PIMCO

PIMCO EDUCATION

Know Your Own Mind:

WHAT DRIVES INVESTMENT DECISIONS

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Factoring in the Human Factor

We make decisions all day long. Some are minor, like where to stop for coffee, but others, like where to invest your money, can have significant consequences. Behavioral science tells us that our decision-making process often relies on mental shortcuts (heuristics) and intuition – tools that support us when we are constrained by factors such as time, information, capacity and attention. While these tools can be beneficial, they can also lead to unconscious biases and predictable mistakes.

This booklet is designed to help you understand the behavioral forces influencing your financial decisions and how a professional financial advisor can help you recognize and counter the most common biases and errors, making it easier for you to stay on track towards your investment goals.

Know your mind...

Understanding your own biases can help you make more rational decisions. The quiz at the end of this booklet will assess your attitude toward risk and reward, which can influence when and why you buy and sell investments.

What are Heuristics and Biases?

Classical economic theories assume that investors are rational – that we take in all the available information, consider the probable outcomes, and choose the best option. But, behavioral science studies have shown that numerous factors affect our decision-making, often leading us to behave in ways that do not maximize our well-being.

Specifically, heuristics and biases play a central role in judgment and decision-making. Heuristics are mental shortcuts, such as a rule of thumb, an educated guess, or intuitive judgment. While these shortcuts can be beneficial in our fast-paced world, they can give rise to behavioral biases. Biases favor speed and ease at the expense of effort and accuracy, often leading to predictable mistakes.

Read on to learn about some of the most common biases impacting financial decisions and how a professional financial advisor can help you put behavioral guardrails in place to mitigate these biases.

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To err is human.
One way for humans to make better decisions is to become alert to the most common errors.

Richard Thaler

Charles R. Walgreen Distinguished Service Professor of Behavioral Science and Economics at the University of Chicago Booth School of Business and Senior Advisor on Retirement and Behavioral Economics at PIMCO.

2017 recipient of the Nobel Memorial Prize in Economic Sciences for his contributions to Behavioral Economics.

Making Decisions with Limited Information

Most of us aren't experts at investing -- we don't make financial decisions often and we aren't overly familiar with the sources and data needed to evaluate options. This section covers some of the biases associated with this type of situation, when someone is trying to make decisions too quickly and with insufficient information.

1 Anchoring & Adjustment

Anchoring bias is the tendency to rely too heavily on the first piece of information we learn and use it as a reference point for future adjustments.

For example, an investor may let the original price of an investment "anchor" their decision on, whether to hold or sell, ignoring the realities of changing market or company-specific conditions.

	Final settlement price	
Conditions	**When the seller made first offer**	**When the buyer made first offer**
No intervention	$24.8 million	$19.7 million
Considering alternatives	$21.5 million	$21.6 million

Studies[1] on negotiations show that, without interventions, the party who makes the first offer whether it's the buyer or the seller, tends to get a better outcome.

1 Galinsky, A. D., & Mussweiler, T. (2001). First offers as anchors: The role of perspective-taking and negotiator focus. *Journal of Personality and Social Psychology, 81*(4), 657-669.

A FINANCIAL ADVISOR CAN PROVIDE...

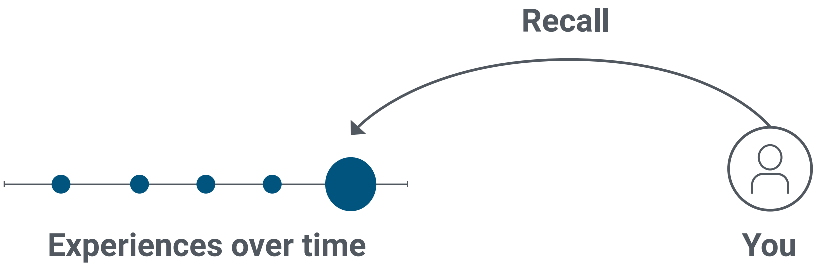
Perspective:

Advisors can help investors look beyond an investment's original price to understand the multiple factors affecting the investment's value, and evaluate the investment based on whether it does, or does not, continue to support the investor's long-term plan.

