The Effect of Government Cash Assistance on Household Financial Outcomes

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Abstract

We provide the first causal estimates of the effect of government cash assistance on household financial outcomes. To identify this effect, we use a discontinuity in the likelihood that households receive Supplemental Security Income created by the 1996 welfare reform law, paired with administrative data from the Social Security Administration and public bankruptcy records. We find that household bankruptcy rates fall almost to zero after the household loses SSI. We hypothesize that households that lose cash assistance also lose their access to credit, and therefore bankruptcy rates fall mechanically. We are currently pursuing credit bureau records to test this hypothesis.

Keywords: disability, cash assistance, household finance

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Low-income households face substantial barriers to financial access. According to the Federal Deposit Insurance Corporation (FDIC (2014)), 28 percent of households with incomes below $15,000 have no bank account and another 22 percent have a bank account but also rely on alternative financial services such as check cashing and payday lending. Even low- to middle-income households with bank accounts still borrow money in expensive ways, such as using overdrafts, varying on-time and late bill payments each month, borrowing from friends and family, and relying on alternative financial services (Morduch, Ogden and Schneider (2014)).

Government cash assistance programs disproportionately serve low-income households that face barriers to credit access, yet little research exists on how these programs affect household financial outcomes. These programs might affect the extent to which recipients can access and use credit. On the one hand, government cash assistance programs provide stable and reliable income relative to earned income (Edin and Lein (1997); Deshpande (2016)), and may thereby increase creditworthiness. On the other hand, by stabilizing income, these programs may reduce households' demand for credit, especially for alternative services such as a payday loans.

In this paper, we study the effect of Supplemental Security Income (SSI), the largest cash welfare program in the United States, on household financial outcomes. We use an empirical strategy developed by Deshpande (2016) to isolate the causal effect of receiving Supplemental Security Income on the finances of low-income households. The empirical strategy we use exploits a discontinuity generated by the 1996 welfare reform law, a discontinuity in the probability that children receiving SSI were removed from the program at the age of 18. Children who had an 18^{th} birthday after the date of welfare reform enactment—August 22, 1996—received an age-18 medical review, while those with an 18^{th} birthday before the cutoff typically did not receive a medical review. Since medical reviews increase the likelihood of being removed from SSI, this cutoff rule generated a discontinuity in the likelihood of SSI receipt in adulthood. The average demographics of households on either side of the discontinuity were virtually identical, except that households with SSI children born just after the cutoff were much less likely to receive SSI benefits when their children reached adulthood.

We estimate the effect of SSI on household financial outcomes using this discontinuity combined with the data from the Social Security administration and bankruptcy records

compiled by Gross, Notowidigdo and Wang (2014). We find that households whose children are removed from SSI in adulthood are less likely to file for bankruptcy. SSI removal of an 18-year-old reduces the likelihood that parents file for bankruptcy by 12 percentage points, a nearly 70-percent decrease relative to families whose children remain on SSI. One explanation for this surprising finding is that SSI removal reduces access to credit, which mechanically reduces bankruptcy rates. To test this hypothesis, we are pursuing credit bureau records that will allow us to measure whether credit access is lower for households whose children are removed from SSI.

The paper proceeds as follows. Section 1reviews the literature on government cash assistance and household financial outcomes. Section 2 describes the data and empirical strategy and summarizes the first stage and reduced-form results from Deshpande (2016). Section 3 presents reduced-form and instrumental-variables estimates for household financial outcomes and interprets these results. Section 4 concludes.

1 Literature and contribution

Low-income households face substantial barriers to credit access: more than one-quarter are "unbanked," meaning that they have no back account, and another one-quarter rely on alternative financial services like check cashing and payday lending (FDIC (2014)). Recent evidence indicates that even low- to middle-income households with bank accounts borrow money in expensive ways, including overdrafts and alternative financial services (Morduch et al. (2014)).

Poor access to credit may affect the well-being of low-income households in several ways. Credit is an important tool for social mobility, allowing families to borrow to pay for college, a home, or a car (Lochner and Monge-Naranjo (2011); Johnson, Pence and Vine (2014)). Credit can also help households stabilize their consumption despite volatile earnings, allowing them to borrow during bad times and save during good times. With credit checks becoming increasingly common in employment screening, apartment rentals, and other areas of everyday life, credit access can also help integrate low-income households into the broader economy. Indeed, according to the Consumer Financial Protection Bureau (Brevoort, Grimm and Kambara (2015)), 45 percent of consumers in low-income neighborhoods either lack credit records or lack credit scores.

Of course, as the sub-prime mortgage crisis of 2008 demonstrated, the availability of credit is not unambiguously positive. Credit access may make low-income households more vulnerable to "predatory lending" or it may make them more likely to fall into unsustainable cycles of debt. That may be an especially large risk if households have limited assets or limited understanding of complicated credit products (Mian and Sufi (2009); Agarwal, Amromin, Ben-David, Chomsisengphet and Evanoff (2014); Melzer (2011)).

Public assistance programs disproportionately serve low-income households that face barriers to credit access. Such programs may affect their beneficiaries' access to and usage of credit in a variety of ways, and may have differential impacts for different types of credit. On the one hand, public assistance programs provide a stable and reliable income (Edin and Lein (1997); Deshpande (2016)), and may thereby increase credit access by making their recipients more attractive to lenders. On the other hand, by stabilizing income, these programs may reduce households' demand for credit, especially demand for alternative lending services such as payday lending and emergency loans. The restrictions on household assets imposed by many public assistance programs may also affect credit access and use. These restrictions likely reduce the supply of credit to households since borrowers have limited collateral.

A range of studies examine how social insurance affects measures of achievement and well-being such as education, employment, and health, but there exists much less evidence on how those programs affect access to credit. Gross and Notowidigdo (2011) and Mazumder and Miller (n.d.) study the effects of health insurance on credit outcomes and find that insurance expansions reduce bankruptcies and financial distress. Hsu, Matsa and Melzer (2014) find that unemployment insurance may reduce foreclosures and improve credit access. Little research exists beyond those studies, which focus only on health and unemployment insurance.

