Lecture Notes 9: Personal Bankruptcy & Consumer Credit

Plan for today – Wednesday April 18th:

--Gropp, Scholz, & White QJE95 on bankruptcy exemptions and high and low income households' access to credit.

--Livshits, McGee, & Tertilt AER06 bankruptcy theory

--Fay, Hurst, & White AER02 more recent empirical bankruptcy paper focusing on household decisions.

--General review of the (relatively unstudied) federal personal bankruptcy reform of 2005.

General discussion of bankruptcy exemptions:

Today:
(reference: Gropp, Scholz, & White, 'Personal Bankruptcy & Credit Supply and Demand,' QJE 1995.)

Motivation Bankruptcy rates in the U.S. have grown steadily over the past 25 years.

In 1983, there were 313,000 U.S. individual or household personal bankruptcy filings.

By 1992, there were 900,000.

Over the 1983-92 period, a total of 5,300,000 individuals or married couples experienced a bankruptcy.

The trend continues, as we'll see in two more recent papers next class meeting.

Chapter 7 v. chapter 13 Households filing under chapter 7 must give up assets that exceed exemption levels, but need not devote future income to debt repayment.

Those filing under chapter 13 can keep some non-exempted assets, but must make a plan to pay off their debts (from future income) over a period of 3-5 years.

Major features of bankruptcy policy More on this later, but in a nutshell:

- States determine bankruptcy exemptions, with huge variation. The levels have moved actively over time, allowing standard state-time identification of bankruptcy exemption effects.

- Differences across states include: $ exemption for home, $ exemption for non-home assets, treatment of vehicles, treatment of married couples, use of federal exemption.

- A major reform of federal bankruptcy law took effect October 17, 2005. It requires people who can make some payments toward their debt to do so, while still including some part of the debt erasure of Ch 7. These people must file under Ch. 13.

  The reform is generally understood to make bankruptcy more costly.

More legislative history

Before 1978, bankruptcy exemptions were specified by states & were very low.

The Commission on the Bankruptcy Laws of the United States [1973] claimed that limited exemptions hurt less well-off households by leaving them with few resources for a post-bankruptcy "fresh start", and this caused divorce, job loss, health troubles after claiming.

The Bankruptcy Reform Act of 1978 (BRA78), therefore, set a high uniform federal exemption of $7500 home equity & $4000 non-home, doubling for married filers.

But states could opt out & set their own exemptions. By 1983 all 50 states had. 12 let filers chose the federal or the state exemption. The exemptions varied wildly.

2 extreme states:

(i) Iowa: $500 home equity; $5000 nonhomestead property

(ii) Texas: unlimited home equity; $30,000 nonhomestead

Rational filing

Given these large exemptions, many more households could gain financially from filing bankruptcy than currently file.

[Texans, for example, could move all of their assets into housing and erase debt at no further cost.]

Why not? Is the future credit cost the main deterrent?

Is gradual consumer education about bankruptcy laws the reason for rising bankruptcy rates?

The issue is generally under-studied by applied microeconomists. One possible reason is that the relatively low bankruptcy rates (eg 6 percent of the population over 1983-92) mean a small minority of respondents in standard national surveys would actually report bankruptcy filing in a given survey year if asked.

There is a larger macro-theory literature on personal bankruptcy (PB).

[side note: The exemption feature of the policy can be difficult to address in these models, since one must be able to explain simultaneous holding of assets & debt.]

<u>Credit supply & demand</u>
For credit demanders: Higher bankruptcy exemptions increase the demand for consumer credit in two ways.

(i) Higher exemptions raise the probability of filing, which lowers the expected repayment on a loan.
(ii) Higher exemptions offer greater wealth insurance for creditors against unforeseen events.

[The most common explanations for bankruptcy filing in U.S. survey data are job loss, divorce, & health problems.]

For credit suppliers: Higher exemptions decrease the expected return on lent capital.

