

# **Behavioral Finance**

## **Economics 2728**

Spring 2019

Nicola Gennaioli

### **Course Overview**

This course provides an overview of recent theoretical and empirical work on asset pricing that adopts a “behavioral” perspective—i.e., that considers the joint consequences of: i) investors who have either less-than-fully rational beliefs or non-standard preferences; and ii) various impediments to arbitrage.

### **Meeting time and location**

Mondays, 9:00-11:45 am

**ROOM:** Littauer M17

### **Instructors**

Nicola Gennaioli, Littauer M-6, [nicola.gennaioli@unibocconi.it](mailto:nicola.gennaioli@unibocconi.it),

Teaching Assistant: Paul Fontanier, [fontanier.p@gmail.com](mailto:fontanier.p@gmail.com)

Office hours: email Nicola Gennaioli for an appointment.

### **Material for the Course**

Textbooks:

- Andrei Shleifer (2000), “Inefficient Markets”, *Oxford University Press*. (henceforth: Inefficient Markets)
- Nicola Gennaioli and Andrei Shleifer (2018) “A Crisis of Beliefs, Investor Psychology and Financial Fragility”, *Princeton University Press* (henceforth: A Crisis of Beliefs)

Papers:

Listed below. All published papers are available on Hollis E – Journals or JSTOR unless noted. Those not available through the library will be on the course home page and/or in hardcopy.

**Course web site:** <https://canvas.harvard.edu/courses/47097>

Overview:

### **Schedule**

Jan 28	Lecture 1	Introduction	
Feb 4	Lecture 2	Limited arbitrage	Student presentation 1
Feb 11	Lecture 3	Prospect theory and asset prices	
Feb 18	No Lecture		
Feb 25	Lecture 4	The financial crisis of 2007-2008	Referee report 1 due
March 4	Lecture 5	Expectations: Measurement and analysis	Referee report 2 due
March 11	Lecture 6	Extrapolation, belief heterogeneity, and asset prices	Student presentation 2
March 18	No Lecture	Spring break	
March 25	Lecture 7	Diagnostic expectations	
April 1	Lecture 8	The cross section of returns	Student presentation 3
April 8	Lecture 9	Asset price bubbles	Referee report 3 due
April 15	Lecture 10	Credit cycles	Referee report 4 due
April 22	Lecture 11	Investor behavior and household finance	Student presentation 4

### **Requirements and grading:**

The requirements for the course include: i) four referee reports, to be emailed to Paul by midnight of the day before class (30% of final grade), ii) one in class group presentation of 30 minutes (30%). In lieu of a final exam, there will be a take home paper: choose the topic of one lecture, write a literature review on it, and especially reflect on the most promising avenues for future work (40%).

## **Behavioral Finance Preliminary Reading List**

### **Lecture 1: Introduction, Jan 28**

Inefficient Markets, Chapters 1 & 4.

Barberis, Nicholas, and Richard Thaler (2003), “A Survey of Behavioral Finance”, *Handbook of the Economics of Finance*

Lamont, Owen and Richard Thaler (2003), “[Anomalies: The Law of One Price in Financial Markets](#),” *Journal of Economic Perspectives*, 17(4): 191-202.

Froot, Kenneth A. and Emil Dabora (1999), “[How Are Stock Prices Affected by the Location of Trade?](#)”, *Journal of Financial Economics*, 53: 189-216.

Summers, Lawrence H. (1986), “[Does the Stock Market Rationally Reflect Fundamental Values?](#)”, *Journal of Finance*, 41(3): 591-601.

Black, Fischer (1986), “[Noise](#)”, *Journal of Finance*, 41(3): 529-543.

Clifford S. Asness, Tobias J. Moskowitz, and Lasse Heje Pedersen (2013), “[Value and Momentum Everywhere](#)”, *Journal of Finance* 68(3): 929–985.

### **Lecture 2: Limited Arbitrage, Feb 4**

Inefficient Markets, Chapters 2, 3, & 5.

De Long, Bradford, Andrei Shleifer, Lawrence Summers, and Robert Waldmann (1990), “Noise Traders Risk in Financial Markets”, *Journal of Political Economy*.

Shleifer, Andrei and Robert Vishny (1997), “The Limits of Arbitrage”, *Journal of Finance*

Hong, Harrison, Weikai Li, Sophie Ni, Jose Scheinkman, and Philip Yan (2016), “[Days to Cover and Stock Return](#)”, working paper.

Hanson, Samuel G., and Adi Sunderam (2014), “[The Growth and Limits of Arbitrage: Evidence from Short Interest](#).” *Review of Financial Studies* 27, no. 4: 1238–1286.

Kozak, Serhy, Stefan Nagel, and Shrihari Santosh (2018), Interpreting Factor Models, *Journal of Finance*.

Brunnermeier, Markus, and Lasse Pedersen (2008), “Market Liquidity and Funding Liquidity”, *Review of Financial Studies*. **Student Presentation 1**

### **Lecture 3: Prospect Theory and Asset Pricing, Feb 11 (Guest Lecturer: Nick Barberis)**

Barberis, Nicholas, Ming Huang, Tano Santos (2001), "Prospect Theory and Asset Prices", *Quarterly Journal of Economics* 116: 1-53.

