

IMPACT OF COGNITIVE ERRORS AND EMOTIONAL BIASES ON FINANCIAL DECISION MAKING OF INDIVIDUALS'

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ABSTRACT

The paper examines the impact of cognitive errors and emotional biases on individual financial decision-making process and mitigation of these unprofitable biases with strong objectives to override emotions and upsurge returns. Individuals usually deviate from logic or reason that may cause they exhibit behavioral biases and these irrational beliefs or behaviors influencing the decisions of an individual. Behavioral biases include cognitive errors and emotional biases they may distracting our decisions from what is prescribed or recommended. The result of faulty cognitive reasoning is cognitive errors whereas emotional bias leads impulsive decisions and it makes blur our sense of judgment. Being human these biases will exist always. Understand the existence is the first step to encounter them and there is no way to eliminate them completely. Identify various biases and understand different measures for overcoming them in improving financial decision is the main objectives of this paper.

INTRODUCTION

Analysing behavioral finance from a variety of prospective explaining why individuals acting against their best interest also, they make decisions relying on personal biases instead of considering facts. If the overall health of an individual improves or worsens that may affect their mental state and influence their rational decisions towards real-world problems especially those specific to finance. Jain et al. (2020) they stated that individual investors financial decisions are influenced by various biases and also, the results of their study are consistent with literature available. Influencing and intervening individual financial decisions by some unconscious beliefs prevail as the most common. Deviations from rationality can be seen by recognising various psychological factors especially in financial decisions. Tversky and Kahneman (1981) their study found the notion of rational behavior is based on consistency. An individual becomes irrational if his preferences are contradictory also, his pleasures and pains not the reflexion of his desires and aversions. A predictive criterion of rationality encourages the decision maker to concentrate on future experience and resolve inconsistent preferences hence, quality of decisions can be improved.

Raheja and Dhiman (2020) behavioral biases and financial decisions are significantly related and also, stock market investors have highest emotional intelligence. Behavioral biases have large role in various finance decisions making process because it causing individuals to make choices if they are not aligning with their best interests. Emotions like fear, greed, over confidence etc. influencing financial decisions by overriding logical analysis which may lead to suboptimal outcomes. The objective of this paper is to examine and bring an insight into the impact of various cognitive errors and emotional biases and discussing to set a strong rule to alleviate such emotions on financial decision making of an individual.

OBJECTIVES OF THE STUDY

- To identify various cognitive errors and emotional biases
- To identify the difference between cognitive errors and emotional biases
- To understand the impact of these behavioral biases in financial decisions.
- To identify strategies to overcome cognitive errors and emotional biases

REVIEW OF LITERATURE

Many internal and external factors are influencing financial decision-making process hence, it is very complex to identify the irrational financial decisions of an individual. Loss aversion,

confirmation bias, over confidence and anchoring are some of the major behavioral biases make deviations from rational thinking and influences individuals' judgements and decisions. Though the literature of impact on behavioral biases of individuals financial decisions are huge, some observed studies are presenting here to bring an insight to the impact of cognitive errors and emotional biases on financial decision making.

Chaudhary (2013) stated that various psychological and behavioral biases are influencing the individuals in decision making. For controlling mental error while invest in different assets a perfect application of behavioral finance is required and it also provides explanations for irrational financial decisions of investors.

Madaan and Singh (2019) most of the financial and economic theories revealed that, when the individuals have all available relevant information then they behave rationally in the process of investment decisions making. When such information is not fully available and the individuals confronted with risk and uncertainty where the empirical evidence shown repeated pattern of irrationality in decisions and choices of them. And this study is focussed to analyse the four cognitive biases namely, anchoring, overconfidence, disposition effect and herd behavior. And the result shows overconfidence and herd behavior are the independent variables have significant impact on investment decision making. Also, the study found that limited application of conventional finance theories in decision making because, it making psychological errors.

Mohapatra and Samal (2020) their study concluded that the risk seeking investors' biases are influenced by gender, age, region, occupation and income levels of investors. The study shows that overconfidence is the most prominent bias among risk seeking investors and not exist any interrelationship among the biases also, this study suggests government should learn behavioral patterns and formulate effective policies and financial instruments to overcome such biases.

Kahneman and Tversky (1979) their study developed two themes through the analysis of preference between risky options the first theme determines how prospects are perceived and it is concerned on editing operations and the latter involves the judgemental principles for evaluating gains, losses and uncertain outcomes. Thaler (1999) mental accounting procedure to be economized on time to deal with self-control problems.

