

Experiments on Prisoner's Dilemmas with/without Role-Switching: the Perspective of Inductive Game Theory*

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Abstract

We conduct experimental studies on behavior and underlying cognition in prisoner's dilemmas from the viewpoint of inductive game theory with/without role-switching. Subjects start with no knowledge about his and the other's payoffs, and learn them through repeated play. In cases with no role-switching, i.e., where a subject plays only one position, a large proportion of subjects adopt a dominant strategy. In the treatment with role-switching, i.e., where the subjects alternate positions, the prediction given by inductive game theory game that they will choose the pair of actions maximizing the simple sum of payoffs is observed for various pairs of subjects. We will study their behaviors and cognitions from many different points of view. On the cognitive level, we find that subjects tend to recall the payoff ordering, while forgetting the precise payoff values.

JEL Classification Numbers: C72, C79, C91

Key words: Inductive Game Theory, Emergence of Cooperation, Knowledge of Payoffs, Intrapersonal Coordination Equilibrium, Dominant Strategy

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