CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION TO THE STUDY

Standard Finance Theory and economic models draw heavily upon two basic assumptions namely 1. Rationality and 2. Market Efficiency. The assumptions of traditional economists portray humans as rational beings that always strive to maximize their utility. Fama (1965) defined efficient market as a market with (1) large number of rational profit maximizers competing against each other to predict future values of individual securities, and (2) in which important current information is almost freely available to all participants. The proponents of Behavioural Finance, continuously challenge this assumption and believe that numerous factors both rational and irrational thinking drive investor behavior. They believe that market price is not always a fair estimate of the underlying fundamental value and that investor psychology can drive market prices and fundamental value very far apart (Hersh Shefrin 2000). Empirical research and studies on investor behavior have shown the existence of irrational thinking in investor decision making.

With the liberalization policy adopted by the Government of India since 1991, the financial system of India has been redefined and today the Indian investor has a plethora of investment opportunities. With the growing economy, the investor’s
disposable income in the hands of the investors also increases with more scope for saving. Today the avenues of investment range from shares, debt instruments, real estate, insurance, bank deposits, and mutual funds etc. The retail segment investor in India who comprise nearly 98 percent of the investor account, constitute only 20 percent of the total net assets and the corporate and institutions constitute nearly 55 percent. This retail segment is significant as only 8 percent of the household financial saving population invest in mutual funds in India, thereby providing a vast scope for the industry to engage this segment and expand. Studies on investor behavior have focused more on investors in stock markets. The investment behavior of mutual fund investor who is looking both for safety and good returns has not been explored as much as the stock market investor. The mutual fund as an investment avenue is gaining prominence in India and in this context; the study is an attempt to explore the mutual fund investor psychology and the role of bias in the selection of mutual funds. This study can help both the financial advisors (service providers) and the individual investors to understand the influence of various biases. Better understanding of the investor psychology, can help in designing more attractive financial products and have a realistic financial plan.

1.2 BEHAVIOURAL FINANCE

Behavioural Finance is a branch of Finance and Economics that applies research from the field of psychology, sociology and more recently, neuroscience to understand investor behavior. Proponents of Behavioural Finance believe that numerous factors both rational and irrational drive investor behavior. They also believe that market price is not always a fair estimate of the underlying fundamental value. Behaviourists believe that investor psychology can drive market prices and fundamental value very far apart. Behavioural Finance is a new
approach to financial markets that has emerged in recent years. It argues that some financial phenomena can be better understood using models in which some agents are not fully rational. Continuous research on the subject shows that in an economy where rational and irrational traders interact, irrationality can have a substantial and long lived impact on prices.

1.2.1 Brief History Of Behavioral Finance

Investor irrationality dates back to the sixteenth century where beautiful and difficult to obtain tulips were a consumer sensation and an instant status symbol for the Dutch elite. Trading on tulip bulbs escalated and eventually tulip bulbs were placed onto the local market exchanges. People were selling everything they owned including homes, live stock etc., to own tulips. By 1636, tulips were traded in other stock exchanges in Europe also. Later as the speculators started liquidating their tulip holdings, its prices weakened slowly and within a month lost 90 percent of their value.

In the mid eighteenth century, however people began to study the human side of economic decision making. Adam Smith’s ‘The Theory of Moral Sentiments’ which was published in 1759, described the mental and emotional underpinnings of human interaction including economic interaction. The theory on moral sentiments focused on elements like pride, shame, insecurity and egotism. Jeremy Betham, during the same period, wrote extensively on the psychological aspects of economic utility. Adam Smith, Betham and others recognized the role of psychological idiosyncrasies in economic behavior, but their consensus lost ground over the course of the next century. During the 1870s, three famous economists began to introduce the revolutionary neo-classical framework. William Standley Jevon’s ‘Theory of Political Economy’ in 1871, Carl Menger’s Principle of Economics during the same year and Leon Walras’s Elements of Pure
Economics’ (1874-1877) all defined economics as the study of the allocation of scarce resources among competing forces. They pursued a simple model focusing on profit maximization and conceived ‘Homo Economicus’ meaning rational economic man to serve a mathematical representation of the economic man. Rational Economic Man is an individual who tries to achieve discretely specified goals to the most comprehensive, consistent extent possible while minimizing economic costs. Based on this assumption, that individuals make perfectly economic decisions, ignores important aspects of human reasoning.

