

## PROSPECT THEORY – THE KEY TENETS AND THE CHALLENGES

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### ABSTRACT

*The paper provides a comprehensive overview and insights on the key tenets and challenges of prospect theory. It benefits the professionals to select appropriate framework for their investors to support business growth and achieve sustainability. Based on review of literature and other secondary data sources loss aversion, reference dependence, diminishing sensitivity, decision weights (probability distortion), changes in risk attitude are some major tenets of this theory. Loss aversion is a cognitive bias where individuals are strongly motivated to avoid losses or psychologically, they perceive loss is more severe than an equivalent gain. Where people selecting an existing reference point or status quo to evaluate their outcomes that explains reference point dependence. The diminishing sensitivity describes people are more sensitive to price changes. When making decisions under risk, decision weights explaining how individuals perceive and evaluate probabilities. Individuals' risk seeking and risk aversion attitudes may vary depend on how they frame choices. The present study helps to recognize the constructive and adverse tendencies of these concepts and explore more effective strategies in financial and public policy making.*

**Key words:** Prospect theory, Key tenets, Loss aversion, Reference dependence, Diminishing sensitivity, Probability distortion, Risk attitude, Cognitive bias.

### INTRODUCTION

In 1979 prospect theory a psychological theory of choice was introduced by Amos Tversky and Daniel Kahneman and in 1992 they modified the theory which described during different conditions how the people's psychological attitudes influenced their choices. In behavioral economics the concept of prospect theory shows how people evaluate potential gains and losses under uncertainty since, the psychological factors influencing their decisions they do not always act rationally.

Expected utility theory explained how people should make decisions when they facing uncertainty and in 1944 it was first developed by John von Neumann and Oskar Morgenstern. It assumed people act rationally by consistently weighing probabilities, outcomes and maximise expected utility. When people made choices there raised several issues in decision-making because, it didn't follow the assumptions of expected utility theory and had seen the frequent irrational behavior also, failed to explain during uncertainty how they made choices (Amos Tversky & Daniel Kahneman, 1979) Based on those observations as a substitute prospect theory was introduced to make choices during risk (Amos Tversky and Daniel Kahneman, 1979) and it was considered as psychologically more accurate with monetary outcomes and stated probabilities the theory is developed for simple prospects. The paper emphasizes the significance of incorporating psychological biases such as loss aversion, framing effect, endowment effect etc. in to financial models and enhances accuracy in capturing real-world dynamics.

### REVIEW OF THE LITERATURE

Prosad et al., 2015 [1] their study concluded that there were lot of concepts in behavioral finance all those concepts enable the researchers to attain realistic approach to incorporate investors' psychological thought process and emerging some behavioral biases they were heuristic biases or frame dependent biases such as representativeness, availability, anchoring,

adjustments, loss aversion and narrow framing. Apart from those biases herding and status quo biases were highly influencing investors' choices.

Moore, 2020 [2] prospect theory considering the sequence of gains and losses over time and not care about the mean and variance of future wealth because investors measure these gains and losses when the portfolio value changes and it includes investment returns, contributions and management fees. The paper concluded that to increase savings for individual investors and households required an optimization of the timing of investor inflows and outflows to target investor preferences leading to achieve a lifetime wealth and greater financial security.

Erdogan, 2021 [3] the study enables to test the assumptions of the prospect theory and identify the managerial behaviors of managers and under graduate students under risk. The results of the study can generalise to all corporate managers and undergraduate students. When both the groups take risks, managers are more willing to take high risks and if the groups avoid risk, the risk avoidance behavior can be seen high in managers and the study reveals managers are more confident than students regardless of taking or avoiding risk. And it helps the professionals to design new regulations which lead healthy financial decisions and it also benefits the instructors to design new programmes for students to make them ready to the real business word.

Banerji et al., 2022 [4] from the analysis and interpretation of the study they identified the relationship between behavioral biases, based on such relationship professional advisors can develop financial profiles which benefit the investors choices therefore, an investor decision-making profile were proposed.