Barberis, Nicholas, Ming Huang (2008), "Stocks as Lotteries: The Implications of Probability Weighting for Security Prices", *American Economic Review* 98(5): 2066-2100.

Barberis, Nicholas (2012), "A Model of Casino Gambling", *Management Science* 58(1): 35-51 (Special Issue on Behavioral Economics).

Barberis, Nicholas, Wei Xiong (2012), "Realization Utility", *Journal of Financial Economics* 104(2): 251-271.

#### **Lecture 4: The financial crisis of 2007-2008, Feb 25**

A Crisis of Beliefs, Chapters 1, 2, & 3.

Gennaioli Nicola, Andrei Shleifer, and Robert W Vishny (2012), "[Neglected Risks, Financial Innovation and Financial Fragility](#)", *Journal of Financial Economics* 104(3): 452-468.

Gennaioli Nicola, Andrei Shleifer and Robert W Vishny (2013), "[A Model of Shadow Banking](#)", *Journal of Finance* 68(4): 1331-1363.

Baron, Matthew, Emil Verner and Wei Xiong (2018), "Bank Equity and Banking Crises", working paper. **(Referee Report 1 due)**

#### **Lecture 5: Expectations: Measurement and analysis, March 4**

A Crisis of Beliefs, Chapter 4.

Greenwood, Robin, and Andrei Shleifer (2014), "[Expectations of Returns and Expected Returns](#)", *Review of Financial Studies*, 27 (3): 714-746.

Gennaioli, Nicola, Yueran Ma, and Andrei Shleifer (2015), "[Expectations and Investment](#)", *NBER Macroeconomics Annual*.

Coibion, Olivier and Yuri Gorodnichenko (2015), "Information Rigidity and the Expectations Formation Process: A Simple Framework and New Facts", *American Economic Review*.

Bordalo, Pedro, Nicola Gennaioli, Yueran Ma, and Andrei Shleifer (2018), "[Overreaction and Macroeconomic Expectations](#)", working paper.

Armona, Luis, Andreas Fuster and Basit Zafar (2018), "Home Price Expectations and Behavior: Evidence from a Randomized Information Experiment", *Review of Economic Studies*.

Bailey, Michael, Ruiqing Cao, Theresa Kuchler and Johannes Stroebel (2018), "The Economic Effects of Social Networks: Evidence from the Housing Market", *Journal of Political Economy*.

Benjamin, Daniel J (2018), ["Errors in Probabilistic Reasoning and Judgment Biases,"](#) *Handbook of Behavioral Economics*

Landier, Augustin, Yueran Ma and David Thesmar (2018), "New Experimental Evidence on Expectations Formation", working paper. **(Referee Report 2 due)**.

### **Lecture 6: Extrapolation, belief heterogeneity and asset prices, March 11**

Barberis, Nicholas, Robin Greenwood, Lawrence Jin, and Andrei Shleifer (2015), "[X-CAPM: An Extrapolative Capital Asset Pricing Model](#)," *Journal of Financial Economics*, 115 (1): 1-24.

Cassella, Stefano and Huseyin Gulen (2018), "[Extrapolation Bias and the Predictability of Stock Returns by Price-Scaled Variables](#)", *Review of Financial Studies*.

Hong, Harrison and Jeremy C. Stein (2007), "[Disagreement and the Stock Market](#)", *Journal of Economic Perspectives*, 21(2): 109–128.

Geanakoplos, John (2009), "[The Leverage Cycle](#)," *NBER Macro Annual* 24, 1-65.

Simsek, Alp (2013), "[Speculation and Risk-Sharing with New Financial Assets](#)," *Quarterly Journal of Economics* 128: 1365-1396.

Brunnermeier, Markus, Alp Simsek and Wei Xiong (2014), "[A Welfare Criterion for Models with Distorted Beliefs](#)," *Quarterly Journal of Economics* 129: 1753-1797.

Barberis, Nicholas (2018), "Psychology Based Models of Asset Prices and Trading Volume", *Handbook of Behavioral Economics*.

Giglio, Stefano and Bryan Kelly (2017), "[Excess Volatility: Beyond Discount Rates](#)", *Quarterly Journal of Economics*, **Student Presentation 2**.

### **Lecture 7: Diagnostic expectations, March 25**

A Crisis of Beliefs, Chapter 5.

Gennaioli, Nicola and Andrei Shleifer (2010), "What Comes to Mind", *Quarterly Journal of Economics*

Pedro Bordalo, Nicola Gennaioli, and Andrei Shleifer (2016), "[Stereotypes](#)", *Quarterly Journal of Economics*

Pedro Bordalo, Nicola Gennaioli, Yueran Ma, and Andrei Shleifer (2018), "[Overreaction and Macroeconomic Expectations](#)", working paper.

