

Personal Bankruptcy and the Accumulation of Shadow Debt

Bronson Argyle
BYU

Ben Iverson
BYU

Taylor Nadauld
BYU

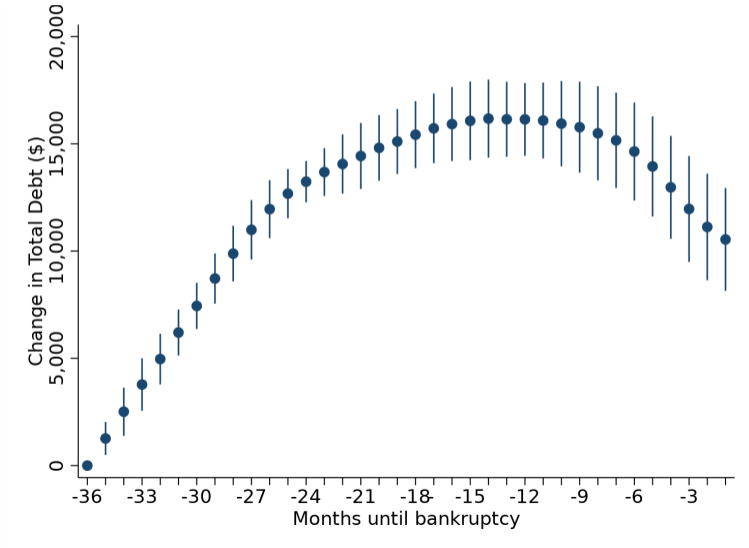
Christopher Palmer
MIT and NBER

March 2022

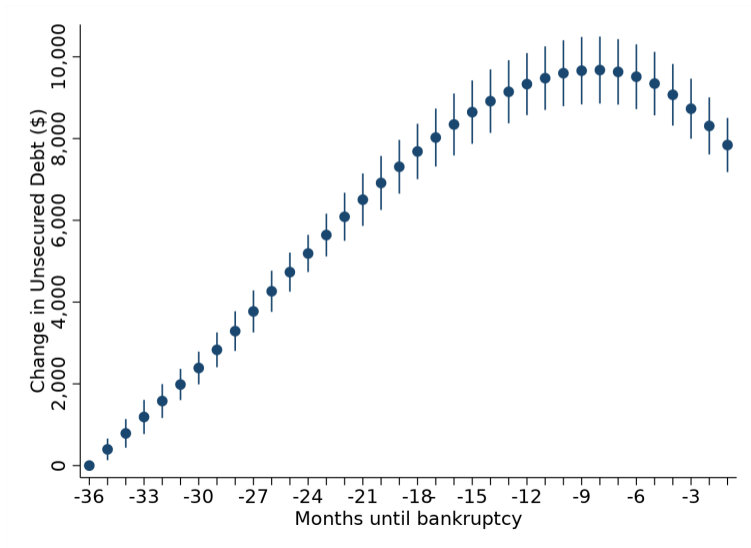
Bankruptcy and Credit Constraints

- Average 2019 personal bankruptcy filer had \$149k of debt discharged
 - Last 10 years: \$800/adult/year discharged through personal bankruptcy
 - Average borrower waits ~2 years between first 90-day delinquency and entering bankruptcy
 - Would expect informed lenders to limit credit provision to delinquent borrowers
- How do nearly bankruptcy filers incur so much debt?
- Given their liquidity constraints, how do they prolong distress for so long?

Evolution of total debt on credit report approaching bankruptcy

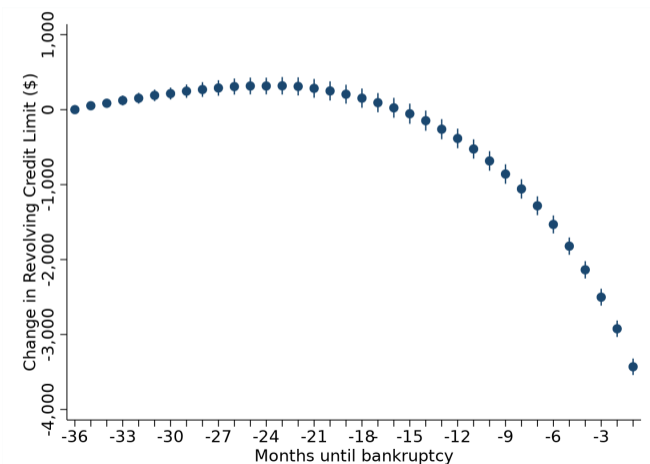


Evolution of unsecured debt on credit report approaching bankruptcy



Drop in debt most likely due to reduced credit supply

Average aggregate revolving credit limit before bankruptcy:



Formal Credit Constraints, Informal Credit Markets

- Credit bureau data suggest tightening credit in formal credit markets, as expected with relatively informed lenders
- Bankruptcy filings present unique window into distressed household balance sheets: full accounting of all liabilities
- New fact: 44% of filers' unsecured liabilities are not on credit reports \equiv “shadow debt”
- Borne out in our detailed individual-level microdata + on administrative reports
- On average, about **\$40,000** of unsecured shadow debt on each bankruptcy filing

What is Shadow Debt?

Shadow debt \equiv (total unsecured debt on BK filing) - (total unsecured debt on credit report)

What is Shadow Debt?