The validity of ‘homo economicus’ has been the subject of much debate since the model was introduced. Economists, like Thorsten Veblen, John Maynard Keynes and many others criticize Homo Economics, contending that no human can be fully informed of all circumstances and maximize his expected utility by determining his complete, reflexive, transitive and continuous preferences over alternative bundle of consumption goods at all times. They instead spoke of ‘bounded rationality’ which assumes that individual’s choices are rational but subject to limitations of knowledge and cognitive abilities.

Since the 1930s, a number of events especially the experimental economics which examined the theories of individual choice and questioning the assumption of homo economicus laid the groundwork for the renaissance of behavioural economics. Various violations of expected utility was exposed, most important was that of Maurice Allias famously called the Allais Paradox (explained in section 1.3)

During the early 20th century there were a number of books published linking the science of psychology to finance. Selden (1912) wrote ‘Psychology of the Stock Market’ and he based the book ‘upon the belief that the movements of prices on the exchanges are dependent to a very considerable degree on the mental attitude of the investing and trading public’. It was in 1956, that the US psychologist Leon
Festinger introduced a new concept in social psychology: The theory of cognitive dissonance (Festinger, Riecken and Schachter (1956). When two simultaneously held cognitions are inconsistent, this will produce a state of cognitive dissonance. Because the experience of dissonance is unpleasant, the person will strive to reduce it by changing their beliefs. In 1979, psychologists Amos Tversky and Daniel Kahneman who were working on decision making under uncertainty, published their work in the academic journal *Econometrica*. They criticized the “Expected Utility Theory” model, developed by many famous mathematicians such as Von Neumann and Bernoulli, for decision making with uncertain outcome while introducing their own model “Prospect Theory”. Since then the field of behavioral finance as seen a lot of research confirming the influence of emotions in investment decision making. A brief of important work done in the field of Behavioural Finance is discussed below. These people have integrated insights from psychological research into economic science especially concerning human judgment and decision making under uncertainty.

1.3: IMPORTANT CONTRIBUTORS TO THE FIELD OF BEHAVIORAL FINANCE

1.3.1 Maurice Allais - Allais Paradox

The Allais Paradox was introduced by Maurice Allais in 1953. He showed that the theory of maximization of expected utility, which had been accepted for many decades, did not apply to certain empirically realistic decisions under risk and uncertainty. He conducted an experiment in which he asked his subjects to make two hypothetical choices. The first choice was between alternatives “A” and “B” defined as

A  –  Certainty of receiving 100 million ( francs).
B  _  Probability .1 of receiving 500 million
    _  Probability of .89 of receiving 100 million.
Probability .01 of receiving zero

The second choice was between alternatives “C” and “D” defined as

C Probability .11 of earning 100 million
   Probability .89 of earning zero

D Probability .1 of earning 500 million.
   Probability .9 of earning zero

It is not difficult to predict that an expected utility maximizer who prefers A to B must also prefer C to D. However, Allais reported that A was commonly preferred over B with D over C. This was a crucial challenge to expected utility theory.

1.3.2 Amos Tversky & Daniel Kahneman - Prospect Theory

The most important work in behavioral finance was published in 1979 by Amos Tversky and Daniel Kahneman’s, ‘Prospect Theory’ – An Analysis of Decision under Risk. Prospect theory describes how individuals evaluate gains and losses. It talks about two specific thought processes namely editing and evaluation. During the editing state, alternatives are ranked according to a basic “rule of thumb”. Then during the evaluation phase, some reference point that provides a relative basis for appraising gains and losses is designated. A value function, passing through this reference point and assigning a ‘value to each positive or negative outcome, is S shaped and asymmetrical in order to reflect loss aversion i.e. the tendency to feel the impact of losses more than gains.
1.3.3 Disposition Effect

The prospect theory also explains the so called *Disposition Effect* which constitutes one of the most common fallacies among investors and traders. The disposition effect explains the tendency by investors to hold on to losing stocks too long while they sell winning stocks too early. The value function explains this by indicating how continues gains are valued less, thus providing incentives to settle for an early guaranteed gain. When dealing with losses on the other hand, individuals are less risk averse and therefore unwilling to settle for an early loss. (J. Goldberg & R. von Nitzsch, 2001)

