Intergenerational Effects of Debt Relief: Evidence from Bankruptcy Protection

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- Bankruptcy protection provides relief for most types of debt for distressed borrowers
  - In a typical year, a million households seek bankruptcy protection and are offered $189 billion in debt forgiveness (Indarte 2023)
  - One in ten households has filed for bankruptcy at some point (Stavins et al. 2000)

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Our question: What are the long-term effects of bankruptcy protection that spillover to the children of recipients, if any?

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- On one hand, additional resources may allow more investment in children, especially among low-income or constrained ones
- On the other hand, higher access to credit and lower perceived bankruptcy costs can reduce precautionary savings and thereby investment in children (Braxton et al. (2024))
- Further, higher labor supply may lead parents to substitute time away from childrearing in favor of paid employment, thereby harming children's human capital development (Hu et al. (2024))

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- Mechanisms: asset protection, higher investments in children's education, and avoidance of disruptive geographical moves

Literature (Non-exhaustive citations)

- Debt relief and bankruptcy protection
  - Agarwal et al. (2017) show that HAMP increased intensity of renegotiations and prevented a substantial number of foreclosures
  - Di maggio et al. (2020) show that student debt forgiveness leads to decline in delinquencies and increase in income
  - Dobbie & Song (2015) show three- to five-years labor market spillovers for filers who receive bankruptcy protection
- Parental financial characteristics and intergenerational mobility
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1. Long-run effects that help quantify the gains from parental bankruptcy protection on children
2. Our results highlight the potential role that bankruptcy protection can play in helping improve intergenerational mobility & homeownership

Data

- PACER bankruptcy filing data
  - From Public Access to Court Electronic Records between 1992 & 2009
  - Provided by Gross et al. (2014)
  - Includes info on judges along with additional borrower characteristics like assets, liabilities, income, expenses, proposed plan etc.

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- Equifax data
  - Credit data: credit line level information and demographics (with anonymized names and address histories) for the population
  - Income data: detailed payroll data for over 5000 employers covering about 100 million employees between 2010 and 2022

Data

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  - Anyone sharing the same last name and at least one address considered to be in one household
  - Children are those in the same household which are at least 17 year younger to both parents

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  - Children are those in the same household which are at least 17 year younger to both parents
- Final sample includes 306.9k children associated with 263.3k parents who filed 201.2k unique bankruptcy cases

Identification Strategy

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- Use judge heterogeneity in the propensity to approve Chapter 13 bankruptcy protection as an instrument in 2SLS
- This instrument does not rely on differences in actual bankruptcy laws but rather on differences in interpretation of the law across judges
- Constructed as "abnormal" leniency beyond the average leniency in the same district-year (Dobbie & Song (2015))
  - To avoid the mechanical effect of the focal case on approval rate we follow "leave-one-out" approach

2SLS

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

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

- $\alpha_{o,f}$: Office x filing year fixed effects
- δ_c: Children's age fixed effects
- γ_p: Parent's age fixed effects

Identifying assumptions

- Relevance: Judge leniency is associated with parent filers receiving Chapter 13 protection

Relevance

	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

1 percentage point increase in judge leniency increases the probability of receiving bankruptcy protection by 0.95 percentage point

Identifying assumptions

- Relevance: Judge leniency is associated with parent filers receiving Chapter 13 protection
- Exclusion: judge leniency affects outcomes for filers' children only through the probability of receiving bankruptcy protection

