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A Literature Review of Investor Behavior -Philosophy of Behavioral Finance

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Abstract: In Traditional Finance, the Financial models hold a fundamental assumption that investors are fully rational .The rational investors aim to maximize their wealth with available information. Even the dominance of efficient Market theory around 1970's also contain assumption of rational investor and stated that stock prices incorporates the best available information . However, Standard Finance models have systematic errors & anomalies represented by presence of high volatility and presence of "Bubble" in stock market which indicates the Irrational Exuberance (Robert Shiller). The Behavioral Finance plays a significant role to understand the complexities that are prevalent in Investor Financial Behavior. The present study attempts to review the literature available in traditional & behavioral finance. The study of literature also aims at recognizing the role of financial literacy and its implication that help in improvement of personal financial management of an Individual investor.
Keywords: Investor behavior, behavioral finance, finance management.

I. Introduction

Investment decisions consider as crucial decision for any individual, corporate & institutional Investors that require a comprehensive understanding of financial environment at macro as well as micro level. This may be reasons of considering basic assumption of the investors as rational persons while establishing the Security Pricing Models, Portfolio Models, Efficient market theory under Traditional Finance. As per the perception of Traditional Financial theories, the investors are not behaving irrational in process of Investment decisions and utilize the available information to maximize the expected returns. The Theory of Expected Utility remains the base for CAPM, EMH, APT & MPT. Traditional Financial theories revolve around the presumption of "rational investor" in process of investment decision making while considering all available information. Rational investors seek to maximize their own well being by increasing their wealth. The rational Investors have capabilities to have infinite computing powers to consider all possible situations to make best decisions. 'A rational Investor can be defined as a one that always (i) updates his belief in a timely and appropriate manner on receiving new information; (ii) makes choices that are normatively acceptable(Thaler,2005)'.

However, The Incidents like financial crisis in 2008 originated in USA and resulted into global recession pointing towards the "anomaly" in traditional economies theory. The case of hedge Fund in the name of LTCM –Long Term Capital Gain plunged into big failure despite of the fact partnered by an ex-vice chairman of the Federal Reserve Board, two Nobel Laureates in Economics and having 24 employees with Ph.D.s. (Nofsinger2001). In marked cases what went wrong that lead to spillover effects.

The unexplained anomalies found in Financial Market and also not discussed by economist in Traditional Theory. This lead to raise questions like: Do people behave rationally? Or Do they take economic decision under fear or Are they greedy? Or what are the influences that lead to them to opt for bad decisions? It is repeatedly evident through various studies that the all human beings are not behaving as rational investors. Behavioral Finance is a study of market that seeks to explain the irrational behavior of investors in financial decision by combine the psychological theory with conventional finance. Unlike Finance theories like Efficient Market Hypothesis (EMH), Capital Asset Pricing Model (CAPM) and Arbitrage pricing Theory (APT), Modern Portfolio Theory (MPT) etc. that contain assumption of rational investor, Behavioral Finance seeks to explain phenomenon that there is a limit to arbitrage and all investors are not rational. The foundation of Current Asset Pricing Model like CAPM, APT etc. lies in the validity of Utility Theory which aims to explain that increase in sum of money increase in utility. Thereby utility of money is increasing and bounded.

Kahneman & Tversky conducted experimental studies and found the evidence contrary to Expected utility theory and pronounced 'Prospective theory'. Through this theory, they described how people managed the risk under uncertainty. In essence, the theory attempts to explain observed human behaviors' irregularities while assessing the risk under uncertainty. The findings of theory is that people tends to be risk- averse in gains and risk-takers in losses. It is firmly believed by Behavioral economists that psychological factors or some biases influence the investment decisions of individuals. Financial literacy is considered as a fundamental tool to

make an investor efficient in measuring the risk. It aims at controlling the irregularities in human behavior while making financial decision.

The present study attempts to review the literature available in traditional & behavioral finance.. The objective of study to identify the psychology biases that influence personal financial management and economic decisions. The study of literature also seeks to recognize the role of financial literacy and its implication that helps in improvement of personal financial management of an Individual investor

Objective of the study

- To review the available literature related to traditional finance & Behavioral Finance.
- To identify the psychological concepts that influence Investor economic behavior.
- To study the scope of financial literacy in the discipline of Behavioral Finance.

