

# Advanced Macroeconomics II:

## New Keynesian DSGE framework and Monetary Policy

Spring 2013  
Wang Yanan Institute for Studies in Economics  
Xiamen University

### Instructor

Linlin Niu, Wang Yanan Institute for Studies in Economics, Economics Building A301b,  
Tel.: 2182839, Email: linlin.niu@gmail.com.

### Course webpage

<http://teach.xmu.edu.cn/DirList.aspx?DirID=3603>  
Password: wisemaphd1213

### Teaching Assistant

Xiu Xu, Email: spring\_xux@163.com

### Lecture Time and Locations (Starting from Feb. 26)

Tuesday	8:00 - 9:40 am	Nanqiang-2 R106
Thursday	8:00 - 9:40 am	Nanqiang-2 R405

### Office Hours

Wednesday 2:30 - 4:00 pm, A301b, Economics Building.

### Grading

There will be bi-weekly assignments, a midterm exam and a final. In addition, some quizzes will be given in class. They will count toward the final score as follows.

Assignments+Quizzes	40%
Midterm	30%
Final	30%

# Course Description

## 1 Course content

This course aims to introduce students to the recent development in the macroeconomic research, within the framework of dynamic stochastic general equilibrium (DSGE) models in general, and New Keynesian DSGE models in particular. With these tools at hand, we will discuss monetary policy, inflation and business cycle (Gali, 2008).

The course, with a brief introduction to MATLAB, will be structured into three parts.

### 1.1 Numerical methods and macroeconomic models

Approximating and solving DSGE models with an emphasis to solution methods based on logarithmic approximations. At the end of the course, students should be able to solve simple DSGE models by hand, and to solve medium-to-large scale DSGE models with computer programs.

We will cover the following topics:

- 1) Introduction: growth and business cycles.
- 2) Approximating and solving DSGE Models with numerical method.
- 3) Simple DSGE Models: Examples including simple RBC models, extended with labor supply, adjustment cost of investment, etc; classical monetary model.

### 1.2 New Keynesian DSGE models and monetary policy

This part deals with the New Keynesian DSGE framework to discuss inflation, monetary policy and the business cycle.

- 1) New Keynesian model with monopolistic competition and nominal rigidity.
- 2) Monetary policy design in the basic New Keynesian model
- 3) Monetary policy tradeoff: discretion vs. commitment
- 4) A model with sticky wages and prices (Optional if time allows)
- 5) Monetary policy and the open economy (Optional if time allows)

### 1.3 Empirical methods that bring models to the data

This includes topics on basic techniques of data preparation, parameter calibration, and estimation methods.

- 1) Removing trends and isolating cycles
- 2) Summarizing time series behaviour
- 3) Calibration (Optional if time allows)

## 2 Main references

### 2.1 Papers:

- H. Uhlig, "A Toolkit for analyzing Nonlinear Dynamic Stochastic Models easily", in Computational Methods for the Study of Dynamic Economies, Ramon Marimon and Andrew Scott (editors), Oxford University Press 1999 (February), pp.30-61.
- Kwan, Y.K. and G. Chow, 1996 "Estimating Economic Effects of Political Movements in China", Journal of Comparative Economics 23, 192-208.
- Other papers assigned to the class during the lectures.

### 2.2 Books:

- D. N. Dejong and C. Dave, *Structural Macroeconometrics*. Princeton University Press, 2007. Chapter 1 - 6.
- Jordi Gali, Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework. Princeton University Press, 2008.

## 3 Software, programs and data

- Software: MATLAB
- Programs: H. Uhlig, Toolkit Matlab programs
- Data:
  - A dataset provided by D. N. Dejong at: <http://www.econ.pitt.edu/dbook/>
  - A macro panel data of the US economy and a macro panel data of the Chinese economy