# Intergenerational Effects of Debt Relief: Evidence from Bankruptcy Protection *

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Using bankruptcy filing information for parents matched to administrative data on their children and leniency of the randomly assigned judges as an instrument, we document the effect of parental bankruptcy protection on children's income and intergenerational mobility. We find that children whose parents receive Chapter 13 bankruptcy protection earn $1,755 (or 5.6%) higher annual income fifteen years after filing relative to those whose parents file for but do not receive protection. Our results are increasing in the duration lapsed from filing and over the life cycle of children. Parental bankruptcy protection leads to higher income by 2.8% at age 20, 8.8% at age 25 and 35.4% at age 40. Back-of-the-envelope calculations suggest that for one dollar of debt relief granted to parents through Chapter 13 protection their children earn two dollars more in adjusted present value of lifetime earnings. Children of parents who receive protection are more likely to be in the top tercile of income distribution, which is driven by an increase in intergenerational upward mobility for children whose parents receive protection rather than an increase in downward mobility for those whose parents were denied protection. These results highlight the potential role of bankruptcy protection and debt relief more broadly in helping improve intergenerational mobility for low-income distressed households. Finally, our results are most consistent with higher investment in education and skill-development as the mechanism contributing to these findings. We do not find support for neighborhood effects driving our estimates.

**Keywords**: Debt relief, bankruptcy protection, intergenerational effects, income, intergenerational mobility

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# 1 Introduction

Debt relief remains a commonly used policy tool to help indebted borrowers in distress. While the aftermath of the Great Recession witnessed the introduction of several programs like the Home Affordable Modification Program (HAMP) to assist mortgagors, the proposed student loan forgiveness from the Biden administration aims to relieve student loan borrowers, and bankruptcy protection provides relief for most types of debt for distressed borrowers, among several other policies. A fundamental issue in evaluating debt relief policies is to understand the costs for taxpayers and benefits for the beneficiaries, several of which are hard to observe and quantify.

In this paper, we evaluate potential long-run benefits of debt relief that spillover to the labor markets for the next generation of the recipient households. We focus on Chapter 13 bankruptcy protection as our laboratory, which allows distressed borrowers to reorganize debt and receive substantial relief in the process. Bankruptcy protection remains one of the most widely used debt relief programs. More than a million households filed for Chapter 13 protection over a five-year period between 2018 and 2022.[1] With billions of dollars provided in relief under the program, it is important to evaluate all probable benefits including those accrued to household members of primary beneficiaries.

Our analysis focuses on evaluating the effect of bankruptcy protection on children's income and intergenerational mobility. Ex-ante it is not clear how much, if any, benefits accrue to children. On one hand, if protection increases the net worth for debtor parents, it may allow them to invest more in their children's development leading to substantial gains in their labor markets. On the other hand, if the benefits are concentrated in the short-run, for example in form of relieving liquidity constraints and allowing borrowers to smooth consumption (Indarte (2023)), the effects of Chapter 13 protection may dissipate over time and

1. Based on data from the case filings provided by US courts. See the following link for more details: https://www.uscourts.gov/news/2023/02/06/bankruptcy-filings-drop-63-percent

not lead to significant differences in labor market outcomes for children. Yet another plausibility is that moral hazard may induce both borrowers and subsequently their children to over borrow and lead to negative effects on their labor markets.

Examining these potential effects of parental bankruptcy protection on children's future outcomes (e.g., income) poses significant challenges. First, it requires detailed data on bankruptcy filings for parents that simultaneously allow researchers to follow outcomes for children of filers several years later. Second, identifying the causal effect of bankruptcy protection is complicated because of potential omitted variables that affect both the likelihood that households file for bankruptcy and receive protection and children's future outcomes. For example, low income households may be more likely to file for and receive bankruptcy protection, and concurrently have less resources to invest in their children's education and development leading to lower income for them several years later.

We overcome these challenges using a combination of administrative data and instrumental variables (IV) approach. Our analysis relies on the intersection of three main data that come from two different sources. Data on consumer bankruptcy filings come from the Public Access to Court Electronic Records (PACER) system and include detailed information on filings and their outcomes including the chapter filed, filing date, court, outcome, and the judge and trustee assigned to each filing among others. We use this information to merge this data with anonymized data from Equifax Inc. that allows us to observe consumer credit histories, household members, and children's employment and earnings. While consumer credit histories include information on the entire population in the U.S. that has used some form of credit, the income data are available for around 100 million employees employed at over 5,000 employers between 2010 and 2022.

To identify the effect of parental bankruptcy protection on outcomes, we use judge heterogeneity in the propensity to approve Chapter 13 bankruptcy protection in a 2-stage least squares (2SLS) instrumental variables model. While the bankruptcy code is uniform at the

federal level, this instrument relies on differences in its interpretation across bankruptcy judges. For example, judges may lean toward protecting debtor or creditor rights, and these views can potentially be both predictive of a given bankruptcy outcome and exogenous to the characteristics of filing individuals and households. Our setting thus confines to children whose parents filed for Chapter 13 protection and estimates the local average treatment effect by exploiting variation across parents who did or did not receive protection owing to differences in judge leniency.

The assumptions required to interpret our estimates as causal include that: (i) judge leniency is associated with parent filers receiving Chapter 13 protection (i.e., relevance condition), (ii) judges' leniency affects outcome for filers' children several years later only through the realized bankruptcy protection outcome (i.e., exclusion restriction), and (iii) impact of judge leniency on the probability of receiving bankruptcy protection through Chapter 13 is monotonic across filers (i.e., monotonicity assumption). We directly test the first assumption and find that the probability of receiving protection increases almost one-to-one with increase in our leniency measure suggesting a precisely estimated coefficient with minimal measurement error. The F-statistic for the instrument is high at 741, thereby ruling out any concerns of leniency being a weak instrument.

While the exclusion restriction is inherently untestable, we argue that it is reasonable in our setting for a couple of reasons. First, the plausible random assignment of judges to bankruptcy cases helps support this assumption. Previous work contends that judges are assigned to cases through a randomized process.[2] We augment this argument by showing that judge leniency does not correlate to ex-ante observables for filers in our setting. Second, bankruptcy judges typically interact with debtors only at the confirmation hearing for

2. Extant literature has used judge leniency to evaluate different aspects of both consumer bankruptcy (Dobbie and Song, 2015; Dobbie et al., 2017; Kleiner et al., 2021) and corporate bankruptcy filings (Chang and Schoar, 2013; Bernstein et al., 2019; Bonfim and Nogueira, 2021; Grindaker et al., 2022; Antill, 2021; Bernstein et al., 2019).

Chapter 13 protection, thereby limiting their influence to affect outcomes for children of filers outside of their decision to grant or reject protection (Dobbie and Song (2015)). We also provide evidence supporting the monotonicity assumption in our setting.

We find that parental bankruptcy protection leads to $1,755 higher annual income for children fifteen years after filing. This effect is economically significant as it corresponds to 5.6% of the mean. Our results are increasing with the duration lapsed from filing with the coefficient for twenty years following bankruptcy filing corresponding to 7% of the mean. This suggests that not only is income higher for individuals whose parents receive protection but the growth in income is higher as well. We directly test this by examining income across the life cycle for children. Those whose parents received protection earn 2.8% higher income at age 20, and 8.8% and 35.4% higher income by ages 25 and 40 respectively. Back-of-the-envelope calculations suggest that for one dollar of debt relief granted to parents through Chapter 13 protection their children earn two dollars more in value of lifetime earnings.

Children of parents who receive protection are able to achieve higher relative standings within the income distribution. They are 1.3 percentage points (pp) more likely to be in the top tercile of income fifteen years following bankruptcy filing, an economically meaningful magnitude corresponding to 19.1% of the sample mean. This higher likelihood of being in the top tercile is driven by an increase in intergenerational upward mobility for children whose parents receive protection rather than an increase in downward mobility for those whose parents did not receive protection. The likelihood of intergenerational upward mobility, defined as children belonging to the top tercile of income distribution while their parents did not at the time of filing, increases by 14.2% relative to the mean fifteen years post filing. Our results highlight the potential role of bankruptcy protection and debt relief more broadly in helping improve intergenerational mobility.

Parents receiving bankruptcy protection are likely to have more resources available to invest in their children's education and growth, thereby allowing them to acquire more

skills and achieve sustained higher income and intergenerational mobility. We evaluate this plausible mechanism using measures for the type of jobs children sort into and their education levels. This analysis finds that children whose parents receive protection are more likely to attend college and sort into higher paying jobs. Our results suggest that differences in education and skill levels contribute to our baseline findings.

Another mechanism that we examine is neighborhood effects — i.e., neighborhoods that children grow up at affects their income and college attendance rates when they become adults (Chetty and Hendren (2018)). Bankruptcy protection may allow parents to move to better neighborhoods or avoid the forced move to worse neighborhoods owing to a decline in protection thereby creating a wedge in the type of neighborhoods that their children grow up. However, we do not find evidence supporting this mechanism in our setting. We also examine experience effects as yet another potential mechanism. Individuals' experiences, especially during their formative years, influence their risk appetites and outcomes in their adulthood (e.g., Malmendier and Nagel (2011); Knüpfer et al. (2017); Bernile et al. (2017)). Consistent with this hypothesis, we find that children whose parents received bankruptcy protection are more likely to sort into riskier jobs (i.e., jobs with higher income volatility).

Our work relates to the literature on debt relief and bankruptcy protection, which evaluates the costs and benefits along with the design of the intervention. In the context of mortgage markets, Agarwal et al. (2017) show that the implementation of the Home Affordable Mortgage Program (HAMP) increased intensity of renegotiations and prevented a substantial number of foreclosures. Eberly and Krishnamurthy (2014) show that payment reduction is more effective in reducing defaults than principal reduction when households are liquidity constrained, which is consistent with the evidence in Ganong and Noel (2020). From the perspective of student loans, Di maggio et al. (2020) show that borrowers who receive student debt forgiveness experience declines in debt balances and delinquency rates on other accounts, and increases in mobility and income. Mueller and Yannelis (2019) study

the effects on new delinquencies, monthly payments, and consumer spending of federal government income-driven repayment (IDR) plans that tie monthly student loan payments to borrowers' discretionary income. Dobbie and Song (2020) focus on credit card borrowers and evaluate the effects of short-term payment reductions and interest write-downs separately. Dobbie and Song (2015) study the effects of Chapter 13 bankruptcy protection and show that filers receiving protection earn higher income three- to five-years following filing, which is driven by them being able to avoid the negative consequences that filers denied protection experience. We push this literature forward by documenting the long-run effects of debt relief that spillover to the labor markets for the next generation of the recipient households in the form of higher income and increased intergenerational mobility. This effect operates through differences in levels of children's education and skills. Our results both help quantify the gains from parental bankruptcy protection on children and highlight the potential role that debt relief can play in helping improve intergenerational mobility.

