Course 3: Biases and portfolio choice

Investors tend to be their own worst enemies. In this third course, you will learn how to capitalize on understanding behavioral biases and irrational behavior in financial markets. You will start by learning about the various behavioral biases – mistakes that investors make and understand their reasons. You will learn how to recognize your own mistakes as well as others' and understand how these mistakes can affect investment decisions and financial markets. You will also explore how different preferences and investment horizons impact the optimal asset allocation choice.

After this course, you will be more effective in overcoming biases to do the wrong things at the wrong times and tailoring an investment strategy that is best suited on your or your client's profile and investment needs.

Module 1: Efficient markets and limits of arbitrage
Module 2: Biases and realistic preferences
Module 3: Inefficient markets
Module 4: Application: Individual investor

Module 1: Efficient markets hypothesis and limits of arbitrage

Content overview
This module introduces the **third course** in the ***Investment and Portfolio Management Specialization***. In this module, we first present the efficient market hypothesis (EMH) – another pillar idea of modern finance. You will learn about its rationale as well as the empirical evidence that supports *and* challenges the predictions of the EMH such as anomalies. Finally, we will consider why smart money may sometimes fail to exploit away anomalies in financial markets.

Learning outcomes

- Familiarize with the organization of the class
- Meet the professor and your peers
- Describe the efficient market hypothesis (EMH)
- Explain the various forms of EMH and the differences in their predictions
- Explain what an event study is and interpret its results
- Define what an anomaly is and give examples
- Explain limits of arbitrate

Learning activities

- Watch all the video lectures
- Complete polls, assessments, and readings
- Engage in professional interaction: Discussion forum, Facebook
- Make use of additional learning resources

Module Content

Welcome and Introduction

1. Lecture: Introduction and welcome to class

Readings

- Grading policy
- Discussion: Poll: What is your motivation for taking this course?
- How to use discussion forums
- Meet & Greet: Get to know your classmates
- Pre-Course Survey

Efficient Markets Hypothesis (EMH)

1. Lecture: Efficient Markets Hypothesis (EMH)
2. Lecture: Examples of market efficiency: Market efficiency in real time
3. Lecture: Three Versions of Efficient Market Hypothesis

Readings:

- Watch market efficiency in real time:
  https://www.youtube.com/watch?v=xHFVQcsJeBs

- And here is some more detail on the CNBC study that I mentioned:
  http://blog.alphaarchitect.com/2011/10/14/real-time-market-efficiency/#gs.i0f71=o

- Lecture handouts:

Practice Quiz: Efficient markets hypothesis

Forum question: What would happen to market efficiency if all investors chose to follow a passive strategy?

Are markets efficient?

1. Lecture: Event studies
2. Lecture: Anomalies
3. Lecture: Mutual fund and analyst performance

Readings:

- **Entre Med Case**
  https://www0.gsb.columbia.edu/faculty/ghuberman/PDFpapers/CancerCure.pdf
  http://blog.alphaarchitect.com/2011/10/08/debunking-semi-strong-market-efficiency/#gs.63gCH_E

- Lecture handouts

Practice Quiz: Are markets efficient?

Peer review assignment: Anomalies

Limits to arbitrage

1. Lecture: Smart investor should make markets efficient, right?

Readings

- "New Facts in Finance" by John Cochrane
  https://faculty.chicagobooth.edu/john.cochrane/research/papers/ep3Q99_3.pdf
- Lecture handouts:

Summary

1. Lecture: Efficient Market Hypothesis

End of Module Graded Quiz: Efficient markets and limits of arbitrage

Module 2: Biases and realistic preferences

Content overview

In this module, we review the behavioral critique of market rationality. In contrast to the presumption that investors are rational, behavioral finance starts with the assumption that they are not. We will examine some of the information-processing and behavioral biases uncovered by psychologists in several contexts. In addition, we will consider alternative, more realistic ways of describing investor preferences.

Learning outcomes

- Define heuristic-driven biases and give examples
- Explain how information-processing errors generate behavioral biases
- Describe frame dependence and mental accounting
- Explain prospect theory and loss aversion
- Give examples of more realistic ways of describing preferences

Learning activities

- Watch all the video lectures
- Complete polls, assessments, and readings
- Engage in professional interaction: Discussion forum, Facebook
- Make use of additional learning resources

Module Content

Introduction

1. Lecture: Introduction

Beliefs

1. Lecture: What are heuristics-driven biases?
2. Lecture: Representativeness
3. Lecture: Conservatism and anchoring
4. Lecture: Overconfidence

