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Financial literacy and financial decision making: Evidence and Implications for Financial Education

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The importance of financial literacy

A new economic landscape

Major changes that increase individuals’ responsibility for their financial well-being

- Changes in the pension landscape
  - From DB to DC

- Changes in the labor markets
  - Divergence in wages – skills are critical
  - Pensions have to be portable

- Changes in the financial markets
  - More complex financial instruments
  - More opportunities to borrow
Overview of existing academic work

Article for the Journal of Economic Literature

A lot of new work in this field:

- A theoretical framework for financial literacy
  • Investment un human capital
- Measuring financial literacy
  • Evidence across countries
- The landscape of financial literacy
  • Who knows the most and the least?
- Does financial literacy matter?
  • Implications for financial education programs
The financial literacy approach

Financial literacy approach recognizes

➢ That individuals have to make more decisions than in the past
  • Focus on the individual: he/she is the decision-maker

➢ That financial literacy can be the result of choice
  • Investment in human capital

➢ Costs and benefits of financial literacy
  • Effects on returns but cost of acquiring fin literacy
Measuring financial literacy

Essential concepts for financial decision-making

- Many surveys
- Some concepts have been tested across countries
- From basic to sophisticated knowledge
To test numeracy and understanding of interest rates, we asked:

“Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?”

i) More than $102
ii) Exactly $102
iii) Less than $102
iv) Don’t know
v) Refuse to answer
To test understanding of inflation, we asked:

“Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, with the money in this account, would you be able to buy

i) More than today
ii) Exactly the same as today
iii) Less than today
iv) Don’t know
v) Refuse to answer
Finally, to test understanding of risk diversification, we asked:

“Do you think the following statement is true or false? *Buying a single company stock usually provides a safer return than a stock mutual fund.*”

i) True
ii) False
iii) Don`t know
iv) Refuse to answer
Financial Literacy around the World (FLat World)

These questions have been added to national surveys in:

- The Netherlands
- Germany
- Italy
- Sweden
- Russia
- New Zealand
- Japan
- USA
Financial Literacy Around the World

We published a paper for each participating country
## How much do Americans know?

### Distribution of responses across the U.S. population (2009 Financial Capability Survey)

<table>
<thead>
<tr>
<th></th>
<th>Correct</th>
<th>Incorrect</th>
<th>DK</th>
<th>Refuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate</td>
<td>65%</td>
<td>21%</td>
<td>13%</td>
<td>1%</td>
</tr>
<tr>
<td>Inflation</td>
<td>64%</td>
<td>20%</td>
<td>14%</td>
<td>2%</td>
</tr>
<tr>
<td>Risk diversif.</td>
<td>52%</td>
<td>13%</td>
<td>34%</td>
<td>1%</td>
</tr>
</tbody>
</table>

NB: Only 30% correctly answer all 3 questions; less than half (46%) got the first two questions right.
### How much do Germans know?

**Distribution of responses across the German population (2009 SAVE)**

<table>
<thead>
<tr>
<th></th>
<th>Correct</th>
<th>Incorrect</th>
<th>DK</th>
<th>Refuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate</td>
<td>82%</td>
<td>7%</td>
<td>11%</td>
<td>0%</td>
</tr>
<tr>
<td>Inflation</td>
<td>78%</td>
<td>5%</td>
<td>17%</td>
<td>0%</td>
</tr>
<tr>
<td>Risk diversif.</td>
<td>62%</td>
<td>6%</td>
<td>32%</td>
<td>0%</td>
</tr>
</tbody>
</table>

NB: About half (53%) correctly answer all 3 questions; 72% got the first two questions right.
## How much do Dutch know?

### Distribution of responses across the Dutch population (2010 DNB Household Survey)

<table>
<thead>
<tr>
<th></th>
<th>Correct</th>
<th>Incorrect</th>
<th>DK</th>
<th>Refuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate</td>
<td>85%</td>
<td>5%</td>
<td>9%</td>
<td>1%</td>
</tr>
<tr>
<td>Inflation</td>
<td>77%</td>
<td>8%</td>
<td>14%</td>
<td>1%</td>
</tr>
<tr>
<td>Risk diversif.</td>
<td>52%</td>
<td>13%</td>
<td>33%</td>
<td>2%</td>
</tr>
</tbody>
</table>

NB: Less than half (45%) correctly answer all 3 questions; 73% got the first two questions right.
Results of financial literacy research

What we have learned

- Financial literacy is very low across the population
  - Financial illiteracy is widespread

