

## AN ANALYTIC STUDY OF BEHAVIORAL FINANCE IN INVESTMENT DECISIONS AND STRATEGIES

**Dr. Atul Bansal,**

Professor

Department of Accounting & Finance,

College of Business & Economics

Dilla University, Dilla, Ethiopia

### Abstract

An investment in various companies has become complex as people invested large sum of money even when there is a little change of company being profitable. Most of the investors have rational expectations and maximize their utility. However, behavioral economist argues based on their active studies that market are not efficient, especially in the short-run and people do not make rational decisions to maximize profits. Human beings are susceptible to numerous behavioral anomalies which became counterproductive to the wealth maximization principles leading to irrational behavior. Decisions can never be made in a vacuum by relying on the personal resources and complex models, which do not take into consideration the situation. Analysis of the variables of the problem in which it occurs is mediated by the cognitive psychology of the manager. A situation based on decision making activity encompasses not only the specific problem faced by the individual but also extends to the environment. Behavioral finance models often rely on a concept of individual investors who are prone to judgment and decision-making errors. This paper examines the meaning and importance of behavioral finance and its application in investment decisions. Which encompasses research that drops the traditional assumptions of expected utility maximization with rational investors in efficient markets?

**Key words:** Behavioral Finance, Decision making, Mental accounting, Irrational emotions, Over-confidence, Cognitive dissonance

### Introduction

Decision-making is a complex activity. Decisions can never be made in a vacuum by relying on the personal resources and complex models, which do not take into consideration the situation. Analysis of the variables of the problem in which it occurs is mediated by the cognitive psychology of the manager. A situation based on decision making activity encompasses not only the specific problem faced by the individual but also extends to the environment. Decision-making can be defined as the process of

choosing a particular alternative from a number of alternatives. It is an activity that follows after proper evaluation of all the alternatives. They need to update themselves in multidimensional fields so that they can accomplish the desired results/ goals in the competitive business environment.

According to *economic theorists*, investors think and behave “rationally” when buying and selling stocks. Specifically investors are presumed to use all available information to form “rational expectations” about the future in determining the value of companies and the general health of the economy. Consequently, stock prices should accurately reflect fundamental values and will only move up and down when there is unexpected positive or negative news, respectively. Thus, economists have concluded that financial markets are stable and efficient, stock prices follow a “random walk” and the overall economy tends toward “general equilibrium”.

In reality however, according to Shiller (1999) investors do not think and behave rationally. To the contrary, driven by greed and fear, investors speculate stocks between unrealistic highs and lows. In other words, investors misled by extremes of emotion, subjective thinking and the whims of the crowd, consistently form irrational expectation for the future performance of companies and the overall economies such that stock prices swing above and below fundamental values and follow a somewhat predictable, wave-like path. Investors behavior is part of academic discipline known as “behavioral finance” which explain how emotions and cognitive errors influence investors and the decision-making process. Behavior of the individual investors has long been the interest of academics and portfolio managers but not the investors themselves since the herd mentality sometimes dominates over reasons. Human herding behavior results from impulsive mental activity in individuals responding to signals from the behavior of others (Prechter, 1999).

This needs better insight, and understanding of human nature in the existing global perspective, plus development of fine skills and ability to get best out of investments. In addition, investors’ have to develop positive vision, foresight, perseverance and drive. Every investor differ from others in all aspects due to various factors like demographic factors which includes socio-economic background, educational attainment level, age, race and sex. The most crucial challenge faced by the investors is in the area of investment decisions. An optimum investment decision plays an active role and is a significant consideration. In designing the investment portfolio, the investors should consider their financial goals, risk tolerance level, and other constraints. In addition to that, they have to predict the output mean-variance optimization. This process is better suited for institutional investors; it often fails for individuals, who are susceptible to behavioral biases.

In the present scenario, Behavioral finance is becoming an integral part of the decision-making process, because it heavily influences investors' performance. They can improve their performance by recognizing the biases and errors of judgment to which all of us are prone.

Understanding the Behavioral finance will help the investors to select a better investment instrument and they can avoid repeating the expensive errors in future. The pertinent issues of this analytical study are how to minimize or eliminate the psychological biases in investment decision process.

## **BEHAVIORAL FINANCE**

### **Meaning**

Behavioral finance is a relatively new field that seeks to combine behavioral and cognitive psychological theory with conventional economic and finance to provide explanations for why people make irrational financial decisions. It is very popular in stock market across the world for investment decisions.

Behavioral finance is the study of psychology and sociology on the behavior of the financial practitioners and the subsequent effect on the security market. It helps to understand why people buy or sell stock without doing fundamental analysis and behave irrationally in investment decisions.

### **Some important definitions of behavioral finance are summarized below:**

Olsen (1998): "Behavioral finance seeks to understand and predict systematic financial market implications of psychological decision process."

