



Logic, Emotion & the Investor's Dilemma

The Psychology of Investing

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About the Presenter



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Former Wall Street executive: Managed a top-decile billion-dollar bond portfolio and helped institutions maximize risk-adjusted returns



Specializes in **behavioral finance coaching**, **legacy planning**, and applying data-driven strategies to reduce emotional drag on investment performance



Co-author of *The Caregivers Advocate* and frequent podcast guest on topics including behavioral investing and decision science



Passionate about helping high-achieving professionals understand **not just what to do with their money—but why they do it**

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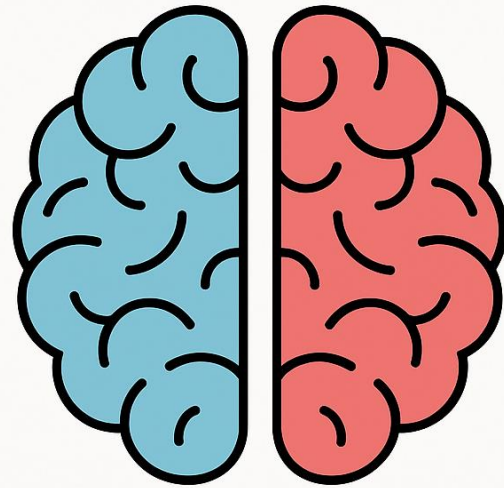


The Science Behind Our Decisions

We Like to Think We're Rational



But our brains are wired differently...



LOGIC

slow,
deliberate

EMOTION

fast,
intuitive



Reference: Daniel Kahneman's *System 1 & System 2*

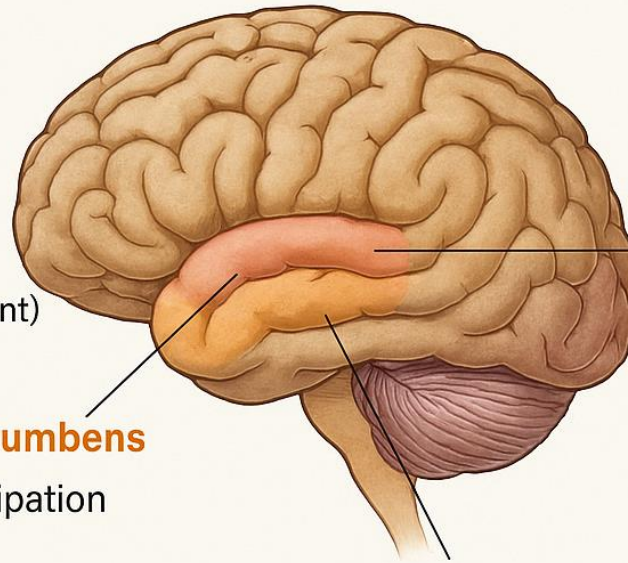
What Happens in the Brain When Money Is Involved?

Amygdala

Emotional
processing
center
(fear, excitement)

Nucleus accumbens

Reward anticipation



Prefrontal cortex

Often bypassed
when decisions
are emotionally
charged

Money activates the same reward
pathways as food, sex, and cocaine

Even Smart Investors have Blind Spots

Behavioral finance helps explain why smart, educated people make emotionally influenced investment choices.

It's not about stupidity—it's about wiring: our brains default to emotional shortcuts when stakes feel high.

Over 180 known cognitive and emotional biases shape decisions under stress or uncertainty.

The DALBAR study shows that investor behavior—not market performance—is the biggest drag on returns.

Over 30 years, the average equity fund investor earned ~6.81% annually

The S&P 500 returned ~10.65% annually over the same period

Biases in Action



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£ sunk cost fallacy

You irrationally cling to things that have already cost you something.
When we invest our time, money, or emotion into something it hurts us to let it go. This aversion to pain can distort our better judgment and cause us to make unwise investments.
To regain objectivity, ask yourself: had I not already invested something, would I still do so now? What would I counsel a friend to do if they were in the same situation?

