Second Chance: Life without Student Debt

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Motivation

- Rising student debt is considered one of the creeping threats of our time, reaching $1.5 trillion in the first quarter of 2018 (NYFED, 2018).
- Since the Great Recession, student debt levels surpassed auto loans, credit card debt and home-equity lines of credit and currently only trail mortgage liabilities as the second largest consumer debt in the United States.
- About 11 percent of borrowers are 90 days or more delinquent on their student debts.

Motivation

- The newly appointed Chairman of the Federal Reserve even stated that

  "You do stand to see longer-term negative effects on people who can't pay off their student loans. It hurts their credit rating, it impacts the entire half of their economic life, As this goes on and as student loans continue to grow and become larger and larger, then it absolutely could hold back growth."

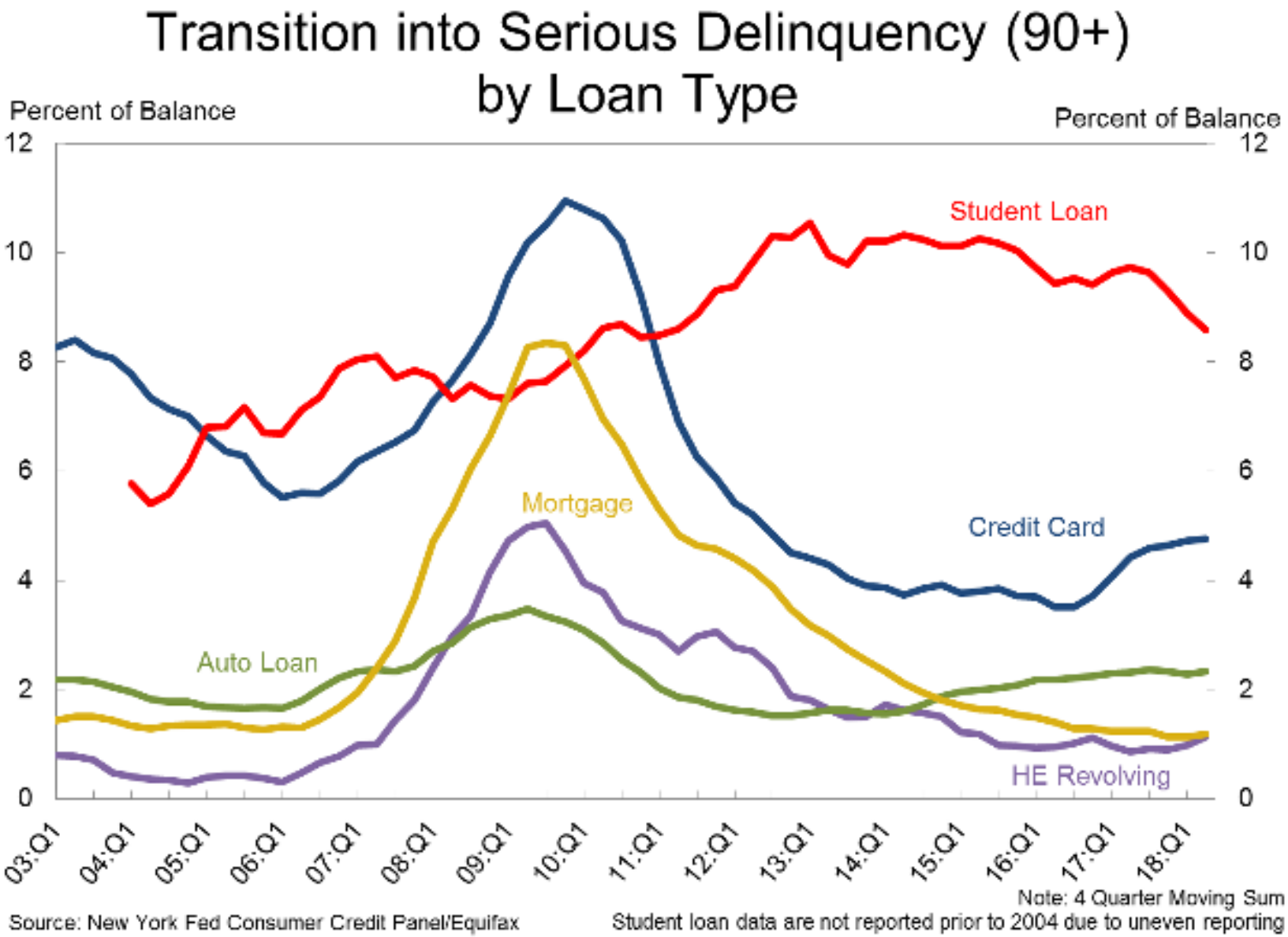
Motivation

- Student loans are basically split into federal loans and private student loans.
- The federal loans are subdivided into subsidized (the government pays the interest while the student is studying at least half-time) and unsubsidized. Federal student loans are subsidized at the undergraduate level only.
- The rate is fixed and set by Congress.
- In almost all cases, these student loans have better conditions sometimes much better than the heavily advertised and expensive private student loans.
- An unusual provision in the law prohibits student loans from being discharged through bankruptcy

Motivation

- Federal student loans are directly funded by the government and offer numerous consumer protections such as income-based repayment options that help borrowers in need.
- However, many people with private student loans, like those who took on subprime mortgages, end up shouldering debt that they never earn enough to repay.

Student Debt Delinquencies on the Rise



Motivation

- Federal student loan debt currently has the highest 90+ day delinquency rate of all household debt.
- More than 1 in 10 borrowers is at least 90 days delinquent, while mortgages and auto-loans have a 1.1 percent and 4 percent delinquency rate, respectively, according to Bloomberg Global Data.
- While mortgages and auto-loans have seen an overall decrease in delinquencies since 2010, student loan delinquency rates remain within a percentage point of their all-time high in 2012.
- Delinquency is at crisis levels for borrowers, particularly for borrowers of color, borrowers who have gone to a for-profit and borrowers who didnt ultimately obtain a degree.

