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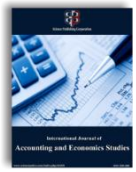

Impact of Framing Effect and Financial Behavior: A Review of Cognitive Bias in Investment Decisions

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Abstract

Framing is a cognitive bias that causes an individual to behave differently in response to the same information when presented differently. This paper analyzes studies on the impact of the framing effect on investment behavior, and examines the impact of gain and loss framing on decisions, the impact of the framing construct on investment decisions within the context of everyday routine, as well as on decisions made in specialized situations, and the effect of framing on investment decisions, and the scenario of loss aversion. The review synthesizes theoretical and empirical work to show how different ways of presenting identical financial information systematically shape investors' risk perceptions, portfolio choices, and susceptibility to bias. The findings of the study demonstrate that framing influences decision-making and investment behavior, and observe that people tend to choose riskier options easily if they are framed and communicated profitably and attractively. This effect tells us that people's judgments and decisions are highly prone to the manner in which the options are framed or presented to them. This provides insights for practitioners for framing strategies to influence the choices and behavior of customers and investment decisions. This study will be helpful for investors in selecting the best alternatives, leading to optimal decision-making towards their investment journey.

Keywords: *Framing; Loss Aversion; Investment Decision; Investment Behavior; Cognitive Biases; Behavioral Finance.*

1. Introduction

According to standard finance theory, it is assumed that investors are rational, which means they have enough knowledge about the market and can act wisely in order to mitigate the risk and maximize their wealth, and their emotions and biases are not supposed to have any influence on their investment decisions. But behavioral finance fully contradicts this obsolete approach and challenges that investors are inspired by the cognitive biases, resulting in suboptimal and irrational decisions (Konstantinidis A.D., Spinthiropoulos, &Kokkonis, 2018). Previous studies have evidenced that there are several components that can mitigate the effect of framing. For example, framing effects are considered more powerful for events that are single risky; moreover, the effect was lessened for those that require more justification, rationality, and more clarification (Cheng, P. Y., & Chiou, W. B., 2008). It is because of the framing effect that investors in the stock and money markets behave differently. The framing effect has been widely discussed as a tool that policymakers may use to shape public perception and policy acceptance (Tversky & Kahneman, 1981). With the help of a deep understanding of framing effects, policymakers can construct more effective, influential, and widely accepted policies to enhance their customer accessibility. The present paper is an attempt to make a systematic review of the accessible literature within the contexts of influence of gain and loss framing on decision making, impact of framing construct on investment decision within the context of everyday routine, as well as on decisions made in specialized situations, effect of framing on investment decision, and scenario of loss aversion. Consistent with prospect theory, the framing of financial outcomes plays a critical role in shaping investors' risk preferences.

The framing is a cognitive heuristic that suggests that individuals' decisions are motivated by the way facts are portrayed to them, though the information presented is the same. When talking about investment behavior, it is vital to comprehend the impact of framing on decision-making, as it can result in suboptimal or irrational outcomes. A thorough grasp of how various framing strategies—such as gain versus loss framing or positive versus negative framing—affect investors' risk perception, portfolio allocation, and overall investment decisions is still lacking, despite the expanding body of research in behavioral finance. It is crucial to comprehend the cognitive biases in investment decision-making as the global financial market is becoming more complex and volatile day by day.

Investors are more prone to the framing effect, which could result in suboptimal financial decisions because they go through a lot of information every single moment. This study aims to provide an insight that will help investors, policymakers, and financial advisors better navigate the intricacies of decision-making by analyzing the role that framing effect plays a markable effect in influencing investment

behavior. This study contributes to the understanding of behavioral factors that may undermine market efficiency by synthesizing evidence on how framing influences investment behavior.

2. Literature Review

2.1. Framing and framing effect

The term "frame" implies that “the way people behave depends on the way that their decision problems are framed” (Tversky & Kahneman, 1981). Tversky and Kahneman (1981) formalized framing effects, demonstrating that preferences can reverse depending on whether outcomes are presented as gains or losses. Later refinements further quantified loss aversion and probability weighting (Tversky & Kahneman, 1992), establishing framing and loss aversion as distinct but interrelated mechanisms within behavioural finance. The framing effect explains that people react to the same financial information differently when the same information is framed and presented differently. For example, people may consider a prize as an extra income and might spend it more frequently than their regular income, though the money is the same. Let’s consider one more example of two products, one says 20% fat while another says 80% fat-free. It is just the power of framing that consumers will opt for an 80% fat-free product, though the same information is presented differently. Framing violates the traditional economic theory, which assumes individuals, particularly investors, are rational. “The test, called the Müller-Lyer illusion, was devised in 1889 and has been often used to demonstrate how configurations can distort our visual perception”. People behave differently in the same event when served differently.