Δ dunning-kruger effect

The more you know, the less confident you're likely to be.
Because experts know just how much they don't know, they tend to underestimate their ability, but it's easy to be over-confident when you have only a simple idea of how things are.
"The whole problem with the world is that fools and fanatics are so certain of themselves, yet wiser people so full of doubts."
- Bertrand Russell

✂ barnum effect

You see personal specifics in vague statements by filling in the gaps.
Because our minds are given to making connections, it's easy for us to take nebulous statements and find ways to interpret them so that they seem specific and personal.
Psychics, astrologers and others use this bias to make it seem like they're telling you something relevant. Consider how things might be interpreted to apply to anyone, not just you.

□ framing effect

You allow yourself to be unduly influenced by context and delivery.
We all like to think that we think independently, but the truth is that all of us are, in fact, influenced by delivery, framing and subtle cues. This is why the ad industry is a thing, despite almost everyone believing they're not affected by advertising messages.
Only when we have the intellectual humility to accept the fact that we can be manipulated, can we hope to limit how much we are. Try to be mindful of how things are being put to you.

👥 in-group bias

You unfairly favor those who belong to your group.
We presume that we're fair and impartial, but the truth is that we automatically favor those who are most like us, or belong to our groups.
Try to imagine yourself in the position of those in out-groups, whilst also attempting to be dispassionate when judging those who belong to your in-groups.

👁 fundamental attribution error

You judge others on their character, but your other judgments of them.
If you haven't had a good night's sleep, you know why you're being a bit slow, but if you observe someone else being slow you don't have such knowledge and so might presume them to just be a slow person.
It's not only kind to view others' situations with charity, it's more objective too. Be mindful to also err on the side of taking personal responsibility rather than justifying and blaming.

💊 placebo effect

You presume someone else is taking medicine it can sometimes 'work' even if it's fake.
The placebo effect can work for stuff that our mind influences (such as pain) but not so much for things like viruses or broken bones. Homeopathy, acupuncture, and many other forms of natural 'medicine' have been proven to be no more effective than placebo. Keep a healthy body and bank balance by using evidence-based medicine from a qualified doctor.

👁 halo effect

How much you like someone, influences your other judgments of them.
Our judgments are associative and automatic, and so if we want to be objective we need to consciously control for irrelevant influences. This is especially important in a professional setting. We're all affected by cultural and personal prejudices. It's only through becoming aware of them that we can mitigate their effects.

🚪 bystander effect

You presume someone else is going to do something in an emergency situation.
When we feel our liberty is being constrained, our inclination is to resist, however in doing so we can over-compensate. Be careful not to lose objectivity when someone is being coercive/manipulative, or trying to force you do something. If there's an emergency situation, presume to be the one who will help or call for help. Be the change you want to see in the world.

🧠 availability heuristic

Your judgments are influenced by what springs most easily to mind.
How recent, emotionally powerful, or unusual your memories are can make them seem more relevant. This, in turn, can cause you to apply them too readily.
Try to gain different perspectives and relevant statistical information rather than relying purely on first judgments and emotive influences.

🙏 belief bias

If a conclusion supports your existing beliefs, you'll rationalize anything that supports it.
It's difficult for us to set aside our existing beliefs to consider the true merits of an argument. In practice this means that our ideas become impervious to criticism, and are perpetually reinforced.
A useful thing to ask is 'when and how did I get this belief?' We tend to automatically defend our ideas without ever really questioning them.

🐑 groupthink

You let the social dynamics of a group situation override the best outcomes.
Dissent can be uncomfortable and dangerous to one's social standing, and so often the most confident or first voice will determine group decisions.
Rather than openly contradicting others, seek to facilitate objective means of evaluation and critical thinking practices as a group activity.

😊 optimism bias

You overestimate the likelihood of positive outcomes.
There can be benefits to a positive attitude, but it's unwise to allow such an attitude to adversely affect our ability to make rational judgments (they're not mutually exclusive).
If you make rational, realistic judgments you'll have a lot more to feel positive about.