We also contribute to the literature that examines the determinants of intergenerational mobility and the relation between parental financial characteristics and children's outcomes. Black and Devereux (2010) provide an excellent summary of early work on this topic. While Chetty et al. (2014); Chetty and Hendren (2018); Derenoncourt (2019); Chetty et al. (2020) document the degree of intergenerational mobility in the U.S. and the recent developments in the literature, other work has examined the relation between family income and children's college attendance (e.g., Carneiro and Heckman (2002); Cameron and Taber (2004); Caucutt and Lochner (2020)); housing wealth and college attendance (e.g., Lovenheim and Reynolds (2013); Cooper and Luengo-Prado (2015)); liquid and illiquid assets and child test scores, college attendance and earnings (e.g., Dahl and Lochner (2012); Agostinelli and Sorrenti (2021); Bulman et al. (2021)); and credit constraints and children's earnings (e.g., Sun and Yannelis (2016); Abbott et al. (2019); Lee and Seshadri (2019); Caucutt and Lochner (2020); Braxton et al. (2024)). We build a new dataset that allows us to observe parental

bankruptcy filings and follow long-run effects on children to empirically add to these studies. Our results highlight the role that a policy tool in bankruptcy protection, and more broadly debt relief, can play in helping improve children's income and intergenerational mobility among distressed households.

# 2 Data & Sample

## 2.1 Data

Our analysis relies on three main datasets: consumer bankruptcy filings from legal dockets; consumer credit histories from credit bureau; and individual earnings data.

Data on consumer bankruptcy filings come from the Public Access to Court Electronic Records (PACER) system and include cases filed in 81 of the 94 bankruptcy courts in the U.S. These data include detailed information on filings and their outcomes including the chapter filed, filing date, court, outcome, the judge and trustee assigned to each filing, whether the filing includes any assets, and whether the filing fee was paid immediately or in installments. The data include over 2.8 million filings from 1992 through 2009, and have been previously used in Gross et al. (2014) and Dobbie and Song (2015).

The consumer credit histories come from a credit bureau and contain credit line-level information at the monthly frequency for all individuals with some form of credit history in the U.S., and include information such as account type (e.g., credit card, student loan), account age, total borrowing, account balance, any missed or late payments, and defaults. They also include historical information on financial distress events like bankruptcy filings, foreclosures, collections, and medical defaults among others going back to 1995. We use the credit line-level data to identify individuals who attend schools vis-a-vis their use of student loans, and information on historical bankruptcy filings to merge data from PACER to the credit bureau data. This data also include anonymized information on names, current and

past addresses, and age, which we use to identify members of the same household.

To study the effect of bankruptcy protection on children's employment outcomes, we use information on employment and earnings that also come from the credit bureau. This data contain anonymized information reported by employers who subscribe to the verification services. These employers report information on monthly earnings, job locations, job tenures, type of jobs, and industry of employees among other firm level details. The data contain over 5,000 employers who report information on all their employees on a payroll-to-payroll basis, and include over 100 million employees between 2010 and 2022. They are representative of the U.S. labor force along several dimensions, including median personal incomes and median employee tenures. In addition, the data closely track aggregate U.S. private sector payroll growth, hiring, and separations. While most industries are represented in the correct proportions, the share of employment in the retail trade industry is significantly higher in the data than in the population. The average firm in the data is also significantly larger than the average firm in the U.S. population. Kalda (2020) shows that the credit profiles of employees in the data are similar to those of the U.S. population.

## 2.2 Sample

We combine the three datasets described above to construct our final sample. We begin with the sample of the bankruptcy filings from PACER. To aid our empirical strategy discussed below, we confine the sample to only Chapter 13 filers and those assigned to judges who over the filing year oversee at least 10 cases. We further remove cases from offices that assign all cases to a single judge for the filling year, since there is no random assignment within these offices. Our initial PACER sample includes bankruptcy filings under Chapter 13 from 81 districts and 217 offices. On average, each district has 2.68 offices, and each office supervises 1,282 cases annually. Additionally, the sample comprises 440 distinct judges. On average, 5.99 judges are associated with each district and 3.42 judges with each office. We

then use filing characteristics to merge with historical bankruptcy filings in the credit bureau data. Specifically, we use the filing date, disposition date, and filing zip code to merge the two data. These variables are required to be non-missing in both data and yield unique matches to be in the sample.[3] The merged sample contains 875.9k unique cases associated with 983.7k unique filers.

In the next step, we identify children for the individuals in the merged sample of bankruptcy filers. Using anonymized last names and address histories, we classify individuals with the same last name who shared at least one mailing address over their address histories as belonging to the same household. This matching tracks up to five last names for those whose last name changes, thereby allowing us to track household members who may have changed last names post marriage, and up to ten historical addresses. Within the same household we classify individuals who are between 17 and 50 years younger than bankruptcy filers as their children.[4] We drop households with more than 5 children as they are likely to be nontraditional living arrangements (e.g., joint or large family). Since individuals enter our data when they first obtain formal credit, our identification limits us to children who first obtained some form of credit (e.g., credit card, student loan, auto loan etc.) while still residing with their parents or who used parents' address on at least one credit account even if not residing with them.[5] Finally, following Dobbie and Song (2015), we restrict parents in the sample to be first-time bankruptcy filers to avoid overweighting households that file for bankruptcy multiple times. This gives us a sample of 400.2k children associated with 241.5k unique filers.

To follow employment outcomes for filers' children, we merge their information to the

3. Approximately 5% of the cases were deleted owing to multiple matches.

4. Our results are robust to choosing alternate cut-offs.

5. Whereas this limits us to individuals with some credit activity, it is worth noting that a high fraction of young adults live with their parents. For instance, in 2020, more than half (58%) of adults ages 18 to 24 lived in their parental home. (See: https://www.census.gov/newsroom/press-releases/2020/estimates-families-living-arrangements.html)

employment data using their anonymized identifiers. Finally, we restrict our sample to those children who were less than 18 years old at the time their parents filed for bankruptcy. This reduces the possibility that children take on direct financial responsibility to pay parental debt at the time of filing, which can also affect their labor supply. This gives us our final sample that includes 306.9k children associated with 263.3k parents who filed 201.2k unique bankruptcy cases. Our data allows us to track income and employment outcomes for these children between 2010 and 2022. Figure 3 plots the frequency of case filings over these years where we observe an increase in the number of cases with time peaking in years 2004-2005.[6]

# 3 Empirical Framework

The baseline specification we are interested in can be estimated as follows:

$$y_{i,d,o,j,c,p,f+k} = \beta \times ParentalBankruptcyProtection_{i,d,o,j,c,p,f} + \alpha_{o,f} + \delta_c + \gamma_p + \epsilon_{i,d,o,j,c,p,f+k} \quad (1)$$

where $y$ denotes the outcome variable for individual $i$ whose parent received Chapter 13 bankruptcy protection in year $f$ when they were $c$ years of age and the filing parent was $p$ years old.[7] This case was filed in district $d$ and office $o$ and adjudicated by judge $j$. The outcome variables are measured $k$ years post filing. $ParentalBankruptcyProtection$ is a dummy variable that takes a value of one for individuals whose parents received Chapter 13 bankruptcy protection as their filing was approved. $\alpha_{o,f}$ denotes filing court office-by-filing year fixed effects and controls for any time varying differences across court-offices.[8] $\delta_c$ and $\gamma_p$ represent fixed effects for age at the time of filing for both the children and parent

6. The implementation of the Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) in 2005 that increased bankruptcy filing costs likely explains the decline in filings thereafter.

7. When both parents are filers, we take their average age as $p$.

8. Bankruptcy districts are often further divided into offices that hear all cases originating from a subset of counties in the district's jurisdiction. Our final sample includes cases filed in 81 districts which have 1217 unique local offices in total.

respectively. These fixed effects account for time invariant differences across households that file for bankruptcy during different times in their life cycle. Robust standard errors are clustered at the office level.

The OLS estimates of $\beta$ may suffer from omitted variables problem. For example, filers with better credit histories/standings or higher income may be more likely to receive bankruptcy protection as their proposed repayment plans may be more likely to be approved. Such filers may also be able to invest more in their children's education and development, thereby leading to better labor market outcomes for them. To overcome such challenges and identify the causal effect of parental bankruptcy protection on children's labor outcomes, we use judge heterogeneity in the propensity to approve Chapter 13 bankruptcy protection. This instrument does not rely on differences in actual bankruptcy laws, as the bankruptcy code is uniform at the federal level. Rather, the instrument relies on differences in interpretation of the law across bankruptcy judges. For example, judges may lean toward protecting debtor rights or creditor rights, and these views can potentially be both predictive of a given bankruptcy outcome and exogenous to the characteristics of filing individuals and households.

We estimate a standard 2-Stage Least Squares (2SLS) instrumental variables model where the first stage predicts the endogenous regressor, $ParentalBankruptcyProtection$, using judge leniency as the instrument. This first stage is estimated as follows:

$$ParentalBankruptcyProtection_{i,d,o,j,c,p,f} = \gamma \times JudgeLeniency_{d,j,f} + \alpha_{o,f} + \delta_c + \gamma_p + \epsilon_{i,d,o,j,c,p,f+k} \quad (2)$$

where $JudgeLeniency_{d,j,f}$ represents the assigned judge $j$'s rate at which they approve Chapter 13 filings in year $f$ relative to district $d$'s approval rate in the same year. To avoid the mechanical effect of the case related to individual $i$ on the relative approval rate, we follow Dobbie and Song (2015) and construct the instrument following the "leave-one-out" method.

In particular, for every individual in our sample, we drop the outcome of their parents' case while constructing this instrument from both the judge $j$'s and district $d$'s approval rate calculations for year $f$. All other variables are same as defined above. The second stage equation estimates the effect of bankruptcy protection on children' outcomes as follows:

$$y_{i,d,o,j,c,p,f+k} = \beta \times \widehat{ParentalBankruptcyProtection}_{i,d,o,j,c,p,f} + \alpha_{o,f} + \delta_c + \gamma_p + \epsilon_{i,d,o,j,c,p,f+k} \quad (3)$$

where $\widehat{ParentalBankruptcyProtection}_{i,d,o,j,c,p,f}$ represents the predicted values from the first-stage regression. Since Chapter 13 cases are randomly assigned to judges within each office, we include office fixed effects interacted with filing year fixed effects. We also include controls for both children ($\delta_c$) and their parents' age ($\delta_c$) at the time of filing. As all individuals within the same office-year are subject to the same set of bankruptcy judges and are exposed to common local economic factors, we cluster standard errors at the office level.

The coefficient $\beta$ captures the local average treatment effect of Chapter 13 protection for filers whose bankruptcy outcomes are altered by judge leniency. The assumptions required to interpret this estimate as causal include that: (i) judge leniency is associated with parent filers receiving Chapter 13 protection (i.e., relevance condition), (ii) judges' leniency affects filers' children outcomes several years later only through the realized bankruptcy protection outcome (i.e., exclusion restriction), and (iii) impact of judge leniency on the probability of receiving bankruptcy protection through Chapter 13 is monotonic across filers (i.e., monotonicity assumption).

## 3.1 Relevance Condition

We estimate Equation 2 to test the relevance condition and report the results in Table 2. Our coefficient shows a strong relation between judge leniency and the likelihood of receiving bankruptcy protection. For 1 percentage point increase in judge leniency, the likelihood of

receiving bankruptcy protection increases by 0.957 percentage points. The increase in the probability of receiving protection is close to one-to-one with increase in leniency suggesting a precisely estimated coefficient with minimal measurement error. The high value of the F-statistic of 741 further confirms the validity of the instrument as it is well above the threshold of F=10 for a weak instrument (Stock and Yogo, 2002). In addition, this F-statistic is well over the critical value highlighted in Olea and Pflueger (2013), which allows for heteroscedastic error terms.

