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

This Paper (2)

- Research design to identify entire <u>causal chain </u>of impact:
  - Financial literacy intervention → changes in financial knowledge → 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

This Paper (3)

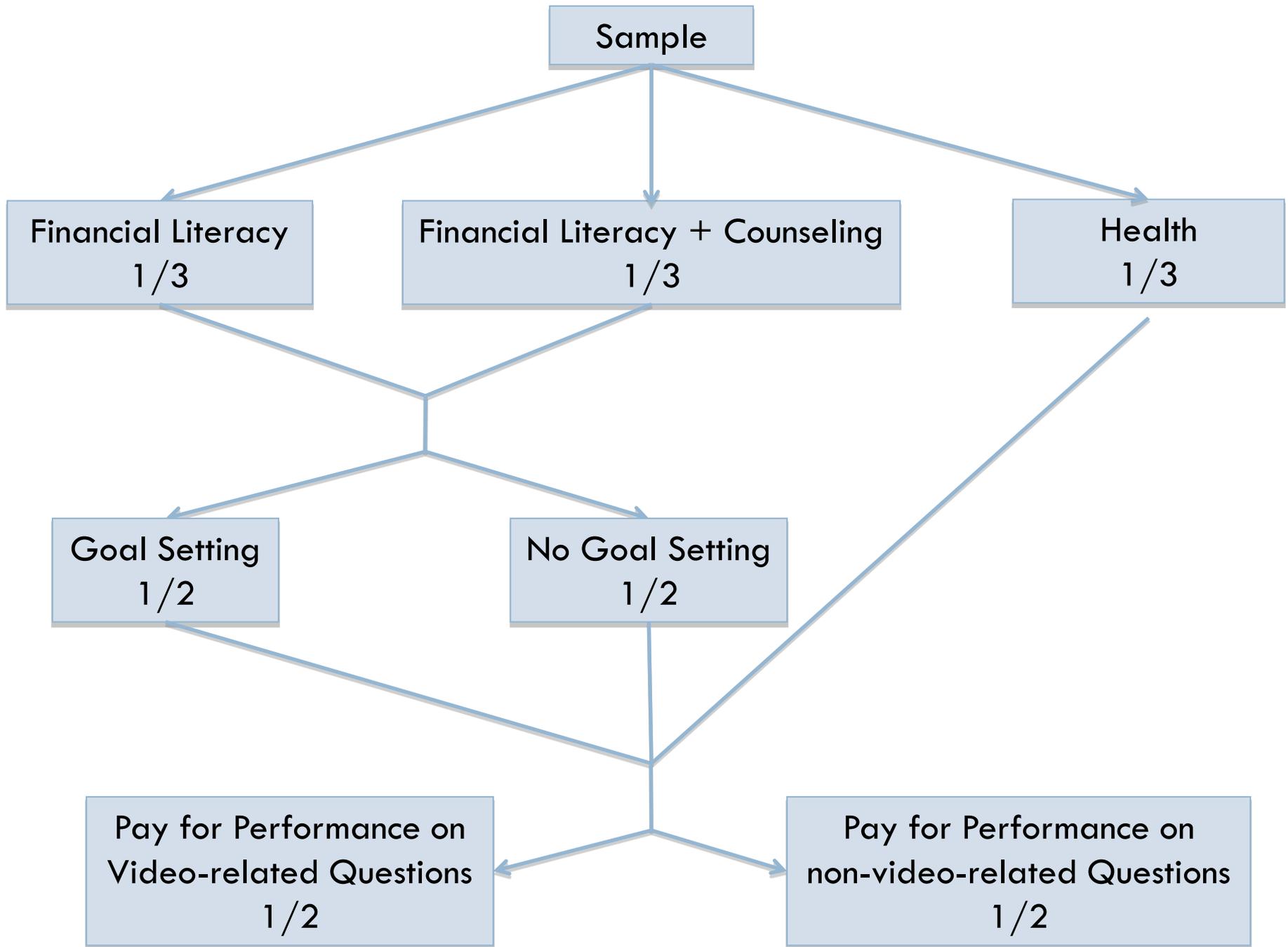- Research design to identify precise channels through which financial literacy may be effective:

  - 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

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                                    ┌─────────────┐
                                    │   Sample    │
                                    └─────────────┘
             ┌──────────────────────────┼──────────────────────────┐
             ▼                          ▼                          ▼
   ┌───────────────────┐   ┌──────────────────────────────┐   ┌─────────────┐
   │ Financial Literacy │   │ Financial Literacy + Counseling │   │   Health    │
   │        1/3         │   │              1/3               │   │     1/3     │
   └───────────────────┘   └──────────────────────────────┘   └─────────────┘
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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

Personal Financial Plan

Insert Photo Here

Item	Target Date	Achieved?
MFI Savings Account		
Bank Account		
Change Savings Habits : _____		
Reduce expenditure on _____		
Obtain Insurance		

Personal Financial Plan — MARCH-2010

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Personal Financial Plan — APRIL-2010

SUN	MON	TUE	WED	THU	FRI	SAT
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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

- Financial education has very limited role in equipping individuals to evaluate complex financial tradeoffs that require high numeracy skills
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- Financial education significantly changes respondents' attitudes towards purchasing and recommending financial services and financial planning tools

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Impact on Financial Behavior

- We have positive treatment effects on real behavior (what a relief!)
  - All treatments combined have the most significant effect (Financial Literacy + Counseling + Goal Setting)

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  - Budgeting (and thinking budgeting is important)

  - 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