A Family Affair:
The Effect of College on Parent and Student Finances

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Motivation

- Educational debt is now ~$1.8 trillion, more than six times the level in 2004
- Paying for college is often a family affair, with both parents and students contributing
  - A survey by Sallie Mae (2023) suggests that parents pay for 48 percent of college costs
- Parent borrowing is supported by federal loan policy. Parent PLUS loans are one way that parents pay for college.
  - ~$108 billion outstanding, ~$11 billion new disbursements a year
  - Approximately 15% of federal loans to undergraduates
- Despite this, we know very little about the effects of college and college costs on parents

Research Question

How does a child's college attendance affect their parents' finances?

Motivation

- There is substantial research on the effect of college attendance and costs on student outcomes.
  - Lowering the cost of college or increasing access to credit can affect college enrollment, persistence, and graduation in addition to later labor market outcomes and financial outcomes.
    - Denning, Marx, Turner 2019; Barr 2019; Bettinger et al. 2019; Chakrabarti et al. 2020; Eng & Matsudaira 2021, Scott-Clayton and Zafar 2019; Denning 2017
  - Parent resources affect students' enrollment. Increases in assets or government assistance increase college enrollment.
    - Lovenheim 2011; Bulman et al 2021; Manoli & Turner 2018
- The limited research on parents' outcomes shows parents do adjust labor supply in response to financial aid incentives.
  - Recent work by Gebbia, Gray-Hancuch, and Organ (2026) examines behavioral responses to implicit tax rates in college financial aid.

What We Do

- Link data on the universe of FAFSA applicants in California to credit data via the University of California Consumer Credit Panel (UC-CCP)
  - FAFSA identifies both the student and their parents for dependent students
  - Credit data include account-level information on credit balances and delinquencies.

- Estimate the effect of college entrance on parent finances using an event study approach, very similar to the "child penalty" literature
  - Captures the consequences of (likely) anticipated college attendance, the result of simultaneous decisions about whether to attend college, where to attend, and how to finance it.

- We then examine the effect of the price of college using a discontinuity in eligibility for a generous grant, the Cal Grant
  - Financial aid is not randomly assigned
  - Shows how an "unexpected" shock to finances affects the family—both students and parents

Data

- Universe of California's FAFSA submissions obtained from the California Student Aid Commission (CSAC) for academic years 2006-07 through 2015-16
  - 22 million FAFSA submissions from 7.5 million unique students
    - Approximately 70% of college students submit the FAFSA
  - Contains information on parents and students, including age, gender, education level, marital status, zip code of residence; expected family contribution, family income
  - Identifies both student AND parent SSN for dependent students
    - Dependent students whose parents are married or living together report two parent SSNs. Those whose parents are never married, divorced, separated, or widowed generally report one.
    - Focus on the first year a student submitted the FAFSA
- Universe of Cal Grant applications
  - Recent high school graduates eligible for the primary "Entitlement" award
  - Observe which college receives the aid; (for many) in-state public college enrollment

Data

- Linked to the University of California Consumer Credit Panel (UC-CCP); quarterly information from 2004-present for all Californians
  - Credit outcomes, including disaggregated debt accounts, balances, default, and credit score; detailed information on geographic residence
  - Track annual outcomes from third-quarter (September) snapshots
  - Report parents' combined debt. For jointly held debt (i.e., both individuals within a household are listed on the mortgage or the credit card), we allocate half of the balance to each person in the couple to avoid double counting.
- Subset of data linked to National Student Clearinghouse Data

Event Study

- Describe what happens to parent finances as a child enters college
- This is (largely) expected and is the result of a variety of choices leading up to the event, including whether to attend college, where to attend college, and how to finance it
- This mirrors the "child penalty" literature—what happens to women's labor force participation after a child is born (Kleven, Landais, and Søgaard 2019).

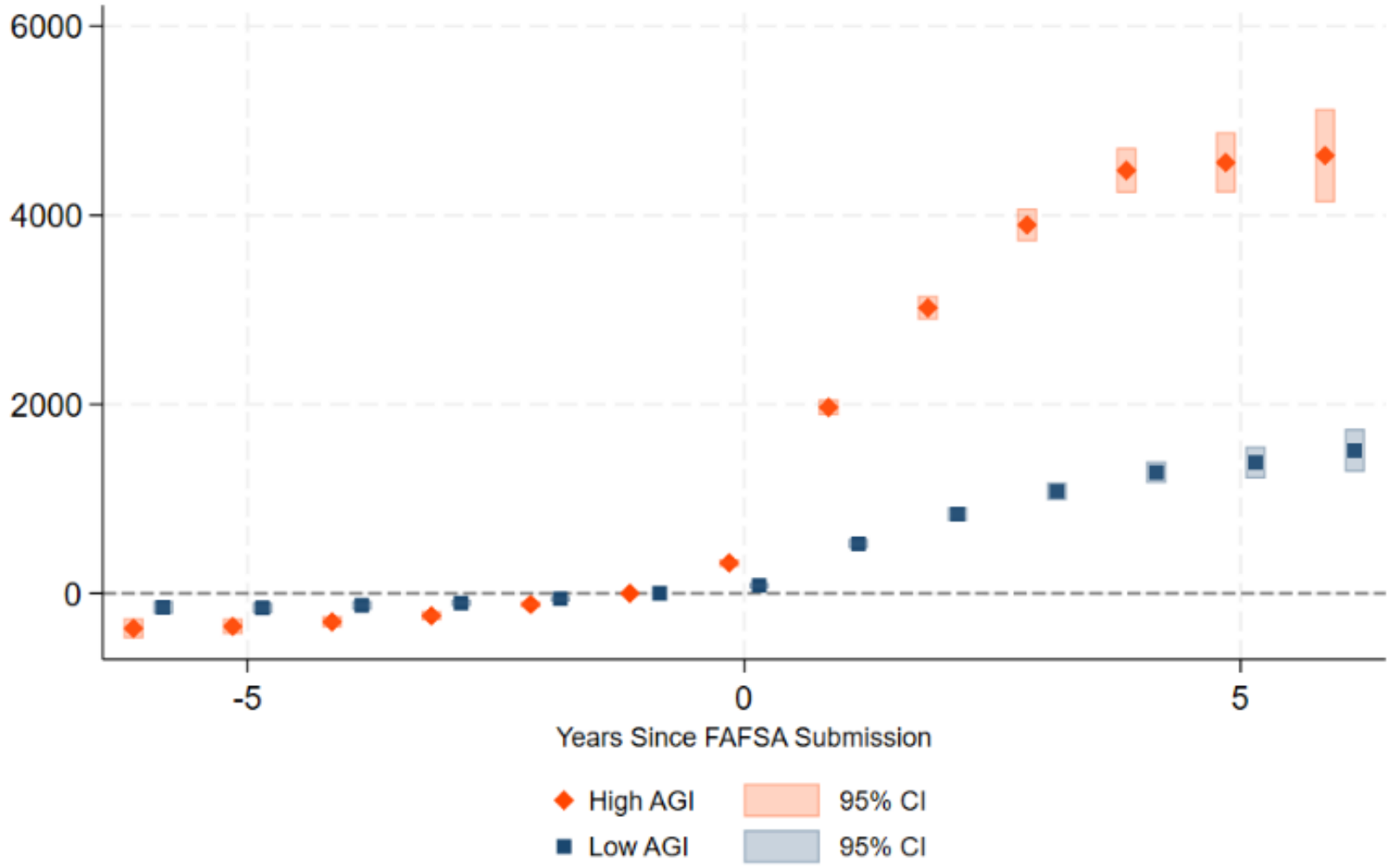
What Might We Expect?

