INVESTMENT INSIGHTS

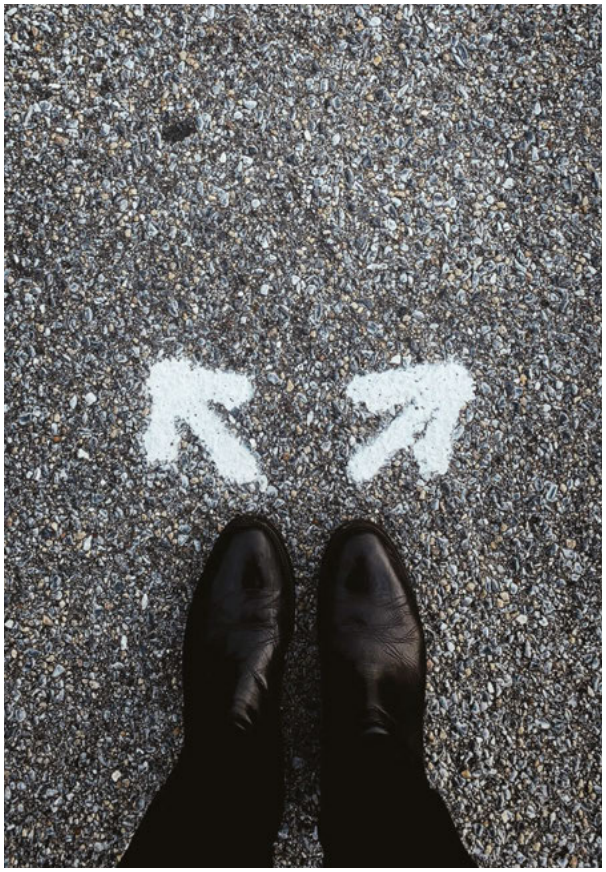
Analysis, Insights, and a Different Perspective February/March 2024

KEY POINTS

- Behavioral biases are common among investors.
- Our brain uses two systems to process information.
- A disciplined investment approach can help mitigate behavioral biases.

NAVIGATING AND OVERCOMING BEHAVIORAL BIASES IN INVESTING

As we begin the new year, let's explore how common behavioral biases can impact investment decisions. In this issue of Investment Insights, we examine the six most common types of behavioral biases, break down how our brains process information, and discuss strategies investors can use to mitigate these biases.



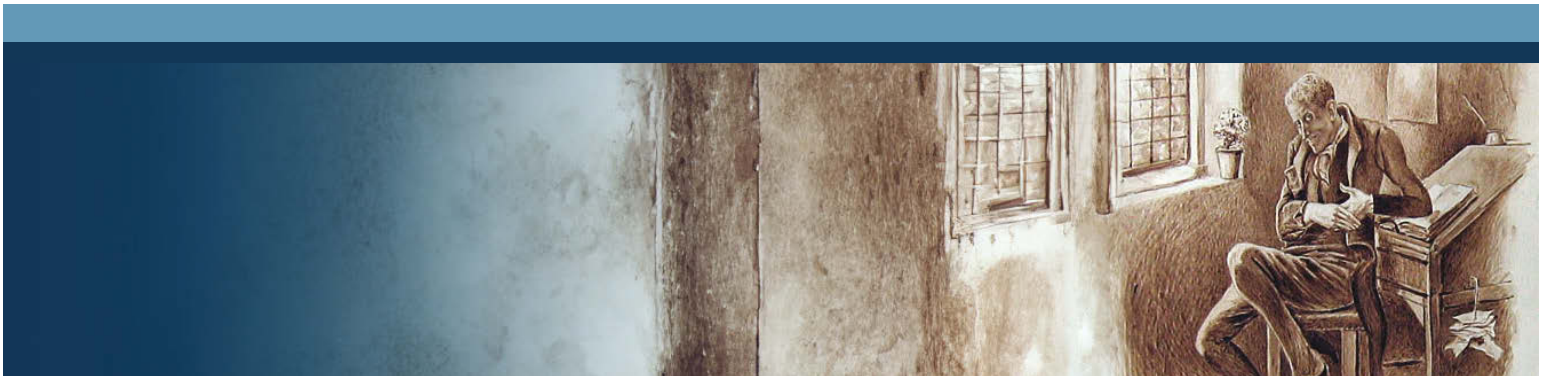
TYPES OF BEHAVIORAL BIASES

Did you know the average person makes around 35,000 decisions a day?[1] These range from what we eat and wear to more complex choices, such as purchasing a new home or car. Many of these decisions are biased due to how our brains process information. Investors can learn to recognize biases and how to overcome them to potentially avoid errors in investment decisions.