This paper fills that gap in the literature by studying the effect of government benefits on financial well-being. To do so, we construct a novel dataset using merged administrative and financial outcomes data. We identify the effects of government benefits using a change in eligibility for the Supplemental Security Income (SSI) program, a means-tested disability program for children and adults that is now the largest cash welfare program in the United States.

The contribution of this paper is to shed light on several channels through which SSI can affect a family's overall well-being and quality of life. First, in the research presented

here, we analyze the effects of SSI on bankruptcy. In future work, we will study effects on other measures of financial distress, including delinquencies, foreclosures, and bills in collections. Second, we will measure the effect of SSI on whether individuals in recipient households have a credit report and a credit score. Despite the growing role of credit checks as a gateway to mainstream economic life, very little is known about why a large fraction of low-income Americans lack credit records. Third, we will measure whether SSI affects home and car ownership, both of which are important household assets and are also of broader policy relevance. Finally, we will explore whether the SSI recipients who lose eligibility are able to access lending services once they lose their benefits.

2 Data and Empirical Strategy

2.A Data

We merge two administrative data sources: administrative records on SSI recipeients from the Social Security Administration used by Deshpande (2016), and records on consumer bankruptcy filings in nearly all states between 1994 and 2009 collected by Gross et al. (2014).

With respect to Social Security Administration data, the Supplemental Security Record (SSR) provides demographic information on SSI children, including date of birth, sex, county code, primary and secondary diagnosis, SSI application date(s), and SSI decision date(s). The extract also includes monthly benefit history information starting from the inception of the program in 1974 up to 2013, including monthly payment status code and benefit amount. The SSR also identifies the parents of SSI children since SSA uses parental income and assets to determine program eligibility and the child's benefit amount. We link SSR records to the Continuing Disability Review Waterfall File. This file gives information on medical reviews for children and adults, including age 18 medical reviews going back to 1996. Each medical review observation lists demographic information for the reviewed recipient and the date and outcome of the case at each level of adjudication.

With respect to bankruptcy records, we use data compiled by Gross et al. (2014) on public filings in nearly all states between 1994 and 2006. That dataset, based on the Public Access to Court Electronic Records system, consists of all consumer bankruptcy filings in the 81 courts (out of 94) that agreed to grant full electronic access to their dockets. Figure 1

presents a map of the sample coverage. The authors verified that the data match aggregate counts of bankruptcies reported by the Administrative Office of the US courts.

Baseline bankruptcy rates, shown in Table 3 in the control means column, are low for the SSI youth themselves but high for their parents. Among the SSI youth, the average number of bankruptcies filed over the 16 years in which we observed them is 0.03, and 3.0 percent ever file for bankruptcy over that period. In contrast, the average number of bankruptcies for parents of SSI youth is 0.22, and some 16 percent of parents ever file for bankruptcy. Together, the total number of bankruptcies among both children and parents is 0.25 on average, and in 17 percent of households either the parent or child files for bankruptcy. About two-thirds of the bankruptcy filings in the sample are Chapter 7 filings, which are restricted to households with low incomes, while the other one-third are Chapter 13 filings.

In addition to these bankruptcy records, we are currently compiling and including credit bureau records from 1997 to 2015 on SSI recipients, their parents, and other households members. Similarly, we have requested alternative credit records on payday loans and other alternative credit products. These data sources will allow us to study the effects of SSI receipt on other financial outcomes, including the existence of a credit record; credit score; usage of mortgage, auto, credit card, and other loans; usage of payday loans and alternative financial; and measures of financial distress like delinquencies, foreclosures, and bills in collections.

2.B Empirical strategy

SSI provides monthly cash payments to children and adults who qualify on the basis of disability or old age and have limited income and assets. The maximum federal benefit amount for an individual is $733 each month ($8,796 each year) in 2016, and most states provide a small supplement. SSI provides categorical Medicaid eligibility in most states. Under current law, SSI children must re-qualify for the program as adults by undergoing an age 18 medical review. About 40 percent of all SSI children and two-thirds of SSI children with mental conditions other than intellectual disability are removed from SSI at the age of 18 (Hemmeter and Gilby (2009)). These high cessation rates are the result of differences in medical eligibility criteria for children and adults.[1] Conditions such as ADHD may qualify

[1]For adults, disability is defined as an inability to work. Adults who earn above the "substantial gainful activity" limit ($1130/month for non-blind individuals in 2016) are ineligible for disability benefits. Since children do not work, their eligibility for the SSI program is based on age-appropriate activity. Children

a child for SSI because they limit age-appropriate activity, but they are less likely to qualify an adult unless they are severe enough to prevent work. Children who qualify on the basis of these conditions are more likely to be removed at 18.

In the SSI children's program, the income and assets of the parents are used to determine both financial eligibility and monthly benefit amount. Once a child turns 18, however, only the child's own income and assets are considered. The monthly SSI benefit amount is reduced by one dollar for every one dollar of unearned income, but by only one dollar for every two dollars of earned income, after modest income exclusions. This puts the annual break-even point for earned income at about $18,000.[2] The SSI asset limit is $2,000 for an individual and $3,000 for a couple and excludes the value of a home and one vehicle.

Following Deshpande (2016), we take advantage of changes to SSI enacted as part of the 1996 welfare reform to identify the effect of SSI on the household financial outcomes. The Personal Responsibility and Work Opportunity Act (PRWORA) of 1996 made two changes to age 18 medical reviews, in which a disability examiner decides whether an SSI child qualifies for the program as an adult. First, it required the Social Security Administration to redetermine the eligibility of all SSI children at the age of 18, up from virtually zero age 18 medical reviews previously. Second, it increased age-18 medical review eligibility requirements to use the stricter adult standard rather than the child standard. Prior to PRWORA, SSI children who received age-18 medical reviews were continued on SSI as adults as long as they did not demonstrate medical improvement, whether or not they met the adult disability standard. PRWORA required all SSI children to re-qualify for the program as adults. Importantly, changes in the number and strictness of age-18 medical reviews applied only to children with an 18th birthday after August 22, 1996, which was the date of PRWORA enactment.

Figure 1 summarizes the empirical strategy for the RD design in date of birth. The x-axis shows the date of the child's 18^{th} birthday, with a vertical line at the August 22, 1996 cutoff. The graph plots the proportion of children in each birthweek bin who receive an age 18 medical review, receive an unfavorable age 18 medical review, and ever (up to age

must have "marked and severe functional limitations" that limit their activities, which can include social interaction and school performance. Social Security Act Sec. 1614, 42 U.S.C. 1382c(a)(3).

