THE BEHAVIORAL BIASES OF INDIVIDUALS

INTRO

TRADITIONAL FINANCE → HOMMO ECONOMICUS

- Perfectly rational
- Has access to all the relevant information
- Process the information perfectly
- As a consequence, always makes rational decisions

BEHAVIORAL FINANCE → KAHNEMAN

- Human answers to logic tests were wrong
- Not only wrong, but also systematically flawed in a predictable way (Biased)

INTRO

https://www2.psych.ubc.ca/~schaller/Psyc590Readings/TverskyKahneman1974.pdf

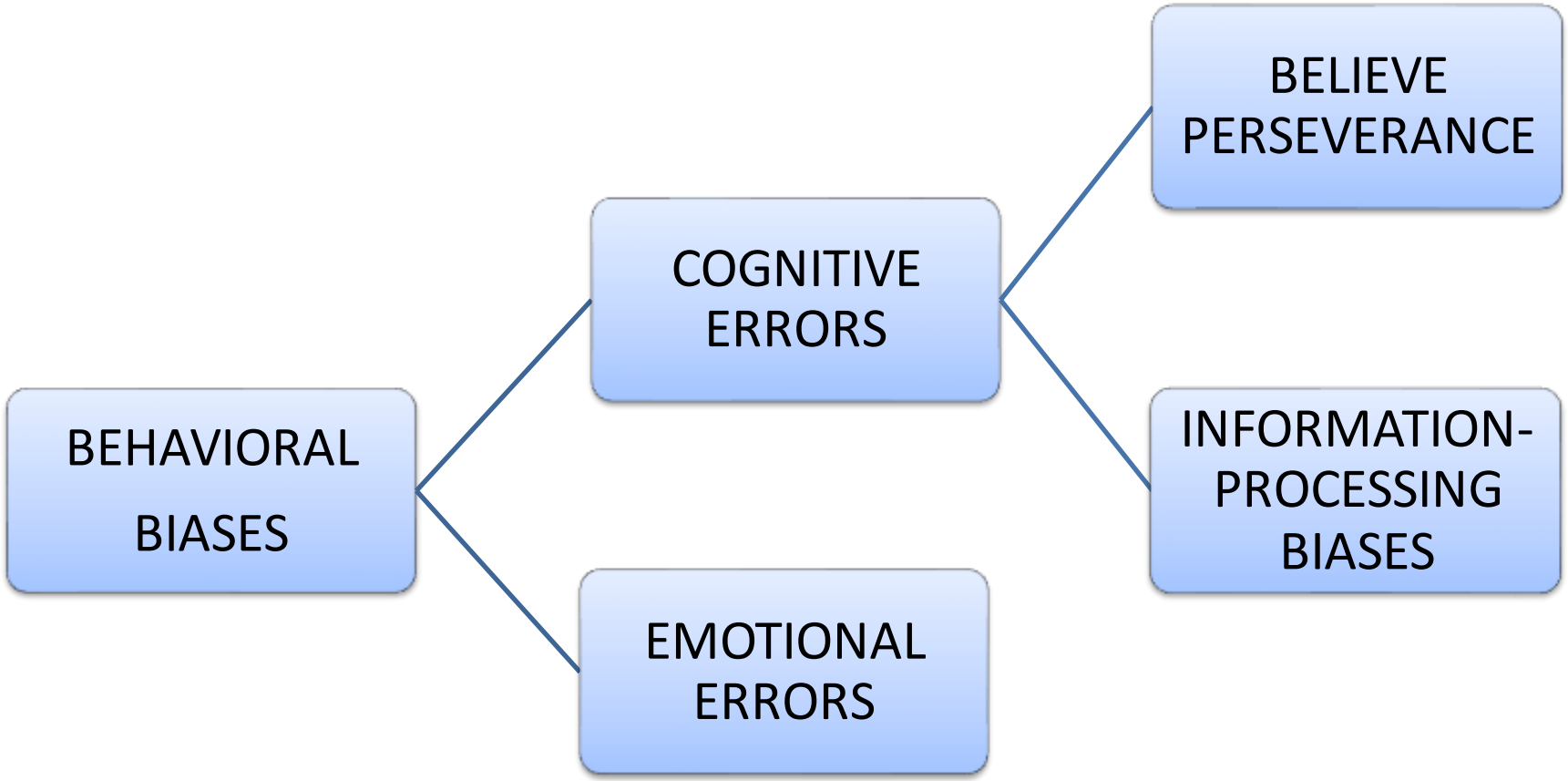
1. Que chorrada. Lo leo, lo entiendo y ya estoy inmunizado. Sólo caen los cortos.