Shadow debt \equiv (total unsecured debt on BK filing) - (total unsecured debt on credit report)

- Credit bureaus do not collect data on *all* debts—only those reported to them
- Many creditors and collection agencies do not report to credit bureaus
- Key component of shadow debt: **non-payment of goods and services**
- Sellers as “accidental creditors”: medical debt, utility bills, unpaid rent, bounced checks

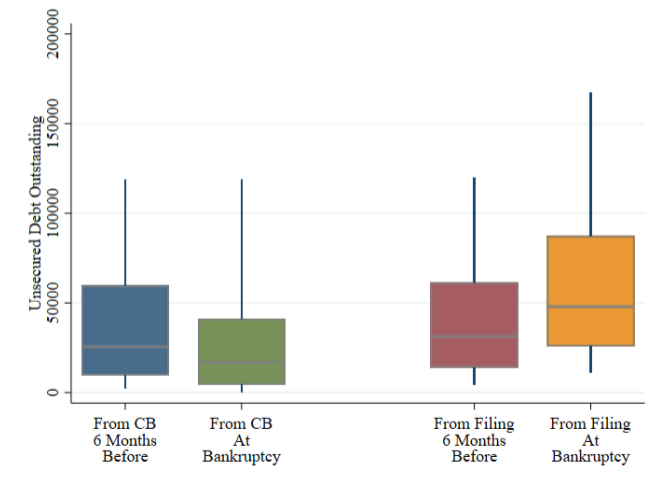
What is Shadow Debt?

Shadow debt \equiv (total unsecured debt on BK filing) - (total unsecured debt on credit report)

- Credit bureaus do not collect data on *all* debts—only those reported to them
 - Many creditors and collection agencies do not report to credit bureaus
 - Key component of shadow debt: **non-payment of goods and services**
 - Sellers as “accidental creditors”: medical debt, utility bills, unpaid rent, bounced checks
- ⇒ Inhibits accurate screening by formal lenders
- ⇒ Prices of these goods (and formal credit) plausibly higher due to shadow debt discharge
- ⇒ Important source of liquidity for distressed individuals...
...but likely creates negative spillovers for non-defaulting consumers

Shadow Debt Increases Heading into Bankruptcy

Unsecured Debt from Credit Bureau and Bankruptcy Filing



Shadow Debt and Financial Distress: Preview of Results

- Mostly only observe shadow debt snapshot at bankruptcy \Rightarrow hard to understand dynamics
 - Instead, use cash flow shocks via changes to wage garnishment to estimate effects on
 - ① Debt at bankruptcy
 - ② Timing of bankruptcy
 - Estimates: \$100 reduction in monthly wage garnishment leads to
 - \$6,000 increase in shadow debt at bankruptcy
 - No increase in formal debt
 - 1 month delay in bankruptcy filing
- \rightarrow Debtors particularly likely to rely on shadow debt when formal debt hard to come by

Information Asymmetries, Cash Flow, Debt Accumulation, and Default

- Many shadow debt lenders are likely uninformed about consumers
⇒ scope for adverse-selection problem in shadow debt markets
- Lots of literature on strategic default and benefits of bankruptcy
 - Most recent work: Indarte (2020), Ganong and Noel (2021), Dobbie and Song (2020)
 - Growing consensus: cash flow shocks are key determinant of default
+ strategic motives have small effect
- Our focus is **intensive margin**: once a consumer is in distress, how do they manage their cash flows and debt levels?
- Results suggest that deeply distressed borrowers delay bankruptcy as long as possible, shadow debt important role in delaying

Outline

- ① **Data and Shadow Debt Facts**
- ② Drivers and Dynamics of Shadow Debt
- ③ Conclusion

Digitized bankruptcy filings + credit records

- Scrape PACER bankruptcy filing schedules for 4 BK districts 2004-2018 (UT, MN, FL)
 - Detailed information about assets, individual liabilities, employment status, historic and current income, projected expenses, family situation...
 - ~15% of cases unable to process PDF (handwritten/image unreadable/missing schedules)
- Final sample ~545,000 bankruptcy filings with 15+ million individual debt claims

Bankruptcy Filing Summary Statistics

Variable	Mean	Std. Dev.	25th	Percentile	
				50th	75th
Monthly Net Income (\$)	2,973	1,682	1,787	2,700	3,902
Monthly Garnishable Wages (\$)	727	443	447	675	976
Total Assets (\$)	133,738	207,304	10,381	84,265	197,557
Total Debt (\$)	238,809	673,127	52,546	148,960	282,618
Unsecured Debt (\$)	96,502	570,632	24,502	44,836	82,656
Unsecured Debt Share	0.53	0.36	0.19	0.46	0.94
Chapter 7 Indicator	0.74	0.44	0	1	1

Example Schedule of Liabilities

SCHEDULE D - CREDITORS HOLDING SECURED CLAIMS

(Continuation Sheet)

CREDITOR'S NAME AND MAILING ADDRESS INCLUDING ZIP CODE, AND ACCOUNT NUMBER (See instructions.)	C O D E B T O R	Husband, Wife, Joint, or Community		C O N T I N G E N T	U N L I Q U I D A T E D	D I S P U T E D	AMOUNT OF CLAIM WITHOUT DEDUCTING VALUE OF COLLATERAL	UNSECURED PORTION, IF ANY
		H W J C	DATE CLAIM WAS INCURRED, NATURE OF LIEN, AND DESCRIPTION AND VALUE OF PROPERTY SUBJECT TO LIEN					
Account No. xxxxx33 #80			09/2007					
Mountain America Credit Union PO Box 9001 West Jordan, UT 84084-9001		J	2003 Chevy Silverado 2500HD (93,000.00 miles)					
			Value \$ 12,094.00				12,400.00	306.00