2.2. Framing effect on investment behaviour

According to the theory of finance, investors make investments on the basis of their potential to bear the risk and desire to have a profitable outcome. But behavioral finance (a novel concept of economics based on human psychology) fully contradicts this obsolete approach and challenges that investors are influenced by cognitive biases, resulting in suboptimal and irrational decisions. (Konstantinidis et al.,2018). This is evidenced by the (Konstantinidis et al.,2018) narrow effect of framing (Kahneman and Lovallo, 1993), which suggests that people behave more risk-averse when the situation is framed positively, whereas they become risk-seeking if the circumstances are framed negatively. It can be said that decision-making is greatly influenced by framing, specifically when it comes to stock market decisions, and “for each investment problem there are several investment frames and among them investors opt for the most convenient one” (Konstantinidis et al.,2018). For each investment problem, there are several possible frames—such as focusing on short-term gains versus long-term losses—and investors tend to adopt the frame that appears most convenient or emotionally appealing, even when it leads away from strictly rational optimisation. Framing effects in investment decision-making have been linked to loss aversion (Tversky & Kahneman, 1992; Barberis & Thaler, 2003), hedonic editing (Thaler, 1980), and attentional and evaluative heuristics (De Martino et al., 2006; Gigerenzer, 2008). According to Tversky & Kahneman (1981), stock exchange investors are subject to the idea of loss aversion, which functions as a distorting mirror of future investment choices and, when combined with shame, leads investors to make safer and less risky decisions. Make more cautious choices and avoid taking risks.

There may not be a correlation between the choices that investors are required to make simultaneously or concurrently. The psychological state of the investors influences how many investment stock choices they make in a short amount of time. A shift in preference and hurried, impulsive behaviour are frequently the results of an imbalanced psychological state brought on by worry; this results from investors having to follow through on the decisions they are supposed to make. “The deliberate choice to plan several occurrences to hedonistically maximize results is known as hedonic editing” (Thaler, 1980). Investors must process events in a way that prioritizes greater enjoyment and happiness over profits. The tendency for people to frame investments within extremely tight deadlines is another problem. Investment initiatives are long-term; making poor investment decisions in short periods of time leads to poor investment practices.

2.3. Incidental emotion and framing effect

The way information is presented (either by highlighting gain or the possibility of loss) influences decision-making very much, specifically if the investors are not competent enough to understand the financial terminology. “It should be clear that some incidental emotions, like fear, do not always result in a particular investment behaviour, like risk aversion, since other factors, such as cognitive biases, can drastically alter the investment preference's course” (Cantarella et.al, 2023). “Fear and excitement are the two emotions that are identified as specifically pertinent to the context of financial decision-making when they are experienced incidentally” (Lee & Andrade, 2011). Fear leads to pessimistic judgments and provokes risk-averse decisions, whereas excitement, on the other hand, results in optimistic judgments and provokes risk-seeking behaviour (Cantarella et.al, 2023).

Behavioral finance describes that an individual's notion and decision-making can be restructured and mitigated on the basis of the fact portrayed (Kahneman & Tversky, 1981). “In the field of financial decision making, previous literature has highlighted the importance of understanding the impact of informative channels (e.g., TV, newspapers) on individuals’ risk attitudes” (Konstantinidis et al.,2018). For example, the colours used in the stock market depict a greater influence on the decision-making of the investors; red is assumed to have higher chances of losses as compared to the green colour (Kliger & Gilad, 2012).

Recent studies on financial behaviour in digital trading environments show that framing is amplified by trading-app use itself, as interface design, push notifications on app-based platforms, where return histories, leaderboards, and “zero commission” messages can urge investors toward frequent, risk-seeking trades (Gorkhe et al., 2024; Torres et al., 2024). Similarly, Freibauer, Rieger, & Grawert (2024) and Gathergood, Loewenstein, & Shah (2024) observed that neo-broker interfaces and gamification were associated with higher trading activity and risk tolerance among investors. Chapkovski (2023) also found that hedonic elements such as confetti and achievement badges are correlated with higher trading volume, particularly among individuals with lower financial literacy. The review indicates that digital choice architecture in trading applications can systematically shape risk-taking behaviour, trading intensity, and preference expression among investors (Freibauer et al., 2024; Gathergood et al., 2024).