Belsky and Gilowich (1999) have referred to behavioral finance as a behavioral economics and further defined as combining the twin discipline of psychology and economics to explain why and how people make seemingly irrational or illogical decisions, why they save, invest, spend and borrow money.

Shefrin (2001) says, behavioral finance is the study of how psychology affects financial decision making and financial markets.

Verma (2004) has defined behavioral finance tries to understand how people forget fundamentals and make investment based on emotions.

Swell (2005) asserts that behavioral finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets. Further in 2007, he has stated that behavioral finance challenges the theory of market efficiency by providing insights into why and how market can be inefficient due to irrationality in human behavior.

Forbes (2009) has defined behavioral finance as a science regarding how psychology influences financial market. This view emphasizes that the individuals are affected by psychological factors like cognitive biases in their decision-making, rather than being rational and wealth maximizing.

Thus, behavioral finance is the application of scientific research on the psychological, social and emotional contributions to market participants and market price trends. It also studies the psychological and sociological factors that influence the financial decision making process of individual groups and entities.

## REVIEW OF LITERATURE

Though the literature of behavioral finance is very large, it is proposed to present some empirical case studies to focus light insight to behavioral finance and its application in decision-making.

Tversky and Kahneman who were recognized as the father of behavioral finance can be best explained in different phases by their works. In 1979, they presented a paper regarding critique of Expected Utility Theory which found out empirically that people underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty; also that the people generally discard components that are shared by all prospects under consideration.

Under prospect theory, value is assigned to gain and losses rather than to final assets: also probabilities are replaced by decision weights.

The theory which they confirmed by experiment predicts a distinctive fourfold pattern of risk attitudes, risk aversion for gains of moderate to high probability and losses of low probability and risk seeking for gains of low probability and losses of moderate of high probability.

They showed that the psychological principles that govern the perception of decision problems and to evaluation of probabilities and outcomes produced predictable shifts of preference when the same problem is framed in different ways.

De Bondt and Thaler (1985) published article: "Does the Stock Market Over-react?" in a *Journal of Finance*. They propounded that the people are systematically over-reacting to unexpected and dramatic news results in substantially weak form inefficiencies in the stock market. Mental accounting is a set of cognitive operations used by individuals and households to organize evaluate and keep track of financial activities.

Simon Gervais (2009) in “Behavioral Finance; Capital Budgeting and Other Investment Decision”, he has made a survey of literature on the effects of behavioral biases on capital budgeting. In this paper, a large body of psychological literature finds that the people tend to be overconfident and overly optimistic. This literature find that the biased managers over-invest their firms cash flows, initiate too many mergers, start more firms and more novel projects and tend to stick with unproductive investment policies longer.

Above is some of the literature reviewed in behavioral finance which highlights how the individual irrational behavior have impact on investment decisions.

## **Behavioral Finance Principles and Its Implications**

Under the traditional financial theory, the decisions makers are rational. In contrast, modern theory suggests that Investors financial decision-making are not driven by due considerations. The decisions are taken by them are also often inconsistent.

The efficient market hypothesis (posited by Samuelson and Mandelbrot in the mid-1960s and popularized by Fama in 1970s) states that prices of securities fully reflect available information. The implication is that nobody can beat the market except by chance and that investors should strive only to develop a broadly diversified portfolio weighted on the basis of current market values. The only relevant measure of risk according to efficient market theory is beta – a measure of the tendency of a security’s price to respond to price changes of a broad-based market index.

Accounting-based measurements of risk are not relevant, because all information about a company is already reflected in the price of their securities.

Behavioral finance, on the contrary, examines how people’s emotions affect their investment decisions and performance. Here, the main difference from EMH is that the Behavioral decision- making process follows put in another way, human decisions are subject to several cognitive/ intuitive rather than rational way of thinking.

## **Heuristic Decision Process**

The decision process by which the investors find things out for themselves, usually by trial and error, lead to the development of rules of thumb. In other words, it refers to rules of thumb which humans use to made decisions in complex, uncertain environments<sup>7</sup>. The reality, the investors decision making process are not strictly rational one. Thought the investors have collected the relevant information and objectively evaluated, in which the mental and emotional factors are involved. It is very difficult to

separate. Sometimes it may be good, but many times it may result in poorer decision outcomes. It includes:

**1. Representativeness:** The investors' recent success; tend to continue into the future also. The tendency of decisions of the investors to make based on past experiences is known as stereotype. DeBont (1998) concluded that analyses are biased in the direction of recent success or failure in their earnings forecasts, the characteristic of stereotype decisions.

**2. Overconfidence:** There are several dimensions to confidence. It can give more courage, and is often viewed as a key to success. Although confidence is often encouraged and celebrated, it is not the only factor to success. The investors who are cautious and analytical can achieve success and others have to withdraw. Yet, confidence, especially self-confidence, is often viewed as a positive trait. Sometimes, the investors overestimate their predictive skills or assuming more knowledge than they have. Many times it leads excessive trading.

