FEDERAL RESERVE BANK OF CHICAGO

# Passing the Buck: Liquidity, Student Loans and Who Pays for College

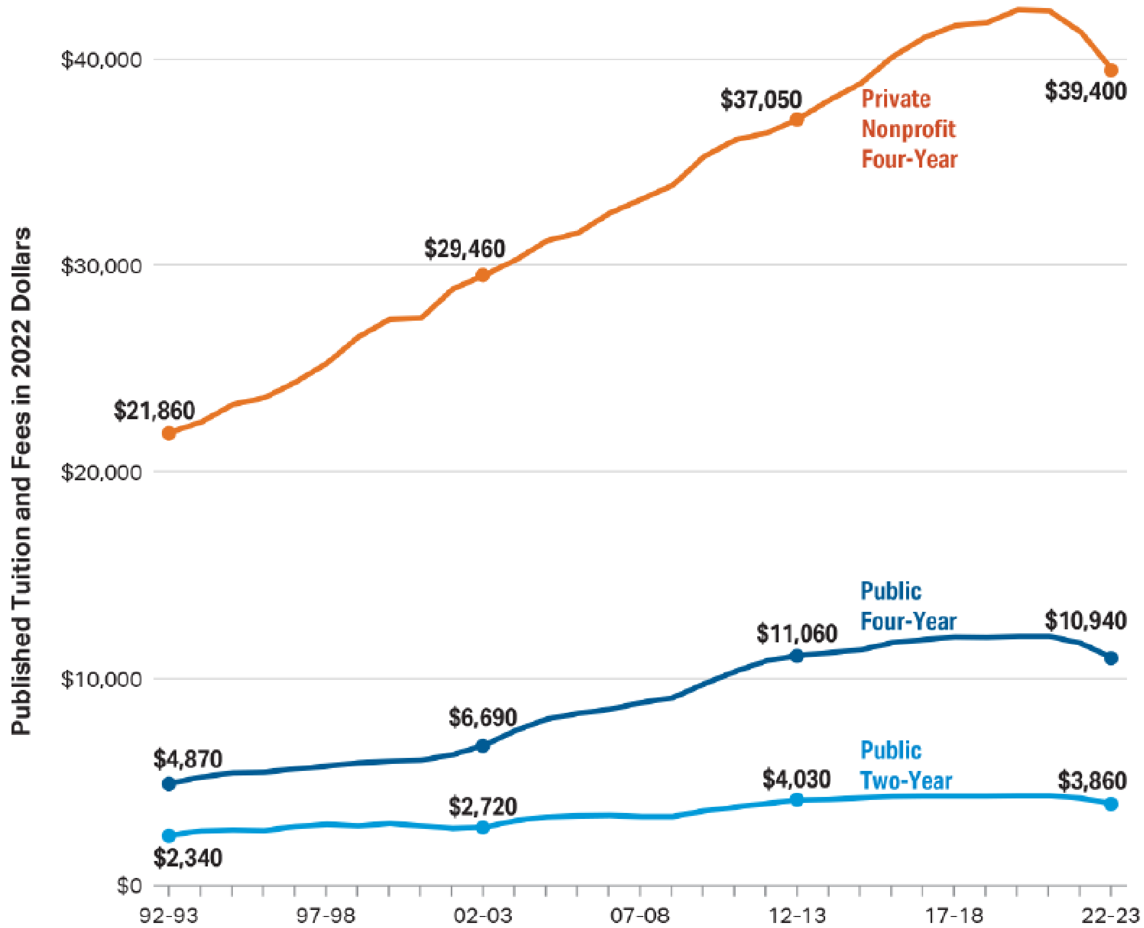
Gene Amromin
Federal Reserve Bank of Chicago

Janice Eberly
Northwestern University and NBER

John Mondragon
Federal Reserve Bank of San Francisco

The views expressed are ours and do not necessarily reflect the Federal Reserve Bank of Chicago or the Federal Reserve System

