

VGSE 2013/14, Syllabus of “Advanced Computational Methods for Macroeconomics”

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In the course we will study some very recent papers about various aspects of business cycles and crises. The aim is to understand the economic theory behind it, but also to go as far as possible in replicating the results of the papers. All the papers use simulation methods to derive their results. We will use Matlab and some of my own programs to solve these models. Some prior experience with Matlab would be very helpful.

The course will focus on the following four papers:

1. Jasmina Hasanhodzic, Laurence J. Kotlikoff: “Generational Risk is it a Big Deal? Simulating an 80-Period OLG Model With Aggregate Shocks”
2. Per Krusell, Toshihiko Mukoyama, Richard Rogerson, Aysegul Sahin: “Gross Worker Flows over the Business Cycle”
3. Lawrence J. Christiano, Martin S. Eichenbaum, Mathias Trabandt “Unemployment and Business Cycles”
4. Mark Gertler and Nobuhiro Kiyotaki: “Banking, Liquidity and Bank Runs in an Infinite Horizon Economy”

We will read other papers which help us understanding the above four:

- Diamond, D., and Dybvig, P., 1983. “Bank Runs, Deposit Insurance, and Liquidity”. *Journal of Political Economy* 91, 401-419.
- Gertler, M., and Kiyotaki, N., 2010. “Financial Intermediation and Credit Policy in Business Cycle Analysis.” In Friedman, B., and Woodford, M. (Eds.), *Handbook of Monetary Economics*. Elsevier, Amsterdam, Netherlands.
- Hall, Robert E. and Paul R. Milgrom, 2008, The Limited Influence of Unemployment on the Wage Bargain, *The American Economic Review*, 98(4), pp.1653-1674.
- Kenneth L. Judd, Lilia Maliar, Serguei Maliar: “A Cluster-Grid Projection Method: Solving Problems with High Dimensionality”, NBER Working Paper No. 15965
- Krusell, P., T. Mukoyama, R. Rogerson, and A. Sahin, “A Three State Model of Worker Flows in General Equilibrium, *Journal of Economic Theory* 146 (2011), 11071133.