EBERHARD KARLS UNIVERSITÄT
TÜBINGEN

Professor Dr. Manfred Stadler

Master Seminar on

Game Theory: Concepts and Applications in IO

Winter Term 2022/23

The Seminar on “Game Theory. Concepts and Applications in IO“ is aimed at all students interested in advanced game theory. Precondition is some profound knowledge in Applied Microeconomics and Industrial Organization and the willingness to learn new game theoretical concepts and techniques.

Registration: You have to register online via ILIAS. The application is open from Friday, October 21, 10 am until Monday, October 24, 12 am. The places are limited to 12 participants. The topics and places are allocated on a first-come first-serve basis.

Online Meeting: As soon as the program is ready, you will receive an invitation for an organizational Zoom meeting (voluntary). In this meeting, we will clarify the contents and the key messages of the presentations and the seminar papers. Therefore, it is important that you have skimmed the relevant model before the talk**.**

Presentation: The presentations are limited to 20 minutes so that some time is left for discussion. The aim of the presentation should be that fellow students understand the core of the model, i.e. the topic to be explained and the method used to solve the model. Your task is fulfilled in the best possible way, if you succeed in inspiring other students for the topic. The presentations should be very focussed, possible extensions should be postponed to the critical discussion at the end.

Criteria for grading are (i) self-dependence in preparing the presentation and the seminar paper, (ii) clarity and persuasiveness of the presentation and the paper, and (iii) taking an active part in the seminar.

Topics and References:

1. Multiple Nash Equilibria: Price Competition with Increasing Marginal Cost

Dastidar, K.G. (1995), On the Existence of Pure Strategy Bertrand Equilibrium. *Economic Theory* 5, 19-32.

2. Bayesian Equilibria: Auctions with Asymmetrically Distributed Preferences

Krishna, V. (2002), Auction Theory, Chapter 4.

3. Subgame Perfect Nash Equilibria: Strategic Manager Compensation

Fershtman, C., Judd, K.L. (1987), Equilibrium Incentives in Oligopoly. *American Economic Review* 37, 927-940
or:
Stadler, M. (2008), Managerbezüge. Anmerkungen zur Revision des traditionellen Modells. In: W. Franz et al. (eds.), Arbeitsverträge. Tübingen, Mohr Siebeck, pp. 67-72.

4. Games Solved via Risk Dominance: Leadership

Van Damme, E., Hurkens, S. (1999), Endogenous Stackelberg Leadership. *Games and Economic Behavior* 28, 105-129
or:
Van Damme, E., Hurkens, S. (2004), Endogenous Price Leadership. *Games and Economic Behavior* 47, 404-420.

5. Supergames: Forward Trading and Tacit Collusion

Liski, M., Montero, J.-P. (2006), Forward Trading and Collusion in Oligopoly. *Journal of Economic Theory* 131, 212-230
and:
Ressner, L., Liski, M., Montero,J.-P. (2010), Corrigendum to ‘’Forward Trading and Collusion in Oligopoly’’. *Journal of Economic Theory* 145, 2496-2497.

6. Differential Games: Capital Accumulation and Price Competition

Reynolds, S.S. (1987), Capacity Investment, Preemption and Commitment in an Infinite Horizon Model. *International Economic Review* 28, 69-88
or:
Stadler, M. (2015), Game Theory and Industrial Organization. Dynamic Models of Price Competition. In: H.J. Ramser et al. (eds.), Entwicklung und Perspektiven der Wirtschaftswissenschaft. Tübingen, Mohr Siebeck, pp. 283-309.

7. Markov Perfect Games: Dynamic Competition

Maskin, E., Tirole, J. (1987), A Theory of Dynamic Oligopoly, III: Cournot Competition. *European Economic Review* 31, 947-968
or:
Baye, M.R., Ueng, S.F. (1999), Commitment and Price Competition in a Dynamic Differentiated-Product Duopoly. *Journal of Economics* 69, 41-52
or:
Stadler, M. (2015), Game Theory and Industrial Organization. Dynamic Models of Price Competition. In: H.J. Ramser et al. (eds.), Entwicklung und Perspektiven der Wirtschaftswissenschaft. Tübingen, Mohr Siebeck, pp. 283-309.

8. Perfect Bayesian Equilibria: Intertemporal Information Transmission

Jeitschko, T.D., Liu, T., Wang, T. (2018), Information Acquisition, Signaling, and Learnng in Duopoly. *International Journal of Industrial Organization* 61, 155-191.

9. Signaling Games: Strategic Signaling by Burning Money

Ziv, A. (1993), Information Sharing in Oligopoly: The Truth-Telling Problem. *Rand Journal of Economics 24*, 455-465
or:
Stadler, M. (2015), Game Theory and Industrial Organization. Dynamic Models of Price Competition. In: H.J. Ramser et al. (eds.), Entwicklung und Perspektiven der Wirtschaftswissenschaft. Tübingen, Mohr Siebeck, pp. 283-309.

10. Signal-Jamming Games: Quality Uncertainty and Informative Advertising

Grunewald, A., Kräkel, M. (2017), Advertising as Signal Jamming. *International Journal of Industrial Organization* 50, 443-459.

11. Global Games: Creditor Coordination and the Price of Debt

Morris, S., Shin, H.S. (2004), Coordinating Risk and the Price of Debt. *European Economic Review* 48, 133-153.
or:
Schüle, T., Stadler, M. (2005), Signaling Effects of a Large Player in a Global Game of Creditor Coordination. *Economics Bulletin* 4, 1-7.

12. Cooperative Games: Merger Bargaining

Horn, H., Persson, L. (2001), Endogenous Mergers in Concentrated Markets. *International Journal of Industrial Organization* 19, 1213-1244
or:
Stadler, M., Neubecker, L. (2010), Endogenous Merger Formation and Welfare in Asymmetric Markets. In: H.J. Ramser et al. (eds.), Marktmacht. Tübingen, Mohr Siebeck, pp. 49-64.

13. Complexity Games: The Cournot Model on the Road to Chaos

Kopel, M. (1996), Simple and Complex Adjustment Dynamics in Cournot Duopoly Models. Chaos, Solitons and Fractals 7, 2031-2048.

14. Evolutionary Games with Replicator Dynamics: Behavioral Economics

Gale, J., Binmore, K.G., Samuelson, L. (1995), Learning to Be Imperfect: The Ultimatum Game. *Games and Economic Behavior* 8, 56-90.

15. Quantal Response Equilibria: Behavioral Economics

McKelvey, R. Palfrey, T. (1995), Quantal Response Equilibria for Normal Form Games. *Games and of Economic Behavior* 10, 6-38
or:
McKelvey, R. Palfrey, T. (1998), Quantal Response Equilibria for Extensive Form Games. *Experimental Economics* 1, 9-41
or:
Klempt, C., Pull, K., Stadler, M. (2019), Asymmetric Information in Simple Bargaining Games. Theory and Experiment. *German Economic Review* 20, 29-51.

16. Firm Strategies and Markets: Theory and Case Study

Possible Topics are: Location, Product Positioning, R&D, Platform Competition, Common Ownership, Foreign Direct Investment, among others.