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Dynamic Economic Policy

Course Description

This course has two aims. Firstly, we seek to explore dynamic processes, which involves a formal and computational analysis of linear and nonlinear difference equations. Secondly, we aim to expand our understanding of economics by developing various economic models and examining their implications for economic policy.

Topics

1 Exemplary fields of application: Business cycle models – growth models – financial market models – Cobweb models – housing market models
2 Analytical methods: Linear difference equations – nonlinear difference equations – systems of difference equations
3 Numerical methods: Time series and phase-space analysis – bifurcation diagrams – Monte Carlo studies
4 Software programs: Mathematica

Times and Rooms

Lecture: Thursday, 12:00-14:00, F21/02.18, starts on April, 18
Exercise: Wednesday, 10:00-12:00, RZ/01.03, starts on April, 24

Course Material

Course material will be provided on the Virtueller Campus.

Literature

Day, R. (1994): Complex economic dynamics. MIT Press, Cambridge. De Grauwe, P. (2012): Lectures on behavioral macroeconomics. Princeton University Press, Princeton. Galor, O. (2006): Discrete dynamical systems. Springer-Verlag, Berlin. Gandolfo, G. (2009): Economic dynamics. Springer-Verlag, Berlin. Hommes, C. (2013): Behavioral rationality and heterogeneous expectations in complex economic systems. Cambridge University Press, Cambridge. Lines, M. (2005): Nonlinear dynamical systems in economics. Springer-Verlag, Berlin. Medio, A. und Lines, M. (2001): Nonlinear dynamics: A primer. Cambridge University Press, Cambridge. Puu, T. und Sushko, I. (2006): Business cycle dynamics: models and tools. Springer-Verlag: Berlin. Rosser, J. B. (2000): From catastrophe to chaos: a general theory of economic discontinuities. Kluwer Academic Publishers, Boston. Shone, R. (2002): Economic Dynamics. Cambridge University Press, Cambridge.