CHAPTER III

AN OVERVIEW OF PERCEIVED RISK IN BEHAVIOURAL FINANCE AND PERCEPTION OF INDIVIDUAL INVESTORS

3.1. Introduction

The overview of the specific concepts of perceived risk and perception for the financial investor are dealt with in this Chapter since these two issues are essential for developing a greater understanding and appreciation for the psychology of risk. The notion that classical decision making is the cornerstone of standard finance is also considered here since it is based on the idea of rationality in which investors devise judgments.

In contrast, the alternative viewpoint offers behavioral decision theory as the foundation for behavioral finance in which individuals formulate decisions according to the assumptions of bounded rationality. The major behavioral finance themes (that is, cognitive and emotional factors) that might influence an investor’s perception of risk for different types of financial products and investment services also needs mention and is delved in this Chapter in an elaborate manner.

3.2. Perceived risk

Perceived risk is the subjective decision making process that individuals employ concerning the assessment of risk and the degree of uncertainty. The term is
most frequently utilized with regard to risky personal activities and potential dangers such as environmental issues, health concerns or new technologies. The study of perceived risk developed from the discovery that novices and experts repeatedly failed to agree on the meaning of risk and the degree of riskiness for different types of technologies and hazards.

Perception is the process by which an individual is in search of preeminent clarification of sensory information so that he or she can make a final judgment based on their level of expertise and past experience.

In the 1970s and 1980s, researchers at Decision Research, especially Paul Slovic, Baruch Fischhoff, and Sarah Lichtenstein, developed a survey-oriented research approach for investigating perceived risk that is still prominent today. In particular, the risk perception from psychology possesses a strong academic and theoretical foundation for conducting future research endeavors for behavioral finance experts. Within the social sciences, the risk perception has demonstrated that a considerable number of cognitive and emotional factors influence a person’s risk perception for non-financial decisions.¹

The behavioral finance reveals many of these cognitive (mental) and affective (emotional) characteristics that can be applied to the judgment process in relating to how an investor perceives risk for various types of financial services and
investment instruments such as heuristics, overconfidence, prospect theory, loss aversion, representativeness, framing, anchoring, familiarity bias, perceived control, expert knowledge, affect (feelings), and worry.

Since the early 1990s, the work of the Decision Research organization started to crossover to a wider spectrum of disciplines such as behavioral finance, accounting, and economics. In particular, Decision Research academics began to apply a host of behavioral risk characteristics (That is, cognitive and emotional issues), various findings, and research approaches from the social sciences to risk perception studies within the realm of financial and investment decision making.\(^2\)

### 3.2.1. Risk perception in investment

Since the 1960s, the topic of perceived risk has been employed to explain consumers’ behavior. In effect, within the framework of consumer behavior, perceived risk is the risk a consumer believes exists in the purchase of goods or services from a particular merchant, whether or not a risk actually exists. The concept of perceived risk has a strong foundation in the area of consumer behavior that is rather analogous to the discipline of behavioral finance (that is, there are similarities regarding the decision making process of consumers and investors).

Bauer (1960), a noted consumer behaviorist, introduced the notion of perceived risk when he provided this perspective: Consumer behavior involves risk
in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which are likely to be unpleasant.\textsuperscript{3}

At the very least, any one purchase competes for the consumer’s financial resources with a vast array of alternate uses of that money. Unfortunate consumer decisions have cost men frustration and blisters, their self-esteem and the esteem of others, their wives, their jobs, and even their lives. It is inconceivable that the consumer can consider more than a few of the possible consequences of his actions, and it is seldom that he can anticipate even these few consequences with a high degree of certainty. When it comes to the purchase of large ticket items the perception of risk can become traumatic.

Even though much of the research on perception is basic knowledge for researchers in the behavioral sciences and organizational behavior, it has been essentially disregarded or not adopted for application by researchers in traditional finance.

The notion of perception or perceived risk implies that there is a subjective or qualitative component, which is not acknowledged by most academics from the disciplines of finance, accounting, and economics. Webster’s dictionary has defined perception as “the act of perceiving or the ability to perceive; mental grasp of
objects, qualities, and the like. This is possible by means of the senses; awareness; comprehension.” Researchers in the field of organizational behavior have offered these two viewpoints on perception:

1. The key to understanding perception is to recognize that it is a unique interpretation of the situation, not an exact recording of it. In short, perception is a very complex cognitive process that yields a unique picture of the world, a picture that may be quite different from reality.

2. Perception is the selection and organization of environmental stimuli to provide meaningful experiences for the perceiver. It represents the psychological process whereby people take information from the environment and make sense of their world. Perception includes an awareness of the world events, people, objects, situations, and so on and involves searching for, obtaining, and processing information about that world.

Perception is how we become conscious about the world and ourselves in the world. It is also fundamental to understanding behavior since this process is the technique by which stimuli affect an individual. In other words, perception is a method by which a person organizes and interprets their sensory intuitions in order to give meaning to their environment regarding their awareness of “events” or “things” rather than simply characteristics or qualities. The process of perception involves a search for the best explanation of sensory information an individual can arrive at based on a person’s knowledge and past experience.⁴
At some point during this perceptual process, illusions can be intense examples of how an individual might misconstrue information and incorrectly process this information clearly, then an understanding of the process by which man becomes aware of himself and his world is basic to any adequate understanding of human behavior. Perception is a functional affair based on action, experience and probability.

3.3. Financial and investment decision making: Issues of rationality

There is always debate between classical decision making (the proponents of standard finance) and behavioral decision making (the supporters of behavioral finance). Rational financial and investment decision making has been the cornerstone of traditional (standard) finance since the 1960s.

The standard finance advances the notion of rationality in which individuals make logical and coherent financial and investment choices. In contrast, behavioral finance decision theory in which the concepts of bounded rationality, cognitive limitations, heuristics, and affect (feelings) are the central theoretical foundation. Customarily, standard finance has rejected the notion that certain behavioral and psychological factors might influence and prevent individuals from making optimal investment decisions.
Curtis (2004) provided this assessment of both schools of academic thought: Modern portfolio theory represents the best learning we have about how capital markets actually operate, while behavioral finance offers the best insights into how investors actually behave. But markets don’t care what investors think of as risk and hence idiosyncratic ideas about risk and what to do about it are bound to harm our long-term investment results.\(^5\)

According to classical decision theory, the standard finance investor makes judgments within a clearly defined set of circumstances, knows all possible alternatives and consequences, and selects the optimum solution. The discipline of standard finance has advanced and flourished

On four basic premises in terms of rational behavior:

1. Investors make rational (optimal) decisions.

2. Investors’ objectives are entirely financial in nature, in which they are assumed to maximize wealth.

3. Individuals are unbiased in their expectations regarding the future.

4. Individuals act in their own best (self) interests.

Classical decision theory has often been described as the basic model of how investors process information and make final investment decisions.\(^6\) According to
Statman (1999), an attractive aspect of the standard finance perspective is “it uses a minimum of tools to build a unified theory intended to answer all the questions of finance”.7

Thus, by advocating rationality, standard finance researchers have been able to create influential theories such as modern portfolio theory (MPT) and EMH. At the same time, these researchers have been able to develop effective risk analysis and investment tools such as the arbitrage pricing theory (APT), the capital asset pricing model (CAPM), and the Black-Scholes option pricing model in which investors can value financial securities and provide analysis in an attempt to predict the expected risk and return relationship for specific investment products.