🚫 reactance

You'd rather do the opposite of what someone is trying to make you do.
When we feel our liberty is being constrained, our inclination is to resist, however in doing so we can over-compensate. Be careful not to lose objectivity when someone is being coercive/manipulative, or trying to force you do something. Wisdom springs from reflection, folly from reaction.

📖 curse of knowledge

Once you understand something you presume it to be obvious to everyone.
Things make sense once they make sense, so it can be hard to remember why they didn't. We build complex networks of understanding and forget how intricate the path to our available knowledge really is.
When teaching someone something new, go slow and explain like they're ten years old (without being patronizing). Repeat key points and facilitate active practice to help embed knowledge.

🏠 self-serving bias

You believe your failures are due to external factors, yet you're personally responsible for your successes.
Many of us enjoy unearned privileges, luck and advantages that others do not. It's easy to tell ourselves that we deserve these things, whilst blaming circumstances when things don't go our way.
When judging others, be mindful of how this bias interacts with the just-world hypothesis, fundamental attribution error, and the in-group bias.

⊖ negativity bias

You allow negative things to disproportionately influence your thinking.
The pain of loss and hurt are felt more keenly and persistently than the fleeting gratification of pleasant things. We are primed for survival, and our aversion to pain can distort our judgment for a modern world.
Pro-and-con lists, as well as thinking in terms of probabilities, can help you evaluate things more objectively than relying on a cognitive impression.

😞 pessimism bias

You overestimate the likelihood of negative outcomes.
Pessimism is often a defense mechanism against disappointment, or it can be the result of depression and anxiety disorders.
Perhaps the worst aspect of pessimism is that even if something good happens, you'll probably feel pessimistic about it anyway.

👁 spotlight effect

You overestimate how much people notice how you look and act.
Most people are much more concerned about themselves than they are about you. Absent overt prejudices, people generally want to like and get along with you as it gives them validation too.
Instead of worrying about how you're being judged, consider how you make others feel. They'll remember this much more, and you'll make the world a better place.