2. Sigo cayendo en los errores. Kahneman también. No hay nada que hacer. Pesimismo.

3. Humildemente acepto el sesgo y mi vulnerabilidad, y lo utilizo a mi favor.

4. Estudio más al respect de algo super potente:
    1. Munger
    2. Cialdini
    3. Bevelin
    4. Mental Models

Compare and contrast cognitive errors and emotional biases



Compare and contrast cognitive errors and emotional biases

① COGNITIVE ERRORS

Main sources:
- **Irrationality:** Not changing your opinion / view / conclusion in spite of evidence of need to do so.
- **Processing errors:** The information used to make decisions in flawed

They can be addressed by:
- increasing the quantity and quality of the information provided
- More and better training

② EMOTIONAL ERRORS

Main sources:
- **Feelings and impulses:** Not raising from conscious though.
- **Intuition:**

Much more difficult to overcome and even mitigate (i.e. Kahmeman interview and subsequent optimism)

① CONTEXT THAT EXPLAINS BIASES EXISTENCE

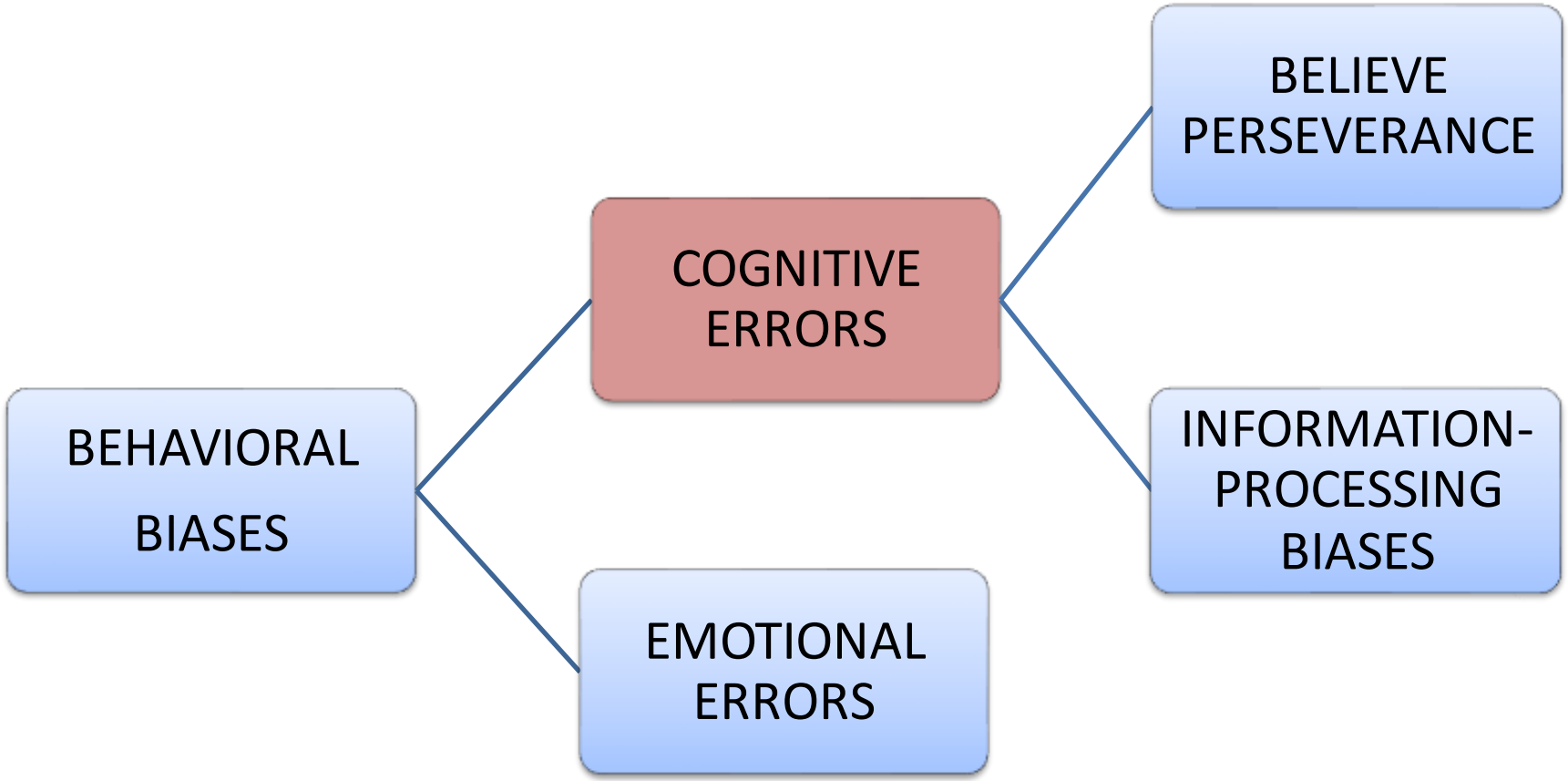
- Energy saving (System I vs System II)
- Evolution
- Complex decision making requires a lot of time and effort. We search shortcuts