Nikolic (2018) this review paper stating that the individuals' less commitments are basic reasons for the irrational decisions. And they determine the choices of individuals and different behavioral factors shape the process of decision making. Cognitive limitation leads the application of mental shortcuts here, the decision makers lean on simplified way of solving complex problems because they consider the problems based on prior events and available information.

Bihari et al. (2022) their study found that cognitive errors are generated from mental accounting, herd behavior, representativeness and availability bias whereas over confidence, loss aversion and regret aversion are the cause of emotional biases. All these biases lead the irrational decisions of an individual and also, the study recommended to ensure the quality of investment therefore, individuals should include a proper strategy in their financial plans.

Mohanty et al. (2023) the structural matrix finding of this study shows recency and familiarity biases are more influencing investors financial decisions during pandemic period than overconfidence and confirmation biases also, the investors' adequate financial knowledge can reduce the influence of external factors and manipulation or cheating of third party in decision making. Therefore, the institutions should conduct workshops, proper strategies and different brokerage firms to create awareness among individual financial decision makers for mitigating the irrational decisions of them.

Conceptual Framework of Cognitive Errors Vs. Emotional Biases

Based on above literature reviews the following conceptual framework can be drawn. Behavioral biases can be categorised as cognitive errors and emotional biases. It aids the financial analysts and advisors because it helps to identify answers for mitigating these biases. Emotional biases stem from impulse or intuition and it results irrational judgments from reasoning influenced by feelings. Rather than through conscious effort, these emotional feelings are arising spontaneously from an individual’s emotions and they are deeply rooted harder to rectify. Cognitive errors are easier to ameliorate through proper coaching, advice and education because it arises from faulty reasoning and the errors stem from memory errors, mistakes in processing information or lack of information processing ability and lack of basic understanding of statistics. Belief perseverance biases and information processing biases are the two further classifications of cognitive errors. The former is coming from memory errors whereas latter is exposed the irrational way of information processing.

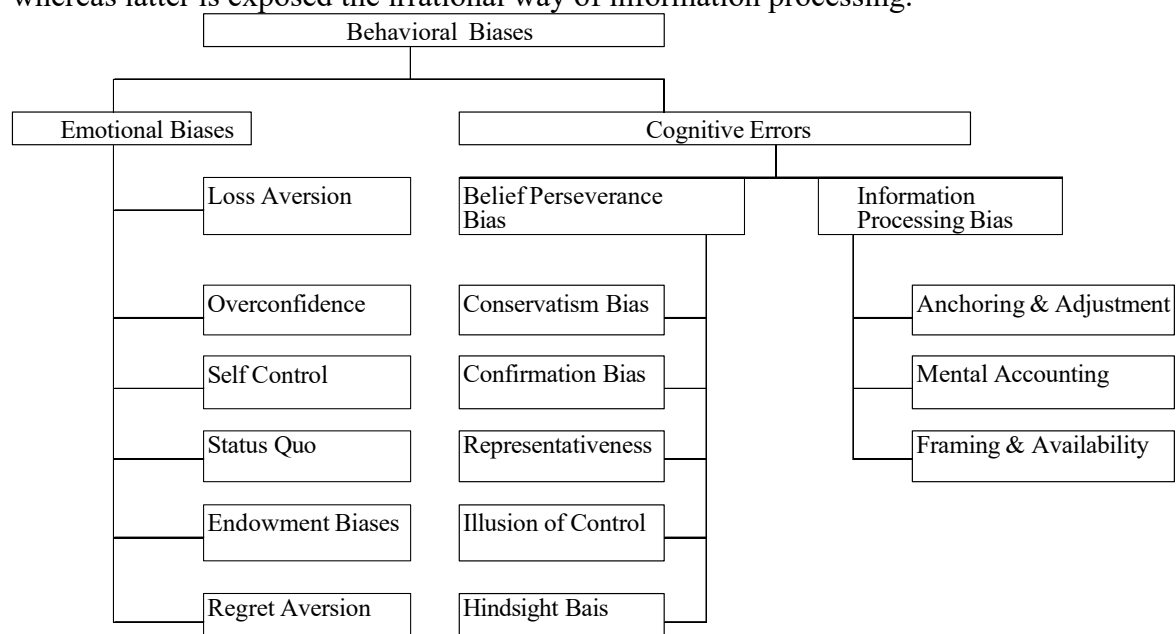


Figure 1. conceptual framework of behavioral biases

Heuristics and biases, frame dependence, emotions, self attributes and efficient markets are the central themes of behavioral finance specified by Dr. Prassanna Chandra in his books titled “Behavioral Finance” in 2016. From these central themes, a few psychological biases have been considered for the study and are discussed below and these biases are most common in financial decision making. Understanding about these biases is substantial because most often they produce negative financial outcomes.

