

4. Behavioral Biases and Their Impact on Investment Decision-Making

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Abstract:

Purpose: *The purpose of this chapter is to understand the role of behavioral biases in influencing investment decision-making, focusing on how these biases diverge from the rational decision-making framework proposed by classical economic theories.*

Design/methodology/approach: *The chapter adopts a conceptual approach by categorizing behavioral biases into cognitive and emotional types. It draws on existing literature and real-world examples to analyze the impact of biases such as overconfidence, representativeness, mental accounting, confirmation bias, hindsight bias, herding, endowment effect, risk aversion, and prospect theory.*

Findings: *The findings demonstrate that behavioral biases significantly affect investor behavior, leading to suboptimal outcomes such as overtrading, herd behavior, and loss aversion. The research highlights how biases influence financial decisions during market anomalies, such as the dot-com bubble and GameStop short squeeze, and proposes strategies for mitigating these effects.*

Practical Implications: *Understanding behavioral biases is critical for investors and financial professionals aiming to improve decision-making processes. By recognizing these biases, stakeholders can implement tools and strategies to reduce their adverse impacts and enhance portfolio performance.*

Originality/ Value: *The chapter provides a comprehensive review of behavioral biases and their implications for investment decisions. It contributes to the literature by connecting theoretical insights with real-world case studies, offering actionable guidance for practitioners in finance and investment fields.*

4.1 Introduction:

The classical economic theory suggests the idea of *homo economicus*—the rational, self-interested individual who always makes decisions aimed at maximizing utility. For centuries, economists and financial theorists have relied on this assumption to model human behavior, particularly in the context of investment decisions. However, the rise of behavioral economics over the past few decades has shed light on the numerous biases that influence the way individuals make financial decisions. These biases often deviate from the rational, utility-maximizing behavior that *homo economicus* would exhibit, leading to suboptimal investment outcomes.

4.2 The Evolution of Homo Economics:

The notion of *homo economicus* traces its roots back to the 18th and 19th centuries when economists like Adam Smith, John Stuart Mill, and Alfred Marshall laid the foundation for classical economics. The idea was simple, the individuals make decisions based on rational analysis, weighing costs and benefits to maximize their well-being.

This model faced significant challenges with the rise of behavioral economics in the late 20th century, spearheaded by scholars such as Daniel Kahneman and Amos Tversky. Their pioneering experiments revealed that human decision-making often deviates from logic and reason. In fact, their choices are heavily influenced by psychological factors, cognitive limitations, and social influences, often leading to systematic errors, which we now refer to as *behavioral biases*.

4.3 Understanding Behavioral Finance and Biases:

Behavioral Finance examines the impact of psychological factors, emotions, and social influences on financial decision-making. It questions the traditional belief that individuals consistently act rationally and base decisions purely on logic and self-interest. Instead, it recognizes that cognitive biases, emotional responses, and social dynamics often drive financial behaviors, leading to decisions that may appear inconsistent or irrational.

Behavioral biases are inherent flaws in human thinking that lead to deviations from rational decision-making. These biases are particularly relevant in investment decisions, where emotions, cognitive errors, and social pressures can heavily influence choices.

4.3.1 Key Insights in Behavioral Finance:

1. **Irrational Behavior:** People do not always make decisions that maximize their financial well-being. Emotions such as fear, greed, and regret often take over, leading to actions that contradict rational financial logic. For instance, investors may hold onto a losing stock for too long, hoping it will recover, even when evidence suggests it is unlikely.
2. **Emotional Influence:** Feelings like anxiety during a market downturn or excitement during a bull run can cause individuals to make impulsive decisions. For example, investors may start panic selling during a market crash or excessive buying during a bubble often results from emotional reactions rather than careful analysis.
3. **Market Phenomena:** Certain patterns, like stock market bubbles and crashes, can be explained through behavioral finance. These events are often driven by collective human behavior—such as overreaction to good or bad news—rather than the intrinsic value of the assets.
4. **Decision-Making under Uncertainty:** When faced with complex situations or incomplete information, people often depend on mental shortcuts, known as heuristics, to make decisions. While these shortcuts may seem helpful, they also lead to predictable mistakes. For example, relying too much on past trends or the opinions of others can lead to poor investment choices.