Exclusion

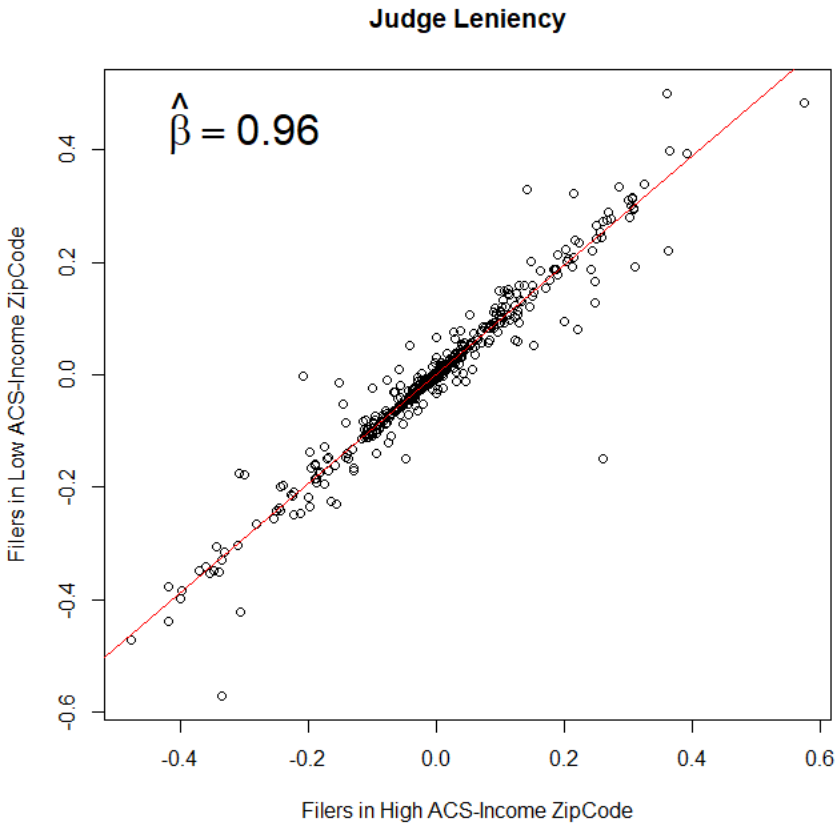
Judges assigned randomly to cases within the same court-office for both consumer bankruptcy (e.g., Dobbie and Song, 2015; Kleiner et al., 2021) and corporate bankruptcy filings (e.g., Chang and Schoar, 2013; Bernstein et al., 2019)

	Judge Leniency	
	(1)	(2)
Number of Children	−0.0004	−0.0002
	(0.0003)	(0.001)
Income at Filling	0.000	0.000
	(0.00000)	(0.00000)
Fraction of Senior at Filling	−0.0001	−0.0001
	(0.0001)	(0.0001)
Fraction of Bachelor Degree at Filling	0.00001	0.00000
	(0.0001)	(0.0001)
Fraction of Black at Filling	−0.00004	−0.00003
	(0.00002)	(0.00002)
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

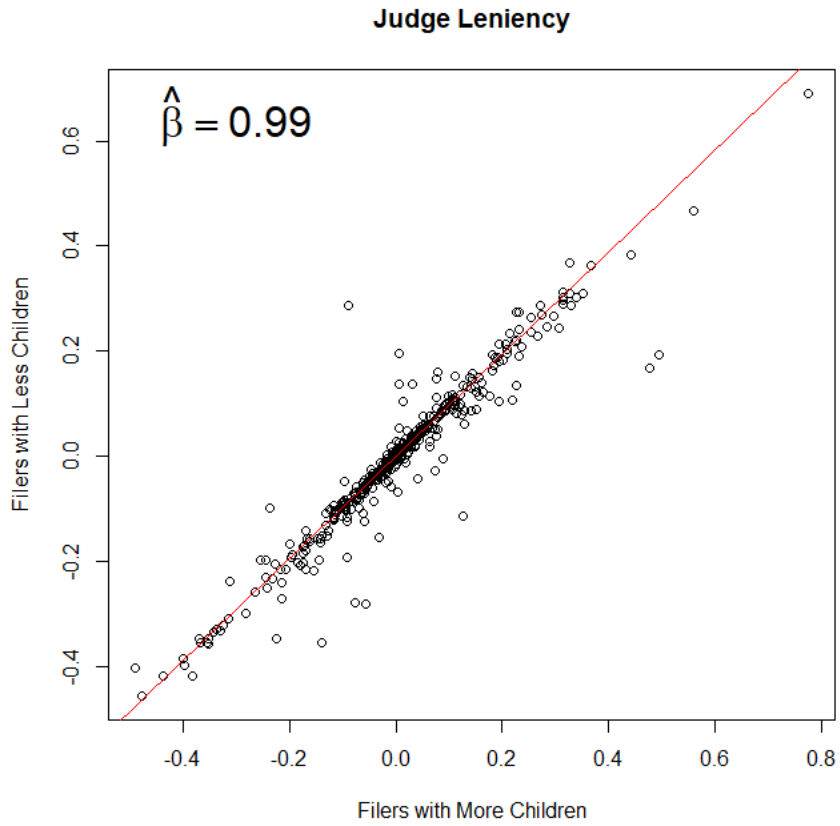
Identifying assumptions

- Relevance: Judge leniency is associated with parent filers receiving Chapter 13 protection
- Exclusion: judge leniency affects outcomes for filers' children only through the probability of receiving bankruptcy protection
- Monotonicity: Impact of judge leniency on the probability of receiving bankruptcy protection through Chapter 13 is monotonic across filers

Monotonicity



(a) Income



(b) No of children

- If a judge is more lenient to low-income (larger) households, she is also more lenient to high-income (smaller) households.

