Chapter 1

INTRODUCTION

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1.1 Introduction

A strong financial system significantly accelerates a country's economic growth. The Indian government's 1991 liberalisation strategy led to a new definition of the Indian financial system. The Indian capital market has seen a number of financial breakthroughs throughout this time (Mishra, 2009). These developments helped India's capital market expand, which in turn increased resource mobilisation and capital formation in the nation. Due to economic advancement, the disposable income of the investors increases with more scope for savings. With growing financialization, household savings in India have been shifting from physical assets to financial assets and within that, from bank deposits to investments in securities (RBI, 2021). Equity shares are attractive investment options for individuals as they deliver higher returns compared to conventional financial assets. However, high return in equity shares is backed by the element of high risk.

Mutual funds have emerged as the most convenient way to invest in equity instruments by enabling individuals to invest in securities with the professional expertise of fund managers (Debasish, 2009). Robust capital inflows and strong retail participation fostered the Indian mutual fund industry magnificently over the years. The mutual fund industry has become one of the fastest growing sectors in the Indian financial market (Turan & Bodla, 2004). Mutual funds have gained significant popularity among retail investors over the past decade. Strong growth in capital markets, increasing penetration across geographies, technological progress, and regulatory efforts boost the advancement of mutual funds in India. Additionally, the gaining popularity of Systematic Investment Plans (SIPs) in mutual funds augmented retail investor participation.

The majority of the industry's assets were held by institutional investors until 2017 (AMFI, 2021). However, this situation changed and individual investors' participation in mutual fund investments, particularly in equity funds, increased drastically. 55% of the industry's assets were held by individuals in 2021 (CRISIL Research, AMFI). Furthermore, individual-held AUM grew at a CAGR of 21%, while institutional AUM grew at a CAGR of only 15% (CRISIL Research, AMFI).

Minimizing risks and maximising returns are the major goals of any investor. But every investor is not able to earn a return as per their expectations. Investor psychology plays a dominant role in their investment decisions, which would affect their investment performance (Bakar & Yi, 2016). Exploring investor psychology helps in designing more schemes with a well-diversified portfolio catering to their needs, thereby improving their returns.

1.1.1 Mutual Funds

A mutual fund is a type of investment vehicle that pools money from numerous investors and invests in various securities with the expertise of professional fund managers. Mutual fund schemes are managed by Asset Management Companies (AMCs). To invest in a mutual fund, one must purchase a unit of the fund, which turns them into the fund's owner. The income and capital appreciation from the fund are shared among the unit holders based on the number of units held by them, after deducting applicable expenses, as calculated by a scheme's Net Asset Value (NAV). A small fee is charged in return by the mutual fund.

Mutual fund investments are ideal for investors who:

- lack knowledge regarding stock market investment
- like to grow their wealth, but lack time to study the stock market
- would like to invest only a small amount.

1.1.2 Growth of the Mutual Fund Industry in India

The Indian mutual fund industry is one of the fastest-growing industries with promising future growth. In India, mutual funds are established as a trust under the Indian Trust Act, 1882, under the SEBI (Mutual Funds) Regulations, 1996.

The history of the Indian mutual fund industry can be traced back to 1963, with the setting up of the Unit Trust of India (UTI) by the government of India under the regulatory control of the RBI. In 1978, the administrative control of UTI was shifted from the RBI to the Industrial Development Bank of India (IDBI). UTI launched the first mutual fund scheme, the UTI Scheme, in 1964. At the end of 1988, the Assets Under Management (AUM) held by UTI stood at Rs. 6,700 crores.

In 1987, public sector banks and insurance companies entered the mutual fund industry. The first non-UTI fund, the SBI mutual fund, was set up in the same year. Further, five more mutual funds were introduced by the public sector. By the end of 1993, the AUM held by the industry had reached Rs. 47,004 crores.

In 1992, SEBI was established to protect the interests of investors and promote the development of the capital market. SEBI formulated the (Mutual Funds) Regulations 1993 to establish a comprehensive regulatory framework for the mutual fund industry. In the same year, the first private sector mutual fund was formed, the Kothari Pioneer Fund, which thereafter merged with Franklin Templeton. The Association of Mutual Funds in India (AMFI) was incorporated on

August 22, 1995, as the regulator of the mutual fund industry in India. In 1996, the mutual fund regulations were revised. Moreover, many mergers and acquisitions took place in the industry during this phase. By the end of January 2003, the AUM held by the industry reached Rs. 1,21,805 crore.

