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Lecture: Financial Market Dynamics

Course Description

The course is devoted to the dynamics of international financial markets. In particular, we analyze the effects of interactions between heterogeneous and boundedly rational market participants on price formation.

Topics

1 International Financial Markets: Forecasting Financial Market Prices - Technical and Fundamental Investment Rules - Statistical Properties of Financial Market Prices
2 Linear deterministic models: The interplay of market makers, chartists, and fundamentalists - First simple price dynamics
3 Nonlinear deterministic models: Nonlinearities, chaos, and stylized facts - Investment rule choice - Nonlinear investment rules - Market interactions
4 Nonlinear stochastic models: Stochastic market entry - Stochastic investment rules - Stochastic herd behavior - Fundamental shocks

Room and time coordinates

Lecture: Friday, 10:00-12:00, Room F21/03.01, Start: 2nd week of lectures
Exercise: Wednesday, 08:00-10:00, Room RZ/01.02, Start: 3rd week of lectures

Course Material

Additional documents are posted in the Virtual Campus.

Literature

The following articles provide an initial overview of the subject area: Chiarella, C., Dieci, R. and He, X.-Z. (2009): Heterogeneity, market mechanisms, and asset price dynamics. In: Hens, T. and Schenk-Hoppé, K.R. (eds.): Handbook of Financial Markets: Dynamics and Evolution. North-Holland, Amsterdam, 277-344. Hommes, C. (2006): Heterogeneous agent models in economics and finance. In: Tesfatsion, L. and Judd, K. (eds.): Handbook of Computational Economics, Volume 2, Agent-Based Computational Economics. North-Holland, Amsterdam, 1109-1186. LeBaron, B. (2006): Agent-based computational finance. In: Tesfatsion, L. and Judd, K. (eds.): Handbook of Computational Economics, Volume 2, Agent-Based Computational Economics. North-Holland, Amsterdam, 1187-1233. Lux, T. (2009): Stochastic behavioural asset-pricing models and the stylize facts. In: Hens, T. and Schenk-Hoppé, K.R. (eds.): Handbook of Financial Markets: Dynamics and Evolution. North-Holland, Amster-dam, 161-216. Westerhoff, F. (2009): Exchange rate dynamics: A nonlinear survey. In: Rosser, B. (ed): Handbook on Research on Complexity. Edward Elgar, Cheltenham, 287-325. Further literature will be announced during the course.