Does Retirement Increase Stock Market Participation?
Evidence from a Fuzzy Regression Discontinuity Design

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Motivation and Research Question

- Limited Stock Market Participation Has been a Puzzle Since 1960s (Mankiw and Zeidels, 1991; Halliassos and Bertaut, 1995)
  - Over half of U.S. households do not hold stocks
  - Even among wealthy households with large liquid financial wealth (over $10,000), fewer than half hold stocks
- A Vast and Rapidly Growing Literature on Important Determinants of Stock Market Participation
  - e.g., risk aversion, awareness of financial assets, trust, political preferences and activism, financial literacy, health insurance, wealth, sociality, corporate scandals, etc.
- However, the High Levels of Non-Participation, even among the Wealthy, is still Unexplained

This Paper

- Proposes retirement as an alternative important determinant
  - As an important life-cycle event, does retirement cause a greater tendency to stock market participation?
    - Key insight: Retirement relaxes the time constraint and provides more time flexibility
    - Empirical challenge: joint decision of retirement and stock market participation
- Identification: Fuzzy RDD at 62, early eligibility age (EEA) to claim social security benefits

Institutional Background and Basic Pattern of Retirement

- Age Requirement for Retirement Benefits
- Retirement Ratio by Age

Methodology and Data

- Methodology: Fuzzy Regression Discontinuity Design
  - Discontinuity to be used: age 62, the early eligibility age (EEA) to claim social security benefits
  - Nonparametric method developed by Calonico, Cattaneo and Titiunik (2014a,b)

- Data
  - Health and Retirement Study (HRS) 1992-2014
    - National biannual survey since 1992
    - Detailed demographic information like age, education, family size, employment and retirement status
    - Financial information includes assets and debts from different classes

Findings and Literature

- What We Find
  - Estimated (early) retirement effect on stock market participation is around 61 percentage points (locally)
  - The result is mainly driven by households with medium wealth
  - The underlying mechanism is the relaxation of time constraint tracking the market
  - In addition, (early) retirement increases the share of risky assets approximately 37 percentage points (locally)

- Literature
  - Determinants of stock market participation
    - Financial literacy (Van Rooij et al., 2011)
    - IQ (Grimblatt et al., 2011)
    - Trust (Georgarakos and Pasini, 2011)
    - Socioability (Georgarakos and Pasini, 2011)
    - Political factors (Kauza and Torstilla, 2013; Bonaparte and Kumar, 2013)
    - Homeownership (Vestman, 2019)
  - Portfolio rebalance around retirement
    - Farhi and Panageas (2007; Yogo (2016); Addoum (2017); Fagereng et al., 2017)

Main Results and Mechanisms

- The FRD of Retirement on the SMP
- A Proposed Mechanism in HRS: Time Spending
- American Time Usage Survey (ATUS) Data
- The FRD of Retirement on Risky Share

Tests on Heterogeneity

- Heterogeneity by Wealth

Tests on External Validity

- Distribution of characteristics around the cutoff: all smooth except for income
- Placebo test: passed
- Tests for the instrument strength: passed the Anderson-Rubin test
- Failed Bertrand-Imbens (2019) test

Conclusion

- Using the HRS, we identify and estimate the causal effect of retirement on stock market participation
  - (Early) retirement increases the stock market participation by about 61 percentage points
  - The retirement effect is particularly strong for households with medium wealth
  - (Early) retirement increases the share of risky assets approximately 37 percentage points
  - The relaxed time constraints can be a possible mechanism
  - Reduced cost of information acquisition
  - Increased day-to-day trading

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