# College education in the US is expensive




Source: The College Board, Trends in College Pricing 2022, Figure CP-2

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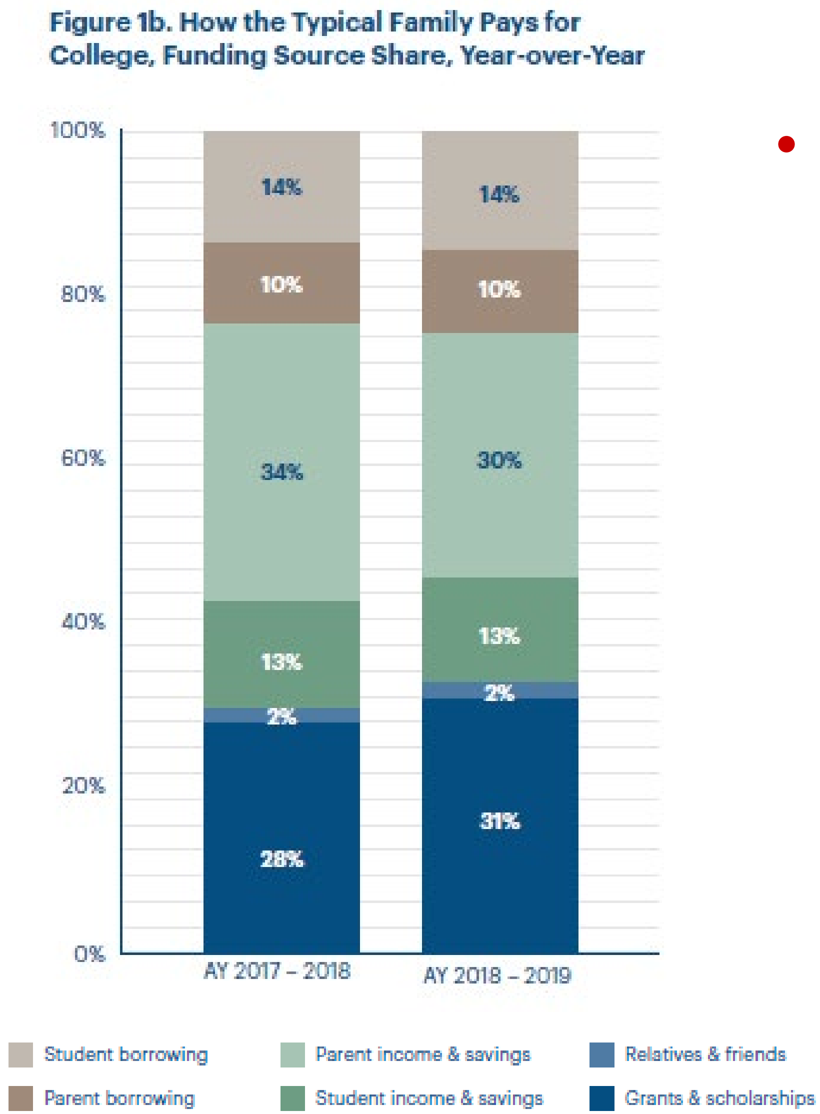
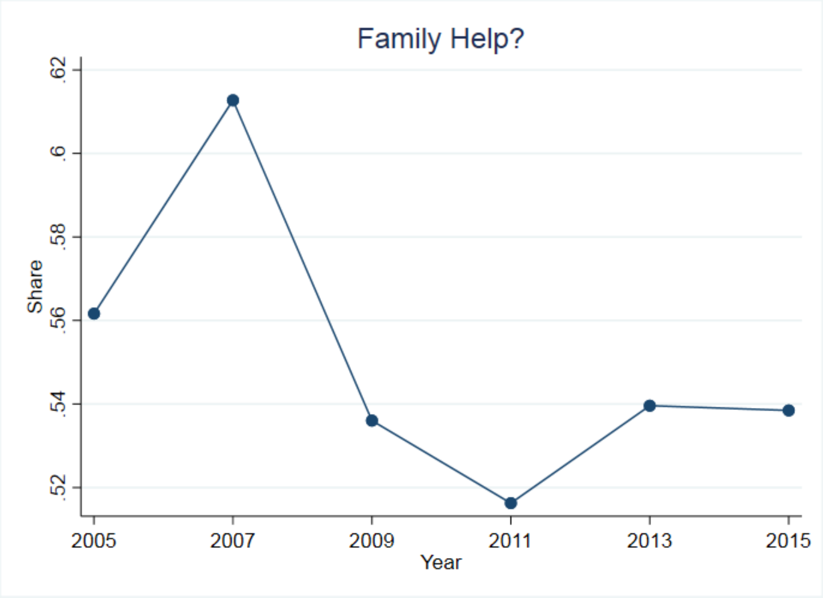
# Who pays for college in the United States?




- Paying for college is a collective effort:
  - State and federal grants
  - Endowment-funded scholarships
  - **Parents**: savings, borrowing
    - about 40% in 2018-19
    - about 50% in 2021-22
  - **Students**: savings, work, borrowing
    - about 27% in 2018-19
    - about 21% in 2021-22

# Parental role over time

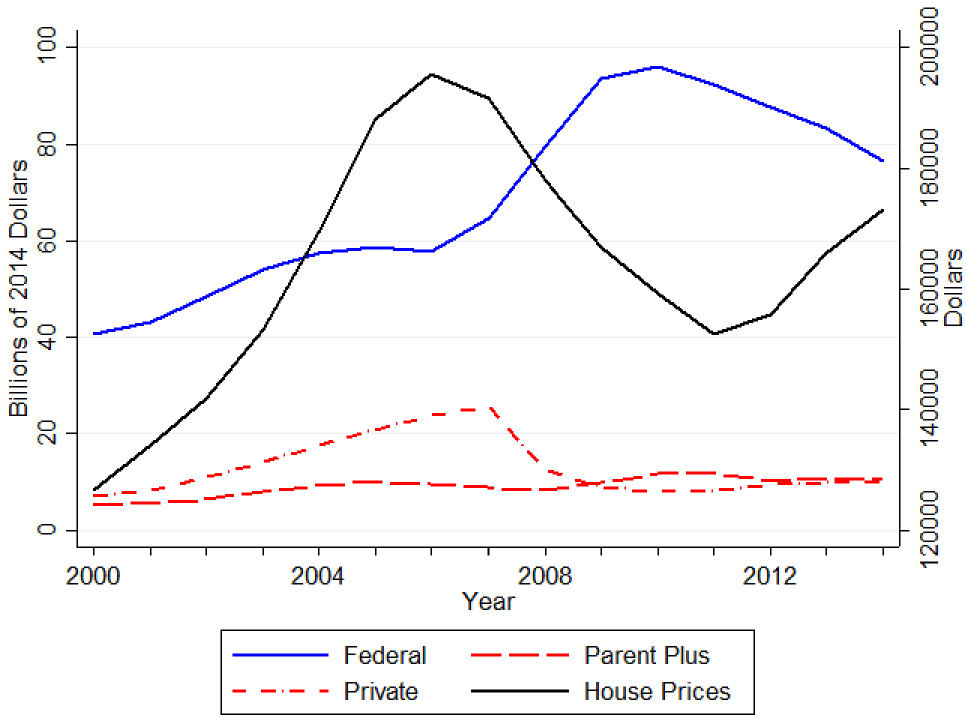



- According to Sallie Mae:
  - 2007: Parents paid 45% of college expenses
  - 2011: Fallen to 28%
  - 2017: Back to 44%
  - 2021: Up to 50%

