

Monetary policies in self-confirming equilibria with uncertain models

Pierpaolo Battigalli

Università Bocconi

Tuesday, 29th September 2015

12:30pm Room 3-E4-SR03 Via Röntgen 1 Milano

Abstract

We consider the notion of selfconfirming equilibrium (SCE) in decision problems with uncertainty about the true statistical model. In an SCE, the decision maker best responds to his subjective belief about the statistical model, and the distribution of observable consequences implied by the chosen action and the true statistical model is what the decision maker expects, given his subjective belief. SCE models behavior that is stable under learning. Building on previous work of Sargent (2007), we apply our framework to a simple model of monetary policy choice under uncertainty about the true model economy, which may have any combination of Keynesian and new-classical features. The policy maker observes data about inflation and unemployment. We completely characterize the set of triples policy-belief-model that form a SCE. In equilibrium, the policy maker has correct beliefs about the short-run trade-off between inflation and unemployment, which allows for the identification of some, but not all the parameters of the model economy. In particular, the long-run responsiveness of the economy to monetary policy is not identified, and the equilibrium policy may be excessively or insufficiently inflationary given the true model economy. The linear-quadratic structure of model economy and loss function imply that the policy maker behaves in equilibrium as if he had "dogmatic" beliefs about the model economy. Even if the policy maker were ambiguity averse, this would not affect equilibrium choices. Therefore, despite persistent uncertainty, robustness of the policy is not an issue.