We will discuss the six most common biases among investors, which fall into two categories: **1) belief-perseverance** and **2) information-processing.** Confirmation, hindsight, and representative biases are belief-perseverance biases that cause people to cling to their views irrationally. Anchoring, framing, and availability biases are information-processing biases that cause people to process information inaccurately.

Cornerstone WEALTH SERVICES

1 Hoomans, Dr. Joel. "35,000 Decisions: The Great Choices of Strategic Leaders." Robert's, 20 Mar. 2015.

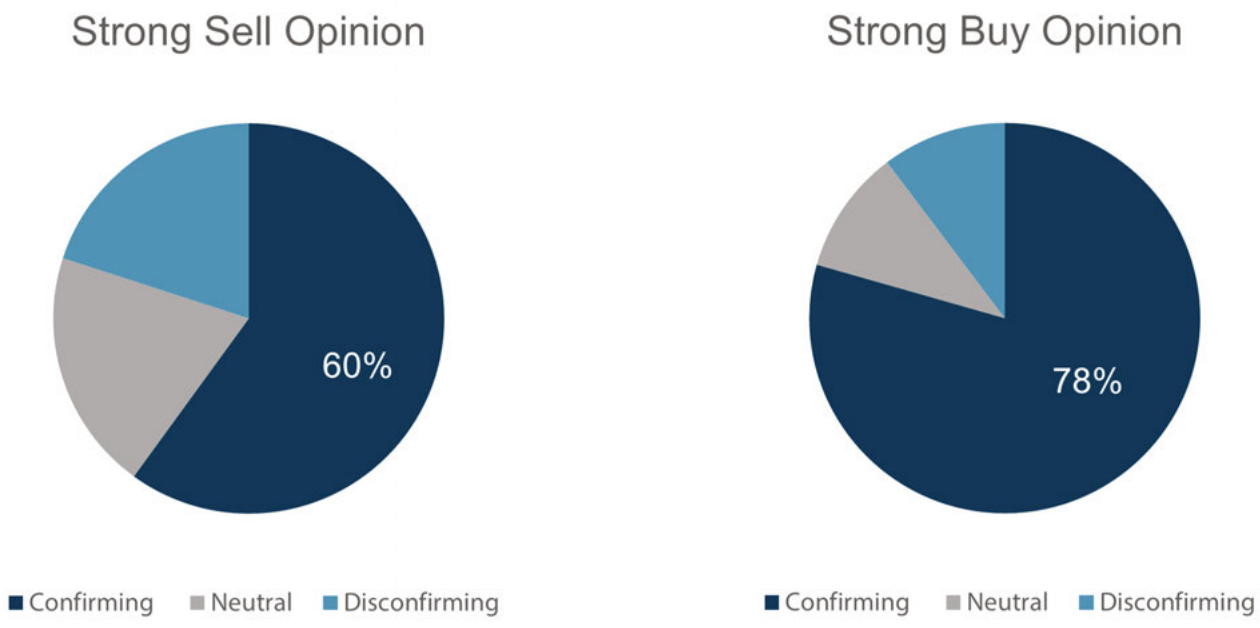


BELIEF-PERSEVERANCE BIASES

CONFIRMATION BIAS

Confirmation bias can be found in the fictional character of Uriah Heep, from Charles Dickens' s "David Copperfield." Uriah Heep is known to be a "yes man" in the novel — constantly agreeing with those in positions of power. By strategically agreeing with their views, he reinforces their beliefs and, in turn, gains their trust (for his own self-interest). Confirmation bias is caused by people searching for information that confirms their beliefs while ignoring information that contradicts those opinions. Another example is that most people believe it is more dangerous to travel by plane than by car.[2] This idea is likely due to more widespread media coverage of plane crashes than car crashes.[3] In reality, it is riskier to drive the average flight path than it is to fly in a plane.[4]

According to research by Cerulli Associates, more than 80% of investors experience confirmation bias, making it one of the most common biases among investors.[5] Another study found that the vast majority of investors clicked on advertisements that confirmed their preexisting view.[6] As you can see in the graphs below, researchers at the University of Texas at Austin found that 60% of individuals who have a strong sell opinion and 78% of individuals with strong buy opinions clicked on ads that confirmed their prior view.