[2]The SSI student earned income exclusion provides an additional exclusion for students who are under the age of 22 and work. Additional exclusions exist for various groups. If a child continues to receive in-kind support in the form of food or shelter after age 18, these may be considered unearned income for SSI purposes. SSI recipients are generally terminated after 12 consecutive months of having a zero benefit amount. Certain public assistance benefits like SNAP are not considered income for SSI purposes.

35) receive an unfavorable medical review. The figure confirms that the PRWORA changes were enforced: while almost no children with an 18th birthday immediately before the cutoff (hereafter, "control" group) received an age-18 medical review, nearly 90 percent of children with an 18^{th} birthday immediately after the cutoff ("treatment" group) received one. This discontinuity in the likelihood of receiving an age 18 medical review translates into a 39 percentage point discontinuity in the likelihood of receiving an *unfavorable* age 18 medical review. Age 18 medical reviews are a specific type of the more general medical reviews used to verify continued eligibility for both adults and children. As shown in Figure 1, children with an 18^{th} birthday after the date of PRWORA enactment are 28 percentage points more likely to ever receive an unfavorable medical review until the last time I observe them at age 35. This discontinuity is smaller than the previous ones since children on the left hand side of the graph, who do not receive an age-18 medical review, are more likely to continue on SSI as adults and receive adult medical reviews.[3]

The first column of Table 1 presents summary statistics. The sample is majority male, which is consistent with higher disability diagnosis rates among boys, and the average age at entry onto SSI is 11.9 years. Mental conditions are by far the most common diagnosis, with 49 percent of the sample having an intellectual disability and 25 percent having a mental condition other than intellectual disability. Sample members come from very low-income households. Average annual parental earnings between 1980 and 1996 for those with parents are $9,600 and the median is $4,100. Median parent and sibling disability income is $0, but the average is $2,700. Half of sample members come from a household with a single mother. Another 16 percent have no parents on their record; these include children in foster care, living with other relatives, or living in institutions.

2.C Estimation and first stage results

The key identifying assumptions of the RD design are that assignment to the treatment is as good as random immediately around the cutoff and the outcome variable is counterfactually smooth across the cutoff. Deshpande (2016) uses a parametric RD specification to test

[3]Most of the 10 percent of children with an 18th birthday after the cutoff who did not receive an age 18 medical review had already been flagged for other violations, such as earning above SGA or failing to cooperate with the age 18 review. There is some variation in removal rates by state; the 25th percentile is 31 percent and the 75th percentile is 42 percent.

whether the instrument predicts observable covariates for children around the cutoff:

$$\mathrm{Y}_i = \alpha + \beta \mathrm{Post}_i + \gamma \mathrm{DOB}_i^n + \kappa(\mathrm{Post}_i \times \mathrm{DOB}_i^n) + \epsilon_i. \tag{1}$$

Here, Y_i represents an outcome for child i; Post_i is an indicator variable equal to one if the child's 18^{th} birthday falls after the August 22, 1996 cutoff; and DOB_i^n is the date of birth running variable of polynomial order n. Deshpande (2016) finds that covariates are imbalanced under a linear specification but balanced under a quadratic equation. She finds that differencing out the discontinuity at August 22 in neighboring years (1994, 1995, and 1997) from the discontinuity at August 22, 1996, produces covariate balance for both linear and quadratic specifications. For this reason, we use the "RD-DD" as our primary specification:

$$\begin{aligned} \mathrm{Y}_i &= \alpha_0 + \beta_0(\mathrm{Coh96}_i \times \mathrm{Post}_i) + \gamma_0(\mathrm{Coh96}_i \times \mathrm{DOB}_i^n) + \kappa_0(\mathrm{Coh96}_i \times \mathrm{Post}_i \times \mathrm{DOB}_i^n) \\ &+ \alpha_1 \mathrm{Coh96}_i + \beta_1 \mathrm{Post}_i + \gamma_1 \mathrm{DOB}_i^n + \kappa_1(\mathrm{Post}_i \times \mathrm{DOB}_i^n) + X_i + \epsilon_i. \end{aligned} \tag{2}$$

Here, $Coh96_i$ is an indicator variable equal to one for the 1996 cohort (on either side of the August 22, 1996 cutoff, as opposed to the comparison cohorts (1994, 1995, and 1997). However, we show that our results are robust to using a standard parametric RD without the second difference:

$$\mathrm{Y}_i = \alpha + \beta_1 \mathrm{Post}_i + \gamma_1 \mathrm{DOB}_i^n + \kappa_1(\mathrm{Post}_i \times \mathrm{DOB}_i^n) + X_i + \epsilon_i. \tag{3}$$

Deshpande (2016)estimates that having an 18^{th} birthday after the cutoff increases the likelihood of receiving an unfavorable age 18 review by 39 percentage points (Figure 1) and decreases the likelihood of SSI enrollment by 24 percentage points four years after age 18 (see Figure 2). She finds that the first stage effect on SSI enrollment attenuates over time, largely because control group members (those with 18^{th} birthdates before the cutoff) leave the program in adulthood.

3 Effect of SSI on household financial outcomes

This section presents our main results. We first describe the reduced-form effect of SSI receipt on bankruptcy risk. We then discuss the magnitude of the estimates and the likely mechanisms at play.

3.A Reduced form and IV estimates

Figure TK presents the reduced form RD graph for child and parent bankruptcies, with reduced form RD-DD estimates in Table 2 and corresponding IV estimates (using contemporaneous SSI enrollment as the endogenous variable) in Table 3. There is no statistically significant change across the cutoff in the bankruptcy rates of the SSI youth themselves, and the sign of the estimates changes across polynomial orders. However, for the parents of the SSI youth, the number of bankruptcies and the likelihood of filing for bankruptcy falls across the cutoff. In our preferred specification, the linear RD-DD, having a child with an 18th birthday after the cutoff decreases the number of bankruptcies by 0.032 and decreases the likelihood of filing for bankruptcy by 1.45 percent. Based on the IV estimates, SSI removal slashes the number of bankruptcies by 0.26, a 100-percent decrease from the control mean of 0.22, and decreases the likelihood of filing for bankruptcy by 12 percentage points, an 80-percent decrease. Thus, removing an 18-year-old from SSI virtually eliminates bankruptcy filings for the parents of that youth over the next 16 years. These estimates are statistically significant and consistent across polynomial orders and the inclusion of covariates.

