

## Seminar (WS 2022/23)

FG Makroökonomie, Prof. Dr. Frank Heinemann

Modules:

„Ausgewählte Fragen der Makroökonomik und Außenwirtschaft“ (B.Sc.)

„Ausgewählte Fragen zu Monetärer Makroökonomik, Finanzkrisen und Koordination“ (M.Sc.)

## Supply Shocks and Inflation

*Seminar for Bachelor and Master students*

This seminar aims at giving students an opportunity to study the relation between supply shocks and inflation. Interruptions of supply chains in consequence of the Covid-19 pandemic, building up new production lines to increase resilience, responses to climate change, and the recent Ukraine war and its effects on world energy and food markets can be viewed as being one large negative unexpected supply shock. While prices fell immediately after the set-off of the Covid crisis, they began to rise again about one year later, and inflation has quickly speeded up to levels of currently about 8% in Europe and the USA.

How can we explain the nexus between the supply shock and the rise of inflation? What are the consequences of inflation on interest rates, private investment, and public spending? Which relative price changes need to take place to reach a new steady state equilibrium? What are the consequences for the income and wealth distribution? How should monetary and fiscal authorities respond to this situation?

In this seminar, we will first look at the shocks, identify the asymmetric effects of these shocks on different sectors of the economy, and analyze which relative price changes they call for in a frictionless economy. Nominal rigidities and adjustment costs for investment establish frictions that prevent an immediate adjustment of an economy to a shock. The effects of shocks in an economy with such frictions can be studied with dynamic stochastic general equilibrium (DSGE) models. These models are usually augmented with different monetary response functions, as interest rate rules, to analyze the optimal monetary policy strategy. Standard DSGE models are assuming small symmetric shocks and stability of the long-run rational expectations equilibrium at target inflation. The current shock, however, is asymmetric and too big to be fully captured by these models, as can be seen from the shortages of inputs (labor, resources, and intermediate goods) and final products in various sectors. The seminar will investigate in which way we need to augment DSGE models to deal with large and potentially asymmetric supply shocks.

The fast rise of inflation after a long period with almost no changes in the price level and zero interest rates also calls into question whether the long-run inflation target is still credible and how economic actors form inflation forecasts. Expected inflation has important feedback effects on investment (by the expected real interest rate), foreign trade (by expected future exchange rates), nominal wages (price-wage-spiral), and actual price increases if firms are using mark-up pricing to expected marginal costs. This seminar will shed some light on the formation of inflation expectations and how they can be affected by monetary and fiscal policy.

Inflation and asymmetric shocks affect the income and wealth distribution. We talk about the social consequences and how the government can address social concerns. Many fiscal measures that can or have been employed in this regard also affect inflation and they may prevent relative price adjustments that are necessary to adjust to the new long-run equilibrium. In the seminar, we will discuss these effects and the social dilemmas that they create.

We will compare the current situation between major industrial countries, but also with previous historical periods with large negative supply shocks. We will also address the question, how hyperinflation arises, and whether we are currently on a road that might lead to accelerating inflation rates. Here, we can also refer to different monetary theories and compare the assumptions behind these models.

In the course of the seminar, students will present their analysis of these and other relevant questions based on scientific literature concerning supply shocks, inflation, and policy strategies. While the direct cause for the current supply shock is novel, the effects of large asymmetric and/or negative supply shocks have been analyzed deeply during the last decades. Thus, there is a large body of literature that can be applied to the current situation. We will structure the seminar by defining a number of distinct research questions along the lines laid out in the previous paragraphs of this short summary. Students are requested to write a seminar paper and present it in front of supervisors and fellow students. In addition, participation in discussions will contribute to the overall grade.

### **Registration and Seminar Structure**

The seminar is offered to both Bachelor's and Master's students. It is expected that participants have successfully completed the basic courses in micro- and macroeconomics and economic policy. The seminar enables the students to work independently on a research topic using recent scientific literature, to present it in written and oral form, and to discuss their fellow students' work.

Participants are required to register for the seminar by e-mail. Please, send the completed registration form by **20 October 2022** to Rouven Geismar, [r.geismar@tu-berlin.de](mailto:r.geismar@tu-berlin.de). You can download the registration form on the [website](#) of the Chair of Macroeconomics.