## 3.2 Exclusion Restriction

Our second identifying assumption is that judge leniency only impacts outcomes for filers' children through the probability of receiving bankruptcy protection. This assumption would be violated if judge leniency is correlated with unobservable determinants of future outcomes. We argue that the plausible random assignment of judges to bankruptcy cases helps support this assumption. Previous work using judge leniency to evaluate different aspects of both consumer bankruptcy (Dobbie and Song, 2015; Dobbie et al., 2017; Kleiner et al., 2021) and corporate bankruptcy filings (Chang and Schoar, 2013; Bernstein et al., 2019; Bonfim and Nogueira, 2021; Grindaker et al., 2022; Antill, 2021; Bernstein et al., 2019) contends that judges are assigned to cases through a randomized process. Each of these papers also provides evidence that judge leniency does not correlate to filers' ex-ante characteristics.[9] In addition to relying on previous work, we also examine whether judge leniency correlates to ex-ante observables that we can measure for filers in our sample. Table A1 reports results for these tests where consistent with randomized assignment we do not find any correlations between our measure of judge leniency and ex-ante characteristics.

9. A notable exception is Kleiner et al. (2022) who document that while hedge funds influence the random judge assignment for large firms, they do not affect randomization for small firms. Similar to small firms, hedge funds are not likely to intervene in the judge assignment process for households given that these cases also tend to be relatively small and less complex.

Even with random assignment, the exclusion restriction can be violated if judge leniency affects outcomes for filers' children through channels other than conversion. For example, more lenient judges may interact more with the filer and provide guidance on financial planning for the future that may correlate to the labor outcomes of their children. However, as argued in Dobbie and Song (2015), bankruptcy judges typically interact with debtors only at the confirmation hearing, limiting their influence through direct interactions. Alternatively, judges may make rulings on other motions beyond the decision to provide Chapter 13 protection. If these other motions are correlated with judge leniency, then our estimate will reflect the effect of the combined judicial decisions correlated with bankruptcy protection instead of the effect of protection by itself.

We argue against this interpretation in two ways. First, we rely on Chang and Schoar (2013) who find that the motion to grant bankruptcy protection is relatively uncorrelated to other types of judicial rulings. Second, we follow Bernstein et al. (2019) who show that judge leniency in their setting is not correlated with their outcome variables even within the subset of firms that received bankruptcy protection. The authors argue that this result suggests that their estimates are not driven by judicial decisions beyond the bankruptcy protection otherwise one would continue to find that the instrument is correlated with the outcomes even within firms that received protection. We implement this approach in our setting and evaluate whether judge leniency affects outcomes for filers' children even within those who received bankruptcy protection (or, separately, did not receive protection).

## 3.3 Monotonicity of Judicial Influence

Third assumption for our analysis requires that there is a weakly monotonic impact of judge leniency on the likelihood of receiving bankruptcy protection. This assumption is based on the local average treatment effect framework of Imbens and Angrist (1994), which implies that when monotonicity is violated, the IV estimand may not necessarily correspond

to a proper weighted average treatment effect. In the context of our setting, this states that if judge X is more likely to approve Chapter 13 protection for a given case than Judge Y, then all Chapter 13 cases approved by judge Y would have also been approved by judge X. A simple interpretation of this condition is that judges agree on the ranking regarding which Chapter 13 repayment plans are most feasible, but disagree about where to place the cutoff for approval. This implies that leniency is not determined by filer characteristics, i.e., for example it is not the case that some judges are more lenient towards low income households while others towards high income households.

We demonstrate this monotonicity by evaluating judge leniency for each judge across filers of different ages, children's ages, number of children, and levels of income in ZIP Codes that they reside, and report results in Figure 4. Different panels also report the coefficient from an OLS regression relating judges' approval-rates for subset A on the approval-rate for subset B. Here the subsets include above vs below median levels of age, children's age, number of children, and zip code level income of their residence at the time of filing. Consistent with the monotonicity assumption, we find that judges exhibit similar levels of judge leniency across filers with different characteristics. Regressing leniency for young filers on old filers yields a coefficient of 0.95. The coefficients are 0.91 for those with young and old children, 0.99 for those with more or less number of children, and 0.96 with filers residing in high and low income zip codes.

# 4 Parental Bankruptcy Protection, Income & Intergenerational Social Mobility

## 4.1 Income

Our analysis begins by evaluating the effect of Chapter 13 bankruptcy protection on filers' children's income several years following bankruptcy filing. The outcome variables reflect income 10, 15, and 20 years post filing. The choice of these durations is motivated by sample characteristics and data limitations. Since an average child at the time of filing is eleven years old, we capture income ten years later on the lower end so that an average child is 21 years old and has either entered or is close to entering the labor force. We are limited by the data to go beyond 20 years post filing because the first filing in the sample occurs in 1998 with a peak in the number of filings in 2004 and 2005 and our employment data ends in 2022. Instead of using income precisely during year 10, 15, or 20 post filing, we take an average of annual income over a five-year period around these years. For example, the outcome variable for income 10 years post filing captures average income over 8-12 years after filing. Using this average offers two distinct advantages. First, it allows us to capture individuals who temporarily drop out of our data. This can happen for instance if an individual is employed at a firm covered in our data either prior to or after the year of interest (e.g., year 10) or even both but not during that year. Second, the average allows us to reduce the effect of any abnormally high or low income during a given year for an employee (e.g., owing to changing jobs and receiving signing bonus).[10]

We first evaluate the relation between parental bankruptcy protection and income using

10. We show that our results are not driven by this choice of taking the average or the five-year rolling window using two different analyses. First, we re-estimate our baseline coefficients and find similar results if we use the income during the exact year instead of an average albeit with smaller sample. Second, we use alternative window and impute outcome variables as average over three-year windows and find similar results. Panels A and B of Table 5 report these findings.

the endogenous OLS specification outlined in Equation 1 and report the estimates from these analyses in Table 3. All specifications control for filing year-by-office fixed effects that account for time varying differences at the office level, and filing age fixed effects for both children and parents to account for time invariant differences in households that file for bankruptcy during different times in their life cycle. Column (1) reports estimates for the specification with income ten years post filing as the outcome variable. The estimate suggests that parental bankruptcy protection is associated with $600 higher annual income ten years after filing. This is economically meaningful as it corresponds to 2.8% of the unconditional mean of income ten years post filing. Columns (2) and (3) report estimates for income 15- and 20-years after filing where we find stronger associations as parental bankruptcy protection is associated with $1,533 and $2,518 higher income respectively. Even economically our estimates are larger in longer term as these coefficients correspond to increases of 4.8% and 6.3% relative to their respective means.

As discussed in section 3, the OLS estimates may suffer from omitted variables problem. It is plausible for instance that filers with higher income are more likely to receive protection and simultaneously invest more in their children's education leading to better labor market outcomes for them. To overcome these challenges we turn towards our instrument and estimate the effect of parental bankruptcy protection on income using the 2SLS specification stated in Equation 3. We report the estimates from these analyses in Table 4. Column (1) reports the results for income ten years post filing. The estimate shows that parental bankruptcy protection leads to $1,215 higher income ten years post filing. This effect is economically meaningful as it corresponds to 5.7% of the sample mean. The 2SLS coefficient captures the local average treatment effect, i.e., it is estimated among filers on the margin comparing those who did and did not receive bankruptcy protection owing to judge leniency. We find larger effects in longer terms as estimates correspond to $1,755 and $2,819 higher annual income 15- and 20-year post filing. Economically, these estimates correspond to 5.6%

and 7% of their respective means. The 2SLS estimates are larger than the OLS coefficients, suggesting that they are more precisely estimated, but not by an unusually large margin (Jiang, 2017).

The increasing magnitudes with duration following bankruptcy filing suggests that not only is income higher for individuals whose parents received bankruptcy protection but the growth in income is likely to be higher for them as well. If true this implies that the effect of parental bankruptcy protection on income should increase over the life cycle of the individuals. We directly test this by measuring income for individuals in the sample at different points during their lifetime, i.e., when they are 20, 25, 30, 35, and 40 years of age. As before, instead of using income precisely at these ages, we take an average of annual income over a five-year period around these ages. For example, the outcome variable for income at age 20 captures average income over ages 18 through 22. We then use these income variables as outcomes in our 2SLS specification.

Table 5 reports coefficients for these estimations. Consistent with bankruptcy protection affecting both income and its growth, we find that our coefficients increase over the life cycle. While bankruptcy protection leads to $571 higher income at age 20, it leads to $2,494 and $4,367 higher income by age 25 and 35 respectively. By age 40, the effect of bankruptcy protection on annual income increases to $18,831. This increase is also noticeable in economic magnitudes which increase from 2.8% at age 20 to 8.8% by 25 and 35.4% by age 40, all calculated relative to their respective means. Overall, our results show a robust positive effect of parental bankruptcy protection on income which is increasing over individual's life cycle.

## 4.2 Intergenerational Social Mobility

The positive impact of parental bankruptcy protection on both income and its growth may help individuals achieve higher relative standings within the income distribution. We

evaluate this plausibility using the likelihood that individuals belong to the top tercile of distribution ten, fifteen, or twenty years years post filing as outcome variables in our 2SLS specification. Panel A of Table 6 reports these estimates. We find that individuals whose parents received bankruptcy protection owing to judge leniency are 0.8 percentage points (pp) more likely to be in the top tercile of income distribution ten years post filing relative to those whose parents filed for but did not receive Chapter 13 protection. This effect increases to 2.5 pp higher likelihood of belonging to top tercile of distribution twenty years after filing.

While these results show that parental bankruptcy protection leads to a higher probability of belonging to the top tercile of income distribution, it does not shed light on the relative standings of children compared to those of the parents, i.e., intergenerational social mobility. The higher likelihood of being in the top tercile can either occur if bankruptcy protection improves intergenerational upward mobility or it allows those who receive protection to avoid the intergenerational downward mobility that households who do not receive protection experience. Either way, understanding the impact of bankruptcy protection on intergenerational social mobility is of interest for both economists and policy makers.

Motivated by this, our next set of analyses examine intergenerational social mobility as outcome variables considering both — upward and downward mobility — separately. Panel B of Table 6 reports estimates for regressions where the outcome variables capture upward mobility. Specifically, they are dummy variables that take a value of one for individuals who belong to the top tercile of income ten, fifteen, or twenty years post filing but their parents were in the bottom two terciles at the time of filing.

Panel C reports results for downward mobility, where the outcomes are dummy variables that take a value of one for individuals who do not belong to the top tercile of income distribution ten, fifteen, or twenty years post filing but their parents were in the top tercile at the time of filing.

Overall, our findings show that bankruptcy protection has significant effects on intergen-

erational social mobility driven by an increase in upward mobility for households who receive protection and not by an increase in downward mobility for households that do not receive protection.

