

Investor behavior & financial decisions

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Abstract:

In this paper we study the behavior of investors, behavioral factors and biases affecting financial decision-making by addressing a range of articles and works conducted in a number of financial markets over the past decade.

The study concluded by identifying four behavioral factors that affect decision making in financial markets, ie, prospect theory, heuristic theory, the herd and the market factors. We found that the herd factor and overconfidence bias are the most influential on financial decisions in different markets.

Keywords: Investor Behavior; Financial decisions; Behavioral factors; Behavioral biases.

Jel Classification Codes: G40, G41.

ملخص:

الهدف من هذا المقال دراسة سلوك المستثمرين من حيث العوامل والتحييزات السلوكية التي تؤثر في عملية صنع القرارات المالية، وذلك بالتطرق الى مجموعة من المقالات والدراسات التي أجريت في عدد من الأسواق المالية خلال العقد المنصرم. خلصت الدراسة الى تحديد أربعة عوامل سلوكية تؤثر على صنع القرار في الأسواق المالية، وهي نظرية الاستدلال ونظرية التوقع، عاملي القطيع والسوق. حيث كل عامل يضم مجموعة من التحييزات السلوكية، كما خلصت الدراسة الى أن عامل القطيع وتحيز الثقة المفرطة هما الأكثر تأثيرا على القرارات المالية في مختلف الأسواق.

كلمات مفتاحية: سلوك المستثمرين، القرارات المالية، العوامل السلوكية، التحييزات السلوكية.

تصنيف JEL: G40، G41

1. Introduction

The irrationality of investors is an inevitable fact as long as markets themselves exist. His first recorded evidence is Charles Mackay (1841). In his book "Memoirs of Extraordinary Popular Delusions and the Madness of Crowds", he mentions three cases that highlight the indiscriminated behavior of crowds. The Dutch bubble (1630), the South Sea Bubble Company (1711-1720) and the Mississippi Company bubble (1719-1720) (Jaya M P, 2015).

For a long time, everyone thought that Traditional finance theory was accurate because it mentioned investors that they were thinking rationally and making deliberate decisions, based on different estimates or using economic models. But after a number of investigations, it was observed that human decisions often depend on intuition, habits, and cognitive or emotional biases deeply hidden in the back of mind (Daiva J, 2012).

Traditional financing has always assumed that investors are rational in the decision-making process in the stock market about risk swaps and maximizing benefits. However, behavioral finance studies have revealed that humans do not act rationally as economists assume because their decisions are sometimes influenced by their psychological feelings (Suzaida Bakara, 2016). Thaler (1994) coined the term "quasi-rational" for "less than perfectly rational," while Simon (1957) described it as "limited rationality."

the field of behavioral finance reveals how decision processes are affected by the psychological factor (Olsen, 1998).

In essence, behavioral finance attempts to understand and explain investor behavior and actual behavior. This idea differs from Traditional (or standard) finance, which is based on assumptions about how investors and markets behave. As Professor Statman's quote puts it, standard finance people are modeled as "rational," whereas behavioral finance people are modeled as "normal" (Pompian, 2012).

Mainly behavioral finance is all about how affected the financial decisions of individuals and institutions by psychology in different financial situations (Nofsinger J. R., 2001). Behavioral finance therefore works on those psychological factors that affect individuals or groups while working as investors, portfolio managers or analysts (Brown, 2004).

Investor behavior is part of an academic discipline known as "behavioral finance" which explains how emotions and cognitive errors affect investors and the decision-making process. Individual investors' behavior has always been the concern of academics and portfolio managers, but not investors themselves, because the herd mentality sometimes dominates the causes (Nik Maheran, 2009).

Behavioral finance in its interpretation of investor behavior relies on factors that include a set of biases that affect the investor's mentality and interfere in the decision-making process. Through this article we try to address the following problems:

What are the behavioral factors and biases that affect the financial decisions of investors and the extent of their impact?

To address the problematic issue, we refer to a series of research and studies conducted during the last decade in the field of behavioral finance to identify behavioral factors and biases affecting the behavior of investors during the decision-making process and their impact on financial decisions and performance.