2.4. Group polarization and framing effect

Risky shift is a concept that explains that group decision-making appears to be riskier after group discussion in comparison to individual decision-making. People always want to be aligned with the safer side or “above the average”. For instance, “if the situation is presented

in terms of profit, then seeking better can make individuals more alert, whereas if the scenario is portrayed as loss, then seeking better suggests more riskiness" (Cheng et al.,2008). A study by Fagley and Miller (1997) suggested that when decision-making is about human life, then more risky choices can be opted for in comparison to money when framed negatively, and it suggests the incorporation of "framing effect and arena" (Cheng et al.,2008). Overall, we can say that the framing effect in group investment decision-making is more important than individual decision-making.

2.5. Loss aversion and framing

Tversky and Kahneman (1992) suggested the loss aversion, which explains that people treat gains and losses separately and experience more pain while losing something in comparison to gaining something of equal value. "Barberis and Thaler (2003) argue that the extent of loss aversion will influence the frequency with which investors evaluate their portfolio and that the way investors frame gains and losses is plausibly influenced by the way information is presented to them" (Mbaluka et al., 2012). If investors are considered as loss averse, they are for sure not going to invest their money in equities, and if they participate, then they will invest only a part of their available funds (Mbaluka et al., 2012). It can be said that individual decision-making has a greater influence of framing effect and loss aversion as well (Mbaluka et al., 2012).

Recent empirical work further refines the understanding of framing and related behavioural biases in contemporary financial markets. Systematic reviews and bibliometric analyses similarly report that framing, loss aversion, and overconfidence remain among the most frequently documented biases in investment decisions, particularly in emerging markets, as observed by Cantarella, Hillenbrand, and Brooks (2023) that gain–loss framing interacts with incidental emotions such as fear and excitement, jointly shaping retail investors' risk attitudes and portfolio choices.

This integrative review draws together prospect theory foundations with the rapidly expanding post-2010 behavioral finance studies and synthesizes framing as a central mechanism through which information presentation, market news, and media signals influence portfolio allocation. This review of literature observed several unresolved issues and gaps. The existing behavioral finance studies are fragmented, and a unified framework that integrates these interrelated behavioral mechanisms is required to explain how multiple cognitive and emotional processes jointly influence investment decision-making; hence, this study synthesizes framing effects, loss aversion, incidental emotions, and group decision dynamics within a single investment behavior framework. This review observes that an investment-centric synthesis is needed that systematically organizes framing research around core financial decisions, so this study consolidates framing-based evidence within the investment domain, aligning diverse findings under prospect theory to present a coherent narrative of how framing influences investment behaviour. As recent studies on fintech, trading apps, and gamified platforms are often discussed independently of the foundational theories, a conceptual bridge needs to be explored that links prospect theory and framing mechanisms to investor behaviour in contemporary, technology-mediated trading environments, so this study integrates emerging evidence from digital trading platforms with prospect theory. Prior research has typically examined incidental emotions as standalone predictors of risk behaviour, rather than as integral components of framing processes, but a process-oriented perspective that explicitly embeds incidental emotions within framing-based explanations of investment decision-making is needed, and this study incorporates incidental emotions into framing-based analyses. By addressing these gaps, this study advances behavioral finance research from fragmented bias identification toward an integrated understanding of investment decision-making.

3. Research Design

The present study adopts an integrative literature review design to synthesize theoretical and empirical work on framing effects, financial behaviour, and investment decisions, conceptually linking classical prospect theory with emerging evidence from digital trading environments. The review of literature covers the period from the development of behavioural finance and framing theories, and then the application to modern financial markets. The review proceeded in three stages. First, the identification in which a keyword strategy was applied centred on "framing effect", "gain framing", "loss framing", "behavioural finance", "cognitive bias", "investment decision" and "investor behaviour", that was used to search Scopus, Web of Science, ScienceDirect, Taylor & Francis Online and Google Scholar, complemented by backward and forward citation tracking of seminal works. Secondly, screening was applied in which studies were included if they were published in peer-reviewed journals published between 1980 and 2024, written in English, and examined framing. Finally, eligibility was confirmed by screening titles, abstracts, and full texts against these criteria, yielding a focused set of studies that capture how framing interacts with loss aversion, incidental emotions, and group decision processes in investment contexts, with particular attention to emerging markets where market inefficiencies can intensify behavioural biases.