# 5 Plausible Mechanisms

## 5.1 Higher education and skills

One potential mechanism through which parental bankruptcy protection affects children's income and its growth, and has implications for intergenerational social mobility is higher investments in children's education and growth. Parents receiving bankruptcy protection are likely to have more resources and may invest some of these higher resources on their children's development, thereby helping them acquire more specialized skills. We evaluate this plausibility using measures for the type of jobs that children sort into and their education levels. We first examine whether children are more likely to sort into jobs requiring more specialized skills when their parents have been recipients of bankruptcy protection. This should be a direct implication of higher investment in children's development and consequent acquisition of skills. We rely on mean income of the job to reflect the skills required for it and use this as an outcome variable.

Table 7 reports results for this analysis where we calculate the mean income at two different levels — industry and employer. The outcome variable in panel A is calculated at the industry-level, thereby allowing us to measure sorting across industries. As before, different columns report results for different horizons from bankruptcy filing. We find that parental bankruptcy protection leads to their children sorting into industries with higher paying jobs on average. While our coefficients are not significant for ten years post filing, they are both statistically and economically meaningful fifteen and twenty years post filing corresponding to working in industries where average income is higher by $1,113 and $3,003

respectively. Panel B reports results for that analysis that examines sorting across employers within the same industry. The outcome variable is calculated as the mean income at the employer-level. In addition to the fixed effects in our baseline specification, we further control for industry-by-filing year fixed effects to ensure that we exploit variation within the same industry. We find that parental bankruptcy protection leads to children being employed at higher paying employers even within the same industry. We further augment these findings by evaluating the likelihood that children belong to the top tercile of income by industry and employer. Table A3 reports these estimates which show that children whose parents received bankruptcy protection are more likely to belong to the top tercile of income by both industry and employer.

Our results so far are consistent with the hypothesis that children whose parents received bankruptcy protection sort into jobs that require greater skills. We now turn our attention to evaluate children's education, a key measure of skill development. Our data allows us to observe all student loans originated either by children or their parents (i.e., parent plus loan).[11] We use both the presence of student loans and debt balances as proxies for whether or not children went to college. While over half of all undergraduate students rely on student loans to fund their college, substantial portion of them get help from their parents through parent plus loans.This allows us to capture college education for majority of students. However, since these proxies do not cover the entire population of students, using them does induce some measurement error. We require this measurement induced deviation to not be correlated with the error term in the regression for our results on these outcomes to be unbiased.

We report results for this analysis in Table 8 where we find that parental bankruptcy protection leads to higher likelihood of attending college. Panel A reports the estimates for

11. Direct plus loans/parent plus loans are federal loans that parents of dependent undergraduate students can use to help pay for college.

children's student loan outcomes when they are 22 years of age, the typical age of graduation.[12] The outcome variable in column (1) is the total student loan balance, and the estimates show that parental bankruptcy protection leads to $1,200 higher balance. This is economically large as it corresponds to 13.4% of the mean debt balance. We find consistent results when we examine the likelihood of at least one student loan appearing on children's credit profiles. Those whose parents received bankruptcy protection are 5.4 percentage points more likely to have an account on their profile. This is economically meaningful when compared to the sample mean of 52%. Panel B reports results for a parallel analysis that examines similar outcomes calculated using parent plus loans. We find that parents who receive bankruptcy protection have $636 higher loan balance corresponding to 15.5% of the sample mean. The likelihood of having a loan on their profile also increases by 3.8 percentage points.

Overall, our results are consistent with parental bankruptcy protection increasing the likelihood of attending college for children, which helps them acquire more skills and sort into jobs that require greater skills.

## 5.2 Neighborhood effects

Another mechanism that may affect children's income and intergenerational mobility are the neighborhood effects. Chetty and Hendren (2018) document that neighborhoods that children grow up at affects their income and college attendance rates among other outcomes when they become adults. If receiving bankruptcy protection allows parents to move to better neighborhoods or decline in protection forces parents to move to worse neighborhoods, it may affect children's income and likelihood of college attendance. We evaluate this mecha-

12. According to Henderson et al. (2022), 62.8% enrolled undergraduate students complete their bachelor's degree at 23 years old or younger. As student loans renew every year and the applications open before the beginning of the academic year, the student loan balance at age 22 should reflect the total borrowing for a bachelor's degree for a median student. Our results are robust for student loan and Parents PLUS loan balances at children's age 23.

nism by examining the effect of parental bankruptcy protection on the characteristics of the neighborhoods where the household resides and children grow up. Panel A of Table 9 reports estimates for the analysis which uses the mean income of the zip code where the household resides as the outcome variable. This variable is measured at the time of filing (column (1)), when children are 18 years of age (column (2)), and as the change between the two (column (3)). Across the three measures we do not find any effect of parental bankruptcy protection on zip code level income for where filers reside.

Our second measure captures the quality of the school district using graduation rate of the district as the outcome variable. For this analysis, while information on the mapping between zip codes and school district's geographical boundary comes from the National Center for Education Statistics, graduation rates are obtained from the U.S. Department of Education.[13]. As before, the graduation rate is measured at three different times — at filing, when children are 18 years of age, and the change between these time periods. Panel B of Table 9 reports these results. Again we do not find any statistical effect of parental bankruptcy protection on graduation rate of school district where households reside. If anything, there's a negative effect on the change between the time of filing and when children turn 18 years old suggesting that those receiving protection end up moving to worse school districts.

In summary, our estimates are inconsistent with neighborhood effects driving the effects of parental bankruptcy protection on children's outcomes. Further higher college attainment owing to parental bankruptcy protection that we document in the previous section is not driven by differences in middle or high schools that children attend.

13. These data are obtained from U.S. Department of Education and National Center for Education Statistics.

## 5.3 Experience effects

A growing literature documents that individuals' experiences, especially during their formative years, influence their outcomes in their adulthood. While Malmendier and Nagel (2011) show that individuals exposed to the great depression in their early lives take less risks, Knüpfer et al. (2017) find that intensity of this experience through worker displacements further help explain heterogeneity in risk taking. Bernile et al. (2017) show that when individuals escape natural disasters relatively unscathed, they tend to take on more risks than those who bear heavier costs in their formative years. Extending this argument to our setting, it is plausible that children whose parents receive bankruptcy protection are relatively less affected by bankruptcy filing than those whose parents did not receive protection.[14] This may lead to differential risk taking tendencies for those whose parents do and do not receive protection.

We evaluate this plausibility by examining the riskiness of the jobs that children sort into. Our measure of riskiness is the average income volatility at the industry or employer level. Table 10 reports these estimates where we find that children whose parents receive bankruptcy protection sort into jobs with higher income volatility. Column (1) uses income volatility at the industry-level as the outcome variable in our baseline specification. We find that income volatility is 2.8% higher for industries where children whose parents received protection are employed. However, this result is not robust to controlling for base level of children's income as evident from column (2). The final two columns report results for analysis that uses income volatility at the employer-level as the outcome variable. We find that parental bankruptcy protection leads children to be employed at firms where the income volatility is higher by 7.2%. Even for the same level of income, children of those filers who

14. One way through which filing may affect children in the short-run is likelihood of geographic mobility. We examine this in Table A4 and find that those who receive protection are less likely to move. While our previous results suggest that children grow up in similar neighborhoods, the move itself and displacement may negatively affect children whose parents did not receive protection and are forced to move (e.g., Dobbie and Song (2015)).

received protection work with employers with higher income volatility. Overall, our results are consistent with experience effects playing a role in driving our results as those who prefer to take more risk are rewarded for it through higher income.

# 6 Back-of-the-envelope calculations

To further understand the economic magnitude of the parental bankruptcy effects on children, we present back-of-the-envelope calculations that relate the amount of debt relief received by parents to the adjusted present value of life time earnings for children. A major challenge associated with these calculations is that we do not observe the amount of debt relief granted under the Chapter 13 protection. We overcome this limitation by scraping additional data on the amount of debt relief granted in each bankruptcy case.

Upon closure of each bankruptcy case, the trustee is required to prepare the "Final Report and Account" document to record the details of the amount of reported debt allowed by the court, total Chapter 13 plan payments received, and disbursements to creditors. We download these documents to scrape this information and calculate the dollar amount of debt relief as the difference between the total amount of allowed debts and the total payment through the Chapter 13 plan. One limitation of this exercise is that we only collect this information for years 2004 through 2009 as these documents are not available in digitized machine-readable format for cases prior to that. Covering over 344k Chapter 13 cases, we find that the average total debt relief is \$55,574.90, representing 71.38% of the total allowed debts. Specifically, the average debt relief for unsecured, secured, and priority debts are \$33,859.25, \$21,428.11, and \$287.50, reflecting 77.12%, 66.32%, and 17.53% of the total allowed debts in each category. These statistics closely track some earlier work. For example, Eraslan et al. (2007) and Li (2007) document a 73% average debt relief for 948 Chapter 13 cases. Norberg and Velkey (2005) report a 69.9% debt relief average based on

795 Chapter 13 cases.

The second part of our analysis calculates the differential adjusted present value in lifetime earnings for those receiving Chapter 13 bankruptcy protection based on our reduced form estimates. Following Tamborini et al. (2015); Wilkinson (1966); Kim et al. (2015)[15], we assume a 45-year career span for each child, ranging from 20 to 65 years of age. We further assume the discount factor to be 4%, the average U.S. inflation rate in the past 100 years. Finally, since the coefficients grow in our setting over the life cycle of the children, we assume a constant growth rate in income from years 38 through 65 calculated as the average yearly growth rate in estimates between children's age of 20 and 38.[16] We then calculate the increase in the net present value of lifetime earnings as of children's age of 20 as follows:

$$\begin{aligned} NPV_1 &= \sum_{age=20}^{38} \frac{\beta_{age}}{(1+r)^{age-20}} + \sum_{age=39}^{65} \frac{\beta_{age=38} \times (1+g)^{age-38}}{(1+r)^{age-20}} \\ &= \$536,150.04 \end{aligned}$$

where $g$ is 15%, calculated as the average growth rate of the coefficient $\beta$ for children between the age of 20 and 38.

Though the growth rate in our setting is increasing over the life cycle, one may argue that we do not observe how it evolves post children's age of 38. While the above calculation assumed that the growth rate between ages 20 through 38 years will sustain through the work life of the children after the age of 38, in the next analysis we assume that the growth rate will drop to zero after the age of 38 years:

15. Tamborini et al. (2015) uses 4% discount rate to study the effect of education on lifetime earnings; Wilkinson (1966) uses 5% discount rate to compute the lifetime earnings of different occupations. Kim et al. (2015) argues that the 4% average inflation rate reflects the psychological impact of individuals in evaluating human capital investments and should be used as the discount factor to calculate lifetime earnings NPV.

16. We exclude the coefficients for ages 39 and 40 because they are large and may potentially induce noise owing to small sample size.

$$NPV_2 = \sum_{age=20}^{38} \frac{\beta_{age}}{(1+r)^{age-20}} + \sum_{age=39}^{65} \frac{\beta_{age=38}}{(1+r)^{age-20}}$$
$$= \$88,956.25$$

While the above NPVs reflect the value at children's age of 20 years, the average age at the time of bankruptcy filing is 11 years in our sample. We discount both values by 9 years to adjust for this difference. This yields values of $376,691.91 and $62,499.48. Finally, since an average filer in our sample has 2.18 children, these NPVs correspond to $821,188 and $136,248 from the perspective of dollars given in debt relief. Even with a more conservative NPV, these calculations show that for every dollar given in debt relief to average parents, children's lifetime earnings increase by more than two dollars (i.e., $136,248/$55,574.90 = 2.45).