Together, the number of parent or child bankruptcies falls by 0.24 as a result of SSI removal, which is a decline of 95 percent relative to the control mean. The likelihood of either the parent or child filing for bankruptcy falls by 9.2 percentage points, a 55-percent decline relative to the control mean. The results also indicate that the decline in bankruptcy is driven by Chapter 7 bankruptcies, which are limited to individuals with low incomes, rather than Chapter 13 bankruptcies. This finding is consistent with the SSI population having low income and assets.

Appendix Tables A.1 and A.2 show that the results are robust to using a simple parametric RD without the second difference. In addition, the results are robust to the inclusion of covariates and to polynomial order (Appendix Tables A.3 and A.4).

3.B Interpreting effects on bankruptcy

The effect of SSI on the likelihood of filing for bankruptcy is theoretically ambiguous. On the one hand, SSI payments may stabilize income, as shown in Deshpande (2016), and thereby reduce the probability that a household faces unexpected income shocks that might lead to bankruptcy. On the other hand, stable SSI payments may increase households' access to credit, which will eventually lead some households to file for bankruptcy if they cannot pay off debts to creditors. The evidence from our estimates suggest that the latter channel dominates: households whose children are removed from SSI and lose SSI income have lower bankruptcy rates, possibly because they lose their access to credit and so bankruptcy rates mechanically fall as a result. We are currently pursuing linkages to credit bureau records to test this hypothesis.

The results from Deshpande (2016) provide additional context for the bankruptcy results. She finds that total household income falls as a result of SSI removal; neither the youth nor the parents increase their earnings enough to recover the lost SSI income after removal. Since we have only one instrument, we cannot definitively state that the fall in bankruptcy is concentrated within those households that experience income losses. However, taken together, the results indicate that households on average experience large income losses and large decreases in the likelihood of filing for bankruptcy as a result of the youth's SSI removal.

4 Conclusion

We provide the first causal estimates of the effect of government cash assistance on household financial outcomes. Using a discontinuity in the receipt of cash assistance created by the 1996 welfare reform law, we find that losing cash assistance reduces household bankruptcy rates nearly to zero. The fall in bankruptcy filings is driven primarily by Chapter 7 filings, which is consistent the SSI population having low income and assets. We hypothesize that households that lose cash assistance also lose their access to credit, and therefore bankruptcy rates fall mechanically. We are currently pursuing other datasets that will allow us to test that hypothesis.

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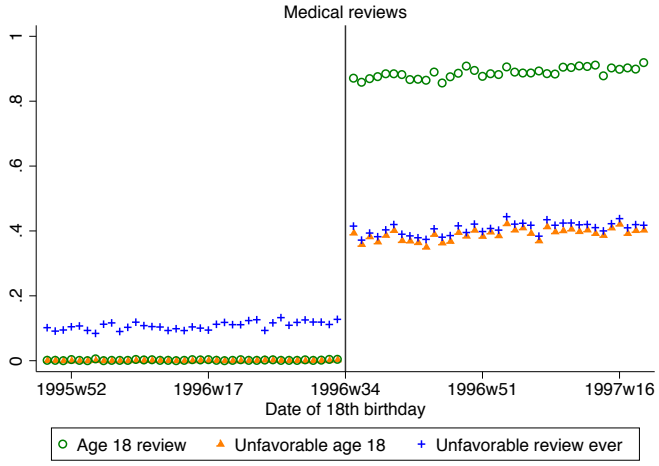
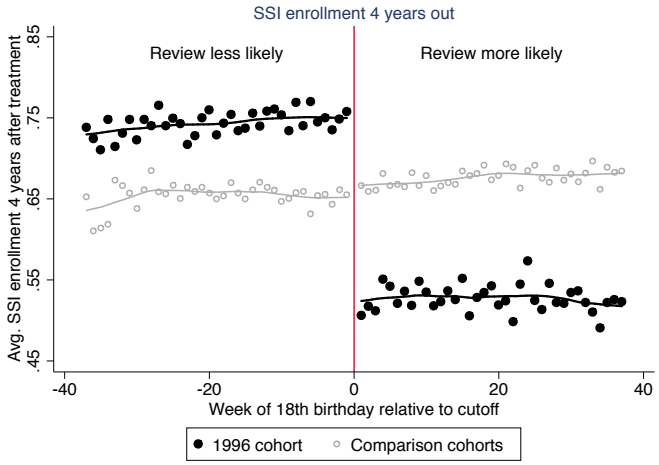
Main Figures and Tables

Figure 1: Empirical Strategy Using Variation in Eligibility for Medical Reviews



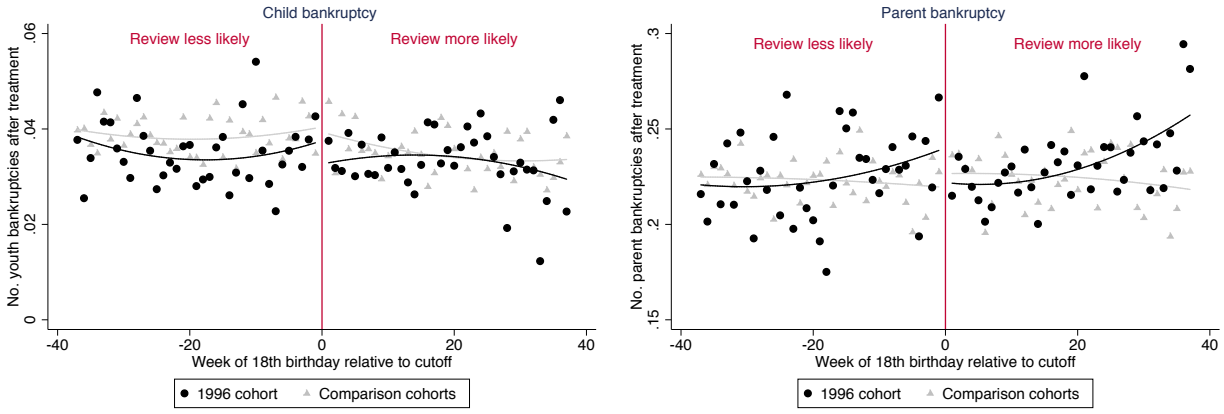
Notes: Figure plots proportion of SSI children in each birthweek bin who receive an age 18 medical review, receive an unfavorable age 18 medical review, and ever receive an unfavorable medical review (through 2013). Sample is SSI children with an 18th birthday within 37 weeks of the August 22, 1996 cutoff.