1.3.4 Richard Thaler

Richard H Thaler is an American Economist. He is best known as a theorist in Behavioural Finance and for his collaboration with Daniel Kahneman in contributing to the field of Behavioural Finance. He has written a number of books on the subject, including ‘Quazi Rational Economics’ and the ‘Winners Curse’. More recently he has co-authored ‘Nudge: Improving Decisions About Health,
Wealth and Happiness’ with Cass r. Sunstein. ‘Nudge ‘discusses as how public and private organizations can help people make better choices in their daily lives.

1.4 BEHAVIORAL FINANCE AND INVESTOR DECISION MAKING

Behavioral Finance deals with a range of phenomenon from individual investors to market level outcomes. Behavioural Finance could be classified in to Behavioural Finance Micro and behavioral Finance Macro

- Behavioural Finance Micro examines behaviors or biases of individual investors that distinguish them from rational actors of classical economic theory.
- Behavioural Finance Macro detects and describes anomalies in efficient market hypothesis that behavioral models may explain.

This study however, focuses on Behavioural Finance Micro i.e. on the study of individual investor behavior. It identifies relevant psychological biases and investigates their influence on investment decisions and the effect of those biases on the investment processes.

1.4.1 Role and Significance of Behavioural Finance in a Client – Advisor Relationship

Both individual investors and investment advisors can greatly benefit from the application of behavioural finance. An understanding of how investor psychology impacts investment outcomes will generate insights that benefit the advisory relationship. It can help both the advisors and the clients in the following ways.

- **Formulating the Financial Goals** – The Financial Advisor defines an appropriate financial goal for his/her client. This would be effective if the advisors understand the psychology and the emotions underlying the decisions behind creating the goals.
Maintaining a Consistent Approach – Incorporating the benefits of behavioral finance can help successful advisors to exercise a more consistent approach to delivering wealth management services.

Delivering What the Client Expects – Behavioral Finance helps in understanding the motivations of the client in investing. This will help the advisors in delivering what the client expects.

Ensuring Mutual Benefits – Incorporating insights from behavioral finance into the advisory relationship helps in understanding the clients' needs better and also deliver what he/she wants. This strengthens their relationship which leads to more fruitful results both for the client and the advisor.

1.5 INVESTOR BIASES

Hersh Shefrin (2007) defines bias as a predisposition towards error. It is a prejudice or a propensity to make decisions while already being influenced by an underlying belief. Researchers distinguish a long list of investor biases applying more than fifty of them to investor behavior in recent studies and the list is only ever increasing. Some scholars divide biases along cognitive and emotional lines. This study chooses to focus only on five selected investor biases. In the following literature each bias is defined and technically explained, followed by a discussion on the implication of each bias on the investor’s decision making.

1.5.1 Psychology and Behavioural Finance

Psychology is a major building block of behavioral finance. Psychologists have spent years studying the type of errors we are prone to. There are many human cognitive biases that cause investors to make systematic errors which fuel their
tendency toward irrational exuberance. For guidance on this, economists turn to the experimental evidence compiled by cognitive psychologists on the systematic biases that arise when people form beliefs and on people’s preferences. Behavioural finance helps us to understand how psychology influences financial markets. It emphasizes that individuals are affected by psychological factors like cognitive biases in their decision making, rather than being rational and wealth-maximizing. (W. Forbes, 2009) It challenges market efficiency theory and explains how markets can be inefficient due to irrationality in human behavior (M. Sewell, 2007)

1.5.1 Festinger’s Cognitive Dissonance

Cognitive Dissonance encompasses the responses that arise as people struggle to harmonize cognitions and thereby relieve their mental discomfort. When newly acquired information conflicts with preexisting understandings, people often experience mental discomfort which is a psychological phenomenon called cognitive dissonance by Festinger (1957). Festinger’s theory asserts that individuals are distressed by conflicting cognitive elements, such as a discrepancy between empirical evidence and past choice, and that they alter their beliefs to support past decisions in order to reduce this discomfort. In the context of investment decision making, cognitive dissonance can be considered a psychological cost that investors seek to reduce by adjusting their beliefs about past investment choices.