# 7 Conclusion

While debt relief remains a commonly used policy tool to help indebted borrowers in distress, evaluating its effectiveness is complicated because several of its costs and benefits are difficult to observe and quantify. In this paper, we evaluate the potential long-run benefits of debt relief that spillover to the labor markets for the next generation of the recipient households affecting their income and intergenerational mobility. We focus on Chapter 13 bankruptcy protection as our laboratory, one of the most widely used debt relief programs in the U.S. to address this question.

Our setting uses a combination of administrative data and instrumental variables (IV) approach to overcome empirical challenges associated with evaluating the effects of parental bankruptcy protection on children's outcomes. The unique data merges bankruptcy filing

information for parents to data from credit bureau that allows us to follow labor market outcomes for their children. The empirical setting uses the leniency of the randomly assigned judges as an instrument in a 2SLS setting. While the bankruptcy code is uniform at the federal level, this instrument relies on differences in its interpretation across bankruptcy judges.

We find that children whose parents receive Chapter 13 bankruptcy protection earn \$1,755 (or 5.6%) higher annual income relative to those whose parents file for but are denied protection. Our results are increasing in the duration lapsed from filing and over the life cycle of children. Parental bankruptcy protection leads to higher income by 2.8% at age 20, 8.8% at age 25 and 35.4% at age 40. Back-of-the-envelope calculations suggest that for one dollar of debt relief granted to parents through Chapter 13 protection their children earn two dollars more in adjusted present value of lifetime earnings. Children of parents who receive protection are more likely to be in the top tercile of income distribution, which is driven by an increase in intergenerational upward mobility for children whose parents receive protection rather than an increase in downward mobility for those whose parents were denied protection. These results highlight the potential role of bankruptcy protection and debt relief more broadly in helping improve intergenerational mobility.

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**Figure 1:**
**Judge Leninecy**

This figure shows the histogram of judge leniency of the original sample (before matched to the credit bureau data), which contains 2.85 million Chapter 13 bankruptcy cases from 1992 - 2007. Judge leniency is defined as the bankruptcy grant rate of the judge over a year relative to the overall grant rate of the bankruptcy court (district) over the same year.

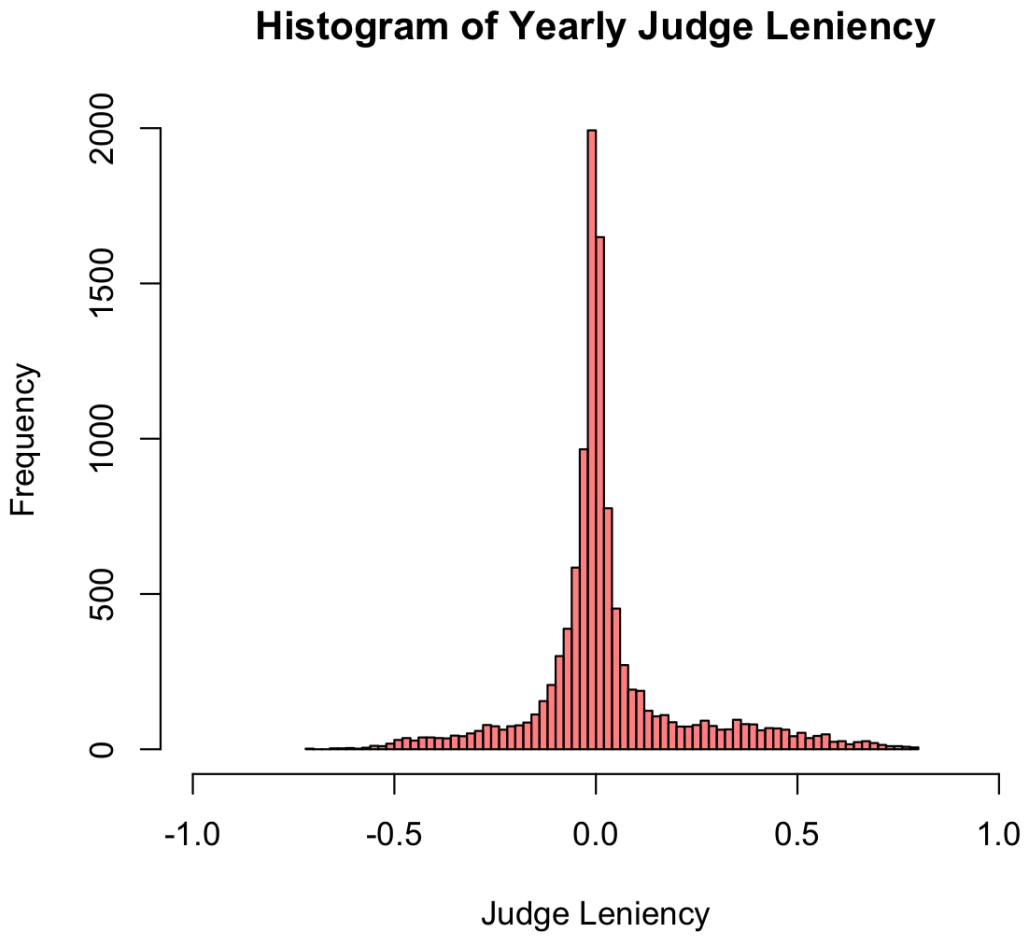
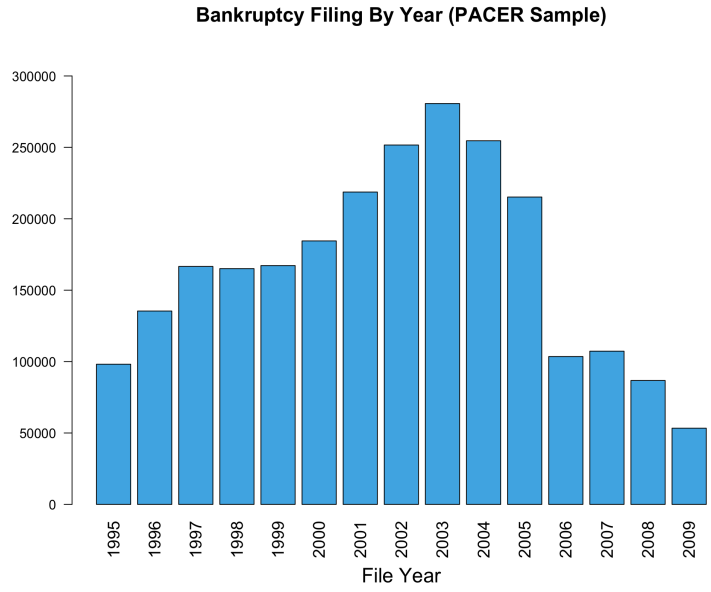


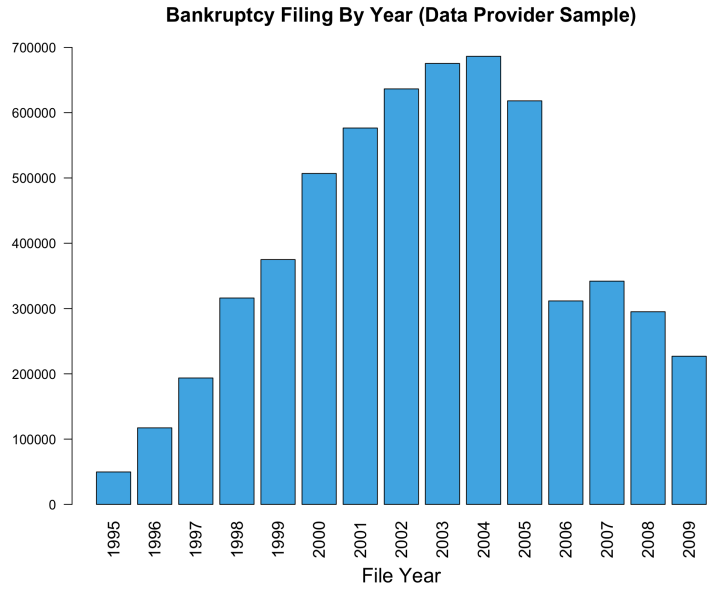
**Figure 2:**
**Case Number and Grant Rate for the Sample Before Credit Bureau Matching**

This figure shows the barplot of the number of Chapter 13 bankruptcy cases from 1995 to 2009 before matching to the credit bureau household and employment data. There are 2.49 million unique cases for the PACER sample and 5.93 million unique cases on the credit bureau.

**(a)** Case Number by Year: PACER Sample



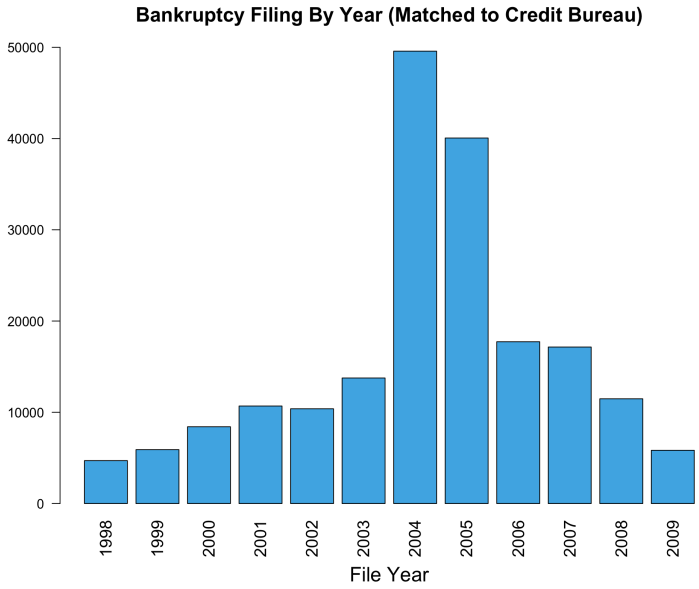

**(b)** Grant Rate by Year: Credit Bureau Sample



## Figure 3:
## Case Number and Grant Rate for the Sample After Credit Bureau Matching (Final Sample)

This figure shows the barplot of the number of Chapter 13 bankruptcy cases and grant rate by filling year for the sample matched to credit bureau household and employment data. The cases filed between 1995 and 1998 are dropped in the plot as the observations are relatively small (less than 5,000 cases).

