

# Debt Collection and Settlement: Do Borrowers Under-Utilize the Court System ?

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# Debt contracts and debt collection

Debt contract enforcement is crucial for well-functioning credit markets

Consumer debt contracts

- **In-Court:** Wage garnishment, property foreclosure, repossessions
- **Out-of-Court:** Bilateral negotiation between lenders and borrowers

How do consumers fare outside of the court system when they negotiate directly with debt collectors?

- Little evidence for uncollateralized debt

# Consumer debt and debt collection

Household credit card debt has substantially increased in last 20 years

- Just over \$1T in 2017Q4 (Flow of Funds)
- 8% of balance is 90+ days past due, second only to student loans (FRBNY HHDC Report)

An important function of debt collection is to facilitate bilateral resolution of debt

- ~11% of consumers under third party collection (FRBNY)
- Industry collected over \$55 billion in 2014 (Ernst and Young)

# Research Question

Does settling **out-of-court** exacerbate **household financial distress**?

- Policy: Concern for consumer welfare
- Literature: Focus on the effect of in-court decision on household outcomes

Compare in- and out-of-court resolution for **litigated cases**

# What do we expect?

In a bargaining model where:

- **Collector:**

Makes a take it or leave it offer to settle before hearing takes place

- **Borrower:**

Accepts or takes outside option of proceeding to court

## **Key prediction (hypothesis):**

Borrowers accept settlement only if it is weakly preferable than going to court

Settlement  $\Rightarrow$  Less financial distress compared with going to court

Robust prediction across any theory of negotiation

# Key challenges

## Measurement

- Out-of-court deals, subsequent borrower outcomes hard to measure
- Unique dataset linking court records from debt collection lawsuits in Missouri with detailed credit registry data

## Endogeneity

- Borrowers who settle may be un-observably different than those who go to court
- Randomly assigned judges differ in their propensity to preside over cases that end with out-of-court settlement
- Use judge-level settlement propensity as instrument for borrower settlement

# Preview of the results

**Out-of-court settlements**  $\Rightarrow$  Higher borrower financial distress

Causal effect of settlement compared to court-resolved cases:

- Higher bankruptcy rate by **13 percentage points** (base rate: 7%)
- Higher foreclosure rate by **4 p.p.** (base rate: 3%)

# Preview of the results

**Out-of-court settlements**  $\Rightarrow$  Higher borrower financial distress

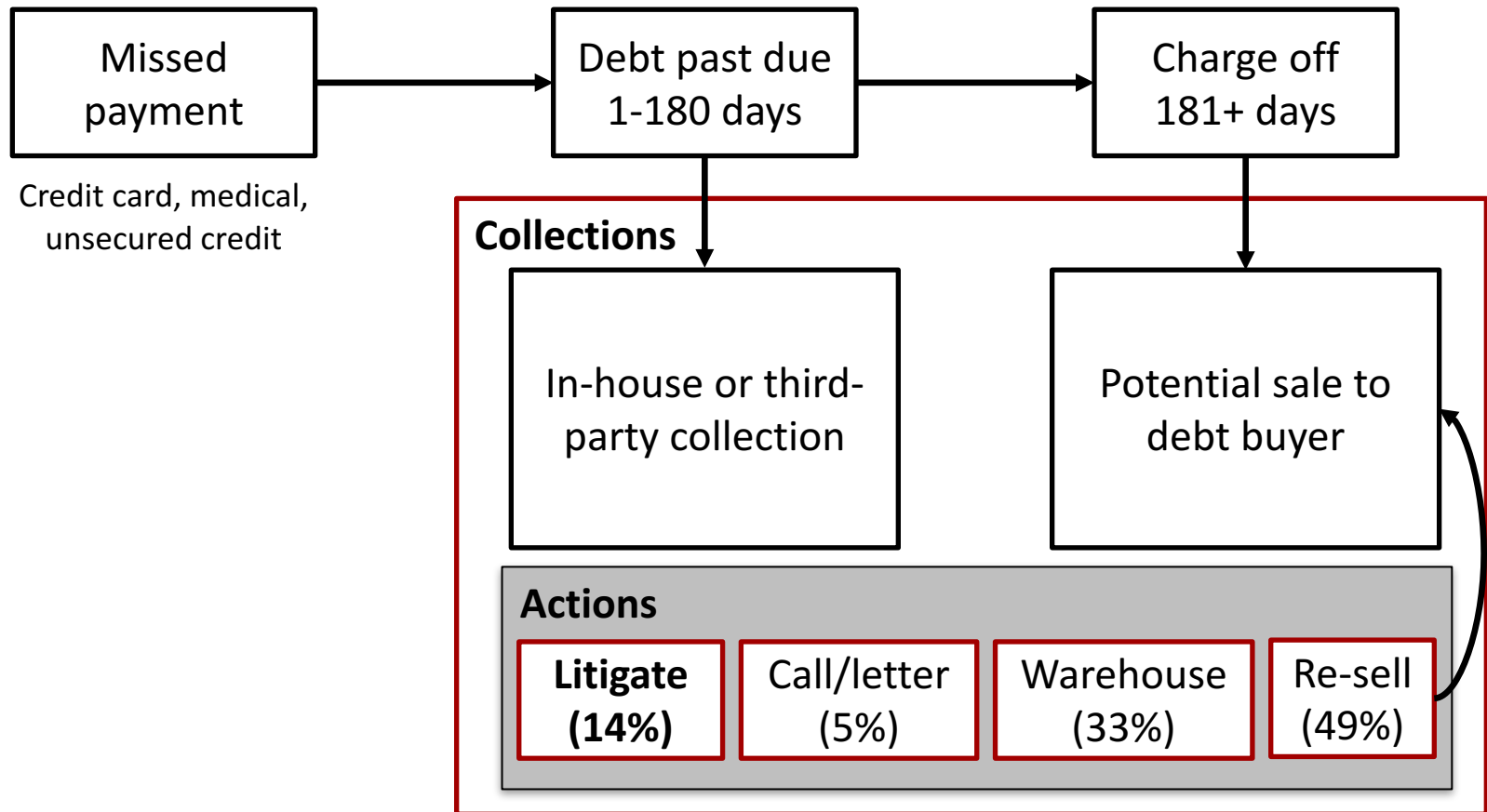
- Consistent with borrowers over-estimating the distress cost of going through the court system

Effect is:

- Concentrated in the first year after disposition
- Associated with increases in mortgage balances, # of accounts
- Strongest for low credit score borrowers
- Strongest for cases when a major bank is a collector



# Debt collection



# Litigation in Missouri

## Missouri state civil courts (mostly small claims)

- Lender or 3<sup>rd</sup> party collector can sue before statute of limitations expires – 10 years in MO

**Plaintiff seeks a judgment against a borrower.** Right to garnish wages or bank accounts

- Judgment = Principal + interest + court fees
- Trial is not forum for debt consolidation or discharge

## Missouri is a fairly representative state for collection

State	Share with past due debt	Share with debt in collections	Average debt in collections	Average household income
Missouri	5.30%	35.40%	5,805	62,196
US	5.30%	35.10%	5,178	72,254

# Data description

## (1) Court Records

Unique dataset with all court records debt collection lawsuits from 2007-2014, initially **667,337 cases**.

