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Behavioural Finance: Heuristics in Investment Decisions

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Abstract

Decision-making from investment point of view is basically defined as a rational choice among alternatives or as the conscious selection of a course of action from available alternatives. Investors are also assumed to be a rational creature. Process of decision making in individuals is subject to various psychological changes, which therefore result in behaviour. Prior to a decision making, individual undergoes with several cognitive and emotional illusions which may result in irrationality as argued by several authors. Decision-making is required of everyone, individuals as well as administrators. Individual finds numerous models in the extensive literature on decision-making with two basic assumptions based on Simon's work: First assumption that decision making is an orderly, rational process that possesses an inherent logic; and the second assumption that steps in the process follow one another in an orderly, logical, sequential flow. A decision is the result of making a judgement or reaching a conclusion. In Heuristic decision making there is a lack of emphasis on hierarchical structure; role behaviour is characterized by freedom for every individual to explore all ideas. The emotional and social tone is relatively relaxed; openness, originality and seeking of consensus are the essentials of heuristic decision making. In a nutshell it is a creative type of decision. Heuristics is one such variable which influences the decision making of investors directly. Hence it is necessary to configure the influence of behavioural finance theory in to individual investor decision making using heuristics.

Keywords: Heuristics, Behavioural Finance Theories, Decision making.

Introduction:

Rational choice is basically arrived from Efficient Market Hypothesis (EMH) introduced by Markowitz (1952) and subsequently named by fama in 1970, assumes that financial markets incorporate all public information and state that share prices reflect all relevant information, which considers the market as a whole and considers investors to behave rationally while making decisions related to their investment. But in reality, individual's investment choices may be rational based on the market movements as stated in the EMH, their actual end result (behaviour) could be irrational because they undergo into several psychological transformations before they invest.

Investing is a practice, where people believe investing will lead to definite gain for the future or some extra benefit out of capital (principle) invested in the form of equities, stocks, currencies etc., Individuals invest mainly for two reasons viz., either for the sake of return or for safety purposes. Return seeking investors looks for high return or normal return. Whereas, investors who invest for safety alone will aim for normal return or even low return. An investor firstly decides on, in what he invests (type of investment), then decides what for he invests (return or safety). Each and every step of investing requires variety of choices and reasons for choosing particular investment. These choices may be sometimes unique and most of the time investor's choice may also depend on others. The reason for choosing investment by investor may be because of variety of positive opinion/beliefs on that particular investment. After choosing and finding the reasons for appropriate investment is therefore end result (behaviour) of investor called decision or decision making.

Human decision making is a continuous process in which investments will lead to several cognitive and psychological illusions. These factors may result in irrationality, which may affect or influence decision making process of individuals. Cognitive illusions are due to thinking and analyzing about the particular investment choice. This choice may vary or impact the actual decisions depending upon the emotional level of the individual. Emotional level of the individuals is not equal or same among the individuals. These emotional imbalances are due to psychological transformations. This change and variation among the individuals (investors) can be studied using the behaviour of investors in stock market. This is formerly known as behavioural finance. Therefore, behavioural finance not only analyses the investor behaviour (investment pattern), it also aims on the psychological variations of the investors which lay outcome for their decisions with respect to their investments. The concept of behavioural finance can be understood from the underlying theories which built the foundation and intervention for the discipline.

Behavioural Finance: Traditional or conventional finance theories like Efficient Market Hypotheses (EMH) and Modern Portfolio Theory (MPT) focused on the rationale of the investors whereas, behavioural finance works on the actual behaviour (Irrationality) of the individuals. Thus, Behavioural finance studies the psychology of financial decision-making. Most people know that emotions affect investment decisions. These emotions cannot be measured directly. It can be measured based on various approaches, behavioural aspects and underlying theories. These behavioural aspects are taken from various behavioural factors and behavioural variables resulting from behavioural theories.