You shalt not suffer cognitive biases

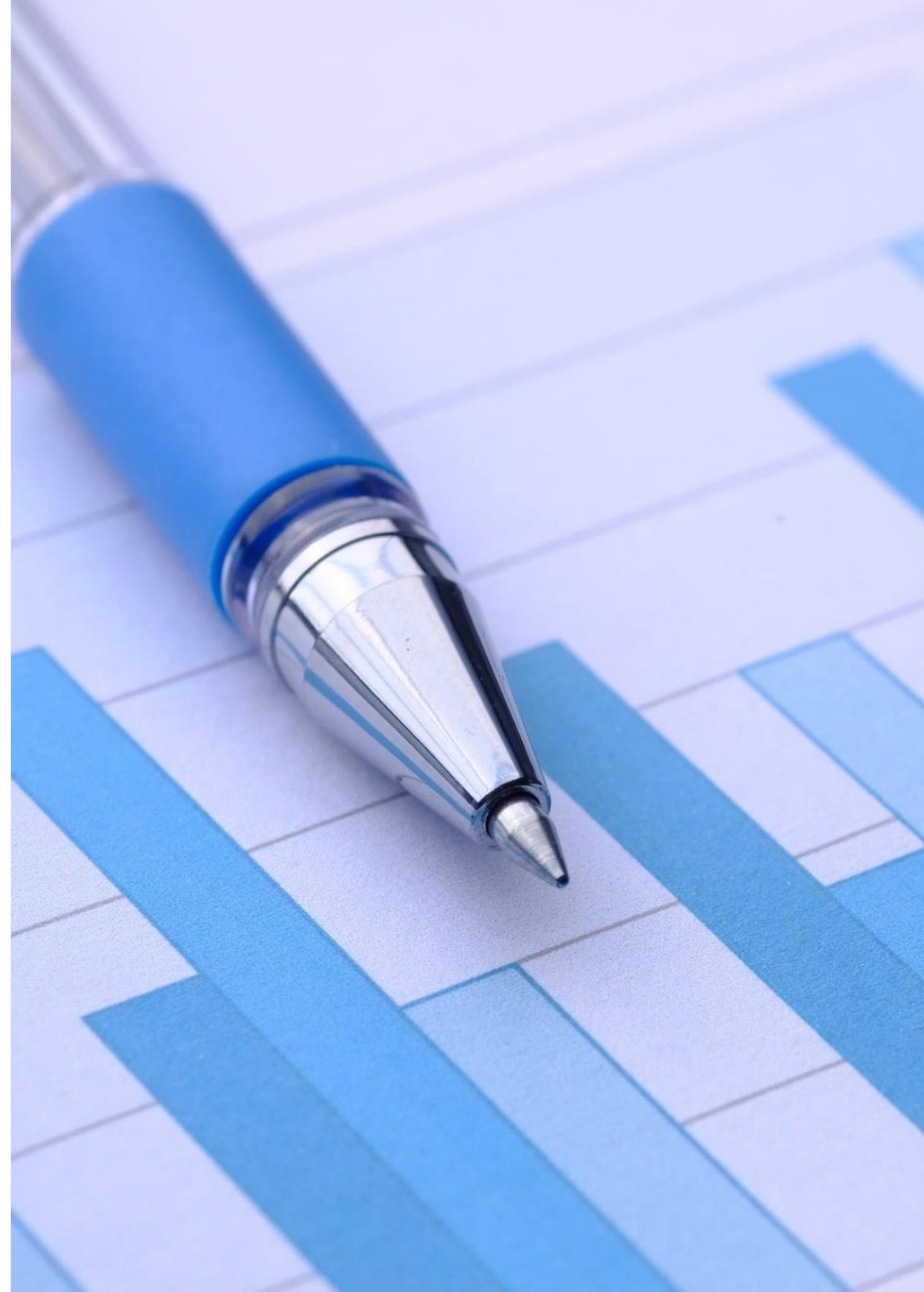
...make our judgments irrational. We have evolved to use shortcuts in our thinking, which are often useful, but a cognitive bias means there's a kind of misfiring going on causing us to lose objectivity. This poster has been designed to help you identify some of the most common biases and how to avoid falling victim to them. Help people become aware of their biases generally by sharing the website yourbias.is or more specifically e.g. yourbias.is/confirmation-bias

This poster is published under a Creative Commons BY-NC-ND license 2020 by Jesse Richardson. You are free to print and redistribute this artwork non-commercially with the binding proviso that you reproduce it in full so that others may share alike. To learn more about biases you should read the books 'Thinking, Fast and Slow' and 'You Are Not So Smart'.

Free to download from thethinkingshop.org

Investment Framing Experiment – Scenario A

- Imagine your portfolio is down significantly in a volatile market.
- You are given two options:
 - Option 1: You are guaranteed to recover 60% of your losses.
 - Option 2: You have a 70% chance of recovering all losses, and a 30% chance of recovering nothing.
- Which option would you choose?



Investment Framing Experiment – Scenario B



- Same portfolio, same downturn—but the scenario is described differently.
- You are given two new options:
 - Option 3: You are guaranteed to lose 40% of your money.
 - Option 4: You have a 30% chance of losing everything, and a 70% chance of losing nothing.
- Which option would you choose?

Same Math. Different Mindset.



Both scenarios are mathematically equivalent.



Yet depending on whether the scenario was framed as a gain or a loss, people made different choices.



When gains are possible, we prefer certainty (risk-averse).



When losses loom, we take risks (risk-seeking).



This is the Framing Effect—and you can see it in how structured products like buffered ETFs are marketed and chosen.

Buffered ETFs: Framing for Two Mindsets

■ Certainty-Seeker Framing:

- Protects you from the first 10% of market losses.
- You still get market growth—up to a defined cap.
- Minimize regret. Sleep better. Reduce volatility.