To study a comprehensive the idea of shifting from traditional financial theories to behavioral theories, there is a need to recognize the investor behavioral aspects in light of new discipline of behavioral finance. Thus the literature review divided into five parts as:

- The first part covers the studies related to normative models of rational choice under Traditional Finance such as Capital Asset Pricing Model , Efficient Market Hypothesis .
- The second part focuses on the studies related to undefined anomalies in traditional finance theories.
- The Third section aims at discussing the evolution of Behavioral finance and elaborates Prospective Theory, an alternative to Utility theory.
- The fourth part examines research related to identify psychological concepts that influence Investor's financial decision making process.
- The fifth part focuses on relevance of financial literacy in light of Behavioral Finance.

II. Traditional Finance - Fundamental Assumption

The study of allocation of scares financial resources by human races can be termed as Finance. It aims to study how financial resources are managed, acquired and invested over a period of time. The traditional Financial Theory has two key factors 1) Market participants are rational that means they are efficient in interpreting the available information correctly and uniformly and 2) The market are efficient based on Efficient Market Hypothesis that means 'prices of security are right' and reflect true value after adjusted itself, accordingly, as per available information in market. Thus as such there *is 'no free lunch'.* Over the past five decades, there has been extensive work done on developing and testing of various competent asset pricing model.

(Markowitz M Harry 1991) considers as Grandfather of Behavioral Finance for his work on portfolio theory that considers how an optimizing Investor would behave. Under Axiom of rational behavior under uncertainty he discusses that one should choose a strategy which maximizes the expected utility for a many-period game.

2.1 Portfolio Selection Based on risk & Return :

Subrahmanyam(2007) classifies core models of Finance(i) Portfolio Allocation based on expected return and risk (ii) risk-based Asset Pricing Model i.e. Capital Asset Pricing Model(iii) the pricing of conditional Claims, (iv) the Modigliani – Miller and its amplification by Theory of agency. The foundation of such model is that people behave rationally and computational in nature. These models revolutionized the study of finance.

2.2 Efficient Market Hypothesis:

The central propositional in Finance, Efficient Market hypothesis state that price of security in Financial market must be equal to its intrinsic value. Fama (1965) "An ' efficient market' is defined as a market where there are large number of rational , profit –maximizers actively competing , with each trying to predict future market values of individual securities and where important current information is almost freely available to all participants . In an efficient Market, competitions among the many intelligent participants lead to a situation, where, at any point of time , actual prices of Individual Securities reflect the effect of Information based on the events that have already occurred and on the event which , as of now , the market expects to take place in future . In other words, in an efficient market at any point in the time the actual price of security will be a good estimate of its intrinsic Value."

The three basic key elements of EMH are :

1) Investor behave rationally so as the price of security,
2) In some case if investor behave irrationally, their trader behave arbitrarily and nullify one another without upsetting the price

3) Rational arbitrageurs eradicate the effect of irrational investor on the market.

EMH focus on the predicting the efficient market in either case of existence of rationality or irrationality. That gave a lot of creditability to this theory.

III. Traditional Finance – Anomaly of Irrationality

Though Traditional Financial Models have notion of rationality of Investors in their Investment decisions yet real Circumstances found a lot of deviations and anomalies from these financial Theories. That results into new paradigm of Behavioral Finance. Even Earlier generation like Irving Fisher, John Maynard Keynes, and Benjamin Graham(of Warren Buffet's Professor) emphasized on the fallible nature of human in investment Decisions(Thaler 1991) .In 1990s, the academic research focuses shifted from the econometrics analyses of estimating prices of securities, dividends and earning towards understanding the psychology of Investing & financial planning of Investor and developing the models in assessing behavioral patterns. Shiller(1981) also criticizes the EMH and through studies indicate that the prices of stock are five to thirteen times more volatile than expected when compared with change in Dividend. According to EMH the volatility of stock prices should be near to that of Dividends However such highly variation was failed to explain anomalies by econometrics techniques.Fama and French(1993 and 1996) has observed the difficulty in analyzing the aggregate stock return, cross-section average return and investor behavior in paradigm of Traditional Financial theory.Shiller (2003) expresses it is hard for financial theories to explain the most basic anomaly, of excess volatility 'Bubble' that lead to highly irrational market. He quoted "The Fundamental principle of optimal forecast must be less variable than variable forecasted. Any forecaster whose forecast consistently varies through time more than variable forecasted is making serious errors."

