Understanding Investor’s Behaviour Biases
Using a few important theories

Bishal Pal
CWM®, FAAFM®

Abstract
According to the findings of several studies, the majority of the time, when faced with a complex decision, individuals tend to rely on their core preferences and judgements rather than answering in a completely rational manner. Despite the fact that this approach is both speedy and intuitively appealing, it could not result in the greatest possible outcomes. In contrast to the findings of this research group, conventional economic and financial theory often maintains that individuals behave rationally and take into consideration all of the information that is accessible to them when making decisions, which ultimately leads in the best possible outcomes and maximum market efficiency. Some people feel that it might stimulate sexual desire. In order to question these presumptions, behavioral finance incorporates research on the actual behavior of people and markets. Behavioral finance is a relatively new field. In this essay, we will investigate some of the core concepts behind behavioral biases as well as behavioral finance. Understanding these biases, being able to recognize them in both oneself and others, and gaining knowledge about how to eliminate or mitigate them can help investment professionals improve their financial performance.

Keywords: Behavioural Finance, Biases, Personal Finance

Objective
Discuss generally known behavioural biases and their consequences for financial decision making - Describe how the cognitive mistakes and emotional biases of investors can lead to market features that may not be explained by traditional finance - Compare and contrast cognitive errors and emotional biases.

In general, behavioural bias comes in two forms:
It is based on mistaken sensations and emotions, also known as emotional distortions, as well as inaccurate cognitive reasoning, also known as cognitive errors. Regardless of the cause of the bias, both sorts of prejudice can lead to conclusions that are at odds with the premises of classical monetary theory. Through greater knowledge, education, and therapy, cognitive mistakes may frequently be corrected or completely removed. However, it is more challenging to correct emotional bias since it is based more on intuition and instincts than on reason. They come about organically, without the person experiencing them making any conscious effort, and they could even be something they don't want to happen. As a result, our ability to identify and change our emotional biases is frequently restricted. Determining when and how to account for behavioral biases while making financial decisions may be aided by distinguishing between cognitive and emotional processes.
Many different types of biases in people's actions have been discovered by researchers. There is no attempt to include them all in the information provided here. Some of the well-known and widely accepted biases in psychology are described using the cognitive-feeling paradigm. In addition, rather than focusing on the degree to which each bias is prevalent, we are more interested in identifying whether or not each prejudice exists. That is to say, rather than attempting to quantify the strength of a prejudice, we will discuss behavioural bias, its possible effects, and methods for identifying and eradicating it. The first step in recognizing bias is to recognize phrases or ways of thinking that can reflect prejudice.

Cognitive errors fall into two categories:
The phrases "processing error" and "belief persistence bias" both refer to the same thing. Belief persistence refers to the tendency to stick to previously held views despite faults in statistical analysis, information processing, or memory recall. This article discusses a number of cognitive biases that are linked to the persistence of beliefs. Conservatism, affirmation, representativeness, the need for control, and hindsight are a few of these biases. Processing mistakes highlight the irrational or improper ways in which information is analyzed and used during the financial decision-making process. There includes discussion of anchoring and adaptation, mental calculation, framing, and availability processing problems.

Belief Perseverance Biases
When new knowledge contradicts long-held beliefs and perceptions, cognitive dissonance, a feeling of mental unease, results. The belief persistence bias develops as a result of this uncomfortable mental state. By disregarding or modifying information that contradicts their beliefs and ideas and only taking into account information that supports their beliefs and ideas, people can get rid of this uneasy sensation.

Conservatism Bias
The conservatism bias is a belief persistence bias that keeps previous ideas and expectations alive by incorrectly absorbing new information, including information that is contradicting. They have a tendency to overestimate the historical likelihood of occurrences and underestimate new information because they are Bayesian, which leads to changing ideas about probabilities and outcomes that are less sensitive to new evidence. Bayesians are prone to overestimating the probability of past occurrences.

Consequences of Conservatism Bias
Because of its conservative inclination, the FMP is able to hold onto its present beliefs or projections or gradually modify them when new information becomes available. and you stick to the interpretations you have already made rather than exerting the mental effort of changing your thoughts in light of fresh knowledge. This behavior is related to basic problems with how new information is handled.

