

# **Behavioral Finance**

Syllabus, Fall 2009

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- Target audience: Masters-level students, 1<sup>st</sup> or 2<sup>nd</sup> year graduate students
- Prerequisites: Basic Finance Theory, Introductory Corporate Finance

## **I. Course Objectives and Organization**

### **Summary**

The course is focused on behavioral factors influencing financial markets and corporate world. This course targets the link between the peculiarities of human behavior and aspects of financial and investment management, as well as corporate and risk management. In addition, the course puts various “behavioral mechanisms” into more basic psychological framework spanning the mechanisms of information perception, emotions, memory, and attention.

The course material is primarily built upon empirical data on financial markets and corporate behavior and data from experimental economics. The course foundation is recent periodic literature in finance and psychology as well as the author’s original research at the MIT Sloan School of Management. The course is focused more on conceptual foundation than on mathematical models and therefore does not involve heavy mathematics.

The students should develop skills for taking into account behavioral factors in various aspects of financial market analysis and operation of public and private companies. Upon completion of the Behavioral Finance course they should be able to track the psychological mechanisms that underlying behavioral patterns relevant to economic behavior and observed phenomena in financial markets in individuals.

The students are expected to develop the following skills:

- Be able to identify a number of behavioral factors that systematically influence financial markets and corporations;
- Be able to identify the properties and characteristics of empirical data pointing to the presence of behavioral phenomena;
- Be able to use single-handedly or provide advice and consultation to corporate executives with regards to behavioral factors and their possible influence onto company operations, reporting, etc;
- Be able to identify, locate and use the literature from both periodic sources and publications on the internet to aid in identifying the behavioral phenomena and finding suggested explanations and mechanisms for such phenomena in financial markets and corporate finance.

## II. Course Content

The course structure includes:

- Regular lectures with an added element of interactive discussions and in-class experiments;
- Self-study using the necessary literature and data sources available through various databases or public domain sources on the web;
- Completing a course project;
- Written final in-class exam or submitting an essay at the end of the course.

### **Topic 1. Information perception and intertemporal choice.**

Cognitive information perception. Peculiarities (biases) of quantitative and numerical information perception. Weber law. Subjective probability. Representativeness, anchoring, asymmetric perception of gains and losses, framing and other behavioral effects.

Why exponential discounting does not describe human economic behavior. Discount factors for short and long horizons. Experimental measurement of the discount factor. Hyperbolic discounting.

*Literature:*

1. Plous, Scott, 1993, The Psychology of Judgment and Decision Making, Ch 10-15.
2. Frederick, Shane, Loewenstein, George, and O'Donoghue, Ted, 2002, Time Discounting and Time Preference: A Critical Review, Journal of Economic Literature, 40, 351-401.

### **Topic 2. Human preferences, rationality, and market efficiency.**

Decision-making under risk and uncertainty. Expected utility as a basis for decision-making. The evolution of theories based on expected utility concept. Decision-making in historical perspective, Allais and Ellsberg's paradoxes.

Rationality from an economics and evolutionary perspective. Different ways to define rationality: dependence on time horizon, individual or group rationality. Why humans often act outside of the economic rationality framework. Examples from experimental economics: ultimatum and public goods games. Experiments in isolated societies. Herbert Simon and bounded rationality.

Investor rationality and market efficiency. Empirical data that questions market efficiency.

*Literature:*

1. Shleifer, Andrei, 2000, Are Financial Markets Efficient?, Chapter 1 in Inefficient Markets, Oxford University Press.
2. Plous, Scott, 1993, The Psychology of Judgment and Decision Making, Ch. 7-9.
3. Fama, Eugene, 1998. Market efficiency, long-term returns, and behavioral finance. Journal of Financial Economics, 49, 282-306.

### **Topic 3. Behavioral factors and financial markets.**

Empirical data that challenge the Efficient Markets Hypothesis. Fundamental information and financial markets. Information available for market participants and market efficiency. Market predictability. The concept of limits of arbitrage and model by Shleifer and Vishny. Case study: Long Term Capital Management.

Asset management and behavioral factors. Active portfolio management: return statistics and sources of systematic underperformance. Fundamental information, technical analysis, and behavioral factors.

*Literature:*

1. Shleifer, Andrei and Vishny, Robert W., 1997, The Limits of Arbitrage, Journal of Finance, 52, 35-55.

2. Froot, Kenneth A. and Perold, Andre F., 1996, Global Equity Markets: The Case of Royal Dutch and Shell, Harvard Business School Case 296077.
3. Loewenstein, George, 2002. When Genius Failed: The Rise and Fall of Long-Term Capital Management.
4. Baker, M. and Savasoglu, S., 2002, Limited arbitrage in mergers and acquisitions. Journal of Financial Economics, 64, 91-115.

**Topic 4. External factors and investor behavior.**

Weather, emotions, and financial markets: sunshine, geomagnetic activity. Mechanisms of the external factor influence on risk perception and attitudes. Connection to human psychophysiology and emotional regulation. Misattribution as a mechanism for external factors influence. Statistical methodology for capturing the effects of external influence onto stock market returns.

Emotional content of news articles and their correlation with market dynamics. Social trends and market dynamics: music, fashion, demographics.