2. Behavioral finance is a traditional financing alternative

Behavioral finance is not an alternative to the traditional financing model; it is an alternative solution to explain market inefficiency and irrational behavior of an investor (Raman Nair, 2015).

Capital markets can be affected by psychological and social factors, so we can say on the capital market that they are not necessarily efficient (Tona Aurora Lubis, 2017).

The assumption that investors are fully rational and that information is processed correctly immediately is unrealistic. This is difficult to explain because human behavior is often unpredictable. It is therefore very difficult to see the reality of an effective capital market because decision making for investors is often influenced by psychological factors (Tona Aurora Lubis, 2017).

Traditional finance theory is standard because it refers to how investors make decisions. By contrast, the behavioral finance approach is an understanding of why investors take the decision (Nofsinger H. B., 2010).

Although the traditional finance model is attractive from a market-level perspective, it involves an unrealistic burden on human behavior. After all, psychologists have been studying the reasoning of decisions for decades and have found many biases and limitations on cognitive resources. In the 1960s and 1970s, many psychologists began to study economic decisions (Nofsinger H. B., 2010).

2.1. Traditional Finance (standard):

Traditional finance has market dominance. He assumes that the concept of an efficient market hypothesis means that markets are efficient in the sense that investors are rational and that securities are being rationally evaluated (P B Suryawanshi, 2016).

The standard finance theory is designed to provide mathematical explanations of mathematical aspects to financial matters which, when put into real life, are complex. The standard finance approach is based on a set of assumptions that simplify realism. For example, in the concept of "Homo Economicus" rational man is an integral part of the standard finance. It provides that human beings make rational economic decisions at all times (Pompian, 2012).

Standard funding at its inception assumes that financial participants, institutions and even markets are rational. On average, these people take impartial decisions and magnify their own interests. Any individual who makes substandard decisions can be punished through bad results. Over time people will learn either to make better decisions or to leave the market. No errors occur to market participants are not associated with each other, so the errors do not have the power to influence market prices (Nofsinger H. B., 2010).

Although the traditional approach offers many useful ideas, there seems to be some missing. For example, people are constantly plagued by certain behavioral biases and traditional models do not offer satisfactory explanations. In other words, models can't describe actual and observed behavior. Of course, these standard models may fail because people are irrational or because models are based on erroneous assumptions (Nofsinger H. B., 2010).

2.2. Behavioral finance:

Behavioral Finance (BF) is an emerging system that represents a set of alternative methods to refine the definition of conventional finance for economic rationality. In particular, behavioral finance relies on sociology and cognitive psychology to examine why individual decision-making often deviates from rational choices in systematic ways (Inga Chira, 2008). Behavioral finance also attempts to explain human behavior in markets and to import theories of human behavior from social sciences (Shiller, 1998).

Behavioral finance uses insights from other sciences to understand decisions made by investors. Psychologists and sociologists have been studying human behavior for a long time and have gathered many clues about how people take decisions (H. Kent Baker, 2014).

Behavioral finance is generally defined as the application of psychology to finance and has become a very hot topic, which contributed to gaining credibility is the rupture of the technology stock bubble in March 2000 and the collapse of financial markets in 2008-2009 (Pompian, 2012).

Behavioral finance is a study of psychology-based markets, receiving more insight into the reasons people buy or sell stocks, and why they do not buy stocks at all. This helps search for investor behavior in explaining the various "market anomalies" that challenge the standard theory. Therefore, this behavior exists (Nik Maheran, 2009).

3. Behavioral Factors Affecting Financial Decision Making:

Behavioral finance shows that investors are influenced by behavioral factors and biases during the decision-making process. Can be summarized in four factors, according to the findings of studies in the field of behavioral finance, especially the survey, and these factors include prospect theory, heuristic theory, the herd and the market factors, and These factors also study some biases according to the following table:

Table (01): Factors and behavioral biases affecting financial decision-making

Factors	Behavioral biases
Heuristic theory	Representativeness Overconfidence Anchoring Gambler's fallacy Ability bias
Prospect theory	Loss Aversion Regret aversion Mental accounting
Herding	Buying decisions Selling decisions Choice of stock to trade Length of time to hold stock Volume of stock to trade
Market	Price changes Information Past trends of stocks Fundamentals of underlying stocks Focus on popular stocks Seasonal price cycles Customer preference Over-reaction to price changes Under reaction to price changes

Source: (Waweru, 2008).

