



Psychology, Risk and Investment

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The standard theory

- **The rational agent of economic theory**
 - has consistent opinions and beliefs**
 - uses all available information**
 - unbiased by emotion, ‘herd’ effects**
 - has coherent preferences**
 - tangible motives (wealth, security)**
 - unaffected by ‘framing’ of problems**

Behavioral Finance

■ Inputs from psychology

Cognitive errors

Emotional factors

■ Our agenda today

Bold forecasts -- errors in judging the odds

Narrow framing of decisions

Loss aversion -- errors in valuing risks

■ Focus on individual investors

.... But experts are not immune

Bold Forecasts—Optimism Bias

■ Rosy view of likely outcomes

Becoming rich and famous

Becoming an alcoholic

Having cancer

■ Exaggeration of skills

80-90% are above median

Driving skill

Sense of humor

Bold Forecasts—Optimism Bias

(continued)

■ Illusion of control

Exaggerate element of skill

Deny the role of chance

■ Optimism about specific choices

Why do people open a restaurant where many restaurants have failed?

Overconfidence

- **Make a HIGH estimate of the exchange rate on 1/1/02**

You should be **99% sure**
that your estimate is too high

- **Make a LOW estimate of the exchange rate on 1/1/02**

You should be **99% sure**
that your estimate is too low

Overconfidence (continued)

- You should be 98% sure that the true value will fall inside your confidence interval
- You should have a probability of 2% that the outcome will be a surprise at the 2% level

Overconfidence (continued)

FACT: massive overconfidence

Often 20% surprises at the 2% level

10-15% surprises when “absolutely sure”

CAUSE: Limited imagination

Surprises occur in many unlikely ways

RESULT: underestimation of uncertainty

Optimistic Overconfidence in the Market

Why do you think YOU can beat the market?

The cost of having ideas (Terry Odean's research)

When an investor sells a stock and immediately buys another:

the stock that is sold does better by 3.5% in the following year

Framing: different ways to think about a decision

- **Different ways to think about cold cuts:**

‘10% fat’ or ‘90% fat-free’

- **People frame their own decisions:** some ways to think about a decision problem are more natural than others

- **Frames vary in breadth:** people often adopt frames that are overly narrow

Framing a financial decision: Gains/losses vs. wealth

■ *would you accept this gamble?*

50% chance to win \$15,000

50% chance to lose \$10,000

■ Now make a crude estimate of your wealth

■ *would you accept this gamble?*

50% chance: your wealth + 15K

50% chance: your wealth - 10K

■ gain/loss frame vs wealth frame

Comparing the frames

■ Which frame is more natural?

we normally think in terms of gain/loss

■ Which frame is more reasonable?

the broader view

■ Effects of the frames

gain/loss frame --- extreme risk aversion

wealth frame --- closer to risk neutrality

The aversion to losses

- **Consider this gamble**

50% to lose \$100 50% to win \$X

- **What X makes the gamble acceptable?**

A common answer: \$200 -- \$250

- *Coefficient of loss aversion is about 2.5*

Another pair of choices

■ **Would you accept this gamble?**

50% to lose \$1000 50% to win \$1500

most people refuse

■ **Would you accept 10 such gambles?**

most people accept

■ **Is this your last risky decision?**

■ **Which frame is broader? more reasonable?**

Loss aversion & narrow framing: the 'disposition effect'

- **Selling stocks:** People tend to hang on to losers, stocks that are now worth less than their purchase price. They tend to sell winners
- **But... taxes**
- **And winners do better in the short run**
- **The moral:** Having different attitudes to winners and losers costs money

“Near-proportional” risk attitudes

- **What is your cash equivalent for (100, .5)?**
- **What is your cash equivalent for (1,000, .5)?**
- **How about (10,000, .50)?**
- **The CE rises almost as fast as the stakes**
 - **Coefficient of loss aversion also stable**
- **Why does this not make sense?**
 - **more small gambles than large ones**

Applications to understanding of market phenomena

■ Two major puzzles:

The equity premium puzzle

The puzzle of overtrading

■ The answers:

“myopic loss aversion”

(Benartzi and Thaler)

Overconfidence of traders (Odean)

Behavioral Theory: The Real Investor

Narrow framing exacerbates two biases

Optimistic bias – **bold forecasts**

Risk aversion – **timid decisions**

(Kahneman and Lovallo, 1993)

Most of what has been said applies to experts

Highly inaccurate and overconfident

Loss averse under supervision

Individuals vs. Organizations

- Organizations are liable to overconfidence
- Not immune to risk errors

But

- Organizations have broader frames
- Organizations have broader attention span

Not a fair contest...

Regret

■ Determinants of regret

Hindsight

Coming close

Commission > omission

■ Effects of regret

Anticipated regret -- conservatism

Unanticipated regret -- not staying the
course

Hindsight

- The inevitability of the past

 - Monday morning quarterbacks

 - Evening-after Dow-Jones geniuses

- Distorting past odds

 - "It was always obvious"

- Distorting your own past beliefs

 - "I always knew it" is no better

- Denying the uncertainty of the past

 - Implications for uncertainty of future

The Pains of a Close Miss

■ Missing a flight

Mr. Tees and Mr. Crane were scheduled to leave the airport on different flights, at the same time. They traveled together from town in the same limousine, were caught in a traffic jam, and arrived at the airport 30 minutes after the scheduled departure time of their flights.

The Pains of a Close Miss (continued)

Mr. Crane is told that his flight left on time

Mr. Tees is told that his flight was delayed,
and just left five minutes ago

Who of them is more upset?

Dollar-cost averaging

Regrets of Omission and Commission

Mr. Paul owned shares in company A. During the past year he considered switching to stocks in company B, but he decided against it. He now finds that he would have been better off by \$20,000 if he had switched to company B.

Mr. George owned shares in company B. During the past year he switched to stocks in company A. He now finds that he would have been better off by \$20,000 if he had kept the stock of company B.

Who is more upset? Mr. Paul Mr. George

Morals About Regret:

- **Less regret from following routine**
- **A little thinking can be bad for you!**

Think enough to inoculate against regret

- **Regret is a real pain**

It is costly, but not irrational, to avoid it

- **The best protection against regret:**

the broad view -- “you win a few...”



Panel + Q&A

Daniel Kahneman

Simon Elimelakh

Michael Vitale

Timothy Devinney