- Parents cut back on help to their students during the recession
- … while enrollment increased from 37% of college-age children (18-24) in 2006 to 42% in 2011
- Alternative funding sources?

# Student loan flows and home prices

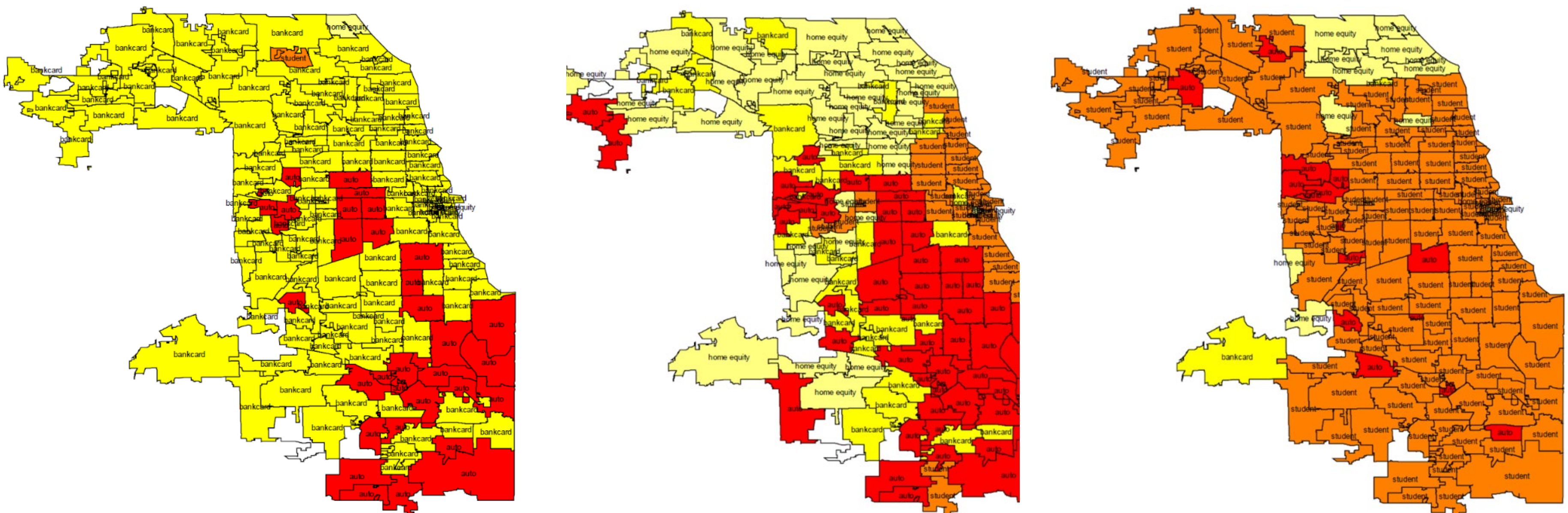
## AGGREGATE STUDENT LOAN FLOW AND HOUSE PRICES




- Decline in aggregate house prices and erosion in home equity during the Great Recession coincides with rapid growth in originations of student loans
- ... just as student loans become more expensive relative to home equity [rates]

# Non-mortgage debt in Cook County – 2000:2015

2000 | 2006 | 2015



Authors' tabulations based on FRBNY CCP.

