HIGH SCHOOL FINANCIAL EDUCATION AND POSTSECONDARY EDUCATION FINANCING

Christiana Stoddard  Carly Urban

Montana State University
Student loan debt reached $1.4 trillion (FRBNY), second only to mortgage debt.
Percent of Balance 90+ Days Delinquent by Loan Type

Source: FRBNY Consumer Credit Panel/Equifax
Average Student Loan Debt

Source: Federal Reserve Bank of St. Louis, using 2012 third quarter data. Data for Alaska is from the Federal Reserve Board of New York Consumer Credit Panel/Equifax. Data for U.S. territories and protectorates were not yet available.
Introduction

Percent of Student Loan Balance 90+ Days Delinquent

Source: FRBNY Consumer Credit Panel / Equifax; Data displayed in maps are as of December 31, 2012
Do students have enough information to make optimal borrowing decisions?

The choice of student loans is among first large financial decision young adults make, but financial literacy amongst young adults in the U.S. is particularly weak:

- U.S. 7 out of 15 countries in the 2015 Program for International Student Assessment (PISA) Financial Literacy Assessment.
- Only 29% of US 15 year olds can compare loans with different interest rates and terms.
- < 1 in 3 Americans aged 23 - 28 possess basic knowledge of interest rates, inflation and risk diversification.
DO STUDENTS HAVE ENOUGH INFORMATION TO MAKE OPTIMAL BORROWING DECISIONS?

The choice of student loans is among first large financial decision young adults make, but financial literacy amongst young adults in the U.S. is particularly weak:

- U.S. 7 out of 15 countries in the 2015 Program for International Student Assessment (PISA) Financial Literacy Assessment.
- Only 29% of US 15 year olds can compare loans with different interest rates and terms.
- < 1 in 3 Americans aged 23 - 28 possess basic knowledge of interest rates, inflation and risk diversification.
Do students have enough information to make optimal borrowing decisions?

FAFSA and the borrowing process are confusing

"NOT KNOWING IF YOU CORRECTLY FILLED OUT THE FAFSA IS FRUSTRATING."

- KARLA, 20

FixFAFSA.org
Do students have enough information to make optimal borrowing decisions?

Students also have to make many interrelated decisions:
- Whether to enroll, whether to stay in school
- Where to attend
- How much to work vs how many credits to take
- What major to choose
Do students have enough information to make optimal borrowing decisions?

Students also have to make many interrelated decisions

- Whether to enroll, whether to stay in school
- Where to attend
- How much to work vs how many credits to take
- What major to choose
Do students have enough information to make optimal borrowing decisions?

Students also have to make many interrelated decisions:

- Whether to enroll, whether to stay in school
- Where to attend
- How much to work vs how many credits to take
- What major to choose
DO STUDENTS HAVE ENOUGH INFORMATION TO MAKE OPTIMAL BORROWING DECISIONS?

Students also have to make many interrelated decisions
- Whether to enroll, whether to stay in school
- Where to attend
- How much to work vs how many credits to take
- What major to choose
Do students have enough information to make optimal borrowing decisions?

Students also have to make many interrelated decisions:
- Whether to enroll, whether to stay in school
- Where to attend
- How much to work vs how many credits to take
- What major to choose
Do students have enough information to make optimal borrowing decisions?

- Low income, high ability students are less likely to enroll, suggesting “too little" borrowing
- But default rates suggest some students borrow “too much"

- Certain things that are unequivically good:
  - Getting more scholarships.
  - Applying for aid (knowing options).
  - Choosing lower cost (lower interest rate) when loans are needed.
Do students have enough information to make optimal borrowing decisions?

- Low income, high ability students are less likely to enroll, suggesting “too little" borrowing.

- But default rates suggest some students borrow “too much".

- Certain things that are unequivically good:
  - Getting more scholarships.
  - Applying for aid (knowing options).
  - Choosing lower cost (lower interest rate) when loans are needed.
One potential response—personal finance coursework in high school

Question: Can access to financial education change students’ initial financial aid packages?
One potential response—personal finance coursework in high school

Question: Can access to financial education change students’ initial financial aid packages?
**PERSONAL FINANCE INCREASINGLY OFFERED**

**HISTORICAL COMPARISON – PERSONAL FINANCE EDUCATION 1998-2016**

**KEY**
- Include personal finance in their standards
- Standards required to be implemented
- High school course required to be offered
- High school course required to be taken
- Standardized testing of personal finance concepts

![Graph showing the historical comparison of personal finance education from 1998 to 2016.](image)

*Data from the year prior*
Rigorous financial education curricula increase credit scores and lower default rates on average.