Motivation

- Federal student loans are directly funded by the government and contain numerous consumer protections such as income-based repayment options that help borrowers in need.
- However, many people with private student loans, like those who took on subprime mortgages, end up shouldering debt that they never earn enough to repay.
- To evaluate policy interventions in this market, it would be important to understand to which extent this is actually happening.

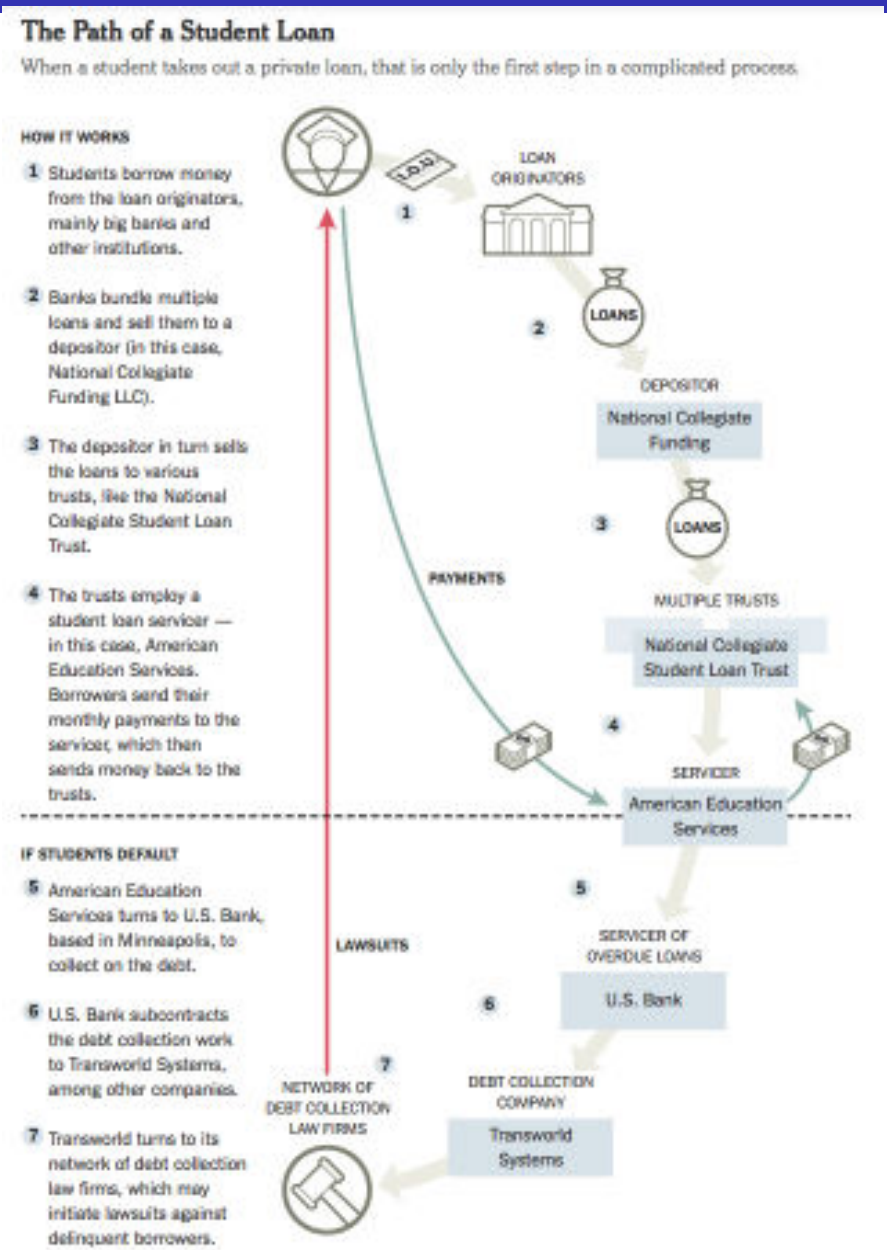
Motivation

- Higher student loans might lead to debt overhang problems:
  - Higher indebtedness
  - Higher delinquencies across accounts
  - Lower social mobility
  - It might decrease income growth
- The empirical challenge in examining such effects is to find plausibly exogenous variation in the borrowers' exposure to student debt and collect detailed information about the borrowers' decisions over time.

Source of Variation

- We exploit a plausibly exogenous debt relief shock experienced by thousands of borrowers due to the inability of the creditor to prove chain of title.
- The largest holder of private student loan debt, National Collegiate with 800,000 private student loans totaling $12 billion, and its collector agency, Transworld Systems, lost a series of collection lawsuits against the borrowers they were collecting from.
- National Collegiate bought the student loans from a series of banks and other financial institutions, but judges throughout the country have tossed out lawsuits by National Collegiate, ruling that it failed to prove it owned the debt on which it was trying to collect.
- We hand-collected a unique dataset with information about these lawsuits and then matched this information to credit bureau data in order to obtain a rich set of outcome variables for these borrowers.

Student Debt Wiped Out



Court Ruling

- In one frequently cited ruling, Lovett v. National Collegiate Student Loan Trust, a Florida appeals court held that the creditor, a securitized investment trust, had not submitted sufficient evidence to prove that it owned the note on a loan originated by Bank One in Chicago.
- The court overturned a summary judgment and returned the case to a lower court. At that point, the creditor withdrew the case.