Example Schedule of Liabilities

 Yes Other. Specify medical bill

4.9

Lifewatch, Inc

Nonpriority Creditor's Name

**2731 Paysphere Cir
Chicago, IL 60674-0027**

Number Street City State Zip Code

Who incurred the debt? Check one. Debtor 1 only Debtor 2 only Debtor 1 and Debtor 2 only At least one of the debtors and another **Check if this claim is for a community debt****Is the claim subject to offset?** No YesLast 4 digits of account number 6934 \$40.00When was the debt incurred? 2016**As of the date you file, the claim is:** Check all that apply Contingent Unliquidated Disputed**Type of NONPRIORITY unsecured claim:** Student loans Obligations arising out of a separation agreement or divorce that you did not report as priority claims Debts to pension or profit-sharing plans, and other similar debts Other. Specify Medical bill4.1
0**Mercy Hospital**

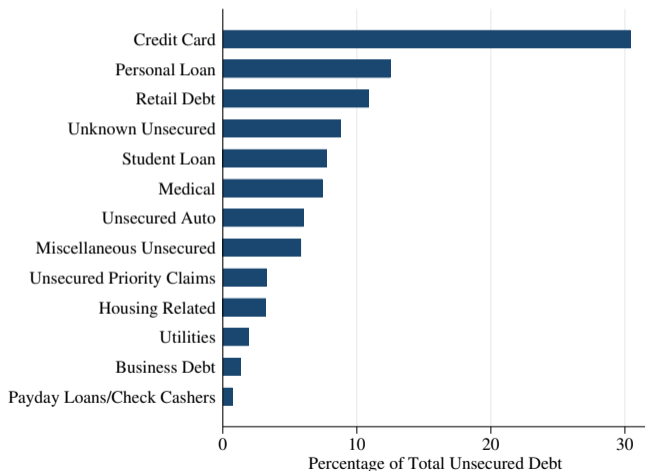
Nonpriority Creditor's Name

**P.O. Box 504682
St. Louis, MO 63150-4682**

Number Street City State Zip Code

Who incurred the debt? Check one. Debtor 1 only Debtor 2 only Debtor 1 and Debtor 2 only At least one of the debtors and anotherLast 4 digits of account number \$500.00When was the debt incurred? 2016**As of the date you file, the claim is:** Check all that apply Contingent Unliquidated Disputed**Type of NONPRIORITY unsecured claim:**

Categories of Unsecured Debt



- Categorize 92% of loans using augmented LDA based on keywords in loan descriptions
- ** Need this new bankruptcy data to see liability composition and observe shadow debt

Credit-bureau Merge

- To measure shadow debt, need to merge to credit bureau data
- Data available: credit bureau records for anyone who has a mortgage serviced by one of 10 largest mortgage servicers
 - Results that don't require credit-bureau merge are similar in full sample
- Cannot use personal information for the merge
- Instead: zip code + bankruptcy filing month + bankruptcy chapter (7 or 13)
- When doesn't uniquely identify a match, use other characteristics:
 - Mortgage origination month
 - First mortgage balance
- Of 188,975 FL/MN/UT bankruptcy filings in the CB data, we can uniquely match 55,357
 - 2 of 3 FL districts, imaged PDFs, non-unique matches

Shadow Debt Summary Statistics

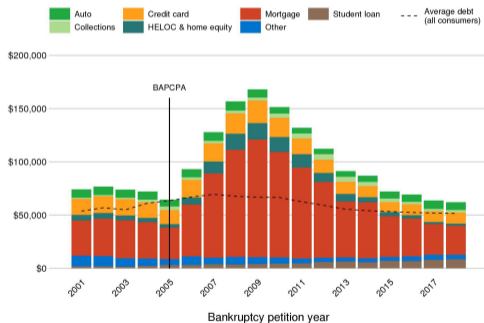
Shadow debt \equiv (total unsecured debt on BK filing) - (total unsecured debt on credit report)

Variable	Mean	Std. Dev.	25th	Percentile		
				50th	75th	
Shadow Debt (\$)	41,680	247,232	3,553	27,751	66,775	
Shadow Debt Share of Unsecured Debt	0.44	0.65	0.26	0.65	0.88	
Shadow Debt Share of Total Debt	0.07	0.38	0.01	0.11	0.23	

- Similar magnitudes focusing on high confidence merges, single debtors, leads/lags...
- Similar average shadow debt comparing aggregate administrative data

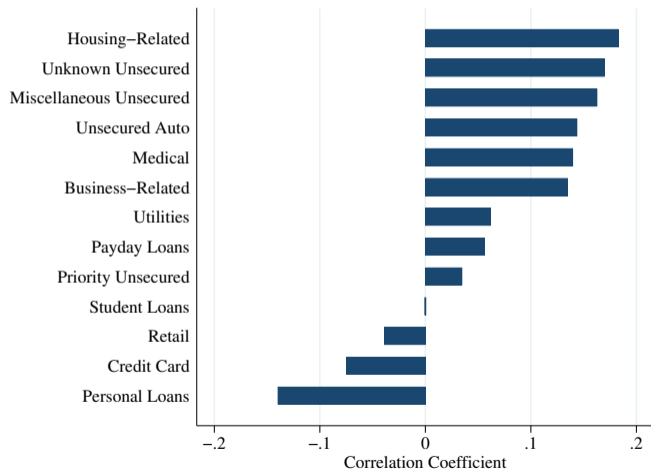
Shadow debt in full sample of all bankruptcies similar magnitude

FIGURE 5: AVERAGE DEBT PER FILER BY TYPE OF DEBT IN QUARTER PRIOR TO CHAPTER 7 BANKRUPTCY PETITION AND AVERAGE DEBT FOR ALL CONSUMERS (2001 REAL DOLLARS)

