Short Information on the Seminar "Macroeconomic Stabilization in Severe Economic Crises"

Schedule and Information:

- The seminar will take place on 22 May 2025 (and in the morning of 23 May 2025 if required).
- Seminar theses have to be handed in on 14 May by midnight.
- Seminar topics will be handed out in a meeting on 6 February at 1130 (room, LG 0.143).
- Students who are interested to pick a topic by Dr. Nikolai Stähler (Deutsche Bundesbank) have to attend his seminar presentation on 5 February at 945 (LG, room 3.152)
- Each topic can be selected by up to two people.
- If two people choose the same seminar topic, they have to hand in one seminar paper and give a joint presentation. Except in very special cases, group members will obtain the same grade.
- During your seminar work, it is advisable to visit the supervisors one to three times (unless the supervisor expresses a different preference).
- You have a target of 15 written pages (plus references and Appendices). Deviations of +/- 10 percent are allowed. Larger deviations will affect the grade.
- Important: This is a seminar for the students in the Master in Economics. You should have attended Macroeconomics: Business Cycles, as most topics require some knowledge in dynamic macroeconomics and simulations.

Topics:

1. Contrasting the Search and Matching Model with German Time Series Data (Christian Merkl)

Basic task: Contrast the simulated search and matching model from the lecture (.mod-file is provided in the lecture folder) with German administrative data (Data Information). More specifically, calculate time series properties for inflows/job creation, outflows/job destruction, wage dynamics for all workers and inflows and contrast this to properties of the model. Try different model calibrations and contrast the different simulation outcomes to the data.

2. Disinflation and Sacrifice Ratios under Money Supply Rules (Christian Merkl)

Basic tasks: Simulate a disinflation in a New Keynesian model with a money supply rule (baseline code will be provided). What are key drivers for the sacrifice ratio? Contrast the model simulation outcomes to chosen disinflations (e.g., the Volcker disinflation in the United States).

Ascari, Guido and Merkl, Christian (2009). Real Wage Rigidities and the Costs of Disinflations, Journal of Money, Credit, and Banking, 41, 417-435.

3. Labor market reaction to inflation in the past 20 years (Paolo Bontempo)

Basic tasks: Create a database containing key labor market outcomes such as employment, unemployment, and labor force participation (a base database will be provided as a starting point). Analyze the relationship between these variables and inflation. Students are expected to describe the observed relationships and perform quantitative regressions to empirically quantify the impacts. Ideally, the analysis should contrast periods of low inflation before the COVID-19 pandemic with subsequent periods characterized by high inflation.

4. Impact of labor taxation reform on macroeconomic indicators (Paolo Bontempo)

Basic tasks: Use the LABREF database to analyze the effect of structural labor taxation reforms on GDP growth and inflation. Using quantitative methods, students are expected to identify and quantify the possible short-run effects of these reforms on macroeconomic indicators. Ideally, the analysis should compare reforms implemented during the aftermath of the European crisis in 2011—characterized by a low-inflation environment—with reforms implemented in other periods.

Eggertsson, Gauti B. and Ferrero, Andrea and Raffo, Andrea (2014). Can Structural Reforms Help Europe? Journal of Monetary Economics

5. Fiscal Interventions in an Open Economy Framework (Kristina Saveska)

Basic tasks: Simulate a fiscal intervention in an open economy New Keynesian model that consists of two regions that belong to a monetary and fiscal union. Recalibrate the model to match the Eurozone. Compare your outcomes to the original paper. The model code can already be viewed and downloaded from the Macroeconomic Model Data Base (NK_NS14).

Main source: Nakamura, E. and Steinsson, J. (2014): Fiscal Stimulus in a Monetary Union: Evidence from US Regions. American Economic Review, 104 (3): p. 753-92.

6. COVID-19 Government Response and Its Impact on the Labor Market in Europe (Kristina Saveska)

Basic tasks: Analyze the governmental response to COVID-19 in Europe using the Oxford COVID-19 Government Response Tracker (OxCGRT) database. Investigate the relationship between the implemented policy measures and labor market outcomes during the pandemic. Compare and interpret the findings across selected European countries (or a specific country).