### **Lecture 8: The cross section of returns, April 1**

Barberis, Nicholas, Andrei Shleifer and Robert Vishny (1998), “[A Model of Investor Sentiment](#)”, *Journal of Financial Economics* 49: 307-343.

Bordalo, Pedro, Nicola Gennaioli, Rafael La Porta and Andrei Shleifer (2018), “Diagnostic Expectations and Stock Returns”, *Journal of Finance*, forthcoming.

Bouchaud, Jean Philippe, Philipp Krueger, Augustin Landier and David Thesmar (2018), “Sticky Expectations and the Profitability Anomaly”, *Journal of Finance*, forthcoming.

Hong, Harrison and Jeremy C. Stein (1999), “[A Unified Theory of Underreaction, Momentum Trading and Overreaction in Asset Markets](#)”, *Journal of Finance* 54(6): 2143-2184.  
**Student Presentation 3.**

### **Lecture 9: Financial Bubbles, April 8**

Inefficient Markets, Chapter 6.

Brunnermeier, Markus K, and Stefan Nagel (2004), “[Hedge Funds and the Technology Bubble](#)”. *Journal of Finance* 59: 2013-2040.

Scheinkman, José A. and Wei Xiong (2003), “[Overconfidence and Speculative Bubbles](#)”, *Journal of Political Economy*, 111(6): 1183-1219.

Harrison, J. Michael and David M. Kreps (1978), “[Speculative Investor Behavior in a Stock Market with Heterogeneous Expectations](#)”, *Quarterly Journal of Economics*, 92(2): 323-336.

Nicholas Barberis, Robin Greenwood, Lawrence Jin, Andrei Shleifer (2018), “[Extrapolation and Bubbles](#)”, *Journal of Financial Economics*.

Bordalo, Pedro, Nicola Gennaioli, Spencer Yongwook Kwon, and Andrei Shleifer (2018), “Diagnostic Bubbles”, working paper.

Ofek, Eli and Matthew Richardson (2003), “[DotCom Mania: The Rise and Fall of Internet Stock Prices](#)”, *Journal of Finance*, 58: 1113-1138.

Sunderam, Adi, Carolin Pflueger, and Emil Siriwardane (2018), “A Measure of Risk Appetite for the Macroeconomy”, working paper. **(Referee Report 3 due)**

### **Lecture 10: Credit Cycles, April 15**

A Crisis of Beliefs, Chapter 6.

Baron, Matthew and Wei Xiong (2017), “[Credit Expansion and Neglected Crash Risk](#)”, *Quarterly Journal of Economics*.

Greenwood, Robin, and Samuel G. Hanson (2013), "[Issuer Quality and Corporate Bond Returns](#)," *Review of Financial Studies*, 26 (6): 1483–1525.

Lopez-Salido, David, Jeremy Stein, and Egon Zakrajsek (2017), "[Credit-Market Sentiment and the Business Cycle](#)", *Quarterly Journal of Economics*.

Schularick, Moritz, and Alan M. Taylor (2012), "[Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008](#)," *American Economic Review*, 102: 1029-61.

Krishnamurthy, Arvind, and Tyler Muir (2017), "How Credit cycles across a Financial Crisis," working paper.

Pedro Bordo, Nicola Gennaioli, Andrei Shleifer (2018), "[Diagnostic Expectation and Credit Cycles](#)", *Journal of Finance*.

Ion, Mihai, Huseyn Gulen and Stefano Rossi (2018), Credit Cycles and Corporate Investment, working paper. **(Referee Report 4 due)**

### **Lecture 11: Retail investor behavior, Apr 22**

Barber, Brad, and Terrance Odean (2000), "Trading is hazardous to your wealth: the common stock investment performance of individual investors," *Journal of Finance* 55 (2), 773–806.

Barber, Brad, and Terrance Odean (2001), "[Boys Will Be Boys: Gender, Overconfidence and Common Stock Investment](#)," *Quarterly Journal of Economics* 116: 261-292.

Lusardi, Annamaria and Olivia Mitchell (2014), "The Economic Importance of Financial Literacy: Theory and Evidence," *Journal of Economic Literature* 52 (1), 5–44.

C  lerier, Claire and Boris Vall  e (2017), "[Catering To Investors Through Product Complexity](#)", *Quarterly Journal of Economics*.

Lian, Chen, Yueran Ma, Carmen Wang (2018), Low Interest Rates and Risk Taking: Evidence from Individual Investment Decisions, *Review of Financial Studies*, forthcoming.

Beshears, John, James Choi, David Laibson, and Brigitte Madrian (2018), "Behavioral Household Finance", *Handbook of Behavioral Economics*.

Kenneth R. French (2008), "[Presidential Address: The Cost of Active Investing](#)", *Journal of Finance*, 63(4): 1537-1573.

Gennaioli, Nicola, Andrei Shleifer, and Robert Vishny (2015), "[Money Doctors](#)", *Journal of Finance* 70 (1): 91-114.

Heidhues, Paul, Botond Koszegi, and Takeshi Murooka (2017) "Inferior Products and Profitable Deception", *Review of Economic Studies*. **Student Presentation 4.**