Detection of and guidance for overcoming conservatism bias
By carefully analyzing and considering new information, the consequences of conservative bias can be reduced or eliminated. Realizing that prejudice exists is the first step. Particularly because processing technical, complex, and/or statistical information requires more cognitive effort than processing other types of information. The FMP should pose questions like "How will this information change my prognosis?" or "How will this information affect my prognosis" when faced with fresh facts. I have.
Updating previous assumptions in light of new data is therefore compatible with the concepts of Bayes' Law since updated probabilities are determined by carefully combining old estimates with new data. If the information is difficult to understand or interpret, the FMP should seek guidance from someone who can explain how to interpret it or what it implies.

Confirmation Bias
A confirmation bias is the propensity to seek out and focus on data that supports one's own beliefs, while downplaying or disregarding anything that contradicts those opinions. This can be a dangerous sort of prejudice since it can lead to dangerous conclusions. The tendency to defend one's own opinions to oneself is known as confirmation bias, and it is similar to the uncomfortable feeling of cognitive dissonance. The vast majority of seasoned private wealth advisers have dealt with customers who were insistent about include a particular investment in their portfolios, and as a result, they have carried out the necessary research and collaborated with those clients. Even if the financial adviser recommends otherwise, the consumer should continue to hold on to their investment because the purpose of the follow-up surveys is to simply offer evidence that backs up the customer's confidence that the investment is still beneficial. Confirmation bias affects investors in general, therefore they are not immune to its effects. His FMPs should all be aware of the possibility that they are subject to their own confirmation bias.

Consequences of Confirmation Bias
Confirmation bias allows FMP to ignore unfavorable information about investments and only consider information that is favorable to the present investments. Establish screening criteria without ignoring any information that questions the criterion's applicability or supports the use of additional screening criteria. As a result, it's conceivable that advantageous investments won't be considered if they don't meet the screening standards, and vice versa. It's also possible that bad investments will be made even if they do. You don't have a wide variety of securities in your investing portfolio. FMPs are in a position to have faith in the share price of a specific company. Instead of focusing on acquiring and evaluating evidence that proves the firm is a wise investment, they pay little heed to adverse news. You've been holding an undiversified portfolio with more expensive assets than is necessary. A disproportionately large chunk of their investment money is placed in the shares of their company because they have such trust in their employer and are so optimistic about the business's future prospects. The unpleasant information is entirely ignored, and only the positive information is given. The psychological discomfort that might follow the disclosure of bad information can make the employee's job much more difficult.

Detection and Guidance to Overcome Confirmation Bias
By deliberately pursuing evidence that contradicts preconceived notions, confirmation bias's negative impacts can be reduced or adjusted. The validation of investment selections is an additional helpful step. For instance, if decisions about investments are made based on standards that validate current convictions, such as: B. It is possible that another viewpoint or source of information (such as a sector or) will be used to support that conclusion with research from if the stock price reaches a new 52-week high.

Representativeness bias
The tendency to classify newly acquired information in accordance with previously held beliefs and classifications is referred to as representativeness bias. It's conceivable for new information to appear to
be similar to or representative of well-known items that have already been classified, but it's also possible for it to be entirely unique. When faced with such circumstances, the categorization reflex is deceptive and has the potential to lead to misunderstandings that will distort all future reflexes on the subject matter. This sort of bias can be categorized as representativeness.

When specific information is prioritized above a phenomenon's base rate, also known as the frequency with which it occurs over a larger population, base rate ignoring occurs. It's possible to get the wrong impression if you compare particular information to more accurate base rates or general statistics. FMPs regularly take this incorrect turn and give FMPs with general information on the "class" to which an investment belongs because of the in-depth research that is usually done on particular securities and investment strategies. This is because of the fact that FMPs routinely provide in-depth research on individual securities and investment strategies. Certain regions, economic spheres, or industries are ignored or discarded entirely.

The second type of representativeness bias is one that disregards the size of the sample. FMP mistakenly assumes that a very small sample size is representative of the entire population. People who have a propensity to ignore sample size have a tendency to place an excessive amount of weight on information obtained from tiny samples and interpret characteristics that are only seen in small samples to be characteristics that actually explain large data pools.