Results Preview

- We find that the borrowers experiencing the debt relief shock are significantly more likely to engage in deleveraging, by both reducing their demand for credit and limiting the use of the existing account;
- They are also significantly less likely to default on other accounts.
- Finally, we provide evidence that these borrowers' geographical mobility increases, as well as, their probability to change job and ultimately their income.
- These findings speak to the potential spillover effects across borrowers' liabilities and to an indirect benefit of intervening in the student loan market by helping borrowers unable to afford their student loan debts.

Related Literature

- Student debt and human capital: Fos, Liberman and Yannelis (2018) document a negative relationship between the level of undergraduate student debt and graduate school enrollment.
- Student Debt and Earnings: Scott-Clayton and Zafar (2016) positive correlation between merit-based aid and future earnings.
- Student Debt and Mobility: Bleemer, Brown, Lee and van der Klaauw (2017) show that in regions where many students are exposed to college costs, increased tuition is associated with more co-residence with parents and less living with room- mates.
- Student loans and housing market: Amromin, Eberly and Mondragon (2018) estimate that for every lost dollar of home equity credit that would have been used to finance college enrollment, households increase student loan debt by forty to sixty cents.

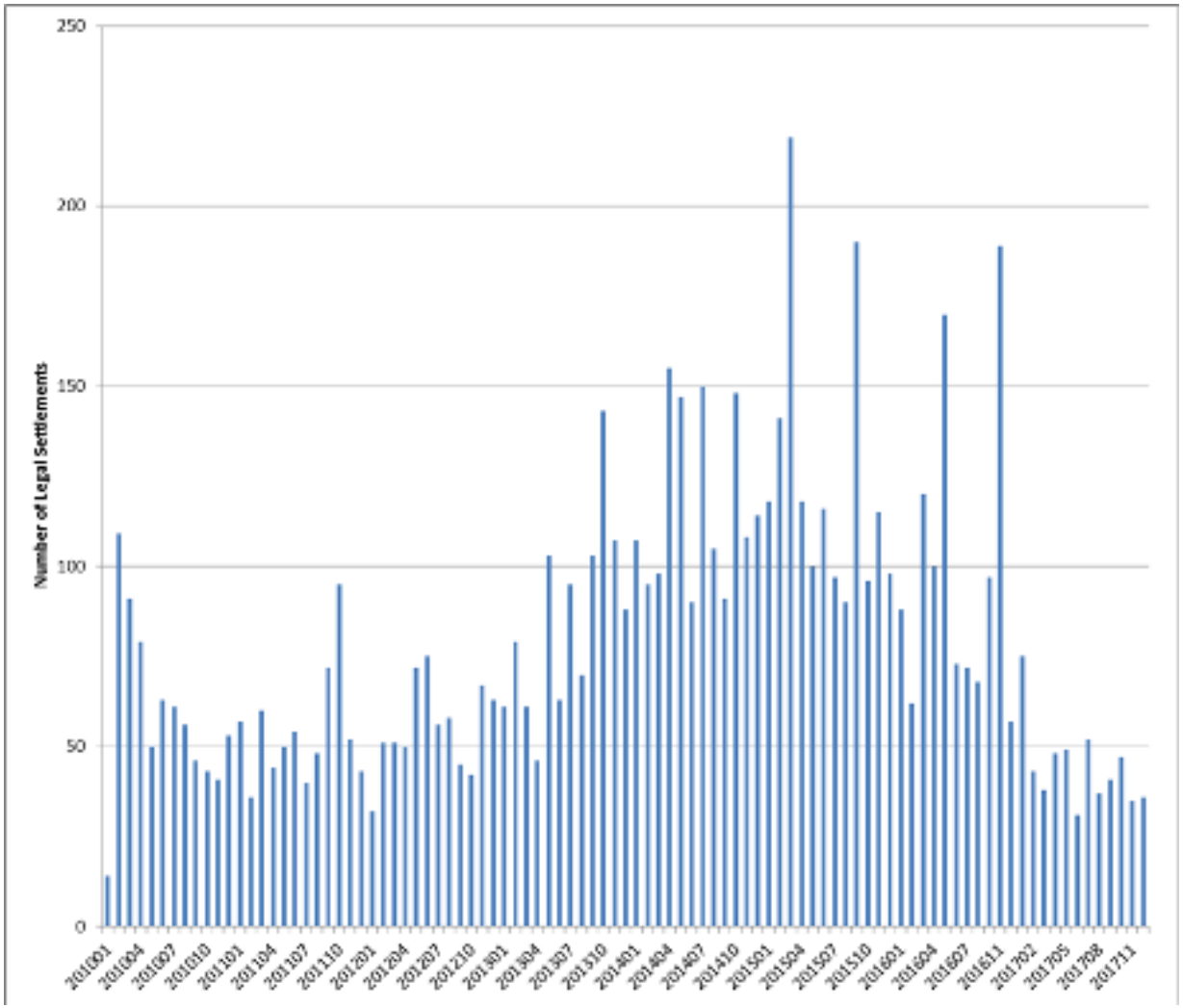
The Data: Court Filings

- We hand-collected information about all collection lawsuits initiated by National Collegiate or its collection agency, Transworld Systems.
- Lawsuits against borrowers who have fallen behind on their consumer loans are typically led in state or local courts. This means that there is no national tally.
- This required us to go through all lings related to the trusts and then select the ones related to the collection of student loan debt county by county.
- We gather information about the identity of the defendants, the court in which the case was led, the date of filing and adjudication.
- The data covers all civil courts in the US starting in 2010. This resulted in a sample of about twenty thousand borrowers that were sued because defaulted on their student loans.