Anytime someone feels compelled to choose between alternatives, some sense of conflict is sure to follow the decision. This is because the selected alternative often poses downsides, while rejected alternative has redeeming characteristics. These factors challenge the decision maker’s confidence in the trade off he or she has just negotiated. Commitment, which indicates an emotional attachment by an
individual to the final decision, always precedes the surfacing of cognitive dissonance. If facts challenge the course to which a subject is emotionally attached, then those facts pose emotional threats. Most people try to avoid dissonant situations and will even ignore potentially relevant information to avoid psychological conflict. Theorists have identified two main aspects of cognitive dissonance.

1. **Selective Perception**: Subjects suffering from selective perception only register information that appears to affirm a chosen course, thus producing a view of reality that is incomplete and hence inaccurate. Unable to objectively understand available evidence, people become increasingly prone to subsequent miscalculations.

2. **Selective Decision making**: selective decision making usually occurs when commitment to an original decision course is high. Selective decision making rationalizes actions that enable a person to adhere to that course, even if at an exorbitant economic cost. Selective decision makers might for example continue to invest in a project whose prospects have soured in order to avoid ‘wasting’ the balance of previously sunk funds. Many studies show that people will subjectively reinforce decisions or commitments they have already made.

Tversky, Daniel Kahneman and his colleagues demonstrated several replicable ways in which human judgments and decision differ from rational choice theory. Biases arise from various processes that are sometimes difficult to distinguish. These include information processing shortcuts (heuristics), mental noise and the mind’s limited information processing capacity, emotional and moral motivations. Kahneman has explained heuristics as human differences in judgment and decision making which involve mental short cuts which provide swift estimates about the possibility of uncertain occurrences. These heuristics which are simple for the
brain to compute introduce ‘severe and systematic errors’ (Tversky and Kahneman)

According to Michael Pompian (2006), some of the Behaviors that can cause investment mistakes are summarized below.

1. Cognitive dissonance can cause investors to hold losing securities position that they otherwise would sell because they want to avoid the mental pain associated with admitting that they made a bad decision.
2. Cognitive dissonance can cause investors to continue to invest in a security that they already own after it has gone down (average down) to confirm an earlier decision to invest in that security without judging the new investment with objectivity and rationality.
3. Cognitive Dissonance can cause investors to get caught up in herds of behavior, that is, people avoid information that counters an earlier decision (cognitive dissonance) until so much counter information is released that investors herd together and cause a deluge of behavior that is counter to that decision.
4. Cognitive dissonance can cause investors to believe ‘it’s different this time’. People who purchased high flying, hugely overvalued stocks in the 1990s ignored evidence that there were no excess returns from purchasing the most expensive stocks available. In fact, most high flying companies are now far below their peaks in price.

1.6 INVESTOR BIASES SELECTED FOR THE STUDY

Studies show a number of investor biases affecting investment decisions. This study will focus on five selected investor biases. The biases chosen for the study are the ones, according to previous studies have shown some direct or indirect
association between them. But the findings have been inconclusive with respect to their relationship. In this context, the following biases are chosen to explore its role on retail mutual fund investors’ investment decisions.

1. Overconfidence Bias (OC)
2. Self Attribution Bias (SAB)
3. Illusion of Control Bias (IOC)
4. Loss Aversion Bias (LA)
5. Herding Mentality (HM)

1.6.1 Overconfidence Bias

Overconfidence can be summarized as unwarranted faith in one’s intuitive reasoning, judgments and cognitive abilities (Michael Pompian, 2006). People tend to be overconfident about their level of knowledge and their general abilities. Overconfidence is derived from cognitive psychological experiments in which subjects overestimate both their own predictive abilities and the precision of information they’ve been given. As such overconfidence bias has several forms like, a feeling of better than average, optimism and too narrow confidence limits. De Bondt and Thaler (1995) note that psychologists find overconfidence to be a pervasive human character.