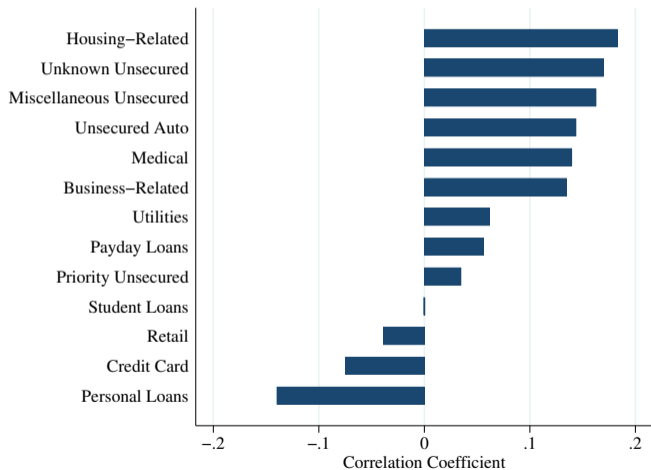


- Liabilities on credit reports: Razeto and Romeo (CFPB 2019) calculate debt on credit reports for bankruptcy filers using Consumer Credit Panel
- Liabilities in official bankruptcy statistics: Annual reports from U.S. Courts on all liabilities in consumer bankruptcies
- **Average shadow debt: \$36,300** (2007–2018)
 - Average secured shadow debt: -\$192
 - Average unsecured shadow debt: \$36,500

Correlations between Shadow Debt Share and Unsecured Debt Categories



Correlations between Shadow Debt Share and Unsecured Debt Categories



Likely to be shadow debt

- Housing-related: unpaid rent, HOAs, furniture/appliance purchases
- Unknown: **Collections**
- Miscellaneous: bounced checks, fees
- Unsecured auto: deficiencies, repairs
- **Medical**, business, utility bills

Not driving/substitutes for shadow debt

- Student loans
- Credit card/retail
- Personal loans

Shadow Debt facts summary

- Shadow debt is large: **\$42k** (\$28k) for mean (median) filer in our sample
 - 7% of total debt, 44% of unsecured debt
- What are the most important components of shadow debt?
- Without liability-level merge with credit bureau, can still look at category correlates
- Strongest components: medical, collections, housing-related, auto deficiencies

Outline

① Data and Shadow Debt Facts

② Dynamics of Shadow Debt

- Results on Wage Garnishing and Shadow Debt
- Results on Wage Garnishing and Bankruptcy and Debt Timing
- Selection and Exclusion Restriction Tests

③ Conclusion

Wage garnishment shocks as natural experiment

Among distressed debtors, conditions right for shadow debt

- Demand for debt high: fight off bankruptcy, subsist while insolvent, or “run up the tab”
 - (also have incentives to de-lever if possible)
- Supply of formal credit low: observable credit risk high

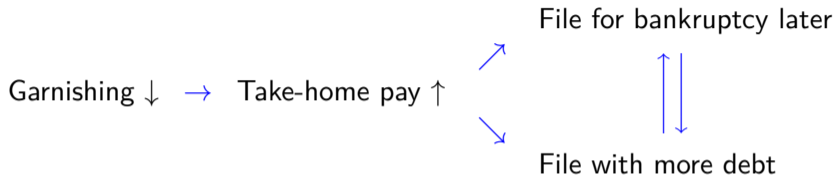
⇒ Distressed debtors may be particularly likely to turn to shadow debt

- Hard to test because don't observe time series of shadow debt

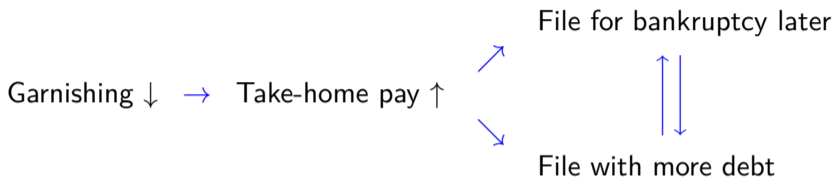
→ Use quasi-exogenous wage garnishment shocks as experiment that reduces immediate benefit of entering bankruptcy

- Wage garnishing powerful determinant of bankruptcy (Lefgren and McIntyre, 2009)

Exogenous Wage Garnishing Variation

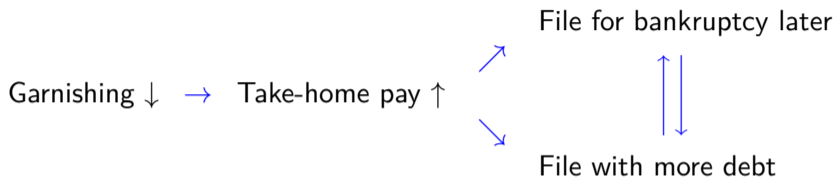


Exogenous Wage Garnishing Variation



(Finance filing delay with SD
and/or use filing delay to increase SD)

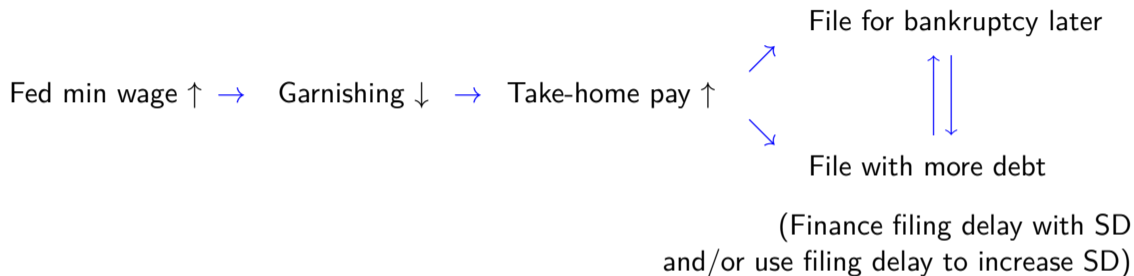
Exogenous Wage Garnishing Variation



(Finance filing delay with SD
and/or use filing delay to increase SD)