Credit cards and auto loans

Home equity in the suburbs

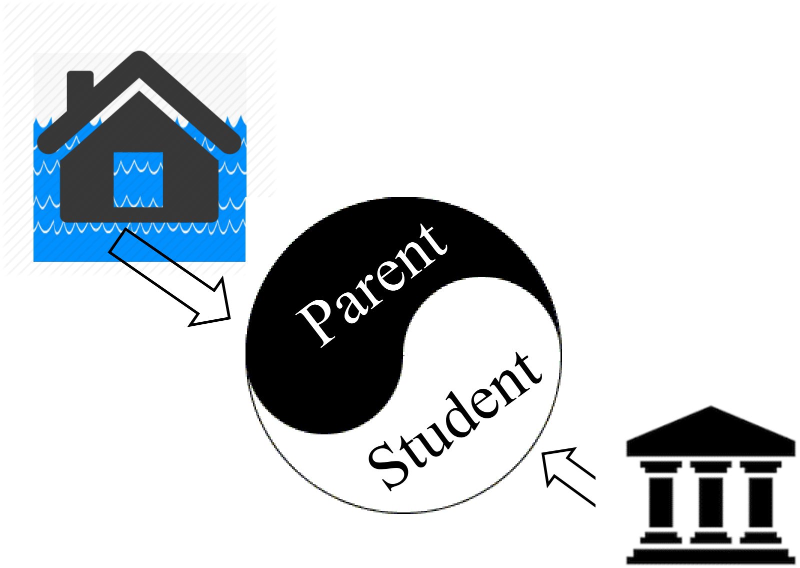
Student loans (almost) everywhere

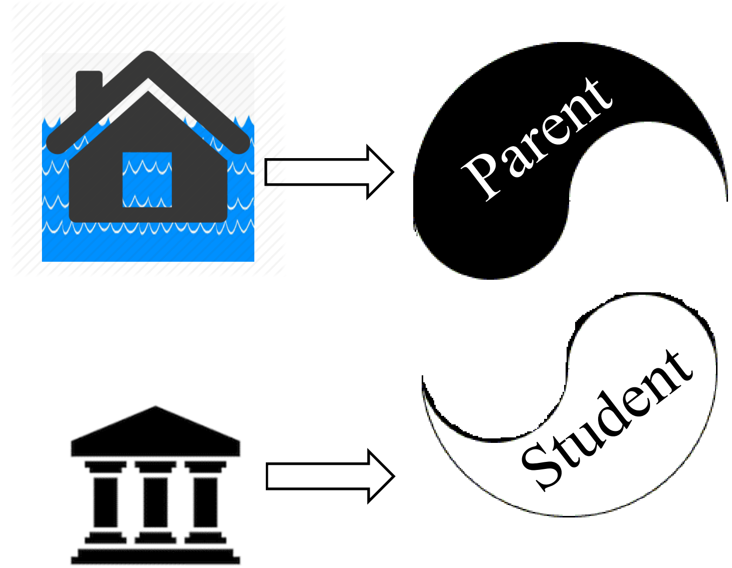
- Color code represents largest category of non-mortgage debt in each zip code

# Questions

- Substitution at household level
  - Did disappearance of home equity during the Great Financial Crisis affect how much students borrowed to finance college?
- If so, are there real effects on students or parents?
  - Did it affect where or whether students attend college?
  - Did changes in student borrowing affect other aspects of college attendance like part-time work and worrying about finances?
  - Did these changes affect how much parents could consume?
- Long-run implications
  - Do these changes have long-term effects on students or parents?
  - Did this wealth shock create a permanent shift in terms of which generation finances acquisition of human capital?

# Two views of whether funding sources matter




- If student loans are treated as a joint HH liability, substituting them for home equity insures *household* consumption
- If financial responsibility is shifted to the student, may end up insuring *parents*' consumption at the expense of students, both in the short- and the long run

# Need Household-level Panel Data

## PSID and Transition to Adulthood Survey (TAS)

- Intergenerational household-level panel survey, biennial
- Covers household expenditures, income, demographics, wealth (including self-reported house price valuations), debts
- TAS (2005-2015) bridges gap between childhood and new household formation, allows us to observe student loans and college enrollment
- We restrict sample to stable homeowners: ~2,400 households in total

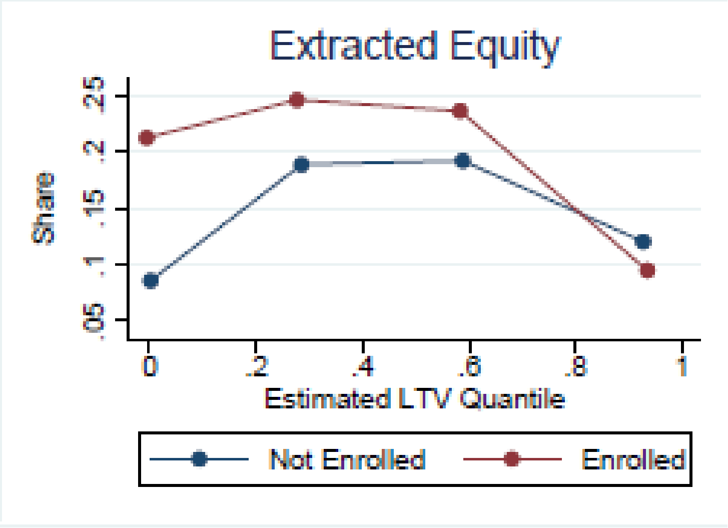
## New York Fed/Equifax Consumer Credit Panel (CCP)

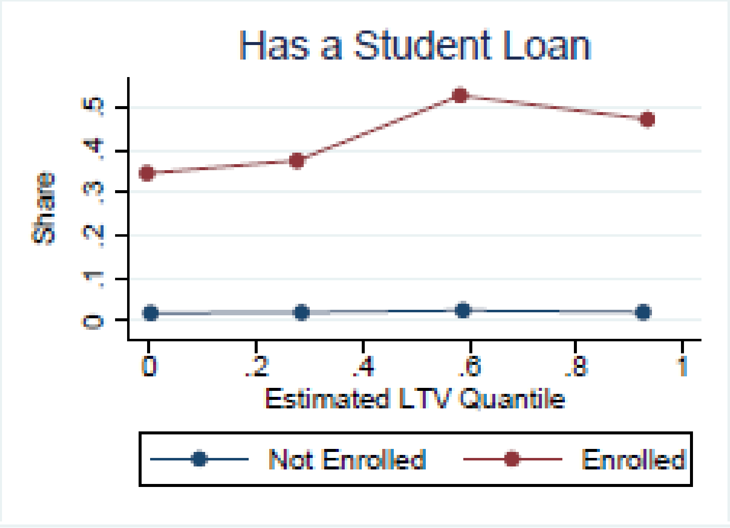
- Individual-level panel: 5% sample of the population, quarterly
- The 5% sample (primary) is augmented with all individual reports linked to the household of the primary individual *in that quarter*
- Household composition varies over time
- Covers debts, delinquencies, location
- Almost no demographic information, no income or wealth measures

