

Stockholm Doctoral Program in Economics 2017

Quantitative Macroeconomic Methods

Preliminary Syllabus

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Aim of the course: This course aims to introduce students to the numerical implementation of incomplete markets models. The course is divided in two parts: 1) partial equilibrium life cycle models with incomplete markets, 2) general equilibrium models with incomplete markets. In both parts, the first step is to become familiar with standard models from the literature. After introducing these models, the focus is mainly on their numerical implementation. The course then proceeds by discussing extensions of the basic models.

Course website: www.mondo.su.se

Office hours: upon request

Assessment: For each of the two parts of the course there will be a written assignment (including numerical implementation).

Course Outline

Part I: Life Cycle Models

1. Basic life cycle models (buffer-stock models)
 - Deaton, A. (1991). Saving and liquidity constraints. *Econometrica*, 59(5):1221–1248
 - Carroll, C. D. (1997). Buffer-stock saving and the life cycle/permanent income hypothesis. *The Quarterly Journal of Economics*, 112(1):1–55
2. Models of portfolio choice: stocks vs bonds
 - Cocco, J. F., Gomes, F. J., and Maenhout, P. J. (2005). Consumption and portfolio choice over the life cycle. *Review of Financial Studies*, 18(2):491–533

3. Simulated method of moments

- Gourinchas, P.-O. and Parker, J. A. (2002). Consumption over the life cycle. *Econometrica*, 70(1):47–89
- Cagetti, M. (2003). Wealth accumulation over the life cycle and precautionary savings. *Journal of Business & Economic Statistics*, 21(3):339–53

Main methods:

- algorithms:
 - value function iteration
 - policy function iteration
 - endogenous grid point method
- evaluating expectations: numerical integration using Gauss-Hermite quadrature

Part II: Incomplete Markets in General Equilibrium

1. Buffer-stock savings in GE

- Huggett, M. (1993). The risk-free rate in heterogeneous-agent incomplete-insurance economies. *Journal of Economic Dynamics and Control*, 17(5-6):953–969
- Aiyagari, S. R. (1994). Uninsured Idiosyncratic Risk and Aggregate Saving. *The Quarterly Journal of Economics*, 109(3):659–84

2. Models of endogenous default

- Athreya, K. B. (2002). Welfare implications of the Bankruptcy Reform Act of 1999. *Journal of Monetary Economics*, 49(8):1567–1595
- Chatterjee, S., Corbae, D., Nakajima, M., and Rios-Rull, J.-V. (2007). A Quantitative Theory of Unsecured Consumer Credit with Risk of Default. *Econometrica*, 75(6):1525–1589

3. Aggregate uncertainty, heterogeneity and inequality

- Krusell, P. and Smith, A. A. J. (1998). Income and wealth heterogeneity in the macroeconomy. *Journal of Political Economy*, 106(5):867–896
- Carroll, C. D., Slacalek, J., and Tokunaka, K. (2014). The distribution of wealth and the marginal propensity to consume. Working Paper Series 1655, European Central Bank
- Nakajima, M. and Rios-Rull, J.-V. (2014). Credit, Bankruptcy, and Aggregate Fluctuations. NBER Working Papers 20617, National Bureau of Economic Research, Inc

4. Computation of Incomplete Markets Models

- Steady-state
- Aggregate uncertainty
- Transition paths