- Title III of 1970 Consumer Credit Protection Act:
 - statutory limits on maximum wage garnishing to allow for subsistence
 - max garnishable wages are f (federal min wage)

Exogenous Wage Garnishing Variation



- Title III of 1970 Consumer Credit Protection Act:
 - \rightarrow statutory limits on maximum wage garnishing to allow for subsistence
 - \rightarrow max garnishable wages are f (federal min wage)
- Exogenous wage garnishing shock: Federal minimum wage $\uparrow \Rightarrow$ garnishable wages \downarrow
(n.b., federal min wage not prevailing in FL)

Wage Garnishment Rules per CCPA

- Wage garnishment limits depend on monthly income and minimum wage

$$\text{Garnishable Wages}_{it} = \begin{cases} 0 & \text{if } \text{Income}_i < 4.33 \cdot 30 \cdot \text{MinWage}_t \\ \text{Income}_i - 4.33 \cdot 30 \cdot \text{MinWage}_t & \text{if } 4.33 \cdot 30 \cdot \text{MinWage}_t < \text{Income}_i < 5.8 \cdot 30 \cdot \text{MinWage}_t \\ 0.25 \cdot \text{Income}_i & \text{if } \text{Income}_i > 5.8 \cdot 30 \cdot \text{MinWage}_t \end{cases}$$

n.b., states can choose to exempt more income from wage garnishing.

Wage Garnishment Rules per CCPA

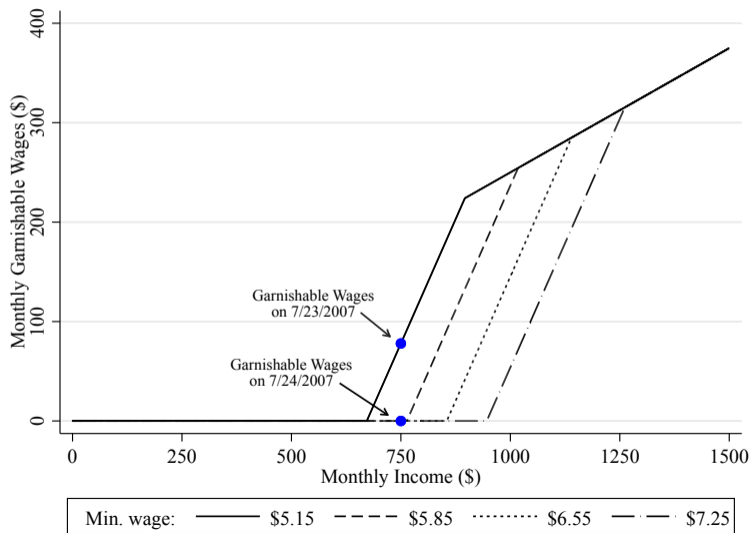
- Wage garnishment limits depend on monthly income and minimum wage

$$Garnishable\ Wages_{it} = \begin{cases} 0 & \text{if } Income_i < 4.33 \cdot 30 \cdot MinWage_t \\ Income_i - 4.33 \cdot 30 \cdot MinWage_t & \text{if } 4.33 \cdot 30 \cdot MinWage_t < Income_i < 5.8 \cdot 30 \cdot MinWage_t \\ 0.25 \cdot Income_i & \text{if } Income_i > 5.8 \cdot 30 \cdot MinWage_t \end{cases}$$

n.b., states can choose to exempt more income from wage garnishing.

- Federal minimum wage changes:
 - 7/24/2007: \$5.15 → \$5.85
 - 7/24/2008: \$5.85 → \$6.55
 - 7/24/2009: \$6.55 → \$7.25

△ Minimum Wage Affects Wage Garnishing



Empirical Strategy

- Goal: measure how shadow debt responds to wage garnishment shocks
- Diff-in-diff around minimum wage changes
- Treated group: low-income filers whose wage garnishment affected by Δ min wage
- Control groups: Filers with income below/above thresholds

Empirical Strategy

- Goal: measure how shadow debt responds to wage garnishment shocks
- Diff-in-diff around minimum wage changes
- Treated group: low-income filers whose wage garnishment affected by Δ min wage
- Control groups: Filers with income below/above thresholds
- Exclusion restriction: min wage changes affect filers through wage garnishing
 - ① min wage changes do not change composition of filers
(especially important to justify conditioning on outcome)
 - ② effects hold in FL where min wage didn't change
 - ③ min wage effects on secured debt in literature not present among BK filers
 - ④ effects too large to be mechanical garnishing effect
(less shadow debt paid down via garnishing)

Outline

- ① Data and Shadow Debt Facts
- ② Dynamics of Shadow Debt
 - **Results on Wage Garnishing and Shadow Debt**
 - Results on Wage Garnishing and Bankruptcy and Debt Timing
 - Selection and Exclusion Restriction Tests
- ③ Conclusion

Regression Specification

$$\frac{\text{Shadow Debt}_{ist}}{\text{Total Debt}_{ist}} = \beta_1 \text{Treatment}_i \times \text{Garnishable Wages}_{ist} + \beta_2 \text{Treatment}_i + \beta_3 \text{Garnishable Wages}_{ist} + \beta_4 \text{Treat}_i \times \text{Income}_i + X'_{ist} \gamma + \psi_{st} + \varepsilon_{ist}$$