Income: 2SLS

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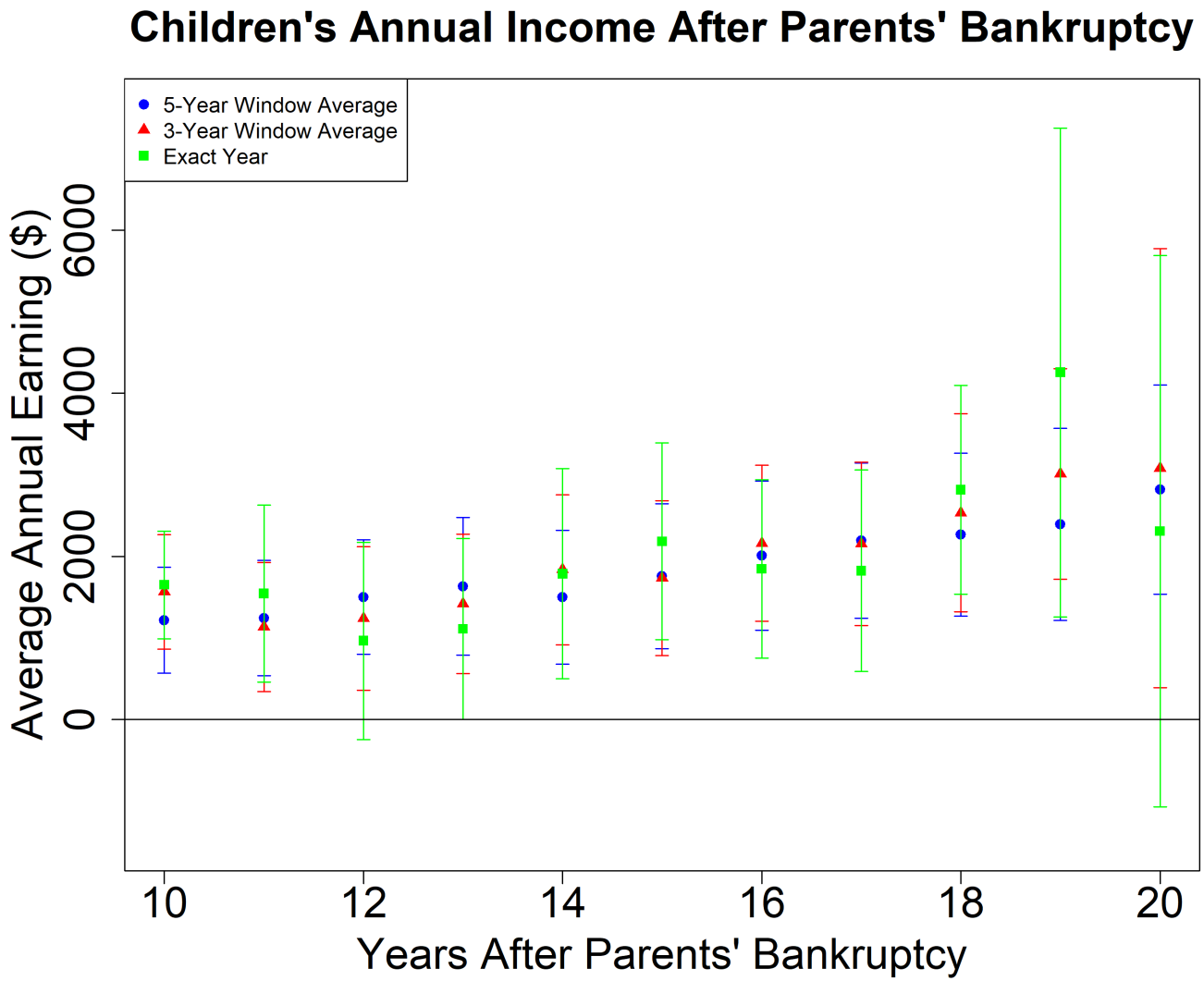
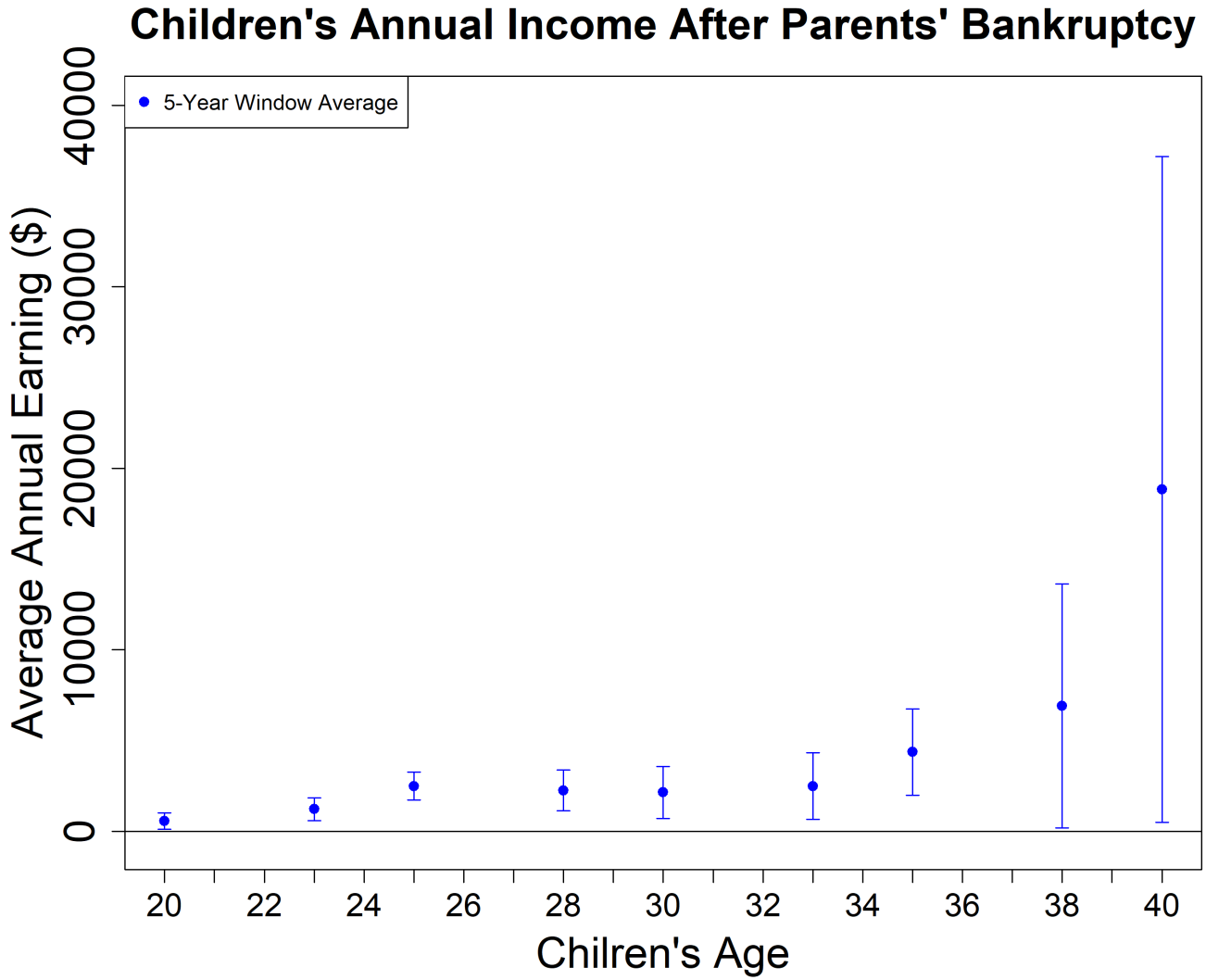


Children whose parents receive protection earn \$1,755 higher annual income 15 years post bankruptcy (∼5.6% of the sample mean)

Income over life-cycle

Income over life-cycle



Children whose parents receive protection earn \$4,367 higher annual income by age 35 ($\sim$9.1% of the sample mean)

Income over life-cycle: Back-of-the-envelope

- Our goal with this calculation: relate the amount of parental debt relief to the adjusted present value of life time earnings for children

