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BEHAVIOURAL FINANCE: AN ANALYSIS OF MARKET ANOMALIES

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Abstract
Since its inception in the 1980s, the area of behavioural finance has made an effort to explain a long list of biases, heuristics, and inefficiencies that exist in financial markets. Stock Market being one of the indicators for measuring performance of a nation, it is essential to analyse about the various speculative factors affecting its return. Conventional finance theories assume people as rational who take decisions based on logic and reasons. Behavioural finance opposes this and proves that individuals are not rational and their decisions are influenced by various cognitive and emotional factors. The report emphasizes significant gaps in the prior research on behavioural biases and other market anomalies. Additionally, it seeks to pose specific issues for further investigation. First part of this paper explains about the history of behavioural finance : it's growth; second part compares traditional finance and behavioural finance; reviews past works done so far in this area, identifies various anomalies reported so far focuses more on Disposition effect and to find the areas of behavioural finance which are likely to produce compelling future research.

Keywords : Behavioural finance, biases, anomalies

Methodology

The study uses the existing literature from different authors who have looked into the behavioural biases and disposition effect in real markets or in experimental markets.

Findings

Behavioral finance has been categorized as an emerging field of finance. A significant research is needed in this area. It aids in discovering the behavioural biases that influence investment decision-making the most. Investigating behavioural biases and how they affect Indian individual investors' investment choices may be fascinating.

Introduction

The fundamental premise of traditional economics and finance theories is that people are rational and weigh all available information when making investment decisions. When examining investor's action in stock market, it is identified that there exists behavior as against that of economic man. (Tehrani & Gharehkoolchian, 2012) All available information, according to proponents of the efficient market hypothesis and modern portfolio theory, is already factored into price of a stock. Regardless of disciplined investing, stock selection mistakes are common. It assumes that investors have self-control and that they are not influenced by their emotions. Traditional finance plays a limited role in studying issues like motives behind individual investor trading, their pattern of choosing portfolio, other than risk, the other factors contributing to variations in return .

Since the 1960s, the idea of an efficient capital market has dominated. In the words of Elton and Gruber, when someone refers to efficient capital markets, they mean that security prices fully reflect all available information." Numerous attempts were made to relate each investor's behaviour to the logical and scientific theories of traditional finance, but they all failed spectacularly.

This resulted in the development of a new branch of finance, called behavioural finance. If the price accurately reflects the information, a market is said to be efficient in that regard.(Fama, 1970)

From early 1980s Efficient Market Hypothesis and its assumptions started questioning. As EMH states, if capital market was efficient and securities were correctly priced, then there occurs bubbles and other anomalies in stock market? Here comes the relevance of behavioural finance which studies about the influence of psychology and other cognitive and emotional factors which affects rational investor's decision which makes them to be irrational and normal while making investment decisions. From its introduction in early 1980's by Amos Tversky, Daniel Kahneman and Richard Thaler it tries to explain different market anomalies, heuristics and market inefficiencies.

Behavioural finance is the study of how psychology affects financial decision making and financial markets.(Shefrin, 2001) It states that investors are not rational; their decisions are influenced by cognitive and emotional biases. It helps to close the gap between the behaviour of the market as it is and the logical conduct that investors are expected to display. Nevertheless, no subject of study is complete in and of itself, and behavioural finance is one that may benefit greatly from enhancements to its current theories.

Research Questions

The study aims to find answers to the following research questions:

- How did behavioural finance started?
- What steps did behavioural finance took to get to where it is today.
- What trend will behavioural finance take in the future?