2 Recency

Recency bias occurs when we over-emphasize the importance of the last piece of information we learn.

This bias can lead investors to focus too much on an investment's recent performance, making it appear more or less attractive than it actually is.



A FINANCIAL ADVISOR CAN PROVIDE...

Context:

Advisors can provide a more complete view of an investment, presenting and analyzing enough historical data to identify trends and anomalies, and consider how the investment may perform under different market conditions.

3 Availability

Availability bias is the tendency to judge the likelihood of an event based on how easily we can recall examples of similar events.

This bias can affect how investors evaluate risk, leading them to under or overestimate an investment's risk based on recent news stories – even when the stories are unrelated to the specific investment.

What's more likely

Winning the lottery or **Getting hit by lightning**

Statistically, being struck by lightning is **about 250 times*** more likely

*Lotto: 1 in 302.6M Struck by lightning in a given year: 1 in 1.2M
https://fortune.com/2023/01/10/1-1-billion-mega-millions-jackpot-odds/
https://www.weather.gov/safety/lightning-odds

A FINANCIAL ADVISOR CAN PROVIDE...

Relevance:

Advisors can help investors filter out unrelated information and provide a more complete picture of the relevant information needed to make an informed investment decision.

4 Confirmation

Confirmation bias is when we actively seek out information that aligns with our existing beliefs or preferences.

This bias can lead investors to discount – or even ignore – negative information about a current investment, causing investors to miss a potentially important warning sign or overlook other attractive opportunities.

For illustrative purposes only.

A FINANCIAL ADVISOR CAN PROVIDE...

Objectivity:

Advisors can help investors access all the available information, without preconceived ideas about how the data will impact decisions.

5 Overconfidence

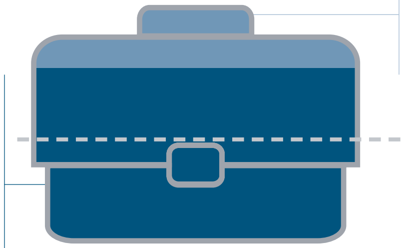
Overconfidence bias is when we overestimate our own abilities, believing that we are smarter or more well informed than we really are.

Overconfident investors tend to assume that familiarity with a topic equates to expertise, empowering them to make hasty or ill-informed investment decisions.

Most fund managers felt their performance was **average** or better

74%

Believed their job performance was above average



26%

Believed they were average

Of course,

only 50%

of a sample can be above average

A study[2] of 300 fund managers found that most had overestimated or exaggerated their ability to outperform – a tendency that is common among people in all professions.

2 Montier, J. (2006). Global Equity Strategy: Behaving Badly. *SSRN 890563.*

A FINANCIAL ADVISOR CAN PROVIDE...

Research:

No one knows it all, but a financial advisor has access to professional research and additional support that can help investors make reasoned decisions.

The Psychology of Choice

Behavioral models can help predict behavior and explain anomalies and inconsistencies by taking a number of factors into consideration: intuition, impulses, emotions, past experiences, and context. For example, Prospect Theory* is a behavioral model of how people decide between options that involve risk and uncertainty – two common elements present in investment decision-making. This section covers some lessons from Prospect Theory, focusing on the biases that may affect investors' decision-making processes and strategies for more rational evaluation of options.

*Prospect Theory was developed by researchers Amos Tversky and Daniel Kahneman, who won the Nobel Prize in Economic Sciences for their work.

1 Loss Aversion

Loss aversion is the tendency to feel the painful sting of a loss twice as much as the pleasure of the same gain.

This imbalance can drive impulsive reactions to financial risks, leading investors to exit markets during downturns and re-enter after conditions improve. But, despite what our biases attempt to tell us, it is impossible to time the markets.

