



International Week
OBUDA UNIVERSITY

BEHAVIORAL FINANCE

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About the todays' class



During the course



By the end of the course



OR



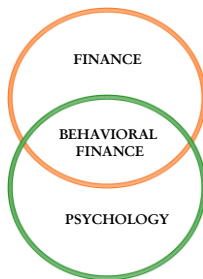
“People in standard finance are rational.
People in behavioral finance are
normal.”

Meir Statman, Professor

“What makes a crisis occur is the belief that it
can occur. This is an inherent feature of the
human nature of economic actions, in contrast
with physics. A bridge cannot collapse simply
because it is believed that it can collapse.”

Charles Wyplosz, 1998

About Behavioral Finance



Bias

- A predisposition to commit specific types of errors
 - Excessive optimism
 - Overconfidence
 - Confirmation bias
 - Illusion of control

Excessive Optimism

- **Definition:** People overestimate how frequently they will experience favorable outcomes, and underestimate how frequently they will experience unfavorable outcomes
- Examples: exam performance; sports; US mentality
- Hope of victory increases effort, commitment, and persistence in the face of difficulty or threat of failure, and thereby raises the chances of success
- *Desirability:* the more people desire a specific outcome, the more optimistic they become; *wishful thinking*

Overconfidence

- **Definition:** Overconfidence pertains to how well people understand their own abilities and the limits of their knowledge
- Our brain is designed to make decisions (survival purposes) with as much certainty as possible in the face of uncertainty
- People make mistakes more frequently than they believe; this does not imply ignorance or incompetence, but in their own eyes:
 - they think they are smarter than they actually are
 - they think they know more than they actually know
- Examples: driving skills; investment decisions, e.g. stock selection; inferior acquisitions by cash-rich managers
- *Hindsight Bias:* view events as obvious in hindsight though event highly uncertain when viewed in foresight; "I knew it all before"

Confirmation Bias I

- **Definition:** People attach too much importance to information that support their views relative to information that runs counter
- People spend too much time on searching for reasons to support their views, too little time for reasons that might lead them to conclude their views are wrong
- Examples: investment decisions; corporate projects; real life choices, e.g. relations, study subject
- *Selective thinking:* the process by which one focuses on favorable evidence in order to justify a belief, ignoring unfavorable evidence

Confirmation Bias II

- *Groupthink:* Groups outperform individuals when it comes to intellectual tasks, but do worse in judgmental tasks
- *Social loafing:* reduce individual contributions; relying on others
- *Poor information sharing:* fail to share substantial information
- *Acceptance:* Group members accept a decision too readily
- *Polarization:* Group processes accentuate attitudes toward risk
- *Illusion of effectiveness:* Unwarranted confidence in the decision
- Examples: investment clubs; corporate decisions; "12 Angry Men" (1957, Sydney Lumet, Henry Fonda)
- Solution: Devil's advocate

Illusion of Control

- **Definition:** People overestimate the extent to which they can control events
- Belief to have influence over the outcome of uncontrollable events
- Outcome typically depends on a combination of luck and skill
- Example: Managers have an exaggerated view of how much control they exert over (positive) outcomes
- *Self-attribution error:* People take credit for positive outcomes and blame others or bad luck for negative outcomes
- *Illusion of knowledge:* People believe that the accuracy of their forecasts increases with more information

Heuristic

- A rule of thumb used to make a decision; mental shortcuts that leave people vulnerable to specific biases
 - Representativeness
 - Availability
 - Anchoring
 - Affect

Representativeness I

- **Definition:** People make judgments based on stereotype thinking
- People assume that “like goes with like”
- People look for **familiar patterns** and assume future patterns will resemble past ones, without considering the reasons for the pattern or the probability of the pattern repeating itself
- People think that they see patterns in truly random sequences
- **Gambler’s fallacy:** overweight the probability of an event because it has not recently occurred at a frequency that reflects its probability; **belief that “red” has to come after a long streak of “black” outcomes**

Representativeness II

- You hear about a 31-year-old woman named Linda from people who know her quite well. They tell you that she is single, outspoken, and very bright. When she was a student, she was deeply concerned with issues of social justice. Consider the following eight choices:
- (1) Linda is a teacher in an elementary school.
(2) Linda manages a bookstore and takes yoga classes.
(3) Linda is active in the women’s movement.
(4) Linda is a psychiatric social worker.
(5) Linda is a member of the League of Women Voters.
(6) Linda is a bank teller.
(7) Linda is an insurance salesperson.
(8) Linda is a bank teller and is active in the women’s movement.
- Rank these possibilities about Linda from 1 to 8 by assigning 1 to what you regard as the most likely possibility and 8 as least likely.

