The Impact of Financial Literacy Around the World
Motivation, Existing Evidence, and Upcoming Evaluations

Bilal Zia (World Bank)

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Motivation

A combination of technology, financial liberalization and government/private sector initiatives have made financial products widely available. An estimated 2 billion people worldwide will enter the formal financial system in the next 20 years (World Bank, 2008). Yet, it is not clear that these people will be equipped to make optimal financial decisions.
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  - Calculating interest rates (flat or declining; compounding)
  - Anticipating liquidity needs, inflation, etc.
  - Comparing multi-dimensional products
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- Trade-offs across time sometimes difficult
  - Self control problems (Ashraf, Karlan and Yin, 2006)
  - Difficulty understanding compound rates (Stango and Zinman, 2009)
  - Other behavioral concerns, e.g. procrastination, limited attention, laziness
Low levels of financial literacy

Financial literacy levels are low in developed countries. Lusardi and Mitchell (2011a) find that adults in the US do poorly on a basic multiple-choice test on interest rates, inflation, and risk diversification. Confirmed by cross-country surveys: Lusardi and Mitchell (2011b); Japelli (2010).

Financial literacy levels are even lower in developing countries. Cole, Sampson, and Zia (2010) in India and Indonesia; Klapper and Lusardi (2010) in Russia; Agarwal et al. (2010) also in India.
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Can financial literacy help?

Compelling survey evidence from both developed and developing countries shows strong positive correlations.

- Households 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).
- Less likely to diversify financial portfolios (Abreu and Mendes, 2010, in Portugal; Guiso and Jappelli, 2009, in Italy).
- Overestimate their credit rating (Perry, 2008).
- More likely to default on mortgages (Girardi, et al., 2010).
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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: $multi-million Russia Financial Literacy Trust Fund
  - OECD programs on financial literacy
  - Citi Foundation: 7 years into a 10-year $200 Million global program on financial education, operating in 65 countries
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...outstanding question is whether there is a causal relationship?

- Survey-based inference is difficult due to unobserved factors
- Observational evidence mixed
- Experimental evidence is extremely sparse
- Many new experiments in the field; we should learn a lot more in the coming few years
What we know: Non-Experimental Evaluations

Bernheim, et. al. (2003) use DD and find positive effects of US State financial education mandates on subsequent savings behavior. However, Cole and Shastri (2010) replicate the above study with larger sample and more rigorous specification and find no effects. Mandell and Klein (2009) also find no effect using high school matched sample design.

New work from Tufano (2011) shows positive impact of using video games to increase self-confidence and knowledge associated with financial skills.
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- Effects for small entrepreneurs are more promising, but vary widely:
  - Karlan and Valdivia (2010) find improvements in record-keeping, but not profits.
  - Fischer and Schoar (2010) find improvements in business outcomes, but only for rule-of-thumb based training.
  - Bruhn and Zia (2011) find improvements in business practices and investments, but not in survival rate.
  - Gine and Mansuri (2011) find improvements, but only for men.
  - De Mel, McKenzie and Woodruff (2011) find improvements in outcomes as well as entry frequency.
Challenges for financial literacy evaluation

- 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
- 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
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What Next?

Several ongoing studies are taking an in-depth look at:
- Mechanism of impact
- Innovative delivery methods
- Targeting specific populations
- Incorporating behavioral theories
- Studying peer effects

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  - important for understanding how financial literacy works
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- Carpena, Cole, Shapiro, and Zia (2011) examine: (1) numeracy skills, (2) basic financial awareness, and (3) financial attitudes and perceptions
Innovative delivery methods

Video-based delivery (Carpena, Cole, Shapiro, and Zia (2011))
- Comprehensive, high-quality, engaging videos on savings, credit, budgeting, and insurance
- Inexpensive replication

Financial literacy and mobile banking
- World Bank evaluation in India

Financial literacy through mass media
- World Bank evaluation of financial literacy through soap operas in South Africa

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Targeting specific populations

Focus thus far has been a bit general – e.g. unbanked households, microfinance clients. Upcoming evaluations are studying impacts on specific population groups:

- Farmers – World Bank and external researchers studying rainfall insurance
- Migrant workers – World Bank and external researchers studying remittances
- Students – World Bank evaluation on high school students in Brazil
- Cross-country comparisons – World Bank Russia Trust Fund has sponsored cross-country impact evaluations of financial literacy for savings, credit, insurance, and remittances
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Incorporating behavioral theories

Some upcoming studies combine financial literacy with some form of behavioral de-biasing. Limited attention and/or procrastination – World Bank study on financial literacy + deadlines; Karlan et. al. (2011) and Cadena and Schoar (2011) study SMS reminders. Overestimating small-scale probabilities – World Bank study on financial literacy + lottery de-biasing. Narrow bracketing – World Bank study on financial literacy + hire-purchase de-biasing. Framing – World Bank study on giving up (-ve) vs. building up (+ve).
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- Some ongoing studies specifically include a peer effects component
  - South Africa study of mine workers (Cole, Shapiro, and Shastry)
  - Uganda study of small-scale industrial clusters (World Bank)
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  - World Bank approach of cross-country consumer financial awareness surveys
  - World Bank Russia Trust Fund initiative for in-depth country indicators based on quantitative and qualitative factors
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- These are complementary rather than competing approaches
Conclusion

Existing evidence on the impact of financial literacy is sparse. Good news is that many rigorous evaluations are on the way. These evaluations are very important to understand what works, how it works, and for whom it works. To form broad policy advice that can be applicable to various countries and settings. Many researchers involved in studying financial literacy. The World Bank is one of the strongest stakeholders in this area.
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