

## Behavioral Finance : A New Paradigm in Finance

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**Abstract.** By the end of 1980s, Efficient Market Hypothesis(EMH) and the rationality were the main financial studies and researches basis . According to The efficient market hypothesis (EMH) stock prices fully reflect all available information in the market, but at the end of 1980s, January effect , the month days effect, bubbles ,the transactions of financial firms for the price more than Net Asset Value (NAV) , size effect, the prediction power by financial ratio, Initial Public Offering (IPO) effect, over and under reaction, mean reversion, cause to make new point of view in finance which was called Behavioral Finance.

The point of view explains the people while deciding are under the influence of personality, experience, judgment, and special social relations, these terms can cause behavioural biases. the aim of this paper is review behavioural biases in investor decision makers . the investigations show that behavioural biases are significant now because some analyst and investors by the assumption that the financial markets are efficient and treating other investors rational try to analyze and counsel and invest in by the true consideration of behavioural finance.

**Keywords:** Behavioural Finance, Mental Accounting, loss Aversion, Risk aversion.

### 1. Introduction

Financial markets, in all countries, are called temperature gage which lots of personal and organizational investors, speculators and hedgers are working in these markets, there are some financial instruments to be transacted. The important criterion for this issue is the security price and valuation approach. By the 1980s the most prominent paradigm to pricing of securities was efficient market hypothesis (EMH) which based on rationality and expected utility maximization, in other words, EMH, by the basis which were said before, shows three different informative efficiencies: weak, the semi strong and the strong forms.

Weak EMH claims that prices on traded assets (e.g., stocks, bonds, or property) already reflect all past publicly available information. Semi-strong EMH claims both that prices reflect all publicly available information and that prices instantly change to reflect new public information. Strong EMH additionally claims that prices instantly reflect even hidden or "insider" information. The most important theories which had given by 1980s in traditional paradigm financial area were Modern Portfolio Theory (By H.Markowitz,1952) , Capital Asset Pricing Model(CAPM) (By W.Sharp,1964) , Arbitrage Pricing Theory (By S.Ross,1976) , Option Pricing Model (By Black-Scholes,1973) and etc that all of these models believed financial market is a analyzable and normative (Statman , 1999).

At the end of 1980s with the studying of Fama , De Bondt , Shiller , Kahneman and Tversky they found out that there are some exceptions in standard theories in financial area, for example ,the bubble prices that forms in markets or sometimes all the data corresponding to prices didn't reflect, and sometimes investors selects something which doesn't correspond to the expected utility maximization . Also Fama, De Bondt Kahneman , Tversky and Smith published some articles which they show lots of deviations in valuation .in financial markets, by continuing of studies in 1990's, there was a new paradigm to be formed which was

Called later-Behavioral Finance, which helps the analyst now besides standard finance that understood the decision of players in financial markets and valuable analysts determine to allocate the sources better in economy.

## **2. The Theoretical Framework of Standard Finance:**

The traditional paradigm basis in financial area is the being rational behaviour of human agents which there are some models to show below:

### **2.1. Limited Arbitrage Opportunities:**

It is assumed in the standard finance that economic agents are rational and in the security market prices are near to intrinsic value, in other words, prices in financial markets are true and nobody can make profit freely and none of investment strategy can make the more Risk-adjusted returns (S. Ross, 1976). This means that returns is exactly proportional to their risks.

### **2.2. Efficient market hypothesis (EMH) and Capital asset pricing model (CAPM)**

According to these theories securities prices reflect all information relevant to securities and the risk is proportional to the return in financial markets (W. Sharp, 1964).

### **2.3. Net Present Value (NPV)**

It is one of those ways for calculating intrinsic value and equals to Future discounted cash flows expected by investor.

### **2.4. Markowitz Mean – Variance Analysis (M - V)**

The Markowitz Mean–Variance Model plays central role in the development of theoretical standard finance. It represents the beginning of Modern Portfolio Theory (MPT). Prior to H. Markowitz contribution, the field of finance relied much less on mathematical technique. The Markowitz Mean – Variance is based on the idea that all the information about a portfolio of risky asset that is relevant to a risk averse investor can be summed up in the value two parameters: The standard deviation and the expected value of the portfolio return, briefly stated as the risk and return (M. Khoshnood, 2004).

### **2.5. Expected Utility Theory (EUT)**

Expected Utility Theory (EUT) states that the decision maker chooses between risky or uncertain prospects by comparing their expected utility values (Shiller, 1998).

