

## Advanced Macroeconomic Theory I: Syllabus

This course is the first part of the advanced macroeconomic theory sequence. In the first year you learnt how to understand the basic theory and how to read papers. The goal of this course is to learn how to write papers in macroeconomic theory addressing important issues in real economies. We will study in great detail the essential theoretical topics and tools of modern macroeconomics and apply them to models and numerical simulation. We will focus on general equilibrium with heterogeneous agents, contract theory, asymmetric information models, capacity constraints, real effects of monetary policy in economies with frictions related to information, limited commitment and limited participation, Finally we will study institutions in politico-economic equilibria and credible government policies.

There will be two lectures per week on Tuesdays 3-4:30 p.m. and Thursdays 1:30-3 p.m. The grade will be based on problem sets (30%), a midterm (30%) and a final exam (40%). The policies related to student conduct will be strictly enforced.

From the reading list below we will cover only the most relevant and important papers for each topic. Stokey, Lucas, and Prescott (1989) is the main textbook for this course.

### Topics

**Asymmetric Information and Optimal Contracts** Mas-Collel *et al.* (Chapter 14, 1995), Marcat and Marimon (1999), Hansen and Imrohroglu (1992), Cooley, Marimon, and Quadrini (2001), Cooley and Quadrini (1999), Rogerson (1985), Clementi and Hopenhayn (2002), Atkeson and Lucas (1992), Atkeson and Lucas (1995).

**Credible government policies** Chapter 4 in Sargent (1999) and Chapter 16 in Ljungqvist and Sargent (2000) are great expositions for Abreu, Pearce, and Stacchetti (1986), Abreu, Pearce, and Stacchetti (1990), Abreu (1988), Atkeson (1991), Phelan and Stacchetti (1999), and Kydland and Prescott (1977). We will also look at Klein and Rios-Rull (2004), Golosov, Kocherlakota, and Tsyvinski (2003), Kocherlakota (2003), Albanesi and Sleet (2003b), Albanesi and Sleet (2003a).

**Capacity constraints and politico-economic equilibrium** Cooley, Hansen, and Prescott (1995), Hansen and Prescott (1998), and Krusell, Quadrini, and Rios-Rull (1997).

**Credit markets and frictions** Kiyotaki and Moore (1997), Kiyotaki and Moore (2001), Fuerst (1995), Smith and Wang (2000), Gertler (1988), Gertler and Gilchrist (1994), Gentry and Hubbard (2000), Lucas (1978), Bernanke and Gertler (1989), Williamson (1987), Kehoe and Levine (1993), King and Levine (1993), Kashyap, Stein, and Wilcox

(1993), Levine (1997), Erosa (2001), Bohacek (2003), Jermann and Quadrini (2003), Gomes (2001), Fuerst (1992), Fazzari, Hubbard, and Petersen (1988), Gilchrist and Himmelberg (1998), Gilchrist and Himmelberg (1995), Carpenter and Petersen (2002), Quadrini (1999), Diaz-Gimenez, Prescott, Fitzgerald, and Alvarez (1992),

**Real effects of monetary policy** Doepke (2002), Bohacek and Rodriguez-Mendizabal (2003), Cooley and Quadrini (1999), Chari, Christiano, and Kehoe (1991), Christiano and Eichenbaum (1992), Christiano, Eichenbaum, and Evans (1996), Christiano, Eichenbaum, and Evans (1999), Lucas (1990).

## Textbooks

Stokey, Nancy L., Robert E. Lucas, Jr., and Edward C. Prescott. *Recursive Methods in Economic Dynamics*. Cambridge: Harvard University Press, 1989.

Ljungquist, Lars, and Thomas J. Sargent. *Recursive Macroeconomic Theory*. MIT Press, 2000. Where possible, we will use a draft of the 2nd edition.

Sargent, Thomas J. *Dynamic Macroeconomic Theory*. Cambridge: Harvard University Press, 1987.

Sargent, Thomas J. *The Conquest of American Inflation*. Princeton University Press, 1999.

Cooley, Thomas F., Editor. *Frontiers of Business Cycle Research*. Princeton University Press: 1995.

