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Debt Relief and Debtor Outcomes: Measuring the Effects of Consumer Bankruptcy Protection: Dissertation Summary

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"The Bankruptcy Act is . . . of public as well as private interest, in that it gives to the honest but unfortunate debtor . . . a new opportunity in life and a clear field for future effort, unhampered by the pressure and discouragement of pre-existing debt." (*Local Loan Co. v. Hunt*, 292 U.S. 234 [1934])

In 2010, 1.5 million Americans filed for over $450 billion in debt relief through the consumer bankruptcy system. U.S. households receive more resources through the bankruptcy system than through Temporary Assistance for Needy Families and all state unemployment insurance programs combined (Lefgren, McIntyre, and Miller 2010), with nearly 1 in 10 American households having filed for bankruptcy at some point (Stavins 2000). The U.S. bankruptcy system is also among the most generous in the world, allowing debtors to choose between Chapter 7, which provides debt relief and protection from wage garnishment in exchange for a debtor's nonexempt assets, and Chapter 13, which adds the protection of most assets in exchange for a partial repayment of debt.

Despite providing billions in debt relief each year, it is not clear how bankruptcy protection impacts debtors. In theory, bankruptcy protection increases an individual's incentive to work and prevents any sharp drops in consumption that may have important long-term consequences, such as becoming sick through lack of medical care or losing one's home through foreclosure. Yet, in practice, households work about the same number of hours (Han and Li 2007), accumulate less wealth (Han and Li 2011), and have less access to credit (Cohen-Cole, Duygan-Bump, and Montoriol-Garriga 2009) after receiving bankruptcy protection, leading some to conclude that the benefits of debt relief have been overstated (Porter and Thorne 2006). The lack of demonstrable benefits, combined with a rapid increase in the number of bankruptcy filings, led Congress to enact new barriers to filing in the 2005 Bankruptcy Abuse Prevention and Consumer Protection Act.

Empirically estimating the impact of bankruptcy protection has been complicated by two important issues. First, there is little information on the long-term outcomes of most bankruptcy filers. Bankruptcy filers are not tracked in a systematic way after filing, and data sets such as the PSID and NLSY include only a few hundred bankrupt households. Second, selection and endogeneity problems bias most comparisons. Bankruptcy filers are likely to have had worse outcomes even before filing, biasing cross-sectional comparisons, and most proximate causes of bankruptcy such as job loss and health shocks also impact later outcomes, biasing within-individual comparisons.

In this dissertation, we use a new data set linking 500,000 bankruptcy filings with administrative tax records from the Social Security Administration and administrative foreclosure records to estimate the causal effect of Chapter 13 bankruptcy protection on subsequent earnings, mortality, and home foreclosures. Our empirical strategy exploits the fact that most U.S. bankruptcy courts use a blind rotation system to assign cases to judges, effectively randomizing filers to judges within each court. Moreover, while there are uniform criteria by which a judge may dismiss a bankruptcy filing, there is significant variation in the interpretation of these criteria across judges (Chang and Schoar 2008; Norberg and Compo 2007; Sullivan, Warren, and Westbrook 1994). As a result, otherwise identical filers are assigned to judges with substantially different rates of granting bankruptcy protection.[1]

Using these differences in judge discharge rates as an instrumental variable for bankruptcy protection, we are able to identify the ex post impact of Chapter 13 on the marginal recipient of protection filers whose bankruptcy decisions are altered by the judge assignment due to disagreement on whether or not they should receive bankruptcy protection. The identified parameter holds fixed any ex ante impacts of bankruptcy, such as overborrowing, moral hazard in the workplace (White 2011), entrepreneurial risk-taking (Armour and Cumming 2008; Fan and White 2003), or the crowding out of formal insurance (Mahoney 2010). Our empirical strategy is therefore similar to Kling (2006), who uses the random assignment of judges to estimate the ex post impact of sentence length on earnings, and subsequent research estimating the ex post effects of foster care (Doyle 2007, 2008), corporate bankruptcy (Chang and Schoar 2008), temporary-help employment (Autor and Houseman 2010), and Disability Insurance (French and Song 2011, Maestas, Mullen, and Strand forthcoming).

