DSGE and Financial Frictions
Thepthida Sopraseuth

October 2016

Course Overview This particular course will focus on issues in macroeconomic fluctuations, using equilibrium models with agent dynamic optimization and rational expectations. Dynamic stochastic general equilibrium (DSGE) models have become the standard workhorse models for the analysis of aggregate fluctuations. The primary focus of the course will first be on the analysis, solution, calibration, predictions of DSGE models. We will work with these models in conjunction with data, discussing how to calibrate, estimate, and evaluate these models. We will then use the models to think about fiscal economy policy in the basic DSGE model.

Financial frictions have played an important role in the recent crisis, which calls for improving our modeling of the financial sector. I will review the 2 workhorse models : Kiyotaki-Moore(1997) and Bernanke, Gertler and Gilchrist model (1999), before discussing the 2008 crisis and the extensions to the workhorse models.

Modern macroeconomists are asked to provide quantitative projections. Students will be expected to perform quantitative exercises using MATLAB. Students will be asked to download Dynare, which is a set of codes used to solve, simulate, and estimate DSGE models. The problem sets will feature a heavy MATLAB component. In the spirit of "learning by doing", problem sets require students to code programs that analyze data and economic policies in the baseline DSGE model. Research projects are based on published academic articles on DSGE with financial frictions. Students as asked to code the models, which helps them shape their view on modern macroeconomic research.

Evaluation and Grading: Evaluation for the course will be based on 2 problem sets and 1 research project. Each problem set accounts for 20% of the course grade. The remaining 60% will be based on 1 research project.

The due dates for the problem sets and research project will be determined as we progress through the semester. While students are strongly encouraged to consult with one another in completing the problem sets, it is expected that

- each student turns in his/her own assignments.

- each student's problem set or research project is different from the others'

Course Website: I will post course materials to my personal website at the following address: thepthida.sopraseuth.free.fr

Office Hours: There are no formal office hours. You may email in advance to make an appointment or I can discuss specific points after class.

Course Outline:

1. DSGE without financial frictions

   - Macroeconomic facts (searching and handling macroeconomic data, understanding macroe-conomic facts, searching for new facts)
   - Baseline DSGE
   - Dynare (solving linearized rational expectations models, writing a Dynare file, handling Dynare output)

2. DSGE with financial frictions

   - Financial cycles in the data
   - Modeling financial frictions: theoretical background, Stiglitz Weiss (1981
   - 2 workhorse models : KM(1997) and BGG(1999) : Theory and Dynare code
   - the 2008 crisis:
     - What happened?
     - Beyond KM and BGG

Readings :   see reading list on my personal website