Financial Economics

Lecture 10. Household Finance

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Households are central to understanding of finance

- Pivotal decision-making agents in financial markets
  - Savings decisions
  - Borrowing decisions
  - Investment decisions
- Simplistic representative agents or exogenous noise traders in models
- Household financial decisions are important in the broader field of economics
  - The impact of different economic policies and/or regulations
    - Economic stimulus policies
    - Healthcare policies
    - Corporate-related policies
  - Causes and consequences of trends in income and wealth inequality

Reference

- Gomes, F., Haliassos, M., & Ramadorai, T. (2021). Household finance. *Journal of Economic Literature*, *59*(3), 919-1000.

Schedule

- Saving and asset allocation
- Social environment
- Financial literacy

Saving motives

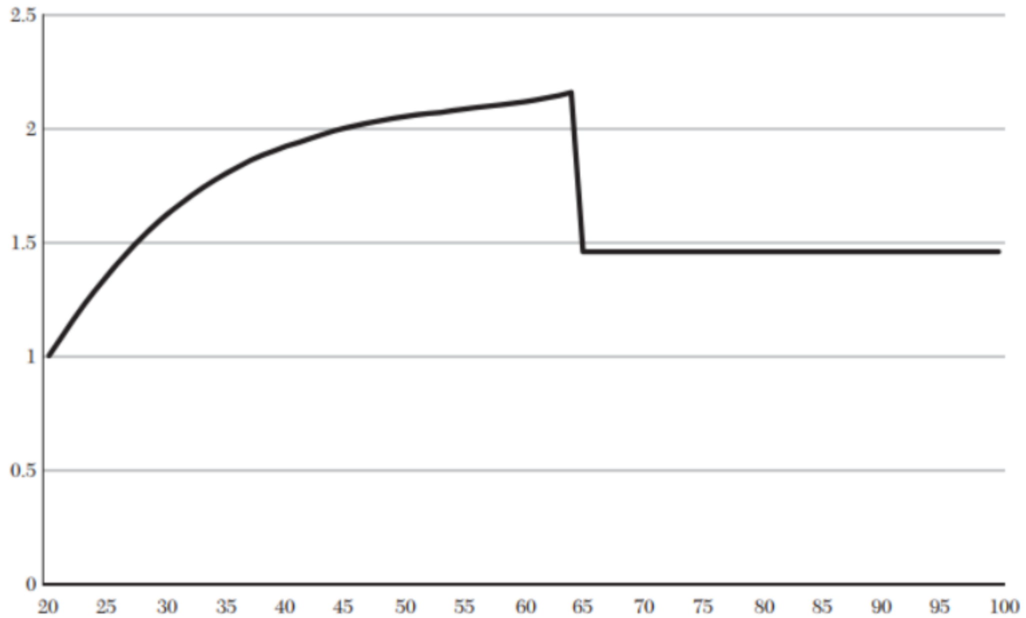

Figure 1. Average Labor Income over the Life Cycle

Notes: Figure 1 plots an average life cycle labor income profile estimated from the Panel Study of Income Dynamics (PSID).

- Consumption smoothing (return of savings and discount rates)
- Precautionary saving