We find compelling evidence that Chapter 13 bankruptcy protection benefits debtors. Over the first five postfiling years, Chapter 13 protection increases the marginal recipient's annual earnings by $6,288, a 27.5 percent increase from the prefiling mean. Employment increases by 3.3 percentage points over the same time period, a 4.1 percent increase. Five-year mortality decreases by 1.1 percentage points, a 27.5 percent decrease from the dismissed filer mean, and five-year home foreclosure rates decrease by 8.3 percentage points.

Next, the dissertation explores two possible mechanisms through which bankruptcy protection may benefit debtors. First, we exploit within- and across-state variation in wage garnishment to assess the importance of the Chapter 13 provision protecting wages from garnishment. We find that the impact of Chapter 13 is sharply increasing in the marginal

garnishment rate, with an implied earnings elasticity with respect to garnishment of 2.02. These results are consistent with the idea that bankruptcy protection increases the incentive to work by lowering the effective marginal tax rate on earnings. Second, we use information from firm EINs to estimate the impact of Chapter 13 on economic stability. We find that the marginal recipient of Chapter 13 is 25.4 percentage points more likely to work in his or her prefiling job, 25.2 percentage points more likely to work in the same industry, and 19.3 percentage points more likely to work in the same state, with larger impacts for filers facing higher marginal garnishment rates. These results suggest that Chapter 13 increases economic stability by reducing both foreclosure-related moves and moves meant to evade creditors seeking repayment.

The dissertation concludes by considering our results in light of a stylized general equilibrium model of the credit market. Analyses of the consumer bankruptcy system have typically focused on changes to consumption smoothing and borrowing costs, largely ignoring the relationship between bankruptcy and earnings estimated in this paper (e.g., Athreya 2002; Chatterjee and Gordon forthcoming; Li and Sarte 2006; Livshits, MacGee, and Tertilt 2007). As a result, the existing literature is likely to have understated the potential benefits of the consumer bankruptcy system. Using our reduced form estimates to calibrate a stylized extension of these models, we find that the benefits of bankruptcy are nearly 20 times larger when bankruptcy is allowed to impact earnings.

Consumer Bankruptcy in the United States

Bankruptcy is the legal process to resolve unpaid debts. In the United States, individual debtors are allowed to choose between Chapter 7 and Chapter 13 bankruptcy protection.

Under Chapter 7, debtors forfeit all nonexempt assets in exchange for a discharge of eligible debts and protection from future wage garnishment. Nearly all unsecured debts are eligible for discharge under Chapter 7, including credit card debt, installment loans, medical debt, unpaid rent and utility bills, tort judgments, and business debt. Student loans, child support obligations, and debts incurred by fraud cannot be discharged under Chapter 7, and secured debts such as mortgages, home equity loans, and automobile loans can only be discharged if debtors give up the collateral.

Under Chapter 13, filers propose a 3–5-year plan to repay part of their unsecured debt in exchange for a discharge of the remaining unsecured debt, protection from future wage garnishment, and the protection of most assets. For example, Chapter 13 allows debtors to retain assets pledged as collateral by including the collateral amount in the repayment plan. Chapter 13 also allows debtors to avoid home foreclosure by including any mortgage arrears in the repayment plan, with the original mortgage reinstated after completion of the plan. Seventy percent of Chapter 13 filers report that avoiding foreclosure is their principal reason for choosing to file under Chapter 13 (Porter 2011), with 71 percent of filers including mortgage arrears in their repayment plans. In comparison, 41 percent of filers include car loans in their repayment plan, 38 percent include priority debt, and 0.5 percent include student loans (White and Zhu 2010).

Under either chapter, a randomly assigned bankruptcy judge decides any and all matters connected to a case, including whether or not to dismiss a filing. The most common reason a filing is dismissed is that it constitutes a "substantial abuse" of the bankruptcy process, typically meaning that a debtor being able to repay his or her debts without bankruptcy protection. Other common reasons for dismissal include a filing that is missing important information, an infeasible repayment plan, or a repayment plan being too small (Hynes 2004).