The Data: Equifax

- Credit Bureau Data: covers 260 million borrowers and over 1.8 billion single loans, and is updated monthly.
- Data on households balance sheets: monthly payment history of all the loans that a borrower has, information about the main features of these individual loans, such as date opened, account type, credit limits, monthly scheduled payment (for installments only), balance, and performance history.
- Our proprietary version is unique in many respects:
- To carry our analysis we need to match the credit reports with the court filings: we observe the borrowers' identities.
- For a significant sample of borrowers, we observe their employer as well as the industry they work in and their main occupation.

Distribution of Borrowers



Calculated by authors based on the sample used in the paper.

Summary Statistics

Panel A: Statistics of the Sample

Variable	Mean	St. Dev.	Min	Median	Max
Number of Accounts	6.599	4.704	0	5	25
Total Debt ($)	25,690.01	39,779.00	0	12,652	293,080
Total Debt (Ex Student Loans, $)	16,300.29	130,076.15	0	7,930	293,080
Number of Accounts (Ex Student Loans)	2.901	3.284	0	2	25
Credit Card Accounts	2.116	2.589	0	1	13
Auto Accounts	0.538	0.757	0	0	3
Mortgage Accounts	0.115	0.421	0	0	3
Credit Card Balance ($)	1,132.53	2,431.23	0	0	18,017
Auto Balance ($)	3,943.34	7,021.75	0	0	31,877
Mortgage Balance ($)	4,422.04	22,359.52	0	0	175,443
Credit Card Utilization	0.341	0.338	0	0.258	1
Auto Loan Origination Amount ($)	20,629.78	12,724.36	550	17,339	77,868
Mortgage Origination Amount ($)	214,839.02	186,797.58	22,900	154,777	507,750
All Delinquent Accounts (Ex Student Loans)	1.302	1.864	0	1	17
Total Past-Due Amount (Ex Student Loans, $)	2,213.92	4,891.69	0	907	54,455
Mobility (1/0)	0.035	0.183	0	0	1
Income ($)	2,376.71	1,636.62	830.21	2,531.19	9,588.85
Credit Score	535.25	74.44	300	530	836

Summary Statistics

Panel A: Statistics of the Sample

Variable	Mean	St. Dev.	Min	Median	Max

Panel B: Different Population and Samples

	All Borrowers (1% CCP)	All Student Loan Population	Delinquent Student Loan Population	Sample Treated Individuals
Number of Accounts	11.23	11.26	8.90	9.29
Total Debt ($)	22,271.52	36,105.21	40,634.51	49,943.09
Credit Card Accounts	11.84	11.28	4.61	2.96
Auto Accounts	0.95	1.09	0.78	0.63
Mortgage Accounts	0.80	0.71	0.23	0.19
Credit Card Balance ($)	51.78	134.70	269.37	1829.39
Auto Balance($)	16,954.98	16,595.81	14,353.55	4,464.43
Mortgage Balance ($)	186,211.67	194,967.58	134,257.00	6,469.94
Credit Card Utilization	0.43	0.64	0.98	0.37
Delinquent Accounts	0.44	0.83	3.44	5.15
Total Past-Due Amount ($)	1,471.48	2,580.82	14,847.59	6,028.63
Age	49.32	37.79	39.52	34.75
Observations	179,877,691	44,427,421	1,781,741	438,117

Empirical Methodology

- The individuals involved in the failed collection lawsuits constitute our treatment group and we can compare their outcomes before and after the debt discharge.
- Since this is likely to be a population of severely-constrained borrowers, we do not want to compare their behavior with borrowers that were current on their debts.
- Instead, we want to exploit the cross sectional variation provided by the fact that only the National Collegiate trust was the subject of these failed collection attempts.
- Then, other borrowers that were similarly in default constitute a natural control group.

Empirical Methodology

- Specifically, we build our control group by gathering information about other individuals who lived in the same ZIP Code with same age, carrying similar student loan amounts, and crucially, who defaulted on their student loans as well.
- In other words, our control group is other borrowers exposed to the same local economic conditions, with the same demographic characteristics, that also defaulted on their debts, but whose lender was not National Collegiate, which resulted in their debt not being charged off.

Empirical Methodology

- Formally, the main specification is the following:

$$Outcome_{i,j,t} = \alpha + \beta \times (Treated_i \times Post_t) + \mu_i + \gamma_{i \times t} + \varepsilon_{i,j,t} \quad (1)$$

- We include individual and ZIP Code by month fixed effects.
- The Post dummy is purposely capturing several months after the discharge because for some of our outcomes we would expect a lagged reaction.
- We cluster the standard errors at the ZIP Code month level.