Consumption and portfolio allocations

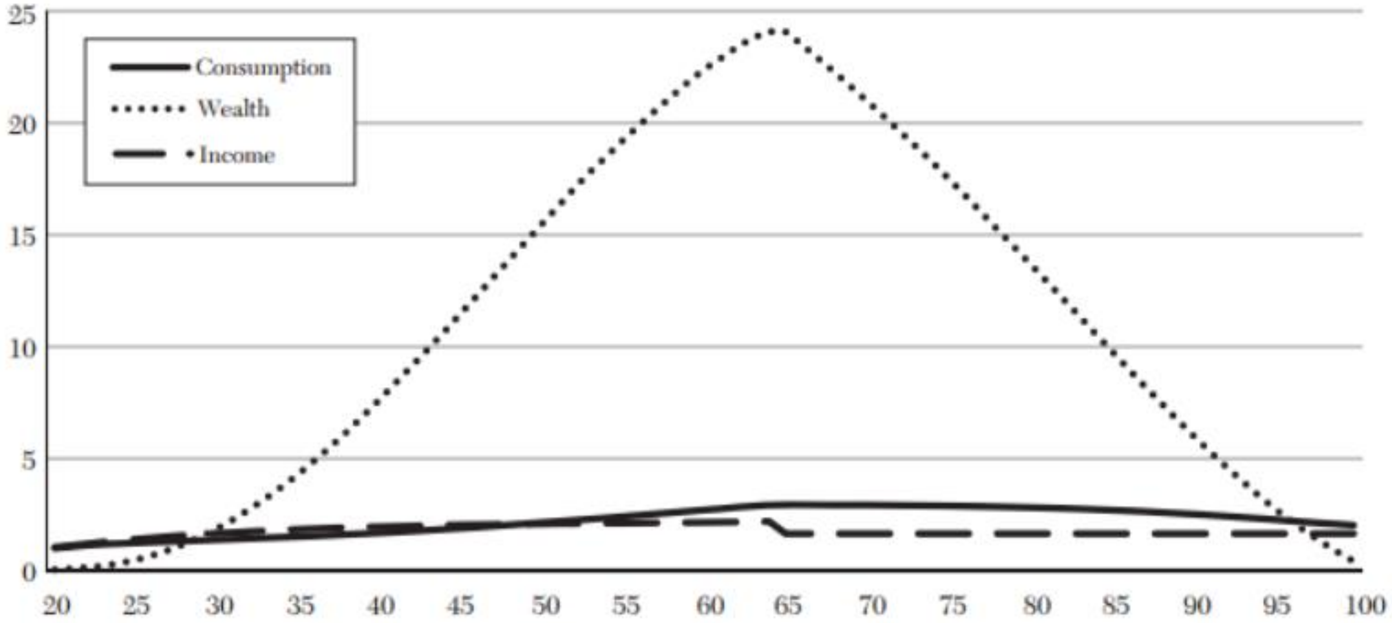

Figure 2. Life-cycle Consumption, Income, and Wealth

Stock market participation

- The most important fact that emerges from analysis of the equity allocations of households is that a large fraction of the population simply does not own any stocks
  - Below 50% in US and European countries (except for Sweden)
  - In china, less than 10%
- Why?

Stock market participation

- Household preferences
  - Other than risk preferences, disappointment aversion, loss aversion, narrow framing, ambiguity aversion, etc.
- Fixed costs of participation
  - Even a small participation cost can deter households from investing in stocks
    - Learning about stock market/how to invest
    - Costs of setting up an investment account
    - Costs of finding an investment advisor
  - High for those with low financial literacy
- Peer effects
  - Social utility or imitation channel

Stock market participation

- More likely to participate in the stock market when facing less income risk
- Agents' expectations of stock returns could also vary based on their beliefs
  - Household expected returns are influenced by past experiences (i.e., Stock market returns experienced by investors over their lives).
  - Negative labor market shocks have a permanent negative impact on stock market participation.
- Find it optimal not to invest in stocks if they have large amounts of debt, since debt can reduce their net investable wealth.

Other assets investment

- Developed countries
  - % households owning safe assets (such as bank deposits) is above 90 percent in almost all developed countries, and the percentage of households investing in bonds is typically below 10 percent
  - Ownership in real estate is large, and varies significantly across countries, from as low as 44.2 percent (germany) to 89.9 percent (slovakia).
  - 10 percent of households have some form of private business—the country with the highest value reported is italy, with 18.4 percent
- In developing countries
  - On average, only 60 percent of households in these countries hold any form of financial asset, while real estate ownership is above 75 percent
  - Why?

Household asset tangibility preference

- In developing countries
  - The value of tangible assets tends to be greater in environments with low financial development
  - Collateral is potentially more valuable when screening borrowers is costly.
- In developed countries
  - Intergenerational transfers are more important in environments in which retirement and other saving markets are not efficient, public health and retirement systems are not reliable, and housing provides an easy way to transfer wealth across time and generations.

Household demand for insurance

- Life insurance
  - Demand increases with income; decreases with age
  - Positively correlated with bequest motives, number of children, education level
- Health insurance
  - The cost of out-of-pocket medical expenditures, long-term health maintenance, nursing care in old age
  - On average underinsurance
    - Overconfidence
    - Narrow framing
    - Etc.
- Home insurance, and insurance for other durable goods.