Source: JaeHong Park

2 Plous, Scott. "THE AVAILABILITY HEURISTIC." The Psychology of Judgment and Decision Making, McGraw-Hill Higher Education, New York, 2007.
3 Ibid.
4 Ibid.
5 Cerulli Associates and National Association of Plan Advisors.
6 Park, JaeHong, et al. "Confirmation Bias, Overconfidence, and Investment Performance: Evidence from Stock Message Boards."

HINDSIGHT BIAS

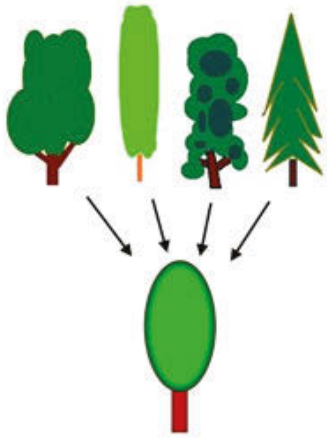
Hindsight bias, also known as the "I-knew-it-all-along" phenomenon, occurs when people perceive events as being predictable or expected after they have already occurred. Hindsight bias is common among investors. During the late 1990s technology stock boom, market narratives depicted tech stocks as the remedy for the Y2K issue, leading investors to drive up their values. However, when the year 2000 arrived, the Y2K issue turned out to be less problematic than expected.[7]

A similar behavior was also observed following the 2008 financial crisis. After the crisis, economists George Akerlof and Robert Shiller pointed out in their book "Animal Spirits" that human emotions and psychology significantly influenced the crisis. They suggested that these "animal spirits" were a major driving force behind the economic turmoil. While analyzing these events, Akerlof and Shiller also looked back with the advantage of hindsight, showing how common it is for people to see past events as predictable after they've already happened.

REPRESENTATIVE BIAS

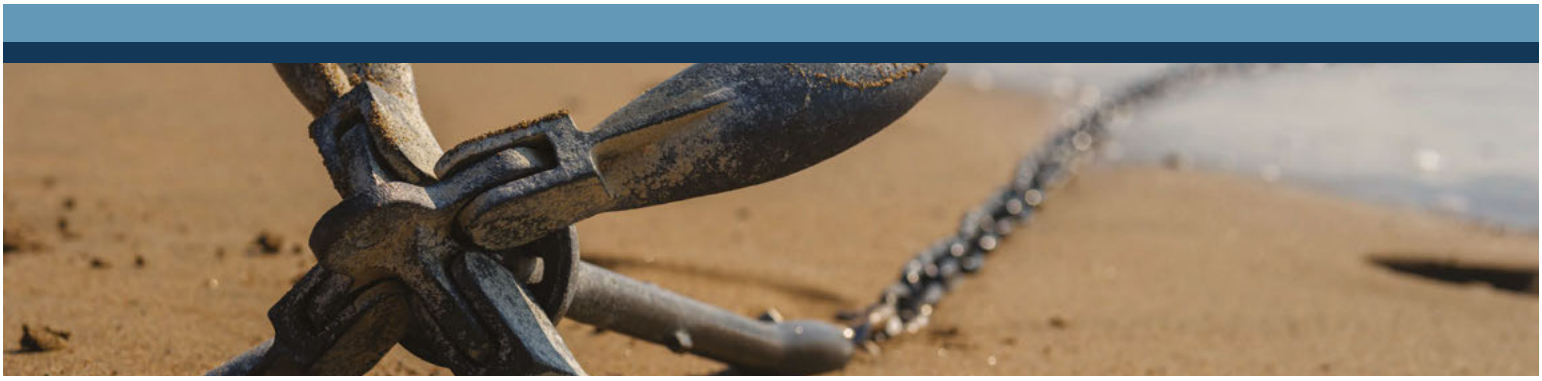
Representative bias occurs when people compare new information to an existing prototype in their minds from past experiences. They often overestimate the similarity between the two things they are comparing. To illustrate, the image to the right shows the classification of a tree. With representative bias, people characterize new information, like the specific type of tree they see, into their existing mental model of a tree.