- Overall debt
  - If debt rises, could be that parents are borrowing to finance college
  - If debt is flat, could be that parents do not pay for child's college, use assets to pay for college, adjust labor supply to pay for college, reduce expenditures on child in other ways
  - If debt goes down, could be that parents benefit from reduced expenditures on children
- Composition of debt
  - Indicates preferences for different types of debt. E.g. interest rate differences, secured v unsecured, consequences of default
- Other measures of financial health give us hints about financial welfare
  - If parents are declaring bankruptcy, seeing worse credit scores, may be harmful for parents
  - If measures are improving, suggests parents are benefitting from additional liquidity

Strategy

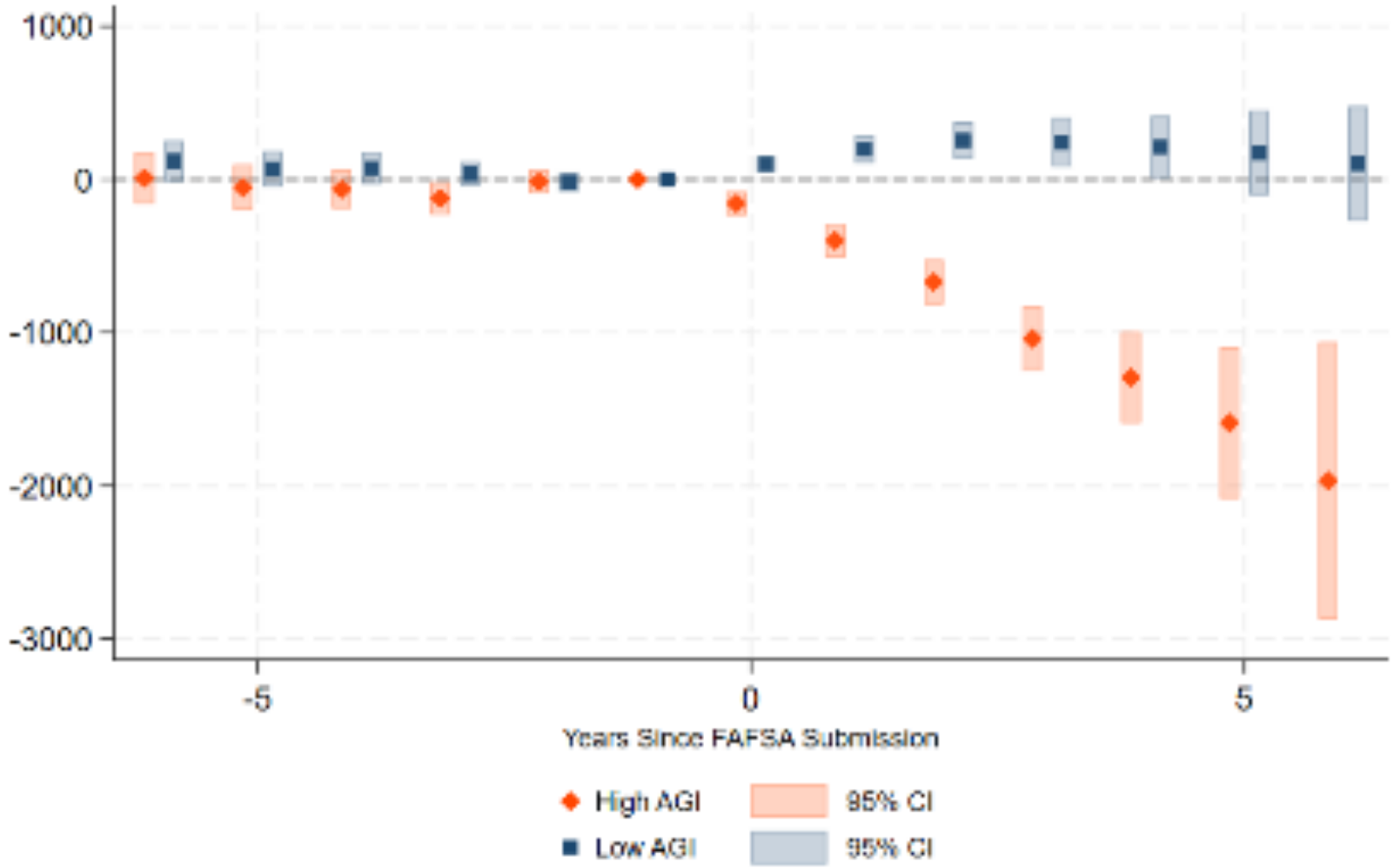
- We plot an event study of parent finances before, during, and after FAFSA submission using a 10% sample of our data
- Use Callaway-Santa'Anna (2021)
- Use not yet treated as the comparison group
- Include family fixed effects, year fixed effects, control for parent average age
- Event time is time relative to first FAFSA submission
- We focus on heterogeneity by income, split by above and below median (~$45k)
  - Not a ceteris paribus comparison, the types of schools higher and lower-income students attend is different, have different wealth, etc.