Psychologists from the branches of cognitive and experimental psychology have made the argument that the basic assumptions of classical decision theory are incorrect since individuals often act in a less than fully rational manner. According to the assumptions of behavioral decision making, the behavioral finance investor makes judgments in relation to a problem that is not clearly defined, has limited knowledge of possible outcomes and their consequences, and chooses a satisfactory outcome.

The disciplines of behavioral finance and economics were founded on the principles of bounded rationality by Simon (1956) in which a person utilizes a modified version of rational choice that takes into account knowledge limitations, cognitive issues, and emotional factors.8
3.4 Classical Decision Theory: The Standard Finance Viewpoint

Within the fields of finance and economics, there is still an ongoing debate relating to the subject of rationality. The traditional economics and standard finance are based on the classical model of rational economic decision making. In general, standard finance assumes that all individuals are wealth maximizers.

In other words, an investor is considered rational if that person selects the most preferred choice, customarily defined as maximizing an individual’s utility or value function. This rational investment decision maker is assumed to maximize profits, possess complete knowledge, and capitalize on his or her own economic well-being. Moreover, rational behavior described by the classical model of decision making employs a well-structured judgment process based on the maximization of value, a painstaking and all-inclusive search for all information, and an in-depth analysis of alternatives. Classical decision theory makes the assumption that an individual makes well informed systematic decisions which are in their own self interest and the decision maker is acting in a world of complete certainty.

In classical decision theory, risk is most commonly concerned as reflecting variation in the distribution of possible outcomes, their likelihoods, and their subjective values. Risk is measured either by nonlinearities in the revealed utility for money or by the variance of the probability distribution of possible gains and losses.
associated with a particular alternative. Under the tenets of rational behavior, an investor is assumed to possess the skill to predict and consider all pertinent issues in making judgments and to have infinite computational ability.

Rationality suggests that individuals, firms, and markets are able to predict future events without bias and with full access to relevant information select a course of action that is not presented or cannot consider information that is unknown. Those in the camps of standard finance and conventional economics make the assumption that an individual investor based on the notion of rational behavior maximizes an objective value function under a specified collection of restrictions in a world of perfect markets.

The basis of the work by Savage (1954) focused on expected utility, which is the central aspect of the neoclassical theory of rational economic behavior. Decisions are made based on the following three assumptions: (1) within a predetermined collection of objective outcomes and parameters; (2) with (subjectively) known probability distributions of outcomes for each option; and (3) in such a way as to maximize the expected value of a given utility function.9

Moreover, Doucouliagos (1994) described three key notions of rationality, which are: “(1) maximizing (optimizing) behavior; (2) the cognitive ability to exercise rational choice; and (3) individualistic behavior and independent tastes and preferences”. While Coughin commented, “the neoclassical model in economics is
built on the concept of the economic actor who is a rational calculator operating in a free and competitive marketplace”. The optimal or normative approach to financial decision-making has emphasized that rationality as the foundation of standard finance theories and models such as the EMH, modern portfolio theory, the CAPM, and the dividend discount model. These theories and concepts are based on the notion that investors behave in a rational, predictable, and an unbiased manner.

Investment decisions regarding an individual stock or within the entire portfolio with the objective of maximizing their profits for a minimum level of risk. Rational investors will only make an investment decision (buy, hold, or sell) in a systematic or logical manner after they have applied some sort of accepted investment approach such as fundamental analysis. The assumption made is that investors utilize conventional investment techniques or financial models that have an established historical presence.\textsuperscript{10}

3.5. Behavioral Decision Theory: The Behavioral Finance Perspective

Behavioral economics and financial psychology have explored various degrees of rationality and irrational behavior in which individuals and groups may act or behave differently in the real world, departing from the constrained assumptions of rationality supported by the standard finance. The alternative disciplines of behavioral finance, economics, and accounting depart from the purely traditional statistical and mathematical models in which rationality (that is, classical
decision theory) has been the centerpiece of the accepted theory across a spectrum of different disciplines (e.g., standard finance, conventional economics, traditional accounting).

The alternative perspective is known as behavioral decision theory (BDT), which has an extensive academic history within the social sciences such as cognitive and experimental psychology that has provided a more descriptive and realistic model of human behavior. The basis of this theory is that individuals systematically infringe upon (violate) the normative tenets of economic (finance) rationality by: (1) miscalculating (underestimating or overestimating) probabilities, and (2) making choices between different options based on noneconomic (nonfinancial) factors.

BDT explains how the human aspects of decision making affect individuals such as the measurement of common systematic errors that result in individual investors and professional investors departing from rational behavior. In its simplest form, the behavioral decision maker is influenced by what he or she perceives in a given situation, event, or circumstance. For this discussion, one of the substantive aspects of BDT is the significant role of bounded rationality. Bounded rationality proposes that decision makers are limited by their values and unconscious reflexes, skills, and habits as identified by Simon (1997). In effect, bounded rationality is the premise that economic rationality has its limitations, especially during the judgment process under conditions of risk and uncertainty.11
According to behavioral finance decision theory (the descriptive model), an investor displays cognitive bias, heuristics (rules of thumb), and affective (emotional) factors that have been disregarded by the assumptions of rationality under classical finance decision theory (the normative model). Shefrin (2000) clarifies the difference between cognitive and emotional issues, “cognitive aspects concern the way people organize their information, while the emotional aspects deal with the way people feel as they register information”. Olsen (2001) provided the following perspective of the behavioral finance decision making process:

1. Financial decision makers’ preferences tend to be multifaceted, open to change and often formed during the decision process itself.

2. Financial decision makers are satisfiers and not optimizers.

3. Financial decision makers are adaptive in the sense that the nature of the decision and environment within which it is made influence the type of the process utilized.