Filters:

- 10 counties with random judge-assignment (hand-verified in court procedure documents + 2x telephone check with court clerks)
- Keep courts with more than two judges per year, at least 10 cases per judge-year with share > 5%

# Data description

## (2) Borrower characteristics – TransUnion credit registry

- Matched by TU based on names, addresses – 87% success rate
- 9-year panel, 2007-2015

## Final litigation sample

- Keep only successfully served cases with a judge settlement propensity measure
- Final sample: **82,218 cases** [Details](#)

**Result: Rich dataset allowing us to observe credit-related outcomes, including ones associated with financial distress**

# Summary statistics: case characteristics

	Mean	SD	Median	N
<b>Settlement rate</b>	<b>0.17</b>	<b>0.37</b>	<b>0</b>	<b>82,218</b>
<b>Pr (Dismiss   Court)</b>	<b>0.06</b>	<b>0.23</b>	<b>0</b>	<b>68,516</b>
Total judgment (\$)	4,149	12,514	2,059	42,173
Garnishment rate	0.51	0.5	1	41,752
Day to disposition	88.08	82.85	59	82,218
N of cases per person	1.23	0.57	1	82,218

# Comparison to other samples

Similar to Chapter 13 filers but with lower credit scores, higher collection balances

	Dobbie, Goldsmith-Pinkham, Yang (2017) – 2002-2005/6		Litigation sample Year before case (2007-2014)
	All credit users	Ch 13 filers	
Credit Score	740	630	536
Age	48.6	43.7	42.7
Homeowner	0.470	0.520	0.510
Delinquency	0.148	0.413	0.756
Collection	0.137	0.296	0.756
Charge-Off	0.065	0.188	0.410
Bankruptcy	0.010	0.007	0.075
Judgment	0.009	0.034	0.102
Foreclosure	0.003	0.010	0.031
Lien	0.004	0.011	0.012
Repossession	0.003	0.012	0.021
Revolving Balance	6,010	13,080	7,325
Collection Balance	600	1,430	7,012

# Challenges

## Measurement

- Typically hard to observe when settlements occur and subsequent individual-level outcomes

## Endogenous settlements

- Individuals who settle out-of-court may be unobservably different than those who go to court
- These unobservable differences may independently affect subsequent outcomes:  $E[\varepsilon_i | S_i, X_i] \neq 0$
- Use judge-level settlement propensity as instrument for settlement

# Empirical specification

Examine effect of settlement on household distress and outcomes

$$y_i = \alpha_{cs} + \beta S_i + \Gamma X_i + \varepsilon_i$$

$y_i$	Household $i$ outcome
$S_i$	Indicator for whether case settled out-of-court or received a disposition in-court
$\alpha_{cs}$	Court $c$ by disposition year $s$ fixed effect
$X_i$	Age bin, credit score bin, days to disposition bin, homeownership status, previous bankruptcy filings
$\varepsilon_i$	Unobserved household characteristics influencing outcomes

Endogeneity of Settlements:  $E[\varepsilon_i | S_i, X_i] \neq 0$



# Ex-ante endogenous differences

	Court	Settlement	p-value
<b>Mechanical Outcomes</b>			
Credit Score	530	562	(0.000)***
Have a Collection	0.77	0.67	(0.000)***
Collection Balance	7,259	5,776	(0.000)***
Have a Judgement	0.11	0.05	(0.000)***
Have a Reposeession	0.02	0.02	(0.000)***
Have a Lien	0.01	0.01	(0.005)***
<b>Household Distress</b>			
Bankruptcy	0.05	0.21	(0.000)***
Foreclosure	0.03	0.03	(0.021)**
<b>Debt and others</b>			
Revolving Balance	6,758	10,164	(0.000)***
Mortgage Balance	28,154	46,014	(0.000)***
Non Mortgage Inquiries	1.9	1.6	(0.000)***
Mortgage Inquiries	0.1	0.1	(0.062)*
Number of Trade Lines	3.2	4.1	(0.000)***

# Judge settlement propensity

Significant variation in the probability a judge presides over a case that settles (“settlement propensity”)

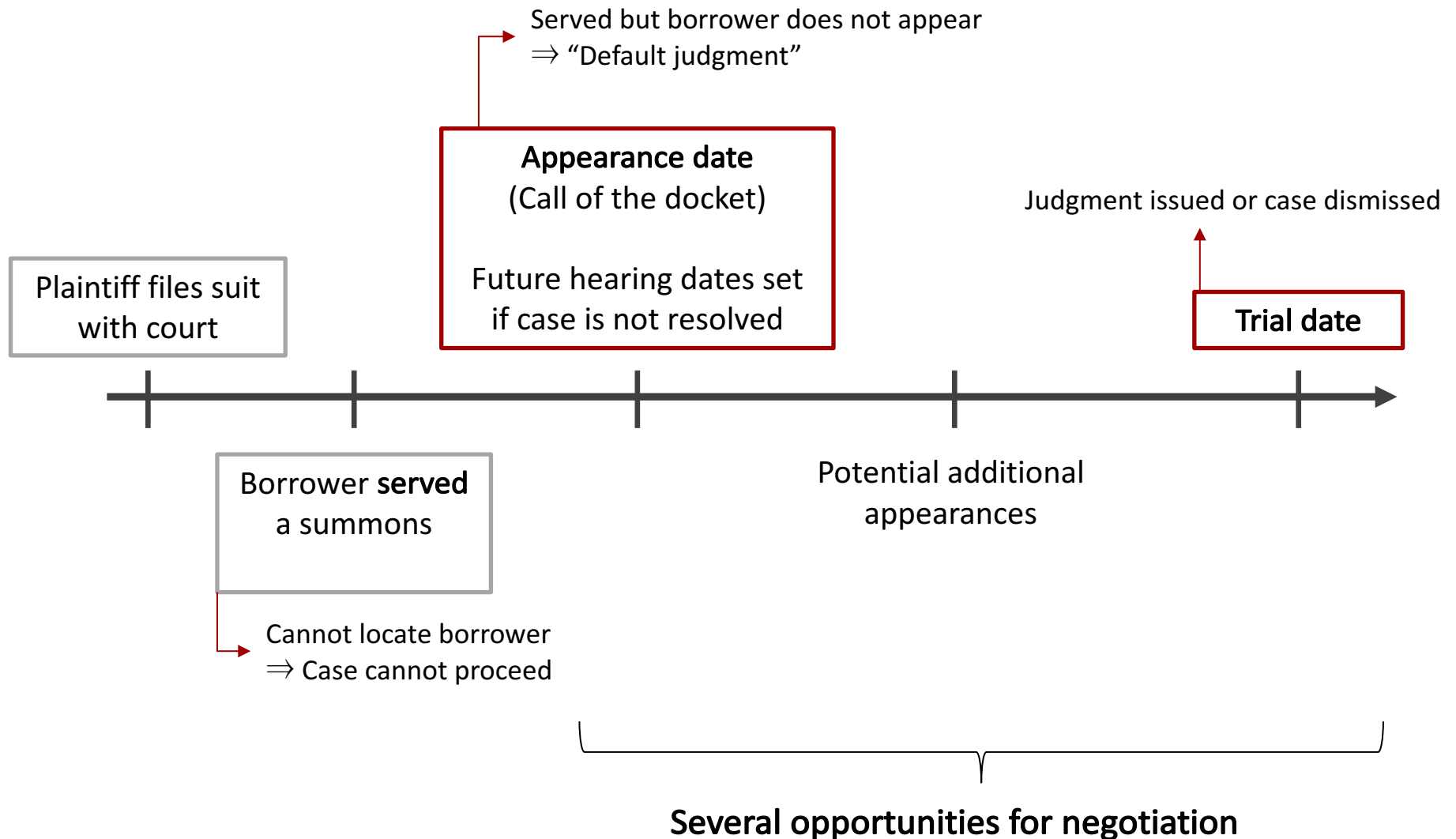
Judges encourage two sides to work it out to varying degrees