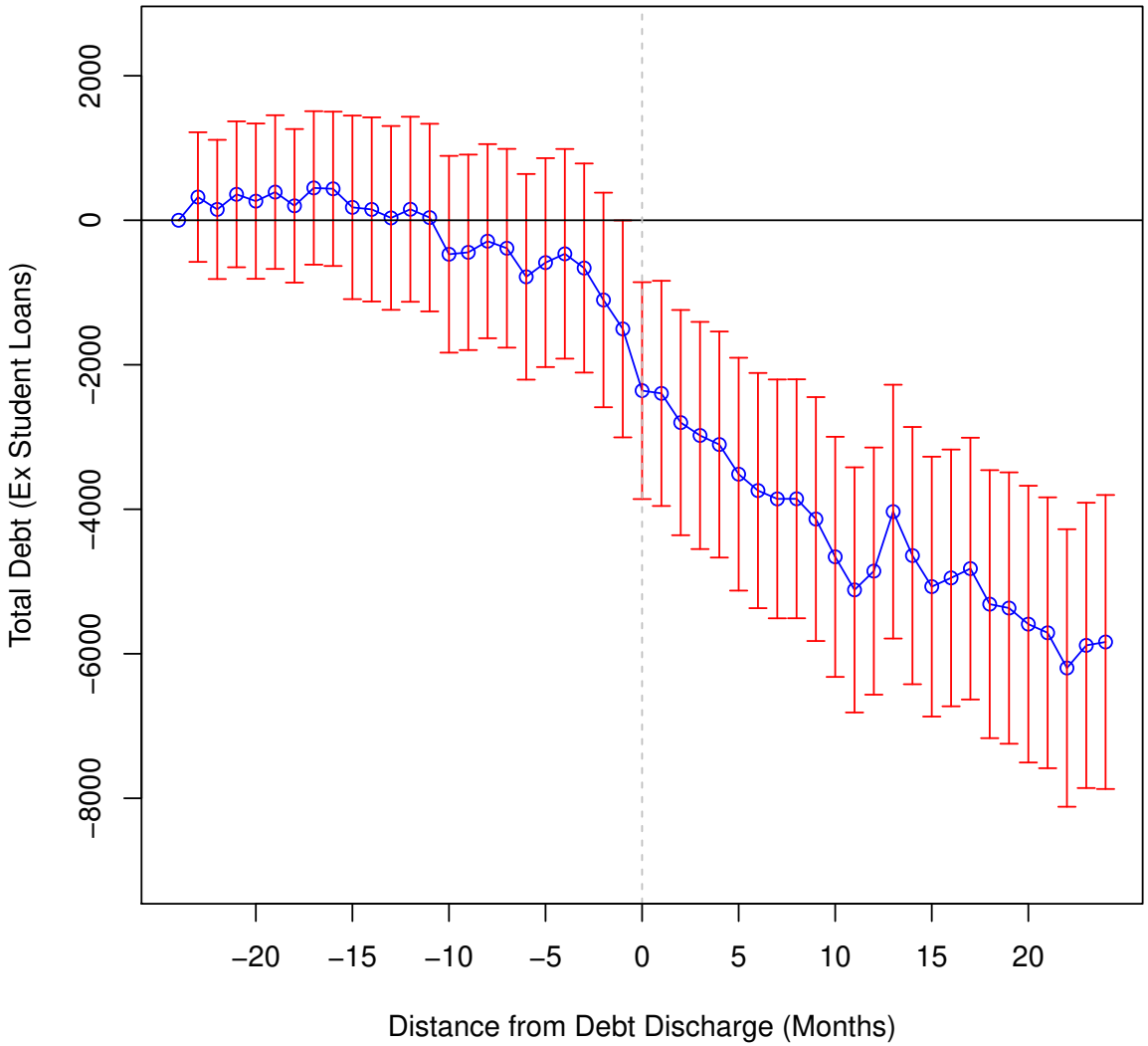
Empirical Methodology

- Finally, in a series of robustness checks, we also restrict attention to the treatment group and take advantage of the fact that the lawsuits were adjudicated at different points in times over a long time period.
- That is, we compare defaulted borrowers whose debt was discharged with other borrowers that defaulted on the same debt with the same lender, but whose lawsuit was not adjudicated yet.
- Although we have significantly less power, we are able to confirm our main findings in this far more restrictive sample.

Total Debt

Dependent Var	No of Accounts	No of Accounts (Ex. Stud)	Total Debt	Total Debt (Ex. Stud)	No of Accounts (Ex. Stud)	No of Accounts	Total Debt	Total Debt (Ex. Stud)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DebtRelief × *Post*	-0.79***	-0.39***	-4,506.6***	-4,017.7***	-0.64***	-0.32***	-3,494.9***	-3,041.5***
	(0.04)	(0.02)	(346.17)	(598.43)	(0.05)	(0.03)	(387.73)	(636.31)
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	No	No	No	No
ZIP × Month FE	No	No	No	No	Yes	Yes	Yes	Yes
Observations	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381
R^2	0.82	0.85	0.8	0.15	0.86	0.88	0.84	0.21

Total Debt: Dynamics



Total Debt: Extensive Margin

Panel A: Extensive Margin

Dependent Var	Credit Card Accounts	Auto Accounts	Mortgage Accounts	Credit Card Accounts	Auto Accounts	Mortgage Accounts
	(1)	(2)	(3)	(4)	(5)	(6)
DebtRelief × *Post*	-0.35***	-0.03***	-0.03***	-0.30***	-0.02***	-0.02***
	(0.02)	(0.01)	(0.00)	(0.02)	(0.01)	(0.00)
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	No	No	No
ZIP × Month FE	No	No	No	Yes	Yes	Yes
Observations	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381
R^2	0.83	0.76	0.85	0.86	0.81	0.89

