

INVESTMENT DECISIONS IN RETIREMENT: THE ROLE OF SUBJECTIVE EXPECTATIONS

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October 2012

The rapid transition from defined benefit (DB) pension plans to defined contribution (DC) plans has a potential benefit of offering pension holders greater control over how their pension accumulations are invested. If pension holders are willing to take some risk, investments in the stock market could increase their economic preparation for retirement. Indeed, standard life-cycle models of economic behavior predict that essentially everybody should invest in risky assets to some extent, which is also reflected in the typical advice of financial advisors. Yet, the rate of stock holding is much below what theory suggests it should be. In our data, less than 40 percent of households own stocks. Moreover, conditional on stock holding, standard models with realistic values of preference parameters predict much higher fractions of wealth invested in risky assets than we observe in the data.

Several explanations for these discrepancies have been put forward in the literature, but none have been able to fully reconcile theoretical predictions with observed empirical patterns. For example, we show that excessive risk aversion is not able to account for the low fraction of stock holding.

We explore to what extent subjective expectations about stock market returns that differ from historical returns can address the so-called “stock-market participation puzzle.” We embed subjective expectations in an otherwise relatively standard economic life-cycle model. Using data on subjective expectations from the Health and Retirement Study, we show that a large fraction of the population holds beliefs that are so pessimistic that they should never invest in stocks. Of the remaining individuals, a nonnegligible fraction is very optimistic and they should invest almost all of their wealth in risky assets. A “moderate” middle group rounds out the distribution. This group should invest moderate amounts of wealth in risky assets. The model with these heterogeneous subjective expectations is remarkably well able to match the empirical patterns, although there are still a few unresolved issues. The main empirical issue is that the fraction of wealth invested in stocks slightly increases with age in the data, whereas the model predicts a gradual decrease. Most likely this is a selection effect due to running down different asset categories, stock holding and mortality being correlated.

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Our simulations also show that when subjective beliefs diverge from historical returns, portfolio choices informed by the former have important welfare consequences. We estimate welfare losses ranging between 4 percent and 12 percent, depending on the degree of individual risk aversion and the way historical returns are computed. We also find that welfare losses are larger, the higher the degree of risk aversion. However, the welfare loss is much smaller if individuals are not very risk averse, or if actual returns follow the same distribution as in the past 10 years instead of the past 50 years.

These results have profound policy implications. Misperception about stock market returns can be attacked by various forms of education, information, and exemplary behavior. Although misperceptions are likely to be persistent and such a program may not reach everyone, there is a large scope for such programs. Not only government and non-profit organizations may be interested in this, but also commercial enterprises, in particular, financial institutions.

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The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) through the Michigan Retirement Research Center (MRRC). The findings and conclusions expressed are solely those of the author(s) and do not represent the views of SSA, any agency of the federal government, or the MRRC.

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