Loss Aversion

Even though the necessary small risks are worthwhile usually people to value loss avoidance more than profit seeking because from loss they feel acute pain than the happiness of gains. Loss aversion is an emotional bias and it drives the individuals to avoid loss therefore it can derail the investors from their long-term goals and it may affect the growth potential of them what they actually need. Financial advisors can steer them to take rational investment decisions by teaching about this conservative tilt.

Overconfidence

It comes partly from the illusion of knowledge and it over estimates the accuracy of forecasts because the available information is not adequate in uncertain situations. Over confidence may cause an investor to under-react towards new information and the tendency to invest what is familiar with the investor that leads to earn significantly lower yields since, it is based on poor

diversification and very hard to avoid. Therefore, over confidence is a cognitive bias that can negatively affect the investment returns by ignoring relevant information and feedback which leads the people to overestimate their skill and knowledge.

Self-Control

Lack of self-discipline causes people to fail to ensure their best long-term interest and may prioritize frivolous monthly expenses. It shows the tendency to consume today at the expense of tomorrow hence they invest a smaller portion of their income or start late investments. According to life cycle hypothesis assumption, people usually try to keep a smooth and safe path of consumption but, they are likely to deviate from what the hypothesis suggest. People consuming lion's share of income to meet their present life style with their credit card, also, they do more shopping and prefer lavish life rather than savings, retirement planning, invest in equities etc. People should rationalise their spending and concentrate on savings to moderate this bias here the investors with self-control bias having ad-hoc decisions that are made in the spur of the moment instead they must be more sensitized and follow a scientific approach to decide their portfolio and set realistic assumptions because this bias can make a huge impact on investors decisions.

Status Quo

This cognitive bias ensures an individual's irrational preference for a default option to protect the current state of affairs over potential alternatives it may the result of inability of dealing emotions like fear of loss and uncertainty. Inertia in investment choices of individual investors is the outcome of status quo bias because even if the portfolio is not an optimal choice still, they are reluctant to sell underperforming assets and diversify with better opportunities. The result of status quo bias includes resistance to change in spending habits, reluctant to switch financial service providers, influence on retirement planning, biased evaluation of risk etc. because people tend to stick to their current spending patterns, stay with their existing service providers and also maintain existing risk associated with the investment. This bias brings skewed or incomplete analysis and it is deeply rooted therefore, an investor might be able to avoid this bias with the service of unbiased analysis of a middleman it helps to prevent distortion of facts.

Endowment Bias

This cognitive bias skews individual's perception towards the valuation of an asset and attributing higher values because they own them and emotionally engaged with that object hence, they placed excessively higher value on the asset. It means the minimum price to sell any good that the individual possesses higher than the price of the same good he is willing to buy because the ownership endows some added value to the same asset. Endowment bias can manage by considering the opportunity cost of that asset since, the benefit derived from the next best opportunity is considerably higher than the current stock or assets so it must be sold off and maximise gain by reinvesting the money of sold assets. And also think, stocks as a means to an end, not get unreasonably emotionally attached to them and the ability to avoid this bias determine the success of an individual investor.

Regret Aversion

People fear that their decisions will become wrong in the hindsight under the conditions of uncertainty so that they show the tendency to make emotional decisions rather than logical decisions to avoid feeling of regret. A person usually wastes time, energy or money on an initial decision to avoid feeling regret. One of the problems faced by the people is that they follow conservative way of investment hence, a diversified portfolio can reduce this cognitive dissonance. And the long-term view of equity investors on a well-diversified portfolio can also mitigate regret aversion because in the long run the investment is safer and brings decent return.

Conservatism Bias

It is a mental process where the decision makers emphasize on original or pre-existing information and they reluctant to incorporate new information or they may react very slowly to new critical information. Failure to revaluating complex data is one of the main reasons of this bias because here they have to go through a wide range of financial information it may mentally as well as physically stress them hence, they rely on pre-existing facts instead of framing new opinion. The decision makers especially the investors acknowledge this bias and seek professional advice for decision making so that in different ways the information can be interpreted and mitigate this bias.

