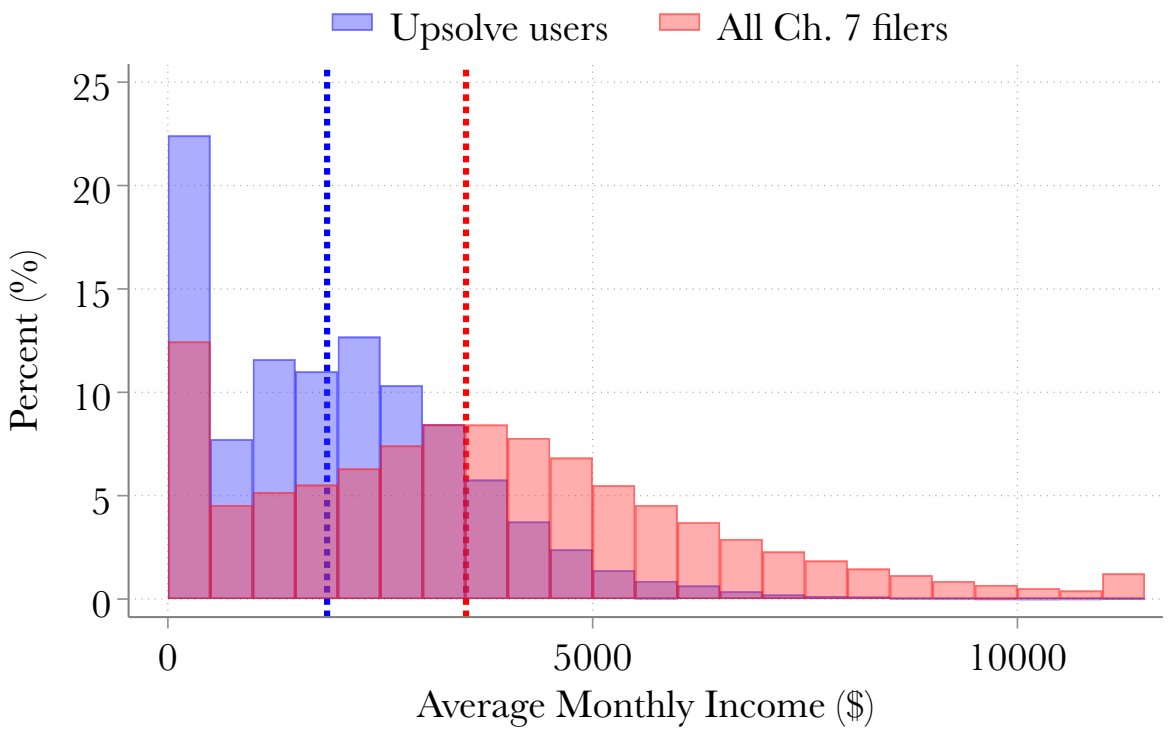
[1] "Alternative loans" includes payday loans, cash advances, buy now pay later, and lease-to-own debt.