4. Financial decision makers are neurologically predisposed to incorporate affect (emotion) into the decision process.13

Behavioral finance is based on the assumption that individuals are sometimes irrational or only quasi-rational, and they are often inconsistent in terms of strict rationality in their investment decisions relative to standard finance’s notion of
rationality. Additionally, behavioral finance advocates believe that investors make decisions at different levels of rationality or satisfaction according to Mullainathan and Thaler (2000) and individuals should realize the importance of understanding the notion of bounded rationality as indicated by Barberis.¹⁴

A well-established premise (assumption) in behavioral finance is that investors make decisions according to the principles of prospect theory. Prospect theory emphasizes that there are lasting biases affected by cognitive and affective (emotional) processes that influence an individual’s decisions under specific circumstances of risk taking behavior and uncertainty. Schwartz (1998) stated that prospect theory makes the assumption an investor will assess outcomes in terms of gains or losses in relation to a specific reference point instead of the final value within their overall investment portfolio.¹⁵

Bernstein (1997) commented that “prospect theory discovered behavior patterns that had never been recognized by proponents of rational decision-making. First, emotion often destroys the self-control that is essential to rational decision-making. Second, people are unable to understand fully what they are dealing with”.

Investors function in a world in which they are overconfident, hate to lose money, and at times, are extremely greedy, though all this is often in a predictable manner. Investors have revealed feelings of a “cynical nature” such as dread, worry, and procrastination, whereas other finance individuals have demonstrated a “hopeful state of mind” of pleasure, happiness, and grandiosity.¹⁶
The Nobel Prize winner Herbert Simon criticized the discipline of standard economics for its reliance and support of the premise of rationality. In 1947, he offered this extensive criticism on the limits of standard rationality because it falls short of actual behavior in at least three aspects:

1. Rationality requires complete knowledge and anticipation of the consequences that will follow on each choice. In fact, knowledge of consequences is always fragmentary.
2. Since the consequences lie in the future imagination must supply the lack of experienced feeling in attaching value to them. But values can be only imperfectly anticipated.
3. Rationality requires a choice among all possible alternative behaviors. In actual behavior, only a very few of all these possible alternatives ever come to mind.17

Furthermore, Simon (1986) rejected rational models of choice for ignoring situational and personal limitations, such as time and cognitive ability.

A textbook description of behavioral man would run along the following lines: individuals typically do not maximize, but rather select the first alternative outcome that satisfies their aspiration level, and because there are severe limits to information and knowledge of alternative outcomes, people act on the basis of a simplified, ill-structured mental abstraction of the real world—an abstraction that is
influenced by personal perceptions and past experiences. Although this model of man is largely foreign to economists, in various guises it underlies much of the industrial relations-oriented research done by scholars in personnel, organizational behavior, and sociology.

Simon’s work focused on the idea that the decision maker possessed limited information (knowledge) and did not always seek the best potential choice because of limited resources and personal inclinations. In essence, an investor would satisfice financial utility rather than maximize it, sometimes accepting a satisfactory investment alternative rather than the optimal choice (that is, maximize gains and minimize losses). Regarding this matter, behavioral finance departs from one or more of the assumptions of classical decision-making underlying the theory of rational choice (that is, the standard finance viewpoint). Rather than maximizing expected utility, investors attempt to find answers by what Simon labels “satisficing” and can be described as the following:

A method for making a choice from a set of alternatives encountered sequentially when one does not know much about the possibilities ahead of time. In such situations, there may be no optimal solution for when to stop searching for further alternatives . . . satisfying takes the shortcut of setting an adjustable aspiration level and ending the search for alternatives as soon as one is encountered that exceeds the aspiration level.
Academic models of judgment and decision making have to take into account “known limitations” concerning our mind’s capacities. Since human beings have cognitive limitations, we must utilize approximate methods to handle complex decisions. These techniques include cognitive processes that largely prevent the need for further information investigations, heuristics (e.g., mental shortcuts) that direct our search and decide when it should end, and simple judgment rules that utilize the information found as implicitly. \(^{18}\)

Johnson (1993) established that simple decision strategies are utilized to reduce a set of choices before implementing a more multifaceted approach or trade-off strategy to the remaining options (alternatives). These divergences from classical decision-making theory and the assumptions of rationality are all too apparent in terms of the extensive list of items that influence a person’s perception of risk such as heuristics, issues of overconfidence, the notion of prospect theory, the influence of loss aversion, the concept of representativeness, issues of framing, the topic of anchoring, the notion of familiarity bias, the factors of perceived control, the issues of expert knowledge, the role of affect (feelings), and the influence of worry. \(^{19}\)

### 3.6. Individual’s perception of risk - Theories and concepts from behavioral finance

Extensive number of studies within the social sciences has demonstrated various factors that influence a person’s perception of risk for different types of risky behaviors and hazardous activities.
Rohrmann (1999) documented that the investigation of risk judgments (the principal foundation of risk research) has focused on these six main issues:

1. Risk acceptance issues for individual versus societal concerns.
2. The fundamental aspects of how information is processed (that is, the influence of heuristics and cognitive biases).
3. The connection between perceived risk versus actual risk in terms of different categories of hazardous situations and activities.
4. The issue of personality traits and demographic differences among a diverse population of subjects and respondents.
5. The findings that risk perception studies have been linked to statistical data on hazardous activities and then, applied to the development of risk communication programs for experts and the general public.
6. The central role of cultural factors among an international research sample for a variety of different countries.20

Ricciardi (2004) offers a comprehensive list of behavioral risk characteristics that were examined by risk perception researchers in behavioral finance and accounting within a financial and investment setting. The specific behavioral risk indicators that were examined by researchers in these two disciplines:

(1) 12 risk behavioral attributes (characteristics) within behavioral accounting based on 12 research studies for the time period of 1975 to 2003, and (2)
behavioral risk indicators within behavioral finance for 71 endeavors for the
time period of 1969 to 2002. From the study below the prevalent cognitive issues
and affective (emotional) factors of behavioral finance that influence a person’s
perception of risk including: heuristics, overconfidence, prospect theory, loss
aversion, representativeness, framing, anchoring, familiarity bias, perceived control,
expert knowledge, affect (feelings), and worry.\textsuperscript{21}

3.6.1 Heuristics

Kahneman, Slovic, and Tversky (1982) noted that when individuals are faced
with a complex judgment such as a statistical probability, frequency or incomplete
information; various subjects utilize a limited number of heuristics that reduce the
decision to a simpler task. Heuristics are simple and general rules a person employs
to solve a specific category of problems under conditions that involve a high degree
of risk-taking behavior and uncertainty.\textsuperscript{22}