# Empirical design: difference-in-differences

- We are going to exploit two sources of variation to identify the effect of a shock to parents’ home equity on family decisions
  - Decisions: home equity extraction, student loan, working while in college, etc.
- The first source is family composition – is there a college-aged student in a family?
  - Some families have students in college. Others do not.
- The second source is parents’ ability to tap home equity – are there liquid funds that can be used to pay for college?
  - Some families have paid off most mortgage debt and/or saw house prices fall only a little. Others are the opposite.

# Data in 4 pictures: Leverage, equity extraction and student loans

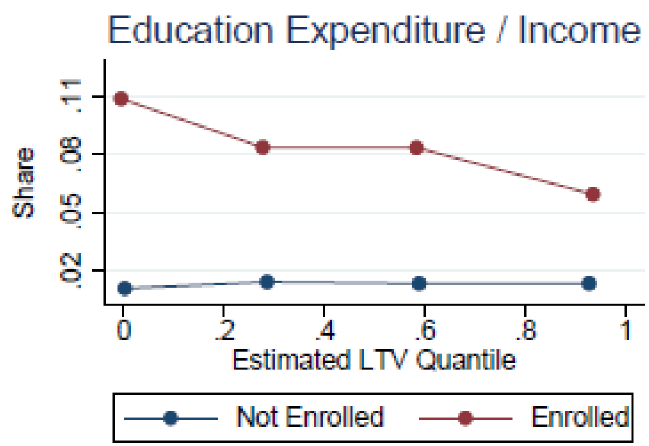


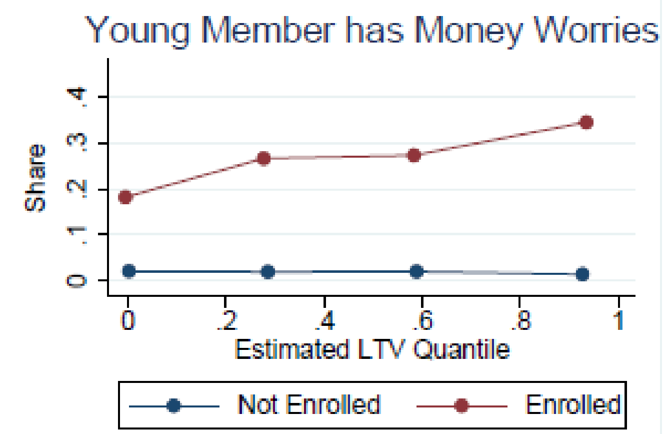




- Families with enrolled students are much more likely to extract equity … unless they have little or no equity left
- But families with less equity are more likely to turn to student loans instead

- Can quantify this substitution in a regression framework: for every dollar of home equity not extracted, student debt increases by about 60 cents

# Data in 4 pictures: parents' and students' real outcomes




- Being constrained by LTV when enrolling a child in college allows parents to spend less of their income on education
- ... and accumulate more non-housing wealth

- Enrolled students in LTV-constrained families are more like to worry about money
- ... less likely to get parental support
- ... and more likely to work while in college

# Other key results

- No effects of the housing wealth shock on whether and where to enroll in college
  - Families with college-age children whose housing wealth takes a larger hit are not any less likely to enroll in college
  - Once enrolled, their students are not any more likely to drop out
  - Their students attend colleges that have a similar sticker price of tuition
  - ... both in absolute dollar terms and as a fraction of their income

- All good news then?
  - Parents' housing wealth takes a hit, their kids' take out student loans
  - Parent's get to maintain their consumption, and kids worry about money more
  - But they still get to go to college, and possibly of similar price (quality?)

# Student long-run outcomes

- We turn to credit bureau data to check whether "extra" student debt accumulated due to parental LTV constraints during college-age years affects key outcomes in early adulthood
- Estimate that this extra debt reduces probability of having a mortgage
  - $1,000 more in student loans (due to parents LTV constraints) reduces probability of having a mortgage by age 30 by about 1 percentage point
  - Results are similar to Mezza et al. (2018)
- It also lowers the likelihood of forming a new household by age 30
  - $1,000 more in extra student loans reduces probability of forming own household by about 1.3 percentage points (base 51%)
- But is does not seem to affect the likelihood of an auto loan