5. **Prospect Theory:** The theory, introduced by Daniel Kahneman and Amos Tversky, emphasizes people's way of evaluating gains and losses. It emphasizes that the pain of losses tends to outweigh the pleasure of equivalent gains. This emotional sensitivity to loss often leads individuals to avoid risks, even when the potential benefits exceed the associated risks.
6. **Social Influences:** Group behavior plays a significant role in financial decisions. People often follow the crowd, especially during times of uncertainty, leading to phenomena like speculative bubbles or herd behavior. This tendency to mimic others can sometimes amplify market movements in irrational ways.

The understanding of behavioral biases has significantly transformed our perspective on how investment decisions are made. While the traditional model of *homo economics* assumes rational behavior, real-world investing is far more complex and influenced by a variety of psychological factors. By recognizing and understanding these biases, investors can better navigate the emotional and cognitive pitfalls that often lead to suboptimal financial decisions. The rise of behavioral economics offers valuable insights for improving investment strategies and reducing the adverse effects of these biases on personal and institutional portfolios.

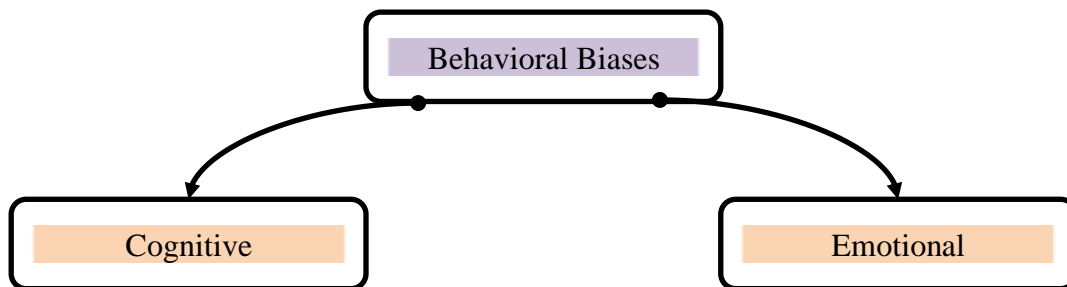


Figure 4.1: Categorization of Biases

Behavioral biases influencing investment decisions can broadly be categorized into **cognitive biases** and **emotional biases**.

1. Cognitive Biases:

These biases arise from errors in information processing or logical reasoning. They are systematic deviations from rationality that occur because of mental shortcuts, known as **heuristics**. Cognitive biases are typically easier to address with education and awareness.

2. Emotional Biases:

These biases stem from emotional reactions or feelings, leading individuals to make irrational decisions based on fear, hope, or other emotions. Emotional biases are more challenging to correct because they are deeply rooted in a person's psyche and often operate subconsciously.

Table 4.1: Most Common Biases Categorized

Type of Bias	Bias	Description	Examples of Investment Decisions
Cognitive Biases	Overconfidence Bias	Exaggerating confidence in one's knowledge or skill to accurately forecast market movements.	Overtrading, holding concentrated portfolios, or ignoring diversification.
	Representativeness	Assessing probabilities based on stereotypes or representativeness rather than objective data.	Believing a small-cap stock with rapid growth is "the next Amazon" without due diligence.
	Mental Accounting	Allocating money into separate accounts based on personal criteria, disregarding its interchangeability.	Treating investment income as "bonus money" and using it for higher-risk ventures.
	Confirmation Bias	Paying attention only to information that aligns with existing beliefs while disregarding opposing evidence.	An investor might focus solely on favorable news about a stock they own, overlooking warning signs of potential issues.
	Hindsight Bias	Believing after an event that it was predictable all along	Claiming "I knew this stock would crash" after its value dropped sharply.
Emotional Biases	Herding	Following the crowd or majority rather than making independent decisions.	Buying stocks during a market rally without considering their actual valuation.
	Endowment Effect	Overvaluing things simply because you own them.	Holding onto a house longer than necessary because of emotional attachment, despite better offers.

Type of Bias	Bias	Description	Examples of Investment Decisions
	Risk Aversion	Preferring certain outcomes over uncertain ones with potentially higher payoffs due to fear of loss.	Avoiding stocks entirely and investing solely in low-return fixed-income securities.
	Prospect Theory	Making decisions based on perceived gains or losses rather than absolute outcomes.	Selling a stock after a small gain instead of holding it for long-term potential.
	Status Quo	The inclination of individuals to favor staying with the current situation instead of making changes, even when those changes could result in better outcomes.	An investor may hold on to underperforming stocks because they've always owned them, even when other investments may yield better returns.

