Behavioral Finance - An Emerging Theory : A Review Study

Arfat Manzoor [1]
Andleebah Jan [2]
Mohammad Shafi [3]

Abstract

Purpose : This paper debated market efficiency and asset pricing through an extensive review of literature in favor as well as against the well-known efficient market hypothesis (EMH). The purpose of this paper is to provide a comprehensive literature review of behavioral finance to label it as an alternate theory of asset pricing.

Methodology/Design/Approach : In this paper, the literature review is divided into three parts. Part-1 provides a review of EHM, its dominance, and downfall. Part-2 discusses the rise of behavioral finance as an alternate theory, and part-3 discusses the influencing factors of investment behavior. Three criteria were set for the selection of the articles. First, only relevant and most articles published from 2000 – 2022 were selected, and second, the most important articles published before 2000 were also included. Third, only those articles were selected that were published in the English language.

Findings : Comprehensive literature review in this paper helped in solving the market efficiency problems. It shows how the concepts of market efficiency and rationality were challenged by the new field of a discipline known as behavioral finance. Through further discussion on behavioral finance, this paper points out many gaps and also suggests how to bridge them.

Originality/Value : This is an extensive study that not only discusses the rationality approach of asset pricing through EMH, but also discusses behavioral finance and its relevance to asset pricing. This study can assist the researchers to focus more on behavioral finance and explore more determining factors of the investment behavior of the investors.

Keywords : **efficient market hypothesis, behavioral finance, behavioral biases, personality, emotions**

JEL Classification Codes : G10, G11, G40, G41

For the past few decades, stock market efficiency has become the major attraction of researchers working on stock market movements and their returns. The concept of stock market efficiency was given by Eugene F. Fama in 1970 in his theory : The efficient market hypothesis (EMH). Market efficiency and investor rationality are the two assumptions because of which EMH gained widespread popularity and is widely used in asset pricing decisions. Despite gaining widespread popularity and acceptability, EMH failed to explain certain unpredicted events that happened in the stock market, like the internet bubble of the 1990s and the recession of 2008. After these unfavourable events, researchers started exploring the factors that became the cause of such phenomena, which improved the image of behavioral finance. Behavioral finance researchers challenge traditional finance and reject its core assumptions of "efficiency and rationality." The behavioral finance supporters proposed the inefficient markets and irrational investors who make up these market systems

[1] *PhD Research Scholar,* Department of Commerce, University of Kashmir, Hazaratbal - 190 006, Srinagar, Jammu & Kashmir. (Email : shaducom59@gmail.com)
[2] *PhD Research Scholar,* Department of Management, Islamic University of Science and Technology, 1-University Avenue, Awantipora, Pulwama - 192 122, Jammu & Kashmir. (Email : andleebjan671@gmail.com)
[3] *Professor,* Department of Commerce, University of Kashmir, Hazaratbal - 190 006, Srinagar, Jammu & Kashmir. (Email : meem_shafi@kashmiruniversity.ac.in)

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(Starmer, 2000). During the initial stage of behavioral finance theory, EMH supporters criticised its theoretical relevance and empirical approach, but the prospect theory instituted first by Tversky and Kahneman (1974)) was widely accepted as an alternative to the expected utility theory.

EMH views the market as simple and efficient. It assumes that market factors reflect all the related information on which the investors base their investment decisions. However, EMH failed to predict sudden stock market shocks like the 2002 stock market crash. This was because of its inefficiency in predicting such shocks focus was shifted from EMH to behavioral finance which assumes the market inefficiency and investor irrationality. Behavioral finance can be viewed on two levels : micro level and macro level. At the micro-level, it involves the study of individual investors and their decisions making behavior. Macro-level deals with financial markets and the factors that cause a change in the financial markets.