Sharma et al., 2023 [5] the study shown that the incorporation of prospect theory in to the investment strategies can refine portfolio management techniques and can also bring more resilient and adaptive approaches that align with the investors' true preferences. Prospect theory suggests that the decision makers responses are influenced by the presentation of regulatory changes because the regulatory decisions enhance the market stability and investors protection all these are influenced by status quo and framing biases.

Ladrón de Guevara Cortés et al., 2023 [6] a descriptive statistical analysis is conducted to identify certainty, reflection and isolation effects. Chi-squared independence, Kruskal-Wallis and Mann-Whitney tests were used for analysis. The study participants were students of two universities and the study found that during uncertainties the respondents relying more on prospect theory irrespective of their demographic and socio graphic factors.

Lal et al., 2024 [7] their study explored the Bangalore investors' investment behavior and descriptive statistics, factor and regression analyses were used and found that moderate risk tolerance with significant behavioral biases especially loss aversion affected their decisions. Regional differences influenced their risk tolerant capacity therefore, the study advocated a tailored financial product, advisory services and enhanced financial education to mitigate behavioral, cognitive biases and regional characteristics.

### **OBJECTIVES OF THE STUDY**

- To obtain an overview and understand the prospect theory and the key tenets.
- To understand various challenges of key tenets of the prospect theory.
- To explore practical implications and recommendations for financial professionals to enhance risk management practices.

### **RESEARCH METHODOLOGY**

The study is based on exploratory research and secondary data are used to get an overview on key tenets of prospect theory with its challenges and practical implications. Therefore, through this paper people will attain knowledge on stated objectives. Various published sources have been used for secondary data collection such as journals, yearly reports, research reports, periodicals, articles, websites and objectives related videos. And the study has drawn certain

findings, implications, recommendations and concluding observations to strengthen investors' choices.

### **PROSPECT THEORY**

The theory challenging notion of rationality of individual in economic behavior and it can incorporate psychological realism into economic models to provide a framework for understanding why the individuals often make irrational financial choices. Therefore, it can revolutionize our understanding of financial decision-making. According to the theory, decision-making process has two stages - editing and evaluation. In editing phase usually, the status quo or an individual's current situation is considered as a reference point where the potential outcomes are ordered as per this reference point. And this stage includes preliminary analysis and a simpler representation of the prospects. During evaluation stage based on the potential value people assess the outcomes and the highest value of prospects will be selected. For instance, sometimes the evaluation impacts the financial choices of insurance buying or gambling because people may overweight certain small probabilities and underweight larger ones. The theory's value forming function shows as S-shaped and asymmetrical and concave and convex to gain and loss respectively because, it indicates a diminishing sensitivity when gains increase and showing a same diminishing sensitivity when losses increase and it exemplify the intensity of pain from loss is very high comparing to pleasure from gain.

### **KEY TENETS OF THE PROSPECT THEORY**

The impact of prospect theory is very significant in economics, finance and psychology. In 1992, Kahneman and Tversky published cumulative prospect theory a modified version of their prospect theory and the present paper discussing the key tenets of modified version of prospect theory and it includes:

**Loss Aversion** – According to Kahneman and Tversky the value function is steeper for losses than gains because here, the people hurt more strongly the pain of losses than the pleasure from equivalent gains. This psychological tendency is the core concept of prospect theory and various studies suggest that the losses perceived ratio is 1.5 to 2.5 times more impact than equivalent gains.

**Reference Dependence** – Based on a reference point people evaluate their outcomes rather than considering their final absolute wealth or utility of each outcome. When people are presented with alternatives, they have their own probability for their gain and for their loss here, people have a reference point based on it they assess utility or the potential benefits of each possible outcomes and they not evaluating the absolute utility but they evaluate relative utility for each outcome. Usually, their reference point is how much wealth they currently have and it includes current wealth or status quo. Related to this reference point people defining their gains and losses that highly influencing their decision making.