Figure 2: First Stage Effect on SSI Enrollment



Notes: Figure plots average SSI enrollment four years after the year of the 18th birthday for each birthweek bin. Solid markers indicate the 1996 cohort, while hollow markers represent comparison cohorts (1994, 1995, and 1997). Sample is SSI children with an 18th birthday within 37 weeks of the August 22 cutoff in 1996 and in 1994, 1995, and 1997.

Figure 3: Reduced Form Effect on Bankruptcies



Notes: Figure plots number of bankruptcies in the post-treatment period for SSI youth (LHS) and their parents (RHS). Solid markers indicate the 1996 cohort, while hollow markers represent comparison cohorts (1994, 1995, and 1997). Sample is SSI children with an 18th birthday within 37 weeks of the August 22 cutoff in 1996 and in 1994, 1995, and 1997.

Table 1: Sample and Complier Characteristics

	Full sample			Review compliers		Off SSI compliers			
						Year 2		Year 16	
	Mean	Median	Prop.	Prop.	Ratio	Prop.	Ratio	Prop.	Ratio
Demographics									
Male	0.63		63%	67%	1.07	68%	1.09	64%	1.03
Age at entry	11.9	13.7	50%	55%	1.11	36%	0.72	-112%	-2.23
Single mother	0.51		51%	57%	1.13	59%	1.16	78%	1.53
No parents	0.16		16%	11%	0.73	7%	0.47	-19%	-1.21
Diagnosis									
Mental	0.73		73%	78%	1.06	82%	1.12	110%	1.50
Intellectual	0.49		49%	45%	0.92	47%	0.96	80%	1.63
Other	0.25		25%	33%	1.34	35%	1.41	31%	1.24
Nervous	0.05		5%	2%	0.38	2%	0.30	5%	0.84
Infectious	0.04		4%	3%	0.87	0%	0.02	-21%	-5.43
Endocrine	0.04		4%	6%	1.63	6%	1.71	10%	2.79
Sensory	0.03		3%	1%	0.38	1%	0.42	3%	0.80
None	0.02		2%	1%	0.36	2%	0.78	-6%	-2.93
Pre-treatment outcomes									
Child's SSI payment	$3,075	$2,403	50%	42%	0.83	40%	0.81	28%	0.56
Child earnings	$289	$0	49%	55%	1.13	49%	1.00	-64%	-1.32
Parent earnings	$9,592	$4,121	50%	49%	0.99	57%	1.15	37%	0.73
Family disability apps	0.16	0	37%	45%	1.22	48%	1.28	60%	1.62
Family disability income	$2,728	$0	43%	49%	1.12	49%	1.12	55%	1.27
N	81,800			31,870 (est.)		12,763 (est.)		3,632 (est.)	

Notes: The full sample is SSI children with an 18th birthday within 37 weeks of the August 22, 1996 cutoff. Pre-treatment outcomes are annual averages taken over 1980 to 1996 for family outcomes and 1990 to 1996 for child outcomes. Family disability applications/income refers to parent DI and SSI and sibling SSI. For continuous variables, "proportion" is proportion greater than full sample median (which can be less than 50 percent in full sample if the majority of values are zeros). Compliers calculated using the methodology in Angrist and Pischke (2008). "Review compliers" are youth who would receive an unfavorable age 18 medical review if in the treatment group but not if in the control group. "Off SSI Year X compliers" are youth who would be off of SSI in year X if in the treatment group and on SSI in year X if in the control group. Since the proportions for compliers are estimated, they can be negative when the characteristic is very rare in the complier population.

Table 2: Reduced Form RD-DD Estimates for Child and Parent Bankruptcy, With Covariates

	Linear		Quadratic		Cubic		Quartic	
	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.
Child (N=232,067)								
Number of bankruptcy filings	0.00246	(0.00395)	-0.000659	(0.00609)	-0.00457	(0.00829)	-0.00180	(0.0103)
Number of Chapter 7 filings	0.00391	(0.00277)	0.00175	(0.00419)	9.19e-05	(0.00556)	0.00784	(0.00662)
Number of Chapter 13 filings	-0.00145	(0.00259)	-0.00241	(0.00404)	-0.00466	(0.00564)	-0.00965	(0.00727)
Ever files	0.00292	(0.00304)	0.000809	(0.00464)	-0.00104	(0.00622)	0.00341	(0.00751)
Ever files Chapter 7	0.00295	(0.00266)	0.00133	(0.00406)	0.000362	(0.00541)	0.00712	(0.00646)
Ever files Chapter 13	-0.000699	(0.00166)	-0.00131	(0.00256)	-0.00275	(0.00350)	-0.00499	(0.00436)
Parent (N=232,067)								
Number of bankruptcy filings	-0.0315***	(0.0112)	-0.0289*	(0.0171)	-0.0496**	(0.0232)	-0.0394	(0.0281)
Number of Chapter 7 filings	-0.0227***	(0.00744)	-0.0276**	(0.0114)	-0.0320**	(0.0155)	-0.0303	(0.0188)
Number of Chapter 13 filings	-0.00850	(0.00783)	-0.000807	(0.0119)	-0.0174	(0.0160)	-0.00930	(0.0194)
Ever files	-0.0145**	(0.00602)	-0.0170*	(0.00922)	-0.0232*	(0.0125)	-0.0190	(0.0151)
Ever files Chapter 7	-0.0109**	(0.00523)	-0.0145*	(0.00797)	-0.0143	(0.0108)	-0.0157	(0.0130)
Ever files Chapter 13	-0.00340	(0.00386)	0.000673	(0.00595)	-0.00397	(0.00807)	0.00173	(0.00981)
Household (parent and child, N=232,067)								
Number of bankruptcy filings	-0.0290**	(0.0123)	-0.0295	(0.0189)	-0.0542**	(0.0257)	-0.0412	(0.0312)
Number of Chapter 7 filings	-0.0188**	(0.00817)	-0.0259**	(0.0125)	-0.0319*	(0.0169)	-0.0225	(0.0205)
Number of Chapter 13 filings	-0.00995	(0.00853)	-0.00322	(0.0131)	-0.0221	(0.0178)	-0.0189	(0.0217)
Ever files	-0.0112*	(0.00632)	-0.0162*	(0.00968)	-0.0227*	(0.0131)	-0.0149	(0.0158)
Ever files Chapter 7	-0.00844	(0.00556)	-0.0135	(0.00847)	-0.0139	(0.0114)	-0.00815	(0.0138)
Ever files Chapter 13	-0.00373	(0.00405)	-0.000505	(0.00625)	-0.00499	(0.00847)	-0.000500	(0.0103)

