Course Syllabus
Advanced Macroeconomics: ECON8860
Spring 2016

Time and Place:
Monday and Wednesday
9:00am - 10:15am
Maloney 313

Professor:
Ryan Chahrour
Email: ryan.chahrour@bc.edu
Course Homepage: www.chahrour.net/teaching/econ8860_spring2016
Office Hours:
  Monday, 10:15am - 11:30am
  Sign up at www.chahrour.net

Course Overview:
The first part of this course introduces some basic tools for solving and estimating linearized, full-information, dynamic-stochastic general equilibrium (DSGE) models. During this portion of the class, coursework consists of at most five problem sets with a heavy computational emphasis. You will spend a great deal of time programming in matlab. After completing these problem sets, each student will have an extensive “toolbox” of programs that she can use to address empirical macroeconomic questions in a structural manner.

The second part of this course explores alternatives to the linearized, full-information, rational expectations paradigm described above. We will begin by considering several methods for solving non-linear full-information model. The focus of the remainder of the course will be on models which relax the assumption of full information.

Coursework in the second portion of the class will consist of one 20-minute discussant presentation (in class) and a final paper expanding on one of a selected group of papers from the second portion of the class. All papers offered employ one of the alternative techniques discussed in the second portion of the course. In the final paper, you must demonstrate that you can reproduce the basic results of the paper you have selected, and either extend the original model in a new direction, or employ it to answer a question that the original paper does not address.

Optional Text
Grading:
Problem Sets: 40%
Course Paper: 40%
Better of (Problem Sets, Course Paper): 20%

Course Outline

Part 1: Computation and estimation of linearized DSGE models

Week 1: Solving linearized rational expectations models

Week 2: Structural vector autoregression (SVAR): estimation, identification

Week 3: SVAR: alternative identification approaches; factor-augmented VAR

Week 4: Generalized method of moments, impulse response matching

Week 5: Likelihood estimation and the Kalman filter

Week 6-7: Identification in DSGE models

Part 2: Alternatives to linearized FIRE

Week 8: Nonlinear DSGE models - Higher-order perturbation

Week 9: Nonlinear DSGE models - Global solutions

Week 10: Incomplete information and higher order expectations (some theory)

Week 11-12: Incomplete information and higher order expectations (solving models, examples)

Week 13: Endogenous signals

Week 14-15: Additional topics based on class interests
Selected Bibliography

0.1 Solving linearized models


0.2 Structural vector autoregression


0.2.1 Vector Error Correction Models


0.2.2 Alternative Identification Strategies


0.2.3 Factor-augmented SVAR


0.3 GMM and Impulse Response Matching


0.4 Likelihood-Based Estimation of DSGE Models


0.5 Identification in DSGE models


0.6 Bayesian econometrics (for reference)

0.6.1 Bayesian Approach to Structural Estimation


0.6.2 Bayesian Approach to VAR


0.6.3 Bayesian Approach: Applications


0.7 Solution Methods for Nonlinear Economies

0.7.1 Aggregate models


0.7.2 Models with Heterogeneity


Virgiliu Midrigan. Menu Costs, Multi-product Firms, and Aggregate Fluctuations. Econometrica, Forthcoming

0.8 Dispersed information and higher-order expectations


Gaetano Gaballo. Price Dispersion, Private Uncertainty and Endogenous Nominal Rigidities. 2015
0.9 Endogenous signal structures


Zhen Huo and Naoki Takayama. Rational Expectations Models With Higher Order Beliefs. 2015

Zhen Huo and Naoki Takayama. Higher Order Beliefs, Confidence, and Business Cycles. 2015

0.10 Endogenous information choice


0.11 Rational inattention and inattentiveness


0.12 Learning


0.13 Regime switching models


