Optimal Taxationand Private Information
EUI, Fall 2016

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Time and Location: Monday-Wednesday 11.00-13.00 ; Room: Seminar Room B (check for updated schedules at the calendar)

Office Hours: Sign-up sheet or by e-mail.

Teaching Assistants: david Koll.

Course website: There will be a course website on Moodle.

Course Overview: This course studies optimal taxation in different environments and introduces several classes of models and applications where agents face idiosyncratic shocks in a dynamic (general equilibrium) context. We will mostly concentrate on models where these shocks cannot be fully insured either because of the lack of (complete) insurance markets (exogenous incomplete markets) or because of information frictions (endogenous incomplete markets).

The course will cover

- methodological issues such as: defining recursive stationary equilibrium, recursive formulation of dynamic contracts with private information/action and Ramsey taxation;

- quantitative issues such as: solving dynamic equilibrium or social planning models under discrete and continuos state space using value function or policy function iterations;

- and applications such as: finding the optimal tax rate in representative agent models and with heterogenous agents, evaluating tax reforms, optimal unemployment insurance, optimal labor and capital taxation under private information.

Grading: There will be 3 assignments throughout the term and a research project. The problem sets will contain analytical, numerical and open-ended questions. For the numerical parts, the basic knowledge of Matlab (or more sophisticated programming languages such as Fortran, C or C++) will be assumed. Those students who took my advanced course last year will have a different assignment for the first week. The research project will be built upon the problem sets. The problems sets will contribute 60% to the final grade while the research project will contribute 40%.

Readings: I will provide lecture notes extensively. A preliminary reading list is provided below.

Preliminary Reading List
(we will not cover all these papers and we may not follow this order)

Exogenous Incomplete Markets and Taxation

- Ábrahám, Á. and E. Cárceles-Poveda (2010), "Endogenous Trading Constraints with Incomplete Asset Markets", *Journal of Economic Theory,* 145: 974-1004.

- Aiyagari, D. R. (1995). "Optimal Capital Income Taxation with Incomplete Markets, Borrowing Constraints and Constant Discounting ", *The Journal of Political Economy* 103(6), pp. 1158-75.

- D. R. Aiyagari, Uninsured Idiosyncratic Risk and Aggregate Saving, *Quarterly Journal of Economics* 109(3), (1994), 659-684.

- Castaneda A., Diaz Gimenez, J. and J. V. Rios-Rull (2003). "Accounting for earnings and wealth inequality", *Journal of Political Economy,* 111(4), pp. 818-857.

- C. Chamley (1986), "Optimal Taxation of Capital Income in General Equilibrium with Infinite Lives", *Econometrica* 54(3), 607-622.

- Juan Carlos Conesa, Sagiri Kitao and Dirk Krueger (2008): Taxing Capital? Not a Bad Idea After All!, *American Economic Review*, Vol. 99 (1), 25-48

- D. Domeij, J. Heathcote, (2004), "On the Distributional Effects of Reducing Capital Taxes", *International Economic Review*, 45(2), 523-554.

- M. Huggett, (1993) "The Risk Free Rate in Heterogeneous-Agent, Incomplete-Agent Economies", *Journal of Economic Dynamics and Control* 17(5-6), 953-969.

- Ljungqvist, L. and T. J. Sargent (2004): "Recursive Macroeconomic Theory", *The MIT Press*, 2nd Edition, Chapters 11,15,16 and 17.

Recursive Contracts Methodology

- Abreu, D., D. Pearce and E. Stachetti (1990): "Towards a Theory of Discounted Repeated Games with Imperfect Monitoring", *Econometrica*, 58(5):1041-1064.

- Marcet, A. and R. Marimon (2011): "Recursive Contracts", European University Institute Working Paper.

- Ljungqvist, L. and T. J. Sargent (2004): "Recursive Macroeconomic Theory", *The MIT Press*, 2nd Edition, Part 5.

Optimal Policies with Hidden Effort

- Atkeson A. (1991): "International Lending with moral Hazard and Risk of Repudation", *Econometrica*, 59(4): 1069-1089.

- Hopenhayn, H. and J.P. Nicolini (1997), "Optimal Unemployment Insurance," *Journal of Political Economy,* 105(2): 412-438.

- Pavoni, N. (2006): "On Optimal Unemployment Compensation," *Journal of Monetary Economics*, 2007, 54: 1612-1630.

- Pavoni, N. and Violante G. (2006): "Optimal Welfare-to-Work Programs," *Review of Economic Studies*, 2007, 74, January: 283-318.

- Rogerson, W. (1985a), "Repeated Moral Hazard," *Econometrica*, 53: 69-76.

Hidden Borrowing and Lending and Hidden Information

- Ábrahám, Á. and N. Pavoni (2008): "Efficient Allocations with Moral Hazard and Hidden Borrowing and Lending: A Recursive Formulation", *Review of Economic Dynamics*, 11: 781-803..

- Ábrahám, Á., Sebastian Koehne, and N. Pavoni (2010) "On The First-Order Approach in Principal-Agent Models with Hidden Borrowing and Lending," *Journal of Economic Theory* 146, 1331-1361..

- Cole, H. L. and N. R. Kocherlakota (2001): "Efficient Allocations with Hidden Income and Hidden Storage", *Review of Economic Studies*, 68(3): 523-542.

- Kocherlakota, N. R. (2004), "Figuring out the impact of hidden savings on optimal unemployment insurance", *Review of Economic Dynamics,* 7(3): 541-554.

- Ljungqvist, L. and T. J. Sargent (2004): "Recursive Macroeconomic Theory", *The MIT Press*, 2nd Edition, Chapter 19.

New Dynamic Public Finance

- Farhi, E., and I. Werning (2013): "Insurance and Taxation over the Life Cycle," *Review of Economic Studies*, 80(2), 596-635.

- Golosov, M., M. Troshkin, and A. Tsyvinski (2015): "Redistribution and Social Insurance," *mimeo.*

- Kocherlakota, N., (2006), "Advances in Dynamic Optimal Taxation," Advances in Economics and Econometrics: Theory and Applications, Ninth World Congress, Volume I, *Cambridge Univesrity Press.*

Numerical methodology

- Judd, K.L. (1998), "Numerical Methods in Economics", *MIT Press.*

- Marimon, R. and A.J. Scott, eds. (1998): "Computational Methods for the Study of Dynamic Economies", *Oxford University Press*, Chapters 5, 6 and 11.