Abstract

The topic of this dissertation is equilibrium selection in models with incomplete and imperfect information. The dissertation consists of three chapters. In the first two chapters, I focus on firms' decision problems with a structural uncertainty and imperfect monitoring. In the first chapter, co-authored with Sergey Slobodyan, we study a market with two firms competing in quantities. Firms are uncertain about demand parameters and have to learn them using price signals. Although the Cournot output is the Nash equilibrium in the model, we identify conditions when cooperative behavior may arise due to learning and find an endogenous price threshold that triggers such behavior. We show that cooperation is more probable in markets with higher precision of firm-specific shocks.

In the second chapter, I investigate the social efficiency of free entry in homogeneous product markets. In general, free entry is considered desirable for a society from a social welfare point of view and thus, represents traditional wisdom among economic professions. However, many economists have challenged this view and shown that under Cournot oligopoly with fixed setup costs, the free entry equilibrium always delivers excessive entry in homogeneous product markets, known as the excess entry theorem. In this chapter, I reexamine the validity of the excess entry theorem. The theorem advocates restrictive entry policies; nevertheless, I find conditions when free entry is indeed efficient by introducing demand uncertainty into the picture propagating collusive pricing behavior and thus, creating room for additional entry.

In the final chapter, I study the long run outcomes of the belief-based learning process in the infinitely repeated prisoner's dilemma with anonymous random matching and unknown payoff distributions played by a continuum of players. In games with a unique strict Nash equilibrium, such as the prisoner's dilemma, the standard belief-based learning models predict the Nash equilibrium as the only long-run outcome of the learning process. On the other hand, aspiration-based learning models allow dominated strategies to be played in the long run. The opposite predictions of the learning models are often associated with a different level of rationality adopted in the models. However, in this chapter, I show that an important role is, nevertheless, played by informational assumptions. I find that the predictions of the belief-based learning models coincide with the predictions of aspiration-based learning as long as the public signals are perfectly precise and each player puts all weights on those signals. As a result, the only long-run outcome of the learning process is cooperation.