- β_1 identifies effect of Δ wage garnishment on treated individuals with same income
- Outside treated region (600, 1300) garnishable wages and income are collinear
- Filer controls X_i improve precision and comparability:
 married, # dependents, homeowner, business owner, retired, disabled, unemployed
- Fixed effects: Bankruptcy district \times year, income quartiles, income \times year, etc.
- Shares specification deals with zeroes and outliers but results robust to log spec
- Standard errors double clustered by month and 3-digit zipcode

Shadow Debt increases after garnishing ↓

	Dependent variable: $\frac{Shadow\ Debt_{ist}}{Total\ Debt_{ist}}$			
	(1)	(2)	(3)	(4)
Treatment × Garnishable Wages (\$00s)	-0.021** (0.009)	-0.019* (0.009)	-0.018* (0.010)	-0.019** (0.009)
Filer Controls	✓	✓	✓	✓
Year Fixed Effects	✓		✓	✓
District Fixed Effects	✓		✓	✓
District × Year Fixed Effects		✓		
Income × Year Controls			✓	
Income Quartile Controls				✓
R^2	0.51	0.51	0.50	0.51
Observations	47,960	47,960	47,960	47,960

→ \$100 ↓ in monthly wage garnishing ⇒ +2% of total debt ≈ \$6,000

Increase in total unsecured \approx increase in shadow debt

Dependent variable: $\frac{\text{Unsecured Debt}_{ist}}{\text{Total Debt}_{ist}}$

	(1)	(2)	(3)	(4)
Treatment \times Garnishable Wages (\$00s)	-0.010*** (0.003)	-0.008** (0.003)	-0.012*** (0.003)	-0.008** (0.003)
Filer Controls	✓	✓	✓	✓
Year Fixed Effects	✓		✓	✓
District Fixed Effects	✓		✓	✓
District \times Year Fixed Effects		✓		
Income \times Year Controls			✓	
Income Quartile Controls				✓
R^2	0.60	0.61	0.61	0.61
Observations	48,186	48,186	48,186	48,186

- Magnitudes statistically indistinguishable from shadow debt effect
- If anything, slightly smaller (see Li and Sun, 2021)

Total unsecured debt in full sample is similar

	(1)	(2)	(3)	(4)
Treatment \times	-0.0027*	-0.0033**	-0.0067***	-0.0046***
Garnishable Wages (\$00s)	(0.0014)	(0.0013)	(0.0018)	(0.0014)
Filer Controls	✓	✓	✓	✓
Year FEs	✓		✓	✓
District FEs	✓		✓	✓
District \times Year FEs		✓		
Income \times Year Controls			✓	
Income Quartile Controls				✓
R^2	0.75	0.75	0.75	0.75
Observations	554,942	554,942	554,942	554,942

Outline

- ① Data and Shadow Debt Facts
- ② Dynamics of Shadow Debt
 - Results on Wage Garnishing and Shadow Debt
 - **Results on Wage Garnishing and Bankruptcy and Debt Timing**
 - Selection and Exclusion Restriction Tests
- ③ Conclusion

Filing Delays as a Mechanism

- Why would distressed debtors with lower garnishing increase shadow debt?

Filing delay \Leftrightarrow Increase in Shadow Debt

- ① Finance delay in filing with shadow debt
 - ② Use delay in inevitable filing for bankruptcy to increase shadow debt
- Use credit bureau data to identify first transition into 90 days past due
 - Define time to bankruptcy as months from first 90-day delinquency to bankruptcy filing
 - Robustness: 120-day delinquency, last transition to 90-day delinquency, etc.
 - Filers delay a long time before entering bankruptcy:
 - Average time to file: 22.3 months
 - Median time to file: 15.3 months

Effect of Wage Garnishing on Bankruptcy Timing

	(1)	(2)	(3)	(4)
Treatment × Garnishable Wages (\$00s)	-1.12*** (0.37)	-0.78** (0.38)	-1.03** (0.45)	-1.19*** (0.38)
Filer Controls	✓	✓	✓	✓
Year FEs	✓		✓	✓
District FEs	✓		✓	✓
District × Year FEs		✓		
Income × Year Controls			✓	
Income Quartile Controls				✓
R^2	0.60	0.61	0.60	0.60
Observations	47,960	47,960	47,960	47,960

→ \$100 decrease in garnishable wages ⇒ 1 month longer filing delay

Timing of Debt

- Some filings report the exact date each debt was incurred
- Looking only at those filings, calculate share of total debt that was incurred within 6 months of bankruptcy filing
- 28 bp effect on last-6-months share $\Leftrightarrow +\$1,100$
- Some caveats:
 - Credit cards: see origination of card, not when debt was incurred
→ probably underestimate amount of debt incurred within 6 months
 - Paid off debt: if filer pays off debt before filing, doesn't show up on filing

Increase in Debt Comes in Months Right Before Bankruptcy

Share of Debt Originated Within 6 Months of Filing	
Treatment \times Garnishable Wages (\$00s)	-0.0028** (0.0013)
Filer Controls	✓
Year FEs	✓
District FEs	✓
R^2	0.521
Observations	76,909

→ \$1,100 increase in debt in last 6 months before filing for bankruptcy.

