

Information in Financial Markets (Ph.D./ MS)
Prof. Laura Veldkamp
Syllabus

Classroom: Uris tbd

Office: Uris 421

Class time: tbd

Office hours: by appointment

Email: lv2405@columbia.edu

Course Description

The topic of the course is information frictions in financial economics. This full semester course is an introduction to information choice with applications to game theory, monetary economics and finance. We will cover Bayesian learning, coordination games with heterogeneous information and rational inattention. The first half of the class will be primarily lecture. The second half of the class will involve discussion of frontier papers in this literature.

Prerequisites

You are expected to have already taken a first year PhD sequence in microeconomics and/or asset pricing.

Course Materials

Notes, slides, and deliverables (see below) will be posted on the class webpage (<https://sites.google.com/site/advancedmacro2014/>). The course material consists of:

- Textbooks. The required book is Information Choice in Macroeconomics and Finance, by me. The book is my teaching notes, in published form. The class will follow the book closely and I'll assign problems from the end of each chapter we cover.

Here are some additional reference books that you might find helpful or interesting.

- Brunnermeier, Markus. Asset Pricing under Asymmetric Information: Bubbles, Crashes, Technical Analysis and Herding, Oxford University Press, 2001.

– Vives, Xavier. Information and Learning in Markets, posted at <http://webprofesores.iese.edu/XVives/books.asp>

- Articles related to lecture. The course schedule lists articles we'll cover in lecture. The book summarizes these articles. You'll get the most out of the class if you read these some of articles, at least briefly, in advance. There are other articles that you may want to read for background or that you can use for your paper presentation. These articles are listed as recommended reading in the syllabus and in the bibliography of the textbook.
- Discussion articles. These are required reading. There will be a discussion leader for each article. But all students should arrive prepared to talk about the basics of the model. Each student taking the class for credit needs to lead the discussion of one or more articles, depending on class size.

Deliverables and Grades

The grade in this class is based on two components. Problem sets will be assigned for the first, lecture-based, part of the class only. Presentations will be in the later part of the class. Research proposal is due at the end.

1. Problem sets (30%)
2. Paper presentation(s) (40%)
3. Research proposal (30%)

Outline and Calendar

Session 1 (January).

Introduction and overview. Why study information choice? Bayesian updating with normal variables. Measuring Information Flows. Entropy and mutual information. Rational inattention in quadratic loss models with normal variables. Comparing learning technologies.

Read before class: Chapters 1-3 (Veldkamp book)

Recommended Reading: Sims (2003), Brunnermeier Ch. 1.1, Cover and Thomas (1991), ch.s 2,10

Session 2 (February).

Information choice in strategic games. Introduction to global games. The role of private and public information in coordination games. Strategic aspects of information choice. Applications to price-setting models. Avoiding multiple equilibria problems in information choice models.

Read before class: Chapters 4-5, and Morris and Shin (1998, 2002).

Recommended Reading: Hellwig and Veldkamp (2007), Vives ch. 6.3, Amador and Weill (2006).

Due at the start of class: Problem set #1

Session 3 (February).

Information choice in price-setting. Models of inattentiveness and rational inattention that generate price inertia.

Read before class: Chapter 6.

Recommended Reading: Mackowiack and Wiederholt (2007), Reis (2006), Abel, Eberly and Panageas (2007)

Due at the start of class: Problem set #2

Session 4 (February x and y).

Portfolio Choice. Extending the noisy rational expectations model to many assets. Handling correlated risks. Revisiting the choice of learning technologies and role of the timing of uncertainty resolution.

Read before class: Chapter 7.

Recommended Reading: Grossman and Stiglitz (1980), Admati (1985), Van Nieuwerburgh and Veldkamp (2009, home bias), Breon-Drish (2015), Chabakauri, Yuan and Zachariadis (2015)

Due at the start of class: Problem set #3

Session 5 (March).

Modeling Data as Information How can we use these tools to talk about the data economy? How to value data as an asset?

Recommended Reading: Jovanovic and Nyarko (ecma, 1996), Veldkamp (2005), Farboodi and Veldkamp (WP, 2019)

Session 6 (March).

Asymmetric information and market power/ auctions

Recommended Reading: Kyle (1989), Attar, Mariotti and Salanie (2011), Biais, Martimort and Rochet (2000)

Session 7 (March).

Uncertainty Shocks Can changes in the conditional variance of beliefs explain fluctuations?

Testing Information-Based Theories How to test models of information choice? What data is available? What strategies can we use?

Read before class: Chapter 11

Recommended Reading: Angeletos and La'O (2013), Bloom, Jaimovich et.al. (2013), Schaal (2013), Ulbricht (2013), Orlik and Veldkamp (2013).

Session 8 (April-May). Papers for discussion. To be selected.

What makes for a successful model? Discussions will focus on the question of the paper at hand, as well as general strategies for developing successful theories and writing theory and applied theory papers.