Creditors have a number of options to collect unpaid debts if a filing is dismissed, including collection letters or phone calls, in-person visits at home or work, or seizing assets through a court order (Dawsey, Hynes, and Ausubel 2009). Creditors may also collect unpaid debts by obtaining a wage garnishment order from the state court. Federal law restricts the weekly total of most garnishments to 25 percent of disposable earnings. If debtors have weekly earnings less than 40 times the minimum wage, creditors may only garnish disposable earnings minus 30 times the federal minimum wage. Wages cannot be garnished when debtors earn less than 30 times the minimum wage. Debtors can make all of these collection efforts more difficult by ignoring collection letters and calls, changing their telephone numbers, or moving without leaving a forwarding address. Debtors can also leave the formal banking system to hide their assets from seizure, change jobs to force creditors to reinstate a garnishment order, or work less so that their earnings are not subject to garnishment.

Model and Research Design

In this section, we develop a stylized bankruptcy and labor supply model to formalize our estimation strategy and identifying assumptions. We simplify the model by assuming a single debt relief program and predetermined debt. Our model is therefore unable to shed light on any ex ante impacts of bankruptcy or the interplay between Chapter 7 and Chapter 13.

Setup. Individuals are endowed with identical debts D, and an idiosyncratic disutility of work θ that captures differences in ability across individuals. We assume that $\theta \sim [0, \bar{\theta}]$, is known by the individual, but only partially observable to the bankruptcy court.

In the first period of the model, individuals choose whether or not to file for bankruptcy protection at cost F that

includes all psychic or monetary costs of filing. Individuals pay F regardless of the bankruptcy decision, and before any labor supply decisions are made. Individuals receive a full discharge of debt if bankruptcy protection is granted, but must repay their debts out of wage earnings if bankruptcy is not granted. Conditional on filing, the probability of receiving bankruptcy protection is equal to $p(\theta)$. We assume that $p(\theta)$ is increasing in θ to capture the idea that bankruptcy judges dismiss filings from individuals who are able to repay their debts outside the bankruptcy system (e.g., filings that are a "substantial abuse" due to the filer's low disutility of work).

In the second period, individuals do or do not receive bankruptcy protection. Individuals then choose whether to work at wage W, or to not work and receive C in social welfare. If individuals leave the labor market, they cannot be made to repay their debts. Dropping out of the labor market is therefore a different type of debt relief. We assume that wage earners pay a lump sum tax τ that finances debt relief and social welfare payments.

An individual's utility is equal to earnings minus the disutility of work θ, debt D, filing costs F, and taxes π. To simplify the model, we assume that all individuals prefer to work if they are given bankruptcy protection, and no one prefers to drop out of the labor force immediately over filing for debt relief. The first assumption holds if $W - \bar{\theta} - \tau - F \geq C$. The second holds if $p(\theta)$ is concave and $p(\bar{\theta}) \times (W - C - \bar{\theta} - \tau) \geq F$. These conditions ensure that $p(\bar{\theta})$ is sufficiently high and that the disutility of work $\bar{\theta}$ is sufficiently low that individuals with $\theta = \bar{\theta}$ file for bankruptcy protection.

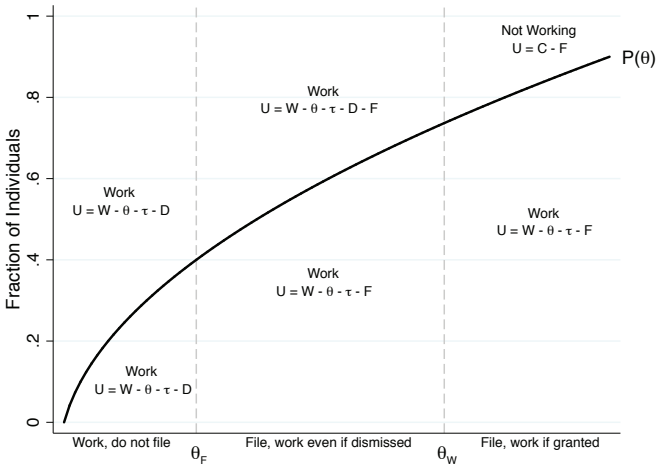
Given these assumptions, there are three utility levels to consider: 1) $U_W(\theta) = W - \theta - D - \tau$ for workers not receiving bankruptcy protection; 2) $U_{WB}(\theta) = W - \theta - \tau$ for workers receiving bankruptcy protection; and 3) $U_N(\theta) = C$ for individuals who are not working and not receiving bankruptcy protection. Given the utility functions of workers and nonworkers, we can analyze which individuals prefer working to not working if they do not receive bankruptcy protection and which individuals prefer filing for bankruptcy to not filing for bankruptcy.