Figure A.1. SCF Financial Benefit Calculation



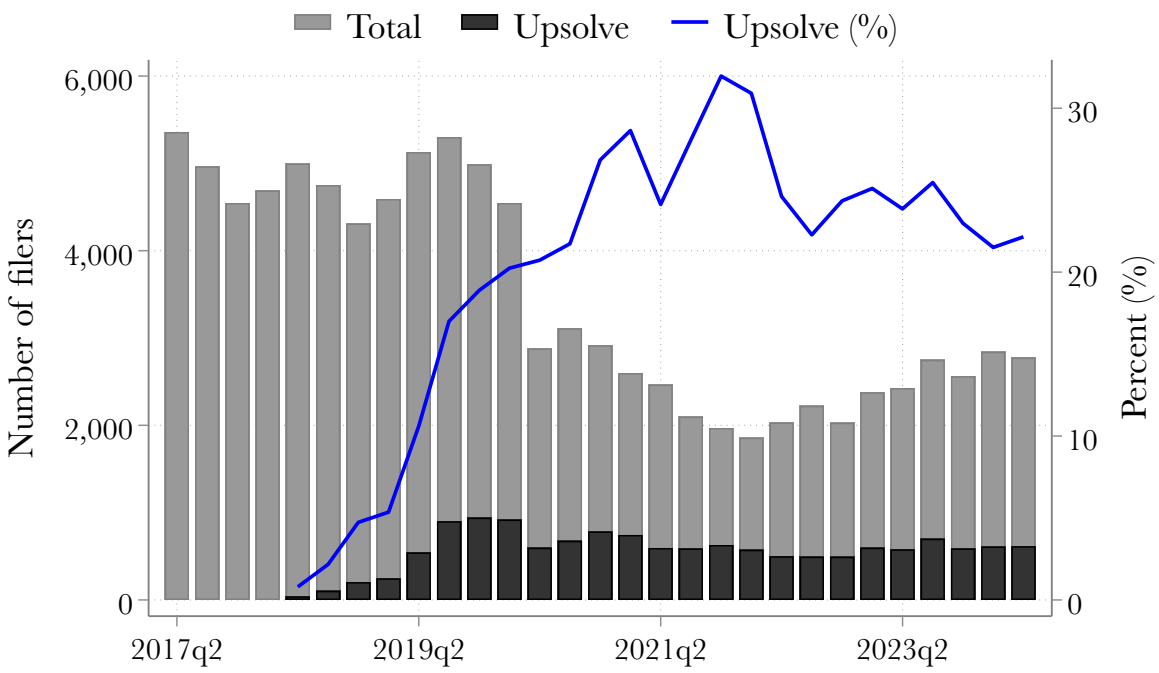
Notes: Figure shows the percentage of individuals who would benefit from filing for Chapter 7 bankruptcy across the 1998 through 2022 waves of the Survey of Consumer Finances (SCF) (Board of Governors of the Federal Reserve Board, 2023) The methodology for this calculation is outlined in Appendix A. Blue bars indicate households who would financially benefit and are eligible to file for Chapter 7 bankruptcy; red bars indicate households who would financially benefit but are ineligible. Green bars indicate households who filed within the past year.

Figure A.2. Distribution of Income for Upsolve Users vs. All Chapter 7 Filers



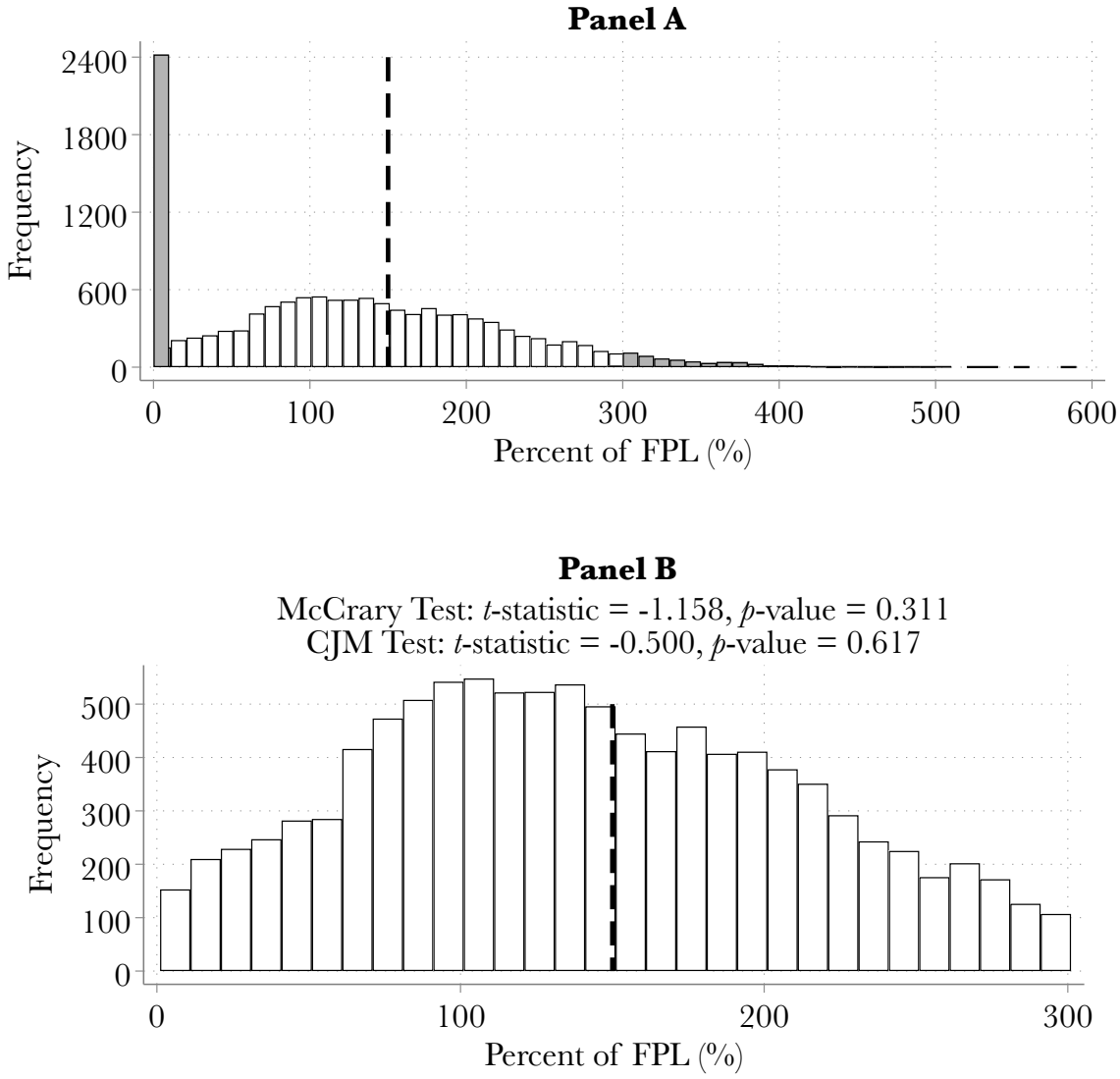
Notes: Figure shows the distribution of average monthly income for Upsolve users (filers and non-filers) and all Chapter 7 filers in the Federal Judicial Center (FJC) database between September 2021 and August 2024. Income is deflated to August 2024 prices and is winsorized at the 1st and 99th percentiles. The bars of the histogram are $500 in width, and the blue and red dashed lines represent the median income for the Upsolve and FJC samples, respectively.