**(a)** Case Number by Year




**(b)** Grant Rate by Year

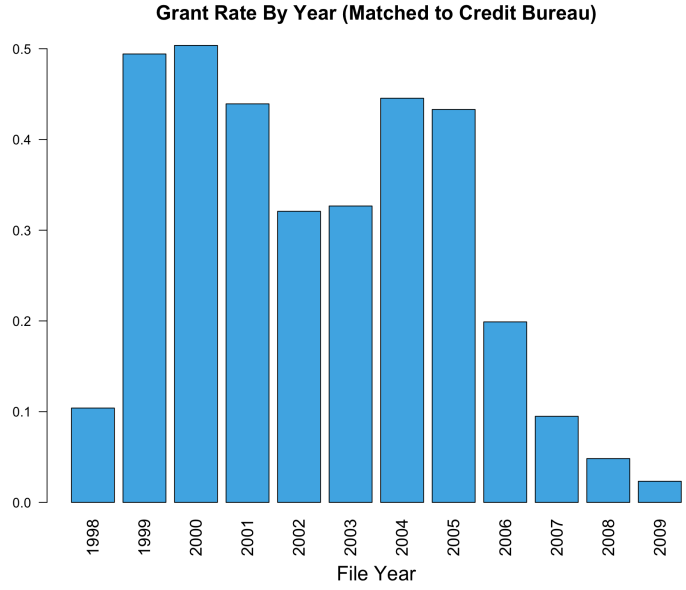
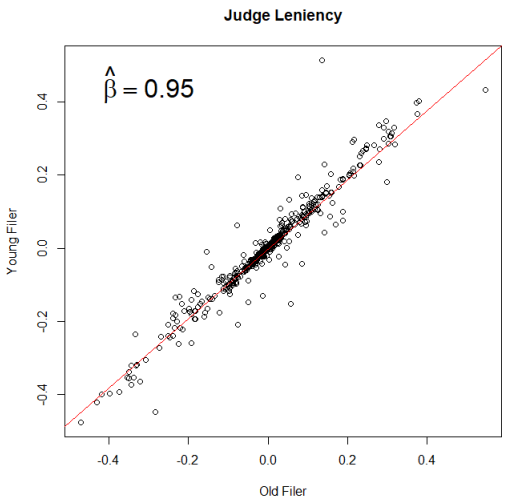


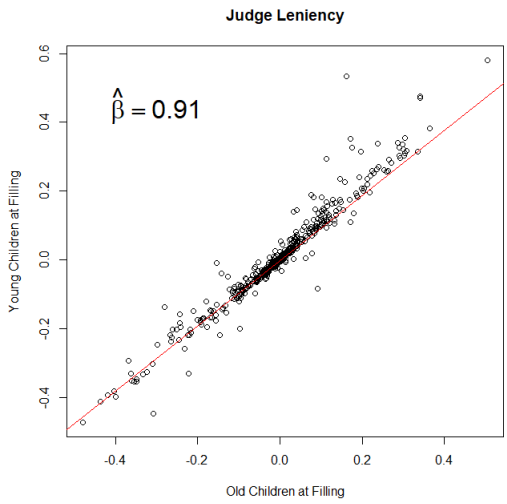
**Figure 4:**
**Judge Leniency: Monotonicity Tests**

This figure shows the monotonicity test of judge leniency by parents' filling age, children's filling, ZIP Code income at filling, and the number of children in the family. The plots are generated by plotting the judge leniency for the four metrics above and below the median. The figure also includes the OLS estimates ($\hat{\beta}$) between the judge leniency values above and below the median.

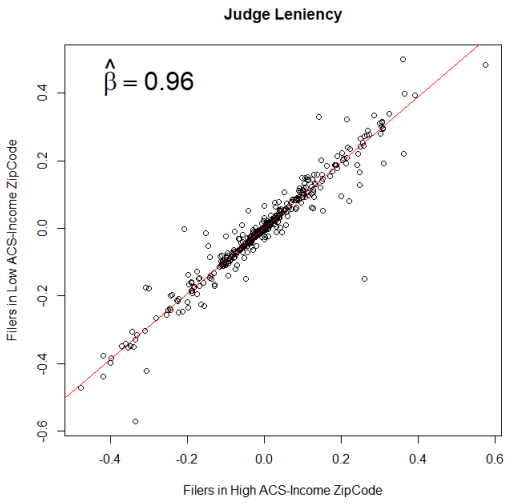
**(a)** By Parents' Filling Age



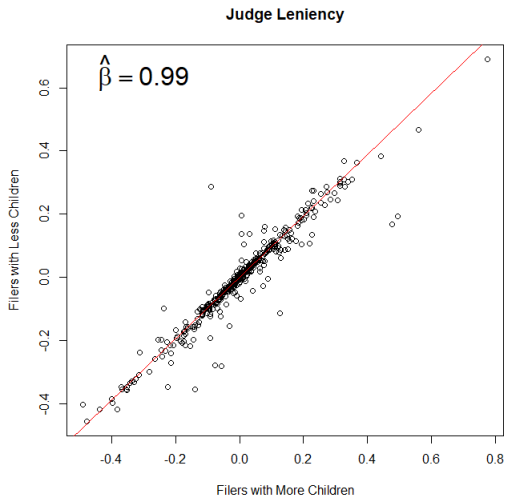

**(b)** By Children Filling Age




**(c)** By ACS ZIP Code Income at Filling



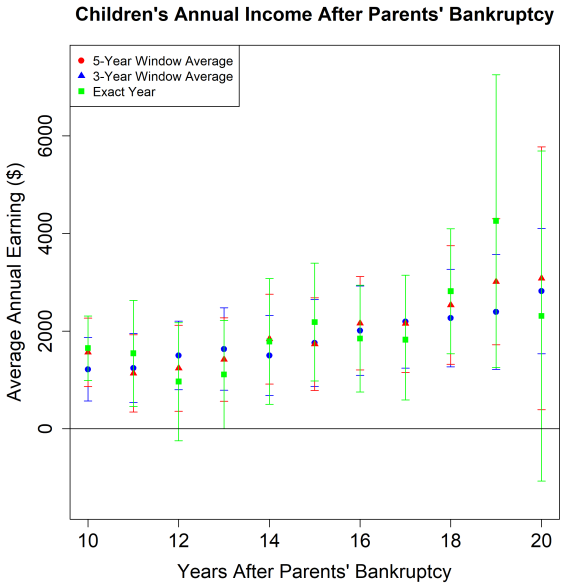

**(d)** By Number of Children at Filling



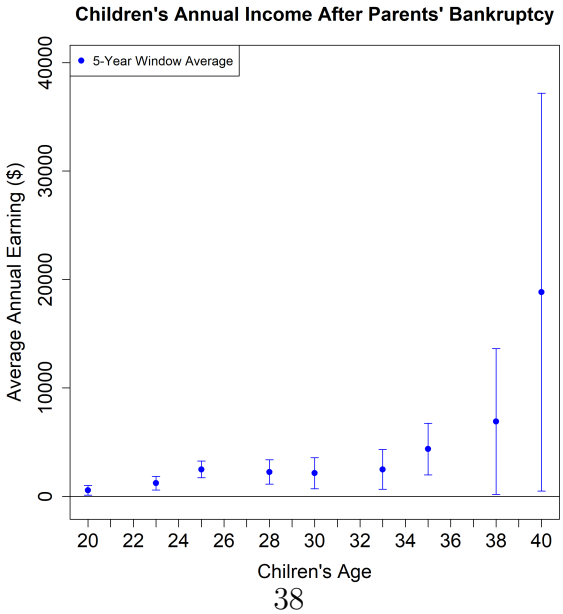
## Figure 5:
## Income

This figure demonstrates the robustness of the 2SLS regressions on the relationship between parental bankruptcy protection and children's income. Subplot (a) demonstrates the 2SLS results between parents' bankruptcy protection and children's annual income 10-20 years after filling. The red, blue, and green series indicate that children's annual income is averaged using 5-year, 3-year, and 1-year monthly income data. Subplot (b) demonstrates the 2SLS results between parents' bankruptcy protection and children's annual income at children's age 20-40. The vertical bars indicate confidence intervals at 5% and 95% levels. All regressions include filling year x office, children' age at filling, and parents' age at filling fixed effects.

**(a)** Income




**(b)** Income Over Children's Life Cycle



## Table 1:
## Summary Statistics

This table shows the summary statistics for the main sample (the population of Chapter 13 cases matched to credit bureau data from 1998 to 2007).

| Statistic | N | Mean | St. Dev. | Min | Max |
|---|---|---|---|---|---|
| Grant Chapter 13 Protection (0,1) | 306,918 | 0.33 | 0.47 | 0 | 1 |
| Yearly Judge Leniency | 306,918 | -0.002 | 0.12 | -0.65 | 0.89 |
| Parents Age (2022) | 306,918 | 57.92 | 7.89 | 35 | 92 |
| Parents Age at Filling | 306,918 | 40.07 | 7.83 | 18 | 68 |
| Children Age (2022) | 306,918 | 28.87 | 4.85 | 18 | 44 |
| Children Age at Filling | 306,918 | 11.03 | 4.63 | 0 | 18 |
| Number of Children | 306,918 | 2.18 | 1.08 | 1 | 5 |
| Children Income 10 Year Later ($) | 183,032 | 21,151.86 | 17,250.02 | 5,000.00 | 988,000.00 |
| Children Income 15 Year Later ($) | 242,401 | 31,302.28 | 25,661.56 | 5,000.00 | 991,925.20 |
| Children Income 20 Year Later ($) | 115,380 | 39,843.13 | 33,061.95 | 5,000.00 | 974,677.70 |
| Children Income at Year 25 ($) | 200,779 | 28,273.66 | 20,786.58 | 5,000.74 | 991,925.20 |
| Children Income at Year 30 ($) | 137,855 | 39,082.97 | 29,474.14 | 5,000.00 | 969,023.70 |
| Children Income at Year 35 ($) | 52,956 | 47,651.30 | 38,252.81 | 5,000.00 | 834,185.70 |
| Children Income at Year 40 ($) | 6,105 | 53,052.53 | 46,485.19 | 5,000.00 | 890,939.10 |
| Parents Move between Filling at Children's Age 18 (ZipCode) (0,1) | 134,653 | 0.41 | 0.49 | 0 | 1 |
| Parents Move between Filling at Children's Age 18 (3-Digits Zipcode) (0,1) | 134,307 | 0.18 | 0.39 | 0 | 1 |
| Parents Number of Move between Filling at Children's Age 18 (ZipCode) | 134,602 | 0.58 | 0.85 | 0.00 | 8.00 |
| Parents Number of Move between Filling at Children's Age 18 (3-Digits Zipcode) | 134,602 | 0.22 | 0.47 | 0.00 | 6.00 |
| Children Student Loan Balance at Age 22 ($) | 220,318 | 8,947.87 | 13,678.49 | 0.00 | 65,349.00 |
| Children Positive Student Loan Balance at Age 22 (0,1) | 220,318 | 0.52 | 0.50 | 0 | 1 |
| Parent PLUS Loan Balance at Children's Age 22 ($) | 306,918 | 4,004.94 | 12,687.29 | 0.00 | 95,748.40 |
| Parent Positive PLUS Loan Balance at Children's Age 22 (0,1) | 306,918 | 0.20 | 0.40 | 0 | 1 |

**Table 2:**
**First-Stage**

This table shows the 2SLS first-stage regression that examines the effect of judge leniency on granting Chapter 13 bankruptcy filed by parents. Judge leniency is calculated as the difference in the yearly grant rate between the judge assigned to the Chapter 13 case and the average grant rate of all judges in the same district.

| | *Dependent variable:* |
|---|---|
| | *ParentalBankruptcyProtection* |
| Judge Leniency | 0.957*** |
| | (0.035) |
| Year x Office FE | Yes |
| Children File Age FE | Yes |
| Parents File Age FE | Yes |
| S.E. Clusters | Office |
| F Statistic | 741 |
| Observations | 306,918 |
| $R^2$ | 0.274 |