- Oft-cited motivation: Save court resources for trial
- Several borrowers rely on non-legal arguments, inefficient allocation of time for the court

Several opportunities

- If borrower asks for trial, judges may ask if two parties have talked first. Before trial, judge may ask again
- Conversations with Missouri debt collection attorney confirm varying degrees of this practice

# Opportunities for negotiation



# Judge Settlement Propensity

To capture differences in judge settlement propensity, we estimate judge-year specific settlement propensities following a leave-out estimate methodology:

$$L_{ijct} = \frac{\sum_{k=1}^{n_{jct}} S_k - S_i}{n_{jct} - 1} - \frac{\sum_{k=1}^{n_{ct}} S_k - S_i}{n_{ct} - 1}$$

This is the average settlement rate of judge  $j$  in court  $c$  in disposition year  $t$ , minus the rate for court  $c$  in year  $t$ , excluding the current case

- Kling (2006), Chang and Schoar (2008), Doyle (2007, 2008); Aizer and Doyle (2013); Dobbie and Song (2014); Dobbie et al. (2015)
- Annual persistence of 0.66 (s.e.: 0.12)

# IV estimation

First stage: 
$$S_i = \alpha_{cs} + b L_{ijcs} + G X_i + v_i$$

Second stage: 
$$y_i = \alpha_{cs} + \beta S_i + \Gamma X_i + \varepsilon_i$$

$y_i$	Household $i$ outcome
$S_i$	Indicator for whether case settled out-of-court or received a disposition in-court
$\alpha_{cs}$	Court $c$ by disposition year $s$ fixed effect
$X_i$	Controls

**$\beta$  represents causal effect of out-of-court settlement on  $y_i$**

- Standard errors clustered at the judge level

**Identification assumption:** Leave-out settlement rate  $L_{ijcs}$  influences borrower outcomes only through shifting own  $\Pr(\text{Settlement})$

# Randomization test

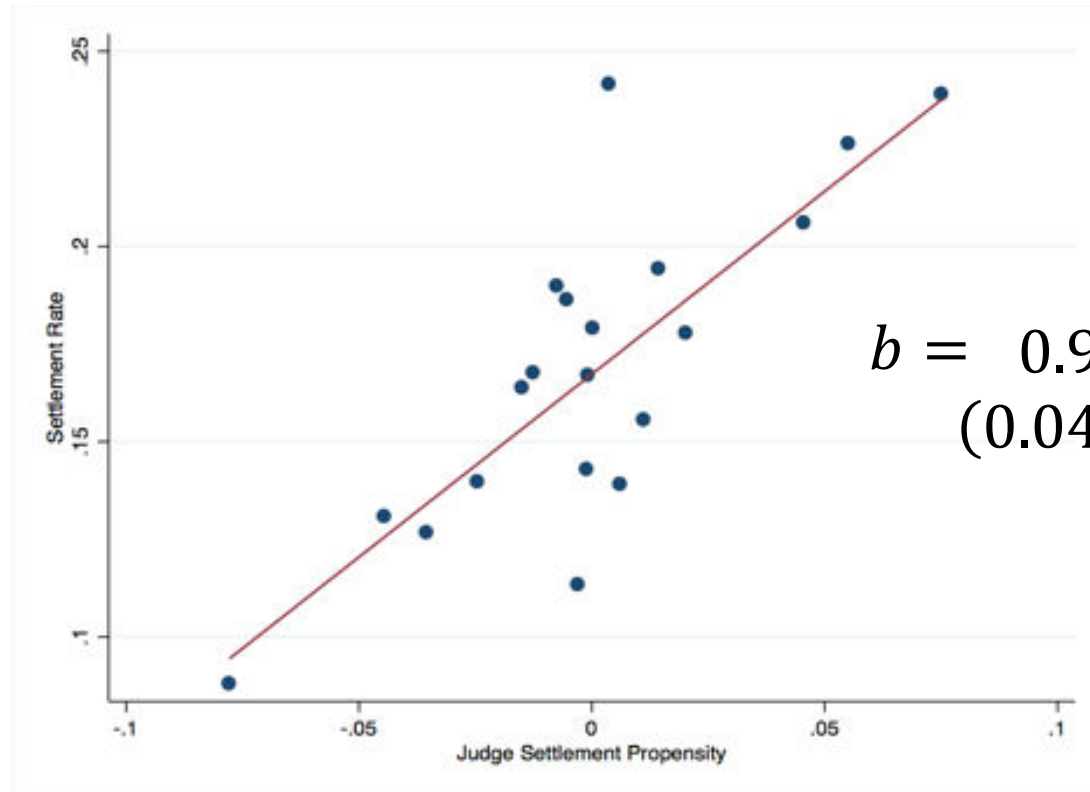
No significant ex-ante differences when split between high and low settlement propensities

	Court	Settlement	p-value
<b>Judge Leniency to Settle</b>	<b>-0.002</b>	<b>0.006</b>	<b>(0.004)***</b>
<b>Mechanical Outcome</b>			
Credit Score	530	562	(0.000)***
Have a Collection	0.77	0.67	(0.000)***
Collection Balance	7,259	5,776	(0.000)***
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# First stage

First stage:

$$S_i = a_{cs} + b L_{ijcs} + G X_i + v_i$$



$$b = 0.94$$
$$(0.04)^{***}$$

Details

# Main result

$$y_i = \alpha_{cs} + \beta S_i + \Gamma X_i + \varepsilon_i$$

Outcome	$\beta$ OLS	
Bankruptcy	-0.02 (0.000)***	-0.05 (0.000)***
Foreclosure	-0.01 (0.000)***	-0.01 (0.000)***

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Controls	No	Yes
N Obs	82218	82218
N Clusters	43	43

