The George Washington University School of Business, June 21, 2012

Improving Financial Literacy and Capability: What Works?

The Geography of Financial Capability and Financial Literacy

SUMMARY OF FINDINGS FROM 2011 RESEARCH
National Financial Capability Study

• Conducted to establish a baseline measure of Americans’ ability to manage their money.

Multi-disciplinary team:

» Annamaria Lusardi (GWU)
» Applied Research & Consulting LLC (ARC)
» FINRA Investor Education Foundation
» Office of Financial Education, U.S. Treasury Department

» Additional input from:
  • Employee Benefit Research Institute (EBRI)
  • American Institute of Certified Public Accountants (AICPA)
  • Bob Willis, Univ. of Michigan, past PI of U.S. Health and Retirement Study
Objectives of FLC Research

- Atlas of financial capability for the United States
  - Create two indices that can be used to identify the states where Financial Literacy and Financial Capability are low and where more initiatives should be considered.
    - **Financial Literacy Index**: Summarize 5 financial literacy quiz questions to provide a measure of financial knowledge.
    - **Financial Capability Index**: Combine the information on four main areas of behavior to provide a measure of financial capability.
Objectives of FLC Research

- Explore the effects of geography on Financial Literacy and Financial Capability.
  - Assess the extent to which index values are correlated with publicly available state-by-state measures of financial well-being.
  - Determine the magnitude of geographic effects on Financial Literacy and Financial Capability when isolated from underlying demographic effects.

Note: Data in this report are from the NFCS State-by-State online survey of 28,146 respondents (approx. 500 per state plus DC).
Financial Literacy Index

- Summarizes 5 financial literacy quiz questions to provide a measure of financial knowledge.
  - Interest rate question
  - Inflation question
  - Bond price question
  - Mortgage question
  - Risk question
Financial Literacy Index

- Number of Correct Answers to Financial Literacy Quiz

<table>
<thead>
<tr>
<th>Number of Correct Answers</th>
<th>Percent</th>
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<tbody>
<tr>
<td>None</td>
<td>7%</td>
</tr>
<tr>
<td>One</td>
<td>11%</td>
</tr>
<tr>
<td>Two</td>
<td>17%</td>
</tr>
<tr>
<td>Three</td>
<td>24%</td>
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<tr>
<td>Four</td>
<td>27%</td>
</tr>
<tr>
<td>Five</td>
<td>15%</td>
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Financial Capability Index

Questions selected to represent each of the four key components of Financial Capability:

- **Making Ends Meet**
  - Spending vs. income

- **Planning Ahead**
  - Planning for retirement
  - Rainy day funds

- **Managing Financial Products**
  - Banked vs. unbanked
  - Non-bank borrowing behaviors
  - Credit card behaviors

- **Financial Knowledge and Decision-Making**
  - Financial literacy
Financial Capability Index

- Index created by summing score across the seven variables.

Mean = 0.51
Financial Capability Index by State

Highest
High
Average
Low
Lowest

FLC Financial Literacy Center
A joint center of the RAND Corporation, Dartmouth College, and the Wharton School
External Economic Measures

Five measures of economic well-being were obtained for each state:

- **Poverty**
  - % population below poverty level (U.S. Census Bureau, American Community Surveys, 2008 and 2009)

- **Foreclosures**
  - Foreclosure rates (CNN/Realty Trac, April 2009)

- **Unemployment**

- **Bankruptcy**
  - 2009 bankruptcy rates (American Bankruptcy Institute)

- **Public Assistance**
  - % population receiving public assistance (U.S. Census Bureau, American Community Surveys, 2008 and 2009)
Correlations

- Significant negative correlations found between both Literacy and Capability indices and state poverty levels.

<table>
<thead>
<tr>
<th>Correlations with State Poverty Levels</th>
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</thead>
<tbody>
<tr>
<td>Financial Literacy Index</td>
<td>-.63</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Financial Capability Index</td>
<td>-.66</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

- No significant correlations with other external measures analyzed.
Financial Literacy and Poverty Levels

- States with higher Financial Literacy scores tend to have lower poverty levels.

$r = -.63, p < .001$
Financial Capability and Poverty Levels

- Similarly, states with higher Financial Capability scores also tend to have lower poverty levels.

$r = -0.66, p < 0.001$
Isolating Geographic Effects

- Hierarchical regressions were conducted to assess the magnitude of geographic effects on Financial Literacy and Financial Capability while controlling for differences in state demographics.
  - In each model, demographic variables – age, gender, ethnicity, income, education, marital status – were entered in the first block, and state in the second block.
    - Dummy variables were created for gender, ethnicity, education, marital status, and state of residence. Age and income were recoded into continuous variables.
Magnitude of Geographic Effects

- In both models, geography appears to contribute little predictive power over demographics.
  - Demographics alone account for 20% of the variation observed in Financial Literacy and 29% in Financial Capability.
  - The addition of state variables adds 0.4% and 0.3% respectively, to each of the models.

<table>
<thead>
<tr>
<th>Financial Literacy</th>
<th>Vars. added</th>
<th>$R^2$</th>
<th>$F$</th>
<th>$p$</th>
<th>Financial Capability</th>
</tr>
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<tr>
<td></td>
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<td></td>
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<tr>
<td>Demographic</td>
<td>20.3%</td>
<td>796.87</td>
<td>&lt;.001</td>
<td></td>
<td>Demographic</td>
</tr>
<tr>
<td>Geographic</td>
<td>0.4%</td>
<td>2.92</td>
<td>&lt;.001</td>
<td></td>
<td>Geographic</td>
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Geographic Effects on Financial Literacy

- States with significant impact on Financial Literacy

<table>
<thead>
<tr>
<th>State</th>
<th>B</th>
<th>t value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Dakota</td>
<td>0.250</td>
<td>2.920</td>
<td>0.004</td>
</tr>
<tr>
<td>Idaho</td>
<td>0.164</td>
<td>2.030</td>
<td>0.042</td>
</tr>
<tr>
<td>Connecticut</td>
<td>-0.165</td>
<td>-2.024</td>
<td>0.043</td>
</tr>
<tr>
<td>New Jersey</td>
<td>-0.165</td>
<td>-2.044</td>
<td>0.041</td>
</tr>
<tr>
<td>New York</td>
<td>-0.169</td>
<td>-2.083</td>
<td>0.037</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>-0.172</td>
<td>-2.120</td>
<td>0.034</td>
</tr>
</tbody>
</table>
Geographic Effects on Financial Capability

- States with significant impact on Financial Capability

<table>
<thead>
<tr>
<th>State</th>
<th>B</th>
<th>t value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Georgia</td>
<td>0.324</td>
<td>2.074</td>
<td>0.038</td>
</tr>
<tr>
<td>Hawaii</td>
<td>-0.402</td>
<td>-2.300</td>
<td>0.021</td>
</tr>
</tbody>
</table>
Next Steps

• The 2012 National Financial Capability Study
  ○ Recommended by President’s Advisory Council
  ○ Funded by FINRA Investor Education Foundation
  ○ Consultation with Treasury, DoD, CFPB and others

• In 2013, the FLC would like to:
  ○ Update the geographic indices and analyze changes since ’09
  ○ Develop a more sophisticated Financial Capability Index
  ○ Determine if changes in state-by-state economic indicators correlate with changes in literacy and/or capability