Myers (1989) provided this viewpoint on heuristics, “all of us have a
repertoire of these strategies based on bits of knowledge we have picked up, rules
we have learned, or hypotheses that worked in the past”. These strategies known as
heuristics in the formal sense are “rules of thumbs” that are considered very
common in all types of decision-making situations. Furthermore, heuristics are a
“cognitive tool” for reducing the time of the decision making process for an
individual investor or investment professional. In essence, “heuristics are mental
shortcuts or strategies derived from our past experience that get us where we need to go quickly, but at the cost of sending us in the wrong direction”. An investor utilizes heuristics when given a narrow time frame in which he or she has to assess difficult financial circumstances and investment choices. Eventually, these mental processes (heuristics) result in the individual making “investment errors” based on their intuitive judgments.23

Plous (1993) wrote: it is easier to estimate how likely an outcome is by using a heuristic than by tallying every past occurrence of the outcome and dividing by the total number of times the outcome could have occurred. In most cases, rough approximations are sufficient (just as people often satisfies rather than optimize).24

Availability Heuristic

One of the underlying principles of risk perception research has been the availability heuristic based on the work of Tversky and Kahneman (1973). This heuristic is utilized in order to judge the likelihood or frequency of an event or occurrence. In various experiments in psychology, the findings have revealed individuals tend to be biased by information that is easier to recall, influenced by information that is vivid, well-publicized, or recent.

An individual that employs the availability heuristic will be guided to judge the degree of risk of a behavior or hazardous activity as highly probable or frequent if examples of it are easy to remember or visualize. Furthermore, the availability
heuristic provides the inclination for an individual to form their decisions on information that is easily available to them. The main issues that have involved the availability heuristic are (1) activities that induce emotions, (2) tasks that are intensely dramatic, and (3) actions that have occurred more recently have a propensity to be more accessible in our recent memory.25 Schwartz (1998) described the availability heuristic in this manner: Biases may arise because the ease which specific instances can be recalled from memory affects judgments about the relative frequency and importance of data. This leads to overestimation of the probability of well publicized or dramatic events or recent events along with the underestimation of less recent, publicized or dramatic events. A prominent example of the availability bias is the belief of most people that homicides (which are highly publicized) are more common than suicides, but, in fact, the reverse is true.

The application of the availability heuristic is a strong majority of individuals (subjects) are more likely to express or experience a high degree of anxiety (an increase in perceived risk) over flying in an airplane than driving in an automobile. This increased anxiety (fear) among the general public towards flying in airplanes occurs because of the extensive media coverage of the few major airline accidents ultimately increases an individual’s perception of the risk, whereas an individual feels safer driving in an automobile. This is because an individual has the perception of control of the risky situation or task known as personal control. This conflicts
with classical decision theory (that is, the standard finance perspective) since the rational choice (decision) is to fly in an airplane rather than to drive in a car if the person only considers and examines the statistical data on safety. The safety statistics reveal the number of automobile accidents and deaths from driving a car is far greater than the number of airplane crashes and deaths from airline accidents.\textsuperscript{26}

3.6.2 Herding

Large stock market trends often begin and end with periods of frenzied buying (bubbles) or selling (crashes). Many observers cite these episodes as clear examples of herding behavior that is irrational and driven by emotion—greed in the bubbles, fear in the crashes. Individual investors join the crowd of others in a rush to get in or out of the market.

Some followers of the technical analysis school of investing see the herding behavior of investors as an example of extreme market sentiment.

More specifically, both of these papers showed that individuals, acting sequentially on the basis of private information and public knowledge about the behavior of others, may end up choosing the socially undesirable option. The second of the strands of literature motivating this paper is that of information aggregation in market contexts.
A very early reference is the classic paper by Grossman and Stiglitz (1976) that showed that uninformed traders in a market context can become informed through the price in such a way that private information is aggregated correctly and efficiently.²⁷

3.6.3 Cognitive dissonance

Cognitive dissonance occurs to a person when he or she voluntarily engages in (physically or ethically) unpleasant activities in effort to achieve a desired goal. The mental stress caused by the dissonance can be reduced by the person's exaggerating the desirability of the goal.

In the field of psychology, cognitive dissonance is the mental discomfort (psychological stress) experienced by a person who simultaneously holds two or more contradictory beliefs, ideas, or values. The occurrence of cognitive dissonance is a consequence of a person's performing an action that contradicts personal beliefs, ideals, and values; and also occurs when confronted with new information that contradicts said beliefs, ideals, and values.

In a Theory of Cognitive Dissonance (1957), Leon Festinger proposed that human beings strive for internal psychological consistency in order to mentally function in the real world. That a person who experiences internal inconsistency tends to become psychologically uncomfortable, and so is motivated to reduce the
cognitive dissonance: either by changing parts of the cognition, to justify the stressful behavior; or by adding new parts to the cognition that causes the psychological dissonance; and by actively avoiding social situations and contradictory information that are likely to increase the magnitude of the cognitive dissonance.28

3.6.4.1 Fear of regret

The key underlying premise for this behaviour is an investor’s fear of incurring losses. This fear of making the wrong decision often means investors don’t assess risk correctly – they tend to over-emphasize risk which can actually lead to wrong decisions or inertia in making a decision. Investors need to ask themselves which risk is greater: the risk of making a decision that could lose them money; or the risk of missing out on an opportunity that could make them money? Studies have shown that people tend to have the highest level of regret for actions they didn’t take rather than actions they did take.

Regret is an investor’s difficulty in selling a losing stock. The feeling of regret is strongest when the loss is crystallised – until that point the investor holds out hope of the stock returning to its ‘former glory’ and avoids generating feelings of regret by holding onto it. Another aspect to this is that if the investor made the original investment decision by themselves, the feeling of regret is much greater than if they were following someone’s advice. It’s not so much about the pain of
making a loss, but rather the pain of being responsible for making the decision. This could explain why investors sometimes find it easier to outsource their investment decisions (i.e. to a financial adviser) – apart from needing professional advice, it also means some of the burden of making decisions is shared.

Emotion and the human psyche are indeed powerful forces, often leading investors to make irrational decisions, or sometimes even worse, not making any decisions – both of which can be detrimental to the long-term performance of an investor’s investment portfolio. By removing these emotions and psychological behaviours from the decision making process, investors are in a better position to make logical and rational decisions. Seeking professional investment advice from a financial adviser, taking a long-term view, constructing portfolios based on an investor’s risk/return profile and investing with professional fund managers are steps an investor can take to help them achieve this.

3.6.5 Gamblers fallacy

The gambler's fallacy, also known as the Monte Carlo fallacy or the fallacy of the maturity of chances, is the mistaken belief that, if something happens more frequently than normal during some period, it will happen less frequently in the future, or that, if something happens less frequently than normal during some period, it will happen more frequently in the future (presumably as a means of balancing nature). In situations where what is being observed is truly random
(i.e., independent trials of a random process), this belief, though appealing to the human mind, is false. This fallacy can arise in many practical situations, but is most strongly associated with gambling, where such mistakes are common among players.