Figure A.3. Upsolve-Eligible Chapter 7 Filings Over Time



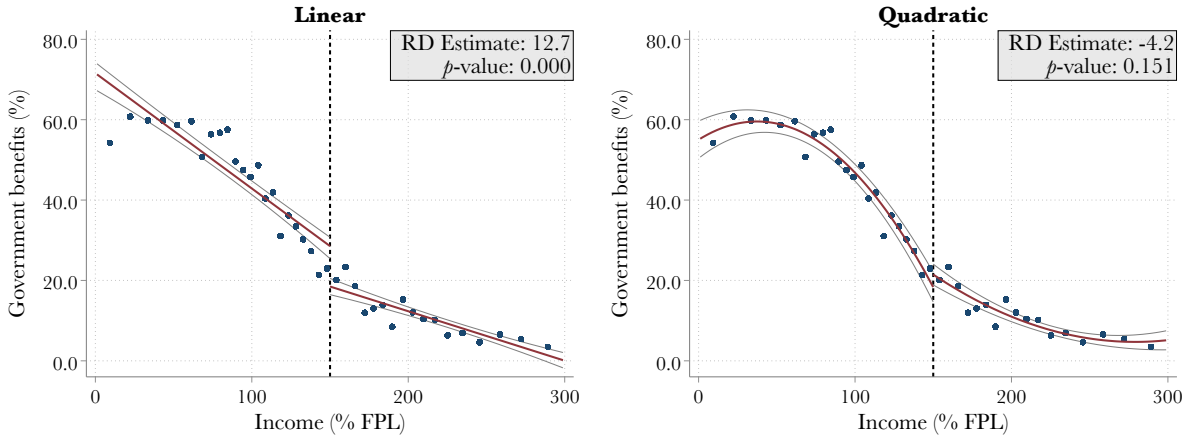
Notes: Figure shows the number of Upsolve bankruptcy filings and Upsolve-eligible filings in the Federal Judicial Center (FJC) database between 2017 Q2 and 2024 Q2 (Federal Judicial Center, 2024). The first recorded Upsolve filing is in 2018 Q2. We define Upsolve-eligible filings as non-joint Chapter 7 cases filed pro se by non-homeowners. The blue line presents the share of Upsolve-eligible filings attributed to Upsolve users, calculated by dividing the number of Upsolve filings by the number of Upsolve-eligible FJC filings.

Figure A.4. McCrary and CJM Tests



Notes: Panel A shows the distribution of applicant income, with the gray bars representing applicants outside of the 149 percentage-point bandwidth. Panel B shows the distribution of applicant income within this bandwidth and reports the t-statistics and p-values from the manipulation tests proposed by McCrary (2008) and Cattaneo et al. (2020).

Figure A.5. Covariate Balance: Government Income



Notes: Figure presents the mean share of users that receive government benefits for 40 quantile income bins. The RD estimates and p-values from the linear and quadratic RD models in Appendix Table A.6, which use a 149-percentage point bandwidth and no controls, are reported in the top right of each plot.