Representativeness III

- **Conjunction fallacy:** People misjudge the probability that several events occur simultaneously
- People consider each situation as a category and ask how representative Linda is of the category
- Top: activity in women’s movement and psychiatric social worker
- Least likely: insurance salesperson and bank teller
- Heuristics are mental shortcuts that may lead to systematic errors: most people assign a higher likelihood to item 8 (feminist bank teller) than to item 6 (bank teller)
- But it cannot be more probable to be a feminist bank teller than just a bank teller; violates laws of probability

Availability I

- **Definition:** Overweight information that is readily available and intuitive relative to info that is less salient and more abstract
- Judgments about risk & return based on recent events, not on historical statistics; thereby neglecting the base-rate information
- **Extrapolation bias:** unwarranted extrapolation of past trends in forming forecasts
- Examples: overreaction, winner-loser effect
 - Analysts/investors expect high/low stock returns during bull/bear markets
 - Investors extrapolate short past histories of rapid earnings growth too far into future and overprice this glamour stock
 - Stocks with very high levels of positive press coverage underperformed in the subsequent two years (LexisNexis)
 - <https://www.youtube.com/watch?v=od33LBtXt00>

Availability II

- **Hot hand fallacy:** Imagine you’re the coach of a basketball team. There are 10 seconds left in the game and your team is down by a basket. Your star player, who over the course of his five-year career has made 55% of his shots, is only two for ten on the night, missing several wide-open jump shots. The rookie of your team performs very well tonight and has made his previous ten shots, even though his career shooting percentage is just 45%. To whom would you give the ball for the last shot of the game? Answer: **Star player**.
- **Aversion to ambiguity:** People prefer the familiar to the unfamiliar
- **Familiarity:** People are prone to be excessively optimistic when they feel familiar with a situation
- Examples: home bias; pension plans; online sports betting; artworks at auction; wine auction prices in US and Asia; Marketing 101

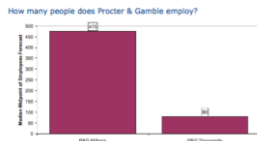
Loss Aversion



Behavioral vs Maths:



Anchoring I



- **Definition:** People form estimate by beginning with initial number and adjusting to reflect new information; however, they tend to make insufficient adjustments relative to that initial number
 - Past prices are likely to act as anchors for today's prices
 - Examples: used car salesman; stock price anchoring on buy-price
 - Investors underreact to new information (*conservatism bias*)
- **Cognitive dissonance:** mental conflict that people experience when they are presented with evidence that their beliefs are wrong
- Once a position has been stated it is very hard to move away from that view; once movement occurs it is only very slow
- Example: analysts tendency to cling tenaciously to a forecast

Affect II

- **Affective memory:** Kida, Smith, and Maletta (AOS, 1998)
- Experienced business executives evaluate 10 firms (in 2 sets of 5) with regard to their attractiveness as potential stock investments
- Each firm described by 10 numerical accounting measures
- 1st set: firm B clearly dominated the other 4 firms
- 1h later: 2nd set of 5 firms to study, no one stood out
- 1h later: executives were asked to choose 1 firm from the combined set of 10, without having the data in front of them
- B selected by 82%, though it was only 3rd best in the combined set
- Positive affective memory trace for firm B carried more weight than the memories of the numerical data

Pick a Number Game

- In May 1997 the Financial Times ran a contest suggested by economist Richard Thaler (Financial Planning: Win a Flight to the U.S. Financial Times, May 10, 1997; see also Thaler, 2000, *JEP* 14, 133- 141). The paper announced that the contest winner would receive two British Airways round-trip "Club class" tickets between London and either New York or Chicago. Readers were told to choose a whole number between 0 and 100.
- The winning entry would be the one closest to two-thirds of the average entry. Which number do you choose?

- The Dow Jones Industrial Average closed on December 31, 2012 at 13,104. As a price index, the Dow does not include reinvested dividends. If the Dow were redefined to reflect the reinvestment of all dividends since May 1896, when it commenced at a value of 40, what would its value have been on December 31, 2012?
- In addition to writing down your best guess, also write down a low guess and a high guess, so that you feel 90 percent confident that the true answer will lie between your low guess and your high guess.

DJIA with dividends as of 12/31/12:
931,587!!

- Overconfidence?

