Syllabus

Econ 745 (First Half)

Macroeconomics and Financial Markets

Spring 2010

This is the first half of a second-year graduate class in asset pricing. The second half of the class is taught by Christophe Chamley. The course requires knowledge of macroeconomics, microeconomics and econometrics as taught in the first year Ph.D. classes. No prior knowledge of finance is assumed.

This first half of the class will study macroeconomic asset pricing, covering both theory and empirical methods. We start with a review of key empirical facts, and how they fit with the consumption-based model. We consider several model extensions, including disasters, habits, Epstein-Zin utility, and long-run risk. We discuss estimation using GMM and Euler equations, as well as linear factor models. I will spend some time discussing models with production, and their empirical implications. I will discuss briefly macroeconomic approaches to the yield curve and models of corporate bond spreads and capital structure. Subject to time, I will also discuss models with two agents with limited participation.

The format of the class will be mostly lectures - I will present some models and cover some papers. I encourage you to talk during the class, asking questions or making comments. There will be student presentations too: each student has to present a paper, using slides, towards the end of the class. You need to read papers critically, thinking about the virtues and limitations of a paper - this leads to research ideas. Presenting is also an important skill that you need to practice.

I will give you some problem sets to do, which will involve quantitative or empirical work. I recommend that you do these problems using Matlab. You can get a student version of Matlab (from mathworks.com or from BU) at a low price. You can find plenty of Matlab tutorials online (google: matlab primer).

It is *very important* that you read the papers marked as "required" in the syllabus. I will feel free to ask on the exam questions such as, "describe briefly the model and the results in paper X".

I will distribute some rough lecture notes.

I would like to spend some time discussing some interesting aspects of the financial crisis. I have listed a few relevant papers, and I may add more, in a separate section of this syllabus.

For your information: we have two distinguished visitors in the Spring who do research in finance - Martin Schneider and Arvind Krishnamurthy. They will be coming to the department April 30 to May 5 (Martin) and May 10 to May 14 (Arvind). I encourage you to attend their lectures and seminars.

Grading

Your grade will be based on class participation (10%), an in-class presentation (20%), 4 problem sets (40%), and a final exam (30%).

Logistics

This class is held Tu-Th 11-12:30 in CAS 212.

First class: Thursday, Jan 14. I will teach until Spring break (March 4), after that Christophe will take over. There will be an exam on March 4th during regular class time: do not miss this class!! No class on Tu, Feb 16 (substitute monday schedule). Total = 13 classes, 12 for teaching and 1 for the exam.

Academic conduct statement

Do not cheat. If you are not sure about the definition of cheating, ask me!

1 Textbooks

I ask that you get the following book: "Asset Pricing", John Cochrane, (Princeton University Press). We will use it for part of the class, and it is a very useful reference.

Some books which are generally useful in macroeconomics and finance:

"Recursive Macroeconomic Theory", Ljungqvist and Thomas Sargent (MIT Press).

"Recursive Methods for Economic Dynamics", Stokey with Lucas and Prescott (Harvard UP).

"Numerical Methods in Economics", Judd, MIT Press.

"Applied Computational Economics and Finance", Miranda and Fackler, MIT Press.

"Dynamic Economics", Adda and Cooper, MIT Press.

2 Contact Info

François Gourio, Office: 400, 270 Bay State Road, Email: <fgourio@bu.edu>.

Office hours are open-door - you can drop by, and if I am in, I will usually be able to talk. (My regular hours are roughly 10:30am-7pm). If you want to talk for a long time, you may want to send me an email to make an appointment, or you can come during my regular office hours (Tuesdays, 3:30 to 5pm, and Wednesdays, 2 to 3pm).

3 Outline

Planning for 13 lectures, each lasting 1h30mn. The last lecture will be an exam (Thursday, March 4th).

Two big surveys that you should read over the course of the class: Cochrane: "Financial markets and the economy" and Campbell "Asset Prices, Consumption, and the Business Cycle".

- Lecture 1: Consumption-based asset pricing. The standard CRRA, lognormal model and the empirical challenges. Stylized facts about asset prices and returns (time-series and cross-section). Campbell-Shiller decomposition.

Readings: Cochrane: "New Facts in Finance", and Cochrane chapters 1 and 2.

- Lecture 2: Euler equation estimation and GMM. Models with multiple goods. Disasters.

Readings: Cochrane chapters 10 and 11, Barro (2006).

- Lecture 3: General results on stochastic discount factor: existence, uniqueness, Hansen-Jagannathan and Alvarez-Jermann bounds. [Talk about Hedging - this class or another one.]

Readings: Cochrane chapters 3 and 4.

- Lecture 4: Habits model.

Reading: Campbell and Cochrane, JPE 1999.

- Lectures 5-6: Epstein-Zin preferences. Long-Run Risk model. Time-varying probability of disaster.

  Reading: Bansal and Yaron, JF 2004, Campbell 1993.

- Lecture 7: Factor models. Estimation of a factor model.

Reading: Cochrane, chapter 9, and skim 12, 13.

- Lecture 8: Yield curve

Reading: Piazzesi and Schneider (2006), and the comment by John Campbell.

- Lecture 9: Corporate bonds, structural models of default, and capital structure.

Reading: Leland (1994)

- Lecture 10: Models with two agents.

Reading: He and Krishnamurthy (2008, WP).

- Lecture 11: Production economies: aggregate implications.

Reading: Jermann (1998); Tallarini (2000)

- Lecture 12: Production economies: cross-sectional implications.

Readings: Zhang (2005).

Student presentation: pick one paper in this list (if there are many students I will add more papers - and if there is a paper that you are very interested in that is not on this list, let me know). The presentation should last 30mn, so you will have to summarize the paper.