Total Debt: Intensive Margin

Panel B: Intensive Margin

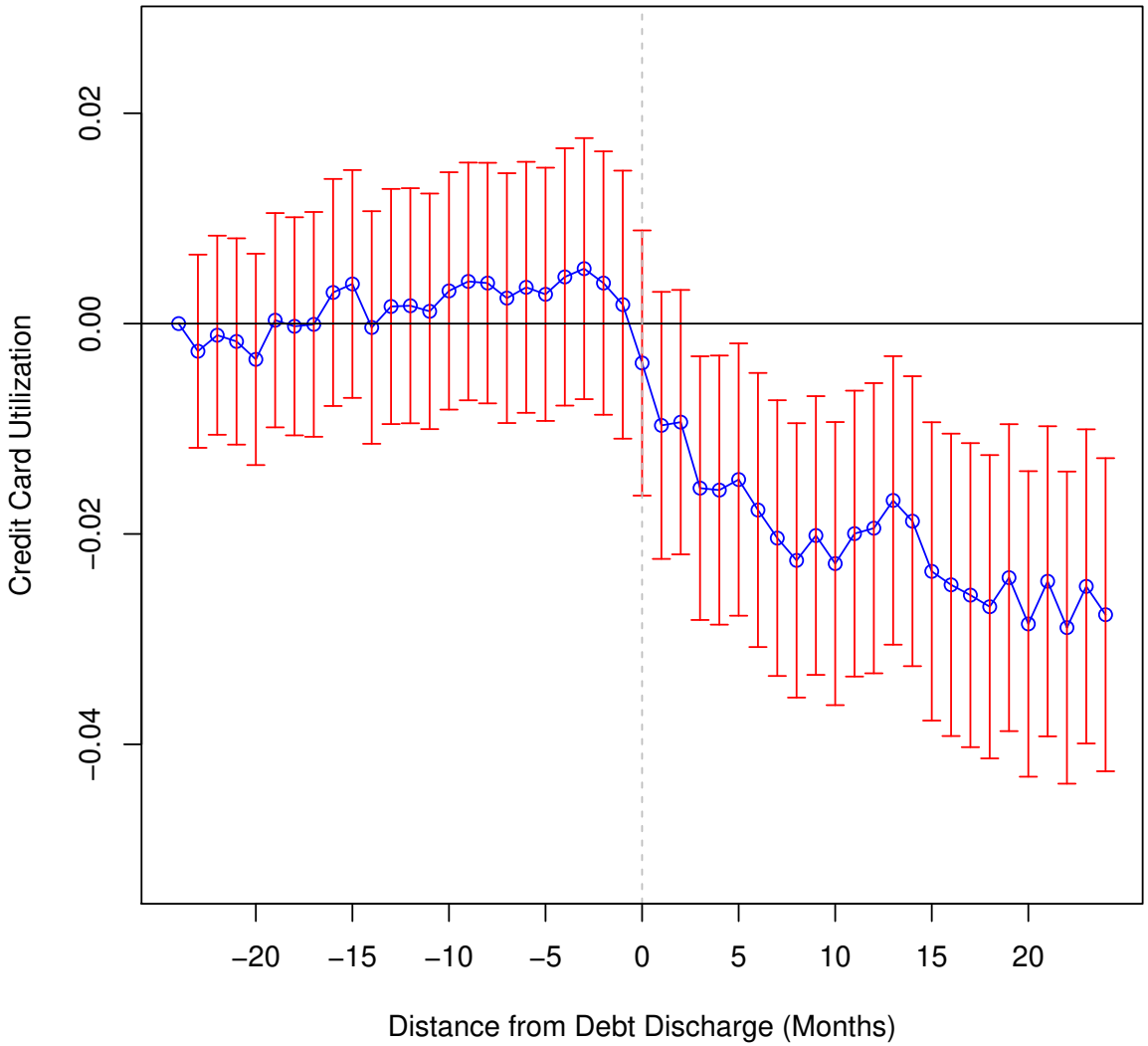
Dependent Var	Credit Card Balance	Auto Balance	Mortgage Balance	Credit Card Balance	Auto Balance	Mortgage Balance
	(1)	(2)	(3)	(4)	(5)	(6)
DebtRelief × *Post*	-386.51***	-276.66***	-982.05***	-345.92***	-170.42**	-590.72***
	(27.60)	(66.47)	(154.83)	(32.53)	(79.07)	(176.15)
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	No	No	No
ZIP × Month FE	No	No	No	Yes	Yes	Yes
Observations	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381
R^2	0.68	0.59	0.79	0.74	0.67	0.84

How to reduce debt: Credit Cards

Panel A: Credit Cards

Dependent Var	Account Opening	Utilization	Payment	Account Opening	Utilization	Payment
	(1)	(2)	(3)	(4)	(5)	(6)
DebtRelief × *Post*	-0.003***	-0.022***	16.66***	-0.002**	-0.012**	12.24***
	(0.001)	(0.004)	(1.42)	(0.001)	(0.005)	(1.64)
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	No	No	No
ZIP × Month FE	No	No	No	Yes	Yes	Yes
Observations	6,010,381	6,010,381	1,299,622	6,010,381	6,010,381	1,299,622
R^2	0.095	0.607	0.58	0.245	0.707	0.73

How to reduce debt: Credit Utilization



How to reduce debt: Auto Loans

Panel B: Auto Loans

Dependent Var	Account Opening	Origination Amount	Payment	Account Opening	Origination Amount	Payment
	(1)	(2)	(3)	(4)	(5)	(6)
DebtRelief × *Post*	0.001	-766.25***	11.96***	0.0003	-512.78**	9.88*
	(0.00)	(183.09)	(3.11)	(0.00)	(259.46)	(5.74)
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	No	No	No
ZIP × Month FE	No	No	No	Yes	Yes	Yes
Observations	6,010,381	2,042,908	1,291,613	6,010,381	2,042,908	1,291,613
R^2	0.08	0.73	0.75	0.23	0.82	0.84

How to reduce debt: Home Loans

Panel C: Home Loans

Dependent Var	Account Opening	Origination Amount	Payment	Account Opening	Origination Amount	Payment
	(1)	(2)	(3)	(4)	(5)	(6)
DebtRelief × *Post*	0.0001	-9,573.86***	22.79***	-0.0004	-7,596.39**	45.84**
	(0.0003)	(3,270.92)	(9.55)	(0.0004)	(3,707.90)	(22.73)
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	No	No	No
ZIP × Month FE	No	No	No	Yes	Yes	Yes
Observations	6,010,381	2,042,908	1,291,613	6,010,381	2,042,908	1,291,613
R^2	0.16	0.89	0.73	0.36	0.95	0.89