**Table 3:**
**Income: OLS**

This table shows the OLS regression that examines the effect of parental bankruptcy protection on average annual earnings for children 10, 15, and 20 years after parents' bankruptcy filing. Columns (1) - (3) demonstrate the average earning increases due to bankruptcy protection 10, 15, and 20 years after the filing. The average earning is computed from monthly income data over a five-year window. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children's Annual Income (N Years After Parents' Bankruptcy) | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| *ParentalBankruptcyProtection* | 599.671*** | 1,533.205*** | 2,518.079*** |
| | (76.353) | (128.306) | (223.259) |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 183,032 | 242,401 | 115,380 |
| $R^2$ | 0.173 | 0.157 | 0.113 |

**Table 4:**
**Income**

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on average annual earnings for children 10, 15, and 20 years after parents' bankruptcy filing. Columns (1) - (3) demonstrate the average earning increases due to bankruptcy protection 10, 15, and 20 years after the filing. The average earning is computed from monthly income data over a five-year window. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children's Annual Income (N Years After Parents' Bankruptcy) | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,215.100*** | 1,755.678*** | 2,819.513*** |
| | (392.928) | (538.375) | (775.669) |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 183,032 | 242,401 | 115,380 |
| $R^2$ | 0.173 | 0.157 | 0.113 |

**Table 5:**
**Income over Children's Life Cycle**

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on average annual earnings over children's life cycle. Columns (1) - (5) demonstrate the average earning increases due to bankruptcy protection at children's age 20 to 40. The average earning is computed from monthly income data over a five-year window. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children's Annual Income by Age | | | | |
|---|---|---|---|---|---|
| | Age 20 | Age 25 | Age 30 | Age 35 | Age 40 |
| | (1) | (2) | (3) | (4) | (5) |
| $\widehat{ParentalBankruptcyProtection}$ | 571.200** | 2,494.402*** | 2,145.535** | 4,367.501*** | 18,831.990* |
| | (269.424) | (466.294) | (867.475) | (1,438.048) | (11,080.520) |
| Year x Office FE | Yes | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office | Office | Office |
| Observations | 183,672 | 200,779 | 137,855 | 52,956 | 6,105 |
| $R^2$ | 0.052 | 0.060 | 0.064 | 0.076 | 0.182 |

## Table 6:
## Social Mobility

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on children's social mobility. The dependent variable in Panel A indicates that children are in the top one tercile of the population income distribution. The dependent variable in Panel B indicates that children are in the top one tercile of the population income distribution while parents' ZIP Code average income at filling is in the bottom two terciles of the ZIP Code income distribution. The dependent variable in Panel C indicates that children are in the bottom two terciles of the population income distribution while parents' ZIP Code average income at filling is in the top tercile of the ZIP Code income distribution. The average income of a ZIP Code is obtained from the IRS website. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filling. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

Panel A: Top tercile of income distribution

| | N Year After Parents' Bankruptcy | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 0.008** | 0.013*** | 0.025*** |
| | (0.004) | (0.005) | (0.008) |
| Mean | 0.026 | 0.068 | 0.110 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 183,032 | 242,401 | 115,380 |
| $R^2$ | 0.046 | 0.065 | 0.074 |

Panel B: Intergenerational Upward Mobility

| | N Year After Parents' Bankruptcy | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 0.006** | 0.005* | 0.013* |
| | (0.003) | (0.003) | (0.007) |
| Dep Var Mean | 0.013 | 0.035 | 0.064 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 183,032 | 242,401 | 115,380 |
| $R^2$ | 0.026 | 0.035 | 0.043 |

Panel C: Intergenerational Downward Mobility

| | N Year After Parents' Bankruptcy | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 0.027 | 0.016 | −0.017 |
| | (0.017) | (0.016) | (0.014) |
| Dep Var Mean | 0.331 | 0.297 | 0.246 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 183,032 | 242,401 | 115,380 |
| $R^2$ | 0.136 | 0.123 | 0.116 |

**Table 7:**
**Income across Job Characteristics**

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on children's job choices and characteristics. The dependent variable in Panel A is the average income of the industry in which the children work. The dependent variable in Panel B is the average income of the employer in which the children work. Industries are the first three digits of NAICS codes. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filing. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

Panel A: Mean Income by Industry

| | N Year After Parents' Bankruptcy | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 671.980 | 1,113.157** | 3,003.547*** |
| | (732.861) | (542.767) | (1,048.617) |
| Mean | 47698 | 53452 | 57290 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 166,144 | 191,549 | 51,163 |
| $R^2$ | 0.088 | 0.097 | 0.080 |

Panel B: Mean Income by Employer

| | N Year After Parents' Bankruptcy | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 758.928* | 1,853.849*** | 4,874.413*** |
| | (396.962) | (518.900) | (1,580.786) |
| Mean | 43768 | 49229 | 52649 |
| Year x Office FE | Yes | Yes | Yes |
| Year x Industry FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 181,966 | 216,427 | 59,072 |
| $R^2$ | 0.480 | 0.178 | 0.098 |

**Table 8:**
**2SLS: Student Loan**

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on children's student loan balance and parents' Parent PLUS Loan balance. The dependent variable in Panel A is children's student loan balance at age 22. The dependent variable in Panel B is parents' Parent PLUS Loan balance at children's age 22. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

Panel A: Children's Student Loan

| | Student Loan Balance | Has Student Loan (0,1) |
|---|---|---|
| | (1) | (2) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,200.578*** | 0.054*** |
| | (284.590) | (0.010) |
| Mean | 8948 | 0.52 |
| Year x Office FE | Yes | Yes |
| Children File Age FE | Yes | Yes |
| Parents File Age FE | Yes | Yes |
| S.E. Clusters | Office | Office |
| Observations | 220,318 | 220,318 |
| $R^2$ | 0.053 | 0.036 |

Panel B: Parent PLUS Loan

| | Parents PLUS Loan Balance | Has Parents PLUS Loan (0,1) |
|---|---|---|
| | (1) | (2) |
| $\widehat{ParentalBankruptcyProtection}$ | 636.228* | 0.038*** |
| | (335.183) | (0.010) |
| Mean | 4084 | 0.205 |
| Year x Office FE | Yes | Yes |
| Children File Age FE | Yes | Yes |
| Parents File Age FE | Yes | Yes |
| S.E. Clusters | Office | Office |
| Observations | 220,318 | 220,318 |
| $R^2$ | 0.037 | 0.068 |

**Table 9:**
**ZIP Code & School District Characteristics**

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on the ZIP Code income and school district characteristics between parents' bankruptcy filling and children's age 18. The dependent variables in Panel A columns (1)-(3) are parents' average ZIP Code income at bankruptcy filling, at children's age 18, and the change between filling and children's age 18. The dependent variables in Panel B columns (1)-(3) are the average school district graduation rate at parents' bankruptcy filing, at children's age 18, and the change between filing and children's age 18. The average ZIP Code income is obtained from the IRS website. School district characteristics are obtained from U.S. Department of Education and National Center for Education Statistics. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filling. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

Panel A: ZIP Code Income

| | At Filling | At Children's Age 18 | Change between Filling & Age 18 |
|---|---|---|---|
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,518.839 | 901.475 | −617.365 |
| | (1,239.659) | (1,383.136) | (513.571) |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 128,014 | 128,014 | 128,014 |
| $R^2$ | 0.137 | 0.117 | 0.015 |

Panel B: School District Graduation Rate

| | At Filling | At Children's Age 18 | Change between Filling & Age 18 |
|---|---|---|---|
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 0.262 | −0.108 | −0.370*** |
| | (0.317) | (0.318) | (0.109) |
| Mean | 80.28 | 80.72 | 0.37 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 253,483 | 253,483 | 253,483 |
| $R^2$ | 0.375 | 0.353 | 0.025 |

**Table 10:**
**2SLS: Income Volatility**

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on the volatility of children's income at the industry and employer level 20 years after parents' bankruptcy filing. The standard deviation of industry income and employer income is represented in columns (1)-(2) and (3)-(4), respectively, for all individuals within those industries and employers in our dataset. Industries are the first three digits of the NAICS codes. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Income Volatility 20 Years After Parents' Bankruptcy | | | |
|---|---|---|---|---|
| | Industry | Industry | Employer | Employer |
| | (1) | (2) | (3) | (4) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,639.643* | 888.811 | 3,194.604** | 2,243.959* |
| | (867.936) | (862.652) | (1,343.082) | (1,336.296) |
| Mean | 58451 | 58451 | 44339 | 44339 |
| Year x Office FE | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes |
| Current Income FE | No | Yes | No | Yes |
| S.E. Clusters | Office | Office | Office | Office |
| Observations | 51,163 | 51,163 | 59,072 | 59,072 |
| $R^2$ | 0.067 | 0.152 | 0.063 | 0.181 |

# Appendix for Online Publication

## Table A1:
## Randomization Test

This table shows the OLS correlation between judge leniency and a range of bankruptcy filers and filling ZIP Code characteristics. ZIP Code level characteristics are obtained from the American Community Survey and the IRS website. Column(1) includes filling year x office fixed effects, and column (2) includes year x office fixed effects, children's age, and parents' age at filing fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Judge Leniency | |
|---|---|---|
| | (1) | (2) |
| Number of Children | −0.0004 | −0.0002 |
| | (0.0003) | (0.001) |
| Zipcode Income at Filling | 0.000 | 0.000 |
| | (0.00000) | (0.00000) |
| Zipcode Fraction of Senior at Filling | −0.0001 | −0.0001 |
| | (0.0001) | (0.0001) |
| Zipcode Fraction of Bachelor Degree at Filling | 0.00001 | 0.00000 |
| | (0.0001) | (0.0001) |
| Zipcode Fraction of Black at Filling | −0.00004 | −0.00003 |
| | (0.00002) | (0.00002) |
| Zipcode Fraction of Female at Filling | 0.0001 | 0.0001 |
| | (0.0001) | (0.0001) |
| Year x Office FE | Yes | Yes |
| Children File Age FE | No | Yes |
| Parents File Age FE | No | Yes |
| S.E. Clusters | Office | Office |
| Observations | 197,207 | 197,207 |
| $R^2$ | 0.241 | 0.244 |

## Table A2:
## Social Mobility: Additional Tests

This table shows additional 2SLS results on children's social mobility. Parents' low economic status is defined as the average income of the filling ZIP Code falling into the bottom two terciles. Parents' high economic status is defined as the average income of the filling ZIP Code falling into the top tercile tercile. Children's low economic status is defined as the children's annual income falling into the bottom two terciles of the population. Children's high economic status is defined as the children's annual income falling into the top tercile of the population. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filing. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. All regressions include filling year X office, children's age, and parents's age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

Panel A: Parents Low Economic Status & Children Low Economic Status

| | Parents Low-Children Low | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | −0.035** | −0.029 | −0.008 |
| | (0.018) | (0.018) | (0.016) |
| Dep Var Mean | 0.643 | 0.635 | 0.644 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 183,032 | 242,401 | 115,380 |
| $R^2$ | 0.144 | 0.140 | 0.142 |

Panel B: Parents High Economic Status & Children High Economic Status

| | Parents High-Children High | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 0.027 | 0.016 | −0.017 |
| | (0.017) | (0.016) | (0.014) |
| Dep Var Mean | 0.013 | 0.033 | 0.046 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 183,032 | 242,401 | 115,380 |
| $R^2$ | 0.136 | 0.123 | 0.116 |