(Barber and Odean 1999) "Behavioural finance relaxes the traditional assumptions of financial economics by incorporating these observable, systematic, and very human departures from rationality into standard models of financial markets. The tendency for human beings to be overconfident causes the first bias in investors, and the human desire to avoid regret prompts the second"

Fathers of Behavioural Finance and their contribution to Behavioural Finance: Daniel Kahneman and Amos Tversky were recognised as the fathers of behavioural finance. Though, many literaryworks are carried out by them in behavioural finance, Kahneman and Tversky also focussed on different lines of research based on the normative theory. Their first contribution in behavioural finance titled "Belief in the law of small numbers" published in 1971 reported – 'People have erroneous intuitions about the law of chance'. Followed by that in 1972 the paper concentrated on "Subjective probability: A judgement of representativeness". In 1974, it paved the way for "Judgement under uncertainty: Heuristics and Biases" discussed on "Better understanding of the heuristics will lead judgement and could improve decisions in times of complexity (uncertainty).

Theories of Behavioural finance: In order to explain the irrational behaviour and inefficient markets, behavioural economists draw on the attention and knowledge of human cognitive behavioural theories which is derived from psychology, sociology and anthropology subsequently fall under two most important behavioural theories known as; Prospect and Heuristics theory.

Heuristics:

"Heuristics are simple efficient rules of the thumb which have been proposed to explain how people make decisions, come to judgments and solve problems, typically when facing complex problems or incomplete information. These rules work well under most circumstances, but in certain cases lead to systematic cognitive biases" – Daniel Kahneman (Parikh, 2011).Tversky and Kahneman identified the influence of human heuristics on the decision making process. Tversky defined heuristic as a strategy, which can be applied to a variety of problems, that usually–but not always–yields a correct solution. People often use heuristics (or shortcuts) that reduce complex problem solving to more simple judgmental operations (Tverskyand Kahneman, 1981).

Heuristic decision process is the process by which the investors find things out for themselves, usually by trial and error, lead to the development of rules of thumb. In other words, it refers to rules of thumb, which humans use to made decisions in complex, uncertain environments **(Brabazon, 2000)**. Man is not capable to process all the information that one is presented with on a daily basis. While accumulating experience through the process of doing something, those experiences gives an impression of how something works. This process creates rules of thumb that can then be used when a similar situation is encountered. This phenomenon is called the use of heuristics. This is especially relevant in modern trading, when the number of instruments and the density of information have increased significantly. Using heuristics allows for speeding up of the decision making compared to rationally processing the presented information. The most attractive aspect of this is the time that can be saved while the main drawback is the dependence on previous experience. Traditional financial models assume the exclusion of heuristics, and assume all decisions being based on rational statistical tools (Shefrin, 2000).

Major interventions:

- Daniel Kahneman (2002), studied human judgement and decision making under uncertainty.
- Vernon smith (1999) conducted experimental research on alternative market mechanism

Review of Literature

Investor behaviour:

Over the past fifty years conventional finance theories has assumed that investors have little difficulty in making financial decisions and are well-informed, careful and consistent. The traditional theory holds that investors are not confused by how information is presented to them and not swayed by their emotions. But reality does not match these assumptions. Behavioural finance has been growing over the last twenty years specifically because of the observation that investors rarely behave according to the assumptions made in traditional finance theory.

Palanivelu&K.Chandrakuma (2013) highlights that certain factors of salaried employees like education level, awareness about the current financial system, age of investors etc. Make significant impact while deciding the investment avenues.

Sanjay Kanti Das (2012) summarized that the bank deposits remain the most popular instrument of investment followed by insurance and small saving scheme to get benefit of safety and security of their life and investment. It was found that there is a need for increasing the financial literacy among the middle class households.

GiridharMohanta&SathyaSwaroopDebasish (2011) states that people were ready to invest in meeting their financial, social and psychological need. But the investor always had a mindset of safety and security, higher capital gain, secured future, tax benefit, getting periodic return or dividends, easy purchase and meeting future contingency.

Syed Tabassum Sultana (2010) concluded that individual investor still prefer to invest in financial products which give risk free returns. The study confirmed that Indian investors even if they are of high income, well-educated, salaried, and independent are conservative investors who prefer to play safe in the market.