3.1. Heuristic:

Heuristic, often referred to as thumb rules, is a way of reducing the cognitive resources needed to solve a problem. They are mental shortcuts that simplify the complex ways of judgment. Decision makers often face a range of options with broad uncertainty and limited ability to determine the probability of results (Nofsinger H. B., 2010).

Heuristic makes decision making easier because it is based on a basic rule. But Heuristic can also lead to different biases when attitudes change (Anum, 2017).

A good example of Heuristic that usually affects decision-making is the consideration of "past performance is the best indicator of future performance ". Researchers have incorporated more than 50 biases such as representativeness, availability, consolidation, adaptation, familiarity, overconfidence, status quo and conservation (Raman Nair, 2015).

3.1.1 Representativeness:

Representativeness is a cognitive bias that leads decision makers to assess probabilities and events with similar events that occurred in the recent past.

Representativeness leads to bias in the decision-making process because people's representativeness attempt to assess recent events and ignore long-term events (Ritter, 2003).

Representativeness refers to judgments based on excessive dependence on stereotypes, part of cognitive bias (Raman Nair, 2015).

In financial markets, Representativeness can appear when investors seek to buy "hot" stocks and avoid others that have been doing poorly in recent times (Waweru, 2008).

3.1.2. Overconfidence:

The overconfidence leads to the tendency of the individual to attribute his success to his talent and abilities while blaming "misfortune" for his failure, making him overstretch his talent (Suzaida Bakara, 2016).

Overconfidence is a bias in which people show unwarranted faith in their logic, judgments, and / or cognitive abilities. This excessive confidence may be the result of overstating levels of knowledge, abilities and access to information (Raman Nair, 2015).

In the simplest way they can be defined as an inappropriate belief towards the logical thinking, judgment and abilities of the cognitive person. Overconfidence bias plays an important role in stock trading. Overconfidence models have covered most psychological studies (Rasoul S, 2010).

Overconfidence refers to an inappropriate belief regarding the judgment, reasoning, and cognitive abilities of the individual. This bias plays a key role in the stock market now (Anum, 2017). People are more confident about their abilities, knowledge and prospects (Barber, 2001).

Overconfidence has gained special attention because researchers have shown this bias to have an important impact on the financial decisions of both investors and managers (H. Kent Baker, 2014). Overconfidence appears in many ways, such as very little diversification because of the fact that the investor invests his money in what he or she is more familiar with (Barber, 2001). Overconfidence can be seen as a look at excellence, greater skill and knowledge than others, or better than average. Overconfidence can be detected by overly optimistic expectations. Overconfidence can also result from an illusion of control where the decision maker believes he can control the events of opportunity (H. Kent Baker, 2014).

3.1.3. Anchoring:

Is the investor in the event of a lack of reference data set "anchors" points it is based in the decision - making process, and often the recent trends of prices.

Anchoring is a phenomenon in the absence of better information; investors assume that the current prices are correct. In a rising market, for example, each new high is "firm" because of its

proximity to the last record, and the distant history becomes more and more irrelevant. People tend to give too much weight to modern experience, and the extrapolation of recent trends that are often in conflict with the long - term averages and probabilities (Nik Maheran, 2009).

Anchoring known as a tendency of investors to refer their decisions to reference irrelevant with respect to their investment point (Pompian, 2006).

Anchoring is a psychological Heuristic that affects the way people perceive possibilities. It refers to the decision-making process where quantification is required and these assessments may be influenced by suggestions. Investors will reform some of the reference points (anchors), for example, the previous stock prices (Raman Nair, 2015).

Anchoring bias occurs when people try to use primary values to make their decisions in certain situations. In entrenchment, people tend towards the primary values (Anum, 2017).