**Diminishing Sensitivity**- The psychological phenomenon refers to the impact of a change in wealth or outcomes decreases when the people move from a reference point or its magnitude increases. Here, based on S-shaped value function people value their outcomes either gain or loss. For gains, the value function is concave where people tend be risk-averse because, if they have gain, they feel good but there do not make any feeling of twice the gain brings twice the good. And when the value function is convex for losses on those losses people have a risk seeking tendency that means when people feel loss, they experience a pain but twice the loss that doesn't mean twice the pain.

### **Decision Weights (Probability Distortion)**

This tenet is the corner stone of prospects theory where people do not objectively perceive outcomes and probabilities. It may lead to irrational decisions since they assign different weights to these probabilities. From a psychological standpoint, the emotional impact of gains and losses and cognitive biases inherent in human judgement are some causes of framing

outcomes. And these are influencing the decision weights. Because instead of perceiving probabilities linearly people, overweighting small probabilities that tends to overestimation of unlikely events and under weighing large probabilities causing underestimation of almost certain events such as overpaying insurance for rare events and under paying for frequent ones. And this tenet is more relevant when examine endowment effect where individuals' assign more value to their own objects even if the other objects have same market value.

### **Changes in Risk Attitude**

In prospect theory the risk attitude describes how the behavior of people changes depending on their perception of a situation as a gain or loss. Because depending on the nature of prospect or under uncertainty their risk aversion and risk seeking attitude will be changed and it will be influenced their financial decisions, investments, gambling, insurance and also their general risk-taking behavior. Here people are risk averse for high-probability gains. They prefer a sure gain or they prefer a guaranteed small win over a larger gamble win. And they sometimes gambling on lotteries for risk-seeking for low-probability gains. Here, people become risk-seeking when they face sure loss as, to avoid a definite loss they may prefer a risky choice. They sometimes risk-seeking for high-probability losses by holding onto losing stocks and risk-averse for low-probability losses through buying an insurance for uncommon incidents or disasters.

### **CHALLENGES OF THE PROSPECT THEORY**

In order to predict outcomes and understand the decision-making process of different parties, from economics to political science prospect theory can be applied to variety of disciplines. However, it's not free from its critics and some of the notable arguments are:

Most of the psychologist argued that the theory fails to justify the full range of affective and emotional states and the influence in financial decision making. Since the reference points are the key components of this theory, if they are not sufficiently developed the predictions making on them are inconsistent because the reference point is subjective and varies between individuals. Sometimes the theory doesn't explain how they are formed and why they differ from others which result, unreliable predictions and generalisations. They may challenge the diverse situations.

The primarily descriptive theory explains how people make decisions and not prescribing how they should make decisions. So that the theory lacks prescriptive solution for decision making which limiting the utility where the actionable guidance required in complex scenarios of financial planning and policy making. The static conditions and simplified choices reduce its practical effectiveness in varied contexts since they do not align with dynamic and multi-faceted real-world decisions. The theory mainly focuses on short-term decision making and doesn't address the long-term consequences therefore, limits the relevance of strategic planning and forecasting.

According to the theory people make decisions on perceived gains and losses but it doesn't accurately explain why the pain of losses have disproportionate or so powerful emotional impact than the pleasure of gain. The theory acknowledges the role of emotions but it is criticized cause, the psychological mechanisms and other emotional influences on decision making are not fully explained.

The theory struggles to address the ways of presenting information or not adequately explain the reason for frame selection since, the framing effect is the key aspect of prospect theory. The theory's framing theory is being insufficient and the decision makers encounter competing frames and difficult to explain why individuals choose the frames, which frame uses to interpret and present information. Even if the underlying outcomes are the same the way, a decision is presented can influence individuals' choices. The theory may overshadow other important factors such as individual preferences and values of decision making because it is highly

focuses on framing, gains and losses there is not any deeper exploration of the underlying emotional processes. In planning and decision making emotional and affective responses are crucial but they are absent from the model.