- Findings are very similar across countries
  - The world is *flat*

- Risk is the most difficult concept for people to grasp
  - Similar results when using other questions
Landscape of financial literacy

Large difference in financial literacy

- Financial literacy is very low among:
  - Young
  - Old
  - Those without a college degree
  - African-Americans and Hispanics
  - Women
Gender differences in financial literacy

Similar patterns across countries

1. Financial literacy is lower among women than men across countries
2. Women answer in the same way across countries; they say they “do not know”
“Do not know” responses by gender (age: 23-28, US)
Linking Financial Literacy to Behavior

Debt and debt management

Investments

Planning and wealth accumulation
The effects of financial literacy on retirement planning

Findings across countries

1. Financial literacy affects retirement planning, and participation in pension plans
2. Estimates are sizeable
3. Knowledge of risk diversification is what matters most
4. The effect is “causal”
Need to look at debt and debt management

Household balance sheets

1. Many families carry debt and until late in the life-cycle
2. One in four Americans has used high-cost methods of borrowing in a 5-year time
3. Leakage from retirement accounts
4. Young workers start their career often heavily in debt
<table>
<thead>
<tr>
<th>In the past 12 months</th>
<th>Total</th>
<th>18-29</th>
<th>30-44</th>
<th>45-59</th>
<th>60+</th>
</tr>
</thead>
<tbody>
<tr>
<td>I always paid credit cards in full</td>
<td>54%</td>
<td>51%</td>
<td>45%</td>
<td>44%</td>
<td>75%</td>
</tr>
<tr>
<td>In some months, I carried over a balance and was charged interest</td>
<td>51%</td>
<td>46%</td>
<td>62%</td>
<td><strong>58%</strong></td>
<td>33%</td>
</tr>
<tr>
<td>In some months, I paid the minimum payment only</td>
<td>29%</td>
<td>41%</td>
<td>35%</td>
<td><strong>31%</strong></td>
<td>11%</td>
</tr>
<tr>
<td>In some months, I was charged a fee for late payment</td>
<td>23%</td>
<td>24%</td>
<td>27%</td>
<td><strong>29%</strong></td>
<td>11%</td>
</tr>
<tr>
<td>In some months, I was charged a fee for exceeding my credit line</td>
<td>8%</td>
<td>14%</td>
<td>8%</td>
<td><strong>9%</strong></td>
<td>2%</td>
</tr>
<tr>
<td>In some months, I used the cards for a cash advance</td>
<td>8%</td>
<td>11%</td>
<td>10%</td>
<td><strong>8%</strong></td>
<td>5%</td>
</tr>
</tbody>
</table>

*Interest and fees payments even late in the life-cycle*
What to do?

Ideal venues for fin education programs

- In schools
  - Easier to reach the young
  - Need a base on which to build

- In the workplace
  - Easier to reach the adults
  - Growing importance of DC pensions

- In libraries, local communities, museums
  - Where people go to learn
Implications for financial education

Suggestions from research

➢ Adequate intervention
  • Financial illiteracy is widespread

➢ One size does not fit all
  • Individuals are very different, in financial literacy as well

➢ Focus on women
  • Large group and aware of lack of literacy

➢ Individuals make many financial decisions and decisions are interrelated
Workplace financial education

Five steps to planning success

- We designed a program for young workers
  - The are the ones with low literacy

- Kept the message free of economic/finance jargon
  - Very important for women

- Covered risk and risk diversification
  - Very difficult concept to grasp

- Used new method of communication
  - Telling a story using a video
Short video about risk

Risk diversification = don’t put all your eggs in one basket

Link to Video
Visualizing risk: FLC project

The width of the cone represents all possible outcomes in one year.

But because this investment has some risk, you could make even more - up to $6600.

The midpoint of the cone represents the outcome you're most likely to get.

But you could also lose money and end up with only $4200.

Don't put all your savings in one basket: FinVis
Turning to the older population and retirement

Financial Literacy: Implications for Retirement Security and the Financial Marketplace
Where to go next

Areas where more work can be done

- More theoretical work on fin literacy
- Use data on financial literacy across countries
  - Use new data from 2012 PISA to target the young
- Need for more programs and more evaluation to know what works
Final thoughts

“If you think education is expensive, try ignorance”

D. Bok (Former President of Harvard)

“Simplicity is the ultimate sophistication”

Leonardo da Vinci (1452-1519)
Concluding

Many thanks to TIAA-CREF for their support

More information is provided on our Financial Literacy Center website:

http://www.rand.org/labor/centers/financial-literacy/projects.html

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