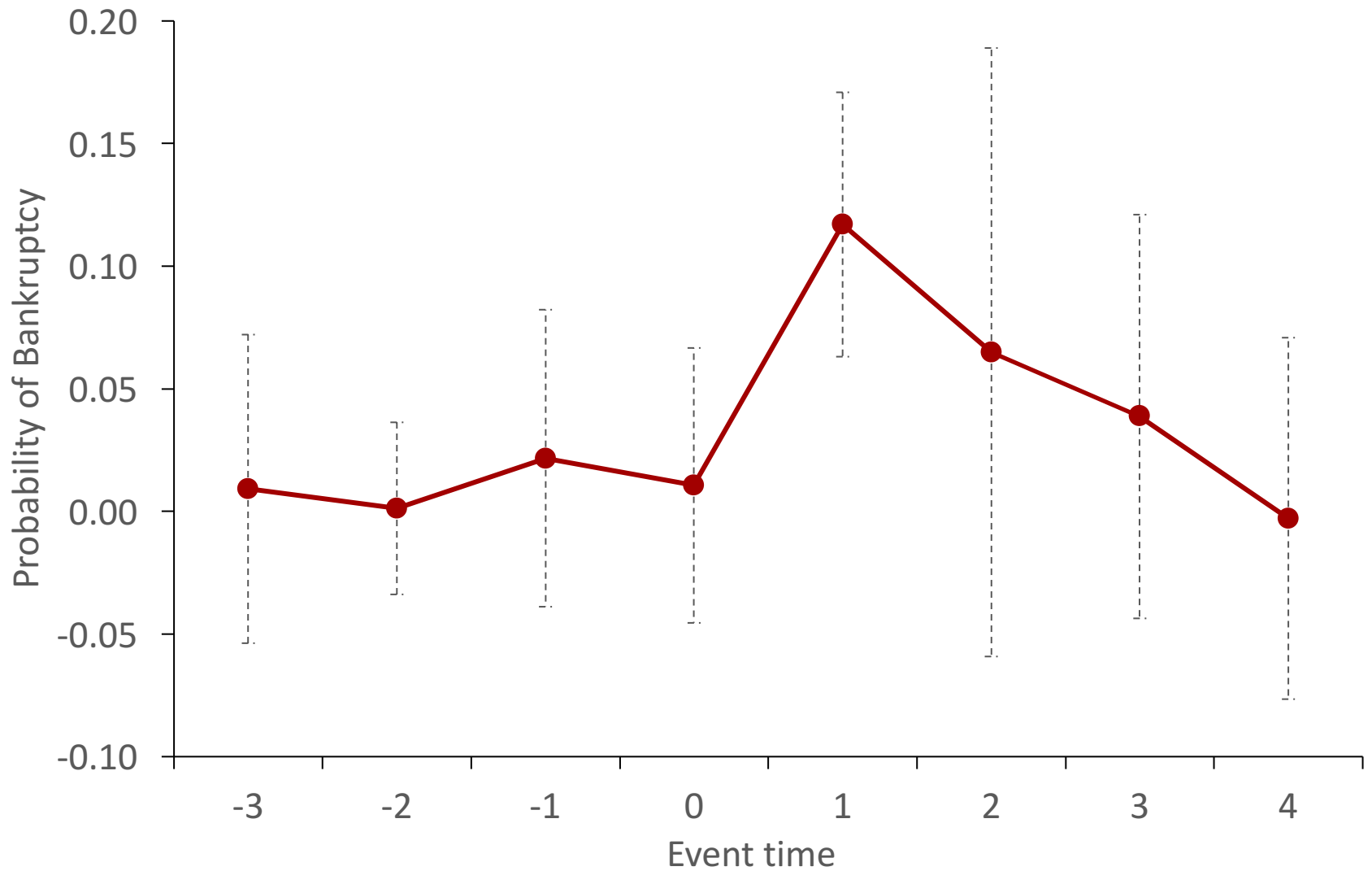
**Out-of-court settlements  $\Rightarrow$  higher financial distress**

**Economic magnitude is large**

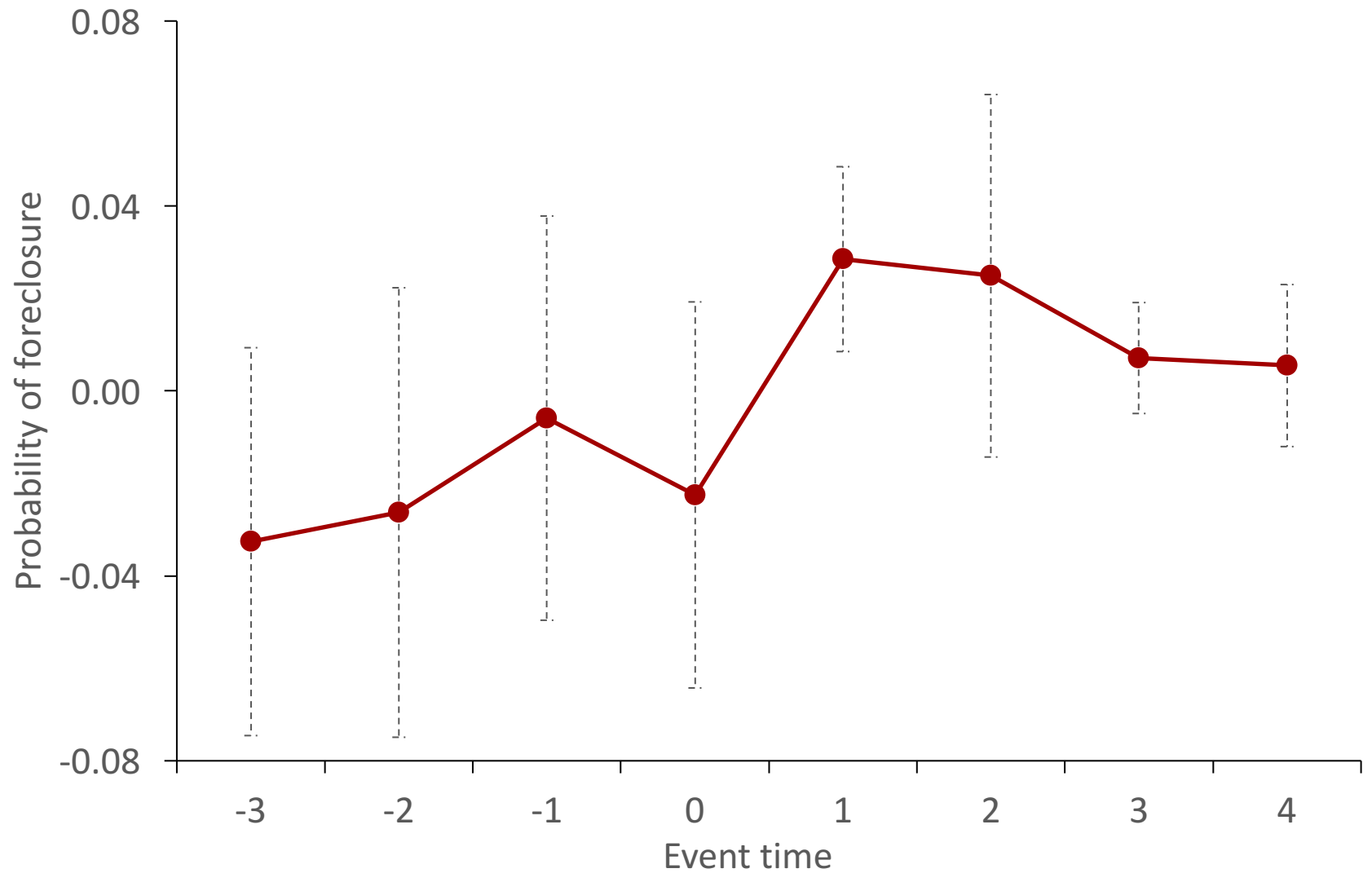
Base rates of bankruptcy and foreclosure are 7% and 3%



# Bankruptcy



# Foreclosure



# Heterogeneity of the effect

- Concentrated in the first year after disposition
- Associated with increases in mortgage balances, # of accounts
- Strongest for low credit score borrowers
- Strongest for cases when a major bank is a collector

# Conclusion

**Out-of-court settlements**  $\Rightarrow$  Higher borrower financial distress

- Consistent with borrowers over-estimating the distress cost of going through the court system

Causal effect of settlement compared to court-resolved cases:

- Higher bankruptcy rate by 13 percentage points (base rate: 7%)
- Higher foreclosure rate by 4 p.p. (base rate: 3%)