Shiller (2003) state that evidences from behavioral finance helps to understand the stock market booms and crashes which has its origins in human foibles.Kishore (2004) argues that in order to observe the investment choice and investment market fact, there is a need to relax two fundamentals of traditional finance (i) inefficiency of agents in updating their belief and (ii) systematic variation in normative Investment process.

IV. Evolution of BF & Prospective Theory

4.1 Evolution Behavioral Finance

Behavioral Finance is the discipline that has dropped the fundamental assumption of rational consumer at micro level and Efficient Market Hypothesis at macro level. The discipline of behavioral finance focuses on idea that investor are normal and affected by some influences that may be cognitive, psychological, sociological. Under the fact of existing anomalies and systematic error of human irrationality in conventional financial theories of selecting optimum portfolio for investment, such human behavior may be predictable and preventable with the emergence of a separate discipline has been witnessed, i.e. Behavioral Finance. The discipline evolved around the human behavior in investment decisions. The subject aims to draw human cognitive theories while taken into consideration aspects related to human psychology, sociology and anthropology.

Behavioral Finance contains two main blocks: 1) Cognitive psychology[1] & 2) Limit to Arbitrage[2] explained by Ritter (2003).Federal Research Division library of Congress (2010) highlights the contribution of BFT(Behavioral Finance Theory) in understanding the Investor Behavior . Behavioral Finance research field highlights how factors like cognitive, social and emotions affects the investor behavior and affects their economic decisions.

The key contribution in the field has been done by Daniel Kahneman and Amos Tversky and recognized as Fathers of Behavioral Finance by originating the Prospect theory in 1979. The theory focuses on observing the decision behavior while assessing risk under uncertainty and examines that human beings are not always risk- averse: they are risk taker in case of losses and are risk averse in gains.

Lee et al (2013) conducted gender based studies and found that male and female exhibits different behavioral biases which affect their investment decisions. The biases are: Loss aversion, Mental Accounting, optimism, Prediction overconfidence, Regency, Regret Aversion, Self –Attribution and Self-control, Anchoring and adjustment, Ambiguity, Conservation, certainty Over-confidence, Framing and Illusion of Control.Schindler (2007) underlines the chief three basis for research in Behavioral Finance that are; (i) Limits to arbitrage(ii) Psychological biases(iii) Sociological impacts . These key areas permit investors to behave substantially irrational and have long-standing price impact.

4.2 Prospective Theory

The theory originated by Tversky and Kahneman(1979) that aims to explains existence the human behavioral irregularities while assessing the risk and uncertainty .The theory emphasized on the idea of judging

the variation in human behavior in economic decisions under the condition of risk assessment. The experimental base theory divides into two Phases: 1) Certainty effect & framing Effect 2) Evaluation Phase. Certainty effect conveys the fact that people tend to weigh more those outcomes which perceive more certain than those are mere probable. Framing Effect deals with presenting same situation or problem in different ways and demonstrates how economic decisions are influenced with such framing effect (Tversky and kahneman, 1981). In essence, the theory aims to explain the apparent irregularity in human behavior while making economic decisions. The people tend to be risk averse in case of gains and risk taker in losses.