Credit Demand

Dependent Var	Total Inquiries	Multi–Inquiry Indicator	Total Inquiries	Multi–Inquiry Indicator
	(1)	(2)	(3)	(4)
DebtRelief × *Post*	-0.23***	-0.02***	-0.23***	-0.02***
	(0.050)	(0.004)	(0.050)	(0.004)
Individual FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	No	No
County × Month FE	No	No	Yes	Yes
Observations	6,010,381	6,010,381	6,010,381	6,010,381
R^2	0.58	0.51	0.66	0.57

Delinquency Extensive Margin

Panel A: Extensive Margin

Dependent Var	All DLQ Accounts (Ex. Stud)	Credit Card DLQ Accounts	Auto DLQ Accounts	Mortgage DLQ Accounts	All DLQ Accounts (Ex. Stud)	Credit Card DLQ Accounts	Auto DLQ Accounts	Mortgage DLQ Accounts
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DebtRelief × *Post*	-0.12***	-0.11***	-0.001	-0.01**	-0.12***	-0.11***	0.001	-0.01**
	(0.021)	(0.020)	(0.004)	(0.003)	(0.021)	(0.019)	(0.004)	(0.004)
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	No	No	No	No
County × Month FE	No	No	No	No	Yes	Yes	Yes	Yes
Observations	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381
R^2	0.73	0.72	0.69	0.76	0.78	0.77	0.74	0.8

Mobility

Panel A: Mobility

Dependent Var	Mobility (State)			
	(1)	(2)	(3)	(4)
DebtRelief × *Post*	0.004*	0.004**	0.001	0.001
	(0.002)	(0.002)	(0.001)	(0.001)
Sub-Sample	Defaulted only on Student Loans		Defaulted on Multiple Loans	
Individual FE	Yes	Yes	Yes	Yes
Month FE	Yes	No	Yes	No
County x Month FE	No	Yes	No	Yes
Observations	2,372,038	2,372,038	3,565,125	3,565,125
R^2	0.52	0.72	0.47	0.66

Panel B: Job Mobility

Dependent Var	Job Mobility			
	(1)	(2)	(3)	(4)
DebtRelief × *Post*	0.01***	0.008**	0.001	0.002
	(0.003)	(0.003)	(0.002)	(0.002)
Sub-Sample	Defaulted only on Student Loans		Defaulted on Multiple Loans	
Individual FE	Yes	Yes	Yes	Yes
Month FE	Yes	No	Yes	No
County x Month FE	No	Yes	No	Yes