# Parents long-run outcomes

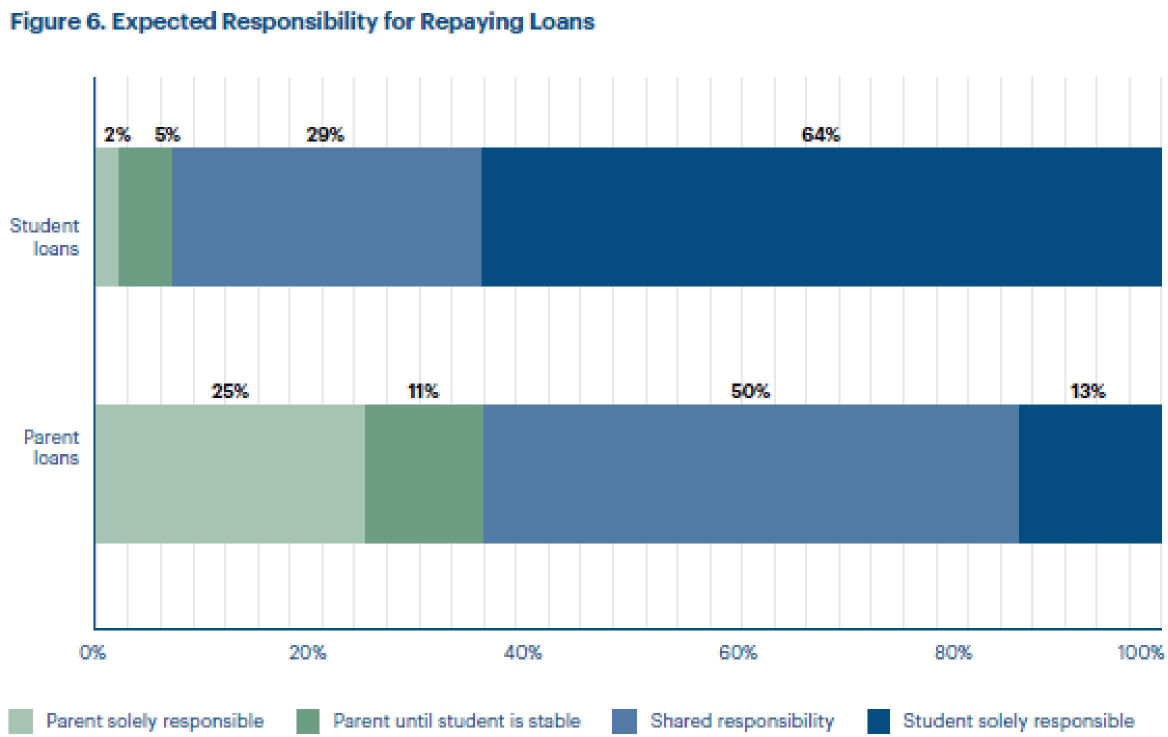
- Under construction ...

- Evaluate parents' performance on existing credit obligations
- Ability to obtain new credit instruments: car loans, mortgages, etc.

- Most interestingly, evidence of lump-sum repayments of student loans by parents
  - Observe a parent taking out a loan – home equity, credit card, or other unsecured credit
  - Observe their student paying down existing debt as lump sum

- So far, no evidence of parents paying off their students' debt from re-accumulated home equity

# Survey evidence on incidence of debt repayment




- Students are typically expected to pay back their loans themselves
- Parents expect students to pitch in for paying back parents' loans
  - This is education-specific loans not general loans used to pay college tuition

# Long shadow of student loans

- Students end up taking loans when their parents' wealth takes a hit
- Repayment of these loans detracts from student's ability to save, invest, and consume early in their adult lives
- And it potentially affects their ability to save for their own children's education
- A long-term (permanent?) shift in which generation pays for education?

Wealth
+ Equality

## Parents Paying Down Student Debt Worry How They'll Send Kids to College

With monthly bills slated to resume in coming months, borrowers with children are facing a squeeze.