History of Behavioural finance

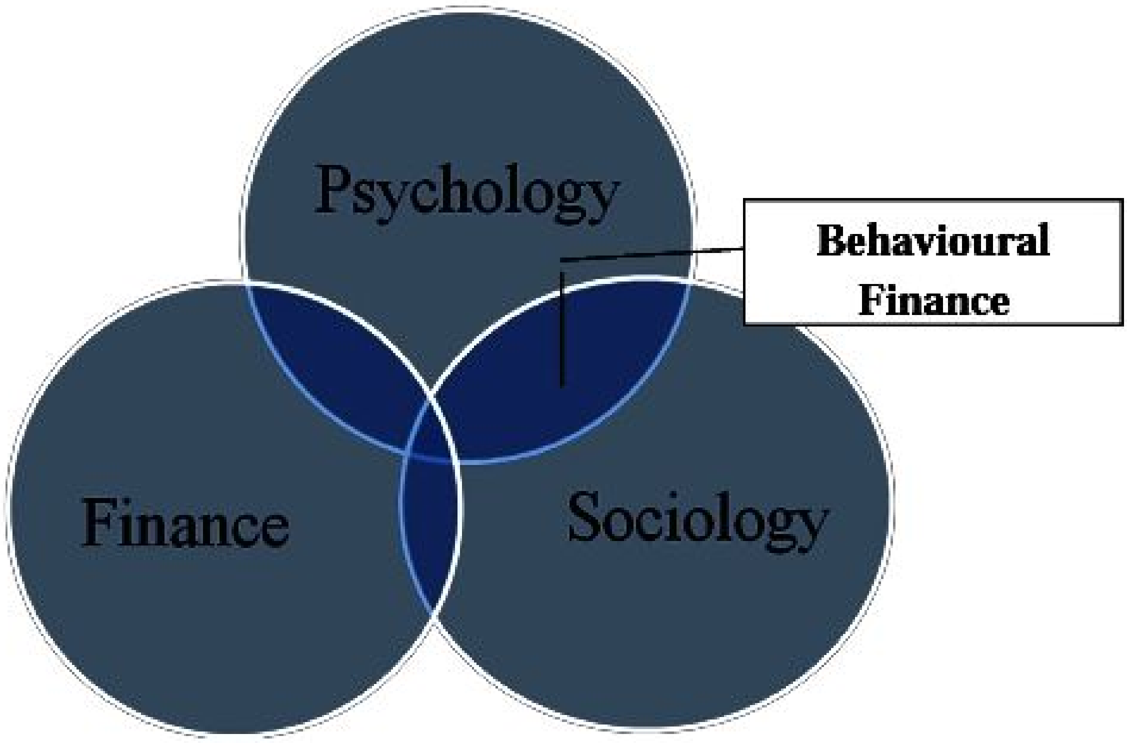
Traditional finance views people as rational when they operate logically, seek to maximise their return, and make decisions. It is presumptive that people consider risk and reward while making decisions. It also implies that markets operate efficiently and that prices follow a random walk, returning to their equilibrium level despite fluctuations. Behavioural finance makes the assumption that humans are irrational and make bad investing decisions as a result of emotional and cognitive biases.

The 1944 publication of Von Neumann and Morgenstern's Expected Utility Theory explains how to act rationally in uncertain situations. i.e. in an ambiguous circumstance. In such circumstances, a person will select the course of action that maximises expected utility, which is the product of utility and probability over all feasible possibilities. According to Modern Portfolio Theory, a rational investor seeks to select a portfolio that maximises return at the lowest possible risk. Based on comparisons between risk and return, efficient portfolio is chosen.

The theory of Efficient Market Hypothesis started challenging in 1980's. According to the Efficient Market Hypothesis, the securities are priced fairly and the capital market is efficient. It claims that as new information is obtained, it is adjusted to the current level and therefore investors have no potential of making excessive returns or huge profits. But if such efficient market exists, then how there occurs market anomalies like bubbles, & disposition effect ?.

When investors actually trade, they trade similar to other investors rather than based on new information.(Hammond, 2015) Behavioural finance questions these assumptions of Efficient Market and states that investors take decisions guided by psychology rather than rationality.

According to Shefrin, "Behavioural Finance is the study of how psychology affects financial decision making and financial markets" (Shefrin, 2001)Because of Daniel Kahnemann and Amos Tversky's Prospect theory, behavioural finance has gained a lot of attention. It helps to close the gap between the behaviour of the market as it is and the logical conduct that investors are expected to display. Nevertheless, no subject of study is complete in and of itself, and behavioural finance is one that may benefit greatly from enhancements to its current theories. The prospect hypothesis contends that rather than considering a decision's utility, people make decisions primarily on the future value of profits and losses. Classical decision theory states that individuals are rational in taking decisions. It is based on the assumptions like the investor is aware of the results expected from him and that it works in a certain environment. It explains why investors do not always think rationally before making investment decisions.



Behavioural finance combines psychology, sociology and finance and thus provides answers to issues that make investors to act irrational.

The above diagram explains about the interrelationship between the disciplines and the emergence of behavioural finance. According to Shefrin, a person studying about Behavioural Finance should have an understanding about all the three aspects. (Shefrin, 2005)

Review of Literature

The results of the studies held in the area of behavioural finance are listed below:

(Ullah et al., 2020)Analyze how behavioural bias affects investment decisions and how investor type influences them on the Karachi Stock Exchange. The study's conclusions demonstrate that the disposition effect, herding, and overconfidence all have a considerable favourable influence on the choices made by investors. The study also reveals that whereas active investors display more overconfidence bias, passive investors show more herding prejudice.

