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# Personal Finance Education Mandates and Student Loan Repayment

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Cherry Blossom Emerging Researchers Forum October 15, 2020

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### Investing in Education with Limited Information

- High school students often make decisions about college with limited information
- Student loans are the most common regret among Millennial college graduates

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Source: Federal Reserve Quarterly Report on Household Debt and Credit

Conclusior

#### Investing in Education with Limited Information

- High school students often make decisions about college with limited information
- Student loans are the most common regret among Millennial college graduates
- Student loans are now **Total Outstanding Credit Balances** largest non-mortgage source of household debt Dollars (trillions) 3 Outstanding balances Auto currently top \$1.6 trillion Credit Card HELOC Student Loans - 0 2005 2008 2011 2017 2020 2014

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#### Investing in Education with Limited Information

- High school students often make decisions about college with limited information
- Student loans are the most common regret among Millennial college graduates
- Student loans are now most frequently delinquent source of household debt
- More than 10% of balances are delinquent





## Can personal finance education improve student loan outcomes?

• Around half of U.S. states require personal finance education during high school



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- State standards largely focus on personal finance topics
- Many states explicitly **include financial aid and student loans** in standards



## Can personal finance education improve student loan outcomes?

- Around half of U.S. states require personal finance education during high school
- State standards largely focus on personal finance topics
- Many states explicitly **include financial aid and student loans** in standards
- Students **apply for college** and financial aid in **junior or senior year**
- "Just-in-time" information intervention



### What We Know

• Personal finance course mandates can be effective...



### What We Know

- Personal finance course mandates can be effective...
  - credit scores (Brown et al 2016, Urban et al 2018) financial knowledge (Harvey 2019) FAFSA applications (Stoddard and Urban 2019) low-cost borrowing (Stoddard and Urban 2019)
- delinquencies (Brown et al 2016, Urban et al 2018)
  use of payday loans (Harvey 2019)
  high-cost borrowing (Stoddard and Urban 2019)



### What We Know

### • ...but implementation matters

- Early standards (pre-1990) were largely ineffective (Cole, Paulson, and Shastry 2016)
- Mandates improve in effectiveness over time (Brown et al 2016)
- States allocating **more resources**, teacher training see **larger impacts** (Urban et al 2018)
- Improvements in financial knowledge only for "rigorous" mandates (Harvey 2019)



### What We Don't Know

• This paper explores the impact of personal finance education mandates on:

- Student loan default and repayment
- Mechanisms:
  - Student loan debt upon entering repayment
  - Financial knowledge
  - Student loan knowledge
  - College choice, attendance, and completion

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## 1. College Scorecard

(U.S. Dept of Education)

### 2. Personal Finance Education Mandates

(Stoddard and Urban 2019)

### 3. Previous State of Residence Counts for University Cohorts

(Integrated Postsecondary Education Data System)

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#### ← → C collegescorecard.ed.gov



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Nashville, TN 6,856 undergraduate students vanderbilt.edu









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#### **Financial Aid & Debt**

#### Students Paying Down Their Debt



#### Get Help Paying for College

Submit a free application for Federal Student Aid. You may be eligible to receive federal grants or loans.

START MY APPLICATION

#### Students Receiving Federal Loans ()

# 14%

At some schools where few students borrow federal loans, the typical undergraduate may leave school with \$0 in debt.

### Typical Total Debt After Graduation () \$14,500

For undergraduate borrowers who complete college

### Typical Monthly Loan Payment () \$154/mo

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### Student Loan Repayment

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#### Student Loan Repayment

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### **Student Loan Repayment**



D. In default



• 2-year **Cohort Default Rate**: % of repayment cohort who defaults within 2 years of entering repayment

 $\frac{D}{A+B+C+D}$ 



• 2-year **Cohort Default Rate**: % of repayment cohort who defaults within 2 years of entering repayment



• 1-year **Repayment Rate**: % of repayment cohort not in default whose loan balances have declined one year since entering repayment



**Descriptive Statistics** 



## 1. College Scorecard

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#### **Personal Finance Education Mandates**

- Data comes from Stoddard and Urban (2019)
- Denotes which **high school graduating cohorts** were bound by a mandate
- Coursework either in standalone course or incorporated in other required course

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#### **Personal Finance Education Mandates**





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### **University Composition from IPEDS**

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### **University Composition from IPEDS**



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### **University Composition from IPEDS**



### **University Composition from IPEDS**



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### **University Composition from IPEDS**