They respond to this in two ways:

(i) Raise interest rates on loans

(ii) Decrease the supply of credit; lend only to "better risks"

Impossibility of contracting around the exemptions

Borrowers who want to use assets that would be protected by federal or state bankruptcy exemptions cannot do so.

Features of BRA78 essentially outlaw borrowers' contracting around exemptions. Whatever the terms of the borrowing agreement, federal and state laws uphold the borrower's right to keep assets below the exemption threshold.

Several federal and state/local transfer programs also legislate around bankruptcy. If a borrower declares bankruptcy, for example, her creditors have no access to her Social Security benefits, SSI payments, TANF payments, etc. (Brown 2006).

Note the treatment of collateralized/"secured" debts: Lenders can only enforce claims against otherwise exempted assets if their loans were used to pay for the assets---eg cars, houses, etc.

Chapter 7 v. chapter 13, again

70 percent of filers file under Chapter 7. Obviously those w/ assets below state exemptions have much incentive to do so.

The willingness to repay of those who file under ch 13 is influenced by ch 7. For example, a rational debtor in a $10,000 exemption state w/ $20,000 will only accept a ch 13 repayment plan that includes paying <=$10,000.

Finally, household could only file under ch 7 once every 6 years. One could file under ch 13 at any frequency.

Arbitrage of assets between secured & unsecured categories

Though secured debt includes the risk of repossession in the event of bankruptcy, there are arbitrage opportunities.

For example, a borrower planning a bankruptcy filing could sell unsecured assets in excess of the exemption and use the proceeds to pay down a mortgage or car loan.

Or debtors might borrow on credit cards to pay down mortgages.

Courts can consider such actions within 90 days of filing "preferences" & the associated assets can still be turned over to creditors, however.

Empirical hypotheses

2 periods, 1 consumer

In 1, consumer borrows *B* at rate *r*.

In 2, consumer wealth W_2 is realized as a draw from $f(W_2)$.

Bankruptcy exemption *E*

Bankruptcy rule: If file and

$$W_2 < E \text{ then } R = 0$$
$$E < W_2 \leq E + B(1+r) \text{ then } R = W - E$$
$$W_2 > E + B(1+r) \text{ then } R = B(1+r)$$

Thus there are 3 cases to consider: *(a)* No repayment; *(b)* Partial repayment; *(c)* Full repayment.

Note that there is no reason to repay under *(c)*.

Figure I shows the repayment regions of the W_2 range.

E affects repayment in two ways.
(i) *E* moves the repayment regions. As *E* increases, the no repayment and partial repayment regions grow.

(ii) *E* decreases the level of repayment for debtors in region *(b)*.

Borrowers:
When *E* increases, lenders react by raising *r*.

Suppose that the changes in *E* and *r* leave expected repayment fixed.

The higher *r* leaves the borrower worse off after the *E* hike in region *(c)*, due to higher repayment.

The higher *E* makes the borrowers better off in region *(b)* due to lower repayment.

The higher *E* also increases the non-repayment region, *(a)*.

Thus the *E* increase provides wealth insurance to borrowers and the risk-averse borrower prefers an *E* increase with a perfectly offsetting *r* increase.

Implication to be tested: --The demand for loans rises with the exemption level.

Lenders:

If lenders are risk-neutral and borrowers are ex ante homogenous, then perfectly offsetting *r* and *E* should leave lenders equally well off.

However, if borrowers are ex ante heterogeneous, then such a change in *E* may lead lenders to adjust the supply of credit.

For example: Assume opportunistic & non-opportunistic borrowers, and that type is unobservable.

Opportunistic: File for bankruptcy whenever W_2 in *(a)* or *(b).*

Non-opportunistic: File for bankruptcy if health or job shock & W_2 in *(a)* or *(b).*

Then an increase in *E* increases the number of opportunistic credit applicants more than the number of non-opportunistic credit applicants.

Lenders may respond by increasing efforts to identify opportunistic borrowers, and may turn down more loan applicants.

