# Macro Finance
# Fall 2007

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- **Course Description**

In this course we will study dynamic general equilibrium models with financing frictions, heterogeneous agents and incomplete markets. We will analyse theoretical models, but we will place a strong emphasis on the ability of such models to explain the empirical evidence. In particular we will focus on the aggregate consequences of financial aspects of the economic decisions of agents, such as financing frictions and the imperfect diversification of idiosyncratic risk.

The objective of the course is twofold: i) To illustrate to what extent the existing theories are successful in explaining the empirical evidence, emphasizing which relevant questions remain unanswered. ii) To provide the analytical tools to derive, analyse and solve this class of models.

All students attending the course are required to write a short summary of a paper, which will be illustrated in class in a 30-40 minutes presentation (possibly in groups, depending on the attendance). I will provide a list of papers to choose from, but suggestions external to this list are also welcomed. The content of the presentation is the following: i) The derivation of a stylized version of the model. Note that this is not simply a summary of the model. Rather you will need to understand how the model works, and then derive the most simplified possible version of the model that generates the mail result of the paper. ii) The illustration of the results of the paper. iii) A critical evaluation.

- **Grading**

Grades will be based on a final exam (70%) and on the class presentation and the class participation in general (30%).

# Syllabus

(Updated on 28 September 2007)
**(Required readings are denoted with *)**

## Introduction

1) General information about the course.
2) Preliminaries. Review of dynamic models: first order optimality conditions, standard dynamic programming, Bellman equation, dynamic stochastic equilibria, occasionally binding constraints.

## Aggregate consequences of financial market imperfections

3) Credit frictions, amplification and persistence of aggregate shocks, and the business cycle: empirical evidence.

   – *Bernanke, Ben & Gertler, Mark & Gilchrist, Simon, 1996. "The Financial Accelerator and the Flight to Quality," The Review of Economics and Statistics, MIT Press, vol. 78(1), pages 1-15, February.
   – *MATÍAS BRAUN, BORJA LARRAIN (2005) Finance and the Business Cycle: International, Inter-Industry Evidence, The Journal of Finance 60 (3), 1097–1128.
   – Kashyap, Anil K & Stein, Jeremy C & Wilcox, David W, 1993. "Monetary Policy and Credit Conditions: Evidence from the Composition of External Finance," American Economic Review, American Economic Association, vol. 83(1), pages 78-98, March.
   – Kashyap, A.K., O.A. Lamont, and J. C. Stein (1994), "Credit Conditions and the Cyclical Behavior of Inventories", Quarterly Journal of Economics, 109, N.3, August, pp.565-592.
   – Gertler, M. and S. Gilchrist (1994), "Monetary Policy, Business Cycles, and the Behavior of Small Manufacturing Firms", Quarterly Journal of Economics, 109, pp. 309-340.
   – Oliner, S.D., and G.D. Rudebush (1996), "Is there a Broad Credit Channel for Monetary Policy?", FRB San Francisco Economic Review, No.1, pp.3-13.
   – Vermeulen, P. (2002), "Business Fixed Investment: Evidence of a Financial Accelerator in Europe", Oxford Bulletin of Economics and Statistics, 64,3, pp. 213-231.
   – V. V. Chari, Patrick J. Kehoe, Ellen R. McGrattan (2007) Business Cycle Accounting Econometrica 75 (3), 781–836.
   – Quadrini, Vincenzo and Urban Jermann (2007), "Financial Innovations and Macroeconomic Volatility," mimeo

- Greenwood, Jeremy, Juan Sanchez and Cheng Wang (2007), “Financing Development: The Role of Information Costs,” NBER 13104.
- Buera, Francisco and Yongseok Shin, (2007), “Financial Frictions and the Persistence of History,” mimeo.

4) Credit frictions, amplification and persistence of aggregate shocks, and the business cycle: theory.

- *Kiyotaki, N., and J. Moore. ”Credit Cycles.” Journal of Political Economy 105 (1997): 211-248.
- *Juan-Carlos Cordoba & Marla Ripoll, 2004. ”Credit Cycles Redux,” International Economic Review, Department of Economics, University of Pennsylvania and Osaka University Institute of Social and Economic Research Association, vol. 45(4), pages 1011-1046, November.
- *Kiminori Matsuyama, Credit Traps and Credit Cycles,” American Economic Review, 97, March 2007, 503-516.
- Bernanke, B. and M. Gertler (1989), “Agency Costs, Net Worth, and Business Cycle Fluctuations”, American Economic Review, 79, March, pp. 14-31.
- Bernanke, Ben & Gertler, Mark, 1990.”Financial Fragility and Economic Performance,” The Quarterly Journal of Economics, MIT Press, vol. 105(1), pages 87-114, February.
- Greenwald, B. C., and J. E. Stiglitz. ”Financial Market Imperfections and Business Cycles.” Quarterly Journal of Economics 108, no. 1 (1993): 77-114.
- Bernanke, Ben S & Gertler, Mark, 1995.”Inside the Black Box: The Credit Channel of Monetary Policy Transmission,” Journal of Economic Perspectives, American Economic Association, vol. 9(4), pages 27-48, Fall.
- Carlstrom and Fuerst, (1997)“Agency Costs, Net Worth, and Business Fluctuations: A Computable General Equilibrium Analysis”, American Economic Review, December, p. 893-910.
- Bernanke, B. S., M. Gertler, and S. Gilchrist, “The Financial Accelerators in a Quantitative Business Cycle Framework,” in John B. Taylor and Michael Woodford, eds., Handbook of Macroeconomics, 1999, pp.1341-1393.
- Kocherlakota, N. ”Creating Business Cycles Through Credit Constraints.” Federal Reserve Bank of Minneapolis Quarterly Review (2000).
- Philippe Bacchetta and Ramon Caminal, Do capital market imperfections exacerbate output fluctuations? European Economic Review, 2000, vol. 44, issue 3, pages 449-468
- Kiminori Matsuyama, 2007, ”Aggregate Implications of Credit Market Imperfections,” NBER Macro Annuals

5) Credit frictions and firm dynamics.

