

Exit from Equilibrium in Coordination Games under Probit Choice

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Abstract

We consider a model of stochastic evolution under the probit choice rule. In the small noise double limit, where first the noise level in agents' decisions is taken to zero, and then the population size to infinity, escape from and transitions between equilibria can be described in terms of solutions to continuous optimal control problems. We use results from optimal control theory to solve the exit cost problem. This is used to determine the most likely exit paths from the initial basin of attraction and also to assess the expected time until the evolutionary process leaves the basin of attraction of a stable equilibrium in a class of three-strategy coordination games. Exit from Equilibrium in Coordination Games under Probit choice.