Research Gap

The earlier studies conducted either on EMH or behavioral finance have a narrow focus, they were either conducted on behavioral finance or only on EMH. Studies conducted by researchers like Fama (1970) and Fama and French (1996, 1997) only focused on EMH. Barberis and Thaler (2003) also limited their literature review to behavioral finance domain only. Furthermore, the studies of Odean (1999) and Sharma and Kumar (2020) restricted the scope of their studies and only provided a review of behavioral biases and their impact on decision-making behavior and psychological factors mostly remained unexplored. Through this study, an attempt is made to bridge these gaps. This study includes an extensive discussion on both EMH and behavioral finance. It will provide a review regarding the dominance stage of EMH, and will also discuss its criticism. Apart from EMH, it will also discuss the existing literature on behavioral finance and will discuss the literature on the factors that contribute to this new field of study.

Methodology

This paper is segregated into three phases. The first phase focuses on the EMH, its dominance, and criticism. The second phase provides a review of behavioral finance and its rise as an alternate theory of EMH. The third phase analyzes the different behavioral factors and their contribution to behavioral finance theory. This phase will incorporate the literature on different psychological and social factors like biases, personality traits, and emotions and will analyze their role in investment-related decisions from 2000–2022 (the review also includes some important manuscripts published before 2000).

Three free accessible web search engines : ISI of WOS, Google Scholar, and Research Gate were used to search the academic publications. Two criteria were set to select the articles. First only relevant and most important articles published in academic journals were selected and second only those articles were selected that were published in the English language.

Review of Literature

Efficient Market Hypothesis : Dominance and Downfall

EMH dominates modern financial theories and has been under the radar of researchers and academicians for a large period (Degutis & Novickytė, 2014). The core assumptions of the EMH are efficiency and rationality. EMH assumes that investors are rational and they take decisions based on the available information. It also incorporates the term market efficiency. Any information relating to dividends, profits, takeover, cost etc., affects the stock prices and hence stock prices are the result of market information (Malkiel, 2003). Despite facing a lot of criticism

due to its assumptions, the practical implications of EMH hold even for small investors. Due to its popularity both theoretically and empirically, EMH was adopted by many models. Gordon (1962) in his model DDM related the firm value to its dividends. It is the dividends that can determine the value of the firm (Gordon, 1962). CAPM (Lintner, 1975; Sharpe, 1964), one of the popular models of asset pricing, tried to measure the company-specific risk (β). It focuses on the risk premium as a reward for risk-taking. The idea of market efficiency evolved during the 1800s. Keynes (1923) related financial gains to the risk-bearing capacity of an individual and proposed that it is a risk-taking capacity that determines the individual financial gains in the market.

After Fama, other scholars continued to support EMH. A market is said to be efficient only when the benefits of the price-related information are equal to the costs of collecting it (Jensen, 1978). The EMH itself is a useful tool in asset pricing models (Dhankar & Shankar, 2016). Saunders (1993) related the change in the price of the listed stocks with the local weather conditions and termed it a "weather effect." The markets are efficient and stock prices reflect all possible market information (Malkiel, 2005). Pahuja and Singh (2014) used BSE India to provide their support to EMH. Over time, researchers started the criticism of this most widely used theory. EMH was mostly challenged because of its unrealistic assumptions (Sharma & Kumar, 2020). Market shocks and fluctuations forced academicians and researchers to think beyond the EMH. The number of researchers opposing the rational and efficient view of EMH start increasing intensively. There is excess volatility in the stock, which opposes the view of EMH (LeRoy & Porter, 1981). Kemp and Reid (1971) criticized the EMH by noticing the non-random movement of share price in the market. Jegadeesh and Titman (1993) found abnormal returns that were predictable with short-term past returns. They highlighted the existence of natural bias responsible for these effects. Banz (1981) and Reinganum (1981) criticized the CAPM by providing evidence of higher averages of the small firms listed on the NYSE than predicted by the CAPM from 1936–1975.

The most significant critique of EMH revolves around the behavior of the market participants. The EMH and expected utility theory were based on unrealistic assumptions. These theories proposed that investors always try to maximize their utility which drives them towards rationality. However, because of the irregular pricing pattern of the assets, these theories were challenged and criticized. Because of the criticism of the EMH and other traditional theories, one new field of study came into existence known as behavioral finance. Behavioral finance does not involve any of such assumptions. It considers the real-world scenario and treats the investors as normal and irrational human beings. Shiller (2000) and Shiller (2003) supported behavioral finance very strongly in their studies and advocated it as an alternate theory of EMH.