<https://www.tu.berlin/macroeconomics/study/teaching-lehre>

This registration is not binding. However, without registration we reserve the right to deny participation. The number of participants is limited. Priority is given to students who have successfully completed a course offered by the Chair of Macroeconomics and who are in need of a course certificate.

The first (informational) session will take place on **21 October 2022** from 12:15 to 13:45. At this preparatory meeting, organizational issues will be discussed. Then, participants will be given a list of topics on which they can write their seminar papers.

Students then have to list 5 topics by their order of preference and send it to [r.geismar@tu-berlin.de](mailto:r.geismar@tu-berlin.de) within three days. You can also propose your own topic in case you want to discuss a topic that is not on the list provided. In this case, you need to write a few lines where you describe the topic and the research question and quote at least one relevant paper. The final allocation of students to topics will be determined by the chair in the same week. Each student will be assigned to a supervisor from the chair. All participants need to make at least one appointment with their supervisor to report on the progress of their work. The supervisor will be available for additional appointments, if necessary.

Afterwards, the staff of the Chair of Macroeconomics matches preferences and topics. Upon assignment of a topic, participants are given a short description of their topic and some introductory literature. This literature is meant to present a starting point from which participants are expected to conduct an intensive literature research on their own. After the informational session, participants will start to prepare a seminar paper.

During a lecture session on 28 October, 12-14, an introduction to the mechanics of supply shocks within the IS-LM-AD-AS framework will be given by Prof. Heinemann.

Seminar participants have two weeks after the first meeting, to make a definite decision whether or not to participate in the seminar. This decision is binding and registration has to be made through QISPOS from the examination office.

### **Seminar Paper and Presentations**

The **seminar paper** should have a length of about 15 pages and should satisfy scientific criteria. An academic writing guideline is available on the course [website](#). Participants have to submit their seminar paper latest by **13 January**. The paper is to be submitted in electronic form (pdf).

In addition to the seminar paper, participants give two presentations and a formal discussion. The first presentation is meant to shortly present the student's ideas about her or his topic, the research question, an

educated guess of what to expect as the outcome of the paper (stemming from reading the initially given literature), and the research agenda for the paper. The research agenda can be presented, e.g., in the form of motivating questions, which will be answered during the course of the written paper. This first presentation shall be no longer than 10 minutes. It is scheduled for 11<sup>th</sup> November 2022, 12-16.

At the end of the term, we will schedule block sessions for the final presentations (27.1., 28.1., and 3.2.). Each participant will give a presentation of her or his paper. The aim of the presentation is to introduce the subject, the research question, the methods used and the results of the seminar paper. Presentations should be around 20 minutes. Additionally, each participant is expected to present a five-minute formal discussion of a paper from a fellow participant. Which paper is to be discussed, will be determined by the Chair of Macroeconomics approximately one week prior to the seminar session. All presentation slides should be converted to pdf.

All participants have to read the other seminar papers prior to the corresponding presentation. The content will be discussed with all seminar participants following each presentation.

Attendance to the seminar sessions is mandatory. If you miss more than one session because of illness you have to hand in a sick note from a doctor. Unexcused absence from more than one seminar session will result in a grade 5. You are allowed to miss a maximum of two presentation sessions (with sick note).

### **Grading**

**Grading** of the seminar will be based on the written seminar paper (50%), the oral presentations (25%) and participation in discussions (25%).

### **Schedule:**

Registration deadline:	<b>Thursday, 20 October 2022</b>
Information session:	Friday, 21 October 2022, 12:00-14:00, room H 1029
Submission of topic preferences:	Monday, 24 October 2022
Lecture Session:	Friday, 28 October 2022, 12:00-14:00, room H 1029
Final decision to participate:	Friday, 4 November 2022
First presentation	Friday, 11 November 2022, 12:00-18:00, room H 1029
Submission deadline seminar paper:	<b>Friday, 13 January 2023</b>
Presentation sessions (depending on number of participants):	all in room H 1029
	Friday, 27 January 2023, 12:00-16:00 (eventually longer)
	Saturday, 28 January 2023, 10:00-14:00 (eventually longer)
	Friday, 3 February 2023, 12:00-16:00 (eventually longer)