Educational Loans

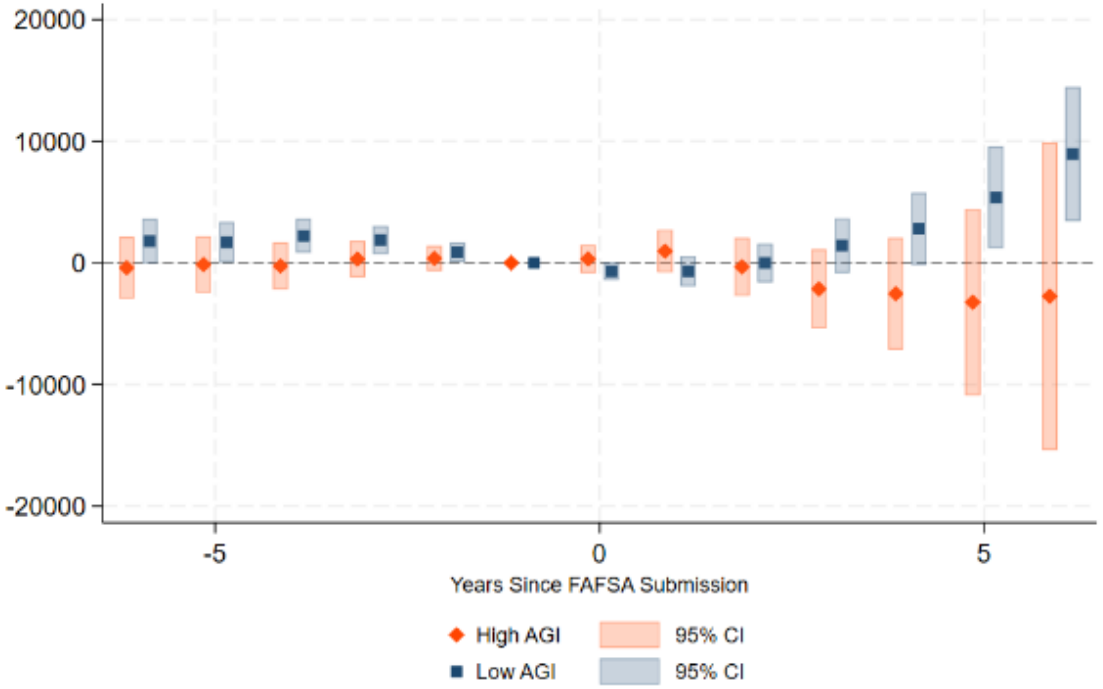


Credit Cards

Auto Loans


1000
0
-1000
-2000
-3000
-5
0
5
Years Since FAFSA Submission
High AGI
95% CI
Low AGI
95% CI

Summary: Total Debt



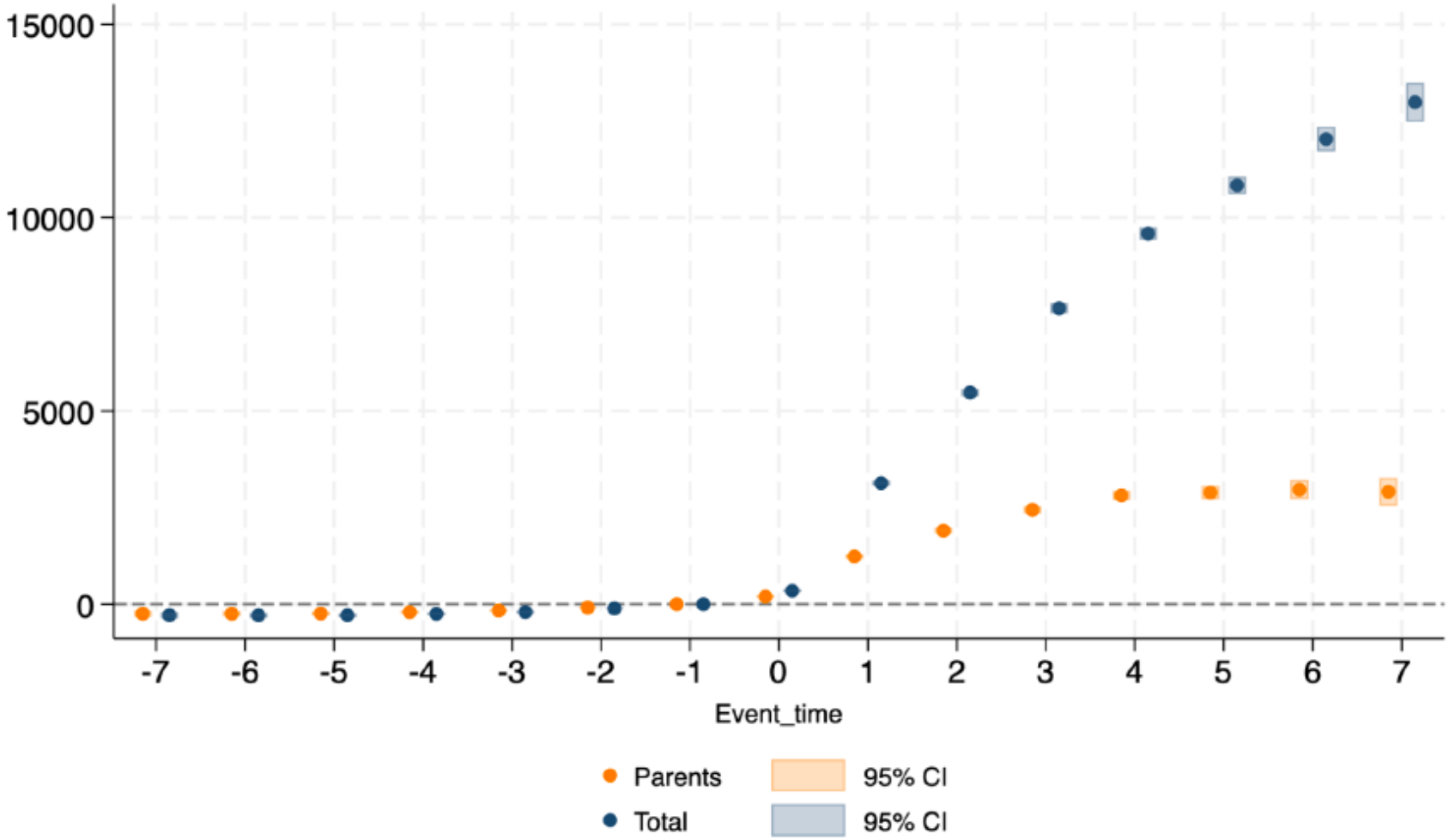
- Higher-income parents shift debt
- Lower-income parents increase debt (years 4-6 after submission)
- Why? (speculation)
  - Higher-income parents: prefer the terms of educational loans
  - Lower-income parents: some shifting, but not as much.
  - Could be other differences across higher/lower income parents

Event Study: Conclusions

Higher-income parents shift debt but see little effect on delinquency or bankruptcy for higher-income

Lower-income parents increase borrowing but also reduce delinquency and bankruptcy and increase credit scores

Family Education Debt



What Else Are We Missing?