(A & R, 2016) The goal of the study is to determine how behavioural bias variables affect equities investors' investment choices. Investors' financial decisions have been proven to be influenced by factors such as mood, emotions, heuristics, frameworks, and personality. Except for mood, all the other components exhibit a significant degree of dependency when the effects of interdependence among the factors are studied.

(Kumar & Goyal, 2015)The paper summarises the literature on behavioural biases in investing decision making that has been published over the last 33 years. It highlights the significant gaps in previous research. According to the study's findings, there is less research being done in emerging economies and a predominance of empirical studies based on secondary data.

(Bakar & Yi, 2016)Humans beings are not rational. The study is based on information from primary sources through questionnaires. The research reveals that while herding behaviour has no discernible influence on investors' decision-making, overconfidence, availability, and conservatism biases all have a positive impact.

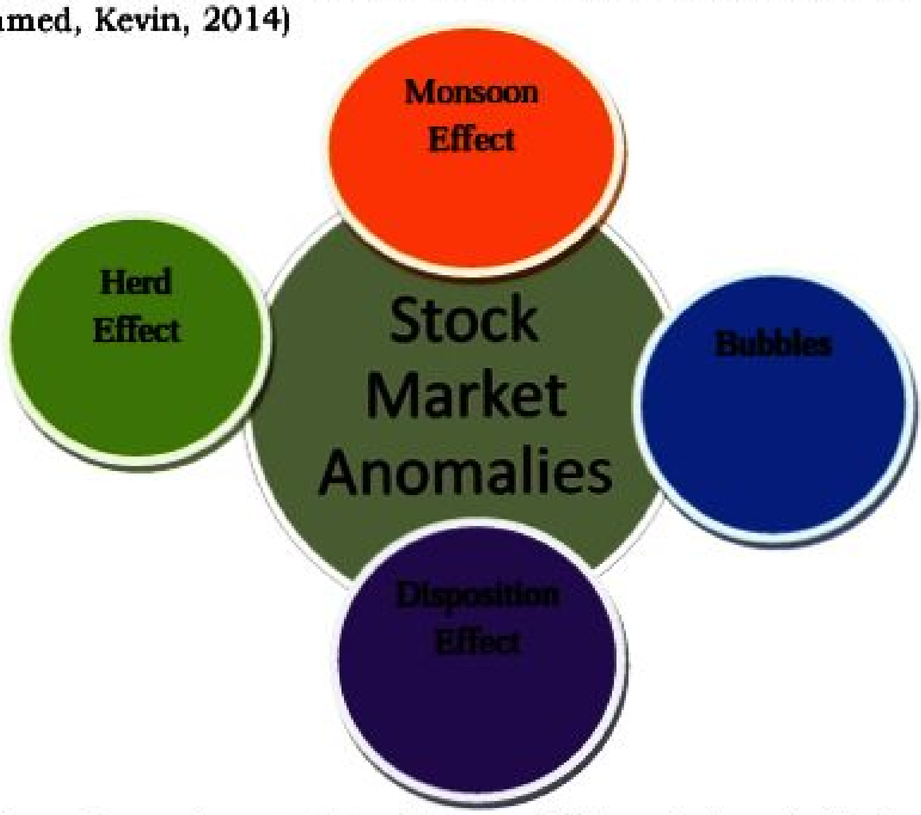
(Babajide & Adetiloye, 2012)On analysing the effects of behavioural biases on security market performance in Nigeria, the results of primary survey data combined with stock market finds strong evidence for the presence of biases like Overconfident, Loss aversion, Framing, Status quo and myopic loss averse in the Nigeria Security market and the market depreciates in value as investors exhibit bahavioural biases.

(Rehan & Umer, 2017) investigates the influence of emotional and cognitive biases on investor decisions in the Pakistan Stock Exchange. The findings reveal that two behavioural biases—Mental accounting and Availability—do not statistically significantly affect investment decisions, but five behavioural biases—Anchoring, Risk aversion, Overconfidence, Representativeness, and Regret Aversion—have a positive effect.

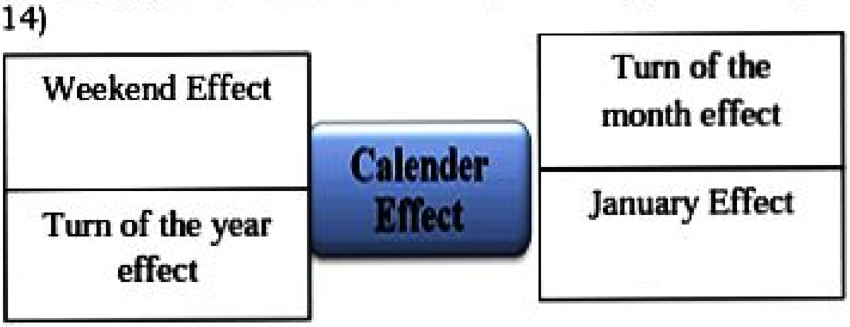
Anomalies in Stock Market

Nobody is certain of the precise cause of abnormalities. Although many various viewpoints have been expressed, many of the anomalies remain unsolved. They are certain recurring predictions that might or might not actually happen.(S, Archana, Safeer, Mohammed, Kevin, 2014) Market anomalies are said to exist when stock movements are not in accordance with Efficient Market Hypothesis.

