Financial Education and the Debt Repayment of Young Adults

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- The views expressed in this talk are those of the authors and do not necessarily represent the views of the Federal Reserve Board, the Federal Reserve System, or their staffs.
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Financial Literacy in the U.S.

Financial Literacy in the U.S. is generally low, but financial knowledge amongst young adults is particularly weak:

- $< \frac{1}{3}$ of Americans ages 23 - 28 possess basic knowledge of interest rates, inflation and risk diversification. (Lusardi, Mitchell, and Curto (2010)).

  ▸ Big Three Questions

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Low Levels of Financial Literacy have been associated with:

- lower rates of planning for retirement, asset accumulation, stock market participation (Lusardi and Mitchell (2007, 2014); Lusardi et al. (2010); van Rooij et al. (2012)).
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Policy Response: Financial Education in the U.S.

After 2008 financial crisis, policymakers intensified efforts to increase financial literacy in the U.S.

- Push towards K-12 personal finance and economic education requirements.
- Existing body of research on the effectiveness of personal finance education yields conflicting findings (Fernandes et al. (2013); Willis (2011)).
- This paper independently examines the effect of specific, well-defined personal finance mandates in three states.

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Previous Literature

Paper	Financial Education	Other Education	Sample
Brown et al. FRBNY WP (2013)	$\uparrow$ credit score $\downarrow$ CC, auto delinquency	Econ $\uparrow$ debt Math $\uparrow$ bankruptcy	22-28
Cole et al. HBS WP (2012)	No effect	Math $\downarrow$ debt	24-54
Tennyson & Nguyen JCA (2001)	$\uparrow$ literacy only when tested		HS Students
Bernheim et al. JPubE (2001)	$\uparrow$ stock participation $\uparrow$ asset accumulation	Merges Econ & Personal Finance	30-49

Potential Faults with Previous Literature

Previous literature often assumes all mandates $=$

- Mandates often implemented at a lag.
- After mandate, some states do not require school districts to implement the curriculum.
- Hard to identify financial education effects if other mandates change at the same time.

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Potential Faults with Previous Literature

Studies looking at effects later down the road

- Rely on retrospective survey data (Bernheim et al. (2001)).
- Make long-term assumptions regarding the probability of moving (Cole et al. (2013)).
- Hard to precisely estimate the effects.

Potential Faults with Previous Literature

Studies that do look at differences in mandates (Tennyson and Nguyen (2001))

- Use survey data to look at immediate changes in knowledge–not observational differences in outcomes.
- May miss any changes in “attention."

Our Contribution

Question: What are the effects of an intensive personal finance course requirement in HS on credit behavior?

- Choose 3 states with intensive mandates passed post-2000: GA, ID, TX
- Determine exactly what mandates entailed: standardized curricula, graduation requirements, testing, etc.
- Begin treatment with first class affected by mandate.

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How do intensive mandates affect behavior?

- Relax assumption that all financial education equivalent.
- Use administrative data from the Consumer Credit Panel (CCP) to determine if young adults (18-22) have better financial outcomes after exposure to financial education.
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Collect Data on Financial Education Mandates from 2000 to present from:

- Jump$tart Coalition for Personal Financial Literacy
- Council for Economic Education (CEE) Survey of the States
- Champlain College Center for Financial Literacy
    - In many cases, Jump$tart and CEE conflict.
    - Actual implementation (vs. mandate) matter.
- Direct contact with states, graduation requirement documents, standardized curriculum.

Treatment States: GA, ID, TX

- Each came into effect with graduating class of 2007.
- Each taught Personal Finance in a required HS Economics course.
- Each offered a model curriculum.
- Each course was required for graduation.
- No other mandated economics, personal finance, or math course requirement changes in the sample period (2000-2013)

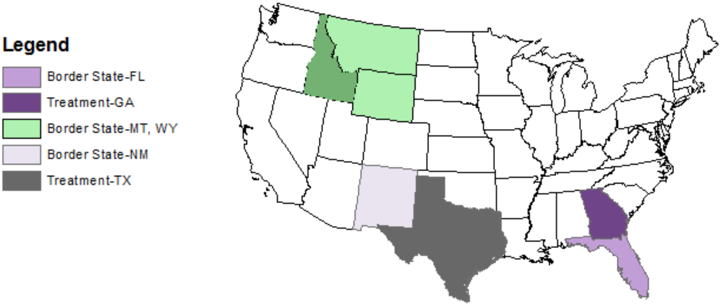
State	Length	Testing
Georgia	1yr	Yes
Idaho	0.5 yr	No
Texas	1yr	Yes

Model Curricula: GA, ID, TX

All three states contain the following topics in their sample curricula:

- Understanding interest.
- Credit, debt, banking.
- The role of insurance.
- Understanding credit scores.
- Interactions between global and domestic economies.

Treatment and Border Control States



Consumer Credit Panel Data

Use observational quarterly panel data from the FRBNY's CCP

- 5% sample of U.S. credit files from Equifax.
- Know birth-date, so we assume age 18 $=$ graduation year.
- Not all individuals in sample have credit files at 18, assume HS state = current state.
- Restrict the sample to those 18-22 years of age.

