Financial Education and the Debt Repayment of Young Adults

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Disclaimer

- 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.

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)).
- greater use of high cost financial services (National Financial Capability Study (2013)) and higher levels of debt (Lusardi and Tufano (2009); Meier and Springer (2010)).
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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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Policy Response: Financial Education in the U.S.

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## Previous Literature

<table>
<thead>
<tr>
<th>Paper</th>
<th>Financial Education</th>
<th>Other Education</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown et al. FRBNY WP (2013)</td>
<td>↑ credit score</td>
<td>Econ ↑ debt</td>
<td>22-28</td>
</tr>
<tr>
<td></td>
<td>↓ CC, auto delinquency</td>
<td>Math ↑ bankruptcy</td>
<td></td>
</tr>
<tr>
<td>Cole et al. HBS WP (2012)</td>
<td>No effect</td>
<td>Math ↓ debt</td>
<td>24-54</td>
</tr>
<tr>
<td>Tennyson &amp; Nguyen JCA (2001)</td>
<td>↑ literacy</td>
<td></td>
<td>HS Students</td>
</tr>
<tr>
<td></td>
<td>only when tested</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bernheim et al. JPubE (2001)</td>
<td>↑ stock participation ↑ asset</td>
<td>Merges Econ &amp; Personal Finance</td>
<td>30-49</td>
</tr>
<tr>
<td></td>
<td>accumulation</td>
<td></td>
<td></td>
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</tbody>
</table>
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.

→ Each caveat could generate a null effect.
Potential Faults with Previous Literature

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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.
- Also ensure that no other mandates changed for treatment or control states.
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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)

<table>
<thead>
<tr>
<th>State</th>
<th>Length</th>
<th>Testing</th>
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<tbody>
<tr>
<td>Georgia</td>
<td>1 yr</td>
<td>Yes</td>
</tr>
<tr>
<td>Idaho</td>
<td>0.5 yr</td>
<td>No</td>
</tr>
<tr>
<td>Texas</td>
<td>1 yr</td>
<td>Yes</td>
</tr>
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State Financial Education
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.
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

- Year 1: Georgia (606.53), Texas (611.15), Idaho (632.33), MT, WY (637.67)
- Year 2: Georgia (609.32), Texas (614.26), Idaho (590), MT, WY (595)
- Year 3: Georgia (610), Texas (615), Idaho (600), MT, WY (605)

Change in Credit Scores:
- Georgia: Year 1 (-10), Year 2 (15), Year 3 (25)
- Idaho: Year 1 (-5), Year 2 (10), Year 3 (15)
- Texas: Year 1 (-5), Year 2 (10), Year 3 (15)
Financial Education Reduces 90+ Delinquency Rates

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State Financial Education
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.
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?
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 education 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

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
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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

- Grad Year 2000 Sample: 18-22 yr olds
- Grad year 2001 Sample
- Grad year 2002 Sample
- Grad year 2003 Sample
- Grad year 2004 Sample
- Grad year 2005 Sample
- Grad year 2006 Sample
- Policy Begins
- Last year of Policy Estimated