Representative bias could lead to overconfidence in a particular industry's future success based on its past performance. For instance, assuming technology stocks will always perform well may result in an imbalanced portfolio, neglecting potential risks and changing market conditions.



Source: Tom Sulcer

7 Pompian, Michael. "The Effect of Framing on Financial Decision-Making." Morningstar, Inc.

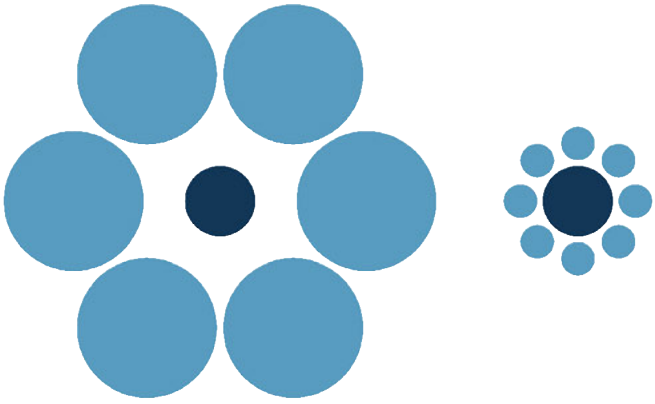


INFORMATION-PROCESSING BIASES

ANCHORING BIAS

Anchoring bias, identified by psychologists Amos Tversky and Daniel Kahneman in the 1970s, describes the tendency for people to rely heavily on the first piece of information encountered, impacting decision-making in fields like behavioral economics and finance. Instead of relying too heavily on initial information (called an anchor), people should adjust their views based on new information.

For example, imagine you're starting to save for your child's college education. Initially, you come across information suggesting that $50,000 should be enough to cover tuition fees. This figure becomes your anchor. As time progresses, you conduct more research and discover that considering the rising costs of education, changes in educational standards, and the potential interest in more specialized or prestigious programs, you might need $60,000 for your child's education. However, the initial anchor of $50,000 might lead you to save less than what is truly required, potentially resulting in a financial gap when the time comes to pay for tuition.



The strong impact of anchoring bias is illustrated in the picture to the right. Most people see a larger middle circle on the right side, but both middle circles measure the same size.

FRAMING BIAS

Framing bias occurs when people's decisions are influenced by how information is presented. The following table presents an example of framing from psychologists Tversky and Kahneman.[8] Their pivotal research, particularly highlighted in the 1981 paper "The Framing of Decisions and the Psychology of Choice," unveiled the systematic impact of information presentation on decision-making, ultimately establishing the concept of framing within the realm of behavioral economics.

8 Tversky, Amos, and Daniel Kahneman. "The Framing of Decisions and the Psychology of Choice." Science, American Association for the Advancement of Science, 30 Jan. 1981.

In Tversky and Kahneman's gain-loss framing experiment, participants were presented with two financial choice scenarios. In the "gain" frame, participants tended to choose a sure gain over a risky option, while in the "loss" frame, they showed a preference for taking a risk to avoid certain losses. Notice that in both cases, the outcome is the same. The experiment highlighted how people's decisions are influenced by the objective value of the options and the framing of the choices in terms of gains or losses.

Framed as gain	"A 50% chance to gain $500 and 50% chance to gain nothing."
Framed as not losing	"A 50% chance to lose $500 and a 50% chance to lose nothing."

AVAILABILITY BIAS

Availability bias is a mental shortcut used to recall information based on how easily it comes to mind. With this bias, information that is more easily recalled is considered more important, whereas information that is not as easy to remember is considered less important. Availability bias became more widely acknowledged and studied in the 1900s, especially through the important work of Tversky and Kahneman.

For example, consider an investor choosing a mutual fund for which he or she has seen multiple advertisements. An investor might prefer a more advertised fund because it is more recognizable than another one, regardless of whether it fits their needs. According to research by Cerulli Associates, more than 91% of investors experience availability bias, making it the most common bias among investors.[9]

SYSTEMS 1 & 2

To understand what causes behavioral biases, we first must understand the two systems our brains use to process information. The following exercise can help us understand how these systems work.