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- We scrape this data from PACER using "Final Report and Account" document trustees are required to file
  - Includes info on the amount of reported debt allowed by the court, total Chapter 13 plan payments received, and disbursements to creditors

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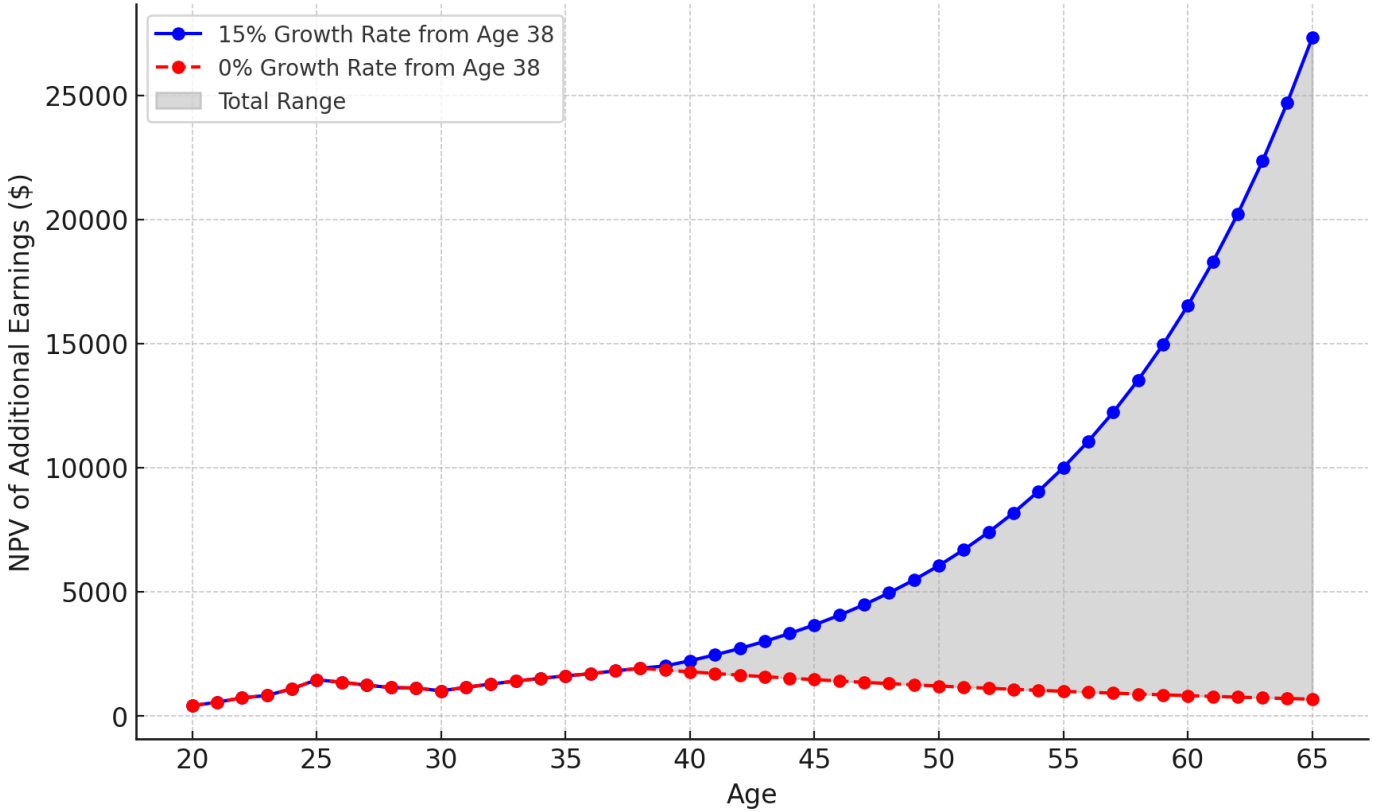
- Challenge: the amount of debt relief granted under the Chapter 13 protection not easily observable
- We scrape this data from PACER using "Final Report and Account" document trustees are required to file
  - Includes info on the amount of reported debt allowed by the court, total Chapter 13 plan payments received, and disbursements to creditors
- Get this info for over 344k Chapter 13 cases
  - Mean debt relief is \$55,574.90 (i.e., 71.4% of total debt)
  - Norberg and Velkey (2005) & Eraslan et al. (2007) report 73% and 69.9% debt relief based on 795 and 948 bankruptcy cases respectively