Take the quiz at the back of this booklet to assess your susceptibility to loss aversion bias.

A FINANCIAL ADVISOR CAN PROVIDE...

Temperance:

An advisor can help temper investor's impulses by reminding them of their overall long-term investment goals, rather than focusing too much on any single investment, or one period of market uncertainty.

2 Disposition Effect

The disposition effect is when investors are so worried about losses that they sell winners early, locking in profits but missing out on the potential for further gains.

At the same time, investors hold on to assets that are performing poorly to avoid acknowledging a loss. The end result can be a risky portfolio full of losers.

For illustrative purposes only.

A FINANCIAL ADVISOR CAN PROVIDE...

Discipline:

An advisor can work with investors to set clear stop-loss and profit-taking guidelines in advance, preventing them from acting reacting to their fear of loss.

3 Endowment Effect

The endowment bias inspires investors to disproportionately value an investment they already own.

This means that investors may hold on to losing or inappropriate assets, instead of selling them, because they assign the assets greater value than they should. This focus can also make investors miss out on other, perhaps better, opportunities.

If the endowment bias didn't exist, the price at which people would be willing to buy would be the same at which they would be willing to sell – something that rarely happens. In a classic study[3], the median selling price for a range of nominal items was more than twice the median buying price.

3 Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1990). Experimental tests of the endowment effect and the Coase theorem. *Journal of Political Economy, 98* (6), 1325-1348.

A FINANCIAL ADVISOR CAN PROVIDE...

Analysis:

An advisor can re-frame how investors evaluate assets – encouraging decisions on buying, selling and holding – that are informed by data rather than personal attachment.

4 Present Bias

Present bias is when we prioritize our immediate needs and desires over long-term goals, often neglecting the long-term consequences of our decisions.

For investors, present bias can make it difficult to put aside money for long-term investment goals, such as retirement.

For illustrative purposes only.

A FINANCIAL ADVISOR CAN PROVIDE...

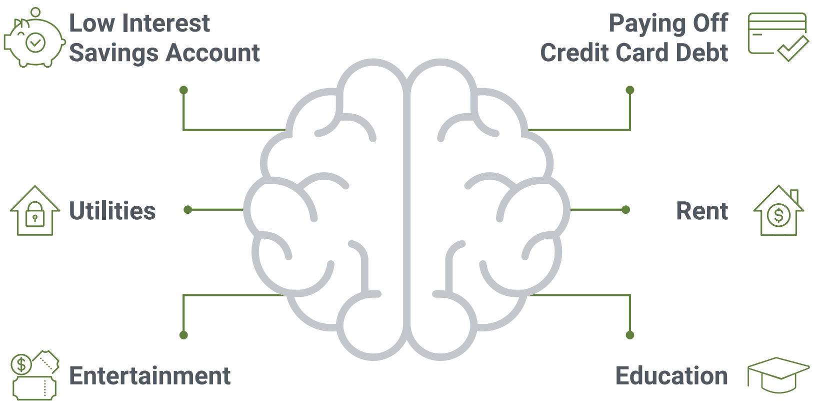
Vision:

An advisor can help investors plan for their short-, intermediate-, and long-term needs, and setup an automatic investing plan to avoid present bias.

5 Mental Accounting

Mental accounting is when we group our assets into different "buckets" and make decisions based on those technically arbitrary classifications.

All money is the same and should treated the same. But, it's common for investors to protect cash in low interest savings accounts while neglecting to pay off high interest debt or invest in better returning low risk assets.



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A FINANCIAL ADVISOR CAN PROVIDE...

Totality:

An advisor can keep investors aware of their total portfolio and its performance relative to their goals, rather than focusing on individual investments or "buckets" of their portfolio.

Should you take the gamble?

Are you a risk-seeking or risk-averse person? It actually might depend on the situation. Research has found that people tend to be more risk-seeking when facing a potential loss, and more risk-averse when facing a potential gain. This is because the anticipated pain of losing a given amount typically feels worse than the joy of gaining the same amount. As a result, we're very concerned about potential losses, but the urge to avoid those losses tempts us to take unwise risks.