7. What happens in an Epidemy with the Macroeconomy? (Timo Sauerbier)

The Topic is based on a macroeconomic model form the "Epidemic Macro Model Database (Epi-MMB)." Link: https://www.epi-mmb.com/

Students are expected to understand the key mechanisms of the underlying macroeconomic model and to familiarize themselves with the simulation codes (mod-files from Epi-MMB). The minimum expectation is that they will be able to explain the core mechanisms of the model and the simulation results. Ideally, students will do some modifications (e.g., different parameters or a different policy exercise) and thereby provide some value added on their own.

Below, you find the proposed paper (paper and codes can be found in the model database):

Eichenbaum, M., Rebelo S., and Trabandt, M. (2022): Epidemics in the New Keynesian Model. Journal of Economic Dynamics and Control, 140: 104334

Eichenbaum, Rebelo, and Trabandt (2022) extend an otherwise simple New Keynesian model. The study shows the response of various economic outcomes after the epidemic hits the economy.

8. Public Employment as a Policy Instrument (Timo Sauerbier)

The Topic is based on a macroeconomic model form the "Macroeconomic Model Data Base." Link: https://www.macromodelbase.com/

Students are expected to understand the key mechanisms of the underlying macroeconomic model and to familiarize themselves with the simulation codes (mod-files from MMB). The minimum expectation is that they will be able to explain the core mechanisms of the model and the simulation results. Ideally, students will do some modifications (e.g., different parameters or a different policy exercise) and thereby provide some value added on their own.

Below, you find the proposed paper (codes can be found in the model database):

Michaillat, P. (2014): A Theory of Countercyclical Government Multiplier. American Economic Journal: Macroeconomics, 6(1): p. 190–217

Michaillat (2014) embeds a search-and-matching model into a New Keynesian model. The study analyzes the effects of an increase in public employment at different stages of the business cycle.

9. Carbon Pricing: Carbon Leakage and Carbon Border Adjustments (Nikolai Stähler)

Many countries have committed to climate change mitigation policies. Amongst these policies, pricing carbon emissions is one of the most prominent examples for a policy that many regions have introduced already (or are about to introduce). However, regions that use carbon pricing fear a loss in competitiveness vis-à-vis regions without carbon prices and the emigration of production of dirty goods. This is often referred to as *carbon leakage*. Students are expected to use a two-region version of the environmental multi-sector DSGE model *EMuSe* (codes of the baseline model will be provided) to show how large the carbon leakage effect is. In a second step, it would be interesting to introduce a carbon border adjustment mechanism (i.e. a tax/subsidy on/for dirty imports/exports) into the model to see how much carbon leakage can be avoided.

The topic will be further discussed in the special lecture on 5 February at 945 am. The model can already be viewed and downloaded here: The Environmental Multi-Sector DSGE model EMuSe: A technical documentation ¦ Deutsche Bundesbank.

10. Carbon Taxes: Output versus input-based emissions taxes (Nikolai Stähler)

Many economies around the world have committed to ambitious climate goals and discuss climate change mitigation policies, including approaches to tax carbon emissions. However, does it make a difference how to price/tax these carbon emissions? The European Union ETS can, with some limitations, be viewed as generating an emissions-based output tax. What is the difference to a tax on emissions-intensive (dirty) production inputs? Students are expected to use the environmental multi-sector DSGE model *EMuSe* (codes of the baseline model will be provided) to analyze these differences in terms of macroeconomic effects and welfare implications.

The topic will be further discussed in the special lecture on 5 February at 945 am. The model can already be viewed and downloaded here: The Environmental Multi-Sector DSGE model EMuSe: A technical documentation ¦ Deutsche Bundesbank.

For topics (9.) and (10.) it may also be of interest to have a look at the following paper for a better overview: Timilsina, G. R. (2022), Carbon Taxes, Journal of Economic Literature, 60(4), p. 1456-1502.