Macro-Modeling
Economics 244, Spring 2016 University of Pennsylvania

Instructor: Alessandro Dovis

Contact: Office: 540 McNeil Building
E-mail: aledovis@gmail.com

Lecture Times: Tuesdays and Thursdays, 1:30pm to 3:00pm.

Lecture Location: 395 McNeil Building

Office Hours: Wednesdays 9:00am - 10:00pm (in my office) and by appointment

Teaching Assistant: The TA for the course is Timothy Hursey. His e-mail address is thursey@sas.upenn.edu. He will have office hours on Tuesdays 4:00pm - 5:00pm in 476 McNeil Building.

Course Website: Course information is available in Canvas, which I recommend to check regularly. Canvas is the official channel I will use to make announcements, post slides, homework, exercises and, from time to time, relevant papers for you to read.

Attendance: Students are expected and strongly encouraged to attend every lecture.

Pre-requisites:

- Econ 101 and Econ 102. Intermediate Micro and Intermediate Macro.
- Math 104. Calculus 1
- Math 114 or Math 115. Calculus 2

Course Policies: The Department of Economics maintains a common set of policies that apply to all classes. By taking this class you agree to abide by these policies. You are encouraged to read these policies carefully. Full details can be found here: **http://economics.sas.upenn.edu/undergraduate-program/course-information/guidelines/policies**

Course Description: The recent global financial crisis, which started in 2007 and put most developed countries on the brinks of a collapse, exposed some of the most important open questions in macroeconomics. What is the role of financial markets and financial intermediaries for the aggregate economy? Do financial markets induce growth and development? Do they trigger and spread painful crises? Which policies can improve the positive effects of financial markets in terms of long-run growth, and reduce their negative ones in terms of short-time fluctuations? What is the role of government debt in financial markets? Is there a link between financial and sovereign debt crises?

Given the renewed interest in these questions and the clear importance of coming up with answers, this course focuses on a very particular type of macro modeling; the modeling of macroeconomics in which financial markets play a role.

To answer these questions by constructing sensible macroeconomic models, however, we should first understand why there is financial intermediation in the first place, why financial markets are so different from other markets and what is so special about financial organizations. To model seriously financial markets in a macroeconomic environment, we have to delve first into their micro-foundations, so that then we can seriously understand their macroeconomic impact.

Structure of the Course: The course is divided into five sections.

First Section – Micro foundations: We will cover theoretical explanations (micro foundations) about why financial intermediation exists and what makes financial institutions and financial markets so special.

Second Section – Macroeconomics: We will review the role of financial markets in macro models, the theoretical arguments about why financial markets are important for economic growth, why they are fragile and why financial crises can both generate and amplify recessions.

Third Section – Policy: We will cover theoretical studies that rationalize ex-post policy interventions such as bailouts during crisis and ex-ante regulation to minimize the incidence of crises.

Fourth Section – Government Debt and Default: We will study how government debt can be a source of financial instability and the two way interaction between government debt crisis and financial crisis.

Fifth Section – Cases of Financial Crises: At the start of each class, I will provide an overview of the questions, empirical techniques and the relevant literature. Then students will present short summaries of a particular reading from the syllabus and we will discuss the presentation together. Topics will include:

- History of Financial Crises,
- Policy Responses to Financial Crises,
- The Recent Financial Crisis.

I would like this class to be very flexible. Since we will be discovering new common interests along the way, and I will try to accommodate those, the reading list is not exhaustive and may change during the semester.

Grading: Your grade will be based on:

- 4 homework (5% each)
- 2 midterms (20% each)
- A short presentation (20%)
- A final exam (20%)

If you are absent in one of the midterms and you have a valid excuse, the weight of that midterm will be reassigned to either the course final exam. So, if you miss one midterm and you have a valid excuse then the final exam will be worth 40% of your grade. If you miss both midterms and you have a valid excuse (for both) then the final exam will be worth 60% of your grade.

The **first midterm (Thursday, February 11th)** will cover the material of the first section, the **second midterm (Thursday, March 24th)** will cover the material of the second and third section. The **final exam (during final period)** will focus mostly on the last two sections, but will be more comprehensive, potentially exploiting material of the first three sections as well.

We will make every effort to have the tests and the homeworks graded and handed back in a week. If you have any concern with the grade, you have one week to return your exam with a written explanation of why you think the grade is incorrect. After that week grades cannot be modified.

Finally, the presentation will be about one of the papers listed below under "Students Presentations". Presentations will be scheduled during class on April 14, 19, 21, and 26. We will talk more about this when time comes.

Reading List

The most important material to prepare for the midterms and the final exam are my classes, my slides and the homeworks. I will post opportunely. The following readings are complementary to my lectures. I will indicate during the course of the class which are required.

Section 1. Foundations of financial intermediation:

Modigliani, F. and M. Miller (1958) "The Cost of Capital, Corporation Finance and the Theory of Investment", American Economic Review, 48, 261-297.

Diamond D. and P. Dybvig (1983), "Bank Runs, Deposit Insurance and Liquidity", Journal of Political Economy, 91, 401-419.

Diamond D.(1984), "Financial Intermediation and Delegated Monitoring", Review of Economic Studies, 51, 393-414.