■ Risk-Taker Framing:

- Get market exposure with a built-in floor—your launchpad is protected.
- Aggressive upside participation—without unlimited downside.
- Tactical tool. Smarter risk-taking. Play offense without burning out.

Anchoring Bias: Salary Negotiation Experiment

- Two groups of job candidates were asked to negotiate salary for the same role:
 - ▶ Group A was told: 'Typical starting salary is \$75,000.'
 - ▶ Group B was told: 'Typical starting salary is \$150,000.'
- ? Who negotiated a higher salary?
- 📊 Result: Group B consistently anchored higher—even though qualifications and roles were identical.
- 📖 Source: Kristensen, H., & Gärling, T. (1997). 'The Effects of Anchor Points on the Valuation of Real Estate.' *Journal of Economic Psychology*, 18(4), 407–417.



Anchoring Bias in Action: Stock Holding

Imagine you bought a stock at \$100.

It's now trading at \$85, and the company's fundamentals have deteriorated.

You hesitate to sell—anchoring on your original purchase price.

You think, 'I'll wait until it gets back to \$100.'



Anchoring bias prevents rational decision-making.



Result: You hold a poor investment based on a past reference point, not current data.



Loss Aversion: The Coin Flip Experiment

- You're offered a coin flip:
 - ▶ Heads: You win \$1.00
 - ▶ Tails: You lose \$0,50
- ? Do you take the bet?



Loss Aversion: The Coin Flip Experiment

- You're offered a coin flip:
 - ► Heads: You win \$100
 - ► Tails: You lose \$50
- ? Do you take the bet?
- Most people say NO—even though the expected value is positive.
- 🧠 Losses hurt ****twice as much**** as gains feel good.
- 📖 Source: Kahneman & Tversky (1979), Prospect Theory: An Analysis of Decision under Risk



Overconfidence Bias: But What If We *Are* Better Than Average?

In most studies, 70–90% of people say they're above average drivers or investors.

That's mathematically impossible — *in the general population*.

📖 Svenson, O. (1981). *Are we all less risky and more skillful than our fellow drivers?*

Acta Psychologica.

But what if we're asking a room full of professionals?