Income over life-cycle: Back-of-the-envelope

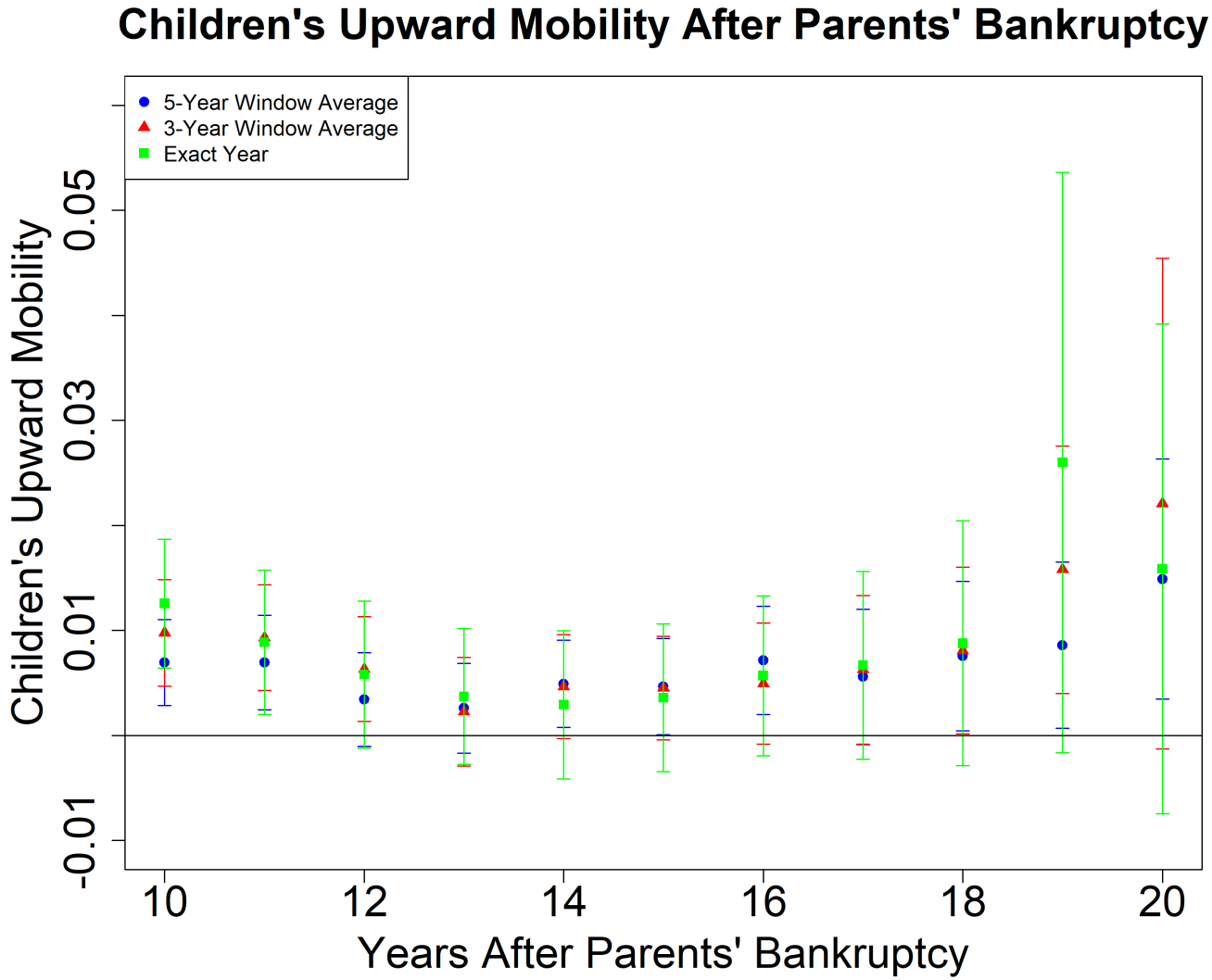


Assumptions: (1) 45 year career span from age 20 to 65; (2) discount factor of 4% (mean inflation over 100 years); (3) as of 11 years of age (children's mean age at filing)

Lower bound: After adjusting for no of children, \$1 debt relief $\Longrightarrow$ \$2.45 higher income