Diamond D. and R. Rajan (2001), "Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking", Journal of Political Economy, 94, 691-719.

Stiglitz J. and A. Weiss (1981), "Credit Rationing in Markets with Imperfect Information", American Economic Review, 71, 393-410.

Townsend, R. (1979), “Optimal Contracts and Competitive Markets with Costly State Verification”, Journal of Economic Theory, 21, 265-293.

Section 2. Financial Markets in Macro Models. Growth and Fluctuations (Lectures 7-12)

Levine, R. (1997). “Financial Development and Economic Growth: Views and Agenda." Journal of Economic Literature.

Bernanke, B and M. Gertler (1989). “Agency Costs, Net Worth, and Business Fluctuations”. American Economic Review 79, 14—31.

Kiyotaki N. and J. Moore (1997), “Credit Cycles” Journal of Political Economy, 105, 211-248.

Carlstrom C. and T. Fuerst (1997) “Agency Costs, Net Worth and Business Fluctuations: A Computable General Equilibrium Analysis”, American Economic Review, 87, 893-910.

Mendoza and Bianchi

Section 3. Policy Interventions and bailouts

Gertler, Mark, and Peter Karadi. "A model of unconventional monetary policy." Journal of monetary Economics 58.1 (2011): 17-34.

Gertler, Mark, Nobuhiro Kiyotaki, and Albert Queralto. "Financial crises, bank risk exposure and government financial policy." Journal of Monetary Economics 59 (2012): S17-S34.

Farhi, Emmanuel, and Jean Tirole. "Leverage and the central banker's put." The American Economic Review (2009): 589-593.

Farhi, Emmanuel, and Jean Tirole. "Collective Moral Hazard, Maturity Mismatch, and Systemic Bailouts." The American Economic Review (2012): 60-93.

Chari, Varadarajan V., and Patrick J. Kehoe. Bailouts, time inconsistency, and optimal regulation. No. w19192. National Bureau of Economic Research, 2013.

Section 4. Government Debt, Default and the Interaction with Financial Markets

Eaton, Jonathan, and Mark Gersovitz. "Debt with potential repudiation: Theoretical and empirical analysis." The Review of Economic Studies (1981): 289-309.

Arellano, Cristina. "Default risk and income fluctuations in emerging economies." The American Economic Review (2008): 690-712.

Bocola, Luigi. "The Pass-Through of Sovereign Risk." Manuscript, University of Pennsilvania (2014).

Cole, Harold L., and Timothy J. Kehoe. "A self-fulfilling model of Mexico's 1994–1995 debt crisis." Journal of international Economics 41.3 (1996): 309-330.

Reinhart, Carmen M., and M. Belen Sbrancia. The liquidation of government debt. No. w16893. National Bureau of Economic Research, 2011.

Chari, V.V., Dovis, Alessandro, and Patrick J. Kehoe. "On the Optimality of Financial Repression." (2014).

Krishnamurthy, Arvind, and Annette Vissing-Jorgensen. "The aggregate demand for treasury debt." Journal of Political Economy 120.2 (2012): 233-267.

Ventura, J., and H. J. Voth. "Debt into growth: How government borrowing accelerated the Industrial Revolution." CEPR DP No 10652 (2015).

Section 5. Cases of Financial Crises: Student Presentations

1) Great Depression

Bernanke B. (1983), "Non-monetary Effects of the Financial Crisis in the Propagation of the Great Depression," American Economic Review, 73, 257-76.

Calomiris, C. and J. Mason. (2003). "Fundamentals, Panics, and Bank Distress During the Depression." American Economic Review, 93, 1615-1646.

Bernanke, B. and J. Harold (1991). "The Gold Standard, Deflation, and Financial Crisis in the Great Depression: An International Comparison" In R. Glenn Hubbard, ed., Financial Markets and Financial Crises. University of Chicago Press, 33-68.

2) Chile and Mexico (80s)
Bergoeing, R., T. Kehoe, P. Kehoe and R. Soto (2002). " A Decade Lost and Found: Mexico and Chile in the 1980s" Review of Economic Dynamics, 5, 166–205. - Japan (90s)

Caballero, R; T. Hoshi and A. Kashyap (2008), "Zombie Lending and Depressed Restructuring in Japan", American Economic Review, 98, 1943-1977.

3) The Recent Crisis and Policy Responses.

Gorton, G. (2009). "Slapped by the Invisible Hand: The Panic of 2007". Oxford University Press.

Taylor, J. (2009). "The Financial Crisis and the Policy Responses: An Empirical Analysis of what went wrong". NBER Working Paper 14631.

Timelines of Policy Responses to the Global Financial Crisis. Federal Reserve Bank of New York. http://www.ny.frb.org/research/global_economy/policyresponses.html

4) European Debt Crisis

Fernández-Villaverde, Jesús, Luis Garicano, and Tano Santos. 2013. "Political Credit Cycles: The Case of the Eurozone." Journal of Economic Perspectives, 27(3): 145-66.

The Eurozone Crisis: A Consensus View of the Causes and a Few Possible Solutions. http://www.voxeu.org/content/eurozone-crisis-consensus-view-causes-and-few-possible-solutions

More readings to be added.