What is clear is that families—not just students—are making these decisions.

Which suggests that we are missing something important by looking at students only.

What are we missing in this decision-making process? As a first step, we look at the effect of prices.

Effect of College Price

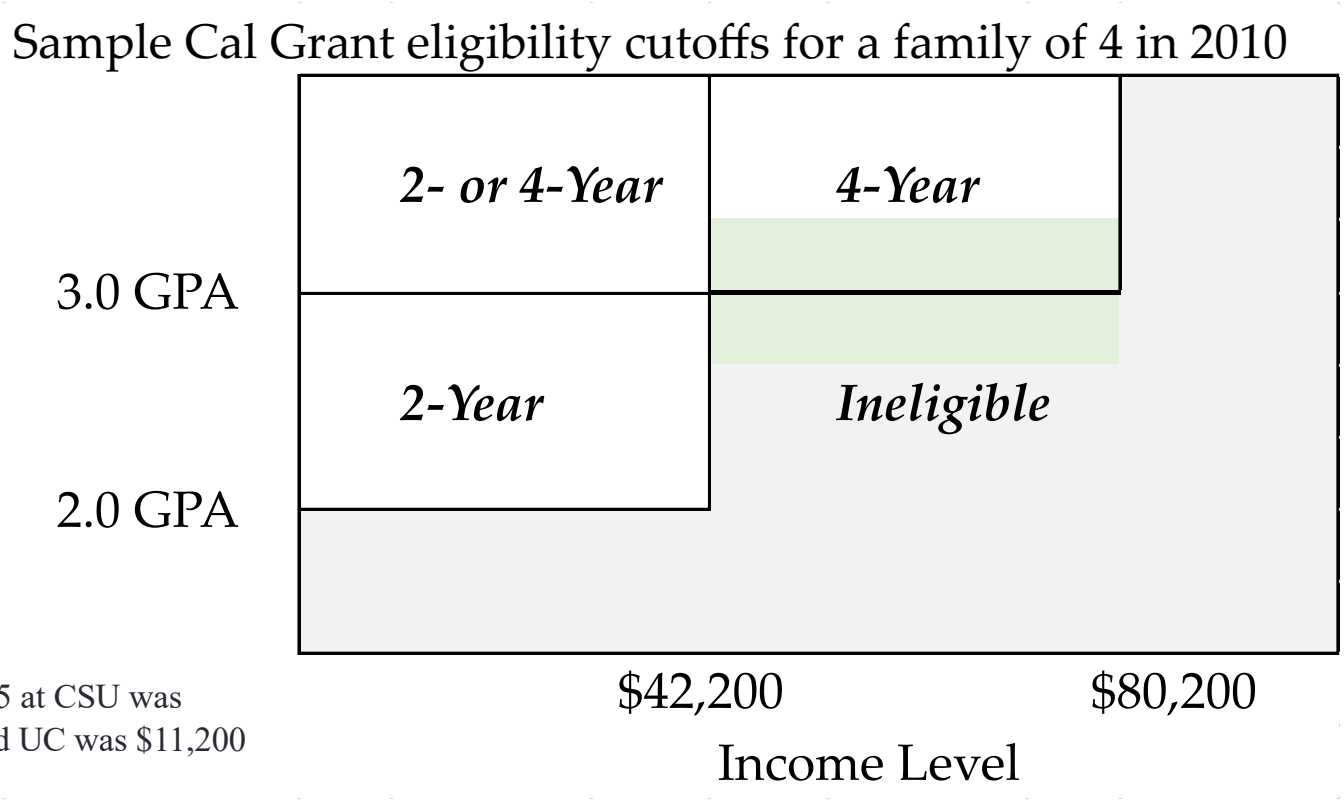
- Given the importance of price as a policy tool, we want to identify the causal effect of the price of college on *families*—both parent and student financial health.

- Because price is endogenous, we use a regression discontinuity design to get an exogenous shock to college price.

- More directly comparable to similar papers focusing on students
  - Castleman Long 2016; Barr 2019; Denning Marx Turner 2019; Bettinger et al 2019, Scott-Clayton and Zafar 2019

Research Design

- Cal Grant has sharp changes in aid eligibility at GPA and income thresholds
- Middle-income students who cross the 3.0 GPA threshold can receive full tuition at CSU or UC, or a $9,000 subsidy at private colleges. We focus on the highlighted cutoff here



Tuition in 2014-15 at CSU was approx. $5400 and UC was $11,200

Sample-RD

- First FAFSA submission
- Classified as a dependent
- Submitted their high school GPA for Cal Grant eligibility
- Reported at least one parent's social security number on the FAFSA

- Middle-income
- Dependent students
- Near the 3.0 GPA eligibility threshold

- Average age is just under 19
- Average family income is approximately $60,150
- 58% female
- 68% with a bachelor's degree as their primary educational objective.