OUTLINE

**MUS:** How does *offering* financial education in HS affect student aid packages across individuals?

**FULL US:** How does *requiring* financial education in HS affect student aid packages across universities?
Montana does not require personal finance
MT high schools can offer personal finance
We have collected data on high school course offerings linked to data from the Montana University System.

- Which schools have a personal finance or a joint econ & personal finance course?
- 78 out of 185 schools in MT (42%).

Can use transcripts to tell which students enrolled in personal finance classes.
Montana University System (MUS) administrative data

- Information on academic and student loans for all students who attend MT public schools and universities.
- Keep all in-state undergraduate students.
- Keep only students at the University of Montana and Montana State University.
- Use data from 2000-2013 for students going straight from HS to college.
**Montana Paired Data**

- Determine whether or not the student’s HS offered personal finance.
  - 41% of students in MUS data went to a MT HS that offered PF.
  - Usually taken as junior or senior.

- Future transcript data will allow us to identify students who actually enrolled in these courses

- These results are preliminary and highlight the value of data tracking students across levels of education.
WHERE ARE GAPS IN FINANCIAL LITERACY?

- Income inequality exists in the PISA financial literacy scores:
Big Question: Do schools that offer financial education look different from school that do not along the following dimensions?

- Income
- Population density
- Proximity to major city
- Reservation
- Proximity to MUS campus
**MT HS OFFERING PERSONAL FINANCE BY INCOME**

Montana Statewide Finance-Related Course Offerings:
2002/2003-2014/2015 School Years and Median Income by Town

**Median Income**
- 0 - 33,000
- 33,001 - 44,000
- 44,001 - 60,000
- 60,001 - 85,000

**Financial Course**
- None
- Offered
- Interstate

*Census data used for city median income and joined with school district data by "city".*

Data Source: MT State GIS Clearinghouse, 2015
US Census, NCES, Carly Urban and Chris Stoddard

**Stoddard, Urban**
**MT Financial Education**
**Montana State University**
MT HS OFFERING PERSONAL FINANCE BY FRPL

Montana Statewide Finance-Related Course Offerings: 2002/2003-2014/2015 School Years and Free and Reduced Lunch Ratio per School District HS Student Population

Free & Reduced
0.0 - 0.25
0.26 - 0.50
0.51 - 0.75
0.76 - 1.0

Financial Course
None
Offered
Interstate

Data Source: MT State GIS Clearinghouse, US Census 2015, NCES, Carly Urban and Chris Stoddard

STODDARD, URBAN
MT FINANCIAL EDUCATION

MONTANA STATE UNIVERSITY
**MT HS OFFERING PERSONAL FINANCE BY POPULATION**

![Map showing Montana Statewide Finance-Related Course Offerings: 2002/2003-2014/2015 School Years and High School Student Population](image)

**Montana Statewide Finance-Related Course Offerings: 2002/2003-2014/2015 School Years and High School Student Population**

- **Student Population**
  - 4 - 74
  - 75 - 149
  - 150 - 499
  - 500 - 749
  - 750 - 5070

- **Financial Course**
  - None
  - Offered
  - Interstate

Data Source: MT State GIS Clearinghouse, US Census 2015, NCES, Carly Urban and Chris Stoddard
Montana Statewide Finance-Related Course Offerings:
2002/2003-2014/2015 School Years and Minority Population

- None
- Offered

Minority Population:
- 0.0 - 0.095
- 0.096 - 0.25
- 0.26 - 0.57
- 0.58 - 1.0

Interstate Reservation Boundary

Data Source: MT State GIS Clearinghouse, 2015
US Census, NCES, Carly Urban and Chris Stoddard

MT HS offering personal finance by Minority
MT HS OFFERING PERSONAL FINANCE & MUS Campus

Finance-Related Courses Offered at Montana High Schools 2002/2003 - 2014/2015 and Montana University System District Boundary Overlap

Data Source: MT State GIS Clearinghouse, US Census 2015, NCES, Carly Urban and Chris Stoddard

STODDARD, URBAN
MT FINANCIAL EDUCATION

MONTANA STATE UNIVERSITY
Methods

We employ a difference-in-difference strategy to estimate the effect of offering financial education on student loans:

- Compare students within the same high school before and after the course was offered.
- Compare students across high schools that always or never offered the course over time.
- Include high school fixed effects, year fixed effects, and cluster standard errors at high school level.
**MUS Results**

Offering an elective course increases non-loan aid, but does not change public loans.