Notes: Table presents reduced form RD-DD estimates (with covariates) of the effect of having an 18th birthday after the August 22, 1996, cutoff on child and parent bankruptcy over the following 16 years. Sample is households that have an SSI child with an 18th birthday within 37 weeks of the August 22 cutoff in 1996 and in the comparison years (1994, 1995, and 1997).

Table 3: IV RD-DD Estimates for Child and Parent Bankruptcy, With Covariates

	Linear		Quadratic		Cubic		Quartic		Control
	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	mean
Child (N=232,067)									
Number of bankruptcy filings	0.0202	(0.0325)	-0.00563	(0.0520)	-0.0381	(0.0695)	-0.0161	(0.0916)	0.034
Number of Chapter 7 filings	0.0322	(0.0227)	0.0150	(0.0357)	0.000767	(0.0464)	0.0699	(0.0591)	0.024
Number of Chapter 13 filings	-0.0120	(0.0214)	-0.0206	(0.0346)	-0.0389	(0.0474)	-0.0859	(0.0660)	0.011
Ever files	0.0241	(0.0250)	0.00690	(0.0395)	-0.00870	(0.0519)	0.0304	(0.0667)	0.030
Ever files Chapter 7	0.0243	(0.0219)	0.0114	(0.0346)	0.00302	(0.0451)	0.0634	(0.0576)	0.023
Ever files Chapter 13	-0.00576	(0.0137)	-0.0112	(0.0218)	-0.0230	(0.0293)	-0.0444	(0.0395)	0.009
Parent (N=232,067)									
Number of bankruptcy filings	-0.260***	(0.0935)	-0.246*	(0.148)	-0.414**	(0.199)	-0.351	(0.255)	0.217
Number of Chapter 7 filings	-0.187***	(0.0621)	-0.236**	(0.0994)	-0.267**	(0.133)	-0.270	(0.172)	0.135
Number of Chapter 13 filings	-0.0701	(0.0646)	-0.00689	(0.101)	-0.146	(0.135)	-0.0828	(0.173)	0.081
Ever files	-0.120**	(0.0500)	-0.145*	(0.0797)	-0.194*	(0.106)	-0.169	(0.137)	0.146
Ever files Chapter 7	-0.0895**	(0.0433)	-0.124*	(0.0688)	-0.119	(0.0908)	-0.140	(0.118)	0.105
Ever files Chapter 13	-0.0280	(0.0318)	0.00574	(0.0508)	-0.0331	(0.0674)	0.0154	(0.0873)	0.051
Household (parent and child, N=232,067)									
Number of bankruptcy filings	-0.239**	(0.103)	-0.252	(0.163)	-0.452**	(0.221)	-0.367	(0.284)	0.252
Number of Chapter 7 filings	-0.155**	(0.0680)	-0.221**	(0.109)	-0.266*	(0.145)	-0.200	(0.185)	0.159
Number of Chapter 13 filings	-0.0820	(0.0705)	-0.0275	(0.111)	-0.185	(0.150)	-0.169	(0.195)	0.093
Ever files	-0.0925*	(0.0525)	-0.139*	(0.0837)	-0.189*	(0.111)	-0.133	(0.143)	0.165
Ever files Chapter 7	-0.0696	(0.0460)	-0.115	(0.0731)	-0.116	(0.0964)	-0.0726	(0.124)	0.122
Ever files Chapter 13	-0.0307	(0.0335)	-0.00431	(0.0534)	-0.0416	(0.0709)	-0.00445	(0.0919)	0.057

Notes: Table presents IV RD-DD estimates (with covariates) of the effect of SSI removal on child and parent bankruptcy over the following 16 years. Sample is households that have an SSI child with an 18th birthday within 37 weeks of the August 22 cutoff in 1996 and in the comparison years (1994, 1995, and 1997).

Appendix

Table A.1: Reduced Form RD Estimates for Child and Parent Bankruptcy, No Covariates