RD Summary Statistics

Validity of Design

- Continuous/smooth through the running variable (GPA)
  - Drop 3.0 GPA for main analysis

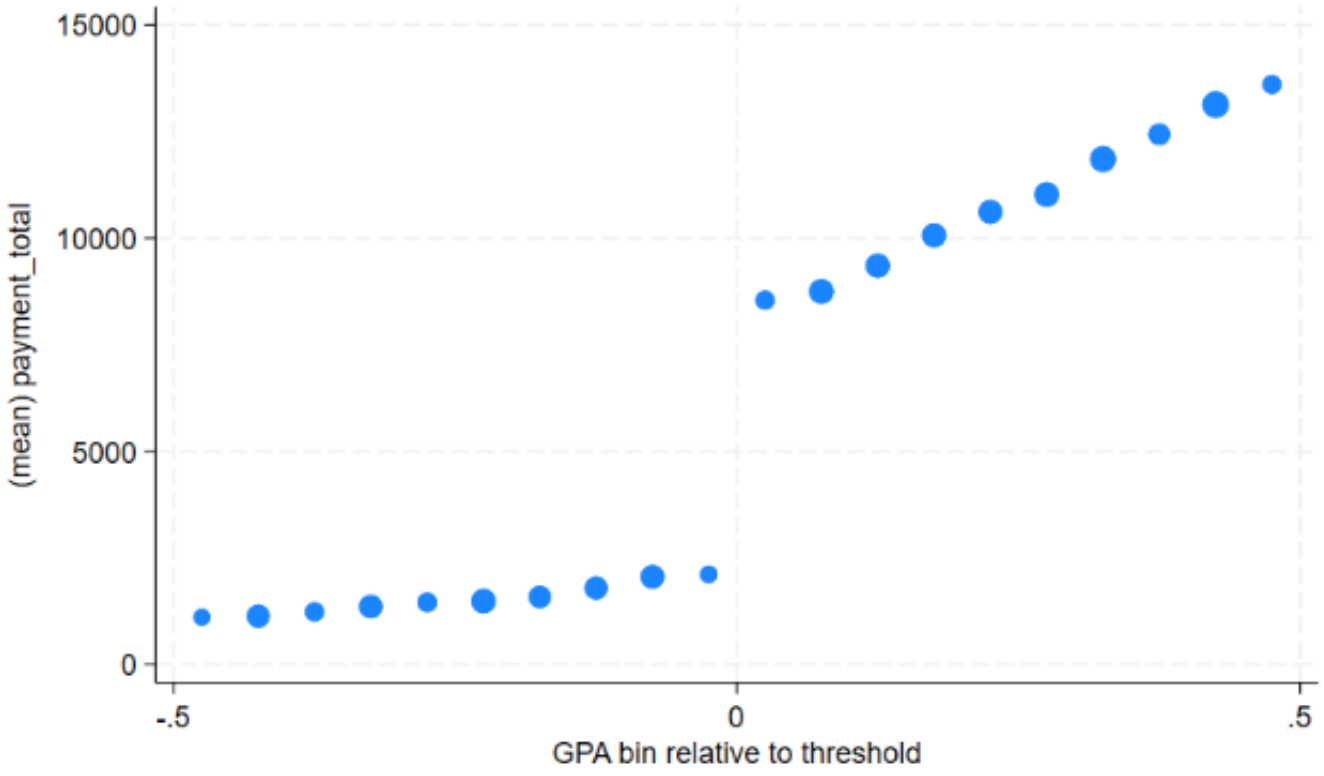
- No discontinuities in the observable characteristics at the threshold.
  - No statistically significant differences in student characteristics at the cutoff when we look at outcomes such as family income, family size, siblings in college, parental education, student age, parent age, sex, degree objective, citizenship status, and parents' marital status.

- Placebo tests to show no effects when we look at outcomes in different years but with other years' cutoffs.

Balance Tests

First Stage

- Crossing the aid eligibility threshold increases receiving aid in first year by 36 pp and total aid over time by $5900 ($16,500 conditional on receiving aid)
- Big effect, given that 50% of this sample goes to CC and are ineligible)
  - Removed spike at 3.0 GPA and twins; fixed 0.3 GPA bandwidth



RD First Stage Table

Results: Students

Enrollment Effects:

- Estimated on 2014 and 2015 entering cohorts
- No effect on college going overall
- Small shift from CC to CSU—results in a small ***increase*** in the price of college
- Works against effects of reduced price

Effects on Student Borrowing:

- No effect on their student loan or other borrowing (auto, credit cards, etc)
- Not surprising, given existing literature
  - Bettinger et al. (2019); Denning, Marx, Turner (2019) find null effects on borrowing overall
  - Scott-Clayton and Zafar (2019) see increases in loans
  - Marx and Turner (2018) see decreases

Enrollment Effects

Results: Parents

- Despite no effect on student's borrowing, there are large effects on parents' borrowing behavior.
- Offer of grant aid (~$5,900 in reduced form) lowers parents' educational loan balances ~$600-$900
  - Approximately 1.0 to 1.5 pp decline in having an educational loan balance
- Some declines on HELOC balances
- Delinquencies decline roughly .09 percentage points in the years when a child is in college (from a base of 7.8 percentage points)
  - This aggregates multiple trade lines, including credit cards, auto, mortgage, HELOCs
  - Primarily driven by credit cards but also student loan and HELOC
  - No change in bankruptcy

Heterogeneity

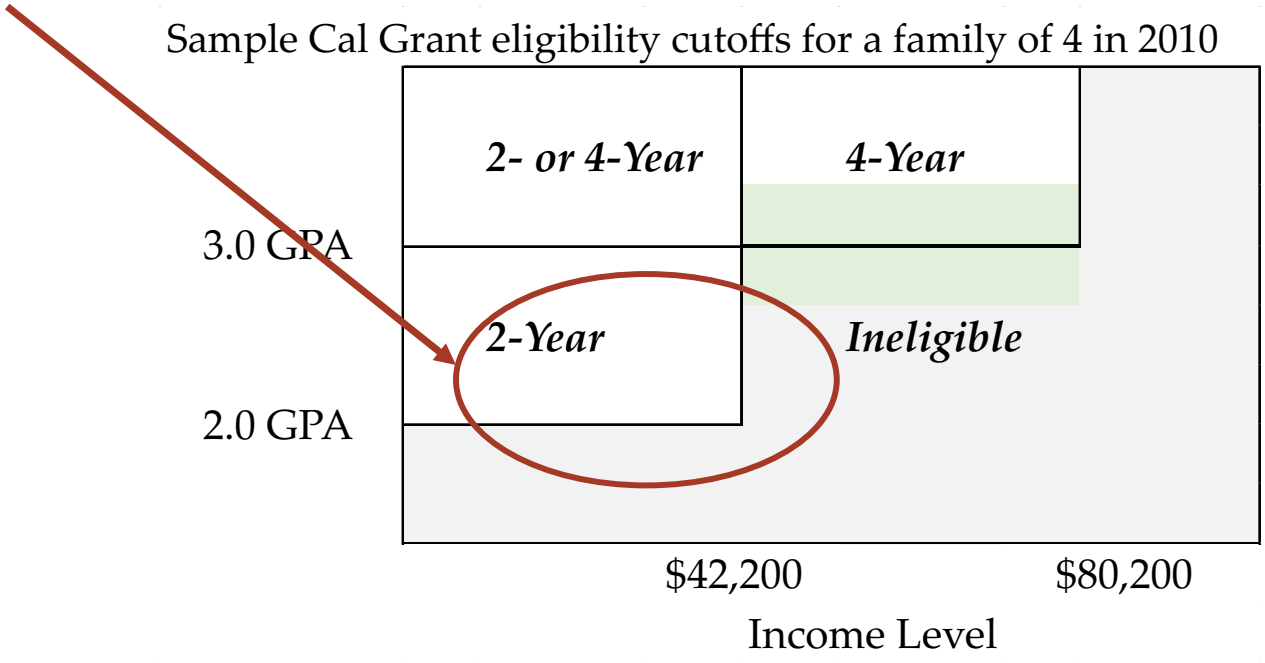
Whether the Parents have a Mortgage 1-2 Years Prior to College Entry

