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5. Behavioral Pitfalls in Investing: Understanding Biases and Their Impact

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Abstract:

Human decision making, a cornerstone of daily life, is profoundly shaped by psychology. From simple choices to complex financial decisions, individuals often deviate from rational paradigm. These deviations are driven by social pressures, mental tricks or emotions resulting in the formation of biases. Bias means invariably preferring something over other without any rational basis. These biases in the judgments and decision-making are known as behavioral biases or behavioral pitfalls. Being aware about these will save an individual from irrational and sub-optimal decision making. In this complex world with immense technological advancement causing information overload, understanding these biases and their impact on decision making is the need of the hour. Thus, this chapter delves into the meaning of biases, covering major behavioral biases and their impact on decision-making. Understanding and being aware about behavioral biases is not just an academic pursuit but also a step towards improved decision-making.

5.1 Introduction:

"Sir Isaac Newton was one of the most influential scientists in history. He has contributed greatly in the field of physics. But unfortunately, his scientific acumen could not improve his investment decision. In 1970, he predicted an impeding stock market crash and sold his shares of South Seas Company for a profit of 7000 Pounds.

However, when he saw the prices surging, he reinvested at a higher price. Subsequently, the prices had a sharp decline, but Newton continued holding the stocks. Soon the panic griped the market resulting in one of the greatest stock market crashes causing Newton to lose over 20,000 Pounds of his fortune. Facing the loss, he gave a statement, **"I can calculate the motions of heavenly bodies, but not the madness of people."**"

The fear of missing out on gains led him to invest in the shares at high price. Such decisions of Sir Isaac Newton, which caused him loss of fortune, were greatly affected by his emotions and psychology. This effect of psychology in the decision making is studied by the field of finance, known as behavioral finance.

Behavioral Finance lies at the intersection of psychology and finance. It is a branch of behavioral economics which focusses on the psychological influences and biases that affect investment decision-making by investors. Behavioral finance is better able to explain market anomalies and market movements as compared to traditional finance which works on the assumption of efficient market. Traditional finance believes that the investors are rational and process every information efficiently which means that no one can outperform the market or there would be no bull or bear busts in the market. But the real conditions are different from such beliefs which are better explained by behavioral finance as it considers investors as normal. It explains where people make mistakes as an individual or as a crowd, why this happens and what can be done to avoid them. Overtime, the behavioral finance emerged as significant development in finance explaining investor psychology(Jain et al., 2023). This area of modern finance study seeks to explain why people make illogical decisions by blending traditional economic and financial theories with those of cognitive and behavioral psychology (Ahmad & Shah, 2020; Baker et al., 2019; Jain et al., 2019; Parveen et al., 2020).

Making a decision regarding investment in stock market is a complex task which involves processing and analysing a lot of information. To process that bulk of information, an individual creates shortcuts to make decisions easier and lead a comfortable day-to-day life. These shortcuts are not completely accurate and thus when an individual enters the financial markets, the same shortcuts creep in resulting in either underweighting or overweighting certain data or information.

This phenomenon is known as being subjected to biases. Bias means the tendency to favour something over other even when it is not based on fact. These biases may stem from the errors in cognition or mental shortcuts which are called cognitive bias. But when the emotions such as greed or fear enter the decision making, they result in the formation of emotional biases. Both cognitive and emotional biases affect the decision making leading to suboptimal decisions, and in the case of financial markets, they can attract the investors towards loss.This chapter explains the meaning of biases, followed by 7 major behvaioral biases affecting decision making, their meaning, effect on decision and ways to mitigate them.

5.2 Biases:

A bias means the tendency to unfairly favour or oppose a particular individual, item or event by letting the judgement being affected by personal opinions and judgements. For example, if a person likes XYZ political party then he will support every decision by that party even if it is not so good. This unfair inclination is known as a bias.In behavioral finance, biases refer to systematic patterns of deviation from rationality in judgment or decision-making that occur in predictable ways. Behavioral biases are psychological mistakes that result from sentiment-driven behavior and cause investors to act irrationally(Ritika & Kishor, 2022). They influence our behavior and decision-making and are inherent to human nature. Various researchers such as Abhijith & Bijulal, 2024; Kanojia & Malhotra, 2023; Prasad et al., 2021 have found the interrelationship between behavioral biases and investment decision. According to David Hirshleifer, biases can result from heuristic-simplification, self-deception, emotion or social interaction (Chandra Prasanna, 2022).