More work: Mechanisms + Timing

# Appendix slides

# Related literature

## Debt collection

- Large number of households who are “broke but not bankrupt”  
(Dawsey, Hynes, Ausubel 2013, Hynes 2008)
- Longstanding regulations governing collector behavior and debt collection industry evolution  
(Fedaseyeu 2015, Hunt 2007, Fedaseyeu and Hunt 2015, Drozd and Serrano-Radial 2017)

## Debt relief

- In-court debt relief improves earnings, mortality, financial health  
(Dobbie and Song 2016, Dobbie et al. 2017)
- Mortgage relief has implications for real economy  
(Mian, Sufi and Trebbi 2015, Noel and Ganon, 2017)

**Contribution:** Study impact of out-of-court resolution for a large number of borrowers

# Litigation

## Missouri

Fairly representative state for collection

### Ratcliffe et al. (2014), Delinquent Debt and Income by State

State	Share with past due debt	Share with debt in collections	Average debt in collections	Average household income
Missouri	5.30%	35.40%	5,805	62,196
US	5.30%	35.10%	5,178	72,254

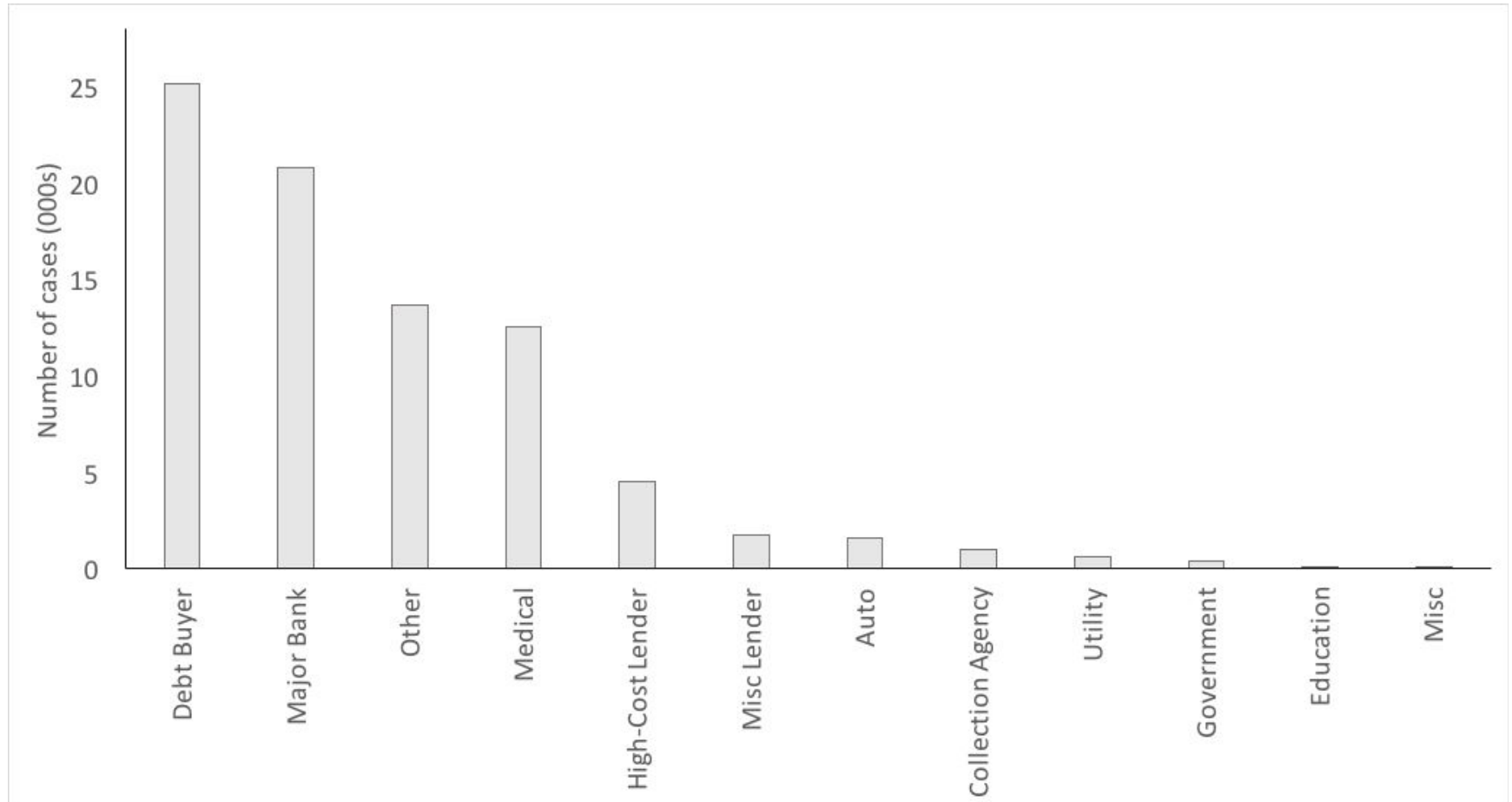
No particularly borrower- or creditor-friendly laws (e.g., Texas)

Limit wage garnishment to 10% of weekly disposable income

Non-random counties arise mostly because some counties have 1 or 2 civil judges (small counties)

# Summary statistics: by plaintiff type

Debt Buyer 30.6%, Major Banks 25.3%, Medical 14.3%





# Effect excl. in-court borrower wins

	$\beta$ OLS		$\beta$ 2SLS	
Bankruptcy	-0.02 (0.000)***	-0.05 (0.000)***	0.13 (0.001)***	0.12 (0.000)***
Foreclosure	-0.01 (0.000)***	-0.01 (0.000)***	0.04 (0.063)**	0.03 (0.049)**
Controls	No	Yes	No	Yes
N Obs.	78302	78302	78302	78302
N Clusters	43	43	43	43

# Effect excl. bankruptcy in the first 6 months

	$\beta$ OLS		$\beta$ 2SLS	
Bankruptcy	0.00 (0.988)	-0.02 (0.000)***	0.07 (0.000)***	0.06 (0.000)***
Foreclosure	-0.01 (0.000)***	-0.01 (0.000)***	0.03 (0.046)**	0.02 (0.019)**
Controls	No	Yes	No	Yes
N Obs.	80026	80026	80026	80026
N Clusters	43	43	43	43

# Financial scores

Settlement  $\Rightarrow$  lower collection balances

	$\beta$ OLS		$\beta$ 2SLS	
	53	28	50	33
Credit Score	(0.000)***	(0.000)***	(0.051)*	(0.204)
Have a Collection	-0.22 (0.000)***	-0.14 (0.000)***	-0.37 (0.000)***	-0.32 (0.000)***
Collection Balance	-2,871 (0.000)***	-2,179 (0.000)***	-7,391 (0.000)***	-6,557 (0.000)***
Have a Repossession	-0.01 (0.000)***	-0.01 (0.000)***	-0.02 (0.418)	-0.02 (0.408)
Have a Lien	0.00 (0.022)**	0.00 (0.015)**	0.00 (0.807)	0.00 (0.762)
Controls	No	Yes	No	Yes
N Obs	82218	82218	82218	82218
N Clusters	43	43	43	43