In 2003, UTI was bifurcated into two separate entities, the Specified Undertaking of the UTI and the UTI Mutual Fund. After the global economic recession in 2009, the financial markets all over the world were at an all-time low and India was no exception. Furthermore, the removal of the entry load by SEBI also affected the mutual fund industry adversely. Consequently, the growth of mutual fund AUM was sluggish during the period 2010–2013.

Since May 2014, the Indian mutual fund industry has witnessed constant advancement and an increase in AUM and the number of investor accounts. The industry's AUM reached Rs. 10 lakh crore during the year. Within three years, the industry had witnessed a growth of more than twofold in the size of AUM, which crossed Rs. 20 lakh crore in 2017. Demonetization, the implementation of the Real Estate (Regulation and Development) Act, 2016, (RERA) and the Benami Transactions (Prohibition) Amendment Act, 2016, played a crucial role in shifting the savings of households from physical to financial assets, which in turn stimulated the growth of the mutual fund industry in India. The growth continued steadily, which helped it reach Rs. 30 lakh crore in 2020.

In 2021, the mutual fund AUM registered a growth of 22% and stood at Rs. 37.6 lakh crore. Equity-oriented schemes were the highest-contributing category to the growth of the mutual fund industry. Mutual funds' deployment in equity instruments stood at 53.37 percent in 2021-2022. Progressively, a wide variety of schemes have been launched by the industry to cater to the needs of investors with different preferences. Considering the significant changes in the industry, many initiatives were launched to ensure transparency and protect investors.

Despite the significant developments taking place, penetration of the mutual fund industry in India is quite low when compared to the global average.

However, the country's high savings propensity and increasing regulations in the industry have brightened the industry's outlook.

1.1.3 Structure of Mutual Funds in India

In India, mutual funds are organised into a three-tiered structure consisting of trustees, the sponsoring firm, and the Asset Management Company (AMC).

1. **Sponsor**

   The company that sets up the mutual fund to earn money through fund management is known as the sponsor. Fund management is done through an associate company. The sponsor has to seek the permission of SEBI to set up a mutual fund and meet certain criteria laid down by SEBI, which are as follows:

   1) The sponsor must have at least 5 years of experience in financial services with a positive net worth over all those years.
   2) The sponsor should show profits in at least 3 out of 5 years, including the immediately preceding year.
   3) The sponsor must have at least a 40% share of the total net worth of the asset management company.

2. **Board of Trustees**

   The sponsor creates a trust through an agreement called a trust deed. Trustees are appointed to manage the trust. Their primary responsibility is to protect the interests of mutual fund investors. They appoint asset management companies to float mutual fund schemes. They monitor the operations of various schemes to safeguard the interests of investors. Asset management firms cannot introduce a new scheme into the market without the trust's approval.

3. **Asset Management Company (AMC)**

   The asset management company manages the funds of various mutual fund schemes. The AMC floats various schemes in the market according to the needs of investors. The AMC acts as a fund manager for the trust and employs professionals to make investments, carry out research, and serve the investors. The AMC is responsible for all fund-related activities, such as launching the scheme and managing it. In return, AMCs charge a fee for the management of mutual funds. Moreover, the success of a mutual fund depends on the efficiency of the AMC.

1.1.4 Advantages of Mutual Fund Investment

1. **Professional Management**

   Many people who even have a substantial amount of income to save are also disinterested in investing in the stock market. Lack of knowledge regarding the financial market is one of the reasons for this hesitation. Mutual funds are suitable for those who do not have any knowledge regarding the financial markets and who lack the time to track the market's performance in order to invest in financial securities, as they are managed by professional fund managers.

2. **Diversification of Portfolio**

   Asset diversification is critical for managing investment risk. A mutual fund pools the money of investors and invests it in various securities. Hence, the investor doesn’t have to worry since all his money is not invested in a single asset.

3. **Affordability**

   Mutual funds are affordable for people belonging to lower income brackets, as one could start investing in them even with a small amount. To purchase shares in blue-chip companies, an investor will have to pay a huge amount. But mutual funds make it possible to purchase the shares of these companies, as they collect small amounts from many investors and invest them in these shares. Furthermore, the fee for asset management services has been lowered.

4. Convenience

Investors have options to invest in mutual funds either by investing the whole amount in a lump sum or by opting for systematic investment plans (SIPs), i.e., investing a fixed amount systematically. Mutual funds also offer a plethora of schemes, such as children's plans, retirement plans and industry-specific schemes. As a result, investors do not have to waste valuable time selecting stocks.