② NO ARTIFICIAL SEPARATION

The grouping of biases in categories such as Cognitive vs Emotional should not mislead us.

- Biases oftentimes have elements from both categories
- When facing biases that contain elements from both categories, success in mitigating the biases is more likely if we focus on the cognitive side

Discuss commonly recognized behavioral biases and their implications for financial decision making



COGNITIVE ERRORS

① BELIEVE PERSEVERANCE

Irrational inability to change prior points of views / decisions / opinions, despite having access to all the necessary information.

② INFORMATION PROCESSING BIAS

The process of analyzing the information needed for arriving to a conclusion is flawed.

1. Conservatism Bias:
2. Confirmation Bias:
3. Representativeness Bias:
4. Illusion of control Bias:
5. Hindsight Bias

1. Conservatism Bias:

- An opinion was made in the past based on rational thinking.
- Afterwards new (contradicting) information becomes available
- The individual fails to change its opinion.

Implications for financial decision making:

i. Failure to update prior forecasts after the release of new contradictory information.
ii. Failure to change asset allocation % after changes in economic conditions.
iii. Holding losers too long.

2. Confirmation Bias:

- Seeking information that supports our views, and
- Avoiding information that contradicts our views

Implications for financial decision making:

i. Ignoring negative information while considering positive info only (obvious)
ii. Taylor our decision-making process to support our beliefs (obvious)
iii. Become overconfident about a strongly held belief or idea

Antidote:

Seeking out contradictory information and analysis with contradicting conclussions.
Darwin example.

3. Representativeness Bias: Etiquetado extremo simplificador

- Certain characteristics possessed by the object analyzed are used to include the object within a category.
- Then we tend to think that this object will be much more similar to the other objects in the category than it actually is.

3.1 Base-rate neglect

3.2 Sample-size neglect

Implications for financial decision making:

i. Give too much importance to a few characteristics and oversimplifying our analysis (value vs growth)

3. Representativeness Bias:

3.1 Base-rate neglect

Information given to a group.

A man is shy

Question asked to the Group.

What is his most likely profession. Librarian or salesperson.

Wrong habitual conclusion.

Librarian, since librarians tend to be shy, and salespersons tend to be outgoing.

Error.

We know the person is a man, and shy.

There are few male librarians, and a lot of male salespersons

3.1 Base-rate neglect

50%	**Women**	500
50%	**Men**	500
2%	**Librarian**	10
20%	Outgoing	2
80%	Shy	8
20%	**Salesperson**	100
80%	Outgoing	80
20%	Shy	20

Total Shy Librarians	8	29%
Total Shy Salespersons	20	71%
Total	**28**	

3. Representativeness Bias:

3.2 Sample-size neglect

- Extrapolating the characteristics observed in a small (and hence non-representative) sample to the whole population.

KAHNMEMAN AND TVERSKY EXAMPLE:

- Town with two hospitals. Big one (45 babies born per day) and small one (15 babies per day)
- About 50% of all babies born are male. However the exact percentage varies from day to day
- For a period of a year, each hospital recorded the days on which more than 60% of the babies born were boys.
- Which hospital do you think recorded more such days?

Answers

- Larger Hospital (21)
- Smaller Hospital (21)
- The same (53)

4. Illusion of control Bias:

- The subject believes he can influence or even control the results of something they cannot.

- Oftentimes it appears in tandem with other emotional biases:
  - Illusion of knowledge (believe you things you actually don't know)
  - Self-attribution (believe you were the cause of something to happen when you aren't)
  - Overconfidence

- Example (Ritual ceremonies to affect the weather)

Implications for financial decision making:

i. Inadequate diversification and/or invest too heavily in the stock of the company where they work.