Intergenerational mobility

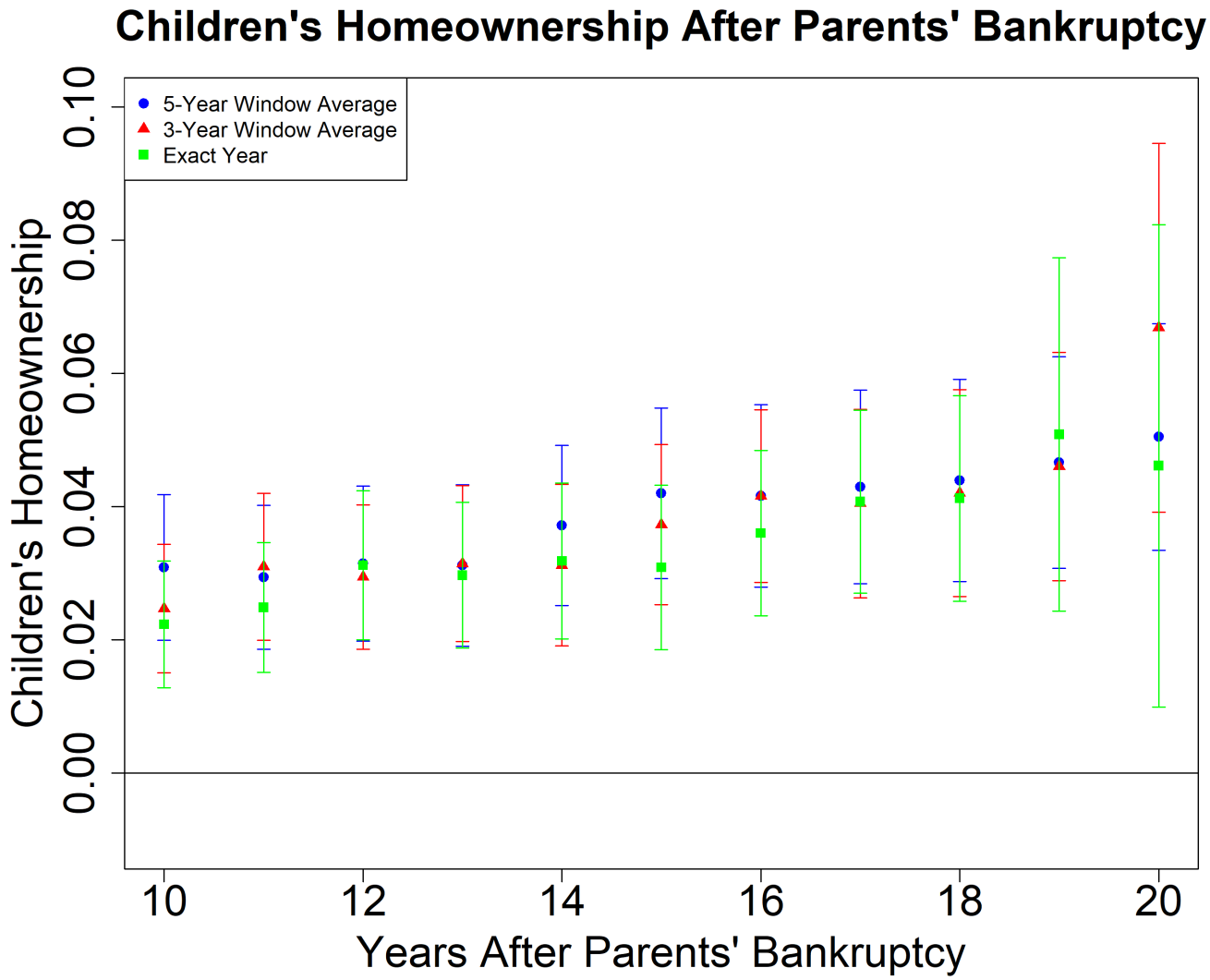
Intergenerational mobility



Intergenerational mobility 0.5pp higher for households receiving bankruptcy protection (∼16.7% of the sample mean)

Home ownership

Home ownership



Home onwership 26.7% higher for recipients' children

Mechanisms

- Asset protection
  - Examine heterogeneity based on whether bankruptcy protection helped avoid foreclosure