	Linear		Quadratic		Cubic		Quartic	
	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.
Child (N=79,358)								
Number of bankruptcy filings	0.000897	(0.00298)	-0.00345	(0.00454)	-0.00496	(0.00618)	0.00296	(0.00783)
Number of Chapter 7 filings	0.00277	(0.00213)	0.000980	(0.00314)	-0.000675	(0.00410)	0.00684	(0.00501)
Number of Chapter 13 filings	-0.00187	(0.00193)	-0.00443	(0.00302)	-0.00429	(0.00428)	-0.00388	(0.00563)
Ever files post-treatment	0.00208	(0.00234)	-0.000155	(0.00349)	-0.000393	(0.00462)	0.00710	(0.00575)
Ever files Chap 7 post-treatment	0.00233	(0.00205)	0.00142	(0.00306)	5.32e-05	(0.00403)	0.00646	(0.00495)
Ever files Chap 13 post-treatment	-0.000622	(0.00126)	-0.00155	(0.00189)	-0.000700	(0.00257)	0.000607	(0.00330)
Parent (N=70,246)								
Number of bankruptcy filings	-0.0220**	(0.00928)	-0.0202	(0.0136)	-0.0312*	(0.0180)	-0.00958	(0.0221)
Number of Chapter 7 filings	-0.0155**	(0.00631)	-0.0147	(0.00931)	-0.0178	(0.0123)	-0.0142	(0.0153)
Number of Chapter 13 filings	-0.00629	(0.00631)	-0.00532	(0.00919)	-0.0134	(0.0121)	0.00440	(0.0148)
Ever files post-treatment	-0.0103**	(0.00517)	-0.0123	(0.00762)	-0.0147	(0.0101)	-0.0149	(0.0125)
Ever files Chap 7 post-treatment	-0.00840*	(0.00448)	-0.00775	(0.00657)	-0.00639	(0.00868)	-0.0103	(0.0107)
Ever files Chap 13 post-treatment	-0.00141	(0.00327)	-0.00213	(0.00485)	-0.00574	(0.00645)	0.000799	(0.00802)
Household (parent and child, N=70,246)								
Number of bankruptcy filings	-0.0218**	(0.0102)	-0.0252*	(0.0151)	-0.0371*	(0.0200)	-0.00923	(0.0247)
Number of Chapter 7 filings	-0.0128*	(0.00691)	-0.0143	(0.0102)	-0.0185	(0.0135)	-0.00768	(0.0166)
Number of Chapter 13 filings	-0.00873	(0.00692)	-0.0107	(0.0102)	-0.0186	(0.0137)	-0.00174	(0.0170)
Ever files post-treatment	-0.00873	(0.00544)	-0.0158**	(0.00802)	-0.0166	(0.0106)	-0.0119	(0.0132)
Ever files Chap 7 post-treatment	-0.00743	(0.00476)	-0.00943	(0.00700)	-0.00792	(0.00925)	-0.00447	(0.0115)
Ever files Chap 13 post-treatment	-0.00146	(0.00344)	-0.00427	(0.00510)	-0.00641	(0.00680)	0.000565	(0.00848)

Notes: Table presents reduced form RD estimates (without covariates) of the effect of having an 18th birthday after the August 22, 1996, cutoff on child and parent bankruptcy over the following 16 years. Sample is households that have an SSI child with an 18th birthday within 37 weeks of the August 22, 1996, cutoff.

Table A.2: Reduced Form RD Estimates for Child and Parent Bankruptcy, With Covariates

	Linear		Quadratic		Cubic		Quartic	
	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.
Child (N=79,358)								
Number of bankruptcy filings	0.000897	(0.00298)	-0.00345	(0.00454)	-0.00496	(0.00618)	0.00296	(0.00783)
Number of Chapter 7 filings	0.00277	(0.00213)	0.000980	(0.00314)	-0.000675	(0.00410)	0.00684	(0.00501)
Number of Chapter 13 filings	-0.00187	(0.00193)	-0.00443	(0.00302)	-0.00429	(0.00428)	-0.00388	(0.00563)
Ever files post-treatment	0.00208	(0.00234)	-0.000155	(0.00349)	-0.000393	(0.00462)	0.00710	(0.00575)
Ever files Chap 7 post-treatment	0.00233	(0.00205)	0.00142	(0.00306)	5.32e-05	(0.00403)	0.00646	(0.00495)
Ever files Chap 13 post-treatment	-0.000622	(0.00126)	-0.00155	(0.00189)	-0.000700	(0.00257)	0.000607	(0.00330)
Parent (N=70,246)								
Number of bankruptcy filings	-0.0220**	(0.00928)	-0.0202	(0.0136)	-0.0312*	(0.0180)	-0.00958	(0.0221)
Number of Chapter 7 filings	-0.0155**	(0.00631)	-0.0147	(0.00931)	-0.0178	(0.0123)	-0.0142	(0.0153)
Number of Chapter 13 filings	-0.00629	(0.00631)	-0.00532	(0.00919)	-0.0134	(0.0121)	0.00440	(0.0148)
Ever files post-treatment	-0.0103**	(0.00517)	-0.0123	(0.00762)	-0.0147	(0.0101)	-0.0149	(0.0125)
Ever files Chap 7 post-treatment	-0.00840*	(0.00448)	-0.00775	(0.00657)	-0.00639	(0.00868)	-0.0103	(0.0107)
Ever files Chap 13 post-treatment	-0.00141	(0.00327)	-0.00213	(0.00485)	-0.00574	(0.00645)	0.000799	(0.00802)
Household (parent and child, N=70,246)								
Number of bankruptcy filings	-0.0218**	(0.0102)	-0.0252*	(0.0151)	-0.0371*	(0.0200)	-0.00923	(0.0247)
Number of Chapter 7 filings	-0.0128*	(0.00691)	-0.0143	(0.0102)	-0.0185	(0.0135)	-0.00768	(0.0166)
Number of Chapter 13 filings	-0.00873	(0.00692)	-0.0107	(0.0102)	-0.0186	(0.0137)	-0.00174	(0.0170)
Ever files post-treatment	-0.00873	(0.00544)	-0.0158**	(0.00802)	-0.0166	(0.0106)	-0.0119	(0.0132)
Ever files Chap 7 post-treatment	-0.00743	(0.00476)	-0.00943	(0.00700)	-0.00792	(0.00925)	-0.00447	(0.0115)
Ever files Chap 13 post-treatment	-0.00146	(0.00344)	-0.00427	(0.00510)	-0.00641	(0.00680)	0.000565	(0.00848)

Notes: Table presents reduced form RD estimates (with covariates) of the effect of having an 18th birthday after the August 22, 1996, cutoff on child and parent bankruptcy over the following 16 years. Sample is households that have an SSI child with an 18th birthday within 37 weeks of the August 22, 1996, cutoff.