5. Hindsight Bias:

- The individual tends to see things (that have already happened) as more predictable then they really were, as a consequence of:
  - Selective memory of past events
  - Only remembering what was knowable
- It is common knowledge that people tend to remember their accurate predictions and forget the inaccurate ones.
- We only "observe" the outcomes that actually occurred but didn't observe the ones that didn't occur but may have occurred.

5. Hindsight Bias:

- Three main errors causing hindsight biases:
  I. Distortion of predictions made in the past by thinking that they knew the outcome that will happen when they started their process.
  II. Events that have already occurred are deemed to be inevitable.
  III. Unpredictable events are thought by participants as foreseable .

Implications for financial decision making:

i. Overconfidence in your forecasting capacity.

1. Anchoring and Adjustment Bias:

2. Mental Accounting Bias:

3. Framing Bias:

4. Availability Bias:

1. Anchoring and Adjustment Bias:

- Analyzing and reaching conclusions conditioned by the starting reference point.
- A prior number that you have in mind is the reference, and you assign too much importance to this number, making adjustment in relation to that number when we information arrives.
- We start from the anchor and afterwards adjust (insufficient adjustment)

ANCHORING AND ADJUSTMENT EXAMPLE I book:

i. EPS guidance based upon EPS prior year +-
ii. Budget based upon prior year figures. 3G from scratch budgeting
iii. Taxi drivers in NY.
    - Daily cash in reference.
    - Rainy days more business.
    - They work more on sunny days, in order to catch up with their reference, when what it makes sense is working harder on rainy days

ANCHORING AND ADJUSTMENT KAHNMEMAN AND TVERSKY EXAMPLE II:

- Question: Percentage of African Countries in the United Nations
- Initial quantity stablished spinning a wheel in the presence of the subjects.
- Answers:
    - 25% median for Groups that received an initial value of 10.
    - 45% median for Groups that received an initial value of 65.

2. Mental Accounting Bias:

- Not thinking about your investments in a wholistic manner, with a portfolio approach, but thinking in buckets:
  - My home
  - My "safe" investments for retirement
  - My risky investments for gains.

Examples:

i. Unexpected bonus to very risky ventures, since I didn't expect it.
ii. Inheritance in zero-risk investments to respect that it was gained by the effort of my dad.

3. Framing Bias:

- The outcome of decisions is affected by the way the information is presented.
- That is to say, the same problem with the same information, when the information is presented in two different ways, you decide differently

3. Framing Bias:

Example:

- A new disease threatens our region and will kill 600 people.

Positive Framing of options

- Project A: Save 200 people.
- Project B: 33% probability of saving all the 600 people, and 66% probability of no one saved

People tend to choose A

Negative Framing of options

- Project A: 400 people die.
- Project B: 33% probability that nobody will die, and 66% that 600 will die

People tend to choose B

4. Availability Bias:

- Placing much more importance / weight in information that:
  - It is easy to remember.
  - Easily available
  - Based on personal experience or personal knowledge

- As a consequence, we deem more likely the things that we recall easier (ie: beware of media).
- Therefore, recent events are overweighted (ie: Policy insurance after disaster).

Examples:

i. Question ? There are more words that start with r, or that have an r in the third place?
ii. Reasoning.
    i. I think of words that start with r and easily remember 4 or 5.
    ii. I think of words that start have an r at the third place, and struggle.
    iii. I jump to the conclusion that there are more that start with r.
iii. Reality, 3 times as much words with r at the third place

AVAILABILITY KAHNMEMAN AND TVERSKY EXAMPLE:

- Two groups are shown photos of men and women (50% men ; 50% women).
- They are asked afterwards, whether they were more men or more women in the sample of pictures show.
- Group A received photos of men that are famous.
- Group B received photos of women that are famous.

- Answers:
  - Group A stated that there were more men in the sample.

  - Group A stated that there were more women in the sample.

EMOTIONAL BIASES

1. LOSS AVERSION BIAS
2. OVERCONFIDENCE BIAS
3. SELF CONTROL BIAS:
4. STATUS QUO BIAS
5. ENDOWMENT BIAS:
6. REGRET AVERSION BIAS

1. LOSS AVERSION:

- Suffering more pain from a loss than please from an equivalent gain.

Examples:

i. The subject is given 10 $ and the two following options
   i. A 5$ guaranteed gain
   ii. Flip a fair coin and if heads he wins 10$ and if tails 0$

ii. The subject is given 20 $ and the two following options:
   i. A 5$ guaranteed loss
   ii. Flip a fair coin and if heads he losses 10$ and if tails he losses 0$

In the first instance we tend to choose option i, and in the second, option ii. The four options have the same expected value of $15. Moreover, option i in both the A and B examples have identical payoffs, and we change our option.