Introduction	Background	Data	Empirical Strategy	Results	Conclusion
		Empirica	al Challenges		
		1	0		

#### 1. Identification:

- How do we estimate micro-level changes without micro-level data?
- Proxy micro-level changes using university-level outcomes
- Strategy: leverage university-level exposure to state-level mandates

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### **Dose Response Specification**

$$Y_{i,t+k} = \gamma \text{pctBound}_{it} + \beta \mathbf{X}_{it} + \delta_i + \alpha_t + \varepsilon_{it}$$

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#### **Dose Response Specification**

$$Y_{i,t+k} = \gamma \text{pctBound}_{it} + \beta \mathbf{X}_{it} + \delta_i + \alpha_t + \varepsilon_{it}$$

Outcome variable:  $Y_{i,t+k}$ 

- 1. Cohort Default Rate
  - 2-year CDR (1993-2006)
  - Available only for full repayment cohort
- 2. Repayment Rate
  - 1-year RR (2001-2008)
  - Overall Cohort, First Generation, Low Income, Middle Income, High Income
- k = 5 periods between entering university and appearing in the Scorecard data

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### **Dose Response Specification**

$$Y_{i,t+k} = \gamma \text{pctBound}_{it} + \beta \mathbf{X}_{it} + \delta_i + \alpha_t + \varepsilon_{it}$$

Exposure to Mandates: pctBound<sub>it</sub>

$$pctBound_{it} = \frac{\sum_{j=1}^{51} pfMandate_{jt} \times enroll_{ijt}}{\sum_{j=1}^{51} enroll_{ijt}}$$

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#### **Dose Response Specification**

$$Y_{i,t+k} = \gamma \text{pctBound}_{it} + \beta X_{it} + \delta_i + \alpha_t + \varepsilon_{it}$$

Controls: X<sub>it</sub>

- University cohort (state variables weighted by cohort state composition)
  - Other credit requirements (English, math, science, social studies, total)
  - High school staffing (teachers, guidance, support staff)
- State
  - Merit aid scholarship availability
  - Unemployment rates between t and t + k

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### **Dose Response Specification**

$$Y_{i,t+k} = \gamma \text{pctBound}_{it} + \beta \mathbf{X}_{it} + \delta_i + \alpha_t + \varepsilon_{it}$$

Fixed Effects:  $\delta_i$ ,  $\alpha_t$ 

- University fixed effects
- Year fixed effects

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• Baseline specification: Standard errors clustered at the state-of-university level

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# Results

- 1. Student Loan Repayment Results
- 2. Evidence for Mechanisms

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#### **Student Loan Repayment Results**



Table: Public & Private Universities

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#### **Student Loan Repayment Results**



Table: Public & Private Universities

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#### **Student Loan Repayment Results**



Table: Public & Private Universities



# Results

1. Student Loan Repayment Results

### 2. Evidence for Mechanisms

- i. Changes to borrowing?
- ii. Are mandates "effective?"
- iii. Degree completion?





• Changes to borrowing?

• Financial Literacy? / Student Loan Literacy?

• Degree Receipt?



- Changes to borrowing?
  - $\Rightarrow$  Reductions in borrowing only for high income students
- Financial Literacy? / Student Loan Literacy?

• Degree Receipt?



- Changes to borrowing?
  - $\Rightarrow$  Reductions in borrowing only for high income students
- Financial Literacy? / Student Loan Literacy?
  - $\Rightarrow$  No evidence of improvements to financial literacy
  - $\Rightarrow$  Some improvements in student loan knowledge
- Degree Receipt?



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  - $\Rightarrow$  Reductions in borrowing only for high income students
- Financial Literacy? / Student Loan Literacy?
  - $\Rightarrow$  No evidence of improvements to financial literacy
  - $\Rightarrow$  Some improvements in student loan knowledge
- Degree Receipt?
  - $\Rightarrow$  No evidence of changes to enrollment or degree receipt



• As more students are bound by mandates, **repayment improves** 



- As more students are bound by mandates, **repayment improves**
- Largest impact for low income and first generation borrowers



- As more students are bound by mandates, **repayment improves**
- Largest impact for low income and first generation borrowers
- Low income and first generation improvements are not due to decreased borrowing
- High income students may see improvements due to lower balances



- As more students are bound by mandates, **repayment improves**
- Largest impact for low income and first generation borrowers
- Low income and first generation improvements are not due to decreased borrowing
- High income students may see improvements due to lower balances
- No detectable improvements in financial literacy
- Some improvement in **understanding of federal student loans**