The ABCs of Financial Literacy
Experimental Evidence on Attitudes, Behavior, and Cognitive Biases

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Motivation

- A combination of technology, financial liberalization and government/private sector initiatives have made financial products widely available.

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- Yet, not clear that these people will be equipped to make optimal financial decisions.
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- Not a user-friendly system – financial products often complex and difficult to evaluate
  - Calculating interest rates (flat or declining; compounding)
  - Anticipating liquidity needs, inflation, etc.
  - Comparing multi-dimensional products
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- Inter-temporal trade-offs sometimes difficult
  - Self control problems (Ashraf, Karlan and Yin, 2006)
  - Difficulty understanding compound rates (Stango and Zinman, 2009)
  - Other behavioral concerns: procrastination, “channel” factors
Can Financial Literacy Help?

- Compelling survey evidence from the developed world shows strong positive correlation. HHs with low financial education:
  - Tend not to plan for retirement (Lusardi and Mitchell, 2007a)
  - Borrow at higher interest rates (Lusardi and Tufano, 2008; Stango and Zinman, 2006)
  - Acquire fewer assets (Lusardi and Mitchell, 2007b)
  - Participate less in the formal financial system (Alessie, Lusardi and van Rooij, 2007; Hogarth and O. Donnell, 1999).

- Evidence from the developing world shows similar correlations (Cole, Sampson and Zia, 2011; Klapper and Lusardi, 2012)
Global Interest in Financial Literacy

- **US**: President’s Advisory Council on Financial Literacy
- **Indonesia**: 2008 was “Year of Financial Education”
- **India**: RBI has established Financial Literacy and Credit Counseling Centers
- International and Private organizations are also pushing heavily for financial literacy programs:
  - **World Bank**: $15 Million Russia Financial Literacy Trust Fund
  - **Citi Foundation**: 10-year $200 Million global program on financial education, operating in 65 countries
But is there a Causal Relationship?

- Survey-based inference is difficult – unobserved factors

- Observational evidence mixed – Bernheim, et. al. (2003) find some effect, Cole and Shastri (2010) find no effect

- Experimental evidence shows only modest effects – Cole, Sampson and Zia (2011)
Why No/Small Effects?

- Financial education may not be effective
  - Behaviors difficult to change
  - Generic courses may not be relevant, interesting or informative to individuals
  - Skilled and engaging educators difficult to find
  - Difficult to teach adults anything
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- Measuring change may be difficult
  - Basic surveys may not pick-up changes
  - Administrative data typically not available
  - Lack of statistical power to detect small changes
This Paper (1)

- Research design to overcome both these problems:
  - Video-based delivery – high quality, well produced, engaging content with local celebrities and ordinary people as actors
  - Large sample size – 1200 observations, randomized at the individual level. This design enables us to detect even small effects
Research design to identify entire causal chain of impact:

- Financial literacy intervention $\rightarrow$ changes in financial knowledge $\rightarrow$ changes in financial behavior

- But how to measure changes in financial knowledge?

- We identify and test three distinct dimensions of financial knowledge: (1) Numeracy Skills, (2) Basic Financial Awareness, and (3) Financial Attitudes and Perceptions
Research design to identify precise channels through which financial literacy may be effective:

- Pay for performance on exit test – Angrist and Lavy (2010) find strong effects on test performance in Israeli schools

- Financial counseling – individualized financial advice

- Financial goal setting – Mullainathan and Shafir (2010) argue opening up of simple “channels” can facilitate behavior change
Experiment Design

- Study over several waves
  - To accommodate large sample size
  - To accommodate improvements in survey instrument

- Details of main intervention:
  - One-third (treatment): Financial literacy videos
  - One-third (treatment): Financial literacy videos + Counseling
  - One-third (control): Health literacy videos

- Additional interventions:
  - ½ of treatment: Financial goal setting
  - ½ of treatment and control: Pay for performance
Sample

Financial Literacy 1/3

Financial Literacy + Counseling 1/3

Health 1/3

Goal Setting 1/2

No Goal Setting 1/2

Pay for Performance on Video-related Questions 1/2

Pay for Performance on non-video-related Questions 1/2
<table>
<thead>
<tr>
<th>Item</th>
<th>Target Date</th>
<th>Achieved?</th>
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<td>MFI Savings Account</td>
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<td>Change Savings Habits :</td>
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<tr>
<td>Reduce expenditure on ________</td>
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<tr>
<td>Obtain Insurance</td>
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What Does Our Sample Look Like?

HH Characteristics
- Ave HH size: 6, Ave Monthly Income: Rs. 6891 ($150)
- 84% has a phone, 26% have a non-farm enterprise, 83% has water connection

Respondent Characteristics
- Ave Age: 39
- 57% female, 98% married
- Limited schooling: 49% completed elementary school, 4% completed secondary school
- 48% Saath MFI Clients
Analysis Step 1: Impact on Financial Knowledge

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  - Even individuals provided with financial incentives for their performance did not perform any better on financial numeracy questions
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- Financial education significantly changes respondents' attitudes towards purchasing and recommending financial services and financial planning tools
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  - Bank accounts or other forms of savings (post office, chitti fund, etc)
  - Real saving amounts
  - Less likely to borrow to pay for unforeseen expenses
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- No effect on consumption
Conclusion

- Comprehensive analysis of the entire causal chain of financial literacy
- Evidence on the types of knowledge that can be effectively conveyed
- Impact on actual behavior (yay!)
- Stitching together causal chain is important for policy so we understand mechanism, not just end outcome