Readings

- Required reading assignments
  Confirmation bias
  https://www.behavioraleconomics.com/?s=confirmation+bias&lang=en

http://www.forbes.com/sites/rogerdooley/2013/05/07/buffett-confirmation-bias/#19ad9a363a83
Regret aversion
https://www.behavioraleconomics.com/mini-encyclopedia-of-be/regret-aversion/
Self-control
https://www.behavioraleconomics.com/?s=self+control&lang=en
http://www.dartmouth.edu/~lusardiworkshop/Papers/Self%20Control%20Bias.pdf

- Bernartzi, Shlomo and Richard H. Thaler. "Heuristics and Biases in Retirement Savings Behavior." *Journal of Economic Perspectives* 21(3), (2007): 81-104.

  http://faculty.chicagobooth.edu/Richard.Thaler/research/pdf/Heuristics%20and%20Biases%20in%20Retirement%20Savings%20Behavior.pdf
- Lecture handouts: Heuristics-driven biases

Frame dependence

1. Lecture: Frame dependence
2. Lecture: Mental accounting

Readings

- "Behaving badly" by James Montier
  https://papers.ssrn.com/sol3/papers.cfm?abstract_id=890563

- Seven Sins of Fund Management
  http://www.trendfollowing.com/whitepaper/Seven_Sins_o-DrKW-100436-N.pdf

- Lecture handouts: Frame dependence

Practice Quiz: Heuristic driven biases and frame dependence

Preferences

1. Lecture: Realistic preferences
2. Lecture: Loss aversion or Prospect theory
3. Lecture: Habit utility
4. Lecture: Catching up with the Joneses

Summary

1. Lecture: Biases and realistic preferences

Readings

- **The Psychology and Neuroscience of Financial Decision Making**
  http://www.cell.com/trends/cognitive-sciences/abstract/S1364-6613(16)30099-7
- **Psychology of what we do with our money (optional)**
  "Researchers Colin Camerer and Cary Frydman recently uncovered new facts about the psychological and neuroscientific processes that influence our financial decision making habits." FT Alphacat podcast available on iTunes.
- Lecture handouts:

End of Module Graded Quiz: Biases and realistic preferences

Module 3: Inefficient markets

Content overview

In this module, we review a number of puzzles related to the aggregate stock market and the cross-section of average stock returns that have been documented in the literature. We examine how the behavioral biases and tendencies discussed in the previous module might result in some of these puzzles observed in financial markets.

Learning outcomes

- Define the equity premium puzzle
- Define the closed-fund discount puzzle
- Explain the volatility puzzle
- Explain the value effect
- Describe investor under-reaction and overreaction
- Compare the long-term reversal and momentum effects
- Illustrate the behavioral biases that could be associated with value effect

Learning activities

- Watch all the video lectures
- Complete polls, assessments, and readings
- Engage in professional interaction: Discussion forum, Facebook
- Make use of additional learning resources

Module Content

Introduction

1. Lecture: Introduction

Applications: The Aggregate Stock Market

1. Lecture: Equity premium puzzle
2. Lecture: Volatility puzzle
3. Lecture: Closed-end fund puzzle

Readings

- Lecture handouts: Applications – the Aggregate Stock Market

Practice Quiz: Applications – the Aggregate Stock Market

Applications: The cross-section of average stock returns

1. Lecture: Long-run reversals
2. Lecture: Value effect
3. Lecture: Momentum

Readings

- Lecture handouts: Applications – The cross-section of average stock returns

Practice Quiz: Applications – The cross-section of average stock returns

Summary

1. Lecture: Summary

End of Module Graded Quiz: Inefficient markets

Module 4: Application: Investor behavior

Content overview

In this last brief module, we turn our attention to the behavior of individual investors and review the empirical evidence on how behavioral biases and tendencies we discussed in the previous modules affect individual investor portfolio choice and trading decisions.

Learning outcomes

- Understand the empirical evidence on investors' portfolio choice and trading decisions
- Interpret the evidence on the relationship between overconfidence and excessive trading
- Illustrate how behavioral biases lead to portfolio under-diversification
- Explain home bias

Learning activities

- Watch all the video lectures
- Complete polls, assessments, and readings
- Engage in professional interaction: Discussion forum, Facebook
- Make use of additional learning resources

Module Content

Introduction

1. Lecture: Introduction

Individual Investor behavior

1. Lecture: Insufficient diversification
2. Lecture: Naïve diversification
3. Lecture: Excessive trading
4. Lecture: Individual investors' buying and selling decision

Readings

- "Behavioral economics and the Retirement Savings Crisis", by Shlomo Benartzi and Richard Thaler, *Science*, Vol. 339, Issue 6124, pp. 1152-1153.

http://faculty.chicagobooth.edu/richard.thaler/research/pdf/Behavioral%20Economics%20and%20the%20Retirement%20Savings%20Crisis.pdf

- Lecture handouts: Investor behavior

Practice Quiz: Investor behavior

Summary

1. Lecture: Summary

End of Module Graded Quiz: Application: Investor Behavior