Anchoring can lead investors to expect the stock to continue the trading in a specific range or to expect the company's earnings to be in line with historical trends, leading to a weak reaction to trend changes. People tend to extrapolate recent trends contrary to statistical averages and probabilities. They tend to become more optimistic when the market rises and is more pessimistic when the market falls (Waweru, 2008).

3.1.4. Gambler's fallacy:

The fallacy of the gambler often arises when the investor assumes the independence of an event and is not affected by other events. This understanding leads to the expectation of the end of the period and the change in the price trend.

The gambler's fallacy arises when people misrepresent that the trend will be reversed. This may lead to pushing investors to anticipate the end of the good market returns period (or bad) (Waweru, 2008). Gamblers fallacy is a behavioral bias that occurs when the individual believes that the sample resembles the original society from which it is withdrawn (Statman, 1999).

3.1.5. Availability bias:

Availability bias is a general rule or a mental shortcut that allows people to guess the probability of getting a result and what percentage may appear in their daily lives. Those who commit such bias consider the events that are easily retrieved more likely than those they can barely imagine or perceive (Rasoul S, 2010).

Availability is a judgmental heuristic that arises when people easily perceive the outcome of what in their judgments on possibilities. This bias may lead to ignore (or mitigate) risks that cannot be imagined or overestimated risks that can be imagined very clearly (Raman Nair, 2015). Availability bias is the tendency for a person access to the decision - making and arbitration based on the available data that can be easily accessed (Rasoul S, 2010).

Availability bias occurs when people use general rules or mental shortcuts to predict the likelihood of results and how they occur in their lives. In this case, people are more prone to events

that can be easily retrieved than those that are difficult to imagine or remember. The general trend of humans is based on remembering recent and inspiring events very quickly (Anum, 2017).

3.2. Prospect theory:

Prospect theory is the most widely accepted alternative to the theory of expected utility (H. Kent Baker, 2014). Prospect theory and expected utility theory (EUT) are the main important approaches in the decision-making process of investors from different perspectives (Anum, 2017). Financial economists have developed the theory of expected utility as a standard model to describe how people should behave, while actual behavior provides the basis for Prospect theory (H. Kent Baker, 2014).

It suggests the Prospect theory given by (Tversky & Kahneman, 1979, 1981, 1986) that the people respond differently to equivalent situations depending on whether they are presented in the context of loss or profit. Investors are often hurt by the possibility of loss and are happy to make gains when they face certain gains. Most investors are loath to risk, but when they face a certain loss, they take risks (Nik Maheran, 2009). Prospect theory shows how people behave in those situations when they face uncertainty and risk (Anum, 2017).

Prospect theory explains (i.e. loss aversion, regret aversion, mental accounting) as cases master of mind which substantially affect the individual decision - making process (Anum, 2017).

3.2.1. Loss aversion:

The aversion to loss is the investor's preference to avoid loss at the expense of making profits, i.e, the investor seeks to reap profits by selling successful assets for fear of loss.

Loss aversion is primarily referred to as the tendency of individuals to avoid losses compared to gains. Whenever any problem is framed in a negative way, the Loss aversion will be more severe, so the individual will go to a different decision when faced with a negative frame problem (Anum, 2017).

Losses that occur after the gains are less painful than losses that occur after the previous losses (Barberis, 2001).

3.2.2. Regret aversion:

It is a human tendency to feel the pain of regret for mistakes, even minor mistakes. Regret is an emotion we experience when not making the right decision. If one wants to avoid the pain of Regret, it may change this behaviour in ways that may be irrational in some cases (Raman Nair, 2015).

The reason for the regret aversion bias is that individuals often do not admit their mistakes. In this case individuals try to avoid making the decision because of the fear that any decision will be taken below the optimal level (Anum, 2017).

In addition to the pain of financial loss, it also includes regret for bad decisions, through which the loss was lifted. Due to Regret aversion, investors are trying to keep assets of poor performance. Regret aversion also affects decisions regarding new investments (Anum, 2017).

The phenomenon may be interpreted as implying that investors are avoiding the sale of stocks that have fallen so as not to confirm the error they are doing, thus avoiding regret. They sell stocks that have risen so as not to feel sorry for not doing so before the stock falls later (Raman Nair, 2015).