<table>
<thead>
<tr>
<th></th>
<th>Have Stafford</th>
<th>Sub Stafford $s</th>
<th>Unsub Stafford $s</th>
<th>Only Loans</th>
<th>Non-loan Aid $s</th>
<th>Work Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offered</td>
<td>-0.010</td>
<td>0.687</td>
<td>-5.062</td>
<td>-0.003</td>
<td>75.21*</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(18.637)</td>
<td>(22.755)</td>
<td>(0.008)</td>
<td>(30.71)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>N</td>
<td>21,313</td>
<td>21,313</td>
<td>21,313</td>
<td>21,313</td>
<td>21,313</td>
<td>21,313</td>
</tr>
<tr>
<td>Mean</td>
<td>0.49</td>
<td>$551</td>
<td>$390</td>
<td>0.139</td>
<td>$985</td>
<td>0.17</td>
</tr>
</tbody>
</table>
States that require personal finance courses to be completed before graduation provide across the US:

- Compare student aid in schools within states that *required* a course in financial education.
- Compare student aid in schools within states *without* financial education requirements.
- Include institution fixed effects, year fixed effects, and cluster standard errors at state level.
Some states directly teaching student loans in curricula.

- For example, in Texas, the State Board of Education requires that all students “understand the various methods available to pay for college and other postsecondary education and training.”
- Includes
  - understanding how to complete the FAFSA
  - researching and evaluating scholarship opportunities
  - comparing grant options, comparing private and federal student loans
  - evaluating work-study options
  - investigating any non-traditional methods of financing college or training
Financial Education increases applications for aid and decreases private lending

<table>
<thead>
<tr>
<th></th>
<th>Applied for Aid</th>
<th>Sub Stafford $s</th>
<th>Unsub Stafford $s</th>
<th>Only Loans</th>
<th>Private Loan $s</th>
<th>Have CC Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF</td>
<td>0.033*</td>
<td>100.08</td>
<td>16.48</td>
<td>-0.012+</td>
<td>-169.66*</td>
<td>-0.022*</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(62.05)</td>
<td>(77.32)</td>
<td>(0.007)</td>
<td>(66.88)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Mean</td>
<td>0.88</td>
<td>$925</td>
<td>$726</td>
<td>0.073</td>
<td>$516</td>
<td>0.11</td>
</tr>
</tbody>
</table>
# Effects Across Institutions

<table>
<thead>
<tr>
<th></th>
<th>Applied for Aid</th>
<th>Sub Stafford $s</th>
<th>Unsub Stafford $s</th>
<th>Only Loans</th>
<th>Private Loan $s</th>
<th>Have CC Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public 4 year Institutions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF</td>
<td>0.040**</td>
<td>153.51*</td>
<td>74.30</td>
<td>-0.015</td>
<td>-117.62</td>
<td>-0.041**</td>
</tr>
<tr>
<td>(0.015)</td>
<td>(69.77)</td>
<td>(94.27)</td>
<td>(0.010)</td>
<td>(70.22)</td>
<td>(0.012)</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>14,714</td>
<td>14,714</td>
<td>14,714</td>
<td>14,714</td>
<td>14,714</td>
<td>14,714</td>
</tr>
<tr>
<td>Mean</td>
<td>0.895</td>
<td>1076</td>
<td>905</td>
<td>0.098</td>
<td>473</td>
<td>0.390</td>
</tr>
<tr>
<td><strong>Private 4 year Institutions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF</td>
<td>0.013</td>
<td>2.13</td>
<td>-36.12</td>
<td>-0.010</td>
<td>-271.54*</td>
<td>0.008</td>
</tr>
<tr>
<td>(0.014)</td>
<td>(90.10)</td>
<td>(101.67)</td>
<td>(0.009)</td>
<td>(129.03)</td>
<td>(0.013)</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>10,640</td>
<td>10,640</td>
<td>10,640</td>
<td>10,640</td>
<td>10,640</td>
<td>10,640</td>
</tr>
</tbody>
</table>
CONCLUSIONS

More to be done on financial education and student loans:

- Need more local data to see how education affects loans at relevant institution
- What *should* students learn in HS?
- What do electives displace? What do requirements displace?