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Dávid Kopányi

# Bounded Rationality and Learning in Market Competition

This thesis promotes the use of bounded rationality in economic models. The assumption of perfect rationality often imposes high informational and computational burden on economic agents and predictions based on this assumption are not in line with observed behavior in some cases. Models of bounded rationality may better explain actual behavior in such situations.

In the thesis we consider market models where firms are boundedly rational: they do not know the demand for their product and they use different learning methods to determine the optimal price, they have incorrect beliefs about their competitors' behavior or they do not make use of all the available information. We investigate how bounded rationality affects the market outcome and what the possible welfare effects are.

Dávid Kopányi (1985) holds an MSc degree in Economics from the Corvinus University of Budapest and an MPhil degree in Economics from the Tinbergen Institute. After graduating he joined the Center for Nonlinear Dynamics in Economics and Finance at the University of Amsterdam as a PhD student. Currently he is a Research Fellow at the University of Nottingham. His main interests include bounded rationality, learning methods, industrial organization, dynamical systems and agent-based modeling.

Bounded Rationality and Learning in Market Competition

Dávid kopanyi



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# Bounded Rationality and Learning in Market Competition

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Prof. dr. N.J. Vriend  
Dr. F.O.O. Wagener

*Ancsának, Nórinak és Robinak*





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Now that I have finished writing my dissertation and my journey in Amsterdam has come to an end, this is a good moment to take a look back at the last 5 years. Actually, I should go back in time even further. In 2007 I spent a semester at the University of Amsterdam as an exchange student. One of the courses I followed, Non-linear Economic Dynamics, has particularly arisen my interest. Not only the topic was extremely interesting, the lecturer, Mikhail Anufriev, made the material and the lectures even more enjoyable. Some of the MPhil students of the Tinbergen Institute also followed this course and this is how I got to know about the TI. Pretty much these experiences attracted me towards TI and my research group CeNDEF.

After finishing our Master's program at the Corvinus University of Budapest, my girlfriend<sup>1</sup> Anita and I applied for the MPhil program of the TI. Both of us got accepted and we moved to Amsterdam in 2009. The two years of the program (especially the first one) was very demanding but it was also fun thanks to the fellow students we got to know, especially Boris, Łukasz, Mark, Matze, Nadine and Tomasz. I would also like to thank Adriaan, Arianne, Ester and Judith for the help and support we received from TI.

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<sup>1</sup>Her status was updated to wife in 2010.

ming, not to mention the great times we had on conferences.

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After submitting my thesis, my family and I moved to Nottingham and I have joined the Nottingham School of Economics as a Research Fellow. I would not have been able to get this position without the help of some people. First of all, I would like to thank Cars, Jan and Nick for writing recommendation letters for me. I would also like to thank Christina and José Luis for all the support I got for the job market preparations.

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Nottingham, 28 November 2014

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<sup>2</sup>Although it is not correct technically, I consider him as a Hungarian friend.



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