Volatility Ambiguity, Portfolio Decisions, and Equilibrium Asset Pricing

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Abstract

This paper develops a new approach to volatility ambiguity and studies its implications for equilibrium consumption, portfolio choice, and asset prices. Our approach does not require equivalence between priors. The measure of ambiguity is based on the statistical confidence in the reference model that can be assessed with sample statistics. The approach is analytically tractable and amenable to empirical/calibration analysis. A stochastic discount pricing formula is given. At sensible levels of volatility ambiguity, the empirical regularity of equity premium and consumption growth in U.S. data can be the equilibrium outcome of our model featuring a relative risk aversion (RRA) coefficient within a reasonable range.