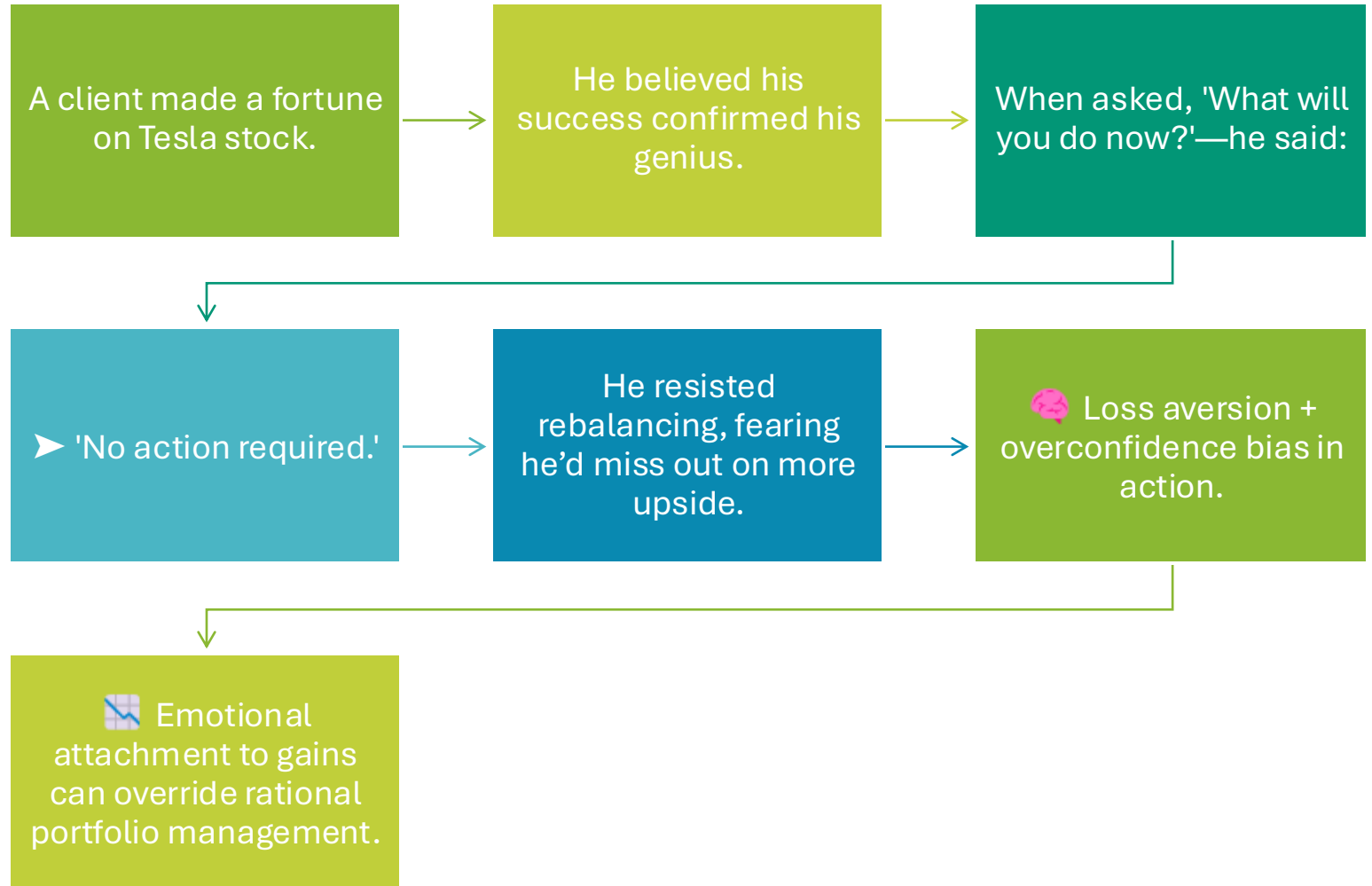
Maybe everyone here *is* more skilled or informed.

Even then, overconfidence bias can distort behavior:

- ▶ Overtrading
- ▶ Underestimating risk
- ▶ Believing we're less prone to error than others

🧠 Skill ≠ Immunity to Bias

Loss Aversion in Action: The Tesla Story



Confirmation Bias Experiment



You've just invested in Stock A. Now you go online to do more 'research.'

Which headline are you most likely to click?

- A) Analyst: Stock A is Undervalued by 40%
- B) Analyst: Stock A Faces Regulatory Risks
- C) Stock A: No Clear Consensus from Analysts

Most people choose A — it confirms what they already believe.

That's confirmation bias in action.

What is Confirmation Bias?

▶ We seek, interpret, and remember information that supports our beliefs.

▶ We ignore, dismiss, or undervalue opposing evidence.

▶ The smarter and more analytical we are, the more skilled we become at defending our beliefs — not questioning them.

Confirmation bias is especially dangerous in investing:

- Reinforces poor decisions

- Increases portfolio concentration

- Reduces openness to changing market conditions



Investor heavily allocated to cryptocurrency.

Behavior:

- Follows only bullish influencers on social media
- Reads news confirming long-term upside
- Ignores macroeconomic or regulatory risks

When a correction comes, they're unprepared — not because the signals weren't there, but because their information lens was filtered.

Confirmation bias created a feedback loop of false confidence.

Case Study: The Crypto Echo Chamber



Hindsight Bias Experiment: Live Scenario

It's Q3 2025. The dollar has dropped 10% amid tariff threats.

Oil is up 11% following escalations in the Middle East.

What do you predict next?

- A) The dollar continues falling
- B) It stabilizes
- C) It rebounds significantly

How confident are you in your answer?