3.2.3. Mental Accounting:

Mental accounting is to place different assets and transactions in different mental accounts as sources of funds and investments. For example, if a certain amount is a borrower, risk must be avoided, but if this amount of profit can be risked.

The process by which individuals are analyzed and the transactions relating to their financial decisions are referred to as mental accounting (Barberis, 2001).

Mental accounting is the tendency of individuals to organize their world in separate mental accounts (Waweru, 2008). Mental accounting describes tendency of the people to divide and evaluate economic results by pooling their assets in a number of familiar mental accounts (Raman Nair, 2015).

3.3. Herd Factor:

Herd effect is the tendency of the individual to follow the actions of others in the stock market. Analysts take care of the influence of the herd because the investor is trying to rely more on collective information rather than private information, resulting in a deviation in the prices of shares than their basic value (Anum, 2017).

Herd behaviour refers to the "follow the leader" mentality. It is the tendency of the individual to follow the crowd because the decisions taken by the majority are assumed to be always true (Suzaida Bakara, 2016). The herd factor can lead to different biases. Investors generally go to the herd because they think it will help them get useful information (Anum, 2017).

Herd's influence on the financial market is defined as the direction of investor behaviour to follow the actions of others. Practitioners usually think cautiously in the presence of the herd factor, because of the fact that investors rely on collective information more than private information can lead to a deviation in the price of securities of the core value, so, many good investment opportunities can be affected at present (Lingesiya Kengatharan, 2014).

In a behaviour perspective, the herd factor can cause some emotional biases, including conformity, compatibility, cognitive conflict and gossip. Investors may prefer a herd factor if they believe the herd can help them, extract useful and reliable information. As the performance of financial professionals, for example, fund managers or financial analysts usually are assessed through self - periodic evaluation on a relative basis and comparison with their peers (Lingesiya Kengatharan, 2014).

In the stock market, the investors of the herd make their investment decisions about buying or selling stocks. By contrast, investors who are knowledgeable about information and rationalists usually ignore the flow of the masses, which is what makes the market efficient. In contrast, the herd factor causes the state of market inefficiency, which is usually known as speculative bubbles (Lingesiya Kengatharan, 2014).

4.3. Market Factor:

Standard financing says the investors' mistakes will not affect the market prices because when prices deviate from the underlying value, rational traders will take advantage of poor pricing to make their own profits. But who are those reviewers who maintain market efficiency? Investment institutions are the best candidates to maintain efficient markets because they have the knowledge and wealth needed. However, they often have incentives to trade with the direction that leads to poor pricing. Thus, investment institutions often exacerbate inefficiency (Nofsinger H. B., 2010). Investor behaviour is the main factor affecting the financial markets (Anum, 2017).

If the views of behavioral finance are correct, investors are believed to have an excessive or lesser reaction to price or news changes, extrapolation of past trends in the future, lack of interest in the underlying fundamentals, focus on popular stocks and seasonal price cycles. These factors in the market, in turn, affect the decision-making of investors in the stock market (Lingesiya Kengatharan, 2014).

Decision making is the process of selecting a specific investment alternative from a basket of alternatives. The process of "trade - offs" is after evaluating all the alternatives. Behavioral finance assumes that investors are irrational in the process of "trade-off" and choose their investments. They will react according to the new information. Under these circumstances, their decision to miss-pricing may be subject to limited arbitrage. This will affect the market price to deviate from the core values. Many researchers have determined that deviating from core values is the main experimental anomaly leading to a reassessment of an effective market hypothesis (Raman Nair, 2015).

4. Evidence of irrational behaviour:

All research and surveys in the area of behavioral finance have shown evidence of investor vulnerability to Behavioral factors and biases, and have proven and documented irrational behaviour in making financial decisions. The following is a list of studies conducted during the past decade.

(Waweru, 2008) examined the role of behavioral finance and investor psychology in investment decision making on the Nairobi Stock Exchange, behavioral biases such as representativeness, overconfidence, anchoring, gambler's fallacy, availability, loss aversion, regret aversion and mental accounting affected investor decisions, and showed herd behavior in their investment decision making.