Outline

- ① Data and Shadow Debt Facts
- ② Dynamics of Shadow Debt
 - Results on Wage Garnishing and Shadow Debt
 - Results on Wage Garnishing and Bankruptcy and Debt Timing
 - **Selection and Exclusion Restriction Tests**
- ③ Conclusion

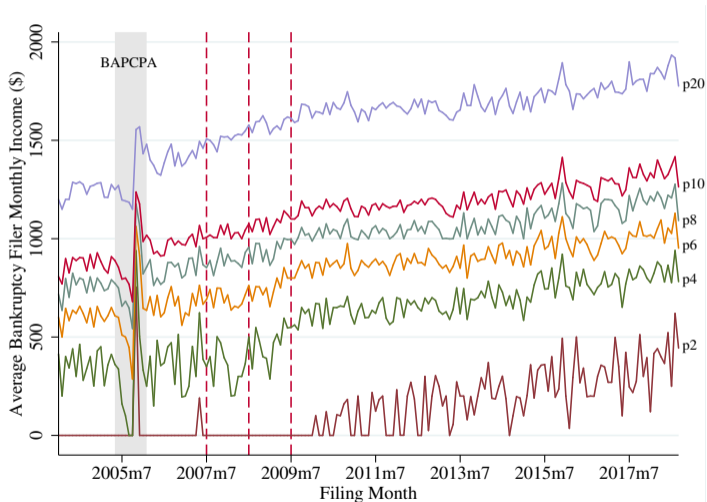
Addressing Exclusion Restriction Concerns

- Exclusion restriction: Δ min wage affects filer shadow debt only through wage garnishing
- Direct effects of minimum wage increase?
- Selection into bankruptcy? Sample selection conditions on an outcome (filing)
 - e.g., when wage garnishment falls, only high-debt people continue to file for bankruptcy?

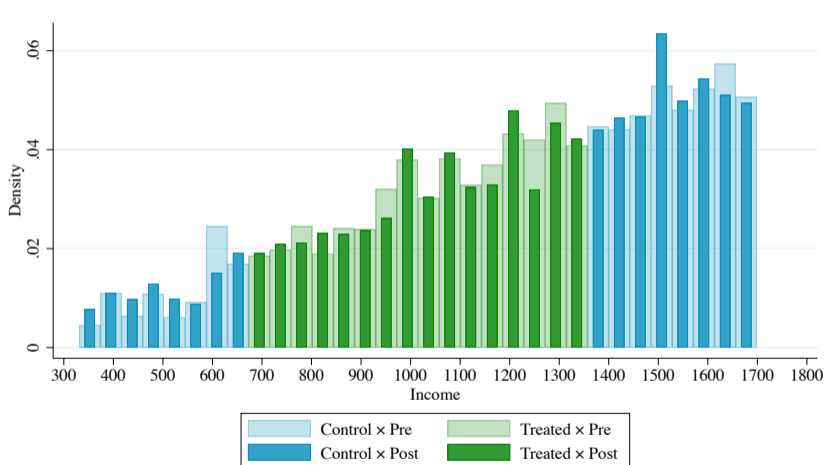
Addressing Exclusion Restriction Concerns

- Exclusion restriction: Δ min wage affects filer shadow debt only through wage garnishing
- Direct effects of minimum wage increase?
- Selection into bankruptcy? Sample selection conditions on an outcome (filing)
 - e.g., when wage garnishment falls, only high-debt people continue to file for bankruptcy?
- Ruling out selection and direct effects of minimum wage:
 - ✓ Results hold for FL, where federal minimum wage wasn't binding
 - ✓ Effects only in shadow debt, not for other secured/unsecured categories
 - ⇒ Aaronson et al. (2012) and Sovich et al. (2021) secured debt effects not present
 - ✓ No effect on income distribution of bankruptcy filers
 - ✓ No effect on filer characteristics
 - ✓ No effects for similar-income debtors with adverse life events
 - ✓ Effects too large to be mechanical effect of garnishing $\downarrow \Rightarrow$ less debt repayment
 - ✓ No effect on bankruptcy filing likelihood for delinquent borrowers
 - ✓ No effect on debt levels of delinquent non-filers

