Financial Literacy Overconfidence and Household Financial Behaviors

Evidence from Retirement Readiness, Precautionary Savings, and Household Investments

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April 15, 2020

Motivations

- A common mistake: People tend to pay down the smallest debts rather than those with highest interest rate if they are on tight budget (Carpenter, Mar. 26, 2020)
- A depressing fact: You assume you can finish some task in two hours before you do it, but it takes two days

Research Questions

- What demographic or economic factors may lead to the overconfidence in financial literacy?
- How will true financial literacy and overconfidence affect people's financial behaviors?

Theory

- Financial literacy: a neoclassical model with endogenous financial literacy (Lusardi and Mitchell, 2014)
  - Financially literate households accumulate more wealth in their lifetime
- Overconfidence: an extensive form game with traders, insiders, and marketmakers (Odean 1998b)
  - Overconfident traders and households tend to receive a lower return from stock markets.

Empirical Studies

- Baker et al. (2019) summarizes potential factors that may affect investors' behavioral biases
- Lusardi and Mitchell (2017) finds positive relationship between true financial literacy and retirement readiness
- Pikulina et al. (2017) finds that overconfidence may cause over investment that is not value-maximizing

Data

- National Financial Capability Study (NFCS)
  - Demographic data
  - Retirement readiness
  - Precaution savings
  - Household investment
  - True and perceived financial literacy

Measuring Financial Literacy and Overconfidence

- Financial Literacy Measurement
  - True financial literacy: "Big 5" questions (Lusardi and Mitchell 2014)
  - Perceived financial literacy: 3 Self-assessment questions relating to financial education, knowledge and application (Huston 2010)
- Overconfidence Measurement
  - Factor analysis on both set of questions and standardize the scale
  - Calculate the difference of the scores

Answering Research Questions

- Question 1: What factors might cause overconfidence in financial literacy
  - Choose thresholds of overconfidence measure to divide households into groups
  - Interpretation: Use logit regressions and/or decision trees to find key factors.
  - Prediction: Compare different machine learning algorithms (random forests, SVM, LASSO regression, etc.) to find the appropriate model

Answering Research Questions

- Question 2: How will true financial literacy and overconfidence affect household financial behaviors
  - Run logit regressions

$$\begin{aligned} \Pr(fin\_behavior_i) = &\beta_0 + \beta_1 true\_lit_i + \\ &\beta_2 overconfidence_i + X_i\gamma + \varepsilon_i \end{aligned} \tag{1}$$

Possible Answers and Potential Contribution

- Possible Answers:
  - Age and income might have a better prediction power of overconfidence
  - Both true financial literacy and overconfidence might have a considerable impact on financial behaviors
- Potential Contribution
  - Interpretation and prediction of overconfidence in financial literacy
  - Examine the effect of both true financial literacy and overconfidence on household finance behaviors