In a study he conducted (Nik Maheran, 2009) that many investors are over-confident. Most investors believe they can overcome the market, although historical evidence suggests otherwise.

Conducted (Babajide, 2012) an empirical study on Behavioral biases of investors in the Nigerian stock market. The study found strong evidence that overconfidence, loss aversion, framing, and status quo bias exist among Nigerian investors. A weak negative correlation between bias and stock market performance is also established.

He (Qureshi, 2012) investigated the effects of Behavioral factors (e.g., heuristic, representativeness, gambler fallacy, anchoring, overconfidence, availability bias, and risk aversion) in the decision-making process of fund managers in Pakistan. The results showed a positive and significant relationship between behavioral factors and investment decision-making.

A pilot study (Qadri, 2014) was conducted to investigate the impact of overconfidence and illusion of Control over decision-making by investors in the Islamabad Stock Exchange. Their findings showed that overconfidence and illusion of Control have a very positive impact on investor decisions.

Reached (Oprean, 2014) in a study conducted on the emerging capital markets (Romania and Brazil) that people feel safe in the crowd (herd behaviour), if others do the same thing, it confirms the wisdom of their decision.

Explore (Lingesiya Kengatharan, 2014) the Behavioral factors affecting the decisions of individual investors in Sri Lanka's Colombo Stock Exchange and their relation to investment performance. The results obtained show that there are behavioral factors affecting investment decisions, namely, herd factor, heuristic, prospect, market factor. And found that most biases of all factors have moderate effects, while anchoring bias has a significant impact.

He (Luu, 2014) examines patterns of behaviour of individual investors in the stock market in Ho Chi Minh City. It has been shown that overconfidence, anchoring, herd, loss aversion and regret aversion have moderate effects on investors, while market factors have the greatest influence among all on investor decisions.

The results of the research study show that behavioral factors, including heuristic, prospect, market, and herd have a significant impact on the decision-making of investors in the Pakistani stock markets (Anum, 2017).

The results showed that trading is affected by the irrational behaviour of investors. This means that the premise of rationality can be rejected for both capital markets, and theoretical studies in behavioral finance have shown that emotion affects investment decisions. This means that trading is affected by the irrational behaviour of investors (Tona Aurora Lubis, 2017).

5. Results

Behavioral finance has the potential to be a valuable complement to the classical and neo-classical financial theory, which currently dominates the financial analysis. Psychological factors are important inputs in financial analysis and decisions and are gaining increasing momentum in academic research and practical uses (P B Suryawanshi, 2016).

Behavioral finance revolves around understanding how people make decisions, either individually or collectively. By understanding how investors and markets behave, it may be possible to modify or adapt these behaviours to improve economic outcomes. In many cases, may lead knowledge and integration of behavioral finance to superior to both advisors and their clients' results (Pompian, 2012).

Studies conducted by a number of researchers demonstrate that behavioral factors and biases such as heuristic theory (representation, overconfidence, anchoring, gambler's fallacy, availability) and prospect theory (loss aversion, regret aversion, mental accounting), in addition to the market factor and the factor of herd effect financial decision-making especially the herd factor and overconfidence are considered to be one of the first signs of behavioral bias.

The process of decision-making in practice is complex and subject to many factors and influences. Understanding the psychological factors and biases affects decision-making can help investors, financial advisors and practitioners improve their decisions, accept advice and the consideration of various alternatives, objectively and impartially.

6. Conclusion

Although researchers, investment institutions and investors may continue to discuss the effectiveness of markets and the rationality of investors, over the past few decades, behavioral finance has proven to be the important in understanding behavior. The question of the efficiency of market prices was like heresy. Today, many realize that continuing deviations from theoretical predictions are helpful in explaining factors influencing when people make decisions.

In conclusion, behavioral biases (overconfidence, anchoring, loss aversion, regret aversion, mental accounting, herd behaviour ... etc.) proving their impact on the decision - making process and the investor's behaviour. The occurrence of these biases to a large number of investors can affect the prices and thus the lack of efficiency of the market, for the rational investor is only an opportunity to achieve special profits and superiority of the market.

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