Rise of Behavioral Finance as an Alternate Theory

The strong criticism of the EMH and other related models because of their inherent limitations became the basis for the existence of the behavioral finance theory. In their first research article in 1974, Kahneman and Tversky pointed their figures towards the assumption of human rationality and proposed the prospect theory. The prospect theory of Kahneman and Tversky completely changed the way investment decision-making was viewed. The prospect theory identified the patterns of human behavior that had previously gone unnoticed by the supporters of EMH. Kahneman and Tversky (1979) found that investors displayed discriminating behavior towards risk, the same investor who is a risk averter for a gain-oriented decision suddenly becomes the risk chaser for a loss aversion judgement. Thaler (1999) supported behavioral finance by reporting the endowment effect. He advocated that humans set a higher price for what they own than what they would pay for the same thing if they did not own it. Kahneman and Riepe (1998) stated that investment decision-making was affected by human values, desires, and attitudes. Anwar and Kumar (2018) criticised traditional finance and suggested that investors should not focus solely on market risk (market beta) because they face a variety of other risks as well. Shiundu (2009) went a step further and described the irrational behavior of investors by taking the risk and return into consideration. Rajkumar and Kavitha (2017) described the benefit of understanding the behavior of investors.

They suggested financial brokers fully understand the behavior of their clients and then offer financial securities accordingly. With time, several theories were proposed by researchers showing the relevance of behavioral finance.

The Prospect Theory

This theory was originally proposed by Kahneman and Tversky in 1979. This theory is all about the management of risk and uncertainties (Kahneman & Tversky, 1979). People display discriminating behavior of risk in different situations (Subash, 2012). People hate losses and adopt risk-seeking behavior to avoid those (Barberis, 2013). Prospect theory was further enriched by Saliya (2022) in his study by linking the pains and the gains of the persons with their utility. According to him, two persons feel different levels of pain when they lose the same amount of money and also they feel different levels of pleasure after winning the same amount of money. To understand this phenomenon, the S-shaped curve was advocated by Kahneman and Tversky (1979). The prospect theory (Kahneman & Tversky, 1979) views the investment decisions making process of investors in two stages. The editing stage and evaluation stage. The editing phase involves the collection and organization of information. While in the evaluation phase, investors give weight to each prospect and then choose the best prospect.

Heuristic Theory

Heuristics are the rule of thumb which influences the decision-making process of people. People use heuristics or rules of thumb to make judgement during complex situations. Barba (2005) stated that people apply the rule of thumb when they realise the situation is out of their hands. The heuristic theory incorporates herd behavior, overconfidence, over under reaction, and anchoring (Chapman & Johnson, 2002).

Influencing Factors of Investment Behavior

The main contributing fields of behavioral finance are sociology, finance, and psychology. Sociology describes the predicting power of social relationships on investors' behavior and attitudes. Finance deals with making financial decisions like capital allocation. Psychology states the influence of the mental state, external situations, emotional state, etc.

Behavioral Biases and Investment Behavior

According to the psychological literature, there are numerous biases and other psychological factors that clouds the rational mind of investors. As per Verma and Verma (2018), psychological factors and biases should be given a proper weightage as there is proper empirical support for their influence on decision-making. Decisions of investors in the stock market are often influenced by behavioral biases (Gupta & Shrivastava, 2021). Behavioral finance is all about inefficiency and irrationality. The irrational behavior of investors is driven by numerous heuristics and biases that predict the financial behavior in a financial market (Nair & Antony, 2015). Dangi and Kohli (2018) in their research categorized investors into many categories based on the biases like active investors, nervous investors, and passive investors and these biases impact their financial well-being.