Under-diversification

- Most investors hold highly undiversified portfolios, contrary to the implications of standard rational models of portfolio choice
- Familiarity bias: households tend to buy stocks of companies with which they are more closely acquainted
  - hold stocks of companies based in their own countries.
  - overinvest in local companies
  - buy shares of companies whose products and services they consume.
  - Invest in their own employer's stocks
- Information advantage
  - Stockholders tend to hold the same securities as do their parents.
  - Financial literacy, and exposure to foreign-born individuals are associated with greater international diversification

Household trading behavior

- How to achieve the goal of diversification over time?
  - Passive index funds not exist in some countries
  - Financial advice is expensive to acquire
  - Transaction costs
  - Cognitive challenges

Overtrading

- Households incur unnecessarily high transactions costs, trading more frequently than is good for their financial well-being.
  - One leading explanation being overconfidence
    - Traders overestimating the precision of their private signals—which then leads to the over-responsiveness of their trading patterns to information arrival
    - Particularly pronounced following unusual realizations of past returns
  - Dismissiveness
    - Traders have a tendency to downplay the precision of others' signals
- The tendency to trade excessively is stronger for men than women, and also stronger for single than for married traders

Disposition effect

- A high propensity to sell winning stocks and to hold losing stocks
  - Gain-loss utility, overweighting of small probability, loss aversion
    - A tendency for agents to take risks in the face of losses, while behaving in a risk-averse fashion in the face of gains
  - Mental accounting/narrow framing
    - When measuring gains and losses, these are measured at the stock level rather than the portfolio level.
  - Rank effect: intra-portfolio comparison
    - Investors are more likely to sell the extreme winning and losing positions in their portfolios

Inaction, inertia, and inattention

- The apparent hyperactivity of some households' trading behavior in brokerage accounts is matched by the virtual inactivity of (these or other) households in other types of accounts, especially in retirement saving accounts
- Better educated and wealthier households are less prone to sluggish behavior than poorer and less well-educated households.
  - Households have a limited capacity to process large volumes of information, and that such "capacity constraints" can affect their ability to instantaneously respond to incentives to take financial decisions
  - Households face "observations costs" of evaluating their portfolios when deciding on rebalancing strategies.
  - Optimal rebalancing rule is to observe and adjust the portfolio at periodic intervals, i.e., to follow a time-dependent rebalancing strategy.
  - Endowment effect and loss aversion

Saving for retirement

- Defined contribution pension schemes
- The importance of defaults (serve as nudge)
  - (Automatically unless opted out) enroll into the retirement plan
  - Setting the default contribution rate
  - Default asset allocation
- Simple heuristics
  - contribute the minimum amount necessary to get the full employer match
  - Round to a multiple of 5 percent or some other salient percentage.
  - "Naive diversification," : divide saving equally across a small number of funds, even when the asset composition of those funds differs
  - invest a disproportionate fraction of their retirement saving in the stock of their own companies

Longevity risk

- Consider an individual with a life expectancy of 80.
- If she depletes her accumulated saving exactly at age 80, she has no financial wealth left in the case that she ends up living beyond 80.
- Conversely, if she dies before she reaches 80, she will have failed to use all of her saving.

Longevity risk

- To deal with this risk, individuals can buy annuities, which are assets that provide a payoff while the policy holder is still alive.
- Extremely low annuitization rates in the population
  - Adverse selection
  - Annuities are more likely to be bought by individuals who expect to live longer than average and, therefore, the premiums set by annuity providers must compensate for this risk
  - Individuals’ bequest motives
- Full annuitization leaves individuals exposed to other risks, such as medical expenditure shocks and often does not offer inflation protection while also forcing individuals to lock in a riskless rate of return.

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Peer effects

- Understanding how the behavior of peers influences household financial behavior is important for an analysis of
  - How asset and debt participation spread through the economy,
  - How good and bad practices become more widely adopted, and
  - How financial crises can spread or begin through cross-household transmission.