Outcomes:

- Credit Score
- Delinquency: Any Account 30 days behind, $>$ 60, Credit Card 30 days
- Total Debt and Credit Card Debt

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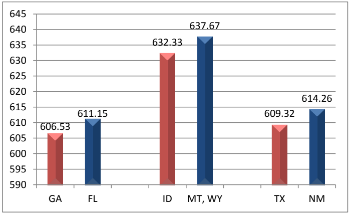
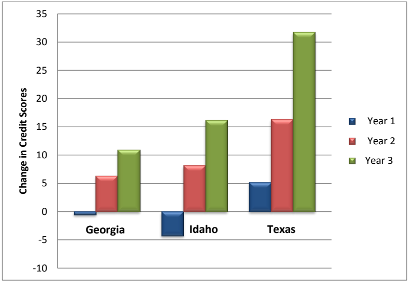
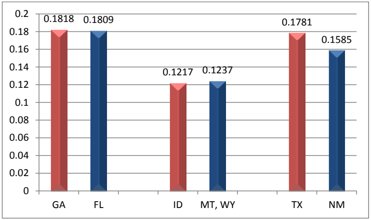
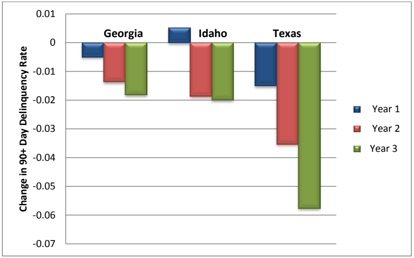
Financial Education Increases Credit Scores by Year 3





Financial Education Reduces 90+ Delinquency Rates





Debt

Debt level changes

- In all three states, we see a reduction in total debt and credit card debt.
- Put stock into the sign but not the magnitude since this is measured once a month and mind not indicate total debt levels.

Discussion

- The results vary by state.
- We do not know if this drives individuals to acquire more financial knowledge later in life, or how long the effect persists, but it puts them at a higher initial level of knowledge.
- Even the most costly and intensive interventions have only modest benefits.

Discussion

- Suggest intensive mandates have an effect on early-life delinquency and credit scores.
- Need research to determine what lighter interventions do.
    - Behavioral effect or knowledge gains?

Discussion

What about homeownership?

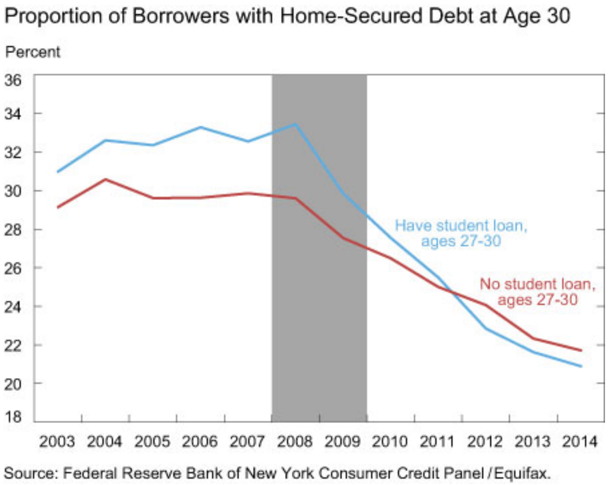
- Lower delinquency rates imply:
  1. Higher savings rates
     - May delay homeownership
  2. Better credit, and better mortgage prospects
     - Better borrowers who are less likely to default later
     - Higher credit approval ratings.

Discussion

What do we find?

- Based on survey data from FINRA's National Financial Capability Study and intensive mandates across states
- Find that young adults with financial educaiton are slightly less likely to be homeowners
- These courses may make young adults more risk averse
- Results for all states, not just Montana, where prices are different than the rest of the U.S.

Discussion


Proportion of Borrowers with Home-Secured Debt at Age 30
Percent
36
34
32
30
28
26
24
22
20
18
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Have student loan, ages 27-30
No student loan, ages 27-30
Source: Federal Reserve Bank of New York Consumer Credit Panel / Equifax.

Discussion

Why does more debt do to household formation?

- Delay marriage (Addo, 2014)
- Potential for delaying starting a family for higher-income subgroups, less incentive for purchasing a home.
- Knowledge about potential for buying first home, and when it is affordable.

Resources

- Consumer Financial Protection Bureau (CFPB) Toolkit
  http://www.consumerfinance.gov/reports/advancing-k-12-financial-education-a-guide-for-policymakers/
- Center for Financial Security (CFS) at University of Wisconsin-Madison
  http://www.cfs.wisc.edu
  - Money Smart Twitter Chat Tomorrow 1:00 Central Time
- National Endowment for Financial Education (NEFE) Toolkit
  http://toolkit.nefe.org
- Global Financial Literacy Excellence Center (GFLEC) at George Washington University
  gflec.org
  - Annamaria Lusardi's Wall Street Journal Blog
- Take Charge America Institute (TCAI) at the University of Arizona
  https://tcainstitute.org

Contact

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Big 3 Questions (*Lusardi and Mitchell (2008, 2011)*)

1. Suppose you had $100 in a savings account and the interest rate was 2 percent per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than $102, exactly $102; less than $102; do not know; refuse to answer.
2. Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After 1 year, would you be able to buy: more than, exactly the same as, or less than today with the money in this account; do not know; refuse to answer.
3. Do you think that the following statement is true or false? “Buying a single company stock usually provides a safer return than a stock mutual fund." [true; false; do not know; refuse to answer]

Timeline Figure