Syllabus

Fin304f: Advanced Asset Pricing

Key information

Instructor

- Blake LeBaron
  - blebaron@brandeis.edu
  - http://www.brandeis.edu/~blebaron
  - Sachar 204, 736–2258
  - Office hours: Monday 3:30–4:30, Tuesday 2:00–3:00 (may change a little in first couple weeks)

TA

- None

Times:

Class Times: Monday, 9:30–12:20, Chancellor’s suite

Detailed information

Course Description

This course is an advanced Ph.D. level class in asset pricing. It covers the basic theory necessary for Ph.D. students needing the core pieces of asset pricing theory. It will also touch on several topics of empirical asset pricing in the short time available. The course leans more to the area of macro connections for asset pricing, than pure finance. It is very much a theory and econometrics class. It is not suitable for masters students interested in applications of modern portfolio analysis. The full first year Ph.D. course sequence in microeconomics, macroeconomics, and econometrics is a core prerequisite.

Very few course descriptions tell you what the course will not be doing, but truth in advertising requires this course to do this. We have only 6.5 weeks or so to cover all of asset–pricing, so here are some topics we will not be covering. In some cases the topics are simply special cases of the general asset pricing engine we will study. In other cases, there are other courses. For much of the empirical stuff we simply do not have time to develop the econometrics.
• Behavioral Finance
• Market micro-structure (brief picture of Kyle model, but this is covered in Professor Osler’s class)
• Options/futures/other derivatives: Covered in Fin271
• Bonds and term structure modeling
• International Finance: Some covered in Open Economy Macro, ECON330a

Learning Goals

1. Stochastic discount factor framework
2. Core asset pricing models (CAPM, APT)
3. Consumption based asset pricing
4. Macro finance and the equity premium puzzle
5. Empirical asset pricing
6. Price/return predictability
7. Factor sorts and portfolio construction
8. Modern factors and features in asset returns

Prerequisites:

This class is a second year PhD class, and builds off the entire first year of the PhD program. These classes are completely necessary to take the class.

1. Econ301, 302, 303, 304 are absolutely essential
2. Econ311 is also essential

Required Readings:


Recommended readings:


**Cochrane’s website**

- Cochrane *Asset Pricing* site

**Blogs**

We will be using many video lectures from John Cochrane’s website. Sometimes we will try to initiate discussions from Cochrane’s commentary.

**Grading**

Grades will be based on:

1. Problem sets (50%)
2. Final exam (50%)

**Rules and responsibilities**

**Communications**

You are responsible for all announcements and materials in class. Also, much of the information in class will be sent over Latte and the class website.

**Rules specific to Fin304f**

- Exams
  - Your own work.
  - Closed book (no notes).
  - No laptops, no cell phones, no calculators, no pda’s.

- Problem sets
  - Hand in your own work.
  - Can talk and assist each other.
  - Use all resources.
Academic Integrity

You are expected to be honest in all of your academic work. Please consult Brandeis University Rights and Responsibilities for all policies and procedures related to academic integrity. Students may be required to submit work to TurnItIn.com software to verify originality. Allegations of alleged academic dishonesty will be forwarded to the Director of Academic Integrity. Sanctions for academic dishonesty can include failing grades and/or suspension from the university. Citation and research assistance can be found at LTS – Library guides.

Work Load

Success in this two-credit course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, papers, discussion sections, preparation for exams, etc.)

Disability Statement

If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately.

Fall calendar dates

- First day of classes: August 30
- Last day of classes: Dec 8
- No class:
  - Sept 4
  - Sept 21–22
  - Oct 5
  - Oct 12
  - Nov 22–24
- Brandeis days
  - Oct 3: Thursday schedule
  - Oct 11: Thursday schedule
- Module dates:
  - Sept 11, Sept 18, Sept 25, Oct 2, Oct 9, Oct 16, Oct 23 (exam)
Course Outline

This list is not a core laundry list of asset pricing readings. Most of the core journal readings are contained in the textbook references. Also, most recent papers are covered in the more recent Campbell text (hopefully out in October). The references put here are mostly a quirky set of additional papers which hopefully will bring up some interesting points and thinking. Some are also some classics not mentioned in the text which you absolutely must read. We will definitely not have time for all of this.

1. Introduction
   1. Course style
   2. Course plan
   3. Cochrane approach
   4. Notation

2. Core asset pricing theory/models
   1. Stochastic discount factor framework (C 1–4)
      1. Discount Rates, Cochrane, JF, 2011. (A nice survey which complements the book. We'll use parts of this through the course.)
   2. Mean/variance structure (C 5–6)
   3. Factor pricing models and conditioning information (C 8–9)
   4. Related literature
      1. Practical issues on portfolio optimization
      2. Mutual fund performance (Fama/French)
         1. Luck Versus Skill in the Cross-Section of Mutual Fund Returns, Fama and French, JF, 2010.
Five Myths of Active Portfolio Management, Berk, JPM, 2005.

3. Indexing and economic performance

4. Skew in the cross section

3. Macro finance (C21)
   - See also Discount Rates by Cochrane.

4. Heterogeneous/agent Information models

1. Noise traders

2. Informational efficiency

3. Microstructure

4. Agent–based models
   - Agent–based Computational Finance, LeBaron, in *Handbook of Computational Economics*, ed–
ited by Tesfatsion and Judd, North-Holland, 2006.
- Heterogeneous Agents and Long Horizon Features of Asset Prices, LeBaron, wp, 2013.

5. Empirical issues in time and predictability

1. Time series/predictability (C 20)
   - The Dog that Did Not Bark, Cochrane, RFS, 2008.
   - Predicting Anomaly Performance with Politics, the Weather, Global Warming, Sunspots, and the Stars, Novy-Marx, wp 2013.

2. Forecast behavior

3. Bubbles
6. Empirical tools (skim C10–12, BEM 1–4)
7. Empirical issues in the cross section
   1. Portfolios and sorts (BEM 5)
   2. Fama/Macbeth regression (BEM 6)
   3. Cross sectional features (BEM 7–11), skim (BEM 12–18)
      1. Beta
      2. Size
      3. Value
      4. Momentum
8. Empirical micro finance (household finance)
   ◦ Household Finance, Campbell, JF, 2006.