Probability distortion leads irrational decisions where individuals deviating from actual probabilities and assigning more weight for lower probability and less weight for higher probability events therefore, this concept is not adequately explaining individuals' perception towards risk and uncertainty.

### **FINDINGS**

The phenomenon known as loss aversion leading irrational decision making and the theory suggests that losses bring more emotional influence than gains. Editing and evaluation are the two phases of this theory, in editing phase, according to a reference point known as status quo, based on it the potential outcomes are ordered and in evaluation phase, rather than final wealth positions individual assess their potentials with the outcomes perceived as gains and losses. And in this theory, people do not perceive probabilities objectively since, they assign decision weight they may over weighing of small probabilities and under weighing of high probabilities to moderate. Therefore, overestimation and underestimation of the actual probability of an outcome affecting the choices they make in decisions. During uncertainty or individuals' perception of a situation the risk aversion and risk seeking attitude can be changed that may influence their financial decision. Presenting information in a way that highlights gain or loss leads framing effect that as well influence the individuals' behavior.

### **IMPLICATIONS AND RECOMMENDATIONS**

From personal finance to market economics prospect theory has profound implications in financial decision making. Through an extensive analysis of this study reveals prospect theory challenging the traditional assumptions of rational decision making and also provides nuance understanding of investors' behavior. Focussing on a few key factors like gains and losses the theory oversimplifying the complexity of human decision-making processes because it neglects other important influences. And the theory not fully capture the exact prospects of decision making since, it depends on simple cognitive heuristics. Further, the theory cannot fully account for the social and cultural context in which decisions are made during individual decision making. To mitigate the challenges of these key tenets especially loss aversion and probability weighing the investors should be mindful their own biases in long-term perspective. Financial advisors and consultants should aware of their clients' potential accordingly tailor their advice for loss aversion. Better economic policies can be made by the policy makers in order to understand individuals' perception towards risk and their decisions. Along with the implementation of prospect theory regular feedback, data analysis and better communication will enhance individual and overall outcomes.

### **CONCLUDING OBSERVATION**

The paper brings a well insight on the key tenets and challenges of the prospect theory in decision-making process so that people can recognise the biases and heuristics which influence their decisions and they can make often with the help of professionals more conversant and effective financial decisions. The theory facilitates a framework to understand individuals are loss averse and their choices are influence through framing and reference points so that the experts can introduce more effective strategies especially in the areas such as marketing, finance, human resources and beyond that where the conditions of risk and uncertainty are influencing highly. A thoughtful approach to decision framing, risk assessment and better communication is necessary to implement this theory. In terms of complexity and measurement it faces some challenges, if consider the theory with flexibility, dedication and long-term assessment can bring a potential benefit of improvement in decision making, risk management and enhance overall performance in future. The theory remains a beacon if, continue to explore

the depth of human behavior and it can guide through the financial world where the complex landscape of risk and uncertainty. In typical situation of choice this theory can be applicable because the probabilities of outcomes are not explicitly given and also, it can be relevant in other attributes like quality of life etc. (Amos Tversky & Daniel Kahneman, 1979)

To improve the decision-making processes under uncertainty the investors can follow these insights. Therefore, identify the requirement of application of prospect theory insights on individual investor level. An effective training on prospect theory and its implications is necessary to educate the investors for their decision-making process. People want to apply prospect theory in their investment decisions they must conduct a thorough research on this framework's core concepts such as reference points, loss aversion, framing effects, probability weighting and attitude towards risks. They should evaluate their current decision-making processes towards the conditions of risk and uncertainty and how they manage them ideally. People must test the framings and explore alternative framings or reframe choices for the best long-term results. The theory advocates regulatory decisions enhances market stability and investors' protection by the influence of status quo and framing biases (Sharma et al., 2023) To ensure the effectiveness of strategies based on prospect theory continuous evaluation and monitoring is necessary for the course correction. Investors follow the prospect theory insights which incorporate decision support tools such as policies, check lists of best practices, proprietary platforms to aid their decision making.

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