**3. Anchoring:** It describes the common human tendency to rely too heavily, or 'anchor' on one trait or piece of information when making decisions. When presented with new information, the investors tend to be slow to change or the value scale is fixed or anchored by recent observations. They are expecting the trend of earning is to remain with historical trend, which may lead to possible.

**4. Gamblers fallacy:** It arises when the investors inappropriately predict that trend will reverse. It may result in anticipation of good or poor end.

**5. Availability bias:** The investors place undue weight for making decisions on the most available information. This happens quite commonly. It leads less return and sometimes poor results also.

## **Behavioral Finance and Investment Decisions**

Behavioral finance seeks to find how investor's emotions and psychology affect investment decisions. It is the study of how people in general and investors in particular make common errors in their financial decision due to their emotions. It is nothing but the study of why otherwise rational people take some really thumbs investment decisions.

Decision making is a process of choosing best alternatives among a number of alternatives. This decision has come out after a proper evaluation of all the alternatives. Decision making is the most complex and challenging activity of investors.

Every investor differs from the others in all aspects due to various factors like demographic factor, socioeconomic background, educational level, sex, age and race. An optimum investment decision plays an active role and is a significant consideration.

Investor is a rational being who will always act to maximize his financial gain. Yet we are not rational being; we are human being; an integral part of this humanness is the emotion within us. Indeed, we make most of our life decisions on purely emotional considerations. In the financial world, investor's sometimes base their decisions on irrelevant figures and statistics, e.g., some investor may invest in the stock that have witnessed considerable fall after a continuous growth in recent past. They believe that price has fallen which is only due to short term market movements, creating an opportunity to buy the stock cheap. However, in reality, stocks do quite often also decline in value due to changes in their underlying fundamentals.

Cognitive dissonance is the perception of incompatibility between two cognitions, which can be defined as any element of knowledge including attitude, emotion, belief or behavior. The theory of cognitive dissonance holds that contradicting cognition serve as a driving force that compels the mind to acquire or invent new thoughts or beliefs or to modify existing beliefs, so as to reduce the amount of dissonance (conflict) between cognition. Festinger theory of cognitive dissonance states that individual attempts to reduce inner conflict in one of the two ways:

(i) he changes his past values, feelings or options; and (ii) he attempts to justify or rationalize his choice. This theory may apply to investors and traders in the stock market who attempt to rationalize contradictory behaviors, so that they seem to follow naturally from personal values or view point.

In "Financial Cognitive Dissonance", we change our investment styles or beliefs to support our financial decisions. For instance, investors who followed a traditional investment style (fundamental analysis) by evaluating companies using financial criteria such as, profitability measures, especially, profit/earnings ratios, started to change their investment beliefs. Many individual investors purchased retail internet companies in which these financial measures could not be applied. Since these companies has no financial track record, very little revenues and no net losses. These traditional investors rationalized the change in their investment style (past beliefs) in two ways: the first argument by many investor is the belief (argument) that we are now in a "new economy" in which the traditional financial rules no longer apply. This is usually the point and the economic cycle in which the stock market reaches its peak. The second action that displays cognitive dissonance is ignoring traditional form of investing and buying these internet stock simply based on price momentum.

Regret theory states that an individual evaluates his or her expected reactions to a future event or situations. Psychologists have found that individuals who make decision that turn out badly have more

regret when that decision was more unconventional. This theory can also be applied to the area of investor psychology within the stock market, whether an investor has contemplated purchasing a stock or mutual fund which has declined or not, actually purchasing the intended security will cause the investor to experience an emotional reaction. Investors may avoid selling stocks that have declined in value in order to avoid the regret of having made a bad investment choice and the discomfort of reporting the loss.

In addition, the investor sometimes finds it easier to purchase the “hot or popular stock of the week”. In essence, the investor is just following “the crowd”. Therefore, the investor can rationalize his or her investment choice more easily if the stock or mutual fund declines substantially in value. The investor can reduce emotional reactions or feelings since a group of individual investors also lost money on the same bad investment. In investing, the fear of regret can make investor either risk averse or motivate them to take greater risk.

Prospect theory deals with the idea that people do not always behave rationally. There are different psychological factors which motivate people in investment decision under uncertainty. It considers preference as a function of “decision weights” and it assumes that these weights do not always match with probabilities. It further suggests that decision weights tend to overweigh small probabilities and under-weigh moderate and high probabilities.

Prospect theory demonstrates that if investors are faced with the possibility of losing money, they often take on riskier decision at loss aversions. They tend to reverse or substantially alter their revealed disposition towards risk.