Heterogeneity by foreclosure restrictions

	Children's (Outcomes 15 Years After Parents' Bankruptcy)					
	Income	Income	Homeownership	Homeownership	Upward Mobility	Upward Mobility
	(1)	(2)	(3)	(4)	(5)	(6)
ParentalBankruptcyProtection	2,576.829***	1,138.307	0.039***	0.047***	0.009**	0.002
	(617.897)	(829.722)	(0.008)	(0.013)	(0.004)	(0.004)
Sample	Non-Judicial	Judicial	Non-Judicial	Judicial	Non-Judicial	Judicial
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	144,065	98,336	178,133	121,508	141,304	97,978
R^2	0.161	0.154	0.087	0.085	0.036	0.039

- Stronger effects when compared to individuals in the control group who reside in non-judicial states, where there are fewer restrictions on foreclosures

Mechanisms

- Asset protection ✓
- Improved children's education and skill-development
  - Parents more likely to borrow on parent PLUS loans
  - Children work in higher-paying jobs (e.g., industry, firm)
  - Children more likely to go to college
  - Higher educational mobility over generations

Children's education by foreclosure

	Children's Education Outcomes (23 Years Old)							
	Student Loan Balance	Student Loan Balance	Has Student Loan	Has Student Loan	PLUS Loan Balance	PLUS Loan Balance	Has PLUS Loan	Has PLUS Loan
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ParentalBankruptcyProtection	2,767.701***	1,749.152**	0.075***	0.042*	1,534.575**	1,453.435	0.065***	0.044
	(817.334)	(727.442)	(0.022)	(0.021)	(707.238)	(1,072.860)	(0.023)	(0.030)
Sample	Foreclosed	Not Foreclosed	Foreclosed	Not Foreclosed	Foreclosed	Not Foreclosed	Foreclosed	Not Foreclosed
Year x Office FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Children File Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parents File Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
S.E. Clusters	Office	Office	Office	Office	Office	Office	Office	Office
Observations	90,472	72,770	71,801	59,357	90,472	72,770	90,472	72,770
R^2	0.056	0.062	0.052	0.055	0.051	0.061	0.091	0.098

- Avoiding foreclosure helps households invest in children's education and improve their outcomes

Mechanisms

- Asset protection ✓
- Improved children's education and skill-development ✓
- Avoiding forced relocations
  - Evaluate heterogeneity based on whether the control group moves shortly after denial

Heterogeneity by relocation

	Children's Outcomes (15 Years After Parents' Bankruptcy)					
	Income	Income	Upward Mobility	Upward Mobility	Homeownership	Homeownership
	(1)	(2)	(3)	(4)	(5)	(6)
ParentalBankruptcyProtection	1,295.720*	348.674	0.022**	0.035***	0.005	−0.003
	(754.247)	(587.489)	(0.011)	(0.008)	(0.006)	(0.005)
Sample	Moved	Not Moved	Moved	Not Moved	Moved	Not Moved
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	63,549	98,951	77,581	121,643	63,179	98,531
R^2	0.172	0.152	0.098	0.086	0.059	0.047

- Stronger effects in sub-samples where the control group moves following bankruptcy protection denial

Mechanisms

- Asset protection ✓
- Improved children's education and skill-development ✓
- Avoiding forced relocations ✓
- Neighborhood effects

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- Asset protection ✓
- Improved children's education and skill-development ✓
- Avoiding forced relocations ✓
- Neighborhood effects
  - Children grow up in similar neighborhoods post parental bankruptcy filing (e.g., income, school district graduation rate)

Mechanisms

- Asset protection ✓
- Improved children's education and skill-development ✓
- Avoiding forced relocations ✓
- Neighborhood effects ×
- Experience effects

Mechanisms

- Asset protection ✓
- Improved children's education and skill-development ✓
- Avoiding forced relocations ✓
- Neighborhood effects ×
- Experience effects
  - Limited evidence that recipients' children sort into riskier jobs with higher income volatility

Mechanisms

- Asset protection ✓
- Improved children's education and skill-development ✓
- Avoiding forced relocations ✓
- Neighborhood effects ×
- Experience effects ×

Heterogeneity/Robustness

- Stronger response for households in states with more lenient wage garnishment laws
- Stronger response for smaller families, i.e., those with fewer children
- Stronger response for households that file when children are between 10 and 18 years of age
- Robust to confining to single-time filers and inclusion of different fixed effects

Conclusion

- $1 of debt relief granted to parents leads to $2 higher adjusted present value of lifetime earnings for children
- Our results highlight the potential role of bankruptcy protection (and debt relief more broadly) in helping improve intergenerational social mobility and home ownership for low-income distressed households