<u>Implications to be tested</u> --Cannot separately identify credit supply & demand, but can examine whether the (+) demand effects of *E* are larger or smaller than the (-) supply effects of *E*.
--Higher exemption state lenders lend at higher rates.

<u>Data</u>

Survey of Consumer Finances 1983

Public use data maintained by the Federal Reserve Board

Data on households' types &amounts of credit, assets, income, demographics, credit market experience.

State identifiers are available with the 1983 SCF but not after.

State policy information is reported in Table 1.

In the following empirics GSW combine exemptions to calculate the total state exemption, assuming full ability by borrowers to arbitrage across categories.

Results

Constrained & unconstrained households:

Constrained households are identified based on a question that asks whether respondents (i) have ever been turned down for a loan or (ii) have ever not applied for a loan because they thought they'd be turned down.

Cox & Jappelli (1993) and Duca &Rosenthal (1993) demonstrate that the responses correlate strongly with holding less than predicted debt, and argue that they are valid identifiers of the credit constrained.

The test: Constrained households' debt changes with *E* should reflect only supply-side effects. Their debt should decrease with *E*.

If constrained households in high *E* states are found to have less debt than those in low *E* states, we infer that *E* limits credit supply.

Unconstrained households' debt may reflect both supply & demand-side responses to *E*. GSW turn to the data to determine which dominates.

If unconstrained households in high *E* states have more debt than those in low *E* states, we infer that *E* stimulates credit demand.

Descriptive analysis
Figure II shows PR(turned down for credit) by assets quartile among those in the lowest state-exemption quartile & those in unlimited exemption states.

Those in unlimited exemption states are considerably more likely to be turned down for credit, with the largest high to low exemption Pr difference being 8.7 percentage points for the second asset quartile.

Note that increases in large state bankruptcy exemptions should have no effect on a household with very low assets. We should therefore expect low asset households' debt to be less responsive to exemptions.

Figure III shows little difference in debt with exemptions among low asset households, but a positive association between debt and state exemption generosity in high asset households.

Regression analysis
Table II reports the results of a Probit specification of the dependence of the probability of being turned down for credit on household characteristics.

The independent variable of interest is state exemption quartile, and the excluded category is the first.

Recall that the Herfendahl index measures the competitiveness of an industry. The Herfendahl for area financial institutions is included here to account for geographic variation in credit markets.

Mean income in the household head's profession and years working at the current employer are included because they are used by credit scorers.

Main findings: 17.3 percent of the sample were ever turned down for credit.

The point estimate of the unlimited exemption coefficient implies that those in states w/ unlimited exemptions were 5.5 percentage points more likely than those in low exemption states to have been turned down for credit.

The positive but insignificant coefficients on the other exemption categories imply that they were about 2.7 percentage points more likely to have been turned down.

Among low asset households, the effects are larger: The unlimited exemption coefficient implies a 7.9 percentage point difference among the lower half of the asset distribution, & a 10.2 percentage point difference among the lowest quarter of the asset distribution.

Table III reports results of a regression of log household debt on state bankruptcy exemptions and other characteristics. The specification controls for selection into positive debt AND into being an unconstrained household, so that observed ln(D) reflects demand for debt.

Estimated exemption effects are uniformly and significantly negative for low asset households and uniformly and significantly positive for high asset households.

Sensitivity analysis
Median regressions, to determine the sensitivity of results to outliers, are reported in Table IV. The results are similar.

Economic significance
Table V reports estimated magnitudes of the coefficient effects for a reasonably representative household, along the many dimensions of *X*.

GSW find that such a household, with $100,000 assets & $75,000 income, etc., would have debt of $31,014 in a $6000 exemption state (eg Maryland or West Virginia).

The same household would have $49,725 debt in a $50,000 exemption state (eg California).

Do interest rates adjust?
GSW collect a sample of 310 households that purchased new or used cars in 1982 or early 1983 financed with formal, non-dealer loans.

Table VI reports the results of a regression of car loan interest rates on exemptions, assets & other relevant characteristics.

Car loan rates are significantly increased for low-asset residents of high exemption states.