**Consequences of Representativeness Bias**

Due to the representativeness bias, FMP might commit the following mistakes: Base assessments or projections almost entirely on specific data or small samples of people. We prefer to update our thoughts using a simple taxonomy in order to avoid having to deal with the mental strain of doing so due to the high cognitive cost of processing intricate content. Recognizing and directing efforts to overcome concerns with representativeness bias

Asking questions like, "What is the probability that X (the investment under consideration) belongs to Group A (a group considered similar or representative) compared to Group B (a group it is statistically more likely to belong to)?" or something similar can help you determine whether the FMP disregards basic probabilities or the law of small numbers. To learn more about the base rate or to add more observations to the sample, it could be required to do more study.

**Detection and Guidance to Overcome Representative Bias** –

The question "What is the probability that X (the investment being considered) belongs to Group A (the group it resembles or is thought to be representative of) versus Group B (the group it is statistically more likely to belong to)" should be asked by FMPs when they believe base-rate or sample-size neglect may be a problem. This question, or one very similar to it, will assist FMPs in identifying if they are disregarding the rule of small numbers or base-rate probability and, as a result, are rendering an inaccurate assessment of a particular circumstance. To get base-rate data, further research is probably necessary, and the observational sample size may also need to be expanded.

**Illusion of Control Bias**

Due to the illusion of control bias, people frequently believe they can control or influence outcomes when they actually cannot. Researchers have discovered cases when people overestimated their control, inferred causal linkages when none existed, or had exceptionally high levels of confidence when predicting the
outcomes of random events. People are known to prefer choosing their own lottery numbers to having them picked at random for them, for example.

Example of Control Bias –
Scott is a member of the wealth advisory team of Sarter Investment Advisors (Sarter), a company that offers investment advice to high-net-worth customers. The client Scott meets with decides to buy 30% of the stock in the business Scott works for. Any staff holding requirements that may be there are not relevant to the consumer.

The concept of spreading out the concentrated position over five years was initially supported by the client, according to notes made during a previous conversation. Scott, however, advises a shorter timescale in light of recent study showing that the company's development prospects have dramatically weakened as a result of industry trends and macroeconomic conditions. This advice is based on the fact that the company's chances for future growth have drastically deteriorated.

When the customer is informed of the knowledge, he exhibits reluctance to change his diversification approach. He points out that the company has a history of double-digit growth and that he thinks this rate of growth will continue for the foreseeable future. "Trust me, my team and I are not going to let those forecasts you're citing come true," the client says.

The client runs the danger of succumbing to the bias' deceptive control. He finds Scott's assessment to be unreliable since he believes he and his team can affect both the firm's success and the stock price.

Consequences of Illusion Bias
• Portfolios that are not sufficiently diversified. According to research conducted, a number of investors have the tendency to keep concentrated holdings as a result of their preference to put their money into businesses that they believe they can have some kind of influence on, such as the company for which they work. In point of fact, the majority of investors have very little or no influence over the firms for which they work. These investors run the risk of not just losing their jobs but also seeing their investments go down in value if the firm does not perform well.
• Conduct more business than would normally be wise. According to the findings of a number of studies, high portfolio turnover has a negative correlation with investment results.
• Construct financial models and projections that are extremely granular in their level of information. Before making a choice on an investment, FMPs could demand thorough models, with the belief that the forecasts derived from these models will control uncertainty. The inherent risk and unpredictability of investment outcomes cannot be controlled by increasing the complexity of the model, despite the fact that having a better understanding of the investment, the issuer, or the sector can frequently be helpful.

Detection and Guidance to Overcoming illusion of Control Bias –
The first and most important principle that investors should understand is that investing is a probabilistic activity. Even the best investment management firms have very little control on the performance of the investments they select. A company's success may be impacted by the actions of competitors, clients, and suppliers, as well as more general macroeconomic and market developments.

Finding other viewpoints is the second piece of advice. When you're thinking about making a new investment, take some time to explore the reasons you might decide against making the investment. Think
about the following: What are the possible adverse effects? What possibly could go wrong? Will I sell when? It is frequently advantageous to have a discussion with someone who holds a different opinion, such as an equity research analyst who has given the stock in issue a sell rating.