## **3. Behavioural Finance**

At the end of 1980, there are some exceptions which do not correspond to standard finance models. These exceptions categorized in three topics: Chronological anomalies, fundamental anomalies and technical anomalies. Studying the exceptions in financial markets leads to present new view in financial area which can be stated as behavioural finance, in other words, the relation between financial knowledge and other social science branches, which can be called behavioural finance, tries to study investors' decision and their relations to different situations in financial markets. And their emphasis is more on personality, culture, judgement of individuals while deciding for investing.

In Lintner opinion, behavioural finance states the features of interpretation and action based on the data for organized investing decisions by individuals. In Thaler opinion, behavioural finance defines that some of the economical factors sometimes may not treat rationality based on the assumption and Olsen also says, behavioural finance is the psychological decision process in recognition and prediction of financial markets (A. Talangi, 2004).

## **4. The Theoretical Framework of Behavioural Finance**

Effects the psychological issue in economical behaviour that comes back to first years 20 century. Selden (1912) in his well-known book, the psychology of the stock markets emphasize that people thinking on investing is effective on prices process in stock exchange. Keynes also believed that psychological factors have important role in economical behaviours, but in 1940s rational markets theory that was based on rational behaviours of individuals appeared again, so in 1950s Simon questioned the rational human behaviour conception and based one model for individual's decisions. He said that individuals decisions formed based on some limits which can question rationality and this selection doesn't form based on utility function. After that Kahneman and Tversky by some articles (1979) tried to develop psychological knowledge usage in financial and economical science (R. Raei, 2004). Their attempts led to win Nobel prize in

economy by Kahneman in 2002, they criticized the expected utility theory in 1979 and developed replacement theory that called it Prospect theory (A. Talangi, 2004).

Generally the results of studies show that individuals while investing decision have some behavioural biases that the reason for these behavioural can be categorized into two groups of Prospect theory and Heuristics, which will be examined:

#### **4.1. Prospect theory**

Based on Expected Utility Theory (EUT), investors are risk averse so the slope of curve of wealth utility by its increasing decrease. Prospect theory in 1980 by other scientists like Thaler, Shiller and Johnson completed, and now this theory states four important behaviour aspects of investors (M. Khoshnood, 2004):

**4.1.1. Loss Aversion:** In prospect theory, loss aversion refers to the tendency for people to strongly prefer avoiding losses than acquiring gains. Some studies suggest that losses are as much as twice as psychologically powerful as gains. Loss aversion was first convincingly demonstrated by Amos Tversky and Daniel Kahneman (1979).

**4.1.2. Mental Accounting :** This theory that stated by Daniel Kahneman (1980) refers to the tendency for people to separate their money into separate accounts based on a variety of subjective criteria, like the source of the money and intent for each account. According to the theory, individuals assign different functions to each asset group, which has often irrational and detrimental effect on their consumption decisions and other behaviours.

**4.1.3. Self Control Bias :** This theory states that investor like invests on securities that have more control on investments. For this reason investor select stocks that pay dividend versus capital gain.

**4.1.4. Regret Aversion :** Regret aversion means that when people make wrong decisions, they will feel pain and regret for their behaviour. Moreover, the more this decision-making is the unconventional decision-making, the more people will regret. For example, when a person bought a blue chip, and unfortunately the stock fell. Suppose that what he had bought were stocks of a unknown, young, small company, and the stocks also fell, even the losses were equal with the blue-chip losses, the investor's feeling was different. Because any blue chip losses (compared to the losses of junk stocks) would more easily be attributed to small reasons such as bad luck or just a bad decision, so regret would be greatly reduced. In order to avoid regret, investors often behaviour in irrational way, such as: tend to wait until the arrival of some information to make decisions, even if the information is not important for decision-making; investors have a strong herd mentality, they tend to buy the stocks purchased by the general, because when taking into account that the large number of investors would also suffer investment losses at the same time, investors' emotional regret will be reduced.

