EXPERIMENTS ON BELIEF FORMATION IN NETWORKS

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Abstract

We study belief formation in social networks using a laboratory experiment. Participants in our experiment observe an imperfect private signal on the state of the world and then simultaneously and repeatedly guess the state, observing the guesses of their network neighbours in each period. Across treatments we vary the network structure and the amount of information participants have about the network. Our first result shows that information about the network structure matters and in particular affects the share of correct guesses in the network. This is inconsistent with the widely used naive (deGroot) model. The naive model is, however, consistent with a larger share of individual decisions than the competing Bayesian model, while both models correctly predict only about $25 - 30\%$ of consensus beliefs. We then estimate a larger class of models and find that participants do indeed take network structure into account when updating beliefs. In particular they discount information from neighbours if it is correlated, but in a more rudimentary way than a Bayesian learner would. (JEL: 70, C91, D83, D85)