The gambler's fallacy is a deep-seated cognitive bias and therefore very difficult to eliminate. For the most part, educating individuals about the nature of randomness has not proven effective in reducing or eliminating any manifestation of the gambler's fallacy.

The experimental group of participants was informed about the nature and existence of the gambler’s fallacy, and was explicitly instructed not to rely on "run dependency" to guess. The control group was not given this information. Even so, the response styles of the two groups were similar; indicating that the experimental group still based their choices on the length of the run sequence. Clearly, instructing individuals about randomness is not sufficient in lessening the gambler's fallacy.

3.6.6 Mental accounting

Mental accounting refers to the tendency for people to separate their money into separate accounts based on a variety of subjective criteria, like the source of the money and intent for each account.
A concept first named by Richard Thaler, mental accounting (or psychological accounting) attempts to describe the process whereby people code, categorize and evaluate economic outcomes. People may have multiple mental accounts for the same kind of resource. A person may use different monthly budgets for grocery shopping and eating out at restaurants, for example, and constrain one kind of purchase when its budget has run out while not constraining the other kind of purchase, even though both expenditures draw on the same fungible resource (income).

Similarly, supermarket shoppers spend less money at the market when paying with cash than with their debit cards (and credit cards), even though both cash and debit cards draw on the same economic resource. Comparing the price of goods to a smaller mental account (e.g., the cash in their wallet) than to a larger mental account (e.g., the money in their bank accounts) increases the "pain of payment".

In mental accounting theory, framing means that the way a person subjectively frames a transaction in their mind will determine the utility they receive or expect. This concept is similarly used in prospect theory, and many mental accounting theorists adopt that theory as the value function in their analysis.

Another very important concept used to understand mental accounting is that of modified utility function. There are two values attached to any transaction -
acquisition value and transaction value. Acquisition value is the money that one is ready to part with for physically acquiring some good. Transaction value is the value one attaches to having a good deal. If the price that one is paying is equal to the mental reference price for the good, the transaction value is zero. If the price is lower than the reference price, the transaction utility is positive.\textsuperscript{29}

\subsection*{3.6.7 Overconfidence}

Overconfidence is another characteristic that influences a person’s risk perception since there are many ways in which an individual tends to be overconfident about their decisions in terms of risk-taking behavior. Confidence can be described as the “belief in oneself and one’s abilities with full conviction” whereas “overconfidence can be taken a step further in which overconfidence takes this self-reliant behavior to an extreme”

As human beings, we have an inclination to overestimate our own skills, abilities, and predictions for success. Myers (1989) provided this viewpoint on the decision making process: Our use of quick and easy heuristics when forming judgments and our bias toward seeking confirmation rather than refutation of our ideas can give rise to the overconfidence phenomenon, an overestimation of the accuracy of our current knowledge.\textsuperscript{30}
A classic study in psychology by Fischhoff, Slovic, and Lichtenstein (1977) explored the issue of overconfidence. They provided a group of subjects (individuals) with a collection of knowledge-based questions. Each of the individuals in the research endeavor had to evaluate a set of predetermined questions in which the answers were absolute. Nevertheless, the participants in the study did not necessarily have knowledge of the answers to the survey questions. For each answer, a subject was expected to provide a percentage or score that measured their degree of confidence in terms of whether the person thought their answer was accurate.\textsuperscript{31}

Ultimately, individuals are very confident in their choices formed under the rules of heuristics and are considerably inattentive in terms of the exact manner in which their decision was formed.

Another category of overconfident behavior is the notion of the “It won’t happen to me” bias. In this instance, individuals tend to consider themselves invulnerable to specific risky activities or events on an individual basis, while they would readily concede to these risks on a societal level.

Within the risk perception, this overconfident behavior extends to expert individuals (e.g., safety inspectors) in which they ignore or underestimate the odds of a risky behavior or hazardous activity. When experts are required to rely on intuitive judgment, rather than on statistical data, they are prone to making the same variety of errors as novices (e.g., the general public).
Lichtenstein (1980) pointed out the existence of this expert overconfident behavior in the domain of technology occurred for several reasons such as failure to contemplate the way human mistakes influence technological systems, the notion of overconfidence in scientific knowledge, inattentiveness to how technological systems perform together as a whole, and failure to predict how people respond to safety procedures.32

3.6.8 Prospect Theory

Under the assumptions of prospect theory, an investor departs from the notion of rationality espoused by classical decision theory (the standard finance perspective) and instead an individual makes decisions on the basis of bounded rationality advocated by behavioral decision theory (the behavioral finance viewpoint). Kahneman and Tversky’s prospect theory is based on the notion that people are loss averse in which they are more concerned with losses than gains. In effect, an investor on an individual basis will assign more significance to avoiding a loss than to achieving a gain.

Investors utilize a compartment in their brains or a type of “mental bookkeeping” during the decision-making process. For instance, an investor individualizes each financial decision into a separate account in their mind known as mental accounting. This investor has an inclination to focus on a specific reference point (e.g., the purchase price for a stock or the original stock investment cost) and their desire is to close each account with a profit (gain) for that single transaction.
Heilar, Lonie, Power, and Sinclair (2001) described prospect theory from this perspective: This theory separates the decision choice process into two stages; in the first stage the menu of available choices is framed and edited in accordance with the decision maker’s prior perceptions; in the second stage these prospects are evaluated in relation to the decision maker’s subjective assessment of their likelihood of occurrence. The prospect with the highest expected outcome is selected.

A major component of prospect theory is known as the value function. The individual value with respect to gains and losses are in comparison to a reference point in which the values for negative deviations from the reference point will be greater than the values placed on positive deviations. Investors treat outcomes as losses or gains from a subjective reference in two aspects: (1) people are risk averse with their investments which are performing well (that is, investment gains) and as a result they have an inclination to cash in their profits too early and (2) individuals are risk seekers for losses (that is, loss averse) and in order to avoid a realized loss they will take a gamble (by avoiding to sell the asset) that could result in an even greater loss. Furthermore, the argument is made that individuals weigh probabilities in a non-linear manner: small probabilities are overvalued (over-weighted) while changes in middle-range probabilities are undervalued (underweighted).
3.6.9 Loss Aversion

Olsen (2000) noted “Early research, using utility-based models, suggested that investment risk could be measured by return distribution moments such as variance or skewness”. In contrast, other researchers explored the subjective aspects of risk and discovered that individuals are loss averse. The central assumption of prospect theory is the notion of loss aversion in which people designate more significance to losses than they allocate to gains. The notion of loss aversion is contrary to the tenets of modern portfolio theory since the discipline of standard finance makes the assumption that a loss and gain is equivalent (identical). In other words, according to basic statistical analysis, a loss is simply a “negative profit” and is thus, weighted in the same manner. From an investment standpoint, during the decision-making process, many investors appear thin-skinned and vulnerable to losses, and highly determined not to realize a financial loss. In some instances, investors exhibit a tendency or increased readiness to take risks in the desire of reducing or avoiding the entire loss.