#### **4.2. Heuristics**

The word Heuristic means behavior and making decision based on experienced and past documents, these kinds of behaviors are categorized into some groups:

**4.2.1. Herd Behavior (Shiller, 2000):** Herd behaviour, which is the tendency for individuals to mimic the actions (rational or irrational) of a larger group. Individually, however, most people would not necessarily make the same choice. There are a couple of reasons why herd behaviour happens. The first is the social pressure of conformity. You probably know from experience that this can be a powerful force. This is because most people are very sociable and have a natural desire to be accepted by a group, rather than be branded as an outcast. Therefore, following the group is an ideal way of becoming a member. The second reason is the common rationale that it's unlikely that such a large group could be wrong. After all, even if one is convinced that a particular idea or course or action is irrational or incorrect, he might still follow the herd, believing they know something that he doesn't. This is especially prevalent in situations in which an individual has very little experience. The research was conducted in 2004 in Tehran Stock Exchange showed that small individual investors follow from large investors in their investing decision (M. Khoshnood, 2004).

**4.2.2 Over and Under reaction (Daniel, 1998) :** According to market efficiency, new information should more or less be reflected instantly in a security's price. For example, good news should raise a business' share price accordingly, and that gain in share price should not decline if no new information has been released since. Reality, however, tends to contradict this theory. Oftentimes, participants in the stock market predictably overreact to new information, creating a larger-than-appropriate effect on a security's price.

Furthermore, it also appears that this price surge is not a permanent trend - although the price change is usually sudden and sizable, the surge erodes over time.

**4.2.3 Anchoring (D.Moratta , 2008) :** In numerical prediction, when a relevant value(an anchor) is available, people make estimates by starting from an initial value (the anchor) that is adjusted to yield the answer.

**4.2.4 Over Confidence (Shefrin , 2000) :** In a 2006 study entitled "Behaving Badly", researcher James Montier found that 74% of the 300 professional fund managers surveyed believed that they had delivered above-average job performance. Of the remaining 26% surveyed, the majority viewed themselves as average. Incredibly, almost 100% of the survey group believed that their job performance was average or better. Clearly, only 50% of the sample can be above average, suggesting the irrationally high level of overconfidence these fund managers exhibited. As you can imagine, overconfidence (i.e., overestimating or exaggerating one's ability to successfully perform a particular task) is not a trait that applies only to fund managers. Consider the number of times that you've participated in a competition or contest with the attitude that you have what it takes to win - regardless of the number of competitors or the fact that there can only be one winner.

Keep in mind that there's a fine line between confidence and overconfidence. Confidence implies realistically trusting in one's abilities, while overconfidence usually implies an overly optimistic assessment of one's knowledge or control over a situation.

**4.2.5 Gamblers Fallacy:** In the gambler's fallacy, an individual erroneously believes that the onset of a certain random event is less likely to happen following an event or a series of events. This line of thinking is incorrect because past events do not change the probability that certain events will occur in the future. For example, consider a series of 20 coin flips that have all landed with the "heads" side up. Under the gambler's fallacy, a person might predict that the next coin flip is more likely to land with the "tails" side up. This line of thinking represents an inaccurate understanding of probability because the likelihood of a fair coin turning up heads is always 50%. Each coin flip is an independent event, which means that any and all previous flips have no bearing on future flips.

Another common example of the gambler's fallacy can be found with people's relationship with slot machines. We've all heard about people who situate themselves at a single machine for hours at a time. Most of these people believe that every losing pull will bring them that much closer to the jackpot. What these gamblers don't realize is that due to the way the machines are programmed, the odds of winning a jackpot from a slot machine are equal with every pull (just like flipping a coin), so it doesn't matter if you play with a machine that just hit the jackpot or one that hasn't recently paid out .It's not hard to imagine that under certain circumstances, investors or traders can easily fall prey to the gambler's fallacy. For example, some investors believe that they should liquidate a position after it has gone up in a series of subsequent trading sessions because they don't believe that the position is likely to continue going up. Conversely, other investors might hold on to a stock that has fallen in multiple sessions because they view further declines as "improbable". Just because a stock has gone up on six consecutive trading sessions does not mean that it is less likely to go up on during the next session (A.Phung,2010).

**4.2.6 Representativeness:** Representativeness bias describes the tendency to evaluate a situation by comparing it to generalities or stereotypes. It can be thought of as a mental shortcut that helps decision-makers avoid the need to analyze similar processes again and again.

## 5. Conclusion

From the behavioral finance point of view ,exceptions which were seen before in financial markets are the results of behavioral biases. this means that individuals, in security analysis and valuation process do some expected and consistent wrong although scientists who defend standard finance say that the actions of most stock holders, for investment are without behavioral biases, but, the researches show that there are some factors like social relations ,information ,political process ,the personal psychological phenomenon, valuation techniques and arbitrage opportunities are effective in investors decision and all the factors should be paid attention to.

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