# Potential mechanisms

Settlements linked to increases in mortgage balances and # of accts

	$\beta$ OLS		$\beta$ 2SLS	
Revolving Balance	116 (0.622)	-238 (0.167)	2,617 (0.652)	2,480 (0.559)
Mortgage Balance	11,162 (0.000)***	6,141 (0.000)***	38,008 (0.005)***	19,251 (0.003)***
Non Mortgage Inquiries	-0.22 (0.000)***	-0.15 (0.000)***	-0.85 (0.177)	-0.93 (0.100)
Mortgage Inquiries	0.01 (0.000)***	0.01 (0.005)***	0.03 (0.255)	0.01 (0.571)
Number of Trade Lines	0.66 (0.000)***	0.33 (0.000)***	1.46 (0.015)**	0.81 (0.251)
Controls	No	Yes	No	Yes
N Obs	82218	82218	82218	82218
N Clusters	43	43	43	43

# Heterogeneity – Borrower credit score

Stronger effect for low credit score borrowers

		$\beta$ Credit Score	
		x High	
Distress Outcomes			
	Bankruptcy	0.13 (0.00)***	-0.09 (0.03)**
	Foreclosure	0.03 (0.01)**	-0.02 (0.45)
Other Outcomes			
	Have a Collection	-0.33 (0.00)***	0.10 (0.37)
	Collection Balance	-7,030 (0.00)***	4,343 (0.00)***
	Revolving Balance	2,283 (0.65)	-2,946 (0.70)
	Mortgage Balance	18,631 (0.00)***	-9,886 (0.38)
Controls		Yes	
N Obs. / N Clusters		82218 / 43	

# Heterogeneity – Plaintiff type

Stronger effect for bank lenders

		$\beta$ Plaintiff Type Bank vs x Debt Buyer	
Distress Outcomes			
	Bankruptcy	0.18 (0.04)***	-0.10 (0.16)
	Foreclosure	0.04 (0.35)	0.01 (0.90)
Other Outcomes			
	Credit Score	67 (0.00)***	-46 (0.01)***
	Have a Collection	-0.36 (0.02)**	0.19 (0.12)
	Collection Balance	-6,389 (0.04)**	2,812 (0.44)
	Have a Lien	-0.05 (0.02)**	0.07 (0.05)**
Controls		Yes	
N Obs./ N Cluster		45942 / 43	

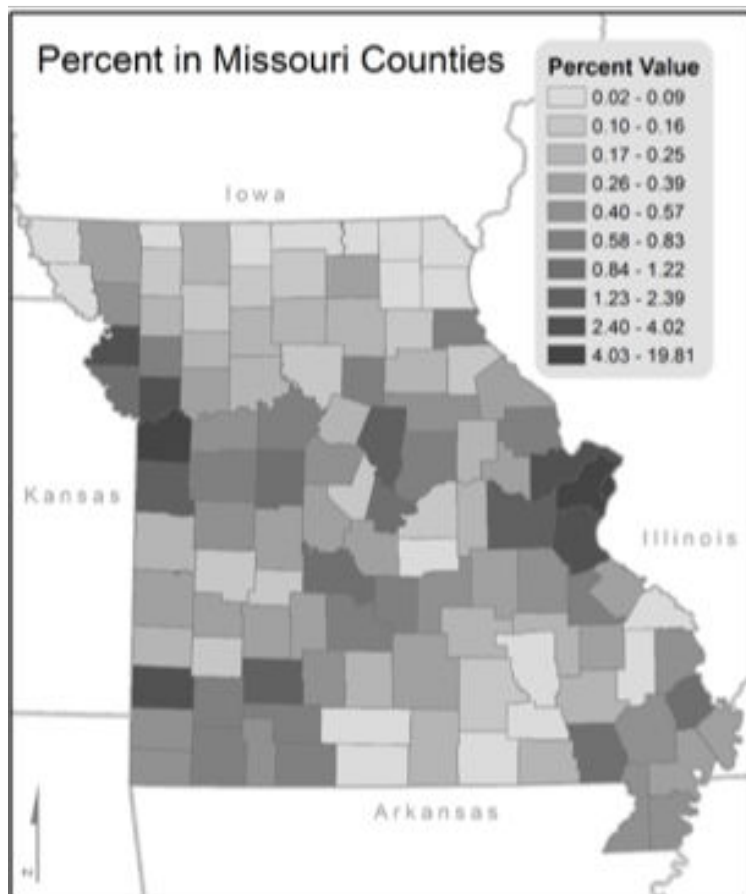
# External validity – who gets sued?

Collectors trade off fixed litigation cost vs. expected recovery amount

- Sue when borrower has large balance, valid address, assets

Action:	Litigated	Call or Letter	Keep in House	Sold
N	22,572	8,307	54,521	80,585
Fraction	14%	5%	33%	49%
At the time of allocation				
Verified borrower has a job	0.31 (0.46)	0.18 (0.38)	0.00 (0.07)	0.04 (0.20)
Verified borrower has home	0.66 (0.47)	0.79 (0.41)	0.02 (0.14)	0.27 (0.44)
Balance	6056.6 (5,562)	6842.1 (6,123)	5296.3 (5,537)	6069.6 (5,830)
Days since last activity in the account	598.8 (384)	937.0 (755)	936.1 (2,104)	672.7 (337)
Days since last payment in the account	703.6 (351)	940.7 (850)	942.5 (2,127)	679.5 (382)
Borrower age	45 (1.2)	44 (1.0)	44 (0.7)	46 (1.1)
Aggregate Recovery (%)	0.32	0.05	0.01	0.00
Filed in Court (%)	81.95			

# Counties





# Sample selection

All cases, 2007-2014	667,337
<hr/>	
Sample of counties with random judge assignment	203,298
Matched with TransUnion in January before disposition	176,769
...match rate	87.00%
Settlement propensity measure	165,697
Settlement propensity and Matched with TransUnion	143,896
<hr/>	
Require t=0 and t=1 presence + Data cleaning	142,038
With lawyer classification	135,989
Cases where borrower was served	82,218
<hr/>	
Final matched sample	82,218

# First stage regressions

Likelihood of Settlement ( St==1)

Judge Settlement Propensity	0.94 (0.035)***	0.86 (0.054)***	0.92 (0.0720)***	0.84 (0.060)***	0.89 (0.0876)***
credit score		0.001 (0.000)***		0.001 (0.000)***	
age		-0.000 (0.0017)		-0.000 (0.000)	
homeowner		0.050 (0.004)***		0.040 (0.003)***	
days to disposition		0.000 (0.000)***		0.000 (0.000)***	
prebankruptcy		0.250 (0.023)***		0.250 (0.023)***	
collection				-0.040 (0.004)***	
delinquency				0.030 (0.005)***	
foreclosure				-0.020 (0.005)***	
Control	N	Y	Y- bin	Y	Y-bin
N	82218	82218	82218	82218	82218
R <sup>2</sup>	0.051	0.144	0.156	0.148	0.159
Clusters	43	43	43	43	43
F-stat	737	198	161	110	104

Back

# Estimated dynamics

## Panel A: Bankruptcy Rates

	-4	-3	-2	-1	1	2	3	4
Settlement	0.01 (0.0321)	0.00 (0.0179)	0.02 (0.0309)	0.01 (0.0286)	0.12 (0.028)***	0.06 (0.0633)	0.04 (0.0420)	0.00 (0.0376)
N	32,413	42,073	65,467	82,218	82,218	80,525	77,604	67,348
N Clusters	33	36	41	43	43	40	39	37
F	53	46	100	159	159	149	161	136
F p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

