



Course: **Dynamic Models of Optimal Policy and Expectations**
Faculty: **Albert Marcet & Rigas Oikonomou**
Term: First Semester
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Description

The course has two distinct parts: the first part will be about models of expectations, the second about optimal fiscal and monetary policy.

PART A: MODELS OF EXPECTATIONS

We introduce models of learning about expectations in dynamic, stochastic models and discuss implications of these models for asset prices and for current policy issues. During the 80's, the assumption of rational expectations became the dominant paradigm for modeling agents' expectations, it quickly extended to all fields of economics that use dynamic models. Nowadays, Rational Expectations (RE) is the standard assumption in dynamic economic models. Assuming that agents have full knowledge of the model generating the data is clearly a very strong assumption, we should understand if deviations from RE generate very different behavior on the part of the agents. If agents do not know the true model but they learn to form expectations based on past experience, will the economy converge to rational expectations?. The answer is not obvious because, if agents are not born with knowledge of the true model they never actually see the outcomes of the true model.

A separate issue is the following: if agents have a very good forecast model (but still imperfect) will the economy behave close to the rational expectations outcome? Will policy recommendations be very different?

There has been much research on these issues since the 90's, but the recent financial crisis as spurred the interest. Many think it is clear that the observed behavior of the economy can only be understood with models where agents have an imperfect

knowledge of the true model.

We start by analyzing issues of convergence. We will then discuss learning in asset prices. First in terms of Bayesian rational expectations equilibrium, then in terms of a model where agents learn about prices which can explain stock price volatility. Finally we address issues of macro policy: how do standard recommendations about monetary and fiscal policy change when we take into account issues of learning?

References

Evans, G. and S. Honkapohja, 2001, Learning and Expectations in Macroeconomics, Princeton University Press. This reference focuses on the issues of convergence.

Sargent, T., 1993, Bounded Rationality in Macroeconomics, Oxford University Press. Below there is a detailed description of each topic and some readings.

PART B: OPTIMAL POLICY AND EXPECTATIONS

We will study recent theories of optimal fiscal/monetary/debt policies. The first part of the course is devoted to fiscal and debt policies. We will firstly analyze optimal policies in a benchmark model with complete financial markets. Using this benchmark we will explore how governments should set taxes optimally, and also study how the maturity structure of debt can be chosen to 'support' the optimal policy outcome. Then we will consider the case of incomplete markets and revisit the properties of the optimal tax schedule and debt portfolios. We will also discuss numerical methods and techniques appropriate for solving equilibria under optimal policies. Finally we will briefly look at empirical evidence and at various issues relating to the interactions between governments and private agents in bond markets.

In its second part the course will explore theories of optimal monetary policy, focusing mainly on the interactions between monetary and fiscal policies under incomplete markets and exploring the scope of using monetary policy to stabilize government debt and other macroeconomic variables.

Below is a list of (suggested) references of the topics we will cover. Asterisks are used when the papers are particularly useful.

Optimal Policy under Complete Markets.

- i) Optimal Tax Policies.

*Lucas, R. E., JR., and N. L. Stokey (1983): "Optimal Fiscal and Monetary Policy in an Economy Without Capital" Journal of Monetary Economics, 12, 55-93.

Chari, V.V. and P. Kehoe (1999): "Optimal Fiscal and Monetary Policy" in, Handbook of Macroeconomics, John Taylor and Mike Woodford, eds. (North Holland: Amsterdam)

- ii) Numerical Methods

G. Lorenzoni, A. Marcet (1999) "Parameterized Expectations Approach; some Practical Issues" 1999, chapter in the book Computational Methods for the Study of Dynamic Economies, edited by R. Marimon and A. Scott. Oxford University Press, pp 143-171.

Faraglia, E., Marcet, A., Oikonomou, R., and Scott, A. (2014) Optimal Fiscal Policy Problems Under Complete and Incomplete Financial Markets: A Numerical Toolkit, mimeo.

- iii) Optimal Debt Management and Fiscal Policies

Angeletos, G-M (2002) "Fiscal policy with non-contingent debt and optimal maturity structure", Quarterly Journal of Economics.

Buera F. and J.P. Nicolini (2004) "Optimal Maturity of Government Debt with Incomplete Markets", Journal of Monetary Economics.

*Faraglia, E., Marcet, A. and Scott, A. (2010) "In Search of a Theory of Debt Management", Journal of Monetary Economics.

Optimal Policy under Incomplete Markets.

-i) Optimal Tax Policies

*Aiyagari, R., Marcet, A., T.J. Sargent and J. Seppala (2002); "Optimal Taxation without State-Contingent Debt", Journal of Political Economy, December.

Bhandari, A., Evans, D., Golosov, M., and Sargent, T.-J. (2017) "Fiscal Policy and Debt Management with Incomplete Markets", Quarterly Journal of Economics.