**Table A3:**
**Top tercile of income**

This table shows the 2SLS regression that examines the effect of parental bankruptcy protection on children's likelihood of being in the top tercile of industry and employer income distribution. The dependent variables in Panel A indicate children working in industries among the top tercile of average industry income distribution. The dependent variables in Panel B indicate children working in industries among the top tercile of average employer income distribution. Industries are the first three digits of NAICS codes. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filing. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. All regressions include filling year X office, children's age, and parents's age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

Panel A: Top tercile of income by Industry

| | N Year After Parents' Bankruptcy | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 0.0002 | 0.008 | 0.049*** |
| | (0.011) | (0.009) | (0.019) |
| Mean | 0.103 | 0.148 | 0.183 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 166,144 | 191,549 | 51,163 |
| $R^2$ | 0.047 | 0.050 | 0.057 |

Panel B: Top tercile of income by Employer

| | N Year After Parents' Bankruptcy | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 0.020** | 0.026*** | 0.086*** |
| | (0.009) | (0.009) | (0.028) |
| Mean | 0.17 | 0.26 | 0.32 |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 181,966 | 216,427 | 59,072 |
| $R^2$ | 0.067 | 0.079 | 0.080 |

## Table A4:
## 2SLS: Parents' Mobility

This table shows the 2SLS regression that examines the effect of granting Chapter 13 bankruptcy protection on parents' mobility between parents' bankruptcy filing and the year children reach 18. The dependent variables in columns (1)-(2) represent indicators of whether the parents moved out of the filing ZIP Code and the first three digits of the filing ZIP Code. Columns (3)-(4) represent the number of parental moves across Zip Codes and the first three digits of Zip Codes. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. All regressions include filling year X office, children's age, and parents's age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Parents Mobility between Bankruptcy and Children's age 18 | | | |
|---|---|---|---|---|
| | Change Zip Code | Change Zip3 | Number of Changes Zip Code | Number of Changes Zip3 |
| | (1) | (2) | (3) | (4) |
| $\widehat{ParentalBankruptcyProtection}$ | $-0.190^{***}$ | $-0.057^{***}$ | $-0.329^{***}$ | $-0.086^{***}$ |
| | (0.025) | (0.012) | (0.037) | (0.017) |
| Mean | 0.41 | 0.18 | 0.58 | 0.22 |
| Year x Office FE | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office | Office |
| Observations | 134,653 | 134,307 | 134,602 | 134,602 |
| $R^2$ | 0.141 | 0.076 | 0.220 | 0.107 |

## Table A5:
## Heterogeneity by Wage Garnishment States

This table shows the 2SLS regression that examines heterogeneous effects of parental bankruptcy protection based on states with and without wage garnishment policies on delinquent debts. The dependent variables are children's annual income post parental bankruptcy. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filing. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. All regressions include filling year X office, children's age, and parents's age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children Annual Income (N Year After Parents' Bankruptcy) | | | | | |
|---|---|---|---|---|---|---|
| | 10 Years (No Garnish) | 10 Years (Garnish) | 15 Years (No Garnish) | 15 Years (Garnish) | 20 Years (No Garnish) | 20 Years (Garnish) |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| $\widehat{ParentalBankruptcyProtection}$ | 120.244 | 1,744.748*** | 362.970 | 2,441.423*** | 2,277.264* | 3,221.364*** |
| | (782.427) | (449.957) | (1,205.860) | (474.414) | (1,235.549) | (1,017.562) |
| Year x Office FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office | Office | Office | Office |
| Observations | 36,923 | 146,109 | 49,255 | 193,146 | 24,562 | 90,818 |
| $R^2$ | 0.164 | 0.176 | 0.161 | 0.158 | 0.117 | 0.114 |

## Table A6:
## Heterogeneity by family Size

This table shows the 2SLS regression that examines heterogeneous effects of parental bankruptcy protection based on family size. The dependent variables are children's annual income post parental bankruptcy, and the sample is split based on the median number of children in the sample. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filing. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. All regressions include filling year X office, children's age, and parents's age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children Annual Income (N Year After Parents' Bankruptcy) | | | | | |
|---|---|---|---|---|---|---|
| | 10 Years (Smaller Family) | 10 Years (Larger Family) | 15 Years (Smaller Family) | 15 Years (Larger Family) | 20 Years (Smaller Family) | 20 Years (Larger Family) |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,279.987*** | 688.155 | 1,779.923*** | 1,284.670 | 2,562.315*** | 2,601.143 |
| | (399.539) | (994.417) | (569.003) | (1,148.330) | (935.759) | (2,100.215) |
| Children Number Cutoff | 3 | 3 | 3 | 3 | 3 | 3 |
| Year x Office FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office | Office | Office | Office |
| Observations | 160,601 | 22,431 | 212,201 | 30,200 | 99,445 | 15,935 |
| $R^2$ | 0.176 | 0.214 | 0.158 | 0.214 | 0.113 | 0.177 |

## Table A7:
## Heterogeneity by Children Age at Filling

This table shows the 2SLS regression that examines heterogeneous effects of parental bankruptcy protection based on children's age at filling. The dependent variables are children's annual income post parental bankruptcy, and the sample is split based on the median age of children at parental bankruptcy filing. All dependent variables are specified as 10, 15, and 20 years after parents' bankruptcy filing. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. All regressions include filling year X office, children's age, and parents's age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children Annual Income (N Year After Parents' Bankruptcy) | | | | | |
|---|---|---|---|---|---|---|
| | 10 Years (Younger Children) | 10 Years (Older Children) | 15 Years (Younger Children) | 15 Years (Older Children) | 20 Years (Younger Children) | 20 Years (Older Children) |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| $\widehat{ParentalBankruptcyProtection}$ | 153.554 | 1,613.223** | 298.768 | 2,008.631** | 840.200 | 3,142.993** |
| | (347.382) | (649.807) | (628.734) | (773.638) | (873.321) | (1,207.399) |
| Children Median Age Cutoff | 13 | 13 | 11 | 11 | 10 | 10 |
| Year x Office FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office | Office | Office | Office |
| Observations | 129,384 | 139,041 | 156,909 | 192,996 | 70,267 | 85,802 |
| $R^2$ | 0.059 | 0.068 | 0.059 | 0.060 | 0.050 | 0.057 |

## Table A8:
## Fixed Effect Robustness

This table shows the robustness of the main 2SLS analysis with a range of fixed effects. The dependent variables are children's annual income post parental bankruptcy filing. Panel A, B, and C specifies 10, 15, and 20 years after post filing. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

### Panel A: 10 Years After Parents' Bankruptcy Filling

| | Children Annual Income (10 Years After Parents' Bankruptcy) | | | | | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,215.100*** | 788.909** | 779.609** | 524.516* | 574.976** | 143.726 | 326.776 |
| | (392.928) | (338.082) | (307.506) | (300.615) | (280.651) | (184.480) | (221.635) |
| Year x Office FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | No | Yes | No | Yes | No |
| Industry FE | No | Yes | No | No | No | No | No |
| Children File Age x Industry FE | No | No | Yes | No | No | No | No |
| Company FE | No | No | No | Yes | No | No | No |
| Children File Age x Company FE | No | No | No | No | Yes | No | No |
| Title FE | No | No | No | No | No | Yes | No |
| Children File Age x Title FE | No | No | No | No | No | No | Yes |
| S.E. Clusters | Office | Office | Office | Office | Office | Office | Office |
| Observations | 183,032 | 165,302 | 165,302 | 165,302 | 165,302 | 165,302 | 165,302 |
| $R^2$ | 0.173 | 0.335 | 0.355 | 0.540 | 0.643 | 0.766 | 0.838 |

### Panel B: 15 Years After Parents' Bankruptcy Filling

| | Children Annual Income (15 Years After Parents' Bankruptcy) | | | | | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,740.248*** | 1,311.093*** | 1,230.571*** | 567.695* | 982.659*** | 798.775** | 1,024.678** |
| | (494.364) | (445.634) | (434.794) | (330.308) | (346.632) | (325.825) | (465.531) |
| Year x Office FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | No | Yes | No | Yes | No |
| Industry FE | No | Yes | No | No | No | No | No |
| Children File Age x Industry FE | No | No | Yes | No | No | No | No |
| Company FE | No | No | No | Yes | No | No | No |
| Children File Age x Company FE | No | No | No | No | Yes | No | No |
| Title FE | No | No | No | No | No | Yes | No |
| Children File Age x Title FE | No | No | No | No | No | No | Yes |
| S.E. Clusters | Office | Office | Office | Office | Office | Office | Office |
| Observations | 191,284 | 191,284 | 191,284 | 191,284 | 191,284 | 191,284 | 191,284 |
| $R^2$ | 0.171 | 0.297 | 0.314 | 0.536 | 0.673 | 0.769 | 0.841 |

**Table A9:**
**2SLS Robustness: Sample Extended to 10 Maximum Children in a Household**

This table shows the 2SLS regression that examines the robust effect of parental bankruptcy protection on average annual earnings for children 10, 15, and 20 years after parents' bankruptcy filing. Compared to the baseline 2SLS results, the sample is extended to include all households with 10 maximum children. Columns (1) - (3) demonstrate the average earning increases due to bankruptcy protection 10, 15, and 20 years after the filing. The average earning is computed from monthly income data over a five-year window. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children Annual Income (N Years After Parents' Bankruptcy) Sample Extended to 10 Maximum Children | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,210.697*** | 1,746.080*** | 2,914.295*** |
| | (392.747) | (531.053) | (751.485) |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 186,930 | 247,871 | 118,715 |
| $R^2$ | 0.172 | 0.157 | 0.113 |

**Table A10:**
**2SLS Robustness: Sample Restricted to Single-time Filers**

This table shows the 2SLS regression that examines the robust effect of parental bankruptcy protection on average annual earnings for children 10, 15, and 20 years after parents' bankruptcy filing. Compared to the baseline 2SLS results, the sample is restricted to single-time bankruptcy filing parents. Columns (1) - (3) demonstrate the average earning increases due to bankruptcy protection 10, 15, and 20 years after the filing. The average earning is computed from monthly income data over a five-year window. Parents' bankruptcy protection is instrumented by the leniency of the judge assigned to this case. We control Year x Office, children age at filling, and parents age at filling fixed effects. Robust standard errors are clustered at the office level and are reported in parentheses below the estimates. ***, **, and * represent significance at 10%, 5% and 1% levels.

| | Children Annual Income (N Years After Parents' Bankruptcy) Sample Restricted to Single-Time Filers | | |
|---|---|---|---|
| | 10 Years | 15 Years | 20 Years |
| | (1) | (2) | (3) |
| $\widehat{ParentalBankruptcyProtection}$ | 1,240.841*** | 1,648.956*** | 2,532.260*** |
| | (410.468) | (565.416) | (892.811) |
| Year x Office FE | Yes | Yes | Yes |
| Children File Age FE | Yes | Yes | Yes |
| Parents File Age FE | Yes | Yes | Yes |
| S.E. Clusters | Office | Office | Office |
| Observations | 160,487 | 211,397 | 98,532 |
| $R^2$ | 0.170 | 0.157 | 0.115 |