Peer influences on asset behavior

- Librarians are allocated to different libraries in the same university and are exposed to different shares of colleagues participating in a new pension product.
  - Participation in this pension product are positively related to the share of colleagues in the same department who use this, even for fine partitions of the possible peer groups, and using peer participation instrumented by the average wage or tenure in the department.
- Households that report interacting with their neighbors and attending church are more likely to be stockholders, controlling for characteristics such as wealth, race, and education, as well as for personality traits such as risk tolerance and optimism.
- Data from Facebook to show that individuals whose friends living in distant areas experienced house price increases are themselves more likely to buy a house, and more willing to pay higher prices for the house they buy.

Peer influences on debt behavior

- Individuals who perceive themselves as earning less than the average of their peers have
  - a higher probability of borrowing,
  - larger outstanding debt amounts conditional on borrowing, and
  - greater likelihood of running into financial distress.
- Non-rich households consume a larger share of their current income when exposed to higher income at the top of the local income distribution
  - may have relied on easier credit to finance this consumption increase.
- The size of a lottery win by one neighbor increases subsequent borrowing and bankruptcies among other neighbors.
  - The neighbors become more likely to engage in visible consumption and exhibit greater exposure to risky financial assets.

Cultural influences

- The study of immigrants from different cultures faced with a common set of policies and institutions in the host country.
  - Stock ownership in a country is positively influenced by the extent of generalized trust exhibited by individuals in the country,

Hereditary factors

- Nature vs. Nurture debate
  - About one third of the differences in saving propensities, variation in stock market participation and asset allocation, across individuals can be attributed to genetic factors.
    - genetic variation in time preferences and the degree of self control
  - 45 percent of the variation in a number of investment biases to genetic differences
    - under-diversification, overtrading, and the disposition effect, described earlier in this article.
    - personal experiences or events, as well as whether an individual has worked in the financial sector, additionally influence these biases.
  - The explanatory power of the estimated contribution of genetic factors are quite responsive to the degree of interaction between siblings.

Intrahousehold analysis

- Exogeneous changes to family structure
  - Divorce
    - Divorce affects the stock shares of men and women in opposite directions, widening the gender gap in exposure to stocks, but the presence of children moderates the predicted increase in stock exposure of working-age men.
  - Arrival of children
  - Death of a spouse
- Intrahousehold bargaining for financial behavior
  - Increases in the wife’s relative income share tend to reduce household risk exposure.
  - Transitions to retirement result in portfolio reallocations for married couples but not for singles: when men (women) retire, the household portfolio becomes less (more) risky, especially when differences in risk aversion between spouses are larger

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Financial literacy

- A study in 2007 shows that among US households aged 51–56, 80 percent of the sample could interpret percentages, but only 18 percent could correctly compute compound interest.
  - Greater incidence among women, minorities, and older people
- “big three” questions to measure financial literacy
  - Understanding of compound interest
  - Whether households can perceive the difference between real and nominal interest rates
  - The benefits of diversification
- Information on three household “mistakes,” that is, underdiversification, inertia in adjusting the risky share, and exhibiting the disposition effect

Financial literacy

- A positive relationship between financial literacy and a wide range of “good” financial outcomes
  - A greater tendency to save for retirement, a higher wealth level
  - A greater tendency to participate in the stock market
  - A more limited tendency to use high-cost credit
  - A greater tendency to build diversified portfolios
  - A higher tendency to have lower mortgage debt when young
  - A lower tendency to report diminished spending capacity and limited available saving following a financial crisis

Financial education intervention

- A randomized educational intervention among third and fourth graders in elementary schools,
  - The students' own teachers follow a structured curriculum in order to encourage patience in children.
  - This is done by fostering, through case studies, stories, and in-class games, the ability to imagine future selves and the consequences of current actions, so as to promote self control and forward-looking behavior.
  - Students exposed to this program exhibit increased willingness to defer consumption in incentivized experimental tasks:
    - They require fewer gifts to defer consumption, and they allocate more consumption to the future when waiting is rewarded.
  - Effects persist even after almost three years since the intervention, and they extend beyond financial outcomes, as treated students are less likely to receive a low behavior grade

Other topics

- Borrowing
  - Mortgage
  - Credit card
- Financial advice
- Cognitive ability
- Financial technology
- Etc.