*Marcet, A. and A. Scott (2009); "Debt and Deficit Fluctuations and the Structure of Bond Markets", Journal of Economic Theory.

*Elisa Faraglia, Albert Marcet, Rigas Oikonomou and Andrew Scott, 2016, "Long Term Government Bonds", working paper UAB.

-ii) Optimal Debt Management and Fiscal Policies

*Elisa Faraglia, A. Marcet, Rigas Oikonomou and Andrew Scott, 2018, "Government Debt Management: The Long and the Short of It", forthcoming Review of Economic Studies.

*Debortoli, D., Nunes, R. and Yared, P. (2017) 'Optimal Time-Consistent Government Debt Maturity,' Quarterly Journal of Economics, 132 (1), 2017, 55-102

Bhandari, A., Evans, D., Golosov, M., and Sargent, T.-J. 'The Optimal Maturity of Government Debt', mimeo

Bigio, S. Galo, N. and Passadore, J. (2019) 'A Framework for Debt-Maturity Management', mimeo

- iii) Numerical Methods

*Elisa Faraglia, A. Marcet, Rigas Oikonomou and Andrew Scott, 2018, "Government Debt Management: The Long and the Short of It", forthcoming Review of Economic Studies.

- iv) Empirical Topics

*Berndt, A., Lustig, H. and Yeltekin, S., (2012). "How does the US government finance fiscal shocks?." American Economic Journal: Macroeconomics, 4(1), 69-104.

Faraglia, E, Marcet, A and A. Scott (2008) "Fiscal Insurance and Debt Management in OECD Economies", The Economic Journal, 118, 363-386

*Equiza-Goni, J, Faraglia, E, and Oikonomou, R. (2019) "Union Debt Management", mimeo

Greenwood, R., Hanson, S.G. and Stein, J.C., (2015). "A Comparative Advantage Approach to Government Debt Maturity." The Journal of Finance, 70 (4), pp.1683-1722.

- v) Optimal Capital and Labour Taxation.

Conesa, J.C., S. Kitao and D. Kruger (2009) "Taxing Capital, not a Bad Idea After All", American Economic Review, Vol 99, March, pp 25-48.

Greulich, K., S. Laczó and A. Marcet, 2015. "Pareto-Improving Optimal Capital and Labor Taxes", Nov 2015.

*Chari, V.V., Lawrence J. Christiano, and Patrick J. Kehoe, 1994, Optimal Fiscal Policy in a Business Cycle Model, Journal of Political Economy 102 (4), 617-652

*Klein P, P. Krusell and V. Rios-Rull (2008) "Time-Consistent Public Policy", Review of Economic Studies vol 75.

Debortoli, D. and Nunes, R 'Fiscal Policy under Loose Commitment', Journal of Economic Theory, 145 (3), 2010, 1005-1032

Optimal Monetary (and Fiscal) Policy

-i) The role of inflation in stabilizing debt: Optimal Policy

*Chari, V.V, Christiano, L.J and Kehoe, P.J (1991) "Optimal Fiscal and Monetary Policy : Some Recent Results", Journal of Money, Credit and Banking 23: 519-40.

*Schmidt-Grohe, S. and M. Uribe (2004) "Optimal Fiscal and Monetary Policy under Sticky Prices", Journal of Economic Theory.

Faraglia, E., A. Marcet, R. Oikonomou and A. Scott (2013) "The Impact of Debt Levels and Debt Maturity on Inflation" Economic Journal, February

Lustig, H., Sleet, C., Yeltekin, S., (2009) "Fiscal hedging with nominal assets" Journal of Monetary Economics 55, 710-727

*Eric M. Leeper, Campbell Leith (2016) "Understanding Inflation as a Joint Monetary-Fiscal Phenomenon" NBER Working Paper No. 21867 Issued in January 2016

-ii) Optimal policies in a liquidity trap

Eggertsson, G., and Woodford, M. (2003) "The Zero Interest-Rate Bound and Optimal Monetary Policy," Brookings Papers on Economic Activity.

*Farhi, Emmanuel, Isabel Correia, Juan Pablo Nicolini, and Pedro Teles. 2013. "Unconventional Fiscal Policy at the Zero Bound." American Economic Review 103 (4): 1172-1211.

-iii) Various other topics

Anmol Bhandari, David Evans, Mikhail Golosov and Thomas Sargent (2019) 'Inequality, Business Cycles and Monetary-Fiscal- Policy' mimeo

F. Alvarez, P. J. Kehoe and P.A. Neumeyer (2004) "The Time Consistency of Optimal Monetary and Fiscal Policies", Econometrica, Vol. 72, No. 2, March, 541-567.

Chari, V.V, Christiano, L.J and Kehoe, P.J (1996) "Optimality of the Friedman rule in economies with distorting taxes", Journal of Monetary Economics 37, 203-223

Grading

The evaluation of the course will be drawn from a final exam and a research project.