Confirmation Bias

Confirmation bias particularly affects perceptions and decision making of individual investors because it helps to explain why investors do not always behave rationally. Here the investors inadvertently look for favour information about the asset or strategy that support their preconceived notions and fails to register data that present contradictory ideas. Consider the opinion from other person's point of view and also, actively seeking contradictory evidence are some of the ways to mitigate the bias.

Representativeness

When individuals face uncertainty, they often rely on mental short cut because, they confuse with the similarity of objects or events and believe these similar things are more closely correlated than actually what they are hence, make irrational decisions and mistakes based on comparison of present situation to already made concept in mind. Individual investors being aware of this bias and actively try to avoid them by keeping an investment diary for entering the reasoning whether good or bad it should be matched with the outcomes.

Illusion of Control

When individuals over estimating their ability to control outcomes where arise the illusion of control bias and this cognitive error influencing the people regardless of their age, gender and status. The result of this bias is suboptimal since, it influences the individual investors or analysts to engage in overtrading, market timing and holding concentrated portfolios hence, diversification in assets collection, maintain a long- term time horizon are some ways to mitigate it.

Hindsight Bias

This psychological phenomenon causes overconfidence to predict future events and the problem is past events make base of patterns for prediction so that an individual should understand it may not be perfect always but, it can influence in decision making. Knowledge about the bias helps an individual to prepare and mitigate it also, imagine alternate and even opposite scenarios to the prediction of future events.

Anchoring

After forming an opinion, even though the people may receive any new relevant information but they are not willing to change their first information. When individuals rely heavily on the first information they encounter, rather than the pertinent where the anchoring bias occurs.

And, if the initial information is not well founded every so often it can lead false decision making. The specific information which we received at the first was the anchor and it was referring point for future judgements. Even though the market participants reveal normal and self-controlling tendencies they are not perfectly rational and self-controlled that describes the subconscious use of irrelevant information. Emotions and various extraneous factors carry disproportionately high weight in one's financial decision-making process because an anchoring bias can cause financial analyst or investor to buy an overvalued investment or sell

an undervalued investment. Anchoring bias can be seen in anywhere such as sales volumes, cash flow, commodity prices, security prices etc. however, acquisition prices or high-water marks are common anchors and they might cause irrational decisions of market participants because these values are unrelated to market pricing.

Mental Accounting

Mental accounting is a cognitive error based on subjective factors it influences the individuals to classify funds differently and prone to make irrational financial decisions. A paper titled "Mental Accounting Matters" defined the concept mental accounting in 1999 by the Nobel Prize-winning professor of Economics 'Richard Thaler'. It emphasizes the thought of fungibility. Usually, people violating this fungibility concept when people dealing with a windfall situation or gift money such as bonuses, tax refunds, lottery winnings, birthday money etc. because they think such gift money is not part of their regular income and engage in extravagant expenses or irrational spending and investment decisions. Therefore, Thaler advising that the individuals should treat the windfalls as their regular income and take decisions based on a solid financial plan.

Framing

Here the individuals are influenced to make investment decisions by creating images on their first information and such images might lead irrational financial decisions or loss-making decisions. It triggers emotional responses that leads cloud judgement and suboptimal decisions. Individuals make extra vigilant research to prevent themselves from these types of mistakes. For instance, even if the actual risk of investment is relatively low but framing it as 'high-risk' that can lead the investors to make the more risk averse avenues. Laing (2020) decision makers exhibiting the risk seeking behavior and the predictable cognitive behavior not elicited through negative framing.

STRATEGIES TO OVERCOME COGNITIVE ERRORS AND EMOTIONAL BIASES

Identifying the negative influence of behavioral biases and the strategies to overcome these biases are the key aspects of the study. The decision makers can use some tested technique from behavioral science to prevent biases up to a certain extent from influencing financial decisions. Psychological biases impairing the quality of decision-making and the financial analysts advise some practices to lessen the predispositions.

Recognise the bias in our decision is very significant since, the role of bias is huge in our everyday decisions that may impair especially financial decisions. It helps the market participants to enhance their outcomes.

Relying more on words and numbers because it must activate the mind rather than the sights and sounds for example, rely less on television programmes of what we see or hear and depend more on annual reports of the company what we could understand in them for rational decisions. And an individual should focus on total wealth level and ignore the short-term price changes of the portfolio because global view activates the reflective system than the gain or loss on single investment.