Let us understand the behavioral biases in detail:

Overconfidence occurs when investors overestimate their ability to predict market movements or make successful investments. This can lead to excessive risk-taking and trading activity. Overconfident investors may hold onto losing stocks for too long, believing they can "beat the market," or make more frequent, unnecessary trades, thereby incurring higher transaction costs. This bias causes individuals to overestimate their knowledge and skills, often leading to excessive trading and poor investment choices. Barber and Odean (2000) found that overconfident investors tend to trade more frequently, which diminishes their net returns due to higher transaction costs and missed opportunities for long-term growth.

Similarly, Baser (2024) observed that overconfident investors, driven by the belief that they can outperform the market, frequently engage in trading, which often results in less-than-optimal returns.

Representativeness bias involves assessing probabilities based on how closely something aligns with existing stereotypes, potentially causing investors to make decisions based on perceived patterns rather than statistical evidence. Representativeness bias occurs when individuals assess the probability of an event based on how closely it resembles a known category, potentially neglecting relevant statistical information. The investors can make decisions based on perceived patterns that may not hold, if the bias exists. Research by Wijaya et al. (2024) highlights the impact of such biases on investment choices.

Mental accounting refers to the tendency to cognitive categorization of funds differently based on subjective criteria, which may result in irrational financial behaviors. It defines a process to categorize money into separate "accounts" based on subjective factors, influencing how it is spent or invested. This can result in irrational financial behavior, such as treating a bonus differently from regular income. Baser (2024) notes that investors may segregate their funds into arbitrary categories, influencing their risk-taking behavior and investment choices.

Confirmation bias is the inclination to prioritize information that supports existing beliefs, resulting in selective gathering and interpretation of data. In investing, this can result in overlooking critical information that contradicts one's investment thesis. It is emphasized that investors often seek out information that supports their preconceived notions, potentially leading to poor investment decisions.

Hindsight refers to the tendency to believe that an event is predictable after it has already happened, often leading individuals to think, "I knew it all along." Once an event occurs, people may convince themselves that they had foreseen the outcome, even if they did not anticipate it at the time.

It can affect decision-making and learning because it causes individuals to overestimate their ability to predict future events based on past outcomes. It can also influence how people assess their past decisions, leading them to believe they could have made better choices, even when the results were uncertain at the time.

Herding bias occurs when individuals mimic the actions of a larger group, which can contribute to market phenomena like bubbles or crashes. The herd mentality identifies the tendency to mimic the actions of others, especially in uncertain or ambiguous situations. In investing, this often results in "crowd behavior," where investors follow the majority rather than making independent, rational decisions.

Endowment Bias is a psychological phenomenon where people assign greater value to items, they own than they would if they didn't own them. This can lead to irrational decision-making, as individuals may overvalue their possessions and have difficulty letting go of them, even when doing so would be more logical. For instance, in the financial markets, investors may hold on to underperforming stocks simply because of their emotional attachment, which can prevent them from making more rational investment decisions.

Risk aversion describes the preference for certainty over potential higher gains accompanied by uncertainty, often leading investors to opt for safer, lower-yield investments. The bias describes the preference to avoid uncertainty, leading individuals to favor safer investments over potentially higher-yielding, riskier options. This can result in conservative investment portfolios that may not meet long-term financial goals.

Prospect Theory, introduced by Kahneman and Tversky, explains that individuals perceive losses more strongly than equivalent gains, shaping their decision-making processes. Research by Wijaya et al. (2024) highlights the significant role of loss aversion—a core aspect of prospect theory—in influencing investment decisions. This theory diverges from

the expected utility theory, showing how people evaluate potential outcomes in ways that affect their risk tolerance. Baser (2024) further explores how prospect theory accounts for investor behaviors like loss aversion and the disposition effect.

Status Quo refers to the tendency for individuals to prefer maintaining the current situation rather than making changes, even when doing so could lead to better outcomes. People are often more at ease with the familiar, which leads to resistance to change, even when adaptation could be in their best interest.

The bias is driven by the comfort of familiarity and the fear of the unknown. The more familiar a situation is, the more likely individuals are to stick with it, even if other options might offer better rewards. Status quo bias can impact decision-making in various areas, such as business, investing, or personal life, leading to missed opportunities for improvement.

4.4 Case Study: The Impact of Biases on Investment:

To understand how these biases play out in real-life investment decisions, let's examine a few notable case studies.