Mas-Collel, Andreu, Michael D. Whinston, and Jerry R. Green. *Microeconomic Theory*. Oxford University Press: New York, 1995.

## Reading List

Abreu, D. (1988). On the theory of infinitely repeated games with discounting. *Econometrica* 56, 383–396.

Abreu, D., D. Pearce, and E. Stacchetti (1986). Optimal cartel equilibria with imperfect monitoring. *Journal of Economic Theory* 39, 251–269.

Abreu, D., D. Pearce, and E. Stacchetti (1990). Toward a theory of discounted repeated games with imperfect monitoring. *Econometrica* 58(5), 1041–1063.

Albanesi, S. and C. Sleet (2003a). Dynamic optimal taxation with private information. *Mimeo, University of Iowa*.

Albanesi, S. and C. Sleet (2003b). Optimal policy with endogenous fiscal constitution. *Mimeo, University of Iowa*.

Atkeson, A. (1991). International lending with moral hazard and risk of repudiation. *Econometrica* 9, 1069–1089.

- Atkeson, A. and R. E. Lucas, Jr. (1992). On efficient distribution with private information. *Review of Economic Studies* 59, 427–453.
- Atkeson, A. and R. E. Lucas, Jr. (1995). Efficiency and equality in a simple model of efficient unemployment insurance. *Journal of Economic Theory* 66, 64–98.
- Bernanke, B. S. and M. Gertler (1989). Agency cost, net worth and business fluctuations. *American Economic Review* 79(1), 14–31.
- Bohacek, R. (2003). Financial constraints and entrepreneurial investment. *CERGE-EI Working Paper Series*.
- Bohacek, R. and H. Rodriguez-Mendizabal (2003). Credit markets and the propagation of monetary policy shocks. *Manuscript*.
- Carpenter, R. E. and B. C. Petersen (2002). Capital market imperfections, high-tech investment, and new equity financing. *The Economic Journal* 112, F54–72.
- Castro, R., G. L. Clementi, and G. MacDonald (2002). Investor protection, optimal incentives, and economic growth. *Working paper*.
- Chari, V. V., L. J. Christiano, and P. J. Kehoe (1991). Optimal fiscal and monetary policy: Some recent results. *Journal of Money, Credit and Banking* 23(3), 519–539.
- Christiano, L. J. and M. Eichenbaum (1992). Liquidity effects and the monetary transmission mechanism. *American Economic Review* 82(2), 346–353.
- Christiano, L. J., M. Eichenbaum, and C. L. Evans (1996). The effects of monetary policy shocks: Evidence from the flow of funds. *Review of Economics and Statistics* 78(1), 16–34.
- Christiano, L. J., M. Eichenbaum, and C. L. Evans (1999). Monetary policy shocks: What have we learned and to what end? In M. Woodford and J. Taylor (Eds.), *Handbook of Macroeconomics*. North Holland.
- Clementi, G. L. and H. A. Hopenhayn (2002). A theory of financing constraints and firm dynamics. *Working paper*.
- Cooley, T. F., G. D. Hansen, and E. C. Prescott (1995). Equilibrium business cycles with idle resources and variable capacity utilization. *Economic Theory* 6, 35–49.
- Cooley, T. F., R. Marimon, and V. Quadrini (2001). Aggregate consequences of limited contract enforceability. *Unpublished manuscript*.
- Cooley, T. F. and V. Quadrini (1999). Monetary policy and the financial decision of firms. *Unpublished manuscript*.
- Diaz-Gimenez, J., E. C. Prescott, T. Fitzgerald, and F. Alvarez (1992). Banking in computable general equilibrium economies. *Journal of Economic Dynamics and Control* 16, 533–559.
- Doepke, M. (2002). Show me the money: Retained earnings and the real effects of monetary shocks. *Unpublished manuscript*.