- Among those without a mortgage, we see that the reduction in education loans is larger, peaking at a $1,600 reduction.
- Among those with a mortgage, there is no change in educational loans but a large decrease in HELOC balances, peaking at a $1,734 reduction.
- Suggests that parent's response depends critically on what credit options are available to them.

Additional Results and Robustness

- Results do not change by bandwidth (except very short bandwidths), choice of kernel, or how we disaggregate parents

- Other Cal Grant cutoffs – for lower-income and lower GPA students focused on community colleges, which offer less aid – produces mostly null changes to parent credit outcomes



Conclusion

- When looking at the effects of college, focusing on students alone, as has been done to this point, misses the important effects on parents' finances.
- From our event study, lower-income parents seem to benefit when their child attends college. Higher-income parents shift debt.
- When we look at the specific effects of changes in the cost of college on families, we see that these changes affect how much parents borrow.
- In addition, these grants reduce parent's delinquency.
  - Prior evaluations of student aid have ignored this benefit, likely leading to an underestimate of the benefits of grant aid.

Summary Stats: Event Study

	Mean	N
Has Auto Loan	0.37	395,768
Has HELOC	0.16	395,768
Has Mortgage	0.40	395,768
Has Educational Loan	0.12	395,768
Has Credit Card	0.61	395,768
Has Any Credit Line	0.72	395,768
Balance: Auto Loans	6,285	395,768
Balance: HELOCs	12,659	395,768
Balance: Mortgages	119,212	395,768
Balance: Edu Loans	2,529	395,768
Balance: Credit Cards	5,223	395,768
Balance: Any	146,627	395,768
Bankruptcy Ch. 7	0.01	395,768
Bankruptcy Ch. 13	0.01	395,768
Avg Credit Score	675	330,441
BA intention	0.69	255,305
AA Intention	0.16	255,305
Student Age	19.3	395,768

Summary Statistics: RD Sample

Variable	Mean
Credit Score	692
Has Educational Loan	0.14
Has Credit Card	0.82
Has Auto Loan	0.49
Has Mortgage	0.56
Has HELOC	0.20
Has Secured Loan	0.13
Has Any Credit Line	0.94
Delinquency 90 days Ed. Loan	0.02
Delinquency 90 days Credit Card	0.04
Delinquency 90 days Auto	0.01
Delinquency 90 days Mortgages	0.05
Delinquency 90 days HELOCs	0.02
Balance: Education Loans	3,127
Balance: Credit Cards	7,074
Balance: Auto Loans	8,630
Balance: Mortgages	153,500
Balance: HELOCs	14,602
Balance: Secured	900
N	213,617

CSAC Data

Variable	Mean	SD
Child's GPA	3.03	0.27
Adjusted Gross Income	60,168	13,109
Child's Age	18.9	0.8
Family Size	4.1	1.2
Have Different Child in College	0.070	0.255
Freshman	0.958	0.200
Female	0.577	0.494
Citizen	0.964	0.186
Objective: BA	0.683	0.465
Objective: AA general	0.168	0.373
Objective: AA tech	0.031	0.174
Objective: Tech Unknown	0.092	0.289
Parent: College Educated	0.464	0.499
Parent: Married	0.696	0.460
Parent Never Married	0.082	0.275
Parent: Divorced	0.203	0.402
Parent: Widowed	0.019	0.136
Parent 1 Age	47.1	6.1
Parent 2 Age	48.5	6.3

Middle-Income Cutoffs

Appendix Table 1. Income limits for 3.0 GPA cutoff threshold that determines Cal Grant eligiblity

	Family size of 2		Family size of 3		Family size of 4		Family size of 5		Family size of 6+	
Year	Lower limit	Upper limit	Lower limit	Upper limit	Lower limit	Upper limit	Lower limit	Upper limit	Lower limit	Upper limit
2006	$30,300	$65,000	$34,200	$66,500	$38,000	$72,300	$42,500	$77,500	$45,900	$83,600
2007	$30,700	$65,800	$34,600	$67,400	$38,500	$73,200	$43,000	$78,400	$46,500	$84,600
2008	$32,100	$68,700	$36,100	$70,300	$40,200	$76,400	$44,900	$81,900	$48,500	$88,300
2009	$33,400	$71,600	$37,700	$73,300	$41,900	$79,700	$46,900	$85,400	$50,600	$92,100
2010	$33,600	$72,100	$37,900	$73,800	$42,200	$80,200	$47,200	$85,900	$50,900	$92,700
2011	$32,800	$70,200	$36,900	$71,900	$41,100	$78,100	$46,000	$83,800	$49,600	$90,300
2012	$33,600	$72,000	$37,900	$73,700	$42,100	$80,100	$47,100	$85,900	$50,900	$92,600
2013	$34,900	$74,700	$39,300	$76,500	$43,700	$83,100	$48,900	$89,100	$52,800	$96,100
2014	$36,700	$78,500	$41,300	$80,400	$45,900	$87,400	$51,400	$93,700	$55,500	$101,000
2015	$36,600	$78,300	$41,200	$80,200	$45,800	$87,200	$51,300	$93,400	$55,400	$100,800

Notes. Table shows year and family size specific income cutoffs that identify Dependent high school graduates who gain Cal Grant eligiblity by having a GPA of 3.0 or greater. Students from families whose income is below the lower limit gain Cal Grant eligiblity at a 2.0 GPA. Students from families whose income is above the upper limit have no Cal Grant eligiblity either below or above the 3.0 GPA threshold.