Existence of market anomalies proves that the capital market is not efficient. Market and pricing anomalies are commonly found in stock market. They are biases or distortions in returns that contradicts with Efficient Market Hypothesis. They are mostly psychology driven. In the study "Market Anomalies in Indian Stock Market," they found evidence and demonstrated the weekend effect's existence while identifying very minor effects of turn of the month and turn of the week effects. (S, Archana, Safeer, Mohammed, Kevin, 2014). Different tax treatments, cash flow adjustments, behavioural constraints, new information not adjusted quickly can be the causes of these anomalies.(S, Archana, Safeer, Mohammed, Kevin, 2014)



Herd bias refers to investor's tendency to follow what majority does or to follow as per the market. It exists when investor intentionally copies others decisions. It may be because of the common thinking that majority cannot be wrong and due to the pressure from the society in which they are living. A bubble is an anomaly where the price of a single stock or other financial asset is higher than its intrinsic worth. S Bhaduri and M Ravi look into the speculative bubbles that occurred in the Indian stock market between 1990 and 2007.(Bhaduri & Ravi, 2009)(Bhaduri & Ravi, 2009) Bubbles form when the prices of assets deviate from their intrinsic values. Anomalies that are linked to particular time / calender are called as calendar effects. This includes weekend effect, turn of the month effect, turn of the year effect and January effect (S, Archana, Safeer, Mohammed, Kevin, 2014)



(S, Archana, Safeer, Mohammed, Kevin, 2014) proved the existence of weekend effect in Indian Capital Market. The weekend effect is the propensity for stock prices to fall on Mondays, meaning that Monday closing prices are lower than Friday closing prices.(S, Archana, Safeer, Mohammed, Kevin, 2014)(S, Archana, Safeer, Mohammed, Kevin, 2014). (Lakonishok & Levi, 1982)found impact on settlement procedures of weekend effect. The only day of the week having a negative rate of return is Monday. (S, Archana, Safeer, Mohammed, Kevin, 2014). (Pandey, 2002) found the existence of monthly effect. The term "turn of the month effect" describes a rise in stock prices on the last trading day of a given month that lasts through the first three days of the following month. (S, Archana, Safeer, Mohammed, Kevin, 2014)

Disposition effect is another anomaly identified in Behavioural Finance. It refers to an investor's propensity to hold onto depreciating assets and dispose of appreciating ones. In 1985, Hersh Shefrin and Meir Statman identified this anomaly Disposition Effect.

For example, suppose Mr. Arun purchased stock for Rs 2,000 which reduced to Rs 1500. And if suppose there is equal opportunity for the stock for rise or fall by Rs 500 in future. There are two options available:

- To sell now and there by incur a loss of Rs 500 or
- Keep the stock and thereby either will get the same price i.e. Rs 2,000 or another fall of Rs 1,000.

  Definitely he would choose the second option i.e. keeping the stock and thereby also taking the higher risk of losing another 500. This is called Disposition Effect.

Prospect theory preferences cause a risk-averse investor to become risk-seeking after experiencing gains and risk-averse after experiencing losses. Investors' altered risk perception results in the Disposition effect.(Kaustia, 2010) Markku Kaustia in their study Prospect Theory and Disposition effect, states that a rational response to new information can also cause disposition effect.(Kaustia, 2010) Disposition effect can be described as difference between investor's propensity to realize winner and loser stocks in their portfolio.(Odean et al., 1998) The presence of disposition effect is confirmed at individual investor level.(Odean et al., 1998).Disposition effect is defined as difference in each investor's paper gains realized and paper loss realized.(Dhar & Zhu, 2006).Disposition effect is evident across many investor groups. It affects individual investors, home buyers, futures traders, professional account managers, experimental laboratory subjects, proprietary stock traders, and financial institutions.(L. E. I. Feng & Seasholes, 2005).Disposition effect is found more prevalent in household and retail investors(Kaustia, 2010). People are risk averse when facing gains and are risk seeking when facing losses. And hence, they keep losers too long and sell winners too fast. Various Disposition patterns like Disposition Effect, reverse disposition effect and the pattern of symmetry in terms of price changes were spotted. (Kuo & Chen, 2012) The maximum loss an investor tolerates intrigues him to realize a losing stock and the minimum value desired by an investor keeps them from selling the winners with the net profits. (Kuo & Chen, 2012). (Shefrin & Statman, 1985)explains about investor's tendency to keep losing stocks and sell winning stocks. It happens on the expectation that the prices will reverse i.e. existing winning stocks may become looser and loosing stock may become winning one.

