Household Wealth and Portfolio Choice When Tail Events Are Salient

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Abstract : Robust experimental evidence of systematic violations of expected utility (EU) establishes that individuals facing risk overweight utility from low probability gains and losses when making choices. These findings motivated development of models of preferences with probability weighting functions, such as rank dependent utility (RDU). We solve for the optimal investing strategy of an RDU investor in a dynamic binomial setting from which we derive implications for investing behavior. We show that relative to EU investors with constant relative risk aversion, commonly measured probability weighting functions produce optimal RDU terminal wealth with significant downside protection and upside exposure. We additionally find that in contrast to EU investors, RDU investors optimally choose a portfolio that contains fair bets that provide payoↄs that can be interpreted as lottery outcomes or exposure to idiosyncratic returns. In a calibrated version of the model, we calculate that RDU investors would be willing to pay 5% of their initial wealth for the freedom to trade away from an optimal EU wealth allocation. The dynamic trading strategy that supports the optimal wealth allocation implies portfolio weights that are independent of initial wealth but requires higher risky share after good stock return histories. Optimal trading also implies the possibility of non-participation when historical returns are poor. Our model fills a gap in the literature by providing new quantitative and qualitative predictions that can be tested experimentally or using data on household wealth and portfolio choice.

Keywords : behavioral finance, probability weighting, portfolio choice
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