Figure 1 summarizes individuals' labor supply and filing choices in our model, where $p(\theta)$ is the fraction of the population with disutility of labor θ who would be granted bankruptcy protection had they fled. Very productive individuals ($\theta < \theta_F$) work and never file for bankruptcy protection, as the expected benefit is too low to justify the fixed filing costs ($p(\theta) \times D < F$). Individuals who are slightly less productive file for debt relief, but will work regardless of the filing outcome as $U_W(\theta_W) \geq U_N$ by Proposition 1. In contrast, individuals with $\theta > \theta_W$ will work only if they receive debt relief.

Estimation. Our objective is to estimate the causal impact of Chapter 13 bankruptcy protection B on outcomes Y:

$$\gamma = \delta \times \frac{\int_{\theta_W}^{\bar{\theta}} dF(\theta)}{\int_{\theta_F}^{\bar{\theta}} dF(\theta)}$$

Figure 1 Labor Supply and Bankruptcy Protection



where δ is the change in labor market outcomes for individuals whose labor supply decisions are affected by bankruptcy protection (e.g., those with $\theta > \theta_W$), $\int_{\theta_W}^{\bar{\theta}} dF(\theta)$ is the proportion of affected filers, and $\int_{\theta_F}^{\bar{\theta}} dF(\theta)$ is the proportion of both affected and unaffected filers. The effect of bankruptcy protection is therefore increasing in the impact on the labor supply–affected filers and the fraction of affected filers in the filing population.

The problem for inference is that OLS estimates of γ may be biased if bankruptcy protection is correlated with the unobservable determinants of later outcomes: $E[\theta_i | Bankruptcy_i] \neq 0$. For example, bankruptcy filers are likely to have had worse outcomes even before filing, biasing cross-sectional comparisons. It is also likely that the most proximate causes of bankruptcy such as job loss and health shocks also impact later outcomes, biasing both cross-sectional and within-individual comparisons.

We identify the causal impact of bankruptcy on debtors γ using judge leniency as an instrument for bankruptcy protection. To illustrate the intuition behind our approach, note that judges grant bankruptcy protection to filers who the judge believes will not repay their debts outside of bankruptcy:

$$\hat{\theta}_{ij} > \hat{\theta}_B$$

Up to this point, we have assumed that $\hat{\theta}_{ij}$ is unbiased. We now relax this assumption by allowing each judge's estimate of unobservable ability to be a function of individual i's true ability to repay, and characteristics of the judge assigned to the case, such as previous experience or personal biases: where σ_j is the systematic component of judge j's decision making that leads her to consistently over- or underestimate a filer's disutility of labor, and η_{ij} is noise in the decision-making process that is independently and identically distributed within and across judges.[2] This implies that bankruptcy protection is granted if

$\theta_i + \sigma_j + \eta_{ij} > \hat{\theta}_B$.

Formally, we estimate the causal impact of receiving bankruptcy protection through a two-stage least squares regression using judge leniency as an instrumental variable for bankruptcy protection. The second-stage estimating equation is

1) $y_{it} = \alpha + \alpha_{ct} + \beta X_i + \gamma Bankruptcy_i + \varepsilon_{it}$

where i denotes individuals; t is the year of observation; γ is the causal impact of bankruptcy protection defined above; α_{ct} are office by month-of-filing fixed effects; Xi includes race, gender, a quadratic in age, baseline employment, and baseline earnings, and ε_{it} is noise. The first stage estimating equation associated with Equation (1) is

2) $Bankruptcy_i = \alpha + \alpha_{ct} + \beta X_i + \pi\sigma_j + \varepsilon_i$

where π represents the impact of judge leniency on the probability of receiving bankruptcy protection.

Formally, we define judge leniency Z_{icjt} as the leave-one-out fraction of filings granted by judge j in year t minus the leave-one-out fraction granted in his court c in year t:

$$3) \quad Z_{icjt} = \frac{1}{n_{cjt} - 1}\left(\sum_{k=1}^{n_{cjt}}(B_k) - B_i\right) - \frac{1}{n_{ct} - 1}\left(\sum_{k=1}^{n_{ct}}(B_k) - B_i\right)$$

where i again denotes individuals, c denotes courts, j is the assigned judge, t is the year of observation, B_i is an indicator for receiving bankruptcy protection, n_{cjt} is the number of cases seen by a judge in year t, and n_{ct} is the number of cases seen by a court in year t. This leave-one-out procedure, essentially a reduced-form version of the Jackknife IV approach, purges the mechanical correlation between a filer's own outcomes and our measure of judge leniency.