There are lots of biases affecting human decision making but the major biases include Overconfidence Bias, Representativeness Bias, Availability Bias, Herding Bias, Mental Accounting Bias, Loss Aversion Bias and Regret Aversion Bias.

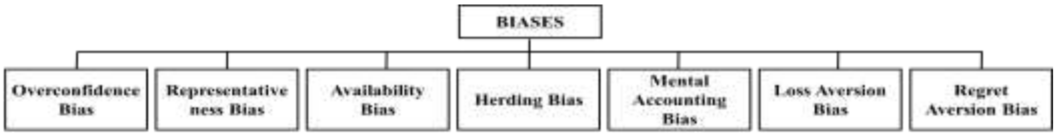

Figure 5. 1: Major Behavioral Biases

5.2.1 Overconfidence Bias:

Confidence is when a person has full trust on his or her ability to do something or is sure about his actions. In contrast, overconfidence is the excessive belief in their own abilities and thinking, overlooking the fact that they can be wrong too. Overconfidence bias is when an individual places too much confidence in his ability to make a decision. It is the tendency to overestimate own talent, knowledge, intellect and performance. Due to this overestimation, people indulge in certain activities which leads to poor decision-making. With overconfidence bias, people prefer to think subjectively by taking into account their feelings, perceptions and opinions resulting in both positive and negative outcomes. Since human decisions are highly susceptible to this bias, it is one of the most prevalent biases. It is an error of judgement that can lead to overestimation of capabilities and alongside causes underestimation of difficulty of a task, possible risk or other issues. According to Baker & Nofsinger, (2002), overconfidence bias stems from two factors namely Illusion of Knowledge and Illusion of Control.

Overconfidence bias often promotes overly optimistic predictions or taking on tasks exceeding their true capabilities. For example, in stock market, a stock trader believes he/she can beat the market consistently to make extraordinary results without any thorough analysis. Their overestimation of their skills leads to overconfidence bias which results in ignoring warning signals or making impulsive decisions. This bias affects decision making process resulting in false projections and overestimations (Kassin et al., 2022). It also leads investor to mistake their luck for skill, underestimation of risk and excessive trading.

Mistaking luck for skill: It is the human nature that people ascribe their success to their skills even though it is merely luck and if the results are vice versa, it is because of bad luck
Underestimation of Risk: People with overconfidence bias overestimates their capabilities believing they can outperform market and take heavy risks for higher profit. This leads them to a trap of profitability and risk resulting in massive losses.

Excessive Trading: It leads investors to trade often, resulting in negative effect on returns

An individual can mitigate the bias by being aware that irrespective of knowledge, they can commit mistakes, they can seek feedback or advice regarding their decisions to stay grounded and being self-aware can be really helpful for an investor.

5.2.2 Representativeness Bias:

Representativeness is a mental state wherein an individual assesses a situation based on its resemblance to a past event or situation.

It is a mental shortcut which helps people to make faster decision making based on the likelihood of issues. It is also known as similarity bias and is based on stereotyping (SULPHEY, 2014).

The representativeness bias is when an individual calculates the likelihood of an event by comparing it to an existing prototype in the mind. The prototype is what people believe to be the most usual or pertinent example of specific event or item. Psychologists have proved that brain assumes and groups together those things that share similar qualities. Few reasons for use of representativeness in judgements:

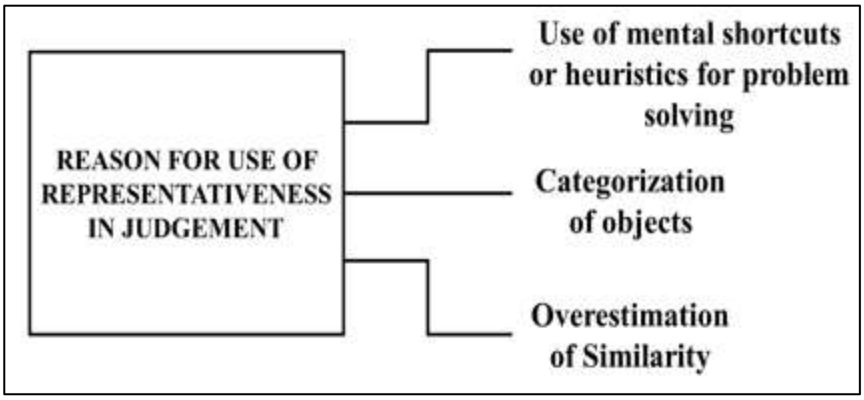

Figure 5.2: Reasons for use of Representativeness

1. **Use of mental shortcuts or heuristics for problem solving:** Our brain constantly works to reduce the time and efforts to take decisions while navigating in the complex world. It uses tricks or certain rule of thumb to help quick decision making which sometimes results in oversimplifying the reality. These quick responses or decisions are based on some representative characteristics, thus leading to the use of representativeness bias in judgement.
2. **Categorization of Objects:** Creating categories help us to organize and interpret the bulk of information available. These categories are created based on certain prototypes. By grouping similar things, brain creates clusters of knowledge and whenever a situation arises, we link it to a representative cluster for immediate and quick decision making. This way the representativeness of an object to a cluster, help taking quick decisions.
3. **Overestimation of similarity:** The tendency of human to overemphasize the similarity of two situations or objects results in ignorance of relevant information. While making decisions, people often ignore the probabilities and focus on how similar is the present situation with that of past causing sub-optimal decision making.

For example, the college professors often form an opinion about the performance of a student in college based on his/her academic performance in school or university qualifying exam. This may not be true in every case and thus explains the representativeness bias. This bias can make investors optimistic about past winners and pessimistic about past losers. Apart from this, it persuades them to consider popular stocks that have recently performed well. It also causes investors to overreact to new information. Representativeness bias is not so easy to avoid since it stems from the reflexive functioning of brain, but there are certain ways that can help to minimize its effect such as being more aware about this tendency, reflecting on our judgement to check for bias or applying logic while making decisions

5.2.3 Availability Bias:

People often make decisions based on the readily available information instead of going into deep analysis. This make people biased towards the information that comes to the mind easily, which is known as availability bias. In availability bias, people tend to get influenced by attention grabbing information and make decisions based on associations facilitating easy recall.

The familiarity of an object (having personal conversance), salience (highlighting the characteristics of the object), and recency affects the ease of recall of the object (SULPHEY, 2014). Information that is more easily recalled is assumed to be more probable compared to the one which is difficult to recall. As a result, it influences an individual's perception of reality. It is assumed that the easier it is to recall an event or information, more likely it is to affect the decision and opinion. The availability bias is considered to evaluate the frequency of an event based on how quickly it comes to mind. Media coverage, recency of the event or the relative unavailability of information are some of the reasons why something is quickly available to us.

To understand the effect of availability on decision making, let us consider an example, suppose you have to analyse which is safer option travelling by car or by airplane. You will recall the information in mind and will align towards the information that readily comes to mind. If you remember reading about a car accident recently, you will associate that it is unsafe to travel by car instead of airplane without even searching the statistics. The similar is the case in investment market wherein if you read bad reports about a company some time ago, and now you are planning to invest in some company of same industry, you recall the information about the industry to base your decision and that particular information readily comes to your mind. It is a common practice that the investor would not invest in that particular company just due to the availability of information without even the fundamentals or technical analysis.

Availability bias leads to biased judgements and irrational decision making. Due to this bias, the investors base their investment decisions on the recent reports or newspaper coverage, limiting their investment horizon. The potential negative effects of availability bias can be mitigated by considering all the relevant information during decision making. While making decisions, they should go for thorough analysis instead of readily or quickly available information. Apart from these, the investor can mitigate the bias by being vigilant about the situations where he/she can encounter the availability bias.

5.2.4 Herding Bias:

Human beings being social beings have a strong belief in group behavior. They believe that multiple senses combined with skills and abilities of a group facilitates their personal decisions. This inherent instinct of human makes them inclined towards group membership and coordinated behavior (Richerson & Boyd, 2008; Skyrms, 2004). The need of conformity and intent to feel safe by going the way others are going, leads to the development of herd behavior. Herd behavior is the tendency of an individual to align themselves with the actions of their peers or socially influential people, rather than making decisions based on own analysis or information.

In terms of the investor behavior, herd behavior is when investors are attracted towards the same or similar investment as made by others. It occurs when the investors start imitating the investment decisions of others or start following a group or crowd without considering their own goals, risk preference or analysis. People often fall trap to the herd mentality while taking decisions in any field be it shopping or the investment. The fear of missing out is one of the most prominent reason driving investors towards herding. For example, if investors observe others buying a specific stock, they would assume them to have more information and thus follow them regardless of their own analysis.