Studies have shown that investor’s are overconfident in their investing abilities. The confidence intervals they specifically assign to their investment predictions are too narrow. This is called prediction overconfidence. For example, while predicting the future value of stocks, predictive overconfidence may result in underestimating the downside risk to their portfolios. Oslen (1996) found that professional investment managers tend to overestimate probabilities of outcomes that are positive and underestimate undesired outcomes. People seem to be poorly calibrated, when estimating probabilities. Events which they think are certain to
occur actually occur only 80 percent of the time, and events they think are impossible occur approximately 20 percent of the time. (Fischhoff, Slovic and Lichtenstein, 1977). Also Torngren and Montgomery (2004) found that professionals overestimate their probability to choose the better performing stock from two alternatives by over 20 percent.

Shefrin (2000) describes overconfidence with an example of driving. A research group was asked regarding their driving ability and between 65 and 80 percent of the respondents rated themselves above average. However in reality only half of us can be i.e if the trait is symmetrically distributed. In a study conducted by James Montier (2006), on 300 professional fund managers, 74 percent of them believed that they had delivered above-average performance and the remaining 26 percent believed that their performance was average. Almost 100 percent of the respondents believed that their performance was average or better. Studies show that as people gather more information about a situation, their confidence increases and not their judgment abilities. They equate quantity of information with quality. This is referred to certainty overconfidence. An example of certainty overconfidence is how investors simply loaded up technology stocks in late 1990s only to see that these gains vanish during the meltdown.

Psychologists have determined that overconfidence causes people to overestimate their knowledge, underestimate risks and exaggerate their ability to control events.

1.6.1.1 Behavioral Implications Of Overconfidence Investors

- They overestimate their ability to evaluate a company as a potential investment. They may be blind to any negative information that can indicate that stocks should not be bought or sold (Shefrin, 2000).
- Overconfident investors trade excessively leading to poor returns (Barber and Odean, 2001)
• They underestimate the downside risk because they do not heed to historical investment statistical performance, which results in poor portfolio performance.
• They hold undiversified portfolios.
• According to Odean (1998), trading volume increases when price taking investors are overconfident. Each trader overestimates the precision of his own signal (information) and devalues the reflection of other traders’ signal he sees impounded into price. This makes him more assertive in his trading, swelling his purchases and sales relative to that of a rational trader.
• Also overconfident traders over commit in their trade and so induce momentum in price by pushing prices too far in the direction of value change indicated by their private signal.

1.6.2 Self Attribution Bias

Self –Attribution is a cognitive phenomenon by which people tend to attribute success to innate aspects like talent and foresight and attribute failures to situational factors. It is a trend that individuals will take credit for successes and blame external factors for failures (Weary & Bradley). An example could be students attributing their own intelligence and hard work when they get higher grades, and citing unfair grading when it comes to lower grades. The concept was given by Heider(1958) who explained that in ambiguous situations, attributions are influenced by a person’s ‘needs and wishes’ Technically self attribution bias can be broken into

1. Self Enhancing Bias - this refers to the tendency of people to claim an irrational degree of credit for their success.
2. Self protecting bias – this refers to the irrational denial of responsibility for failure

There are two reasons attributed to Self Attribution Bias. One is cognitive and the other motivational. Miller and Ross (1975) argues that it is the limited information processing capacity of individuals that drives Self Attribution Bias, which explains the cognitive reason. The motivational approach argues that people make internal attributions for success and external attribution for failure to maintain their self esteem and feel good about themselves (Zuckerman 1979). The two motives are self enhancement and self presentation. The self enhancing motivations help individuals to protect their self esteem by creating causal explanations that serve to make themselves feel better. The self presentation motivation refers to the drive to convey a desired image to others (Schlenker 1980).

Dr. Dana Dunn, a professor in psychology, studies have proved the existence of self serving bias among students. Studies have shown that investors are also influenced by this bias. A self attributional investor, when he purchases an investment and its value goes up, he attributes this to he/she being investment or business savvy. In contrast when an investor who is susceptible to self-attribution bias, purchases an investment and it comes down in value, then it is attributed to his bad luck or some external factors. Investors subjected to self attribution bias perceive that investment successes are more often attributable to innate characteristics and that investment failures are due to exogenous factors.

1.6.2.1 Implication of Self-Attribution Bias to the investor.

Michael pompian is of the view that people who are susceptible to self attribution bias, are not able to perceive mistakes and consequently are unable to learn from their mistakes. Secondly investors who disproportionately credit themselves when
desirable outcomes do arise, they become detrimentally overconfident in their own market savvy.