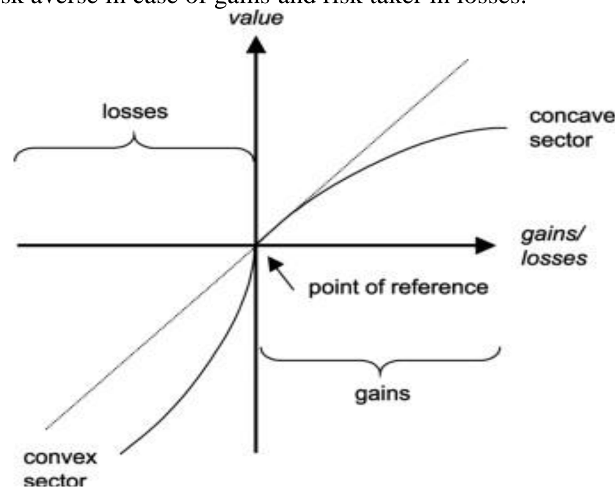

Fig.1- Propect theory: Value function, Source kahneman and Tversky 1979

1. Under Prospective Theory, Value Maximization Function takes into account gain and losses instead of wealth position as under Modern Portfolio Theory. It means that people tends to recognize gains and losses rather than final state of wealth.
2. Gains and Losses are relative to some neutral to reference point. The reference point is the purchase price of stock.
3. The value function is termed as change in wealth. The S-shape value function depicts that it is concaved in region of gains and convex in loss region, Moreover, it is steepest at point of reference point.
4. Thus Prospect theory argues that while selecting in given gambling situations, people tend to calculate the gains and losses in each situation and select on with the highest Prospective Utility.

4.3 Psychological biases under Behavioral Finance

Under this section, the studies related to different psychological biases have been discussed. The factors that influence decision behavior are categories and identified.

4.4 Under-reaction and Over-reaction

Through experimental psychological studies, the behavioral economists suggest the fact of 'violation of Bayes Laws- the rule that prescribes at the correct reaction to a new information.' Thus market behavior and Individual Investor Behavior can be characterized as displaying Overreaction. People tend to over-react to unexpected information or event. Bondt & Thaler(1985) empirical evidence was based on CRSP monthly return is consistent with hypothesis of overreaction. "The loser stocks overreact to the market than winner stock because of overreaction effect is larger than winner stock. P/E anomaly refer to that stocks with low P/E ratio earn large risk adjusted return than high P/E ratio because the companies with low price to earnings are mostly undervalued because investors become pessimistic about their returns after a bad series of earning or bad news. A company with high price to earning tends to overvalued (De bondt & thaler 1985)."(Latif & Fatima,2011).

"Three teams of authors (Barberis, Shleifer, and Vishny 1998; Daniel, Hirshleifer, and Subrahmanyam 1998; Hong and Stein 1999) have undertaken the task of generating asset-pricing models to explain the puzzling pattern of empirical results from the last decade—in particular, returns that exhibit under-reaction in the short run and overreaction in the long run.6 All three studies draw on results from psychology to motivate the behavior of the agents in their models. At the very least, these works serve as "existence proofs" for behavioral finance theorizing. That is, they show that it is possible to create a coherent theoretical model, one grounded in solid psychology and economics that can explain a complex pattern of empirical results."(Thaler,R.H 1999)
"In this most basic form, Overconfidence can be summarized as unwarranted faith in one's intuitive reasoning, judgments and cognitive abilities."(Pompian,2006) .

Shefrin (2000) explains Overconfidence "pertains to how well people understand their own abilities and limits of their knowledge."
Thus overconfidence is the phenomena whereby people often believe that they know better than they actually are in case of making decisions. Thus lead to bad decision.

4.5 Disposition Effect

Under Standard financial theories, it is presumed that people are tax minimizers. (However, empirical evidences point towards the Disposition Effects whereby people tends to short winners stock too early and at the same time tends to hold losing stock too long. Thus such behavior leads to tax –maximising behavior. Rather they must book losses early to minimize the tax. (Ritter,2003).Empirical evident by Oden(1998) that Investor are reluctant to realized their losses.

4.6 Cognitive Dissonance

In psychology, mental discomfort is termed as Cognitive Dissonance. People tend to delay in taking decisions when they confront to the new information that contradict their existing issues. The delay in stock prices adjustment after announcement related to earnings could be due to cognitive dissonance.

4.7 Herding Bias

In psychology, tendency among human beings to mimic the actions of majority groups irrespective of authenticity and reliability of such actions. People are sociable and tend to seek approval from group in decision making. Welch (2000) examine the presence of herding behavior among the analysts too. Economou, Kostakis and Philippas (2010) evident the existence of herding behavior with market returns, trade volume, and volatility returns and also recognized the presence of herding behavior in Portuguese Stock market during the financial Crisis of 2008.

