

# Advanced Topics in Macroeconomics and Policy

Spring 2023

Christian Pröbsting

Lecture: Tuesday 2:00-4:00pm, Wednesday 11:00am-1:00pm in [HOGM 00.74](#)

Office hour: By email

Email: [Christian.Probsting@kuleuven.be](mailto:Christian.Probsting@kuleuven.be)

This is a topics course in macroeconomics and is part of the Master of Advanced Studies in Economics. While Advanced Macroeconomics I and II equip you with toolboxes that help you start your own research in macroeconomics, this course will showcase how some of these methods are being used in academic research papers and will also allow you apply the methods yourself. Macroeconomics is a very broad subject with many subfields and the goal of this course is not to give you an overview of all those different topics. It is rather a (subjective and very small) selection of topics that have received substantial attention in macroeconomic research in the last years. We are going to cover both empirical and quantitative work.

Topics covered in this course include

1. Review of RBC models
2. Government spending multipliers: models + empirical evidence
3. Micro in Macro
4. Basics of open-economy macroeconomics
5. Introduction to HANK
6. Labor wedge

In week 2, I will give a lecture to introduce dynare, a software to solve DSGE models in Matlab. Throughout the course I present a variety of models that I solve using dynare. At the end of the course, you should feel comfortable implementing these models in dynare. Before week 2, you should install dynare on your computer and run their example code. We will build a dynare code together and I want to make sure that everyone has the code implemented and running by the end of the lecture. To install dynare, see [https://www.dynare.org/resources/quick\\_start/](https://www.dynare.org/resources/quick_start/)

Please let me know by the end of week 1 if you have any problems installing dynare.

At some point I will also give a brief introduction into data management. Data management has become more and more important in recent years as empirical macroeconomists handle several, complex datasets. Keeping the overview and knowing how to organize data is therefore a crucial skill for successful research.

We have lectures on both Tuesday and Wednesday. I will frontload the lectures to give you more time in the second half of the semester when you will have to prepare your term paper and presentation.

We are a small group of students, which allows us to have a rather interactive class. This is not an undergraduate lecture, but rather a forum for discussion. If you have any questions, do not hesitate to ask them. Questions are at the beginning of all research. If there is something you do not understand, it is likely that your classmate does not understand it either.

## **Guest lecture:**

On May 19<sup>th</sup> and 22<sup>nd</sup>, we have a workshop by Adrien Auclert from Stanford University. He will present a toolkit for solving HANK models. So please mark your calendars.

## **Pre-requisites:**

You should ideally have taken Advanced Macroeconomics II (and I), or at least take the course in parallel, be familiar with the basic business cycle model. That being said, I expect quite a bit of heterogeneity among

students and if you feel that you're lost, talk to me. Chances are that you are not the only one. I much rather adjust the pace of the course than losing students along the way.

### **Readings:**

The focus of this course is on selected research papers and therefore does not follow any particular textbook. The textbook by Jordi Galí, *Monetary Policy, Inflation, and the Business Cycle*, 2015, is a useful reference. I will post slides on Toledo before the lecture. I will also post a list of research papers for each topic as we move along in the course. Please make sure that you read the assigned papers.

Articles can be downloaded from journal websites or the authors' website. You might need to go through the KU Leuven library to access the article. If you have trouble locating a particular article, please let me know and I will make copies available.

### *How to read research papers:*

Research papers are not textbooks and the quality of the exposition differs quite a bit across authors. While journal articles are typically peer-reviewed, many articles contain some sorts of mistakes (e.g. in the computer codes that were used to solve the model). Some articles are worth the effort of understanding every single equation, but that is the minority.

A good indication is the quality of the journal, but there are some good articles that were published in minor journals or never got published. In economics, you often hear people talk about the "top 5", which refer to the top general interest journals: Journal of Political Economy (JPE), Econometrica, Quarterly Journal of Economics (QJE), American Economic Review (AER), and Review of Economic Studies (ReStud). There are also two very good journals that focus on macroeconomics: Journal of Monetary Economics (JME) and American Economic Journal: Macroeconomics (AEJ Macro).

The way you read research papers is going to evolve over time. As you become more and more familiar with a topic, you will become more efficient in reading papers and finding the parts that you are interested in (e.g. you just want to know how to access the data they use, or how they determine the value of a contentious parameter). When you look at a paper for the first time, read the abstract and introduction (and conclusion). Then skim through the middle and check out tables and figures. If it's interesting, then try to read through the main body of the text. Many papers contain a literature review, which can be very useful to find related papers and get a sense of the broader literature. You can also use google scholar to find articles that cite the paper.

### **Goal:**

At the end of the course, the student

- Feels comfortable implementing DSGE models in dynare and can interpret the model results
- knows how to approach theory-driven empirical work using micro data
- is able to understand and critically evaluate state-of-the-art academic papers in macroeconomics related to the topics discussed in class
- has developed the capacity to sketch research ideas

### **Grading:**

1. Referee reports and in-class presentation (45%). You will give an in-class presentation and a critical referee report of a research paper that we agree on. Your discussion should include some substantive work (e.g. a small extension or some data work to support your point). We will discuss and select the research paper before the Easter break. The presentation will take place in the last lectures. The report is due on June 26th, 5pm.
2. Problem sets (45%). There are three problem sets. The deadlines for submitting the problem sets will be discussed in class. Students are permitted to discuss problem sets with each other. Copying from another student's answers is not allowed. No late homework is accepted.