A main premise of loss aversion is that an individual is less likely to sell an investment at a loss than to sell an investment that has increased in value even if expected returns are held constant. Several academic experiments in psychology have demonstrated that for some investors a loss bothers them twice as much in absolute terms than the pleasure from an equal gain.34
3.6.10 Representativeness

Another important heuristic that affects a person’s perception of risk is known as representativeness. Behavioral finance refers to a fundamental mental mechanism that we set in motion because of abstract rules known as mental shortcuts that are part of the judgment process based on the work of Tversky and Kahneman (1971).³⁵

“Decision makers manifesting this heuristic are willing to develop broad, and sometimes very detailed generalizations about a person or phenomenon based on only a few attributes of the person or phenomenon”. Human beings utilize mental shortcuts that make it complicated to analyze new investment information accurately and without bias. Representativeness reflects the belief that a member of a category (e.g., risky behavior or hazardous activity) should resemble others in the same class and that, in effect, should resemble the cause that produced it.

Ricciardi and Simon (2001) provided this perspective: Representativeness is but one of a number of heuristics that people use to render complex problems manageable. The concept of representativeness proposes that humans have an automatic inclination to make judgments based on the similarity of items, or predict future uncertain events by taking a small portion of data and Draw holistic conclusions.
The representativeness heuristic is based on the notion that we tend to form an opinion in terms of events by how much they resemble other events which we are familiar. In so doing, we ignore relevant facts that should be included in our decision-making process, but are not. For instance, investors frequently predict the performance of an initial public offering by relating it to the previous investment’s success (gain) or failure (loss).

In some circumstances, shortcuts are beneficial, but in the case of investment decisions, they tend to render the person’s judgments unreceptive to change. Some investors feel that this approach to the judgment process is so accurate; therefore, the desired outcome is irrefutable. This sometimes leads an investor to arrive at a conclusion quite different from what he or she intended and different from the desirable and correct conclusion.\(^{36}\)

The scholar Piatelli-Palmarini (1994) made the point that the individual investor does not even realize that this thought process brought them someplace else. Our brain assumes that situations with similar traits are, in fact, identical when in reality they reveal a tendency to be quite different.\(^ {37}\)

Eaton (2000) illustrated the importance of this concept for investors: The effect of representativeness in investment decisions can be seen when certain shared qualities are used to classify stocks. Two companies that report poor results may be both classified as poor companies, with bad management and unexciting prospects.
This may not be true, however. A tendency to label stocks as either bad-to-own or good-to-own based on a limited number of characteristics will lead to errors when other relevant characteristics are not considered.\textsuperscript{38}

Busenitz (1999) attempted to determine the risk-taking behavior of entrepreneurs who begin new business ventures as it relates to the area of cognitive psychology and decision making. He suggested that entrepreneurial risk taking behavior can be attributed to the notion that entrepreneurs utilize heuristics and biases more than other types of business executives, which is likely to result in them perceiving a lesser amount of risk in a given decision circumstance. Busenitz asked two groups to fill out a questionnaire: entrepreneurs (124 usable responses) and corporate managers of large firms (95 usable responses) by measuring specific risk characteristics including overconfidence, representativeness, risk propensity, age, and education. The findings revealed that entrepreneurs certainly utilized representativeness (that is, they demonstrated a inclination to over generalize from a few factors or observations) more in their decision making practices and were more overconfident than senior managers of large organizations.\textsuperscript{39}

3.6.11 Framing

Another indicator that influences a person’s perception of risk is the format (frame) in which a situation or choice is presented. A person reveals framing behavior when an indistinguishable or equivalent depiction of an outcome or item results in a different final decision or inclination.
Kahneman and Tversky (1979) utilized framing effects from two significant perspectives within the decision making process: (1) the environment or context of the decision and (2) the format in which the question is framed or worded. Essentially, the framing process is an evaluation of the degree of rationality in making decisions by constructing an examination of whether the equivalent question provided to an individual in two distinct but equal means will generate the same response.40

Duchon, Ashmos, and Dunegan (1991) presented this depiction of framing: Decision makers evaluate negative and positive outcomes differently. Their response to losses is more extreme than their response to gains which suggests, psychologically, the displeasure of a loss is greater than the pleasure of gaining the same amount. Thus, decision makers are inclined to take risks in the face of sure losses, and not take risks in the face of sure gains.

Academic researchers have found that small changes in the wording of judgments can have a prominent effect on choice behavior. “Subtle differences in how risks are presented can have marked effects on how they are perceived” Thus, framing effects (that is, the presentation of information) can be utilized to modify an individual’s perception of risk.41

For instance, Sitkin and Weingart (1995) investigated the association between a framing problem, risk perception, and risk-taking behavior. The subjects
were 63 college students that were provided with a car-racing scenario (case study) in which the continued sponsorship of the venture was dependent on the success of winning.

The decision-making process in terms of the case study was presented with a framing problem based on a potential for a gain or a prospect for a loss. The risk component of the case study instrument (that is, the car-racing scenario) was evaluated with specific risk attributes that included the probability of participation, the significance of opportunity versus the significance of the decision, the potential loss, the potential gain, whether this judgment was a negative or positive situation, and the likelihood of success.

The findings for the study revealed that (1) situations that were framed positively were perceived as higher risk than circumstances that are framed negatively and (2) the extent (degree) to which subjects made risky decisions were inversely related to their level of given risk perceptions.42

3.6.12 Anchoring

Anchoring is used to explain the strong inclination we all have to latch on to a belief that may or may not be truthful, and use it as a reference point for upcoming decisions according to Ricciardi and Simon (2001). The process of anchoring within the decision-making process is utilized by an individual to solve intricate problems
by selecting an initial reference point and slowly adjusting to arrive at a final judgment. For instance, “one of the most frequent anchors is a past event or trend. In attempting to project sales of a product for the coming year, a marketer often begins by looking at sales volumes for past years. This approach tends to put too much weight on past history and does not give enough weight to other factors”

3.6.13 Familiarity Bias

Familiarity bias has been a subject of inquiry within the risk perception for an array of disciplines from the social sciences and business administration fields. In basic terms, “people prefer things that are familiar to them.