4.8 Anchoring Bias

The final estimation done after making adjustments to initial estimates by people termed as Anchoring Bias in psychology. Tversky and Kahneman (1974)stated "That is, different starting points yield different estimates, which are biased toward the initial value. We call this phenomenon Anchoring.
Andersen (2010) provide the evidence of existence of Anchoring bias in weekly price fixing of Dow and CAC40.

4.9 Regret Aversion Bias

In psychology ,the behavioral error of delay in decision making that arises due to suffering of regret feeling is termed as Regret Aversion Bias. Due to existence of such bias, Investor may hold on losing position for a long time because of hesitant in admitting the mistake and rectifying it in timely manner.

"I should have computed the historical covariance of the asset classes and drawn an efficient frontier. Instead, I visualized my grief if the stock market went way up and I wasn't in it-or if it went way down and I was completely in it. My intention was to minimize my future regret, so I split my (pension scheme) contribution 50/50 between bonds and equities." Harry Markowitz Founder of Modern portfolio Theory(Pompian,2006)

4.10 Mental Accounting Bias

Richard Thaler(1999) term the Mental Accounting as cognitive behaviors of Individuals and household with a view to organize , evaluate and tracking the financial activities. Under this bias, people tend to behave irrationally and segregate their money under different set of heads that influence their consumption pattern as well as other behaviors.
Thus, a number of studies evident existence of different set of psychological biases that influence the investor financial decisions

V. Financial literacy & Behavioral Finance

Financial literacy considered as a fundamental tool to make an investor efficient in measuring the risk and control the irregularities in human behavior while making financial decision. So there is a need to review the literature available that is related to the relevance of financial literacy in Behavioral Finance.

5.1 Financial Literacy

"Financial literacy is a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate, short-term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions" (Remund,2010).Bernheim and Garrett (2003) empirical study explain that the level of participation in retirement plans by lower and moderate income group significantly higher when financial education is imparted to target group by the employer. "Although the causality could flow in either direction, this finding indicates that increases in knowledge may lead to improvements in financial-management practices. Thus, financial education in combination with skill-building and audience-targeted motivational strategies may be one way to elicit the desired behavioral changes in financial-management practices." Hilgert, M.A., Hogarth, J.M. & Beverly, S.G. (2003).

Kim (2000) explains a conceptual Framework whereby Financial Education provided at workplace bring positive change in Financial awareness as well as financial behaviors of employees results in financial wellbeing.Luigi Guiso and Tullio Japelli (2008) explain to analyze the existence of correlation between financial literacy and portfolio diversification. The finding of study is that there is strong correlation between both. There is significant impact of Financial Literacy and Investors' Characteristics on Portfolio Diversification.Hussain et al. (2009) studied the level of financial literacy of UAE individual investors who invest in local financial markets and examined the relationship between financial literacy and the influence of the factors that affect the investment decision.Seth et al., (2010) assessed the level of financial literacy among the investors of Delhi and National Capital Region. The study attempted to analyze the relationship between financial literacy and other factors like age, income, and education. The study indicated that the financial literacy of investors in Delhi and NCR was different for different financial instruments. The present studies show that the financial literacy affects the Investor Behavior and brings about the well being of Investor. The gap exists in literature is of framing the Financial Literacy Training Module for different class of Investor. There is a great need of establishing Behavioral Model to understand the Investor Behavior and bring about the rationality feature among the Investor in Financial Decisions through financial Literacy.

VI. Conclusion

Though the assumption of rational investor remains prevalent in standard finance, yet incident like financial crisis in 2008 and other frauds and scams in stock markets are pointing towards the irrational Investor behavior. The discipline of Behavioral finance highlights various irregularities that prevail in Investor behavior that influence the Financial Decisions. The studies conducted on financial literacy throw light on improvement in Personal Financial planning & management if imparted in efficient manner. It is observed that in order to understand Investment Market fact, there is a need to have standard behavioral models to interpret the Investor behavior.

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