

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)

The editor in charge of this paper was Juuso Valimäki.

Acknowledgments: We thank Arun Chandrasekhar, Andrea Galeotti, Jayant Ganguli, Ben Golub, Emir Kamenica, Willemien Kets, Christophe Muller, Santiago Oliveros, Juuso Välimäki, Andrij Zapechelnyuk, two anonymous reviewers and seminar participants in Amsterdam, Berlin (Workshop on expectations and markets 2014), Bocconi, Brussels (CTN workshop 2014), Carlos III Madrid, Cergy Pontoise (workshop on Dynamics and Beliefs 2016), Essex (2nd European Networks meeting 2014), Glasgow, JRC Ispra, Jena (2013 socio-economic committee of the VFS), Lund, Norwich (2016 workshop on Bounded Rationality and Games), Paris School of Economics, Rome (Workshop on Economics of Limited Cognitive Resources 2015), Royal Holloway University London, Toulouse (EEA 2014) and Zuerich (ESA 2013) for helpful comments. We also thank Sandra Miltenyte, Michael Seebauer and Alexander Schneeberger for excellent research assistance. Financial support by the NWO (VENI grant 451-11-020) and the *Emerging Field Initiative* at FAU Erlangen-Nuremberg is gratefully acknowledged. This version substantially extends the working paper version published on SSRN (2013), 2361007.

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