Table A.3: Reduced Form RD-DD Estimates for Child and Parent Bankruptcy, No Covariates

	Linear		Quadratic		Cubic		Quartic	
	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.
Child (N=232,067)								
Number of bankruptcy filings	0.00215	(0.00343)	-0.00152	(0.00536)	-0.00368	(0.00734)	0.00109	(0.00911)
Number of Chapter 7 filings	0.00350	(0.00244)	0.00115	(0.00374)	-0.000683	(0.00498)	0.00742	(0.00600)
Number of Chapter 13 filings	-0.00135	(0.00223)	-0.00267	(0.00354)	-0.00300	(0.00498)	-0.00632	(0.00638)
Ever files	0.00335	(0.00267)	0.00153	(0.00412)	0.00128	(0.00556)	0.00696	(0.00677)
Ever files Chapter 7	0.00299	(0.00234)	0.00132	(0.00361)	-7.55e-05	(0.00485)	0.00686	(0.00585)
Ever files Chapter 13	-0.000288	(0.00144)	-0.000484	(0.00224)	7.75e-05	(0.00307)	-0.000983	(0.00383)
Parent (N=232,067)								
Number of bankruptcy filings	-0.0294***	(0.0109)	-0.0272	(0.0167)	-0.0434*	(0.0226)	-0.0275	(0.0274)
Number of Chapter 7 filings	-0.0211***	(0.00726)	-0.0238**	(0.0112)	-0.0248	(0.0151)	-0.0187	(0.0183)
Number of Chapter 13 filings	-0.00796	(0.00755)	-0.00296	(0.0115)	-0.0186	(0.0155)	-0.00899	(0.0189)
Ever files	-0.0136**	(0.00588)	-0.0170*	(0.00901)	-0.0189	(0.0122)	-0.0134	(0.0148)
Ever files Chapter 7	-0.0107**	(0.00509)	-0.0136*	(0.00777)	-0.00962	(0.0105)	-0.00786	(0.0127)
Ever files Chapter 13	-0.00335	(0.00375)	-0.00117	(0.00579)	-0.00563	(0.00786)	-0.000672	(0.00956)
Household (parent and child, N=232,067)								
Number of bankruptcy filings	-0.0283**	(0.0120)	-0.0301	(0.0185)	-0.0485*	(0.0251)	-0.0286	(0.0306)
Number of Chapter 7 filings	-0.0181**	(0.00796)	-0.0235*	(0.0122)	-0.0256	(0.0165)	-0.0107	(0.0200)
Number of Chapter 13 filings	-0.00990	(0.00824)	-0.00621	(0.0127)	-0.0229	(0.0172)	-0.0182	(0.0212)
Ever files	-0.0107*	(0.00619)	-0.0163*	(0.00948)	-0.0163	(0.0128)	-0.00741	(0.0155)
Ever files Chapter 7	-0.00889	(0.00542)	-0.0133	(0.00828)	-0.00897	(0.0112)	0.000551	(0.0135)
Ever files Chapter 13	-0.00344	(0.00395)	-0.00192	(0.00610)	-0.00481	(0.00827)	-0.00129	(0.0101)

Notes: Table presents reduced form RD-DD estimates (without covariates) of the effect of having an 18th birthday after the August 22, 1996, cutoff on child and parent bankruptcy over the following 16 years. Sample is households that have an SSI child with an 18th birthday within 37 weeks of the August 22 cutoff in 1996 and in the comparison years (1994, 1995, and 1997).

Table A.4: IV RD-DD Estimates for Child and Parent Bankruptcy, No Covariates

	Linear		Quadratic		Cubic		Quartic		Control
	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	Pt. Est.	Std. Err.	mean
Child (N=232,067)									
Number of bankruptcy filings	0.0195	(0.0311)	-0.0141	(0.0499)	-0.0309	(0.0619)	0.00901	(0.0752)	0.034
Number of Chapter 7 filings	0.0318	(0.0221)	0.0107	(0.0347)	-0.00573	(0.0419)	0.0613	(0.0496)	0.024
Number of Chapter 13 filings	-0.0123	(0.0203)	-0.0248	(0.0330)	-0.0251	(0.0419)	-0.0523	(0.0532)	0.011
Ever files	0.0304	(0.0242)	0.0142	(0.0382)	0.0107	(0.0466)	0.0575	(0.0559)	0.030
Ever files Chapter 7	0.0271	(0.0212)	0.0122	(0.0335)	-0.000633	(0.0407)	0.0567	(0.0484)	0.023
Ever files Chapter 13	-0.00261	(0.0130)	-0.00450	(0.0208)	0.000650	(0.0258)	-0.00812	(0.0317)	0.009
Parent (N=232,067)									
Number of bankruptcy filings	-0.258***	(0.0973)	-0.248	(0.154)	-0.363*	(0.194)	-0.224	(0.227)	0.217
Number of Chapter 7 filings	-0.185***	(0.0646)	-0.217**	(0.104)	-0.207	(0.129)	-0.153	(0.152)	0.135
Number of Chapter 13 filings	-0.0699	(0.0664)	-0.0269	(0.105)	-0.155	(0.131)	-0.0734	(0.154)	0.081
Ever files	-0.120**	(0.0522)	-0.154*	(0.0837)	-0.158	(0.104)	-0.110	(0.122)	0.146
Ever files Chapter 7	-0.0941**	(0.0450)	-0.124*	(0.0719)	-0.0803	(0.0881)	-0.0642	(0.104)	0.105
Ever files Chapter 13	-0.0294	(0.0330)	-0.0106	(0.0528)	-0.0470	(0.0659)	-0.00549	(0.0781)	0.051
Household (parent and child, N=232,067)									
Number of bankruptcy filings	-0.248**	(0.107)	-0.274	(0.171)	-0.405*	(0.216)	-0.234	(0.253)	0.252
Number of Chapter 7 filings	-0.158**	(0.0707)	-0.214*	(0.114)	-0.213	(0.141)	-0.0871	(0.164)	0.159
Number of Chapter 13 filings	-0.0868	(0.0725)	-0.0566	(0.116)	-0.191	(0.146)	-0.149	(0.174)	0.093
Ever files	-0.0942*	(0.0548)	-0.149*	(0.0881)	-0.136	(0.109)	-0.0605	(0.127)	0.165
Ever files Chapter 7	-0.0780	(0.0479)	-0.121	(0.0766)	-0.0749	(0.0938)	0.00450	(0.110)	0.122
Ever files Chapter 13	-0.0302	(0.0347)	-0.0175	(0.0556)	-0.0401	(0.0693)	-0.0105	(0.0824)	0.057

Notes: Table presents IV RD-DD estimates (without covariates) of the effect of SSI removal on child and parent bankruptcy over the following 16 years. Sample is households that have an SSI child with an 18th birthday within 37 weeks of the August 22 cutoff in 1996 and in the comparison years (1994, 1995, and 1997).