When the outcome is known, will you say: 'I saw it coming'?

That's hindsight bias at work.



What is Hindsight Bias?

- ▶ We believe events were predictable after they happen.
- ▶ 'I knew it all along' becomes the default memory.
- ▶ But we forget how uncertain the moment felt in real time.

In investing, hindsight bias:

- Distorts learning from outcomes
- Reinforces false confidence
- Leads to overfitting or poor post-mortem analysis

Hindsight Bias Can Sound Like Discipline — But It's Not Always

Investors often say: 'Markets always recover. I just ride it out.'

That *sounds* like long-term thinking.

But it can also be hindsight bias — remembering only the rebounds and forgetting the risk.

What gets missed:

- Opportunity to rebalance into new leadership
- Preparing for *different* types of downturns
- Managing sequence risk in pre-retirement phase

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Scenario 1:

You've booked a \$200 ticket to a concert. When you arrive, you realize you've lost the ticket.

💡 Do you buy another one?

Scenario 2:

You didn't buy a ticket yet, but you arrive and realize you lost \$200 in cash.

💡 Do you still buy the ticket now?

Behavioral Insight:

Even though the financial loss is the same, people treat the 'lost ticket' and 'lost cash' differently.

They mentally account for the ticket loss as part of the entertainment budget — and hesitate to spend again.

This experiment has been replicated in multiple behavioral studies.

Mental Accounting: Would You Choose Differently?

Why Mental Buckets Hurt Performance



- Money is fungible — but we treat it emotionally
- 'Safe money' and 'play money' lead to inconsistent strategy
- Mental separation of accounts causes poor asset allocation
- Investors often take too much risk in one account and too little in another
- The result: missed opportunities and misaligned portfolios

Real-World Example: Treating Roth IRAs Like a Casino



Scenario A:

‘It’s tax-free forever — might as well swing for the fences!’

- Overconcentration in volatile growth stocks
- Portfolio doesn’t reflect overall risk tolerance

Scenario B:

‘It’s my only guaranteed account — I can’t afford to lose it.’

- Keeping 100% in cash while other accounts are aggressive

💡 Same investor. Same financial goals. Different mental accounts driving conflicting behavior.

Narrative Fallacy Experiment: Story vs. Data



In a behavioral study, participants heard two investment pitches:

Pitch A – The Story:


- Visionary CEO
- Disruptive mission
- Viral media buzz

Pitch B – The Data:


- 10% - 20% P/E ratio
- Consistent earnings
- Modest , stable growth

 Result:

Most participants favored Pitch A—despite Pitch B showing better fundamentals.

 Insight:

Narrative fallacy: A compelling story can outweigh objective data in investor decision-making.

 Source: Nofsinger, J.R. (2005). 'Social Mood and Financial Economics.' Journal of Behavioral Finance.

Why We Fall for Narrative Fallacy

- Stories simplify complexity and create emotional coherence
- We remember narratives better than raw data
- Great stories create conviction that can override risk discipline

🔍 Outcome: Investors chase themes with weak fundamentals, overconcentrate positions, or ignore warning signs.



Narrative Fallacy: The Power of a Good Story



Case Study: Theranos

- Visionary founder with a compelling backstory
- Bold promise to revolutionize healthcare
- Heavy media attention and influential investors
- But: No peer-reviewed studies, secretive data, unreliable technology

Insight:

- Investors and the public overlooked the lack of evidence because the narrative was so compelling.

Source:

- Carreyrou, J. *Bad Blood: Secrets and Lies in a Silicon Valley Startup*
- SEC Case: United States Securities and Exchange Commission v. Elizabeth Holmes et al., 2018


Do We Really Control What We Think We Do?

- In Langer's classic 1975 study, participants could either choose their own lottery ticket or be given one randomly.

They were then offered the chance to sell it back before the draw.

Result:

- Those who chose their own numbers demanded nearly 4× more to let it go.
- Even though both tickets had identical odds.

 Reference: Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32(2), 311–328.

