Symmetric Players in Repeated Games
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ABSTRACT

In this paper we study repeated games in which the stage game is symmetric. We study symmetric, we call them attainable (from Crawford and Haller, 1990, and Alos-Ferrer and Kuzmics, 2008) equilibria of such games. We show the following. First, restricting attention to attainable strategies does not restrict the set of feasible payoff profiles. Second, there is no folk theorem for attainable equilibria: not every feasible payoff profile can be justified in an attainable equilibrium. In fact, highly asymmetric and close to efficient payoff profiles are not possible in an attainable equilibrium.

Third, the set of attainable payoff profiles has positive Lebesgue measure. Fourth, we then show that ex-ante (Pareto) efficient attainable equilibria must be ex-post symmetric. Fifth, there is a unique such attainable equilibrium which dominates most (if not all) others. This is based on playing according to the so-called (well-known) Thue-Morse sequence. Sixth and finally, if any attainable equilibrium of the repeated game is focal (in the spirit of Schelling (1960) and as defined by Alos-Ferrer and Kuzmics (2008) it is probably one which is based on the meta-norm of efficiency and simplicity (based on complexity of finite automata). This gives rise to turn-taking in the 2x2 BoS and some rotation scheme more generally in nxn BoS games (to be defined in the main body of the paper). This theory is completely testable by means of lab-experiments, which we also endeavor to do.

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