People root for the local sports teams. Employees like to own their company’s stock. The sports teams and the company are familiar to them”. Within the risk domain, familiarity bias is an inclination or prejudice that alters an individual’s perception. When individuals make assessments of risky behaviors and hazardous activities for studies within cognitive psychology; the findings have shown people are more comfortable and tolerant of risk when they are personally familiar with a specific circumstance or activity. For example, risks that are familiar are feared less than those that are unfamiliar; this provides an explanation as to why people overreact to unexpected information.
The term familiarity has been described by Gigerenzer and Todd (1999) as “to denote a degree of knowledge or experience a person has respect to a task or object.” Whittlesea (1993) provided a noteworthy description of the concept of familiarity from a behavioral perspective: A feeling of familiarity is the sine qua non of remembering. Judgments about one’s personal past that are not accompanied by a feeling of familiarity do not feel like remembering, but instead feel like guessing or problem solving. In contrast, a feeling of familiarity is usually sufficient to make one feel one is remembering, whether or not the feeling is accompanied by recall of the detail of a prior experience.

Gilovich (1981) presented this viewpoint on familiarity, “we form associations between existing circumstances and past situations and are influenced by what we consider to be the implications of these past events”.

Furthermore, Shefrin (2005) noted the relationship between familiarity bias and representativeness in which individuals “are prone to be excessively optimistic when they have familiarity with a situation and are able to picture themselves as representative of a successful person in that situation”.

Since 1975, the psychology of familiarity has been a popular area of investigation within the behavioral accounting risk perception. In particular, familiarity bias was the main behavioral risk characteristic (indicator) in which
behavioral accounting risk perception researchers explored for 12 research studies during the time period of 1975 to 2002. Within the behavioral finance, familiarity bias has been applied in several areas of financial and investment decision making:

(1) International finance and asset allocation in which investors have demonstrated a preference for investing in domestic stocks (familiar assets) rather than international stocks (unfamiliar assets); (2) Employee’s that have invested most of their retirement savings in their company’s stock (familiar assets); and (3) Portfolio managers have demonstrated a tendency to invest money in local companies or stocks with recognizable brand names or reputations.

The risk perception by Ricciardi (2004) revealed the notion of familiarity was addressed or alluded to in a number of research endeavors in behavioral finance. Baker and Nofsinger (2002) provided this description of familiarity bias from a behavioral finance point of view: People often prefer things that have some familiarity to them. Consequently, investors tend to put too much faith in familiar stocks. Because those stocks are familiar, investors tend to believe that they are less risky than other companies or even safer than a diversified portfolio.

3.6.14 Perceived Control

The association between control and perceived risk has been a prevalent topic in psychology since the late 1970s. Natalier (2001) offered this illustration of
the relationship between control and a risky behavior (e.g., the act of riding on a motorcycle) “when the interaction between motorcyclist, motorcycle and environment is flawless, perfect control can be achieved. Control is the ability to foresee and navigate potential hazards, thus erasing risk in a material way”. Strong (2006) presented this portrayal of the psychology of control within a gambling environment: Casinos are one of the great laboratories of human behavior.

At the craps table, it is observable that when the dice shooter needs to throw a high number, he gives them a good, hard pitch to the end of the table. A low number, however, demands a nice gentle toss. Realistically, the force of the throw has nothing to do with the outcome of a random event like the throw of dice.

Psychologists refer to this behavior as illusion of control. We like to pretend we are influencing the outcome by our method of throwing the dice. If you force the issue, even a seasoned gambler will probably admit that the dice outcome is random. In the social sciences has offered a wide range of views on the true meaning of control. Two main forms of control are (1) locus of control (external versus internal control) and 2) perceived control (illusion of control). A person’s locus of control explains the degree to which he or she perceives the ability to exert control over their own behavior and personal outcomes of a specific situation.
External locus of control provides a person with the perception that chance or outside factors influence one’s decision or final outcome of an event. Internal locus of control is the perception or belief that a person controls his or her own destiny in terms of the outcome of a judgment or circumstance.\textsuperscript{51}

Langer (1983) provided a different perspective of the psychology of control (perceived control) as the “active belief that one has a choice among responses that are differentially effective in achieving the desired outcome”.\textsuperscript{52}

According to Baker and Nofsinger (2002): “People often believe that they have influence over the outcome of uncontrollable events.”\textsuperscript{53} All types of individuals (e.g., experts, novices), to some extent, reveal a natural tendency and need to control situations that they encounter each day. People profess a desire to attempt to control a certain situation with the main objective of influencing the results or outcomes in their favor. Even in instances when control of an outcome is obviously in short supply; a person perceives that one has control over the outcome of a situation known as illusion of control as noted by Langer (1975).\textsuperscript{54}

In effect, illusion of control makes a person believe based on their skills or diligence that he or she can influence and control the outcome of a random decision or situation (that is, based on the belief in their expertise, skill or ability to avoid large monetary losses) according to MacCrimmon and Wehrung (1988).\textsuperscript{55}
Within finance and investment decision making, the notion of how control influences an investor’s perception of risk has become a well-noted and established area of inquiry.

3.7 The Significance of Expert Knowledge

Since the late 1970s, the psychology of expert knowledge (that is, novices versus experts) and its relationship to perceived risk has been an established research theme in the social sciences. The risk perception has documented that changes in the level of a person’s knowledge can result in an adjustment to their risk perception for a specific activity or situation. For instance, the more individuals perceive an activity as difficult to understand (a lower degree of perceived knowledge) the increased anxiety or fear they have towards it. Webster’s Dictionary defines an expert as “a person who is very skillful or highly trained and informed in some special field” and knowledge as the “fact or condition of knowing something with familiarity gained through experience or association.”

Hayek (1945) offered this perspective of how an extensive group of decision makers (e.g., investors in the financial markets) assess information: “the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess”.56
Lee (1999) offered this assessment of the association between the degree of knowledge and perceived risk: changing knowledge . . . can change risk perceptions. For example, several studies have shown that provision of information about a risk (e.g. from electromagnetic fields or radon) can increase risk perception. . . . On the other hand, however, even anecdotal evidence suggests that people with the same level of knowledge about risk (e.g. experts on a risk issue) may nevertheless disagree in their risk evaluation. . . . Scientists as well as risk managers and politicians often complain about laypeople’s lack of knowledge of science and technology and the associated risks in particular . . . These knowledge gaps are often blamed for leading to unreasonable risk perception . . . The reasoning assumes a simple, monotone and inverse casual relationship between knowledge and perceived risk: the smaller the knowledge, the higher the perceived risk. Empirical research, however, suggests that the relationship between knowledge and risk perception is more complex. While some studies, in particular nuclear power, established the inverse relationship, others failed to demonstrate an association.