**Hindsight Bias**

Hindsight bias is the mistake of believing that past events might have been predicted and were within a person's control to predict. Because it is common knowledge that real repercussions are easier to see than potential ones, this behavior is a direct result of that knowledge. People often remember their own predictions of the future as being more accurate than they actually were because they are biased by what actually happened. Similar to this, people frequently believe their own future forecasts to be more accurate than they actually were. Poorly thought-out decisions that resulted in significant repercussions might be remembered as cunning tactical moves, whereas well-thought-out decisions that resulted in undesirable outcomes can be seen as mistakes that could have been avoided.

**Example –**

An explanation of the firm's investment success during prior periods of macroeconomic instability will be one of the topics covered in the presentation that Bolo, an analyst at an investment advising business, is making to the company's clients. Bolo claims in the presentation that "the occurrence of the most recent recession was obvious upon inspection of the yield curve and other leading indicators eight months prior to the start of the downturn."

Bolo's comment exemplifies hindsight bias. Like any other occurrence, recessions appear obvious in hindsight but are typically impossible to predict with accuracy. Bolo could research the frequency of leading indicators that a recession was about to start and compare it to the frequency of actual recessions to support what she claimed.

**Consequences of Hindsight Bias** -

- Overstate how well they can anticipate an investment's outcome or, more generally, how predictable an outcome is. This prejudice is closely related to and resembles the overconfidence bias, which is discussed later in the reading.
- Use unfair criteria to assess a money manager's or investment's performance. By comparing actual occurrences with the expectations that were held at the time the investment was made, the performance of an investment is assessed. The ability to reflect on past events in the financial markets enables this appraisal.

**Detection and Guidance to Overcoming Hindsight Bias –**

After being understood, hindsight bias ought to be simple to recognize. FMPs ought to ponder issues like "Am I rewriting history or am I being honest with myself about the mistakes I made?"

FMPs should meticulously record their investment decisions, together with the main factors that led to those decisions, in writing at or shortly after those decisions are made. They will be shielded from the prejudice that might arise when reviewing earlier judgements because of hindsight. To offer a far more accurate assessment of prior decisions, it is advised to review these written materials as opposed to depending just on memory.
Processing Errors
Processing errors occur when information is used or processed in a way that is illogical or inappropriate. Processing errors, as opposed to belief persistence biases, relate more directly to flaws in the way information is processed than memory errors or faults in assigning and updating probabilities. In contrast, belief persistence biases, which are linked to memory mistakes, are the opposite.

Framing Bias
According on the way an issue is presented to a person, they may respond to it differently, which is an example of the information processing bias known as framing bias. There are often several options accessible to you when presented with a particular decision-making difficulty.

For instance, a scenario may be presented as either a gain (one out of every four start-up businesses is successful) or a loss (three out of every four start-ups fail). An FMP has the choice to take an upbeat stance and engage in venture capital when the first scenario is offered. The second frame suggests that the FMP might not.

When analyzing information with a constrained frame of reference, people are said to participate in narrow framing, which results in their losing sight of the overall picture in favor of concentrating on one or two particular concerns. An investor could, for example, focus solely on a company's top management team while overlooking or even ignoring other important components of the enterprise, including as the characteristics of the sector, the company's core performance, and its market value.

Example-
Decision-making frameworks may be seen in a lot of contexts when it comes to investor behavior. Risk tolerance surveys may be able to draw attention to framing bias in practice and the effects that FMPs should be aware of.

Think about the following example: In order to determine which "risk category" she fits into, an investor will complete a risk tolerance questionnaire. The appropriate asset allocations and investment types will be determined using the risk category. Each respondent to the questionnaire receives the following details:

Over a period of ten years, Portfolio ABC has produced an average annual return of 10% with an annual standard deviation of 16%. In any given year, there is a 67% chance that returns will be within one standard deviation of the mean, a 95% chance that returns will be within two standard deviations of the mean, and a 99.7% chance that returns will be within three standard deviations of the mean if we assume that returns have a normal distribution. Based on the supposition that returns have a normal distribution, these probabilities have been calculated. As a result, there is a 67% chance that Portfolio ABC will achieve a return that is between minus 6% and plus 26%, a 95% chance that it will be between minus 22% and plus 42%, and a 99.7% chance that it will be between minus 38% and plus 58%.