Active portfolio management – the source of the systematic underperformance. Fundamental information and technical analysis – the case for psychological influence. Case study: Fidelity Magellan Fund and Peter Lynch.

*Literature:*

1. Krivelyova, Anna and Robotti, Cezare, 2003, Playing the field: Geomagnetic storms and international stock markets. Working paper 2003-5a, Federal Reserve Bank of Atlanta.
2. Hirshleifer, D., and T. Shumway, 2003, Good Day Sunshine: Stock Returns and the Weather”, Journal of Finance, Forthcoming.
3. Kamstra, Mark, Kramer, Lisa, and Levi, Maurice, 2002, Winter blues: A SAD stock market cycle. Working paper 2002-13, Federal Reserve Bank of Atlanta.
4. Prechter, Robert, 2003, Social Causality chapter in Pioneering Studies in Socionomics.

**Topic 5. Behavioral corporate finance.**

Behavioral factors and corporate decisions on capital structure and dividend policy. Capital structure dependence on market timing. Empirical data on dividend presence or absence. Timing of good and bad corporate news announcement.

Mergers and acquisitions and the Winner’s Curse. M&A waves and market timing. IPO underpricing. Systematic excessive optimism and overconfidence in managers’ decisions. Company name and its market value. Sunk costs and mental accounting.

Evolutionary explanations for behavioral effects. Evidence from behavioral game theory. Systematic approach to using behavioral factors in corporate decision-making.

*Literature:*

1. Baker, Malcolm and Wurgler, Jeffrey, 2002, Market Timing and Capital Structure, Journal of Finance, 57, 1-32.
2. Shefrin, Hersh, 2000, Biased Reaction to Earnings Announcements, Chapter 8 in Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing, Harvard Business School Press.
3. Heaton, J. B., 2002, Managerial Optimism and Corporate Finance, Financial Management, 31, 33-45.
4. Shefrin, Hersh, 2000, Beyond Greed and Fear, Harvard Business School Press.
5. Gervais, S, Heaton, J. B., Odean, T., 2002, The Positive Role of Overconfidence and Optimism in Investment Policy, Working paper.
6. Rau P.R., Patel, A., Osobov, I., Khorana, A., Cooper, M.J., 2001, The Game of the Name: Value Changes Accompanying Dot.com Additions and Deletions.

## **Тема 6. Emotions and decision-making. The science of neuroeconomics.**

Experimental measurement of risk-related preferences: measuring risk through probabilistic set of gambles, through questionnaire. Emotional mechanisms in modulating risk-taking attitude. Neurophysiology of risk-taking. Personality traits and risk attitudes in different domains.

Evolutionary prospective and emotions. Proximal and ultimate mechanisms framework. Making decisions with “play” and real money. Modulating altruistic behavior by utilizing the essentials of the specific proximal mechanisms. Emotions and rationality. Antonio Damasio and somatic markers hypothesis.

Neurophysiology of decision-making, the role of hormones and neurotransmitters. How tools from cognitive neuroscience can aid in understanding the basics of the economic behavior.

Introduction to the science of neuroeconomics. Neuromarketing.

### *Literature:*

1. Loewenstein, George. F., E. Weber, C. Hsee, and N. Welch, 2001, Risk as Feelings, Psychological Bulletin, 127, 267-286.
2. Zuckerman, M., & Kuhlman, D.M., 2000. Personality and risk-taking: Common biosocial factors. Journal of Personality, 68, 999-1029.
3. Lo, Andrew, 1999, The three P's of total risk management. Financial Analysts Journal, 55, 87–129.
4. Burnham, Terry and Jay Phelan, 2000, Mean Genes. Главы “Risk”, “Greed”.
5. Gigerenzer, Gerd, 2001, The Adaptive Toolbox, in Bounded Rationality: The Adaptive Toolbox, MIT Press.
6. Burnham, Terry, 2003, Caveman Economics: Proximate and Ultimate Causes for Non-Materially Maximizing Behavior, Manuscript.
7. Damasio, A.R., 1994, Descartes' Error: emotion, reason and the human brain. Avon Books, New York.
8. Lo, Andrew. & Repin, Dmitry, 2002, The psychophysiology of real-time risk processing. J Cognitive Neuroscience, 14, 1-17.

### **III. Student Evaluation and Grading**

#### **1. Intermediate and final control**

Intermediate forms of control include

- Completing a course project;
- Evaluation of class work on a session-by-session basis.

Final control includes:

- Written final in-class exam or submitting an essay at the end of the course..

#### **2. Essay**

The essay for the Behavioral Finance course should not be more than 20-25 pages (10-12 point, 1.5 spaced, Times New Roman font). Larger essays often lead students to losing the focus and bringing in too much evidence that makes it more difficult to accentuate the main points and make relevant conclusions. The minimum essay size should be 10 pages.

#### **3. Grading policy**

The total number of points for the course is 100. The cumulative grade is determined as a weighted average of the following three components:

- Grade for class participation – X%;
- Grade for an course project – Y%;
- Grade for the final written exam or essay – Z%.

Each student determines the values for X, Y, and Z according to his/her own preferences as discussed at the first class session. The constraint is for  $X, Y, Z > 0$  and  $X + Y + Z = 100\%$ .

Passing grade is issued for 40 or more points.