Answer the following question before reading on:

"A bat and ball cost $1.10. The bat costs one dollar more than the ball. How much does the ball cost?"[10]

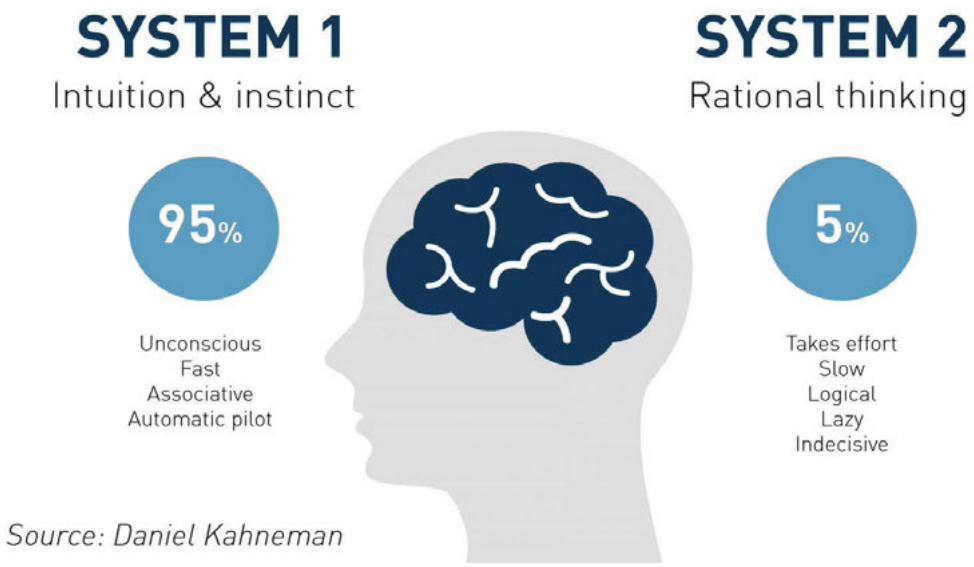
9 Cerulli Associates and National Association of Plan Advisors.10 Cerulli Associates and National Association of Plan Advisors.
10 Kahneman, Daniel. Thinking, Fast and Slow. Farrar, Straus and Giroux, 2013.

The immediate response to this question for most people is 10¢. That answer is incorrect. The correct answer is not complicated; it just requires slow and deliberate thinking.

If the ball was 10¢, the total would be $1.20 (10¢ for the ball and $1.10 for the bat). The correct answer is 5¢: $1.05 plus 5¢ equals $1.10, and $1.05 is a dollar more than 5¢.

While most people answer this question wrong, it has little to do with intelligence. In an experiment, more than 50% of students at some of the most prestigious universities like Harvard, Princeton, and MIT also fail to answer this question correctly.[11] The error is caused by how the human brain processes information.

According to Kahneman, humans use two systems to process information and make decisions: **System 1 and System 2.** System 1 is associated with fast decisions, intuition, and instinct. When people answer the question above, they typically use System 1. System 2, on the other hand, is associated with lengthy, effortful, and logical decision-making. Upon getting the wrong answer initially, people typically think about the question using System 2 to answer the question correctly. System 1 and System 2 are not separate entities but work together to enhance the overall decision-making process.



The image above summarizes the two systems. Kahneman discovered that humans spend 95% of their time using System 1 and only 5% of their time using System 2. As illustrated by the bat and ball example above, Kahneman explains that humans tend to accept System 1's proposals without checking them using their System 2.

AVOIDING BEHAVIORAL BIASES

Behavioral biases tend to occur for investors when the fast and automatic System 1 is used to make investment decisions. Decision-making that utilizes slow but logical thinking is less prone to behavioral biases. A disciplined investment process can help investors mitigate behavioral biases because it employs System 2 for decision-making instead of relying on instinctual or gut reactions. It is imperative to use System 2 when making investment decisions to avoid behavioral biases. Cornerstone Wealth Portfolios' disciplined investment approach can help mitigate these investment biases. To learn more about Cornerstone Wealth Portfolios, please contact your financial advisor.

11 Kahneman, Daniel. Thinking, Fast and Slow. Farrar, Straus and Giroux, 2013.