## Panel B: Foreclosure Rates

	-4	-3	-2	-1	1	2	3	4
Settlement	-0.03 (0.0214)	-0.03 (0.0248)	-0.01 (0.0223)	-0.02 (0.0213)	0.03 (0.010)***	0.02 (0.0200)	0.01 (0.00612)	0.01 (0.00894)
N	32413	42073	65467	82218	82218	80525	77604	67348
N Clusters	33	36	41	43	43	40	39	37
F	52.5	45.6	100.3	159.4	159.4	148.8	161.0	135.9
F p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

# Settlement propensity and in-court win rate

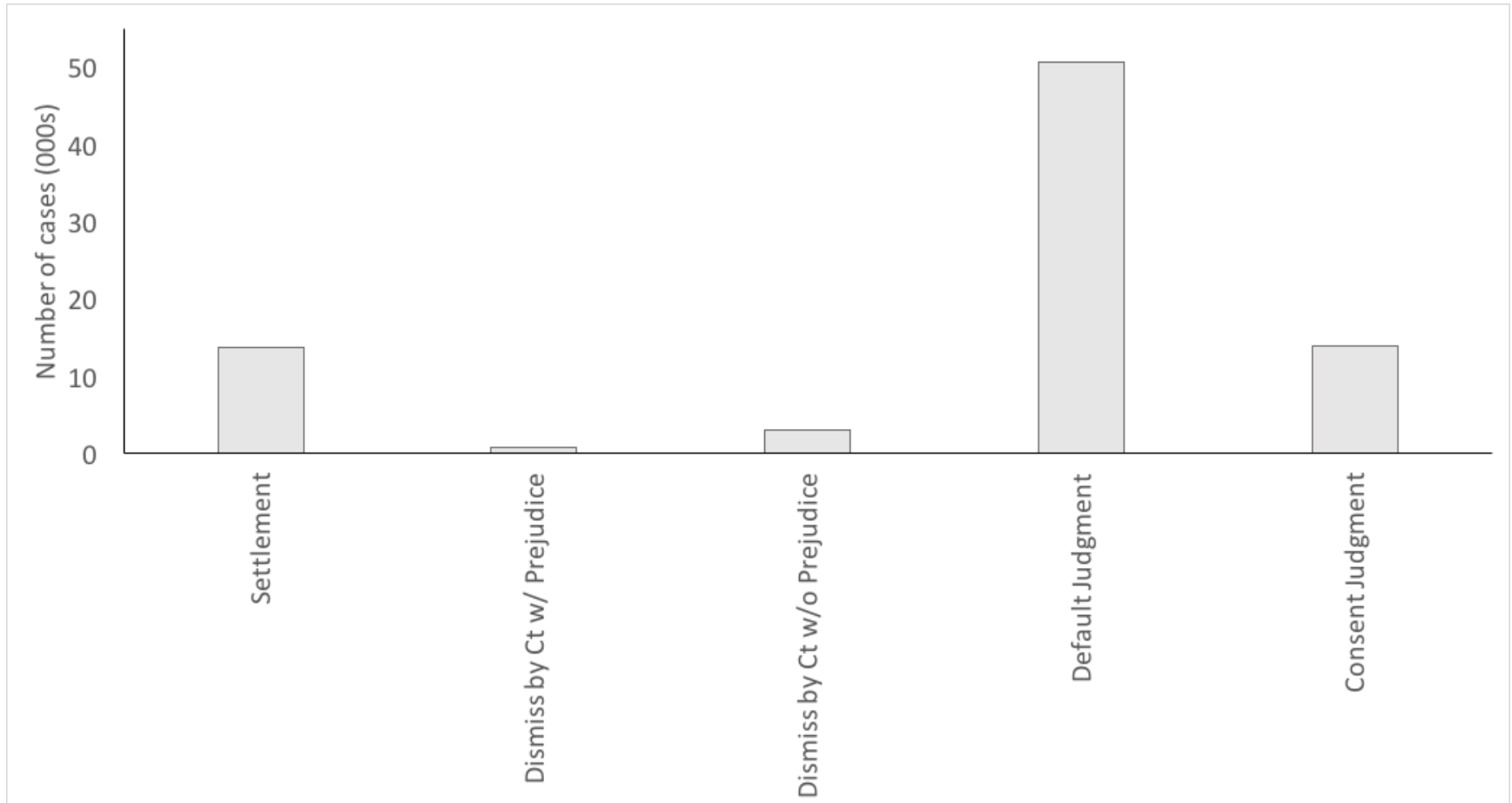
	Settlement Propensity		
	Low	High	p-value
<b>Judge Leniency to Settle</b>	<b>-0.017</b>	<b>0.031</b>	<b>(0.000)***</b>
<b>Dismissal Rate</b>			
All cases	0.07	0.04	(0.020)**
In sample all cases	0.06	0.03	(0.024)**

# Balanced observables in-court

	Settlement Propensity		
	Low	High	p-value
<b>Judge Leniency to Settle</b>	<b>-0.018</b>	<b>0.030</b>	<b>(0.000)***</b>
<b>Mechanical Outcome</b>			
Credit Score	530	531	(0.395)
Have a Collection	0.77	0.78	(0.344)
Collection Balance	7,237	7,304	(0.443)
Have a Judgement	0.11	0.12	(0.454)
Have a Repossession	8129	8152	(0.525)
Have a Lien	0.01	0.01	(0.748)
<b>Household Distress</b>			
Bankruptcy	0.05	0.04	(0.470)
Foreclosure	0.03	0.03	(0.958)
<b>Debt and others</b>			
Revolving Balance	6,719	6,836	(0.444)
Mortgage Balance	27,694	29,081	(0.077)*
Non Mortgage Inquiries	1.9	1.8	(0.860)
Mortgage Inquiries	0.1	0.1	(0.176)
Number of Trade Lines	3.2	3.1	(0.606)

# Summary statistics: by case type

Settlement are 17%, Dismiss 6%, Judgements 77%



# Judge style

What does the instrument do?

Instrument draw:

High propensity judge

Low propensity judge

What happens:

Nudged into  
bargaining game

No nudge

Expected  
borrower  
distress:

Low  $Z$  borrowers:  
Settle, incur  $Z$

Court, incur  $pX$  (\*\*\*)

High  $Z$  borrowers:  
Court, incur  $pX$

# Hypothesis

**Key hypothesis:** Borrowers accept settlement only if it is weakly preferable than going to court

- Settlement  $\Rightarrow$  Less financial distress compared with going to court

## Conceptual framework

Collector makes a take-it-or-leave-it offer  $s$  to the borrower.