3. Class participation (10%). You should show that you have read the assigned readings and actively participate in the class. You are encouraged to stop me if you are confused and ask questions. I want this to be a discussion rather than a lecture as frequently as possible.

Attending the students' presentations that will take place at the end of the course is compulsory. Given the small size of this course I do not plan to record any lectures.

**Retake:**

Evaluation for students doing the re-take is similar. It will be based on (i) class participation, (ii) problem sets and (iii) referee reports and in-class presentation. These in-class presentations will be scheduled for August and will probably take place on zoom. If you decide to do the retake after having handed in some of the problem sets, the grade of the submitted problem sets will be carried over to your final grade.

**Slides:**

By now, many economists have posted their class material online: I've found slides by the following scholars particular useful:

- Adam Guren (Boston University)
- Emi Nakamura (UC Berkeley)
- Gabriel Chodorow-Reich (Harvard)
- Benjamin Moll (LSE)

My slides are partly based on their slides, especially on those by Adam Guren.

**Useful papers:**

Berk, Jonathan B., Campbell R. Harvey, and David Hirshleifer. 2017. "How to write an effective referee report and improve the scientific review process." *Journal of Economic Perspectives* 31, no. 1: 231-244.

Cochrane, John. 2005. "Writing tips for PhD students." Mimeo.  
[https://static1.squarespace.com/static/5e6033a4ea02d801f37e15bb/t/5eea8ee7c4488718b640f3c6/1592430312374/phd\\_paper\\_writing.pdf](https://static1.squarespace.com/static/5e6033a4ea02d801f37e15bb/t/5eea8ee7c4488718b640f3c6/1592430312374/phd_paper_writing.pdf)

Guren, Adam. 2018. "How to give a lunch talk." Presentation.  
[https://people.bu.edu/guren/Guren\\_HowToGiveALunchTalk.pdf](https://people.bu.edu/guren/Guren_HowToGiveALunchTalk.pdf)

Schwabish, Jonathan A. 2014. "An economist's guide to visualizing data." *Journal of Economic Perspectives* 28, no. 1: 209-234.

## Guidelines for referee report

**Part I:**

Classical referee report (2-3 pages, standard Word margins, font: Calibri 12pt.)

The typical referee report is composed of a letter to the editor and a report for both the author and the editor. For this exercise, I ask you to only write the latter.

As a reference on how to write a referee report, look at

Berk, Jonathan B., Campbell R. Harvey, and David Hirshleifer. "How to write an effective referee report and improve the scientific review process." *Journal of Economic Perspectives* 31, no. 1 (2017): 231-44.

The first paragraph of your report should summarize the paper. The rest of the report should address the following points:

1. What is the importance of the paper? What is the contribution to the literature?
2. Problems that make the paper unpublishable
3. Problems that can be addressed: Specify the additional work that is needed
4. Minor suggestions

Given the set of papers on the reading list, I do not expect a long list of major problems with the papers, and you might want to put more emphasis on parts (1) and (3). Part (3) could then be used as a steppingstone for Part II of your report.

## Part II:

Extension (5-6 pages, including tables and figures ( $\#T + \#F \leq 3$ ), but excluding references)  
AER style draft mode (they provide a latex package to implement the style,  
<https://www.aeaweb.org/journals/policies/templates>)

In this part, I ask you to add some substantive work to the referee report. This could be a small extension of the model or some data work to support your point.

For instance, if the paper is mostly theoretical, think about how to test it empirically and show some empirical support for it. If the paper is mostly empirical, think about what the results imply for theory. If the paper uses publicly unavailable micro data, think about whether you can replicate the results with publicly available data, potentially extending the scope of the analysis.

Of course, what you can possibly do depends on the paper, the model and the data that is being used. In general, it is up to you to find something that is related to the paper, that is of interest to you and where you can make some headway. It could be the starting point of a bigger research project, but the work you show should be self-contained and include a (theoretical or empirical) substantive result.

Content:

1. Brief introduction (0.5-1 page) that states how your work relates to the paper; state your result and why it is important. You could take as given that the reader has read your referee report.
2. Methodology / Description of data (1.5-2.5 pages)
  - a. Identification?
  - b. Data sources, why appropriate?
3. Results (1.5-2.5 pages)
  - a. Clearly stated
  - b. Well-designed tables and figures: Tables and figures should include notes at their bottom. The reader should be able to understand them without having to refer to the text.
4. Conclusion (0.5-1 page): Implications of findings

## Guidelines for presentation

Aim for 30min, so that we have about 10min for discussion (40min in total). 25min should be devoted to the paper, 5min to your extension.

You should not present your referee comments, but rather present the paper almost as if you had written it, i.e. focus on the contribution of the paper, its results and the main mechanism. Depending on the paper, you might want to focus on the core results / message rather than discussing various extensions / robustness checks etc. It's better to give a presentation that gets across the main message than one that flies through all the details.

Also: Avoid filling up your presentation slides with equations. 25min is very short and you won't have time to go through every single equation of the paper. Focus on 1-2 key equations if possible; for some model-based papers you might need more, but stick to a reasonable number. That being said, it can be useful to have a set of backup slides that you can refer to when someone asks very specific questions.

In general (there are exceptions), the preference chain is as follows: Figure > Table > Text > Equations. For figures and tables, keep them as simple as possible; avoid putting 20 IRFs on 1 slide or a table with 10 rows and 10 columns.

See Adam Guren's slides for more advice: [https://people.bu.edu/guren/Guren\\_HowToGiveALunchTalk.pdf](https://people.bu.edu/guren/Guren_HowToGiveALunchTalk.pdf)