



## Advanced Contract Theory Summer 2023

Prof. Dr. Christian Ernst  
Prof. Dr. Hans-Peter Burghof

### 1. Course Purpose and Requirements

This course covers selected topics in contract theory and its applications in the context of managerial and financial contracting. It deals with advanced concepts of Mechanism Design and contracting problems with Hidden Information and/or Hidden Action. Students will be enabled to understand and apply state of the art models in finance.

This course assumes a working knowledge in Game Theory, as for example covered in: Osborne, M.J., 2009, An Introduction to Game Theory, Oxford University Press, Ch. 2-7.

### 2. Time Schedule

| Date                                       | Time   | Lecturer                       | Covered Topics   | Readings  |
|--|--|--------------------------------|--|---|
| Wednesday,<br>19.04.2023                   | 09.00 – 13.00<br>HS 5                                    | Burghof                        | Kick-off / Introduction to Contract Theory   | Bolton/Dewatripont (2005), Ch. 1<br>Bolton/Dewatripont (2005), Ch. 2,<br>Laffont/Martimort (2002), Ch. 2<br>Bolton/Dewatripont (2005), Ch. 5<br>Bolton/Dewatripont (2005), Ch. 12 |
|  | 14.00 – 18.00<br>Zoom                                    | Burghof                        | Hidden Information: Screening<br>Disclosure of Private Information<br>Contracting with Unverifiable Information                                  |   |
| Thursday,<br>20.04.2023                    | 09.00 – 13.00<br>Zoom                                    | Burghof                        | Hidden action & incomplete contracts   | Ewert/Wagenhofer (1993), Wagenhofer (1996), Hart (1995), Holmström (1979), Holmström/Milgrom (1987)   |
|  | 14.00 – 16.00<br>Raum 122<br>Gebäude 4.48                | Ernst                          | Combined Moral Hazard and Hidden Information Models  | Laffont/Tirole (1993), Ch. 2  |
|  | 16.00 – 17.00<br>Vortrag Claudia<br>Buch -<br>Balkonsaal |                                |  |   |
| 17.00 – 18.00<br>Raum 122,<br>Gebäude 4.48 |  |                                |  |   |
| Thursday,<br>27.04.2023                    | 09.00 – 13.00<br>Zoom                                    | Ernst                          | Menus of linear Contracts<br>Mopping up and discussion of student projects   | Osband/Reichelstein (1985)  |
|  | 14.00 – 18.00<br>Zoom                                    | Ernst                          | Solving Contract Theory Problems using Mathematica© A multi- tasking model where the agent can influence mean AND risk (variance) simultaneously | Preliminary reading   |
| Friday,<br>09.06.2023                      | 09.00 – 13.00<br>Seminarraum 09                          | Burghof/Ernst<br>Presentations | Paper Presentation and Discussion  |   |
|  | 14.00 – 18.00<br>Seminarraum 09                          | Burghof/Ernst<br>Presentations | Paper Presentation and Discussion  |   |

### 3. Academic Record

- The course consists of a lecture with an integrated exercise.
- In order to pass the module, it is obligatory to present one theoretical paper (about 45 minutes) and to generally attend class (at least 75%).

### 4. Lecture material

- Exercises, lecture notes, literature, and information will be provided on ILIAS during the semester.

### 5. Literature

- Bolton, P. and M. Dewatripont, 2005, *Contract Theory*, MIT Press.
- Ewert, R. und A. Wagenhofer, 1993, *Linearität und Optimalität in ökonomischen Agency Modellen - Zur Rechtfertigung des LEN-Modells*, Zeitschrift für Betriebswirtschaft 63: 373-39.
- Hart, O., 1995, *Firms, Contracts, and Financial Structure*, Oxford University Press.
- Holmström, B. and P. Milgrom, 1987, *Aggregation and Linearity in the Provision of Intertemporal Incentives*, Econometrica 55: 303-328.
- Holmström, B., 1979, *Moral Hazard and Observability*, Bell Journal of Economics 10: 74-91.
- Laffont, J.-J. and D. Martimort, 2002, *The Theory of Incentives – The Principal-Agent Model*, Princeton University Press.
- Laffont, J.-J. and J. Tirole, 1993, *A Theory of Incentives in Procurement and Regulation*, MIT Press.
- Osband, K. and S. Reichelstein, 1985, *Information-Eliciting Compensation Schemes*, Journal of Public Economics 27: 107-115.
- Schweizer, U., 1999, *Vertragstheorie*, Tübingen: Mohr Siebeck.
- Wagenhofer, A., 1996, *Anreizsysteme in Agency-Modellen mit mehreren Aktionen*, Die Betriebswirtschaft 56: 155-165.