Overconfidence and the stock market

- Investor's overconfidence – 2 main implications
- First, investors take bad bets because they fail to realize that they are at an informational disadvantage
- Second, investors trade more frequently than is prudent, which leads to excessive trading volume
- Overconfidence appears to be a fundamental factor promoting the high volume of trade we observe in speculative markets
- High volume of trades especially during bull markets
- Over-extending bull markets; propagation of speculative bubbles

Scott McNealy

■ CASE STUDY

Gender Approach

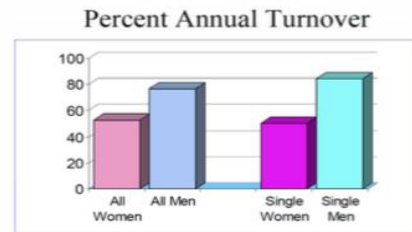
BOYS WILL BE BOYS
Barber and Odean, 2001, *QJE*



Main Findings on Gender Differences

- Females have less risky portfolios; males invest in smaller capitalization stocks than females
- Males and females earn similar gross returns
- Females earn superior net returns, after deducting trading related expenses
- Males trade more frequently: 45% more than females Single men trade 67% more than single women
- Single females show the highest benchmark adjusted returns; better than married females; contagion effect (influenced by their male partners)
- Young single men hold more volatile stocks, trade the most and have the worst performance
- Trading decreases with age

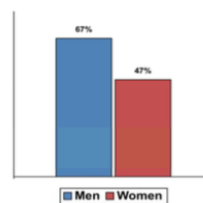
Boys will be Boys!



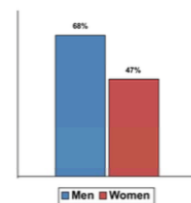
Psychology of Investing

- Some women are socialized from a young age to view money as a man's responsibility; changed over last few decades but still psychologically rooted in many women's heads
- **Boys**
 - Taught to be competitive
 - In later life they often see investing as a sport and making money on
 - their investments as a way of keeping score
- **Girls**
 - Socialized to be cooperative and empathetic
 - If investing is discussed, it is usually in the context of "saving for a rainy day"; money is about protection
 - Investing for some women seems almost like gambling; they don't understand why anyone would want to risk hard-earned money on what looks like nothing more than a lucky bet

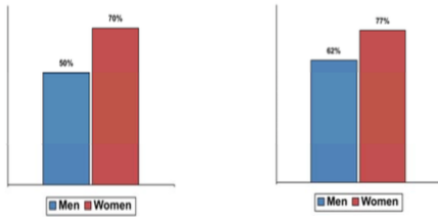
Bought stock without doing research more than once



Ignored tax consequences of an investment decision more than once



More likely to engage an advisor More likely to have a financial plan

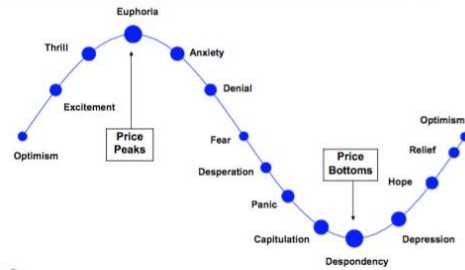


- Women tend to be thorough information gatherers
- Women tend to be more patient; more likely to buy-and-hold
- Women tend to learn from their (investment) mistakes
- Women are more likely to have a financial plan and seek advice



- Barber and Odean, 2002, *RFS*
- 1,607 randomly selected investors that switched from telephone investing (discount broker) to online trading (online broker)
- Before going online:
 - Average portfolio turnover 70%
 - Experienced strong performance: beat the market by 2.4% p.a.
- After going online:
 - Turnover jumped to 120%
 - Underperformed the market by 3.5% p.a.
 - Hang on to losers too long (*disposition effect*)

A Cycle of Investor Emotions Throughout a Price Bubble



- Behavioral Economics: combination of psychology and economics
- Why and how do humans deviate from the standard economic model of utility maximization?
- Bounded rationality* reflects the limited cognitive abilities that constrain human problem solving
- Bounded willpower* captures the fact that people sometimes make choices that are not in their long-run interest

Hyperbolic Discounting III

- Time delay
 - Discount rates decline sharply with length of time to be waited 1 apple today > 2 apples tomorrow
 - 1 apple in 50 days < 2 apples in 51 days
 - \$1000 now > \$1100 in 2 months \$1000 in 10 months < \$1100 in 12 months
- Hyperbolic discounting leads to dynamic inconsistency

Hyperbolic Discounting III



Recommended Literature

- Ritter, J. (2002): "The Biggest Mistakes We Teach", *Journal of Financial Research*, 25(2), 159-168.
- Barber and Odean () "Boys will be Boys"