Within the academic finance, the significance of the level of knowledge and how this behavioral issue might influence an investment professional’s perception of risk has developed into a highly prominent area of analysis.⁵⁷
3.8 The Role of Affect (Feelings)

Brehmer (1987) was critical of the academic research within the social science risk perception only explored cognitive issues and all but disregarded the affective reactions (emotional aspects) of psychological risk. However, during the late 1990s, social scientists began to explore both the cognitive and affective nature of perceived risk.  

Pligt (2002) depicted the progression of the role of cognitive factors and affective responses within the risk perception: Two different research traditions, one focusing on large scale technological risks, the other on more personal risks associated with behavioral practices or hereditary factors . . . For a long time both focused on cognitive approaches to help our understanding of people’s perception and acceptance of risks. Cognitive approaches were also used to help explain the relation between perceived risk and behavior. Only occasionally, emotions and motivational factors were taken into account. More recently this has changed, and research now attempts Within the behavioral finance, a growing theme of investigation has been the influence of affect in the areas of perceived risk and investment decision making in a sample of endeavors.  

Shefrin (2005) provided this behavioral finance perspective of affective (emotional) issues: Most managers base their decisions on what feels right to them
emotionally. Psychologists use the technical term affect to mean emotional feeling, 
and they use the term affect heuristic to describe behavior that places heavy reliance 
on intuition or “gut feeling.” As with other heuristics, affect heuristic involves 
mental shortcuts that can predispose managers to bias.60

Finucane, Peters, and Slovic (2003) noted the importance for researchers to 
understand the different meanings of emotion, mood, and affect. An emotion is a 
state of consciousness (mind) connected to the arousal of feelings. In essence, an 
emotion is a mental condition that occurs impulsively rather than by conscious effort 
and is often associated by physiological changes (e.g., a specific feeling such as joy 
or hate). A mood (also known as feelings) refers to any of the subjective responses, 
pleasant or unpleasant, that a person might experience from a specific situation.

In other words, a mood (feeling) is an affective state of awareness resulting 
from emotions. The notion of affect is the emotional complex (that is, positive or 
negative feelings) associated with an idea or mental state. In essence, affect is a 
“feeling” revealed as a reaction to a stimulus (e.g., a collection of financial 
information for a stock investment).

The cognitive factors that are mentioned involve how an individual processes 
information and what factors influences their perception of risk for a certain 
decision (e.g., issues of heuristics, framing, anchoring, representativeness). In 
essence, to fully understand the judgmental process of investors, researchers must
consider both the cognitive and affective (emotional) aspects of how investors process information and perceive risk for a given activity, situation or circumstance.61

3.9 The Influence of Worry

The exploration by researchers in areas other than business into the significance of worry has slowly received increased attention within the risk perception. During the 1970s, the original risk perception studies in psychology by researchers at the Decision Research organization alluded to “a negative feeling of concern (worry)” about risk known as dread or deadness that influences a person’s perception of risk towards a specific risky behavior or hazardous activity.

In relation to the emotional aspects of risk, the process of worrying is a lasting concern with a past or an upcoming event. Worry is a category of risk assessment that makes a person feel as if he or she were reliving a past occasion or living out a future one, and the individual cannot stop these types of contemplations from happening.

A behavioral definition of worry is how a person might react towards a specific situation or decision that causes anxiety, fear, or unhappiness.

One way to think about worry is a cognitive process that occurs when we are uncertain about a future event or activity. In common usage, worry is often used
synonymously with terms like ‘fear’ and ‘anxiety.’ However, in a strict sense, worry is a primarily a mental activity, whereas anxiety and fear include emotional components and associated physical responses . . . Worry is thinking about uncertainties, whereas anxiety includes the gut-level feeling that accompanies uncertainty.

The risk as a feeling of hypothesis postulates that responses to risky situations (including decision making) that result apart from direct (i.e., not cortically mediated) emotional influences, including feelings such as worry, fear, dread, or anxiety. People are assumed to evaluate risky alternatives at a cognitive level, as in traditional models, based largely on the probability and desirability of associated consequences. Such cognitive evaluation has affective consequences, and feeling states also exert a reciprocal influence on cognitive evaluations. Because their determinants are different, emotional reactions to risks can diverge from cognitive evaluations of the same risks behavior is then determined by the interplay between these two, often conflicting, responses to a situation.

In the realm of finance, worry has practical application by everyday investors in the financial markets. The news media continually supports the “act of worrying” in the minds of stock market investors whenever they report news that the market has declined on any given day or released bad news from various sources such as online new stories, newspapers, and reports on business segments of television news.
From an academic perspective, the notion has followed the usual pattern in which this behavioral indicator was first explored within the risk perception in psychology and then crossed over to other alternative behavioral business disciplines.

3.10 Summary

This chapter provides an overview of behavioral finance and perceived risk and perception of individual investors. Risk perception (perceived risk) involves the subjective judgments that people utilize in terms of their evaluation of risk and the degree of uncertainty. The practice of perception is a technique by which people categorize and understand their sensory intuitions in order to provide an assessment of their surroundings with the recognition of “actions” or “objects” rather than simply factors or traits.

A considerable number of research studies on perceived risk and risk-taking behavior by social scientists have crossed over and are now applied in various business settings. Classical decision making is the foundation of standard finance since it is based on the notion of rationality in which investors formulate financial decisions. As a matter of course, standard finance has discarded the view that the decision-making process is influenced by psychology in which individuals are sometimes prevented from making the most rational decisions. Behavioral finance is based on the premise that investors make decisions relative to the tenets of behavioral decision theory and bounded rationality.
Further, an investor displays cognitive and affective (emotional) issues during the decision-making process in the assessment of risk and the evaluation of a specific investment product or service. Within the social sciences, the risk perception has established that a significant number of cognitive and affective (emotional) characteristics influence an individual’s risk perception for non-financial judgments.

The behavioral financiers, have revealed an assortment of these cognitive and affective issues that exist during the financial decision making process in terms of how an investor perceives risk for a wide range of investment instruments like common stock, mutual fund and financial services like tax planning, selecting a financial advisor and this chapter provided an overview of these behavioral finance issues and theories that influence an investor’s risk perception: the notion of heuristics, issues of overconfidence, the canons of prospect theory, the influence of loss aversion, the concept of representativeness, issues of framing, the topic of anchoring, the notion of familiarity bias, the factors of perceived control, the issues of expert knowledge, the role of affect and the influence of worry are the causes or the factors that influence the process of portfolio investment.
References


2. Ibid.