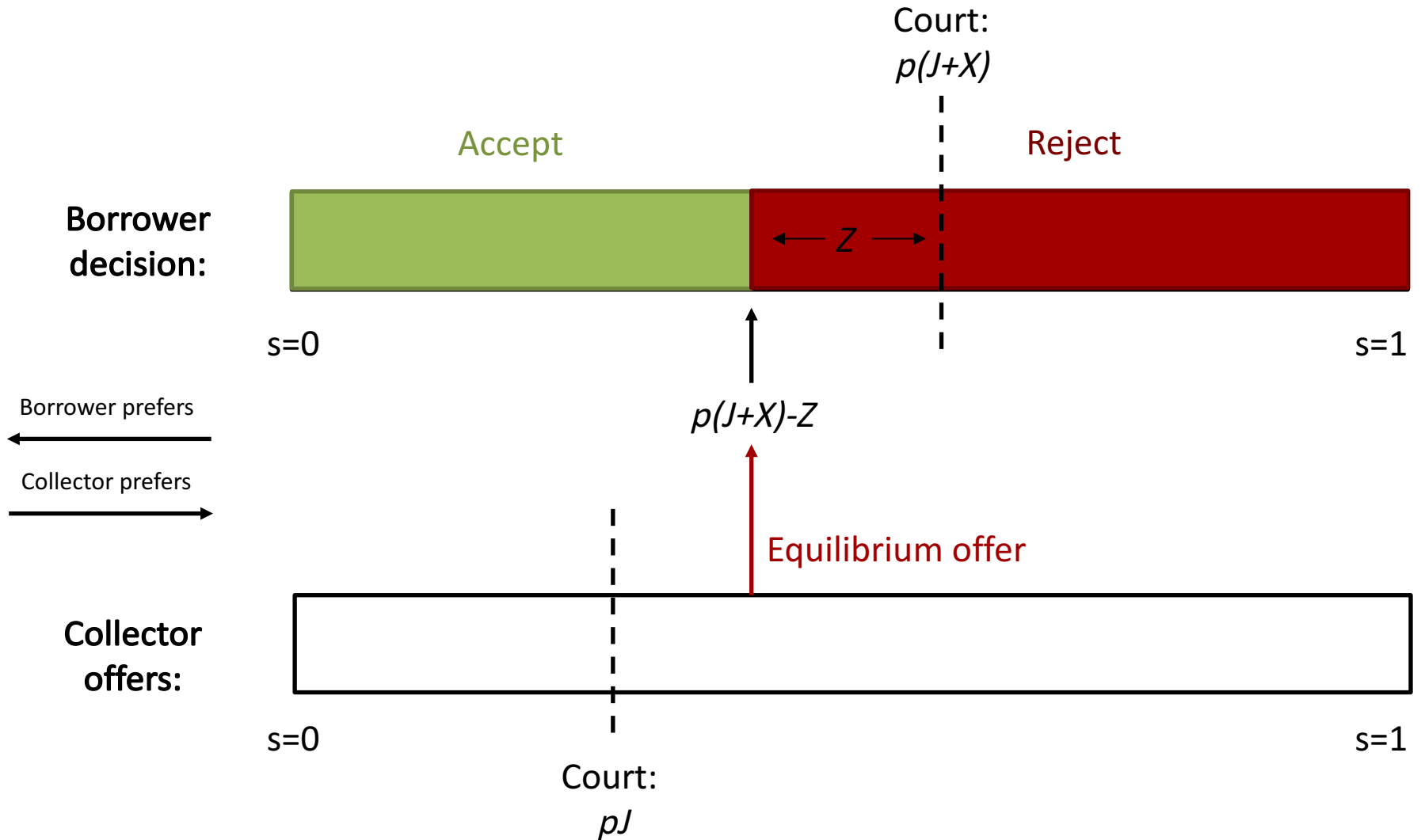
	Borrower	Creditor
Settle	$-s - Z$	$s$
Court	$-p(J + X)$	$pJ$

In court, collector wins judgment  $J$  with probability  $p$ , leads to borrower financial distress  $X$ .

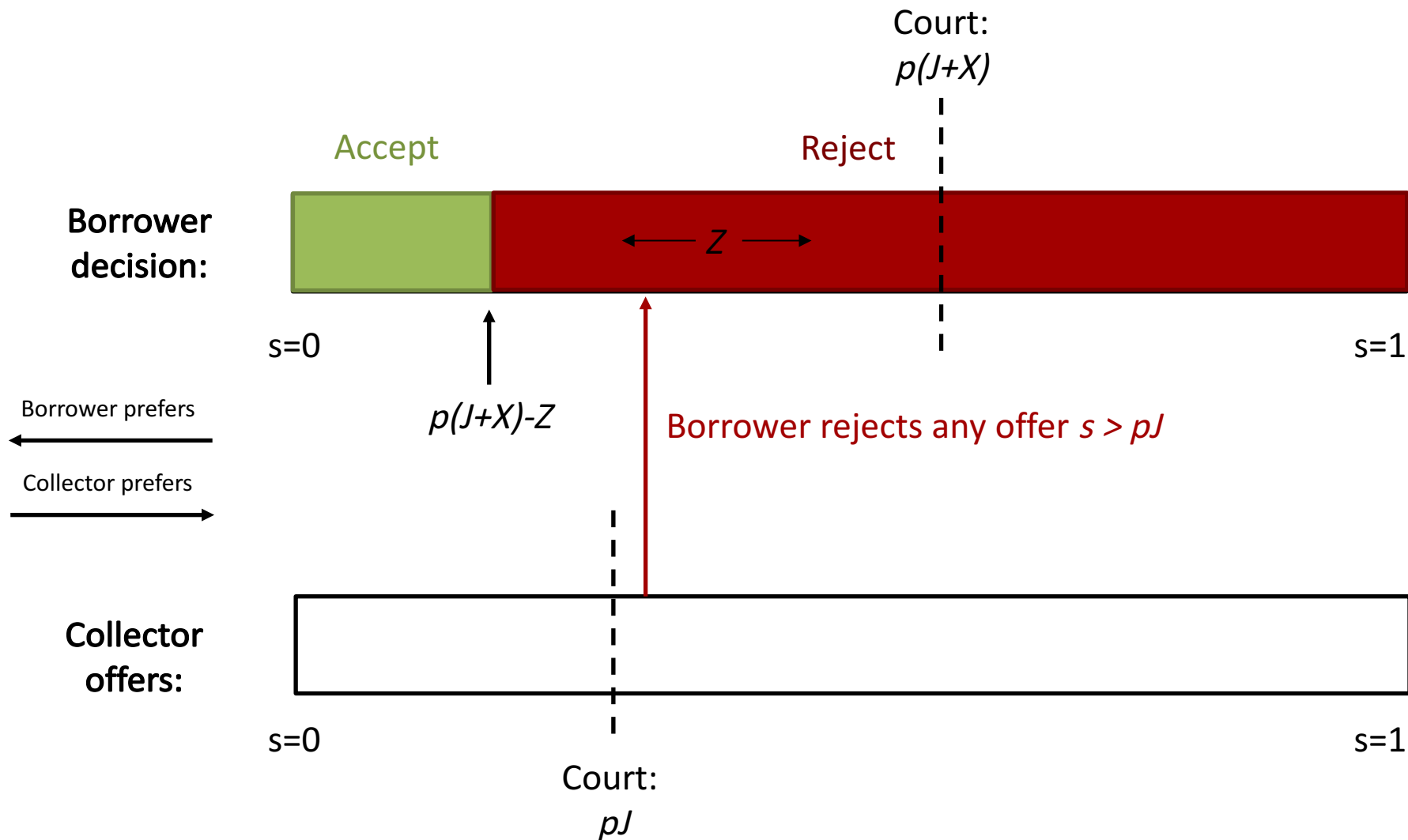
Settling leads to borrower distress  $Z$ , e.g. from a lump-sum payment that takes away from other financial needs



# No negotiation breakdown (low $Z$ )



# Negotiation breakdown (High Z)



**Key prediction: All else equal, settle only if  $Z < pX$**