2. OVERCONFIDENCE BIAS:

- We overestimate our own capabilities (ie. Drivers in Sweeden).

- Consequences:
  - Illusion of knowledge
  - Self-attribution bias
  - Prediction Overconfidence

- It is true that overconfidence is both emotional and cognitive. However, it is more emotional and the emotional component is much harder to overcome. The emotional side is deeply rooted in our desire to feel good.

Implications for financial decision making:

i. Investors underestimating risk, overestimating potential return, and ending with a portfolio that lacks diversification.

3. SELF-CONTROL BIAS:

- We tend to lack the self-discipline needed to achieve long-term goals. Long term goals oftentimes require short-term sacrifices. This needs self-control.

Implications for financial decision making:

i. Investors ending up with insufficient savings to live when retired.
ii. As a consequence, investors enter into excessive risks during the last years of professional life to offset this lack of savings.
iii. Excessive allocation to income generating asset classes in order to satisfy short term needs.

Antidotes

i. Establishing an appropriate investment plan and a budget with clear milestones that are reviewed on a regular basis

4. STATUS-QUO BIAS:

- Tendency towards the avoidance of change and preferring things as they are.

Examples:

i. Companies have found that if the default option is the enrollment of employees into retirement savings plans, savings skyrocket.
ii. Internet (option of free advertising automatically checked)

5. ENDOWMENT BIAS:

- The asset value is perceived to be superior than it actually is, because it is already owned.
- Common with inherited assets

Examples:

i. Studies asking a person who already own an asset about the minimum selling price and maximum buying price, and observing the discrepancy (with a selling price above the buying price).

Implications for financial decision making:

i. Not selling assets that should be should since they are no longer appropriate.
ii. Hold assets only because they provide a sense of comfort of familiarity

6. REGRET-AVERSION BIAS:

- Inaction derived from the excess of fear from making a mistake.
- Placing too much importance in the errors of commission and not enough in errors of omission.

Herding Behavior:

i. Do what the majority or the consensus does, thinking that if we are all wrong, I wont feel regret.

Implications for financial decision making:

i. Excess conservatism in the construction of the portfolio. (avoiding risky assets altogether).

Describe how behavioral biases of investors can lead to market characteristics that may not be explained by traditional finance

- LOS muy confuso, desorganizado, y complicando una idea simple.
- El mercado muestra claras ineficiencias en momentos concretos del tiempo, derivado de la naturaleza humana.
- Les revienta decirlo, porque venden muchos libros y MBAs con la teoría Eficiente de Mercado. (Samuelson, Krugman, Stigliz y demás gentuza)

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- **Anomalies** (result that do not conform with the Efficient Market Hypothesis)

- **Inefficiencies**: actual possibilities of generating alpha
  - Value / Growth Anomaly: Low P to Book, low P to E, high dividend yield stocks, have outperformed.

  - Halo Effect for explaining Value vs Growth overperformance. The good characteristics of the company drives agents to think that they are a good investment leading to overvaluation.

- **Fama and French** "demonstrated" that taking into consideration the additional risk (size and book to market), the alpha was eliminated.

- **Bubbles and crushes:** Impossible to deny. How we explain it from a rational perspective?
  - Possibility of missing returns from selling before the maximum, when you realize you are in a bubble, and sell before→ Rational investor
  - Possibility of missing returns from arbitrage opportunities, when you realize you are in a bubble, due to the willingness to avoid the risk of shortselling when the market can still go up→ Rational investor

Describe how behavioral biases of investors can lead to market characteristics that may not be explained by traditional

While behavioral finance does not provide an overall explanation of bubbles some have claimed that cognitive and emotional biases exhibited during such periods may have some causal effects:

- **Overconfidence** (Real Estate prices always go up → excess trading, underestimating risks, and lack of diversification)
- **Self-Attribution and Hindsight Bias** (Fueling Overconfidence→ I choose the winner. All is going up fool)
- **Confirmation Bias** (Ignore contradictory information that may indicate the assets are overvalued)
- **Anchoring** (Compare current prices with recent highs deemed the highs as reference points while they are overvalued points)
- **Fear or Regret** (No vendo que me pierdo la fiesta)

Home bias: Investors tendency to overinvest in companies of their own country. Why:

- Familiarity (endowment)
- They think they have better access to information
- Emotional biases

Beware of the common situation of investors underestimating the risks of firms whose products they use or firms with a lot of positive marketing