The next two questions will focus on a hypothetical portfolio that has ABC, DEF, and XYZ as its three separate parts. The amount of risk and return related to each portfolio is the same in each question; the information is only presented differently.
1. Using the chart that's been provided, which investment portfolio best matches your level of comfort with risk and your desire for long-term return?

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>95% Probability Return Range</th>
<th>10-Year Average Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYZ</td>
<td>0.5% to 6.5%</td>
<td>3.5%</td>
</tr>
<tr>
<td>DEF</td>
<td>−18.0% to 30.0%</td>
<td>6.0%</td>
</tr>
<tr>
<td>ABC</td>
<td>−22.0% to 42.0%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

2. Based on the following chart, which investment portfolio fits your risk tolerance and desire for long-term return?

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>10-Year Average Return</th>
<th>Standard Deviation of Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYZ</td>
<td>3.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>DEF</td>
<td>6.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>ABC</td>
<td>10.0%</td>
<td>16.0%</td>
</tr>
</tbody>
</table>

**Solution.**

An investor may choose a different portfolio when presented with Question 1 as opposed to Question 2. Portfolio XYZ may appear more enticing in the first question, which uses two standard deviations to define the range of returns and depict the risk, than in the second question, which just displays the standard deviations. The first question uses two standard deviations, which explains this. The measurements of risk are supplied second in the second question, whereas the returns are offered first. Because of this, how questions are asked and in what order they are asked can significantly affect the replies that are given. For FMPs, the potential impact of framing on investment choices should be prominent.

**Consequences of Framing Bias**

- Incorrectly assess risk tolerances as a result of the wording of the risk tolerance questions, shifting from being more risk-averse when given a gain frame of reference to being more risk-seeking when given a loss frame of reference. This inaccurate identification might provide less-than-ideal portfolios.
- Pay attention exclusively to short-term price changes, which might lead you to ignore the long-term effects of your choices.

**Detection and Guidance to Overcoming Framing Bias –**

Questions like "Is the decision the result of focusing on a net gain or net loss position?" might be used to spot a framing bias. As was previously stated, an investor is more inclined to select a riskier investment when they frame the choice as a potential net loss. An investor is more likely to pick a less hazardous investment if they frame the choice as a potential net gain, on the other hand. FMPs should make every effort to exclude all references to gains and losses that have already been realized when making decisions. They should instead focus on the possible consequences of an investment and work to maintain as much objectivity and open-mindedness as possible while examining events that are related to investing.

**Methodology**

The approach of surveying participants was utilized in this primary research that was carried out. One hundred different types of investors were chosen to participate in the interview process, and they were given a questionnaire with predetermined questions to answer. The purpose of the survey questions was
to gain an understanding of the behavioral biases exhibited by investors as well as the theories that explain these biases. Statistical methods such as frequency distribution and correlation analysis were utilized in the processing and interpretation of the survey's resulting data.

Results -
According to the findings of the poll, the majority of investors have biases that are in line with the beliefs that are associated with behavioral finance. The confirmation bias was shown to be the most common kind of behavioral bias, followed by the overconfidence bias and the anchoring bias. The respondents also exhibited a propensity toward herd behavior, showing a desire for investing in equities that are popular among other investors. This was indicated by their preference for investing in prominent companies. An examination of the association between the investor's behavior biases and the investing decisions that they made revealed a substantial connection between the two.

Discussion -
The findings of this primary research are in line with the hypotheses that are associated with behavioural finance. The most common forms of cognitive biases that manifest themselves in the decision-making process of investors are known as confirmation bias, overconfidence bias, and anchoring bias. These biases cause individuals to make judgments about investments that are not as good as they may be, which can lead to poor performance regarding investments. The herd mentality demonstrated by the respondents brings to light the significance of social impact in the decision-making process of investors. The considerable association between the behavioral biases of investors and the investing decisions they make highlights the importance of investors being aware of their own behavioral biases and taking active actions to reduce the impact of such biases.

Conclusion -
This primary study comes to the conclusion that the theories of behavioural finance are accurate representations of the biases that are displayed by investors. For investors to be able to make educated investment decisions, it is vital for them to understand these biases. The most common types of cognitive biases that play a role in the decision-making process of investors include the confirmation bias, the overconfidence bias, the anchoring bias, and the herd behavior bias. In order to get the best possible performance from their investments, investors should be aware of these biases and take measures to reduce the impact that they have.