Using our reduced form measure of judge leniency Z_{ijct} as an instrument for bankruptcy protection, the identified two-stage least squares parameter from equation measures the causal impact of Chapter 13 protection for the marginal recipient. Our estimates therefore measure the local average treatment effect for filers whose bankruptcy outcome is altered by judge assignment due to disagreement on whether they should receive bankruptcy protection.

The three conditions necessary to interpret our two-stage least squares estimates as the causal impact of bankruptcy protection are 1) that judge assignment is associated with bankruptcy protection, 2) that judge assignment only impacts debtor outcomes through the probability of receiving bankruptcy protection, and 3) that the impact of judge assignment on the probability of receiving bankruptcy protection is monotonic across filers. In the dissertation, we show that each of these assumptions is likely to be satisfied.

Main Results

Labor Supply

Panels A and B in Figure 2 present two-stage least squares results measuring the causal impact of Chapter 13 bankruptcy protection on earnings and employment. The sample consists of first time filers in the 31 courts that randomly assign filings to judges. We include filings originating between 1992 and 2005. We use our reduced form measure of judge leniency Z_{ijct} as an instrumental variable for bankruptcy protection, and control for gender, race, a quartic in age, baseline employment, baseline earnings, and office by month-of-filing fixed effects. Standard errors are clustered at the office level.

Panel A in Figure 2 shows that Chapter 13 bankruptcy protection has a large and precisely estimated impact on postfiling earnings. Filers granted Chapter 13 protection from a more lenient judge have earnings that are $4,345 greater than those of dismissed filers in the first partial year after filing. In the first full year after filing, the marginal recipient of Chapter 13 earns $6,775 more than the marginal dismissed filer. Pooling outcomes across the first five full postfiling years, the marginal recipient of Chapter 13 has annual earnings that are $6,288 higher, a 27.5 percent increase.

