

Security Design in Markets with Risk: Price and Allocation Efficiencies

Abstract

The goal of the proposed research is to investigate the question: How does the securities structure in place in an economy with many agents, markets and under risk affect the equilibration path of prices and individual allocations and the welfare of the economic agents. The aim is to (i) Build an experimental framework with multiple interdependent markets that would be used to test the implications a theory that focuses on off-equilibrium dynamics. (ii) Apply the newly developed equilibration theory to the issue of securities design. In standard General Equilibrium theory if markets are complete, welfare properties are invariant to security design. This is not the case off-equilibrium and optimal security design should exist. (ii) Translate experimental hypotheses into hypotheses about historical data.

The question of security design is especially pressing as in investments, price-insensitive strategies have become popular, often prompted by equilibrium theoretical reasoning, such as buying-and-holding an index. Index funds are highly positively correlated and new theoretical developments of off-equilibrium price and allocation dynamics suggest that such security instruments might slow down the convergence to equilibrium, while they aid the ease with which investors have access to a broad range of assets. Traditional empirical analyses of markets shed little light on the cost-benefit analysis of different security systems as those depend on the equilibration processes. The equilibration processes in turn cannot be assessed empirically because researchers do not have access to the fundamentals. But, with the advent and development of a methodology of experimental economics, it is now possible to shed light on the forces, and especially on the securities design, that drive markets to equilibrium. Using experimental methodology, it is possible to not only to know the fundamentals, but also to control them, and so, to observe the process of price discovery and equilibration in a replicable and controlled manner.