RD Balance Tests

Table 2. Regression discontinuity estimates of covariate balance at eligibility threshold

Balance table

	Family income	Family Size	Number of other children in college	At least one parent with a self-reported college education	Self-reported freshman	Age as of Sept 1
Discontinuity	43.091	0.006	-0.001	0.001	0.001	-0.007
	(157.397)	(0.015)	(0.003)	(0.006)	(0.003)	(0.010)
Baseline mean	60,075	4.109	0.069	0.450	0.954	18.963
N	125,467	125,467	125,467	125,467	125,467	125,467

	Age of Parent 1	Age of Parent 2	Female	Degree objection: Bachelor's	Citizen	Parents are married
Discontinuity	0.115	0.117	0.001	0.005	-0.004	-0.004
	(0.078)	(0.093)	(0.006)	(0.006)	(0.002)	(0.006)
Baseline mean	46.947	48.347	0.570	0.664	0.970	0.694
N	116,882	88,663	122,880	124,643	125,467	125,467

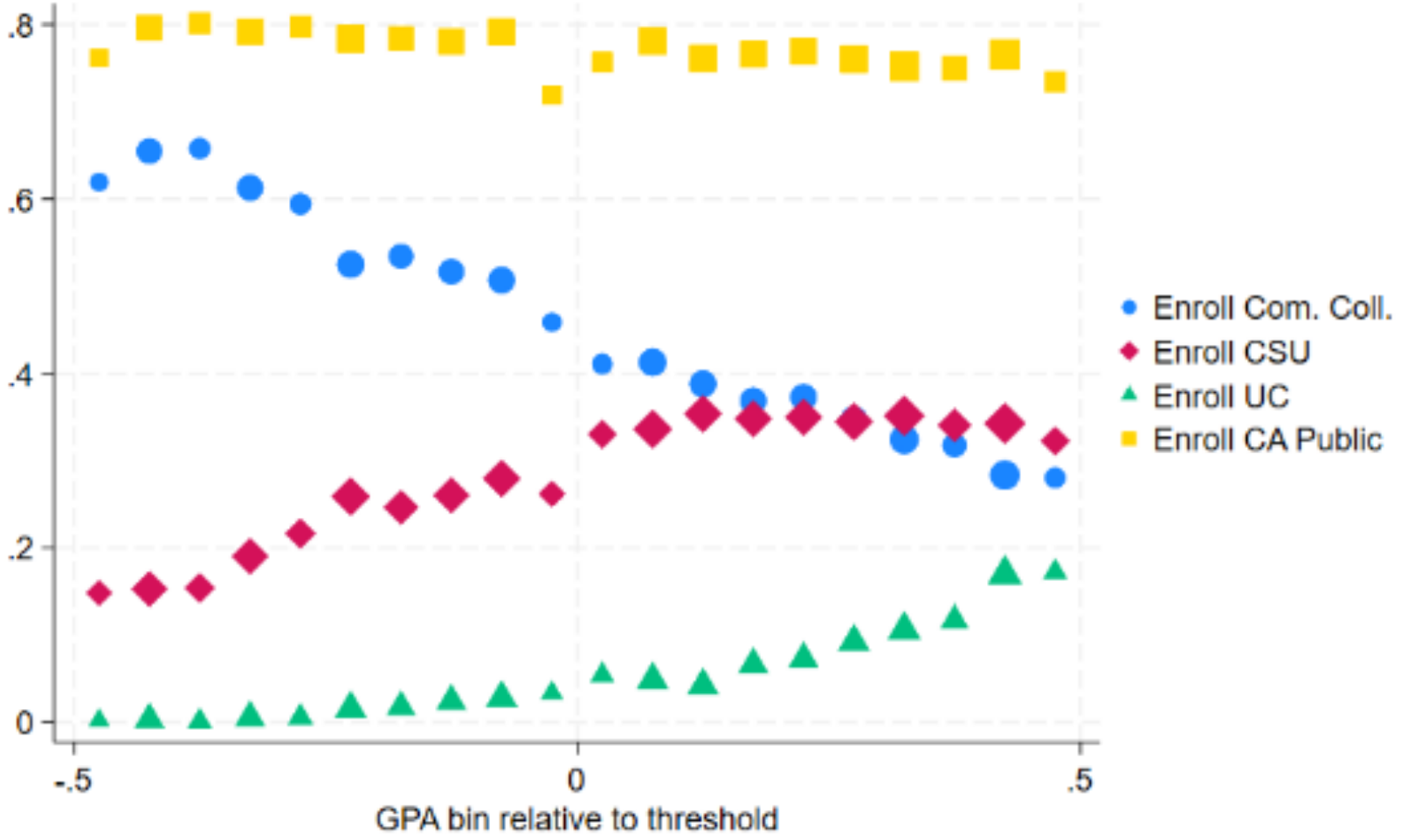
Notes: This table presents estimates of the discontinuity in Cal Grant eligibility at the 3.0 GPA cutoff. Robust standard errors appear in parentheses.

RD Estimates: CalGrant Payments

Cal Grant Payments

	First year		Over six years	
	Received payment	Total payment ($)	Received payment	Total payment ($)
Discontinuity	0.356**	2151.6**	0.311**	5905.6**
	(0.005)	(34.0)	(0.005)	(128.5)
Baseline mean	0.03	88.4	0.155	2,081.1

