Equilibration of Real Financial Markets:Theory and Experimental Evidence

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Abstract

The theory and the data in this paper challenge the view that there is no structure in prices and allocations when markets are off equilibrium. Starting from the observation that price taking usually applies only to small orders, a theory of equilibration is derived based on the assumption that orders are optimal only locally. Prices adjust in the direction of the order imbalance. In the context of mean-variance preferences, the theory predicts that a security 's price will correlate with excess demands in other securities, and the sign of this correlation is the same as that of the covariance of the final payoffs. In the short run, prices tend to a local equilibrium where the risk-aversion weighted endowment portfolio (RAWE) is mean-variance optimal. Relative to the market portfolio, RAWE overweighs securities that are held disproportionally by more risk averse agents; RAWE puts less weight on securities that are held primarily by more risk tolerant agents. Throughout equilibration, portfolio separation is violated generically, and violations are more extreme when payoff covariances are positive. For a variety of patterns of initial allocations (including identical initial holdings), the equity premium is larger at the outset than at (CAPM) equilibrium. Experimental evidence confirms the predictions conclusively.

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