Mobility

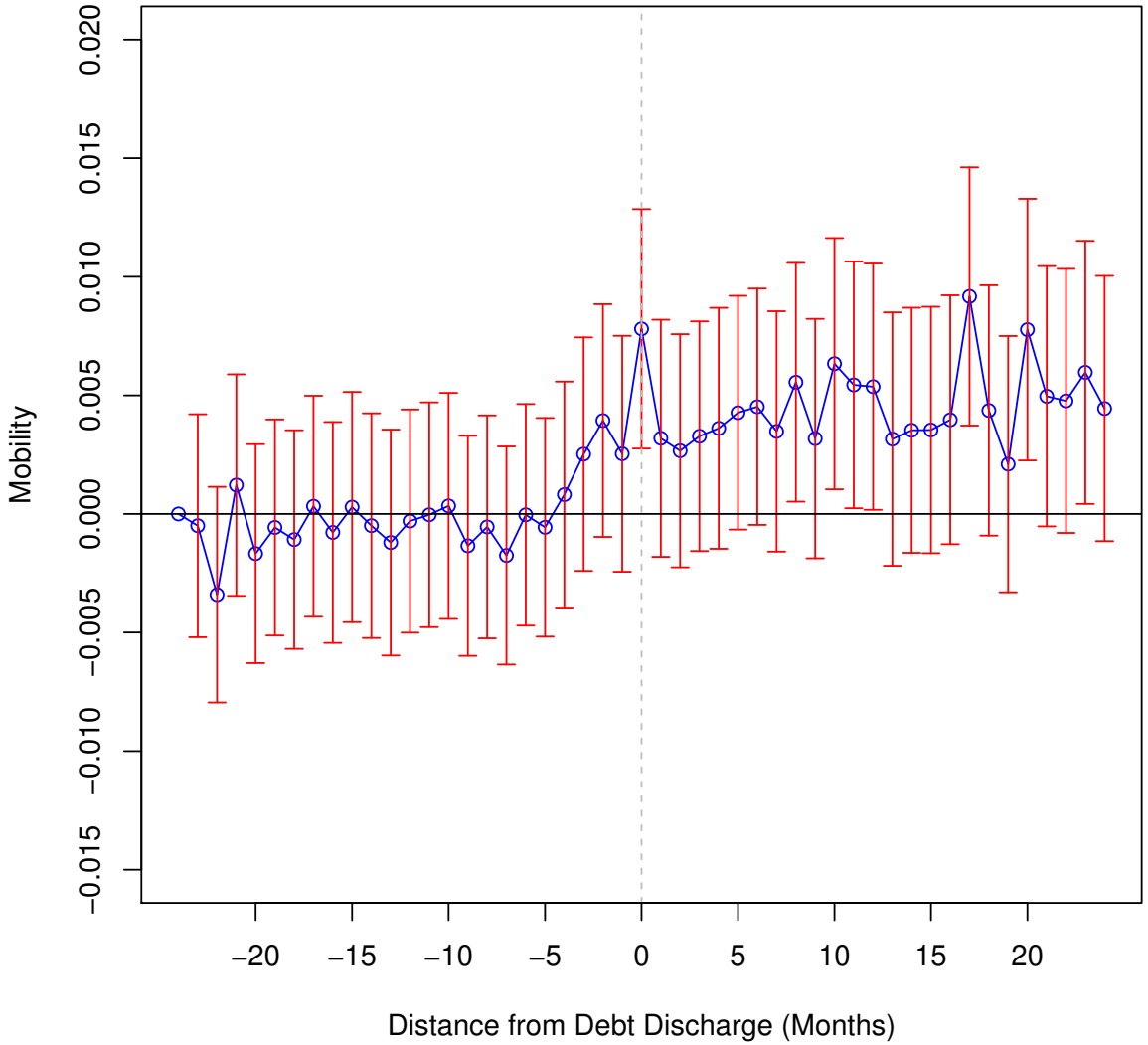
Panel C: Moving to New Industry

Dependent Var	Moving to New Industry			
	(1)	(2)	(3)	(4)
DebtRelief × *Post*	0.01***	0.007**	-0.001	0.001
	(0.003)	(0.003)	(0.002)	(0.002)
Sub-Sample	Defaulted only on Student Loans		Defaulted on Multiple Loans	
Individual FE	Yes	Yes	Yes	Yes
Month FE	Yes	No	Yes	No
County x Month FE	No	Yes	No	Yes
Observations	356,893	356,893	594,411	594,411
R^2	0.13	0.52	0.12	0.47

Panel D: Moving to Higher Paying Industry

Dependent Var	Moving to Higher Paying Industry			
	(1)	(2)	(3)	(4)
DebtRelief × *Post*	0.02***	0.017**	-0.001	-0.004
	(0.006)	(0.008)	(0.004)	(0.005)
Sub-Sample	Defaulted only on Student Loans		Defaulted on Multiple Loans	
Individual FE	Yes	Yes	Yes	Yes
Month FE	Yes	No	Yes	No
County x Month FE	No	Yes	No	Yes

Mobility: Dynamics



Income

Dependent Var	Income ($)	% Change in Income	Income ($)	% Change in Income
	(1)	(2)	(3)	(4)
DebtRelief × *Post*	90.62**	111.82***	34.93	54.18
	(43.44)	(44.75)	(33.88)	(42.73)
Sub-Sample	Defaulted only on Student Loans		Defaulted on Multiple Loans	
Individual FE	Yes	Yes	Yes	Yes
Month FE	Yes	No	Yes	No
County x Month FE	No	Yes	No	Yes
Observations	158,492	158,492	300,459	300,459
R^2	0.15	0.43	0.12	0.32

Heterogeneity: Age

Panel A: Heterogeneity by Age

Dependent Var	Total Debt (Ex, Stud)	Mortgage Balance	Credit Card Utilization	DLQ Indicator (Ex. Stud)	Mobility
	(1)	(2)	(3)	(4)	(5)
DebtRelief × *Above* × *Post*	-5,328.98***	-766.68**	-0.001	-0.13***	0.002*
	(1424.53)	(310.57)	(0.01)	(0.04)	(0.001)
DebtRelief × *Post*	-1,315.82*	-152.26	-0.02***	0.004	0.001
	(765.22)	(156.31)	(0.007)	(0.026)	(0.001)
Above × *Post*	-3,292.94***	-970.66***	-0.004**	-0.18***	-0.003***
	(368.38)	(81.19)	(0.00)	(0.01)	(0.000)
Individual FE	Yes	Yes	Yes	Yes	Yes
County × Month FE	Yes	Yes	Yes	Yes	Yes
Observations	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381
R^2	0.2	0.83	0.7	0.77	0.53

Heterogeneity: Total Debt

Panel B: Heterogeneity by Total Debt (Excluding Student Loans)

Dependent Var	Total Debt (Ex, Stud)	Mortgage Balance	Credit Card Utilization	DLQ Indicator (Ex. Stud)	Mobility
	(1)	(2)	(3)	(4)	(5)
DebtRelief × *Above* × *Post*	-7,718.34***	-1,401.53***	-0.04***	-0.08**	0.001
	(1263.41)	(294.33)	(0.01)	(0.04)	(0.002)
DebtRelief × *Post*	262.52	207.62	0.03***	0.009	0.001
	(400.12)	(147.90)	(0.01)	(0.02)	(0.001)
Above × *Post*	-3,070.22***	-758.35***	-0.07***	-0.28***	-0.001***
	(315.63)	(74.67)	(0.00)	(0.01)	(0.000)
Individual FE	Yes	Yes	Yes	Yes	Yes
County × Month FE	Yes	Yes	Yes	Yes	Yes
Observations	6,010,381	6,010,381	6,010,381	6,010,381	6,010,381
R^2	0.2	0.83	0.7	0.77	0.53

Regulatory Implications?

- Several policies have been advocated to help borrowers unable to meet their financial obligations, especially in the private student loan market which is usually tapped by more fragile borrowers attending for-profit institutions and experiencing lower returns to education.
- Should the government offer debt relief?
- Should student loans be dischargable in bankruptcy?
- Should the government cap the amount students can borrow from the government?

Concluding Remarks

- We find that the borrowers experiencing the debt relief shock are significantly more likely to engage in deleveraging, by both reducing their demand for credit and limiting the use of the existing account. That is, borrowers beneting from a debt relief seem to quickly try to improve their financial conditions.
- These efforts are successful in that they are also significantly less likely to default on their accounts, above and beyond their student loan accounts.
- These findings speaks to the potential spillover effects across borrowers' liabilities.
- Finally, debt relief help these borrowers to overcome debt overhang constraints as they are significantly more likely to move, change job and experience an increase in income.