Assessing your susceptibility to the loss aversion bias is a key first step in making more rational decisions.

TAKE THE LOSS AVERSION QUIZ[4]

These scenarios are designed to help you understand your preferences. In each scenario, please select the option you prefer the most.

4 Mindworks, Roman Family Center for Decision Research at Chicago Booth School of Business Adapted from Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica, 47* (2), 263-291.

YOU HAVE A WINNING TICKET IN A CHARITY RAFFLE WITH A $1,000 GRAND PRIZE. WHICH OUTCOME WOULD YOU PREFER?

A. A sure win of $250

B. A 25% chance to win $1,000 and a 75% chance to win $0

YOU MADE A BAD INVESTMENT OF $1,000. WHICH OUTCOME WOULD YOU PREFER?

C. A sure loss of $750

D. A 25% chance to lose $0 and a 75% chance to lose $1,000

IF YOU CHOSE **A** AND **D**

A **A sure win of $250**	C A sure loss of $750
B A 25% chance to win $1,000 and a 75% chance to win $0	**D** **A 25% chance to lose $0 and a 75% chance to lose $1,000**

LOSS AVERSE

This combination demonstrates a high susceptibility to loss aversion bias. Your decision-making was inconsistent: You preferred a guaranteed outcome of $250 in the first scenario but reversed this preference in the second scenario. You avoided taking the risk for a potentially higher return, but were willing to take more risk when faced with a higher potential loss.

Good news! **You're not alone. About 44% of participants typically show this pattern**, which is more than double any other combination. This is because loss aversion is a heuristic, which means it's a mental shortcut that generally helps us make good decisions. But sometimes, like in this case, it can lead us to make inconsistent choices.

WHAT IF YOU PICKED A DIFFERENT COMBINATION?

Susceptibility can vary. Most people's decisions are influenced by loss aversion, but their strong preferences override the shortcut. We use mental shortcuts most often when we don't have strong intuitive ideas about what the correct decision should be.

However, if you know that you almost never like to gamble, then you'll choose A and C—in fact, 21% of people do!

Conversely, those more inclined to take risks might opt for options B and D, as about 22% of participants do.

How It Works

Look closely and you'll see that the outcomes in each gamble are actually the same — just described differently as "wins" versus "losses." In both scenarios, you can guarantee that you will end up with $250 or risk losing it all for a 25% chance of $1000.

If we behaved consistently, then our choices would show the same preference in both scenarios for either the risky choices or the choices with guaranteed outcomes. Instead, it's common to prefer the sure win, but take our chances when faced with a potential loss.

The way that outcomes are presented influences the choices we ultimately make. To think clearly about risk, try reframing losses in terms of gains (and vice versa) to have a more balanced view of the possible outcomes.

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BEHAVIORAL SCIENCE IN ACTION

PIMCO's deep commitment to behavioral science is embodied by our partnership with The Roman Family Center for Decision Research (CDR) at The University of Chicago Booth School of Business. Leaders in their field, CDR researchers are constantly engaged in studies investigating how people form judgments and make decisions. Many of these studies take place at the PIMCO Decision Research Laboratories – facilities on and off The University of Chicago campus that bring behavioral insights to the mainstream by fostering greater engagement with the public.

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LEARN MORE ABOUT HOW YOUR MIND WORKS

Mindworks, a working lab and an interactive discovery center for behavioral science in downtown Chicago, welcomes visitors to explore its interactive exhibits and take part in engaging, hands-on research studies.

Learn more> **https://www.chicagobooth.edu/mindworks**

Free to the public, Mindworks is operated by the Roman Family Center for Decision Research at the University of Chicago Booth School of Business and is home to the center's PIMCO Decision Research Laboratories.

Photo credit: Tom Rossiter