Going with the decisions or information of others causes a snowball effect leading to information cascades. Information cascade is a situation wherein a number of people take same decisions in a sequential way. Information cascades can lead to herding behavior and create inefficiencies in the market. It can lead to either overvaluation or the undervaluation of assets resulting in increased market volatility. In the past as well, there have been certain evidences of herd behavior leading to market disruptions and formation of market bubbles causing the market crash. These incidents include the events like dot-com bubble of late 1990 or the global financial crisis of 2008. These events were characterized by excessive optimism and speculation caused by the abandonment of fundamental analysis. Herding behavior has a massive impact on the financial markets thus affecting the investors. This includes:

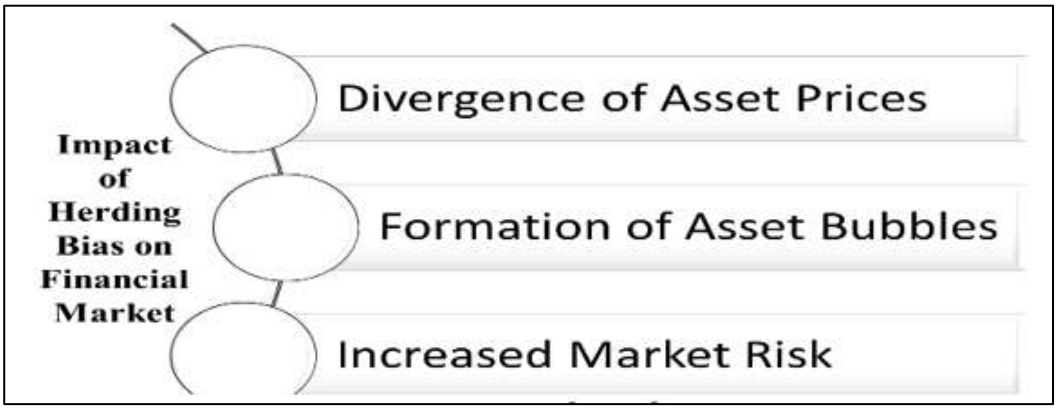

Figure 5. 2: Impact of Herding Bias

1. Divergence of the asset prices from their fundamental values making price discovery difficult leading to market distortions and inefficiency.
2. Herding can lead to formation of asset bubbles wherein certain assets become significantly overvalued. These bubbles eventually burst causing extreme losses to the investors and results in rippled financial system.
3. Herding increases market risk and threatens financial stability due to the concentration of holdings on particular assets or industry. This concentration can exacerbate market downfall leading to financial crisis.

Keeping the effect of herding in mind, it becomes extremely important to find ways to mitigate this bias. The understanding of the existence of this bias and the situations in which an investor could fall prey to it. Also, investor education can play a massive role in regulating the investor behavior and in turn the market.

5.2.5 Mental Accounting Bias:

Mental accounting, a concept introduced by Nobel Prize winning economist – Richard Thaler, refers to the tendency of humans to assign value to things based on some superficial attributes. It is a concept which states that people give different values to the same amount of money based on subjective criteria.

This reality often contradicts with well renowned concept of economics regarding fungibility of money. Fungibility of money means that it has a consistent and objective value irrespective of the source where it arrives or the destination where it is consumed. People segregate the money based on where they intend to spend it, how it is earned and how it makes them feel.

For example, when a person receives a bonus or an arrear, he/she spends it on things (such as lavish vacations) which they would have never done with their regular income. Similarly, during investment, people are risk averse while investing the amount from their regular income or savings in the stock market but invest freely, without being much affected by risk, while investing the profits earned from previous investments.

Factors such as giving mental labels to money or defining a deal as good or bad based on the situation constitutes towards the mental accounting. It alters an individual’s perception resulting in overspending or falling prey to the marketing tactics by various companies.

It leads people to make irrational decisions and behave in financially inefficient way such as funding a low interest saving account while carrying high balance credit card. Mental accounting bias leads an investor to neglect the risk minimizing opportunities by combining low correlated assets or irrational distinction between the returns derived from income and from capital appreciation.

The effect of this bias can be mitigated by being mindful while dealing with finances such as creating a budget, planning for the unexpected income, thorough analysis of the investment alternatives or treating the money equally despite its source of origin.