## **Strategies for Overcoming Behavioral Finance**

In recent years, behavioral finance is becoming an integral part of decision-making process because it heavily influences the investor’s performance. Understanding behavioral finance will help the investor to select a better investment instrument and they can avoid repeating the expensive error in future. They can improve their performance by recognizing their biases and errors of judgment to which we are all prone.

The main issue of studying behavioral finance is how to minimize or eliminate the psychological biases in investment decisions of the investors. After an extensive study of the literature on behavioral finance, it is believed that its perfect application could make a successful investor making fewer mistakes.



Several psychological and behavioral factors influence investors in decision making. Various safeguards are needed to control mental error and psychological roadblocks while invest in stocks and mutual funds. A disciplined trading strategy is required to control these mental roadblocks to all types of investors.

## **Stock Investment**

There is a need to focus a 'specific investment strategy' over the long period to control "mental mistakes" by the investors. Investors should keep detailed records of the specific stock which was purchased for their portfolio. Investors should also decide specific criteria for making an instant decision to buy, sale or hold.

Investors should also keep in mind the answer of the following questions before taking any decision of buying, selling and holding new shares:

- (i) Why investors purchase the stock?
- (ii) What is the time horizon of the investment?
- (iii) What is the expected rate of return?
- (iv) After one year the stock has under-performed or over-performed.
- (v) Do you plan on buying, selling or holding your position?
- (vi) How risky is this stock within your overall portfolio?

## **Mutual Fund Investment**

Tomic and Ruccuardi recommended that investors select mutual funds with a simple four step process which include the followings:

- (i) Invest in only no-load mutual fund with low operating expense;
- (ii) Look for funds with a strong historical track record over 5-10 years;
- (iii) Invest with tenured Portfolio Manager with a strong investment philosophy; and
- (iv) Understand the specific risk associated with each mutual fund.

The key to successful investing is recognizing the type of investor; you are along with implementing a solid investment strategy. Behavioral factors can help investors to avoid mistakes. Avoiding mistakes is called defensive behavioral finance applications in investment decision making.

## Prospect Theory

This theory is developed by Kahneman and Tversky. The second groups of illusions which may impact the decision process are grouped in prospect theory. He discussed several states of mind which may influence an investors decision making process. The key concepts which he discussed are as follows:

**a. Loss aversion:** Loss aversion is an important psychological concept which receives increasing attention in economic analysis.

The investor is a risk-seeker when faced with the prospect of losses, but is risk-averse when faced with the prospects of enjoying gains. This phenomenon is called loss aversion. Ulrich Schmidta, and Horst Zankb discussed the loss aversion theory with risk aversion and he accepted the Kahneman and Tversky views.

**b. Regret Aversion:** It arises from the investors' desire to avoid pain of regret arising from a poor investment decision. This aversion encourages investors to hold poorly performing shares as avoiding their sale also avoids the recognition of the associated loss and bad investment decision. Regret aversion creates a tax inefficient investment strategy because investors can reduce their taxable income by realizing capital losses.

**c. Mental Accounting:** Mental accounting is the set of cognitive operations used by the investors to organize, evaluate and keep track of investment activities. Three components of mental accounting receive the most attention. This first captures how outcomes are perceived and experienced, and how decisions are made and subsequently evaluated. A second component of mental accounting involves the assignment of activities to specific accounts. Both the sources and uses of funds are labeled in real as well as in mental accounting systems. The third component of mental accounting concerns the frequency with which accounts are evaluated and 'choice bracketing'. Accounts can be balanced daily, weekly, yearly, and so on, and can be defined narrowly or broadly. Each of the components of mental accounting violates the economic principle of fungibility. As a result, mental accounting influences choice, that is, it matters.

**d. Self Control:** It requires for all the investors to avoid the losses and protect the investments. As noted by Thaler and Shefrin investors are subject to temptation and they look for tools to improve self control.

By mentally separating their financial resources into capital and 'available for expenditure' pools, investors can control their urge to over consume.

## Conclusions

Though the above examples of illusions are widely observed, Behavioral finance does not claim that all the investors will suffer from the same illusion simultaneously. The susceptibility of an investor to a particular illusion is likely to be a function of several variables. For example, there is suggestive evidence that the experience of the investor has an explanatory role in his regard with less experienced investors being prone to extrapolation (representativeness) while more experienced investors commit gambler fallacy. Behavioral finance provides explanations for why investors make irrational financial decisions. It demonstrates how emotions and cognitive errors influence investors in the decision making process. The various causes that led to behavioral finance are anchoring, overconfidence, herd behavior, over and under reaction and loss aversions. In essence, behavioral finance approach investigates the behavioral patterns of investors and tries to understand how these patterns guide investment decision. Similarly, Behavioral factors play a vital role in the decision making process of the investors. Hence the investors has to take necessary steps to minimize or avoid illusions for influencing in their decision making process, investment decisions in particular.

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