- Erosa, A. (2001). Financial intermediation and occupational choice in development. *Review of Economic Dynamics* 4, 303–334.
- Fazzari, S. M., G. R. Hubbard, and B. C. Petersen (1988). Financing constraint and corporate investment. *Brookings Papers on Economic Activity* (1), 141–195.
- Fuerst, T. S. (1992). Liquidity, loanable funds, and real activity. *Journal of Monetary Economics* 29, 3–24.
- Fuerst, T. S. (1995). Monetary and financial interactions in the business cycle. *Journal of Money, Credit, and Banking* 27(4), 1319–1341.
- Gentry, W. and G. Hubbard (2000). Entrepreneurship and household savings. *Unpublished manuscript*.
- Gertler, M. (1988). Financial structure and aggregate economic activity: An overview. *Journal of Money, Credit and Banking* 20(3), 559–589.
- Gertler, M. and S. Gilchrist (1994). Monetary policy, business cycles, and the behavior of small manufacturing firms. *Quarterly Journal of Economics* CIX(2), 309–340.
- Gilchrist, S. and C. Himmelberg (1995). Evidence on the role of cash flow for investment. *Journal of Monetary Economics* 36, 541–572.
- Gilchrist, S. and C. Himmelberg (1998). Investment, fundamentals and finance. *NBER Working Paper Series* (6652).
- Golosov, M., N. R. Kocherlakota, and O. Tsyvinski (2003). Optimal indirect and capital taxation. *Review of Economic Studies* 70, 569–587.
- Gomes, J. (2001). Financing investment. *American Economic Review* 91(5), 1264–1285.
- Hansen, G. D. and A. Imrohoroglu (1992). The role of unemployment insurance in an economy with liquidity constraint and moral hazard. *Journal of Political Economy* 100(1), 118–142.
- Hansen, G. D. and E. C. Prescott (1998). Capacity constraints, asymmetries and the business cycle. *University of Chicago Working Paper*.
- Jermann, U. and V. Quadrini (2003). Stock market boom and the productivity gains of the 1990s. *Manuscript*.
- Kashyap, A., J. C. Stein, and D. W. Wilcox (1993). Monetary policy and credit conditions: Evidence from the composition of external finance. *American Economic Review* 83(1), 78–98.
- Kehoe, T. J. and D. K. Levine (1993). Debt-constraint asset market. *Review of Economic Studies* 60, 865–888.
- King, R. G. and R. Levine (1993). Finance, entrepreneurship, and growth: Theory and evidence. *Journal of Monetary Economics* 32(3), 513–542.
- Kiyotaki, N. and J. Moore (1997). Credit cycles. *Journal of Political Economy* 105(2), 211–48.

- Kiyotaki, N. and J. Moore (2001). Liquidity, business cycles, and monetary policy. *Manuscript*.
- Klein, P. and J.-V. Rios-Rull (2004). Time-consistent optimal fiscal policy. *International Economic Review* 44(4), 1217–1245.
- Kocherlakota, N. R. (2003). Zero expected wealth taxes: A mirrless approach to dynamic optimal taxation.
- Krusell, P., V. Quadrini, and J.-V. Rios-Rull (1997). Politico-economic equilibrium and economic growth. *Journal of Economic Dynamics and Control* 21, 243–272.
- Kydland, F. and E. C. Prescott (1977). Rules rather than discretion: the inconsistency of optimal plans. *Journal of Political Economy* 84, 473–491.
- Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature* 35(2), 688–726.
- Lucas, Jr., R. E. (1978). On the size distribution of business firms. *Bell Journal of Economics* 9, 508–523.
- Lucas, Jr., R. E. (1990). Liquidity and interest rate. *Journal of Economic Theory* 50, 237–264.
- Marcet, A. and R. Marimon (1999). Recursive contracts. *Unpublished manuscript*.
- Phelan, C. and E. Stacchetti (1999). Sequential equilibria in a ramsey tax model. *Econometrica* 69(6), 1491–1518.
- Quadrini, V. (1999). Entrepreneurship, saving and social mobility. *Unpublished manuscript*.
- Rogerson, W. P. (1985). The first-order approach to principal-agent problems. 53(6), 1357–1368.
- Smith, Anthony A., J. and C. Wang (2000). Dynamic credit relationships in general equilibrium. *Unpublished manuscript*.
- Stokey, N. L., R. E. Lucas, Jr., and E. C. Prescott (1989). *Recursive Methods in Economic Dynamics*. Cambridge: Harvard University Press.
- Williamson, S. D. (1987). Financial intermediation, business failures, and real business cycles. *Journal of Political Economy* 95(6), 1196–1216.