History and Development

Most of the studies in behavioural finance talks about the investor behaviour analysing the investment pattern, which tells about their rationality. But many authors have argued on investor irrationality based on the heuristics theory.

Comprehensive Literature pool: Slovic, Fischhoff and Lichtenstein (1977), Sage (1981), Einhorn and Hogarth (1981), Pitz and Sachs (1984), Taylor (1984), Hogarth (1987), Dawes (1988), Yates(1990), Keren (1996), Crozier and Ranyard (1997), Pinker (1997), and Bazerman (1998) provide general coverage of the area. In addition, Tversky and Kahneman (1974), Kahneman,Slovic and Tversky (1982), Evans (1989, 1992), Caverni, Fabre and Gonzalez (1990), and Sutherland (1992) added their contribution on decision biases. Wallsten (1980), Hogarth (1981),Berkeley and Humphreys (1982), March and Shapiro (1982), Anderson (1986), Keren(1990), Dawes and Mulford (1996), and Gigerenzer (1991, 1996) provide critiques of heuristics and bias theory. The

position adopted in this report is that the biases documented inthe studies referred to below indicate a predictable propensity of human decision makers towards irrationality in some important circumstances. While the nature of the underlying psychological processes that lead to biased behaviour is the subject of debate, the experimental findings on biases (decision process artefacts) show persistent biasing in laboratory studies.This behaviour has also been shown in many cases to generalise to real world situations albeit with reduced effect (e.g. Joyce & Biddle 1981). Bias generalisation remains an area in need of considerable research.

Irrationality and Behavioural Finance:

Hoffmann, Shefrin and Pennings (2010) analyze how systematic differences in investors 'investment objectives and strategies affect the portfolios. The data were obtained through an online questionnaire. It is found that investors who rely on fundamental analysis have higher aspirations and turnover, take more risks, are more overconfident, and outperform investors who rely on technical analysis.The findings provide support for the behavioural approach to portfolio theory and shed new light on the traditional approach to portfolio theory.

Chandra (2008) explored the impact of behavioural factors and investor psychology on their decision-making, and to examine the relationship between investor's attitude towards risk and behavioural decision-making.The research was based on the secondary data.The investment decision-making is influenced, largely, by behavioural factors like greed and fear, Cognitive Dissonance, heuristics, Mental Accounting, and Anchoring. These behavioural factors must be taken into account as risk factors while making investment decisions.

Judgement under Uncertainty:

Tversky and Kahneman (1974) identified the influence of human heuristics in the decision-making process. Tversky at el. Defined heuristic as a strategy that can be applied to a variety of problems and that usually, but not always yields a correct solution. People often use heuristics (or shortcuts) that reduce complex problem solving to more simple judgmental operations. Four of the most popular heuristics discussed by Tversky at el. include the following;

Representativeness heuristic:

Representativeness is "the degree to which an event is similar in essential characteristics to its parent population and reflects the salient features of the process by which it is generated" Representative Heuristic is a cognitive action in which an individual categorizes a situation based ona pattern of previous experiences or beliefs about the scenario.

Over Confidence heuristic:

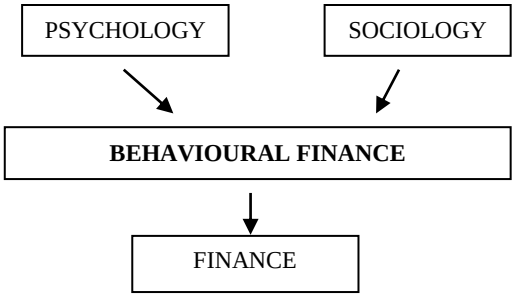
People are poorly calibrated in estimating probabilities and usually overestimate the precision of their knowledge and ability to do well and about good things happening in future than bad. This theory summarizes how people form beliefs under uncertainty.

Availability heuristic:

This heuristic is used to evaluate the frequency or likelihood of an event on the basis of how quickly instances or associations come to mind. When things related to each other are easily brought to mind, this fact leads to an overestimation of the frequency or likelihood of this event.

Anchoring and adjustment:

People who make judgments under uncertainty use this heuristic by starting with a certain reference point (anchor) and then adjust it insufficient to reach a final conclusion.



