Goethe University of Frankfurt
House of Finance
Department of Money and Macroeconomics
Professor Volker Wieland, Ph.D.

Winter Semester 2014/15

# Ph.D. Program Seminar Course
# Comparative Modelling of Financial Markets and the Macro-Economy

**Course Description:**
The purpose of this seminar course is to give advanced doctoral students a hands-on introduction to frontier research in empirical macroeconomics and the development and application of structural macroeconomic models. The course will consist of a combination of lectures, supervision of modeling projects, student presentations and group discussions with extensive feedback. Each project, which should be pursued by a single student or a team of two students, will involve studying an existing macroeconomic model from the literature. Students will then be advised on the development of a software implementation of the model in DYNARE with a policy application. At the end of the course, students should be able to start working on a dissertation project that involves structural macroeconomic modeling. The course can be counted as a seminar course in the field macroeconomics of the Ph.D. Program. Successful participation in this seminar course is a precondition for the supervision of a dissertation at the chair.

**Course Time and Location:**
We will be meeting repeatedly throughout the semester for lectures and student presentations in the House of Finance. The introductory meeting will take place on Tuesday, October 21, at 2 pm in Room Shanghai (HoF 1.28).

**Course Registration:**
To register for the course, students should send an e-mail to Elena Afanasyeva, eafanasyeva@wiwi.uni-frankfurt.de. The e-mail should contain the participant's name and contact details. Registration should take place as soon as possible. The maximum number of students participating in the course for credit will need to be restricted to twelve.

**Course Requirements:**
Students will be expected to give two short presentations for group feedback. The first presentation will discuss the assigned paper from the literature and modeling project. It will take place in the middle of the semester. The second presentation will report on the implemented model and policy application. Grading for the seminar course will be based on presentations and model implementation.

**Literature**

The comparative approach is described in detail in:

Wieland, Volker, Tobias Cwik, Gernot J. Müller, Sebastian Schmidt, and Maik Wolters (2012). „A New Comparative Approach to Macroeconomic Modeling and Policy Analysis," *Journal of Economic Behavior and Organisation*, Elsevier, Vol. 83, Issue 3: 523-541, also available at http://www.macromodelbase.com.

This paper is required reading for all students.

Student projects will focus on studying and later implementing one of the models described in the following papers. Project with medium- to large-scale models may be pursued by teams of two students.

Agenor, Pierre-Richard, Koray Alper, and Luiz Pereira da Silva (2012). "Capital requirements and Business Cycles with Credit Market Imperfections," *Journal of Macroeconomics* (34): 687 -705. Note: the model is largely based on: Agenor, Pierre-Richard and Koray Alper (2012). "Monetary Shocks and Central Bank Liquidity with Credit Market Imperfections," *Oxford Economic Papers* 64: 563 – 591.

Christensen, Ian, Cesaire Meh and Kevin Moran (2011). "Bank Leverage Regulation and Macroeconomic Dynamics," Bank of Canada Working Paper 2011-32.

Christiano, Lawrence J., Roberto Motto and Massimo Rostagno (2014). "Risk Shocks," *American Economic Review* 104 (1): 27-65

Darracq Paries, Matthieu, Christoffer Kok Sørensen, and Diego Rodriguez-Palenzuela (2011). "Macroeconomic Propagation under Different Regulatory Regimes: Evidence from an Estimated DSGE Model for the Euro Area," *International Journal of Central Banking* 7 (4): 49–113.

Dewachter, Hans and Rafael Wouters (2014). "Endogenous Risk in a DSGE Model with Capital-Constrained Financial Intermediaries," *Journal of Economic Dynamics and Control* 43: 241-268.

Gelain, Paolo, Kevin J. Lansing, and Caterina Mendicino (2013). "House Prices, Credit Growth, and Excess Volatility: Implications for Monetary and Macroprudential Policy," *International Journal of Central Banking* 9(2): 219-276.

Lambertini, Luisa, Caterina Mendicino and Maria Teresa Punzi (2013). "Leaning Against Boom-Bust Cycles in Credit and Housing Prices," *Journal of Economic Dynamics and Control* 37: 1500-1522.

Mendicino, Caterina and Maria Teresa Punzi (forthcoming). "House Prices, Capital Inflows and Macroprudential Policy," *Journal of Banking and Finance* (in press).

Students may propose an alternative model in any of these areas for a project. It will be approved if the model is sufficiently interesting and implementable within such a project.

**Course Schedule:**

October 21, 14:00-15:00

1st meeting to discuss course plan and potential projects. Students may state preferences for projects and assignments can be made.

November 3

Last day for signing up for a particular project. Availability to be cleared with Elena Afanasyeva.

November 18-24

November 18, 14:00-16:00 (Boston, HoF 2.45) Lecture on Macroeconomic Modelling I (Prof. Wieland)

November 21, 10:00 -12:00 (Milan, HoF 4.59) Lecture on Macroeconomic Modelling II (Elena Afanasyeva)

November 24, 10:00-12:00 (Milan, HoF 4.59) Introduction to Dynare and Macro Model Data Base. Computer Session (Macro Model Base Team)

January 21 TBC (Milan, HoF 4.59, time TBD)

Student presentations explaining the model and paper chosen for the project. Time: 30 minutes for each presentation including discussion.

February 10/11 (Milan, HoF 4.59 ,time TBD)

Student presentations of model implementation. Proof of replication and comparisons to other models available in Wieland et al. (2012). Time: 35 minutes for each presentation including discussion.

March 11

Last day for turning in the write-up describing model implementation (equations, data etc.), replication and comparison exercises.