Behavioral Bias	Case-Study	Description
Overconfidence Bias	Dot-com Bubble (Late 1990s)	Investors overestimated their ability to identify profitable Internet stocks, leading to excessive trading and the eventual burst of the dot-com bubble.
Herding Behavior	GameStop Stock Surge (a brick-and-mortar video game retailer) (2021)	Retail investors collectively bought GameStop shares, causing a price surge influenced by online forums, and leading to volatility when the stock price corrected.
Confirmation Bias	Investment in Preferred Stocks	Investors focus solely on positive information about favored stocks while ignoring contradictory data, leading to a skewed perception of the investment's potential.
Status Quo Bias	Retirement Plan Selection	Employees stick with default retirement plan investment options, even when better alternatives exist, resulting in suboptimal long-term financial growth.
Endowment Effect	Housing Market Behavior	Homeowners overvalue their properties due to ownership, leading to overpriced listings, longer market times, or price reductions.
Loss Aversion	Reluctance to Sell Declining Stocks	Investors hold onto losing stocks to avoid realizing a loss, despite the risk of further decline, illustrating the emotional discomfort associated with losses.

1. Case 1: The Dot-Com Bubble and Overconfidence Bias:

The **Dot-com Bubble**, which occurred in the late 1990s and burst in 2000, was a period of excessive speculation in the technology sector, particularly in internet-based companies. During this time, many tech companies, especially those with a ".com" in their names, were seen as highly promising investments, despite lacking strong financials or proven business models. Investors, fueled by optimism, often overlooked the fundamental risks, believing that these companies would continue to grow indefinitely. However, when many of these companies failed to deliver on their promises and could not sustain their business models, the bubble burst, causing a massive market collapse.

This period is often associated with **overconfidence bias**, where many believed they could accurately predict which tech companies would succeed, even though the market was highly speculative and uncertain. Investors often felt that they had unique insights or that they were "in the know" about the next big thing, leading them to make risky investments without considering the long-term viability of these companies.

This overconfidence led to widespread market overvaluation. Investors ignored warning signs and continued pouring money into companies with little more than an idea or a catchy name, believing that their investments were safe or that they would always find ways to profit. When the bubble eventually burst, the reality of these companies' unsustainable business models became clear, and investors were left with significant losses.

2. Case 2: GameStop Stock Surge and Herding Bias:

The **GameStop stock surge** in early 2021 was a phenomenon driven by retail investors on platforms like Reddit, particularly the WallStreetBets. The stock price skyrocketed as a group of individual investors began buying large amounts of GameStop shares, creating a short squeeze.

This caught institutional investors who had bet against the stock by surprise, leading to a massive increase in GameStop's value. The surge was driven not by the company's fundamentals but by speculation, social media influence, and mass coordination among retail investors. In this case, many retail investors were drawn to buy GameStop shares because others were doing the same, creating a **Bandwagon Effect or Herd Behavior**. Even though the stock's value had little connection to GameStop's financial health, the collective actions of a large group caused the stock to surge.

3. Case 3: Loss Aversion During the 2008 Crisis:

The 2008 financial crisis was a global economic disaster triggered by the collapse of the housing bubble in the United States, the widespread use of risky financial products like subprime mortgages, and the failure of key financial institutions. This led to massive losses across various sectors, including investors, businesses, and households, resulting in a prolonged economic recession. Loss aversion, a principle in behavioral economics, significantly influenced decision-making during the crisis.

It refers to the tendency to feel the impact of losses more strongly than the satisfaction of equivalent gains. During the crisis, many investors, facing steep losses, became hesitant to sell their declining assets, even when doing so would have been the more logical choice.

This reluctance to accept losses led them to hold onto failing investments, worsening the financial situation. This fear of realizing losses played a major role in the prolonged downturn and slow recovery in the markets.

4.5 Practical Implications and Addressing Biases:

While behavioral biases cannot be entirely eliminated, awareness and strategic interventions can help mitigate their effects.

Addressing Cognitive Biases:

- **Education:** Understanding biases like overconfidence and mental accounting helps investors make more rational decisions.
- **Checklists:** Using structured decision-making tools reduces reliance on heuristics.

Addressing Emotional Biases:

- **Discipline:** Adhering to a well-defined investment plan helps counter emotional reactions.
- **Professional Advice:** Financial advisors can provide objective perspectives, reducing the impact of emotional biases like herding.

4.6 References:

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