Numerous empirical studies were pointed out by Duxbury (2015) highlighting the role played by behavioral biases in deviating the investor's behavior from rationality to irrationality. One study conducted by Agrawal et al. (2016) revealed that when investors' risk-taking capacity is strong, the influence of herding behaviour is reduced; nevertheless, the risk-taking capacity is affected by a variety of factors, including the investor's stage of life cycle and the resources accessible to the investors. Aren and Nayman Hamamcı (2022) attempted to discuss

the most influential biases affecting the decision making and they marked disposition, herding, overconfidence, and anchoring biases as the most effective. Similarly, according to Cuomo et al. (2018), heuristics and human emotions and feelings play a significant role in determining financial behavior. Howard (2014) enriched the impact of biases by highlighting their role in the economy, according to him, biases and emotional factors of investors not only influence the operations of stock markets, but also the real economy. Other research studies have also highlighted the role of biases in determining the financial behavior of investors (Blajer-Gołębiewska et al., 2018; Lucey & Dowling, 2005).

Personality Differences and Investment Behavior

Apart from the other psychological factors and biases, personality traits of investors also affect their behavior in the financial market (Sadi et al., 2011). According to Durand et al. (2008), the personality of one individual is distinct from the other. Investors' personality is related to their investment choices and results. Personality and investment intentions are related to each other. Extrovert investors prefer short-term investments while neurotic investors are more attracted to long-term investments. Isidore and Christie (2017) advised financial advisors to consider the personality traits of their clients before guiding them as it may avoid financial blunders. Hachana et al. (2018) showed the contribution of personality differences in the field of behavioral finance by showing the relationship between personality traits and an entrepreneur's capabilities. According to them, the person possessing the openness and conscientiousness traits has a high success rate as an entrepreneur as they are more emotionally stable.

Tauni et al. (2015) reported a direct link between the personality traits of investors and their trading behavior. One more study was conducted by Brown and Taylor (2014) and they tried to know the influence of personality traits on the investment behavior of households. They found a direct relationship between the households' investment behavior and their personality traits. Similarly, numerous studies were conducted to link personality traits with investment behavior to know the extent of the relationship between them (Dhiman & Raheja, 2018; Jamshidinavid & Amiri, 2012; Kumar et al., 2019; Müller & Schwieren, 2012; Mathur & Nathani, 2019; Nicholson et al., 2005; Ozer & Mutlu, 2019; Sadi et al., 2011; Sarwar et al., 2020; Yan et al., 2020).

Conclusion

The fore-mentioned review of the literature clearly shows the relevance of behavioral finance theory in modern financial markets. The popularity of this theory has increased over the years because of its power of exploring the role of different social and psychological factors in determining the investment behavior of investors in the stock market. The above-mentioned review helps in properly understanding the two opposite theories EMH and behavioral finance. Numerous studies were reviewed showing the dominance and fall of EMH and the emergence of behavioral finance theory as its alternative. Furthermore, it can be concluded that behavioral finance is an emerging study because little research has been conducted and that too mostly in developed countries. In developing countries, there is a huge scope to further explore this field of study.

Implications for Future Research

After the strong criticism, the dominance of EMH came to an end and the attention and attraction of researchers toward behavioral finance increased immensely. But still, it is a new field of study and needs to be explored more. To achieve this end, researchers should come up with more empirical studies and models highlighting the role of different psychological and social factors in determining the financial behavior of individual investors. Furthermore, developing countries should be the focus as very little research has been conducted in these countries and mostly they remain in the shadow.

Authors' Contribution

Arfat Manzoor conceived the idea to research on this topic. Andleebah Jan downloaded previous literature manuscripts and Mohammad Shafi corrected the language and grammatical mistakes in the paper.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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About the Authors

Arfat Manzoor is a PhD Research Scholar in the Department of Commerce, University of Kashmir. He has also qualified for NTA NET-JRF. His field of study is behavioral finance and Islamic finance.

Andleebah Jan is a PhD Research Scholar in the Department of Management Studies, IUST Awantipora, Kashmir. She has also qualified for NTA NET. Her fields of study are capital markets and stock exchange.

Mohammad Shafi is a former Professor and Head of the Department in the Department of Commerce. He has a teaching experience of more than 20 years. He has published numerous research papers in various reputed journals. He also served as a Director of CCPC, University of Kashmir.