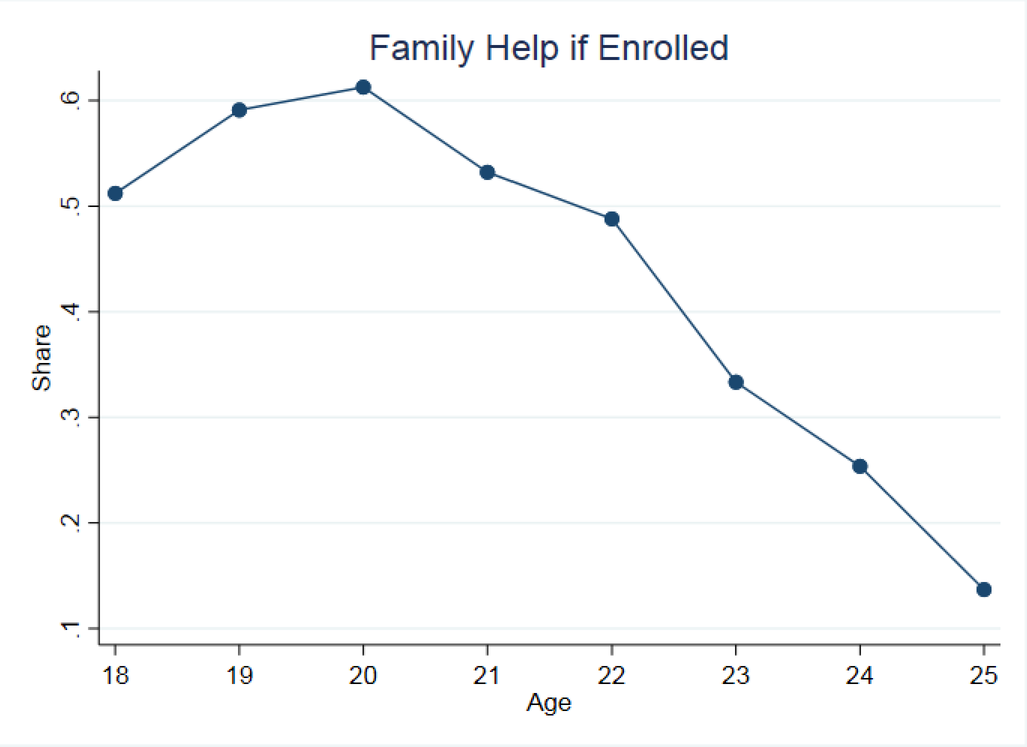

Decline in College Enrollment

# Conclusion

- Declines in house prices reduced access to home equity, and shifted some of the burden of financing college to students in the form of student debt
- Shift in financing responsibility appears to have real effects
  - No measurable effect on enrollment
  - Increase in burden on students
    - Work more, worry more about money
    - Less likely to have mortgages, delay household formation
  - Decrease the burden on parents
    - Relatively more non-education expenditures
    - Accumulate non-housing wealth at a higher rate
- More work to do to establish whether parents of the Great Recession students insured own long-term consumption by switching to student loans. Not clear if this transaction has been reversed

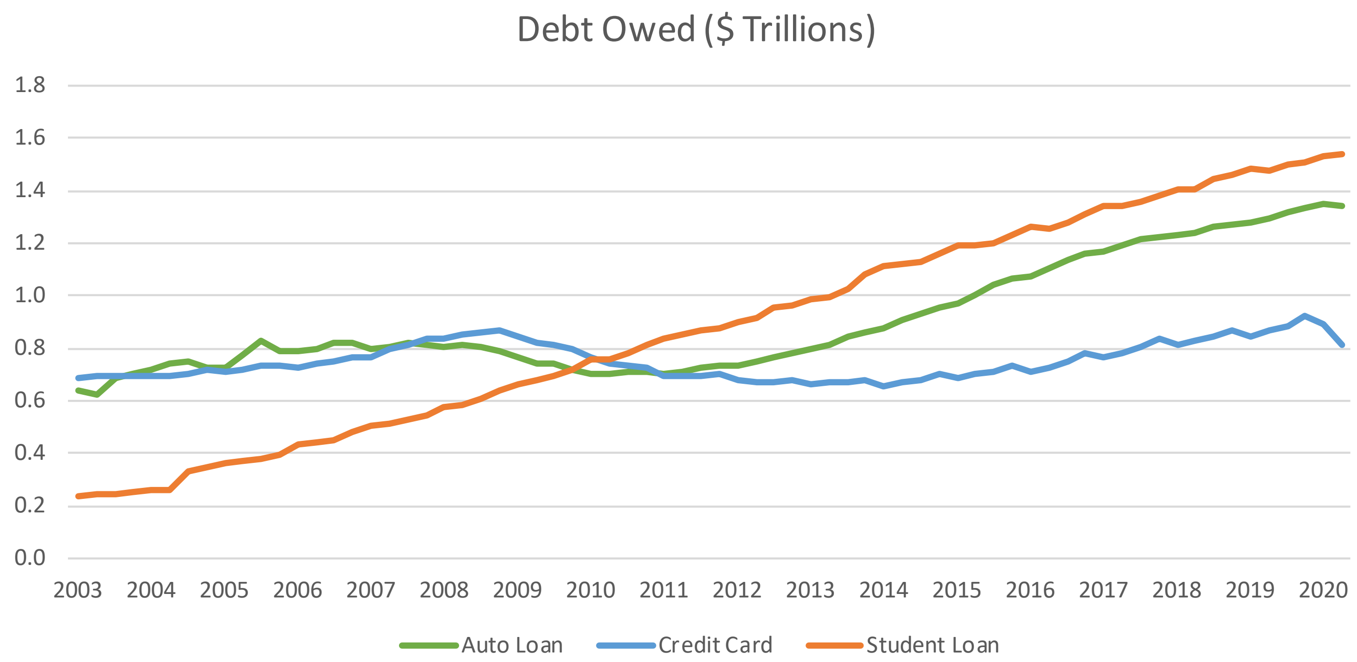
# Extra slides

# Parental support by age




- There is substantial drop off in parents' propensity to support students past the age of 22
- Can use this fact to test our earlier results on funding sources and real effects