- Cooley, T.F. and V. Quadrini (2001), “Financial Markets and Firm Dynamics”, American Economic Review, vol. 91(5), pp. 1286-1310.

– Jianjun Miao, (2005) , Optimal Capital Structure and Industry Dynamics, The Journal of Finance 60 (6), 2621–2659.

– G. Clementi, H.Hopenyain, A Theory of Financing Constraints and Firm Dynamics , Quarterly Journal of Economics, Volume 121, Issue 1, February 2006, pages 229-265

– Luis Cabral and Jose Mata, On the Evolution of the Firm Size Distribution: Facts and Theory, American Economic Review 93 (2003), 1075-1090.

6) Financial intermediation and the business cycle

– Azariadis, Costas & Smith, Bruce, 1998. "Financial Intermediation and Regime Switching in Business Cycles," American Economic Review, American Economic Association, vol. 88(3), pages 516-36, June.

– Chen, Nan-Kuang, 2001. "Bank net worth, asset prices and economic activity," Journal of Monetary Economics, Elsevier, vol. 48(2), pages 415-436, October.

– Holmstrom, Bengt & Tirole, Jean, 1997. "Financial Intermediation, Loanable Funds, and the Real Sector," The Quarterly Journal of Economics, MIT Press, vol. 112(3), pages 663-91, August.

– Raoul Minetti, 2007, Bank Capital, Firm Liquidity, and Project Quality, Forthcoming, Journal of Monetary Economics

– Williamson, Stephen D, 1987. "Financial Intermediation, Business Failures, and Real Business Cycles," Journal of Political Economy, University of Chicago Press, vol. 95(6), pages 1196-1216, December.

**Aggregate Consequences of uninsurable idiosyncratic risks.**

7) Entrepreneurial risk, investment and bysiness cycle


- Rampini, Adriano A., "Entrepreneurial Activity, Risk, and the Business Cycle" . Journal of Monetary Economics, Vol. 51, pp. 555-573, 2004
- George-Marios Angeletos, 2007. "Uninsured Idiosyncratic Investment Risk and Aggregate Saving," Review of Economic Dynamics, Elsevier for the Society for Economic Dynamics, vol. 10(1), pages 1-30, January.
- Angeletos, George-Marios & Calvet, Laurent-Emmanuel, 2006."Idiosyncratic production risk, growth and the business cycle," Journal of Monetary Economics, Elsevier, vol. 53(6), pages 1095-1115, September.
- Meh, C., and V. Quadrini. Endogenous Market Incompleteness with Investment Risks", Journal of Economic, Dynamics and Control, 30, 2006.
- Tom Krebs, 2003. "Human Capital Risk And Economic Growth," The Quarterly Journal of Economics, MIT Press, vol. 118(2), pages 709-744, May.


8) Entrepreneurial risk, financing frictions, technological choice, and growth


- Obstfeld, M. "Risk-Taking, Global Diversification, and Growth." American Economic Review 84 (1994): 310-1329.
- King, R.G., Levine, R. (1993b). "Finance, entrepreneurship, and growth: Theory and evidence". Journal of Monetary Economics 32, 513–542.
- Acemoglou, D. and F. Zilibotti (1997), "Was Prometheus Unbound by hance? Risk, Diversification and Growth", Journal of Political Economy, 10, pp. 709-751.
- De la Fuente A., Marin J.M., Innovation, bank monitoring, and endogenous financial development, Journal of Monetary Economics, Volume 38, Number 2, October 1996 , pp. 269-301(33)
- Kiminori Matsuyama, 2007, "Aggregate Implications of Credit Market Imperfections," NBER Macro Annuals
- Kiminori Matsuyama, Credit Traps and Credit Cycles," American Economic Review, 97, March 2007, 503-516.
- Rui Castro & Gian Luca Clementi & Glenn MacDonald, 2004. "Investor Protection, Optimal Incentives, and Economic Growth," The Quarterly Journal of Economics, MIT Press, vol. 119(3), pages 1131-1175, August.
- Marimon, Ramon & Quadrini, Vincenzo, 2006. "Competition, Innovation and Growth with Limited Commitment," CEPR Discussion Papers 5840,
- Philippe Aghion & Peter Howitt & David Mayer-Foulkes, 2005. "The Effect of Financial Development on Convergence: Theory and Evidence," The Quarterly Journal of Economics, MIT Press, vol. 120(1), pages 173-222, January.
- Aghion, Philippe, George-Marios Angeletos, Abhijit Banerjee, and Kalina Manova. 2005. "Volatility and Growth: Credit Constraints and Productivity-Enhancing Investment," mimeo.