

# Introduction to Dynamic Stochastic General Equilibrium (DSGE) Models & Estimation

## Special Summer Course

[CMFE](#), Department of Economics

Carleton University, 2017

### Instructor

Miguel Casares (Universidad Pública de Navarra, Spain)

E-mail: [mcasares@unavarra.es](mailto:mcasares@unavarra.es)

Webpage: <http://www.econ.unavarra.es/~mcasares/>

### Program

#### July 6<sup>th</sup> (Thursday)

9:00-10:15: Lecture #1: The canonical New Keynesian Model. The New Keynesian Phillips Curve, the optimizing IS curve and the Taylor rule.

10:15-10:30 Break

10:30-11:45 Computer Lab: Numerical methods for linear rational expectations models in MatLab. Impulse-response functions. Artificial series. Second-moment statistics and variance-covariance matrix.

#### July 10<sup>th</sup> (Monday)

9:00-10:15: Lecture #2: Monetary Policy Analysis: Targeting rules vs Instrument rules. Optimal monetary policy under either discretion or commitment. Optimized Taylor rules.

10:15-10:30 Break

10:30-11:45 Computer Lab: Calibration to match business cycle properties of the data. Loops. Optimized coefficients in Taylor-type rules.

#### July 12<sup>th</sup> (Wednesday)

9:00-10:15: Lecture #3: DSGE models. A comparison between the Smets and Wouters (2007) model and a DSGE model with business formation.

10:15-10:30 Break

10:30-11:45 Computer Lab: Bayesian Estimation of DSGE models in [Dynare](#). MH simulations and shock decomposition. Model evaluation and forecasting.

The instructor will provide the students with course notes, Matlab routines and [Dynare](#) files to follow the course. Computers will be available in the lab for all participants. You may bring your laptop with Matlab and Dynare installed (optional). The class and lab location will be notified to registered participants.

You may register via this link: <https://forms.carleton.ca/economics/economics-workshops/>

**About the Instructor:** Professor Casares is a macroeconomist with specialization in business cycles and monetary policy analysis. He has published in leading macroeconomics journals such as the *Journal of Monetary Economics*, *Journal of Money, Credit and Banking*, *Journal of Economic Dynamics & Control* and *Macroeconomic Dynamics*, among others. Professor Casares has held visiting positions at Carnegie Mellon, Johns Hopkins, Carleton, European Central Bank, Bank of Spain, and the Federal Reserve Bank of St. Louis.