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Evolution of an Anomaly

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Laboratory experiments have shown behavior in the ultimatum game which commentators have found anomalous from the point of view of economic theory. This paper investigates the evolutionary dynamics of a symmetrized ultimatum game. There is one population and members of that population sometimes assume the role of ultimatum givers and sometimes the role of ultimatum receivers. This study supplements the investigation of the ultimatum game between two populations by Gale, Binmore and Samuelson. In both cases there are (somewhat different) conditions under which the "anomalous" behavior can evolve. In the case investigated in this paper, even when the anomalous behavior does not evolve, other weakly dominated strategies typically survive in a population polymorphism. Results call into question the descriptive adequacy of sequential rationality and subgame perfect equilibrium.