- Alvarez and Jermann: "Using Asset Prices to Measure the Cost of Business Cycles", JPE 2004.

- Swanson: "The Bond Premium in a DSGE Model with Long-Run Real and Nominal Risks"

- Hansen, Heaton and Li 2005. "Consumption Strikes Back?", Journal of Political Economy, 2008.

- "Young, Old, Conservarive and Bold. The implications of finite lives and heterogeneity for Asset Pricing", (Panageas and Garleanu), December 2007.

- “Margin-Based Asset Pricing and Deviations from the Law of One Price,” Garleanu and Pedersen

- “Economic catastrophe bonds”, Jurek, Coval and Stafford, AER 2008.

- "Inflation Bets or Deflation Hedges? The Changing Risks of Nominal Bonds" (Campbell, Sunderam and Luis Viceira), January 2009.

- "Asset pricing and the credit market", Longstaff and Wang.

- Cochrane: "A Mean-Variance Benchmark for Intertemporal Portfolio Theory"

One important topic that I will not discuss in detail is models heterogeneous consumers and asset pricing, such as Heaton and Lucas, JPE 1996; Constantinides and Duffie, JPE 1996; Alvarez and Jermann, Econometrica 2000 and Review of Financial Studies 2001; Lustig 2005; Storesletten, Tellmer and Yaron, JPE 2005.

4 References

Required readings

Bansal and Yaron: “Risks for the Long Run: A Potential Explanation of Asset Pricing Puzzles”„ 2004, Journal of Finance, 59(4): 1481-1509.

Barro: “Rare Disasters and Asset Markets in the Twentieth Century,” Quarterly Journal of Economics, 121(3), 823–66.

Campbell: “Intertemporal Asset Pricing without Consumption Data”, 1993, American Economic Review, 83(3):487-512

Campbell: comment on Piazzesi and Schneider.

Campbell and Cochrane: “By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior”, 1999, Journal of Political Economy 107(2): 205-251.

Campbell:: “Asset Prices, Consumption, and the Business Cycle” Handbook of macroeconomics (or NBER w6485)

Cochrane: “New Facts in Finance”, Federal Reserve Bank of Chicago Economic Perspectives XXIII:3 1999. Available on Cochrane’s web page: http://faculty.chicagogsb.edu/john.cochrane/research/Papers/

Cochrane: “Financial Markets and the Real Economy”

Piazzesi and Schneider, 2006. “Equilibrium Yield Curves”,NBER Macroeconomics Annual 2006, 389-442.

Jermann: “Asset pricing in production economies”, Journal of Monetary Economics, 1998, 41(2):257-275.

Leland, 1994, "Corporate Debt Value, Bond Covenants, and Optimal Capital Structure", Journal of Finance, 1994,1213-1252.

Tallarini: “Risk-Sensitive Real Business Cycles”, Journal of Monetary Economics, 2000, 45:507-32.

Zhang, Lu. 2005. “The Value Premium”. Journal of Finance

He, Zhiguo and Arvind Krishnamurthy. 2008. “Intermediary Asset Pricing”

Papers on the crisis (not required)

Blanchard: The crisis: basic mechanisms, and appropriate policies. IMF working paper, 2009.

Brunnermeier, Deciphering the Liquidity and Credit Crunch 2007-08, Journal of Economic Perspectives, 2009, 23(1), 77-100

The economics of structured finance, Coval, Jurek and Stafford, Journal of Econonomic Perspectives, 2009.

Debt markets during the crisis, Krishnamurthy.

Balance sheet adjustment, He, Khang and Krishnamurthy

Gorton, Gary: The panic of 2007 (and other papers).

Some other useful papers which are not required

Backus, Routledge and Zin: "Exotic Preferences for Macroeconomists", 2004, NBER Macroeconomics Annual.

Chen, "Macroeconomic Conditions and the Puzzles of Credit Spreads and Capital Structure", Journal of Finance, forthcoming.

Epstein and Zin: "Substitution, Risk Aversion, and the Temporal Behavior of Consumption and Asset Returns: A Theoretical Framework", 1989, Econometrica 57(4): 1989. 937-969.

Epstein and Zin: "Substitution, Risk Aversion, and the Temporal Behavior of Consumption and Asset Returns: An Empirical Analysis", 1991, Journal of Political Economy, 99(2): 263-286.

Gourio (2009) Disaster risk and business cycles.

Alvarez and Jermann: "Using Asset Prices to Measure the Persistence of the Marginal Utility of Wealth", Econometrica 2005

Lettau and Ludvigson: "Resurrecting the (C)CAPM: A Cross-Sectional Test When Risk Premia Are Time-Varying", JPE 2001.

Campbell and Vuolteenaho, "Bad Beta, Good Beta", American Economic Review 2004, 94:1249-1275.

Fama, Eugene and Kenneth French. 1996. "Multifactor Explanations of Asset Pricing Anomalies". Journal of Finance, 51:1, 55-84.

Hall: "The Stock Market and Capital Accumulation", American Economic Review, December 2001, 91(5), pp. 1185-1202.

Merz and Yashiv: "Labor and the Market Value of the Firm", forthcoming AER.

Boldrin, Christiano and Fisher: "Habit Persistence, Asset Returns, and the Business Cycle", 2001, American Economic Review, 91(1):149-166.

"Can News about the Future Drive the Business Cycle?", Jaimovich and Rebelo,

Gomes Joao, Leonid Kogan, and Lu Zhang. 2003. "Equilibrium Cross Section of Returns". Journal of Political Economy, 114:4, 693-732.

Baxter and Jermann: "The International Diversification Puzzle Is Worse Than You Think", 1997, American Economic Review, 87(1): 170-180

Krishnamurthy: amplification mechanisms in liquidity crises.