Evolution of Behavioural Finance,*Source: Schindler (2007)*

Decision types	Approaches	Rationale	Meaning
Individual falls under certainty	Normative	Rationality	What the optimal choice or decision would be ?
Individual falls under uncertainty	Prescriptive	Irrationality	What people should do ? (Cognitive illusion)
Under Risk	Descriptive		What people actually do? (Psychological illusion)

Decision making Approaches based on certainty and Uncertainty

Psychology: Individuals believe and prefer certain choices which may affect the individual decision.

Sociology: Large number of financial decisions are the outcome of social interaction rather than being made in isolation.

Bernstein(1998) says that the "evidence reveals repeated patterns of irrationality, inconsistency, and incompetence in the ways human beings arrive at decisions and choices when faced with uncertainty".

Behavioural finance extends this analysis to the role of heuristics in financial decision making, heuristics - simple rules of thumb (mental shortcuts) which makes decision making easier in terms of complex decisions. In other words, behavioural finance takes the insights of psychological research and applies them to financial decision-making.

Heuristics and decision making

Heuristic principle is a method of decision making using rules of thumb, to find solutions or answers. Based on Simon's proposition, Stoner & Freeman (1992) mentioned that in most situations decision makers actually use simpler methods. In making decisions, individual tend to ignore the complicated methods and adopt less complex methods to speed up the process. As a replacement for the rational model, decision makers practically make their decision by applying alternative approaches, such as bounded rationality and rules of thumb called heuristics.

Theoretical background:

Several literatures provide insight into the research questions like "How does heuristics affect individual investor decisions?" Behavioural decision theories set forth the impact of cognitive limitations on decision making and the resulting impact of heuristics (slovic et al.,1977). Based on the theoretical approach the decision is of three types;

Behavioural Finance and Decision making : (Thaler, 2005)Behavioural finance essentially tries to achieve is to supplement the traditional finance theories by merging it with cognitive psychology in an attempt to create a more complete model of human behaviour in the process of decision making.

Decision making models:

Greenberg & Baron (2000) identified several different approaches to how individuals make decisions. Three of the most important are:

(1) *The rational-economic model*: Theoretically considered as the best approach in search of ideal decision. An economically rational decision maker attempts to maximize profit by searching for the optimum solution to a problem. In this situation, the decision maker must have perfect information and without any bias.

(2) *The administrative model*: This model is reckoning for the limits of human rationality, or it is called as bounded rationality. This model recognizes that a decision-maker may have a limited view of the problem confronting it. Thus, in that situation, he or she might select a solution that may be good enough, but not optimal, termed as satisfying decisions.

(3) *Image theory: an intuitive approach to decision making*. This theory assumes that selecting the best alternative by weighing all options is not always a major concern when making a decision. In image theory, the decision making process is both rapid and simple. People make adoption decisions based on a simple, two step process: the compatibility test and the profitability test.

Scope for further research

Studies related to investor behaviour are found in abundance, earlier studies focused on the investment pattern, gender indifferences and other demographic factors. But only a few studies have concentrated towards the decision making process and individual's decision with respect to their investments. No studies have focussed on filling the gap between the actual decisions and influencing variables such as heuristics, risk attitude which activate individual decisions. Related literatures, theoretically defined concepts, underlying theory which supports the decision are theoretically defined. In order to fine tune the concept, it is necessary to empirically test in Indian context using the psychological variables which intuit the decision among individuals. Instead of focussing towards investor behaviour in the stock market, it is necessary to draw attention towards individual decision based on the domain specific (eg., concentrate only on equity investors). These may have dual impact, i.e., decision variation among the individuals based on the information they adopt before investing in one specific domain; secondly decision may change based on the individual risk and the psychological transformations they undergo beforeinvesting.

Conclusion

Investors may lack with analytical tools and they often undergo with rumours. Heuristics in decision making will highly influence the short term investors rather than long term investors. Hence it is necessary to study the influence of heuristics in short term equity investors where the risk is high with behavioural traits rather than stock market.

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