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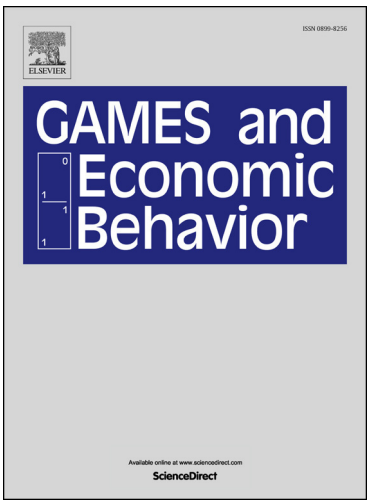

An Experimental Investigation of Stochastic Adjustment Dynamics

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An Experimental Investigation of Stochastic Adjustment Dynamics*

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October 4, 2016

Abstract

This paper describes an experiment designed to test which, if any, stochastic adjustment dynamic most accurately captures the behaviour of a large population. The setting is a large population coordination game in which two different groups have differing preferences over equilibria. We find that subject behaviour is highly consistent with the myopic best-response learning rule with deviations from this rule that are (i) dependent on the myopic best-response payoff but not on the deviation payoff, and (ii) directed in the sense of being group-dependent. We also find a time trend to deviations, with the magnitude tapering off as time progresses. This is in contrast to much of the theoretical literature that supposes a variety of other specifications of learning rules and both time-independent and payoff-dependent explanations for deviations.

Keywords: Stochastic Adjustment Dynamics; Experiment; The Language Game; Evolutionary Game Theory.

JEL Classification: C72, C73, C92.

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