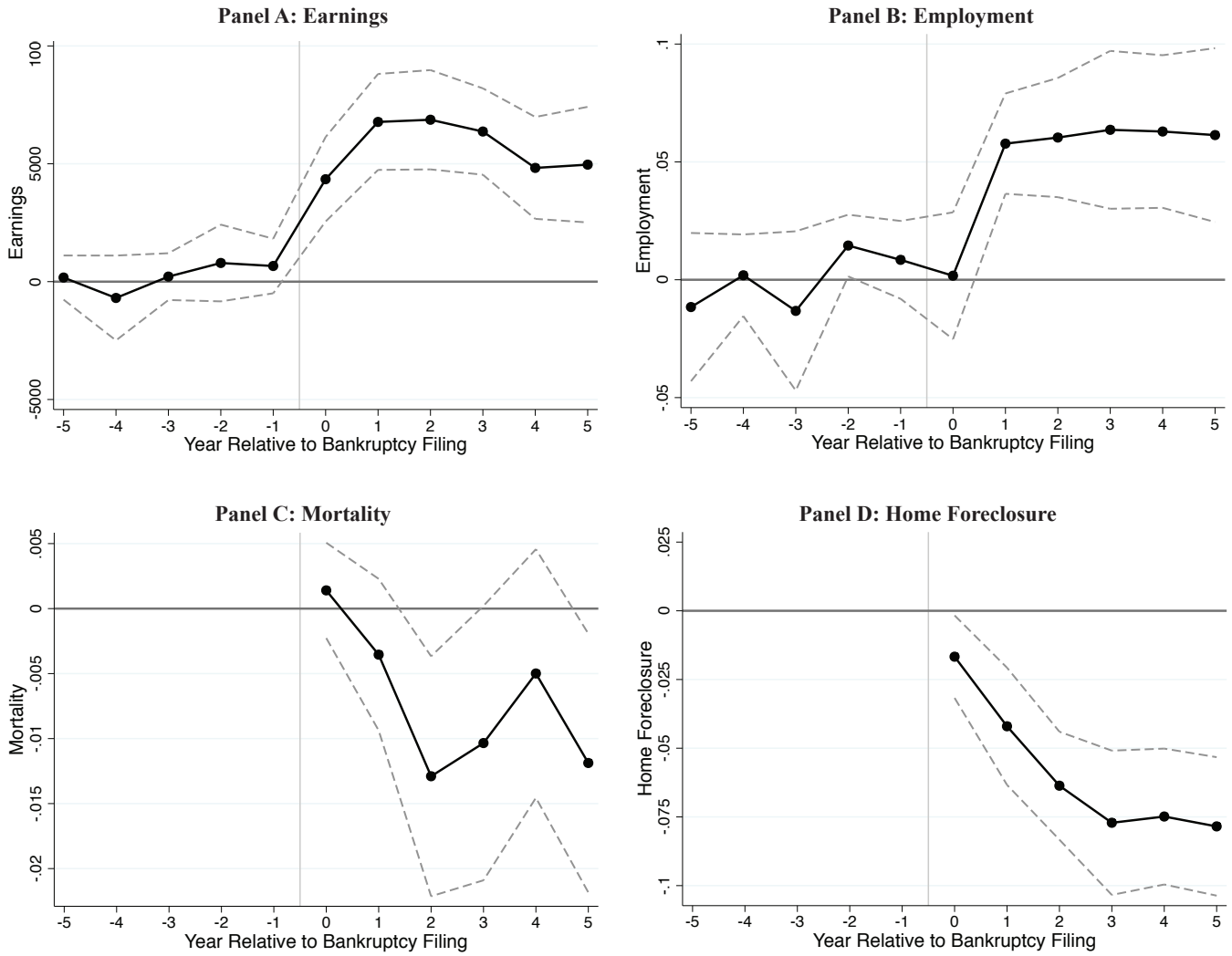
We also present results for the sixth through tenth postfiling years using filings originating between 1992 and 2000. In this sample, Chapter 13 protection increases the marginal recipient's annual earnings by $6,619 in the sixth through tenth postfiling years. These results suggest that the impact of bankruptcy protection is persistent after the completion of the repayment plan.

As an additional check of our identification strategy, Panel A in Figure 2 also plots two-stage least squares estimates for five prefiling years. Consistent with our identifying assumptions discussed above, there is no systematic relationship between bankruptcy protection and earnings in the prefiling years, with the estimated coefficients being economically and statistically insignificant.

Panel B in Figure 2 presents results for employment, defined as nonzero earnings in a calendar year. Over the first five postfiling years, Chapter 13 increases employment by 3.4 percentage points, a 4.1 percent increase from the baseline mean. The probability of being employed is also higher in the sixth through tenth postfiling years, but the point estimates are too imprecisely estimated to draw definitive conclusions.

Additional analyses show that Chapter 13 protection has a larger impact on filers with above median earnings, and filers who are between 25 and 60 years old at the time of filing. Chapter 13 increases annual earnings by $7,905

Figure 2 Impact of Chapter 13 Bankruptcy Protection



NOTE: These figures plot two-stage least squares results of the impact of Chapter 13 bankruptcy protection on earnings, employment, cumulative mortality, and home foreclosure. The earnings and mortality sample includes all first-time filings between 1992 and 2005 in courts that randomly assign cases to judges. The foreclosure sample includes the subset of those filings originating in county-by-year bins with foreclosure data coverage. We instrument for bankruptcy protection using judge leniency and control for gender, race, a quartic in age, baseline employment, baseline earnings, and office by month-of-filing fixed effects. The dashed lines are 95 percent confidence intervals from standard errors clustered at the court level. Year 0 indicates the year a debtor files for bankruptcy protection. Earnings are winsorized at the top and bottom 1 percent. Employment is an indicator for nonzero wage earnings on the W-2. All monetary values are expressed in real 2000 dollars. Mortality is an indicator for being deceased in the indicated year using information from the Death Master File. Foreclosure is an indicator for a filer's home receiving a notice of default, receiving a notice of transfer or sale, or being transferred to a real estate owner or a guarantor.

for filers with above median earnings, compared to only $3,859 for filers with below median earnings. The impact of Chapter 13 protection on employment is also 1.5 percentage points higher for filers with above median baseline earnings. Chapter 13 appears to have no impact on the earnings of filers older than 60, likely because these filers have already left the labor market. In contrast, Chapter 13 increases the annual earnings of filers who are between 25 and 40 years old by $8,639, and the annual earnings of filers who are between 40 and 60 years old by $7,127. Bankruptcy protection also increases annual earnings somewhat more for filers who are female and nonwhite, though the differences are not economically or statistically significant.