Investors are less prone to do something drastically if they have a diversified portfolio like 15 to 20 stocks from different companies. This is because, when they incur losses from one or two stocks can be offset by the gains from other stocks. Therefore, the impact of personal biases such as overconfidence in a specific stock or sector of an investor can mitigate. And the long-term performance of the portfolio can be improved.

Periodically rebalance our portfolio along with the target asset mix may force us to sell the assets have high prices and buy them have fallen prices. It is very hard to stay calm and wait when our portfolio is losing value but during market volatility an opportunity can abound to rebalance this portfolio and also, we can maintain our asset allocation when stocks are down and bonds are up by selling high and buying low priced security. Here we can take the

advantages of tax saving opportunities or capitalizing on low interest rate from the market weakness.

Reacquaint with our goals when we feel anxious about our finances. We can take a break from our day- to-day market performances to check our goals and find out how can achieve these goals with our current financial strategy. A periodical review of our psychological biases is very necessary that will help us to learn whether we are in right path or not.

When the prices of assets are rising individuals become euphoric on the other hand, they turn despondent therefore, they track their feelings because one must train oneself to adjust with their emotional feelings. And if you take care of the downside of an investment then the upside takes care of itself it may reduce the behavioral biases of an investor.

If an individual wants investment activity discipline he has to regulate and control the investment environment. Because of uncertainty in information processing individuals may not be able to describe problems and record systematically or facing snags to synthesize information to create rules. To arrive at a perfectly optimal decision a decision maker should have the ability and also spend more time instead, they may follow their basic judgements and preferences to determine a course action which is more subjective and suboptimal path of reasoning. Generally, a good enough solution is accepting the decision makers rather than attempting to find an optimal decision because they are striving to simplify the alternatives therefore, selecting representatives from total and rejecting others. It may cause unintentionally bias the decision-making process and the results are irrational behaviors and decisions.

FINDINGS AND CONCLUSION

Cognitive errors and emotional biases often acting against our better judgement. Guard ourselves against becoming irrational when we are managing money also be rational shoppers, save and investment of money can be done by better understanding and learning of such behavioral biases. Biases are either cognitive or emotional they create behavioral patterns that may affect our financial decision making and can lead us astray. Chhapra et al. (2018) investors are highly influenced by overconfidence and hindsight biases than the other variables of the study like herding, overreaction, cognitive biases. And also, various policies can be made by regulatory bodies to promote more investors by providing training to do own research and technical analysis therefore, their knowledge will be increased and ensure rationality in decisions.

Comparing with emotional biases, to a certain extent cognitive error can be overcome because emotional biases are ingrained in our brains harder to overcome and these psychological traits are being exploited by the marketers to make us to impulsively buy and spend more. Instead of take back control of our thoughts and decisions we must be proactive to know the specific of a deal and spend more rationally. Failing to recognise our biases also influenced by bias that can create blind spots in decisions. one way to outsmart these tendencies is education because learning about long term performance can set realistic expectations for finance or investment decisions.

Individual investors can improve their decision-making process and enhance their returns if they recognising these biases and implementing strategies to mitigate them. Developing a long-term financial plan, regularly rebalancing, seeking professional advice, continuous education and self-awareness are some of the crucial steps to mitigate the cognitive errors and emotional biases of an individual in financial decision making.

Individuals deeply ingrained biases and feelings are often influencing their financial choices. For making sound financial choices these emotional hurdles have to overcome by making a set of clear goals because having a well-defined objective helps in making rational choice. Financial future become more secure by addressing the emotional aspects of financial decision making and by taking measures to overcome such behavioral biases. It helps to make confident

decisions and stay informed about the financial matters. Accordingly, an individual can make the way to achieve the long-term financial goals. Individuals often depend on their intuition but sometimes our cognitive and emotional biases may cloud our judgement when making decisions particularly financial decisions. Hence, the study considers each bias separately and gives a unique insight on cognitive errors and emotional biases.

RESEARCH LIMITATIONS AND PRACTICAL IMPLICATIONS

The paper provides a proper understanding and guideline on different behavioral biases. The study results bring more value to existing information. The study is highly beneficial to recognise the psychology of individuals therefore, the information is most relevant for financial advisors to develop behaviorally modified portfolio as per the clients' predisposition. The limitation of this study is sample survey analysis is not conducted by selecting representatives from population since, it is based on theoretical frame work and available literature.

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