4. Discussion

This study examines the impact of the framing effect on decision-making, particularly within the context of investment. It was found that there is an instantaneous influence of both gain and loss framing on decision-making. Across the reviewed studies, investors consistently display sensitivity to how equivalent financial outcomes are framed, and this sensitivity can trigger deviations from normative models of rational choice. "It should be noted that some incidental emotions, like fear, do not always result in particular investment behaviour like risk caution. Fear often results in pessimistic judgments and emphasizes risk-averse decisions; on the other hand, excitement can result in optimistic judgments and provoke risk-seeking behaviour. Framing affects the decision-making of an individual, which can result in suboptimal decisions, but it is found that if framing can be identified and interpreted, it can also be controlled and mitigated. Framing can be controlled and mitigated by keeping control of one's emotions, as well as if someone is planning to invest, then it is better to go for professional advice from stock market professionals in order to discourage misleading or irrational investment decision-making.

This study demonstrates that investor judgments are shaped by the joint influence of framing effects, incidental emotions, and other behavioural biases operating within increasingly complex market environments, and suggests that the manner in which financial information is presented plays a central role in shaping risk perception and subsequent investment choices. This study observes that positively framed information is consistently associated with more risk-averse responses, while negatively framed information tends to encourage risk-seeking behaviour, particularly when accompanied by emotionally charged market signals, appearing to be more pronounced among less sophisticated investors.

This review is consistent with recent empirical contributions, indicating that framing remains a robust explanatory lens for understanding suboptimal investment behaviour, even as market structures, trading technologies, and information channels continue to evolve, suggesting that technological advancement does not eliminate behavioural biases but may instead alter their expression.

Synthesizing past literature and comparing empirical studies, this study reveals notable variation in the reported magnitude of framing effects and inconsistencies in how risk preferences are measured and how gain versus loss frames are operationalized, which indicate that framing effects are context-dependent rather than uniform. The study submits that alternative mechanisms, including attentional limitations, information overload, and platform-level design features, may interact with framing to influence observed investment behaviour. This study observed that the extent of loss aversion influences the evaluation of the portfolio of the investor and also the way information is portrayed, which very much affects the decision-making. According to the loss aversion of prospect theory, people consider loss as more painful than gain. If investors are loss averse, they will not invest their money in equities, or if they participate in investing, then they will opt for investing only a part of their funds available for investing.

This paper offers insights for financial advisors from framing effects to guide investor behaviour by presenting financial information in a balanced and transparent manner, and to address the likelihood of emotionally driven or biased investment decisions. The findings of this study are useful for policymakers to understand framing mechanisms to design persuasive and effective financial policies. The study offers useful information for investors to recognize framing and related cognitive biases by developing greater awareness of how information presentation influences their judgments.

5. Conclusion

Framing is a cognitive bias that depicts the propensity of an individual to react in accordance with the way the information is portrayed to them. The different way in which a company's information is presented depicts different investment options. Consistent with prospect theory, the review shows that investors typically act more cautiously when information is framed as gains and more risk-seeking when the same information is framed as losses, highlighting the power of presentation in shaping market outcomes. There is a concurrent influence of both positive and negative framing on decision-making. Group decision-making may expand the influence of the framing effect when it comes to group polarization in comparison to individual decision-making. While framing can be recognisable, it can also be mitigated and discouraged by keeping a check on emotions as well as by employing the services of investment professionals.

The limitation of the study the respondents were selected from a particular region and a selected age group; their investment behaviour cannot be generalized to the entire population. The study is limited to some specific emotions like fear and excitement. Moreover, the present literature explains the interaction between incidental emotions and cognitive heuristics, which can mislead investors while making investment decisions, which can result in suboptimal decisions.

Future empirical research is suggested on whether the incorporation of these two can bring about positive and sound decision-making. Further, there is a need to conduct a study on whether the interaction between the incidental emotion and cognitive bias can result in sound decisions, specifically in the investment context. Future research should directly address these gaps by using field experiments and high-frequency data from digital trading platforms to test how specific framing manipulations and nudges affect real investment flows and portfolio outcomes across different investor groups. There is also scope for mixed methods studies that integrate surveys, behavioural tasks, and platform analytics to examine how framing, incidental emotions, and fintech interface design jointly shape investors' long-run financial well-being.

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