Overview

The course covers advanced topics in open and closed-economy macroeconomics. It is structured in three “mini” courses covering the following topics: i) Sovereign debt and default; ii) Intermediation, financial crises and capital flows; iii) The role of households’ heterogeneity over the business cycle. We will spend roughly five classes on each topic. The format of the three “mini” courses is homogeneous:

- The first class introduces the benchmark model(s).
- The second class presents computational algorithms and discusses approaches followed in the literature for quantitative analysis.
- In the remaining three classes we will discuss recent applications.

There are no required textbooks, most of the readings are based on journal articles or working papers. For the computational aspects, it is good if you could have access to “Dynamic General Equilibrium Modeling” by Herr and Maussner and “Numerical Methods in Economics” by Judd.

Course organization

The class meets on Tuesdays and Thursdays from 9:30am to 11:20pm on Zoom. The easiest way to contact me is via email at luigi.bocola@gmail.com. If you want to chat about the course material or your project send me an email, so that we can set up a virtual meeting. I will post relevant course material (slides, problem sets, ...) on a dropbox folder. Please give me your email, so that I can invite you to the folder.

Course evaluation

Per university policy, all spring 2020 courses will receive a “S/NC” grade. The course evaluation is based on problem sets, class participation, and a research project.
**Problem sets.** Each mini course has an associated computational problem set. I will post the problem set after the second class, and you will have two weeks to complete it. You can submit the problem sets via email (please send me written answers in LATEX).

**Class participation.** This is a second year PhD class, the goal is to understand what type of research is done at the frontier, and to start developing ideas for your dissertation and/or help you carrying out your current projects. Class participation is essential in achieving this goal. To facilitate it, and in the applied part of each mini course, one of you will present a paper related to the topic that I will cover in class. The paper is your pick. Please, tell me and the rest of the class what is the underlying question, what is the methodology, what is the finding, what is new relative to previous papers in the literature, and whether, by reading the paper, you found something useful for your research (20 minutes presentation).

**Research project.** The research project should formulate an applied research question broadly related to one of the topics covered in class, explain the novelty relative to the existing literature, sketch the details of the economic environment/model used to address the question, formulate a quantitative strategy and include a detailed and realistic plan on how to obtain results. Ideally, by May 15 you are settled on the question, know the relevant literature, and have a clear plan on the model/method that you want to use. By that stage, you should have talked to me about your project at least once. It is ok if you want to continue working on one of the research project that you already started, provided that you will plan to use some of the methods learned in this class. In that case, please let me know as soon as you make that determination.

Each of you will give a 45 minutes presentation of the project on June 2 and June 4. In addition, you should submit a short write up of the project by June 9.

**Preliminary list of topics**

The plan is to cover the following topics in order. There might be some adjustments as we proceed, and I will keep you informed. The articles with a "*" are those that I plan to discuss in details in class. It would be good if you could have a look at those before we meet.
Sovereign debt and default

- **Class 1**: The workhorse model of sovereign debt and default


- **Class 2**: Bringing the model to the data: numerical solution and calibration


• **Class 3:** The costs of sovereign defaults


Du, Wenxin and Jesse Schreger. “Sovereign Risk, Currency Risk, and Corporate Balance Sheets.” manuscript, Columbia Business School, September 2017

• **Class 4:** Sovereign default risk and banks’ balance sheet


* Morelli, Juan, Pablo Ottonello and Diego Perez. “Global Banks and Systemic Debt Crises”, manuscript, NYU, 2019

**Class 5: Multiple equilibria**


**Intermediation, financial crises and capital flows**

**Class 1: A benchmark model**


- **Class 2**: Bringing the model to data: numerical solution and calibration/estimation


- **Class 3**: Financial amplification


- **Class 4**: Financial intermediation in international macro, UIP deviations, currency choices and crises


Class 5: Financial intermediation in international macro, CIP deviations and exchange rates


The role of households’ heterogeneity over the business cycle

Class 1: Benchmark models


• Class 2: Bringing the model to the data: numerical solution and calibration


• Class 3: Guest class by Adrien Auclert on solving models with idiosyncratic income risk and incomplete markets

• Class 4-5: Households’ heterogeneity and the business cycle


* Acharya, Sushant and Keshav Dogra. “Understanding HANK. Insights from a PRANK”. forthcoming at Econometrica