- Self attribution investors can after a period of successful investing, such as few months to a year, believe that their success is due to their acumen as investors rather than to factors out of their control. This behavior can lead to taking on too much risk as the investors become too confident in their behavior.

- This bias often leads to too much trading than is prudent. As investors believe that successful trading is attributed to skill versus luck, they begin to trade too much which becomes hazardous to one’s wealth.

- Self Attribution Bias leads investors to hear what they want to hear. When they are presented with information that confirms a decision that they made to make an investment, they will ascribe brilliance to themselves. This may lead investors to make and hold purchases that they should not.

- Self Attribution Bias can cause investors to hold under diversified portfolios, especially among investors that attribute the success of a company’s performance to their own contribution.

### 1.6.2.2 Does Self Attribution Lead To Overconfidence?

Studies have shown strong association between self attribution and overconfidence. According to Hirshleifer, (2001), Overconfidence and Self-Attribution are static and dynamic counterparts. Self Attribution causes individuals to learn to be overconfident rather than converging to an accurate self-assessment. Billet and Qian (2005) explore managerial Self-Attribution Bias in mergers and acquisitions by looking at the sequence of deals made by individual acquirers. They found that Self Attribution of past success leads to hubris in decision making. This confidence developed from past acquisition leads to value destructive deals suggesting that Overconfidence stems from Self Attribution Bias.
Similarly, Odean, T & Gervais, S (2001) have developed a model that describes how novice traders who are Self Attributive and successful, eventually become Overconfident and take high risk in investment.

1.6.3 Illusion Of Control Bias

Illusion of Control bias is a tendency in human beings which leads to believing that they can control or at least influence outcomes, when in fact they cannot. It is the expectancy of a personal success probability inappropriately higher than the objective probability would warrant (Ellen Langer). Langer found that choice, task familiarity, competition and active involvement can all influence confidence and generate such illusions. He observed that people who were allowed to select their own numbers in a hypothetical lottery game were also willing to pay a higher price per ticket than subjects gambling on randomly assigned numbers.

Gerlinde Fellner (2004), in her paper ‘Illusion of Control as a source of Poor Diversification: An Experimental Approach’, investigating factors influencing individual portfolio allocations with particular focus on the role of illusion of control, found that subjects excessively invest in the lottery for which they can determine the outcome by rolling the die themselves indicating that they are prone to illusion of control. However, the effect vanishes with experience. Davis et al (2000), in order to examine the effects of active vs. passive task participation (a variable hypothesized by Langer to affect the illusion of control), patrons of Reno casinos were observed placing craps bets on their own and another yoked patron's dice rolls. It was hypothesized that subjects would (a) place higher bets and (b) place more “difficult” bets (e.g., where only one specific number, as opposed to any of several numbers, may win) on their own rolls (when they would experience the illusion of control over the outcome) than on other patrons' roles (when they would not experience such an illusion). That is, players were expected to generally
adopt riskier betting strategies when throwing the dice. Results supported the hypotheses.

1.6.3.1 Implications of Illusion of Control To The Investor.

- Illusion of Control bias can lead investors to trade more than is prudent. Online traders specially, believe themselves to possess more control over the outcome of their investments than they actually do. This leads to excess trading and decreased returns.
- Illusion of Control Bias can lead investors to hold under diversified portfolios. It is found that investors hold concentrated positions because they gravitate towards companies over whose fate they feel some amount of control. Such control is illusionary and so lack of diversion hurts investor’s portfolio.
- Illusion of Control bias can cause investors to use limit orders and other such techniques in order to experience a false sense of control over their investments.
- Studies also show that illusion of control leads to overconfidence.

1.6.4 Loss Aversion

Daniel Kahneman and Amos Tversky (1979) in their studies on human decision making found that the pain people feel from a loss is about as twice as strong as the pleasure felt from an equivalent experience of gain. According to them, Loss aversion is the disutility of giving up is greater than the utility associated with acquiring it. Loss Aversion is a salient feature of Prospect Theory, which is explained earlier. People who are loss averse, when faced with an investment choice, tend to have a stronger preference for avoiding possible losses than making gains. Another implication of loss aversion is that individuals have a
strong tendency to remain at status quo, because the disadvantages of leaving it loom larger than advantages. They are willing to give up more potential upside in order to protect them from the downside.

