The Impact Of Ambiguity On Prices And Allocations
In Competitive Financial Markets

Abstract

The violations of expected utility axioms displayed in the Ellsberg paradox have recently been attributed to ambiguity aversion. In this paper, we study the impact of ambiguity aversion on equilibrium asset pricing and portfolio holdings in competitive financial markets. We pay particular attention to potential heterogeneity, because a significant minority usually does not violate expected utility axioms. Our analysis is carried out in the context of state securities, some of which pay in states for which probabilities are unknown (the *ambiguous states*) but others pay in states for which probabilities are known (the *risky states*). Heterogeneity in ambiguity aversion leads to a wider range of state price probability ratios (state prices divided by probabilities, also known as state price density). If the ambiguous securities are not all in low or high supply, heterogeneity in ambiguity aversion could merely be misinterpreted as higher risk aversion. Otherwise it potentially generates violations to the ranking of state price probability ratios typical under expected utility, as if the representative agent held state-dependent utility. Experiments confirm the predicted impact. Heterogeneity in ambiguity aversion is further evident in subjects' end-of-period holdings. These holdings also reflect positive correlation between risk and ambiguity aversion. The latter suggests an explanation of the value effect, if value stock can be labeled 'pure risk' securities and growth stock 'ambiguous' securities.