

Abstract:

Many important economic situations can be modelled as dynamic games of incomplete information with strategic complementarities of actions and types. In this paper, we extend the results of Athey (2001) and Reny (2011) from static Bayesian games to dynamic environments, providing conditions that guarantee the existence of monotone equilibria in types in such games. A feature that distinguishes this environment from those of previous results is the endogeneity of beliefs, which can complicate continuity of payoffs, needed to find a fixed point. To address this, we define an auxiliary static game which pins down beliefs while preserving continuity of payoffs. We also provide conditions which guarantee that there will exist monotone best-replies to monotone strategies of one's opponents in a dynamic environment. Applications are given to signaling games and stopping games such as auctions, wars of attrition, and joint research projects.