1.6.4.1 Myopic Loss Aversion

It is a form of Loss Aversion in which greater sensitivity to losses than gains is compounded by the frequent evaluation of outcomes. This behavior of frequent evaluation of portfolio performance can lead to shifts in an investor's long term asset allocation mix. This increases the likelihood of seeing a loss, which produces more mental agony than comparable gains satisfy. Benartzi & Thaler (1999) conducted experiments in the context of retirement savings decisions to study repeated investment decisions overtime. The study found that when investors are loss averse, they are willing to take more risk if they evaluate their performance infrequently. Benartzi and Thaler(1995) labeled the combination of loss aversion and a short evaluation period as myopic loss aversion. The study also revealed that myopic loss averse investors do not want to invest in stocks, even in the face of substantial equity premium. Also shorter evaluation period makes stocks less attractive to a loss averse investor.

1.6.4.2 Disposition effect

Wealth Management practitioners explain how investors open up monthly statements prepared by their advisors, skim columns of numbers and usually notice winners and losers. Clients dread selling securities that haven’t performed well and they hold on to losing securities. They continue to hold the stock of the company that performs bad, and this adds to the risk of the investor’s portfolio. In other words, these loss averse investors are actually risk seeking. Conversely, when the monthly statements indicate that profits are being made, these investors...
are gripped with a powerful urge to sell and make money. This kind of selling deteriorates the risk/return profile and eliminates the potential for future gains.

1.6.4.3 Implication of Loss Aversion to the Investor

- Loss aversion may result in suboptimal investment decisions and the investor may deviate from long term portfolio strategy.
- Loss Aversion may cause investors to hold losing investments too long. This behaviour will have serious negative consequences leading to depressing portfolio returns.
- Loss aversion can also motivate investors to sell winners too early, in the fear that their profit will reduce unless they sell.
- Loss aversion can cause investors to hold unbalanced portfolio.
- It can also cause investors to unknowingly take on more risk in their portfolio than they would if they simply eliminated the investment and moved into better one.
- Myopic Loss Aversive investors have a tendency to frequently evaluate the portfolio performance and would not want to invest in stocks, even in the face of substantial equity premium (Benartzi and Thaler (1995))

To sum up, loss aversive investors do exactly the opposite of what investors want. They increase risk and reduce returns. Investors should take risk to increase gains and not to mitigate losses. Holding losers and selling winners does not give favourable returns.

1.6.5 Herding Mentality

Herding is a behavior that follows the decision of the majority rather than relying on rational thinking (Sheriff 1996). It is described as an imitation behavior
resulting from individual factors and often leading to inefficient outcomes for the market as a whole. This behavior of investors might feed speculative investment bubbles, which would lead to substantial welfare losses when these bubbles burst.

Motives for herding are three according to Bikchandani & Sharma (2000) i.e. information based herding, reputation based herding and compensation based herding. Information based herding occurs when analysts lack confidence above their private information and there exists uncertainty about the quality of public information. As a consequence, investors abandon their private signal and follow the herd which may lead to suboptimal results. In reputation based herding (Scharfstein & Stein (1990) and Trueman (1994), analysts manipulate forecasts to get closer to the majority so that their information is correlated with their peers.

Thirdly, compensation herding can also arise as a consequence of payoff externalities (Maug & Naik (1996) and Chevalier & Ellison (1997). This kind of herding is to avoid penalization due to bad forecasting. That is cited as the reason for inexperienced analyst to herd more than experienced analyst. Research shows a negative relationship between degree of herding and analyst experience (Krishnan et.al.2006)

1.6.5.1 Implications To The Investor

- Herding may lead to inefficient outcomes for the market as a whole. Herding investors feed speculative bubbles and eventually make losses when the bubbles burst.
- Herding investors may choose to suppress important private information leading to suboptimal investment decisions.
A summary of the review of all the papers related to the above bias, is given in Chapter 2. The study will explore the role of all the above biases in the investment decision making of the sample retail mutual fund.