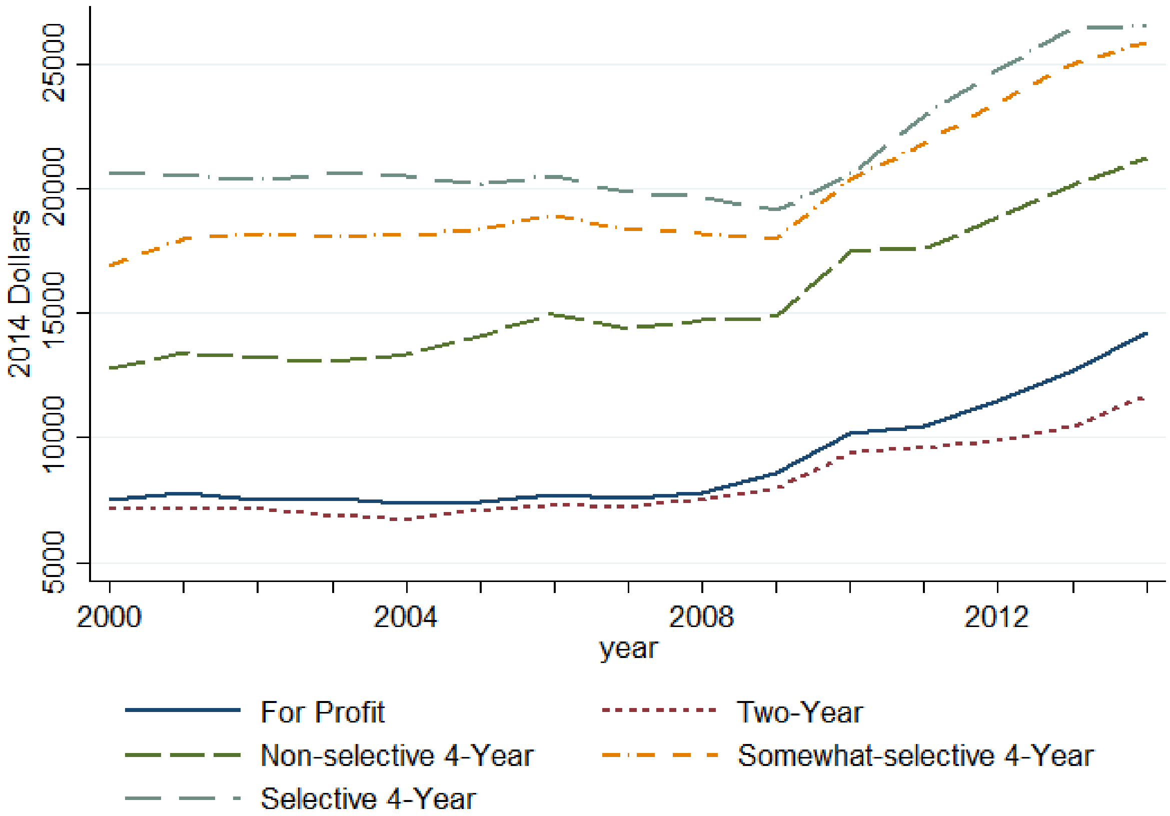
# Student debt has grown steadily since 2003




- Many reasons behind this:
  - Cyclical upswing in enrollment, higher tuition, lower funding levels
  - Poorer students and poorer parents
- This paper focuses on the latter

# All types of students have been borrowing more

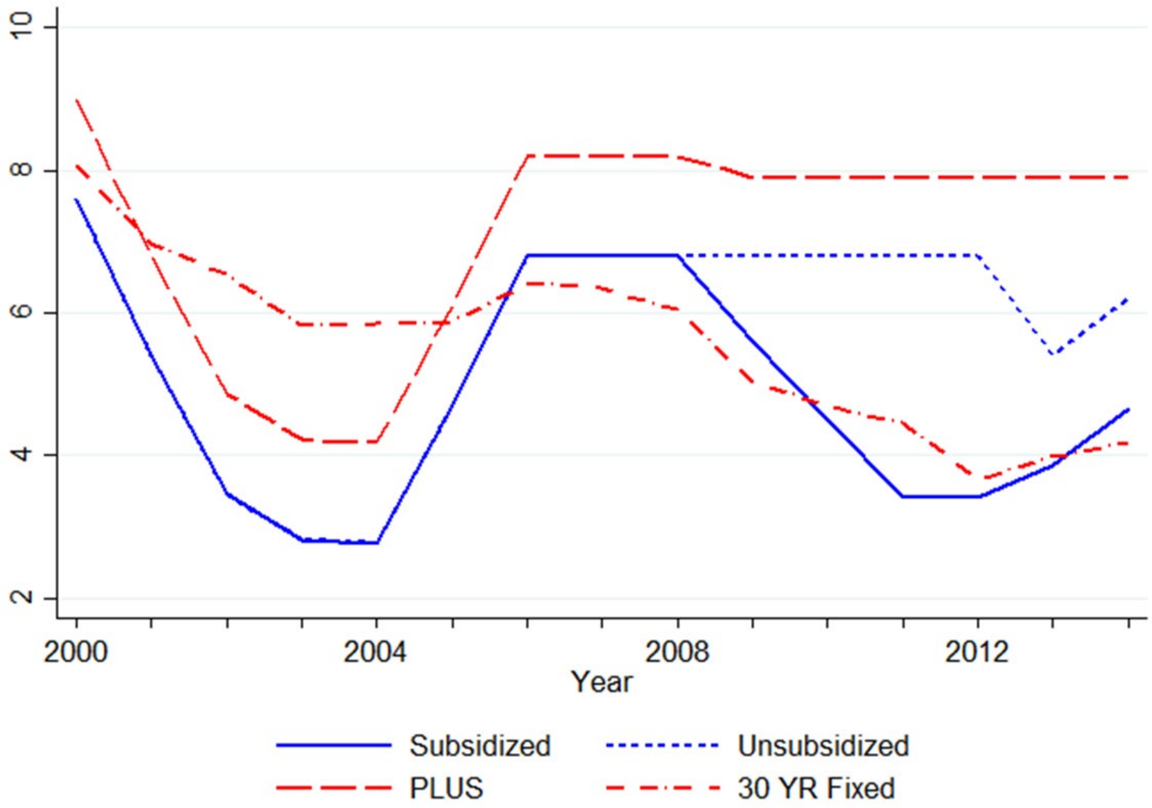
## MEDIAN BALANCE OF STUDENT LOANS




- Source: Looney and Yannelis (BPEA 2015)

# Relative Cost of Home Equity and Student Borrowing

## Interest Rates by Type of Financing




- For much of the post-crisis period, tapping home equity has been less expensive than accessing even federally subsidized student loans

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