Only Smooth Changes in Bankruptcy Filer Income

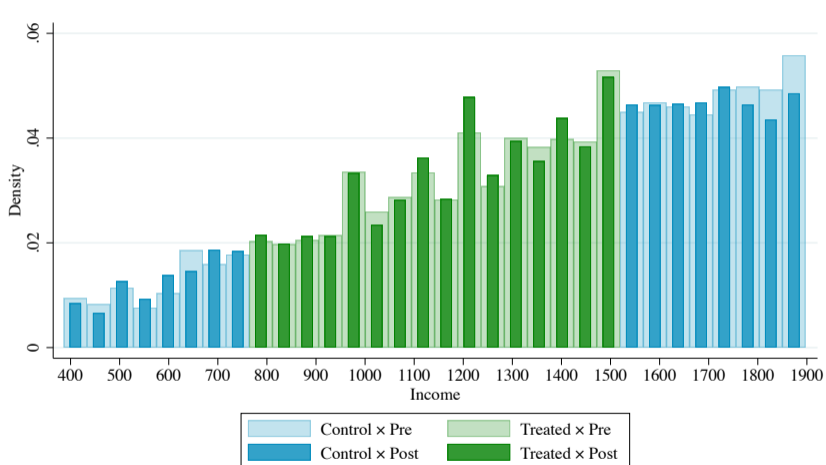


No Change in Bankruptcy Filing Counts or Income Distribution: 2007



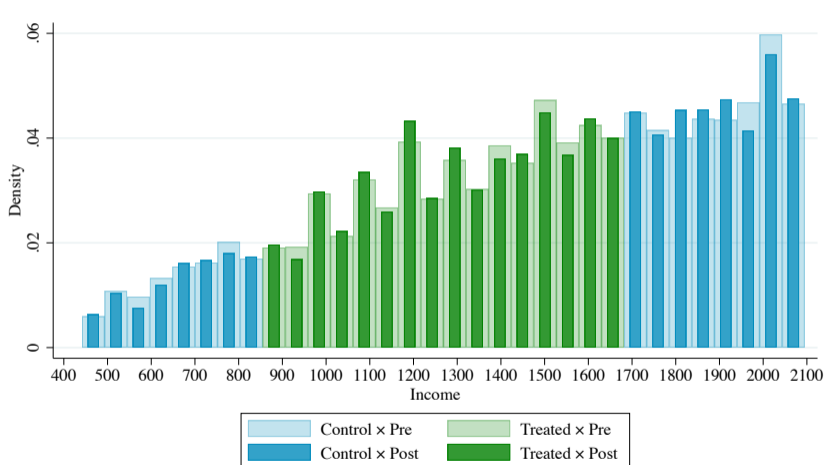
K-S test 0.013 ($p = 0.40$)

No Change in Bankruptcy Filing Counts or Income Distribution: 2008



K-S test 0.011 ($p = 0.46$)

No Change in Bankruptcy Filing Counts or Income Distribution: 2009



K-S test 0.008 ($p = 0.64$)

Shadow Debt results hold in FL where fed min wage < state min wage

Dependent variable: Shadow Debt / Total Debt				
	(1)	(2)	(3)	(4)
Treatment × Garnishable Wages (\$00s)	-0.051*** (0.016)	-0.051*** (0.017)	-0.034** (0.016)	-0.050*** (0.016)
Filer Controls	✓	✓	✓	✓
Year FEs	✓		✓	✓
District FEs	✓		✓	✓
District × Year FEs		✓		
Income × Year Controls			✓	
Income Quintile Controls				✓
R^2	0.51	0.51	0.51	.51
Observations	28,348	28,348	28,348	28,348

→ Effect of minimum wage on shadow debt must operate through wage garnishing

Bankruptcy Timing results hold in FL

Dependent variable: Months to file				
	(1)	(2)	(3)	(4)
Treatment ×	-1.57*	-1.57*	-1.73	-1.62*
Garnishable Wages (\$00s)	(0.91)	(0.92)	(1.19)	(0.92)
Filer Controls	✓	✓	✓	✓
Year FEs	✓		✓	✓
District FEs	✓		✓	✓
District × Year FEs		✓		
Income × Year Controls			✓	
Income Quintile Controls				✓
R^2	0.63	0.64	0.63	0.63
Observations	28,348	28,348	28,348	28,348

No Change in Delinquent Debtor 2 yr Bankruptcy Likelihood

	(1)	(2)	(3)	(4)
Treatment × Garnishable Wages (\$00s)	-0.00002 (0.00002)	-0.00002 (0.00001)	-0.00002 (0.00001)	-0.00002 (0.00001)
Filer Controls	✓	✓	✓	✓
Year FEs	✓		✓	✓
District FEs	✓		✓	✓
District × Year FEs		✓		
Income × Year Controls			✓	
Income Quintile Controls				✓
R^2	0.50	0.50	.50	0.50
Observations	879,897	879,897	879,897	879,897

- Impute income controls using FRM DTI @ origination
- Also find zero effect at 3 year horizon

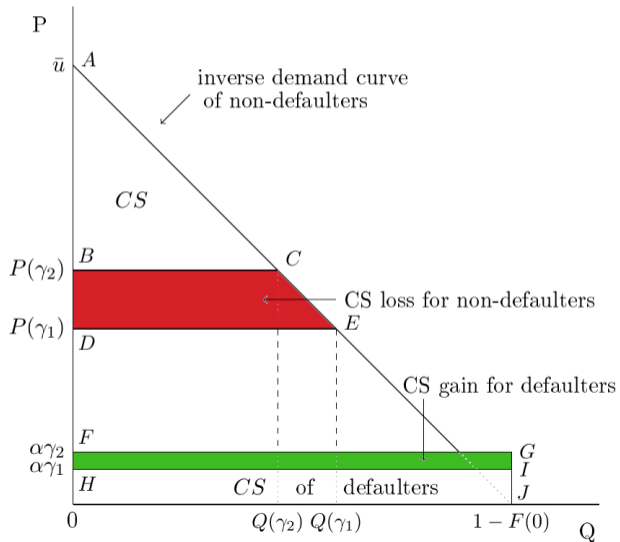
Welfare Implications

- Amount of debt discharged has direct implications for overall economic welfare.
 - Classic moral hazard framework: increase generosity of insurance \Rightarrow scope for MH
 - (intent harder to identify: can't say individuals are intentionally running up debt)
- \Rightarrow Allowing individuals to increase debt before filing can create DWL
- Aggregate welfare effects hard to identify given large private benefits of bankruptcy (Dobbie and Song, 2015)
 - Opens question of externalities from wage garnishment + other collection efforts

Welfare Implications

- As debt discharged increases:
 - Good for defaulters: get higher consumption and then discharge the debt
 - Bad for non-defaulters: equilibrium prices rise (Gross et al., 2021), subsidize the defaulters
 - Deadweight losses: higher prices push some consumers out of market

Welfare Implications



Conclusion

- Shadow debt (from non-payment of goods/services) is a large balance sheet component for bankruptcy filers
 - Nonpayment and informal debt is important source of financing for distressed households finances
 - Credit bureau indebtedness not whole picture
- Shadow debt increases a lot right before filing among debtors nudged to delay filing: \$6,000 with 1-month delay
- Aggregate shadow debt discharged in bankruptcy per year: \$40 billion
- May raise prices for non-defaulters \Rightarrow DWL