Mortality

Panel C in Figure 2 presents two-stage least squares results measuring the impact of Chapter 13 bankruptcy protection on mortality. Chapter 13 bankruptcy protection significantly lowers mortality in the first five years after filing. Chapter 13 protection decreases one-year mortality for the marginal recipient by a statistically insignificant 0.3 percentage points, and two-year mortality by a statistically significant 1.3 percentage points. Five-year mortality, the longest time period available for our entire sample, is 1.1 percentage points lower, a 27.5 percent decrease from the control mean of 4.0 percentage points. These estimates imply an increase of 0.04 in the number of years alive over the first five postfiling years. In a sample of individuals filing between 1992 and 2000, Chapter 13 protection decreases 10-year mortality by a statistically insignificant 2.1 percentage points.

To put the magnitude of these estimates in context, it is helpful to consider the effects of job loss the most commonly reported cause of bankruptcy on mortality. In a sample of Pennsylvania workers, Sullivan and von Wachter (2009) find that job displacement increases short-run mortality by 50 to 100 percent, and long-run mortality by 10 to 15 percent. In the specification closest to ours, they find that job displacement increases five-year mortality by 1.2 percentage points. One interpretation of our estimates is therefore that bankruptcy protection can offset much of the increased mortality risk from financial distress caused by events such as job loss.

Home Foreclosure

Figure 2D presents two-stage least squares results measuring the impact of Chapter 13 bankruptcy protection on home foreclosure. The sample includes individuals filing in county-by-year combinations in the DataQuick data described in the full dissertation.

Chapter 13 bankruptcy protection significantly lowers the probability of home foreclosure. In the raw data, five-year foreclosure rates are less than 0.5 percent for filers receiving bankruptcy protection, compared to 4.7 percent for dismissed filers. This implies that approximately onefifth of home owners whose filings are dismissed experience home foreclosure within the first five postfiling years. In the two-stage least squares estimates, Chapter 13 decreases foreclosure by 4.2 percentage points in the first postfiling year, and by 6.3 percentage points in the second postfiling year. Foreclosure rates are 8.3 percentage points lower five years after filing, a 176 percent decrease from the dismissed filer mean. Note that the dismissed filer mean is not the counterfactual mean, so decreases of more than 100 percent are possible. Taken at face value, this pattern of results suggests that filers receiving bankruptcy protection were more likely to experience home foreclosure than dismissed filers, perhaps because bankruptcy judges are more likely to grant bankruptcy to filers at particular risk of foreclosure.

In additional results, we show that bankruptcy protection also significantly decreases voluntary and short home sales. Distress sales, which include both foreclosures and short sales, are 11.3 percentage points lower after five years. Home sales, which include all types of housing transactions, are 16.2 percentage points lower after five years.

Potential Channels

Why are there such large benefits of receiving bankruptcy protection? In this section of the dissertation, we explore two potentially relevant explanations. First, we exploit within- and across-state variation in wage garnishment to assess the importance of the Chapter 13 provision protecting wages from garnishment. We find that the impact of Chapter 13 is sharply increasing in the marginal garnishment rate, with an implied earnings elasticity with respect to garnishment of 2.02. These results are consistent with the idea that bankruptcy protection increases the incentive to work by lowering the effective marginal tax rate on earnings.

Second, we use information from firm EINs to estimate the impact of Chapter 13 on economic stability. We find that marginal recipient of Chapter 13 is 25.4 percentage points more likely to work in his or her prefiling job, 25.2 percentage points more likely to work in the same industry, and 19.3 percentage points more likely to work in the same state, with larger impacts for filers facing higher marginal garnishment rates. These results suggest that Chapter 13 increases economic stability by reducing both foreclosure-related moves and moves meant to evade creditors seeking repayment.