(Shefrin & Statman, 1985) Barber and Odean(2002) explains prospect theory as the main cause of disposition effect. According to Thaler and Shefrin, investors tend to hold onto losing investments to put off the feeling of regret, while they quickly sell winning investments to get the satisfaction of making the right choice as soon as possible. According to(Shefrin & Statman, 1985), a sense of regret brought on by a loss is stronger than a sense of pride brought on by making a profit.

Reasons for Disposition Effect

Some of the reasons behind selling winning stocks and keeping loosing stocks are:

- Mean Reversion: Expecting a rebound on poor performing stocks. Investors keep losing stocks with the expectation that prices will rise in future(Da et al., 2008)
- Another cause of Disposition effect is the misestimation of chances of future price change i.e they may think erroneously that losing stocks may bounce back and there can be a fall in winning stocks. This can be another reason for Disposition effect.(Odean et al., 1998)(Weber & Camerer, 1998)
- Rebalancing Portfolios/Avoid higher transaction cost on low priced assets
- Avoiding regret and seeking pride
- Tax Advantage

Reasons for disposition effect can be explained in two ways. First, Usage of purchase price as reference point and are reluctant to realize losses. Thus they keep stocks that have lost its value and sell stocks that has gained value. And the subjects misperceive probabilities of future price changes. They might think winning stocks will fail and losing stocks will bounce back. The link between Prospect theory and Disposition effect remains unsolved.(Kuo & Chen, 2012) Evidence of disposition effect is uniform across many investor groups (L. E. I. Feng & Seasholes, 2005)(L. E. I. Feng & Seasholes, 2005). Disposition effect is economically and statistically significant in each group tested i.e more sophisticated investors are less prone to Disposition effect than the average investor. Combination of trading experience and sophistication eliminates investor's reluctance to realize losses while these won't eliminate investor's propensity to realize gains. (L. E. I. Feng & Seasholes, 2005). The convexity of the value function implies that when investors will not realize losses expecting rise in price of losing stock. And the concavity implies that they would realize gains immediately when asset prices appreciate over cost.(Kuo & Chen, 2012) Trading experience reduces but does not eliminate Disposition effect. Sophistication and trading experience(L. Feng & Seasholes, 2005)

Setting limits for realization of losses for example, if stock price goes beyond 25% or fixing level according to investor's risk level can reduce this disposition effect.

Apart from the above, there are other market anomalies like stock split effect which refers to increase in price of shares after the company announces stock split, monsoon effect etc. The presence of market anomalies is confirmed in Indian stock market and its effect is less as compared to foreign market. (S, Archana, Safeer, Mohammed, Kevin, 2014)

Scope for future research

Behavioural finance is a hot topic which requires detailed studies. It explains about the psychological aspects of financial decision making and provides evidences for irrational or normal behavior of individuals. Many of the anomalies have no conclusive opinions.(S, Archana, Safeer, Mohammed, Kevin, 2014). Investors and their advisors may be better able to enhance economic results and achieve stated financial objectives by understanding the impact of behaviour biases on the investment process.

(Mittal, 2018) This study put forward the following areas which require further research:

1. The causes of anomalies needs further research. Reasons identified in researches are assumptions of researchers. A detailed study of the causes of anomalies are required.
2. The impact of behavioural biases when investor sophistication increases also needs to be studied since previous studies also proves that individual investors are most affected by behavioural biases.

Institutional investors make better decisions than less experienced investors, and the extent of their biases varies.(Kent Baker & Ricciardi, 2017) Evidence suggests that behavioural biases diminish or even vanish as investor expertise rises, from individual investors to institutional investors. (Kent Baker & Ricciardi, 2017)

3. There are evidences that contradicts the above statement too.

The disposition impact is diminished but not completely eliminated by investor sophistication. (L. Feng & Seasholes, 2005)(L. Feng & Seasholes, 2005) (L. Feng & Seasholes, 2005) So, the impact of behavioural biases and other market anomalies when investor sophistication changes needs further research. Behavioural biases can harm the performance levels of people, financial analysts, portfolio managers and other institutional investors if they are not thoroughly studied.

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