Retirees often resist handing off control of portfolios or business decisions.

Bias at Work: Illusion of Control


- We overestimate our ability to influence outcomes in uncertain environments.
- Especially true for investors with a long history of success.

📌 Behavioral finance insight: The more experience we have, the harder it is to let go—even when it's no longer rational.

Why We Hold On Too Long



Illusion of Control in Action

-  ****What Happened:****

Enron was once hailed as a Wall Street darling. Many investors — especially employees — believed they understood the business and were in control of their investment risks.

-  ****Behavioral Insight:****

This is a classic example of the **illusion of control**. Investors ignored opaque financials and held onto highly concentrated positions in Enron stock, assuming familiarity equaled safety.

-  ****Outcome:****

When the fraud unraveled, the stock collapsed. Many employees lost not only their savings but also their jobs — highlighting the dangers of overconfidence and lack of diversification.

-  ****Lesson for Investors:****

The more familiar we are with an investment, the more we **think** we control the outcome. True control comes from risk management, diversification, and recognizing our limits.

Bias Doesn't Retire — It Just Gets Quieter (and Sneakier)



In retirement, the pace of financial decisions may slow — but behavioral biases persist.



They often show up as delays, habits, or rationalizations, not rash decisions.



Examples of how biases evolve:



– “I’ll revisit my estate plan next year.” → Status quo bias; avoidance of mortality.



– “This stock has served me well for years — no need to change.” → Anchoring and familiarity bias.



– “I’ve got time before I really need to worry about RMDs.” → Present bias and overconfidence.

What Happens When Bias Meets Real Life... in Retirement





Behavioral Self-Audits for Retirees

- Is my investment strategy aligned with today's reality, or yesterday's prices? (Anchoring)
- Am I holding on to control or assets longer than is healthy? (Illusion of control, loss aversion)
- Who will step in if I can't? And do they know my plan? (Status quo bias, procrastination)

What Can We
Do?



Are We Hardwired to Fail?

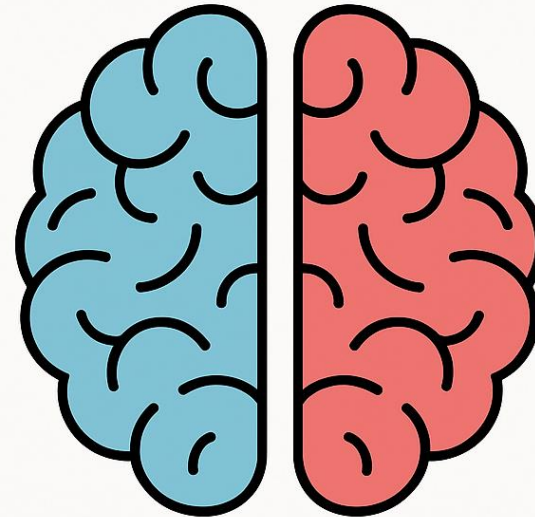
- We're not irrational — we're predictably human.
- Behavioral biases are normal and unavoidable.
- But awareness gives us tools to manage our reactions.
- Knowing how our minds work is the first step to protecting our portfolios.



How to Counter Your Instincts (Without Overhauling Your Brain)

- ✓ Pause before reacting — create distance between emotion and action.
- ✓ Use written rules — define your strategy before markets test your discipline.
- ✓ Automate execution — use tools like auto-rebalancing or scheduled withdrawals.
- ✓ Diversify your perspectives — challenge your views before you trade.
- ✓ Pre-mortem your decisions — ask: 'What would have to be true for this to fail?'
- ✓ Track your thinking — journal why you acted and revisit when markets shift.

But our brains are wired differently...



LOGIC
slow,
deliberate

EMOTION
fast,
intuitive

Know Thyself: Protect Your Legacy

- You've done the hard work to build your financial foundation
- Behavioral finance isn't about removing emotion.
- It's about building systems that work with your psychology.
- The more self-aware you are, the better your decisions will be.