Discussion

The results we have presented have potentially important implications for the modeling of the consumer bankruptcy system. The evaluation of consumer bankruptcy laws has typically involved an assessment of two second-order effects, where bankruptcy benefits individuals by providing partial insurance against consumption uncertainty at the cost of higher interest rates that make life-cycle smoothing more difficult (e.g., Athreya 2002; Chatterjee and Gordon forthcoming; Li and Sarte 2006; Livshits, MacGee, and Tertilt 2007). Importantly, the typical model does not account for the firstorder relationship between bankruptcy and labor supply estimated in this paper. As a result, the existing literature is likely to have understated the potential benefits of the consumer bankruptcy system.

To see this, it is helpful to consider our earnings result in light of a stylized extension of the heterogeneous agent lifecycle model of Livshits, MacGee, and Tertilt (2007). We extend the Livshits, MacGee, andTertilt (2007) model

by assuming that default outside of the bankruptcy system lowers household productivity. This assumption is meant to capture in a transparent way the earnings loss observed among dismissed filers in our data. Holding all other parameters fixed, bankruptcy is over 10 times more beneficial when default lowers household productivity by 10 percent, and nearly 20 times more beneficial when default lowers household productivity by 25 percent. To put these magnitudes in perspective, the model suggests that bankruptcy is six times more beneficial when the frequency of expense shocks is doubled, and nearly 40 times more beneficial when the size of expense shocks is doubled (Livshits, MacGee, and Tertilt 2007).

The results of this stylized exercise suggest that individual debt relief is likely to be welfare-improving. This conclusion differs substantially from a number of prominent papers, such as Athreya (2002) and Chatterjee and Gordon (forthcoming), that abstract away from the effects of bankruptcy on earnings. Even models that suggest debt relief is welfare-improving, such as Livshits, MacGee, and Tertilt (2007), likely understate the benefits of the consumer bankruptcy system by assuming little to no impact of bankruptcy on labor supply. Incorporating our health and home foreclosure results into the model would only further strengthen this conclusion.

Conclusion

In this paper, we estimate the impact of Chapter 13 bankruptcy protection on subsequent labor supply, mortality, and home foreclosure. We find that Chapter 13 increases the marginal recipient's annual earnings in the first five postfiling years by $6,288, a 27.5 percent increase. Employment increases by 3.3 percentage points over the same time period, a 4.1 percent increase. Five-year mortality is 1.1 percentage points lower, a 27.5 percent decrease, with five-year foreclosure rates falling by 8.3 percentage points. There is evidence consistent with the results being driven by increased incentive to work and increased economic stability following the receipt of bankruptcy protection.

Our results provide new evidence on the ex post benefits of debt relief. These results are particularly important in light of the on-going debate surrounding the use of debt relief and mortgage modification to stimulate the economy. Work by Mulligan (2008), Hall (2011), and Eggertsson and Krugman (forthcoming) suggests that household borrowing constraints can help explain the severity of the recession, while Mian and Sufi (2012) show that regional differences in debt overhang can explain differences in unemployment. Our estimates also suggest that the restrictions on bankruptcy filing introduced by the 2005 Bankruptcy Abuse Prevention and Consumer Protection Act may have important adverse consequences on the economy.

The main limitation of our analysis is that we are not able to estimate the impact of bankruptcy laws on ex ante borrowing costs or behavior. There may also be important ex post impacts of bankruptcy protection on outcomes such as credit availability that we are unable to measure with our data. Finally, our analysis has focused on Chapter 13 bankruptcy, which makes up about 30 percent of all bankruptcy filings. This paper should therefore be viewed as a first step toward characterizing the impact of consumer bankruptcy protection on debtors.

Notes

1. We are unable to estimate the impact of Chapter 7 bankruptcy protection using judge assignment, as there is relatively little variation in the treatment of Chapter 7 cases. We use an event study design to show that filers granted protection under Chapter 7 earn $1,048 more each year, are 6.3 percentage points more likely to be employed, and are 1.45 percentage points less likely to be deceased after five years.
2. The decision problem can also be expressed as one in which estimates of θ are unbiased, but judges use different cutoff values $\hat{\theta}^j_B$ due to pro-creditor or pro-debtor preferences. In this scenario, judge j grants a filing if $\hat{\theta}_i + \eta_{ij} > \hat{\theta}_B + \sigma_j$, where σ_j represents judge-specific differences in the optimal cutoff.

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