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Sommario

The aim of my Ph.D. thesis is to advance understanding of human choice behavior in repeated strategic interactions. This is potentially important, since it would help explain empirical phenomena that cannot be accounted for by standard economic theory, such as overbidding in auctions and overtrading in financial markets (Selten, Abbink, and Cox, 2005). Specifically, my work is focused on “small repeated decisions that are made with little information and little deliberation”, which “though of small consequence to the individual making them, are potentially of tremendous importance to firms and society” (Erev and Haruvy, 2005:359). My thesis is divided into three parts.

In the first part, I use datasets from 35 experiments on repeated games with a unique equilibrium in mixed strategies to compare the descriptive and predictive performances of the Perceptron-Based (PB) learning model (Marchiori and Warglien, 2008) with some of the most popular learning models in the behavioral game theory literature. As a result, the PB model turns out to be the best predictor of empirical data with respect to all other models of learning, with the exception of a model proposed by Ert and Erev (2007), similarly based on regret.

In the second part, I propose the concept of Net Reward Attractions (NRA) equilibrium and test its predictive accuracy on data from experiments on 26 repeated, completely mixed games run under

	full-feedback condition. Moreover, I compare NRA’s predictive power with that of other five equilibrium concepts and eight models of learning, representing cutting-edge research on interactive decision making modeling. NRA turns out to be among the best predictors of empirical data, performing significantly better than Nash equilibrium, self-tuning EWA, and reinforcement-based models. As for the third part, I explore the generalization properties of the PB model. To this end, I designed and ran multigame-experiments in which subjects played sequences of different two-person, 2x2 games with a unique equilibrium in mixed strategies (MSE). I use these experimental data to test the predictive power of the PB model and compare it with that of other popular learning and equilibrium models of interactive choice behavior. As a result, the PB model is, by design, the sole model of learning capable to discriminate between the two different classes of games, and it outperforms in accuracy Nash equilibrium and all the other models of learning as well. In addition, experimental results do not provide evidence of learning spillover effects across games, which might provide an explanation for why non-standard stationary models turn out to be the best predictors of observed choice frequencies.
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