Enrollment Effects



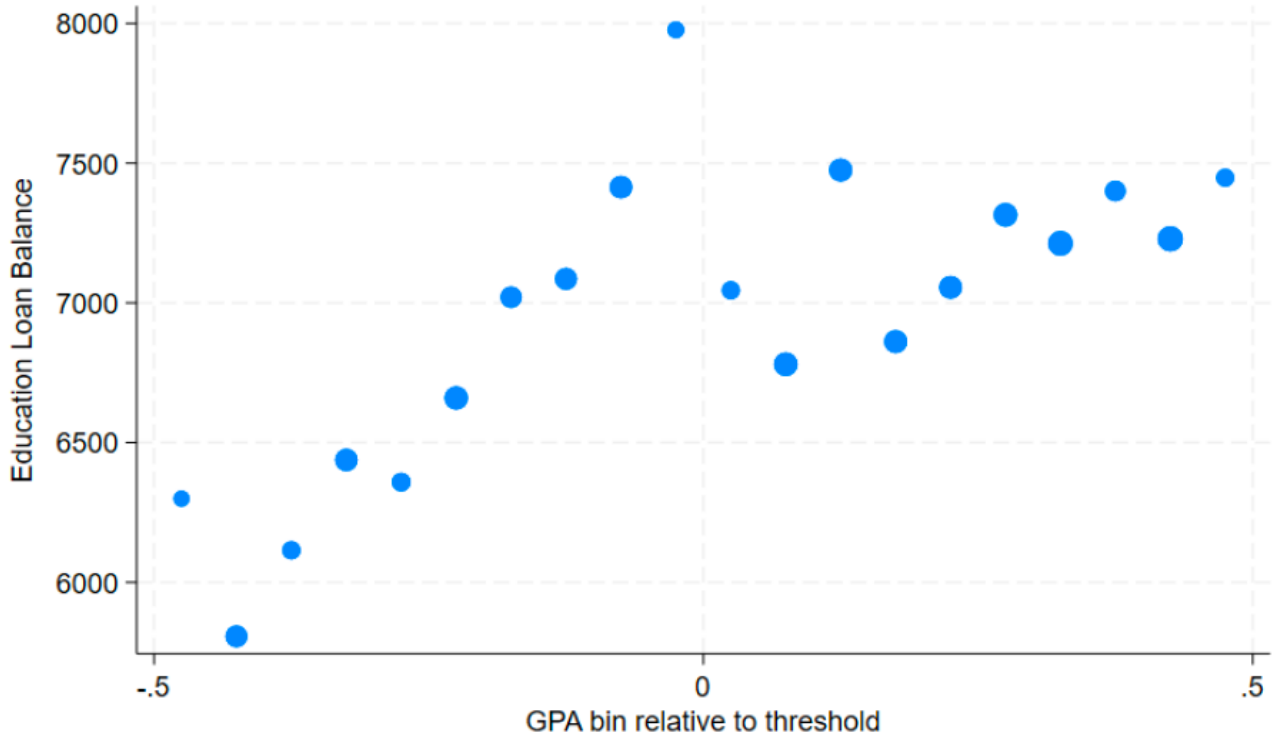
RD Estimates: Enrollment

Enrollment

	First year	Fourth year
Community College	-0.023+	-0.006
	(0.013)	(0.012)
Baseline mean	0.494	0.345
California State University (CSU)	0.027*	0.025*
	(0.012)	(0.011)
Baseline mean	0.285	0.193
University of California (UC)	-0.005	-0.007
	(0.005)	(0.006)
Baseline mean	0.029	0.040
Any enrollment	0.001	0.011
	(0.011)	(0.013)
Baseline mean	0.785	0.551
Estimated Tuition	70.411	
	(73.047)	
Baseline mean	2399.409	

RD Results: Education Loan

Figure 12: Parent Education Loan Balances 4 Years After First FASFA Submission



Notes: This figure plots the weighted sum of the parent's educational loan balances four years after the student's initial FAFSA submission. The weights are described in the text but are designed to avoid double counting of balances of jointly held debt. Results use the regression discontinuity sample of students from "middle-income" families, as described in the text, in GPA bins of size 0.05 but removing students with a 3.0 GPA.

RD Results: HELOC

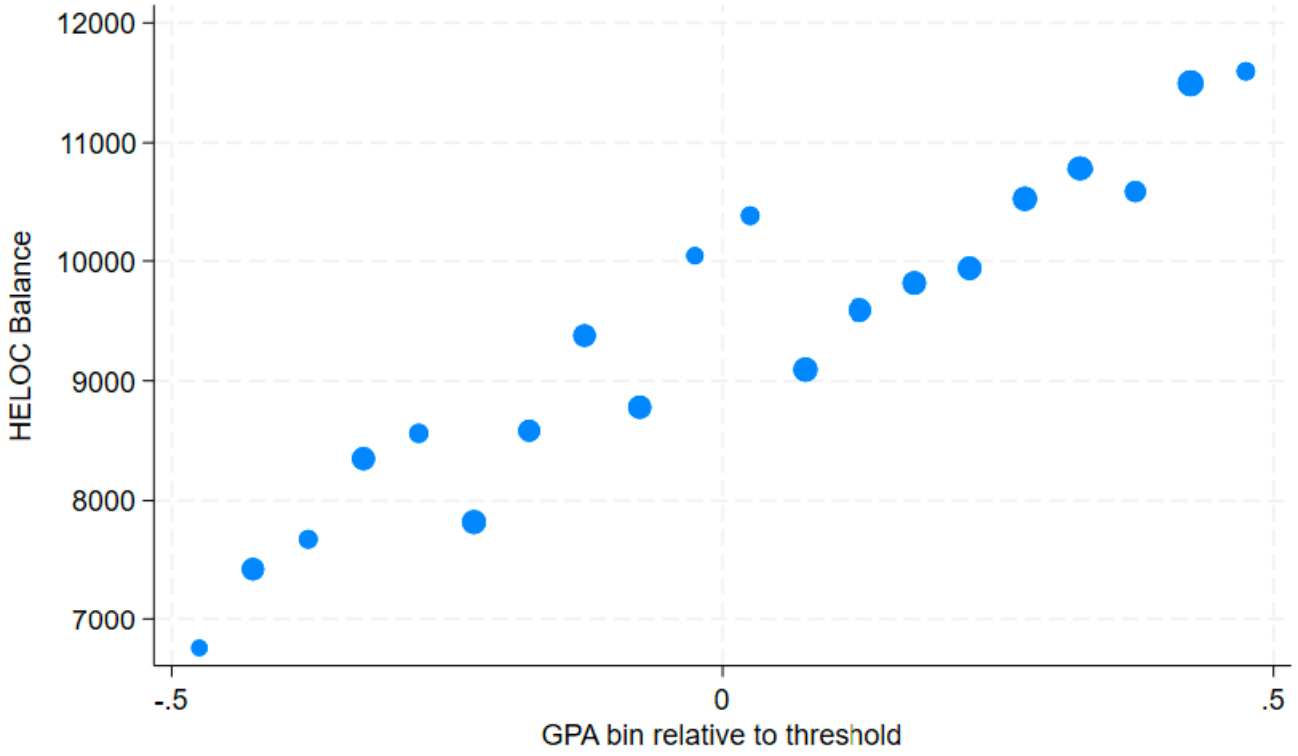



Figure 13: HELOC Balances 4 Years After First FAFSA Submission