5.2.6 Loss Aversion Bias:

The tendency of an individual to incline strongly towards avoiding losses as opposed to achieving gains is known as loss aversion bias. It is overlooked that the human beings experience losses lopsidedly more severely than similar gains. This fear of loss causes investors to behave irrationally and make suboptimal decisions.

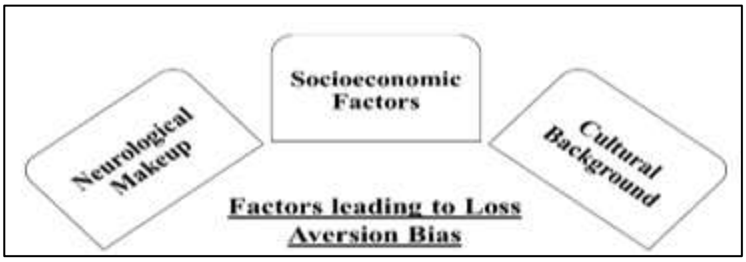

Figure 5.4: Factors leading to Loss Aversion Bias

Nobody likes to lose, especially when it comes to money. The fear of realizing a loss leaves an investor stranded prompting them to hold the losing investment more than the winning stock. The founders of behavioral finance, Kahneman and Tversky also opined that the pain associated with loss is greater than the pleasure from equivalent gain. For example, an individual will be less likely to invest in a stock where there is an element of loss clearly visible even though the reward potential is high. Neurological makeup, socioeconomic factors and the cultural background are major components leading to loss aversion. This bias refrains an individual from taking best decisions as it persuades them to focus on avoiding losses. It also leads investors in holding higher risk portfolio, since people sell winners quickly and hold losing stocks longer. In order to mitigate this bias, investors are advised to follow a strategic asset allocation along with timely rebalancing their portfolios. Apart from this, framing a strategy to mitigate loss or identifying the worst-case scenarios can further help an investor deal with the loss aversion bias.

5.2.7 Regret Aversion Bias:

Regret is the emotional pain a person experiences when his decisions turn sour. It is the emotion felt for not having made a right decision.

People work towards avoiding such emotion and thus deviates from the logical decisions making towards emotional decision making. Regret aversion occurs when an individual makes decisions to avoid the feeling of regret about a decision in future. Regret adverse people try to avoid the pain from two types of mistakes namely, Error of Commission and Error of Omission. Error of Commission is the disappointment of taking an action that had bad results whereas Error of Omission is the disappointment of not taking a decision that would have had good results. To better understand the regret aversion, suppose you encountered a situation in past where you were not able to grab a good deal. Now when you come across a similar deal, the feeling of regret for not being able to grab the deal in past would surface.

To avoid that feeling of regret, you will immediately lock the deal without even analysing its good or bad. This impulsive decision taken to avoid the feeling of regret is known as regret aversion. Similarly, in order to avoid the regret of loss-making decision while investing in high risk-high return security, the investor would choose to make prudent, low yield investment.

Investors affected by regret aversion bias would not be able to make investment that truly leads them towards their investment objectives, rather they would give higher weights to the fear of regret. Also regret adverse investors would be too conservative in their investment choices along with being with crowd i.e. engage in herding behavior. Avoiding the emotion of regret is difficult but making self-stronger to accept the outcomes can help in taking better decisions.

5.3 Conclusion:

Amid the current information-rich environment, the volume of available data makes it difficult for human brain to process every bit of information rationally. Thus, it creates similarities or clusters and base decisions on resemblances to deal with the abundance of information, which leads to the formation of biases. These biases are the systematic deviations from rationality in judgments or decision-making occurring in predictable ways. These biases stem from the prejudices in the thinking process (cognitive biases) or from the emotions (emotional biases). They affect the investors resulting in suboptimal decision-making or leads them towards losses. These biases are part of regular decisions, so mitigating them is very important to lead to better investment performance and fulfilment of investment goals. The field of behavioral finance which studies these biases has evolved over a long period of time and the need for research is increasing rapidly due to more novice investors entering the stock market (Kumar, 2023). Various researchers such as Gaur et al., 2024; Gupta, 2023; Safaie et al., 2024; Shunmugasundaram & Sinha, 2024; Tversky & Kahneman, 1974 have studied the effect of these behavioral biases on investment decision making.

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