5. Liquidity

Investors can sell their mutual funds at any time, except in the case of the Equity Linked Savings Scheme (ELSS), which has a 3-year lock-in period. However, closed-end funds can be redeemed only on maturity.

6. Transparency

Mutual funds present their daily net asset values, which help investors monitor the performance of their funds. They also send quarterly reports of their schemes, which provide details of the portfolio, the performance of the schemes and so on.

7. Return Potential

Mutual funds deliver high returns when they are invested for a longer period. Their level of risk is low when compared to direct investment in shares since they consist of a diversified portfolio.

8. Well Regulated

Mutual funds are required to be registered with SEBI, and they work within the regulatory framework of SEBI. The operations of mutual funds are regularly monitored to protect the interests of investors.

9. Innovative Schemes

Mutual funds offer a variety of schemes that suit an individual’s risk tolerance level and investment horizon. Mutual funds have been designed to cater to investors' specific goals, such as retirement planning, children's education and so on. Some schemes that invest in international securities are also popular now.

10. Tax Benefits

Mutual funds are tax-efficient investment options when they are held by investors for a longer period. Equity Linked Savings Schemes (ELSS) provide tax benefits for investors as they are qualified for tax deductions under Section 80 C. However, the maximum amount eligible for deduction is Rs. 1.5 lakh.

1.1.5 Categorisation of Mutual Fund Schemes by SEBI

As per SEBI guidelines on the categorisation and rationalisation of schemes issued in October 2017, mutual funds are classified as follows:

1. Equity schemes

An equity mutual fund is a mutual fund that mainly invests in equity and equity-related instruments. The major objective of equity mutual funds is to seek capital appreciation over the long term. Such funds could be volatile in the short run, making them suitable for highly risk-taking investors who are ready to invest for a longer investment period.

2. Debt schemes

A debt fund invests mainly in bonds or other debt securities. Their major objectives include income generation and capital preservation.

3. Hybrid schemes

Hybrid funds are mutual funds that invest in both equity and debt instruments. They provide a balance between growth and income.

4. **Solution-oriented schemes**

   These mutual funds are designed to achieve a specific goal, such as a child's education planning, retirement planning and so on.

5. **Index Funds**

   Index funds are designed in a way that imitates the composition and performance of a market index. The securities in the portfolio and their weights will be the same as those in the index. They are passively managed funds.

6. **Exchange Traded Funds (ETFs)**

   ETFs are marketable securities that track an index or a basket of assets, similar to index funds.They are listed on stock exchanges. They are passively managed funds. There are gold ETFs that hold gold as the underlying asset.

7. **Fund of Funds (FoFs)**

   Fund of funds are pooled investment fund that invest in other schemes of mutual funds.

8. **International funds**

   International funds are mutual funds that invest in the stocks of companies listed outside India.

1.1.6 Net Asset Value (NAV)

Net asset value is the market value of securities held by a scheme. It represents a fund’s intrinsic value per share. The NAV of a mutual fund scheme represents its performance. The NAV of a scheme changes every day as the market value of securities varies daily. The NAV of a scheme is computed by dividing the market value of securities held by the scheme by the total number of units of those securities on a particular date. When the value of securities in a fund increases, the

NAV increases and when the value of securities in a fund decreases, the NAV decreases.

1.1.7 Behavioural Finance

Behavioural finance is a branch of finance that studies how investors' cognitive errors and emotions influence their decision-making. It involves the integration of various fields such as Sociology, Psychology and Finance. Linter (1988) defines behavioural finance as "the study of how human beings interpret and act on information to make informed investment decisions."

According to the theory of behavioural finance, investors are not always rational, many of them do not diversify their investments properly and they tend to sell winning stocks while holding the losing ones. The study of how investors make systematic errors in judgement is known as behavioural finance. Moreover, it focuses on how investors interpret information and act on it to implement their investment decisions.

Investor psychology, according to proponents of behavioural finance, has the power to drive market prices and fundamental values far apart. Behavioural finance provides insight into how investor psychology influences financial markets.

1.1.8 History and Growth of Behavioural Finance

Traditional finance theory was globally accepted until the mid-20th century. The Bounded Rationality Theory of Herbert Simon is considered the founding stone of behavioural finance. In 1956, the theory of cognitive dissonance was propounded by Leon Festinger. In the 1960s and 1970s, researchers started to investigate the role of psychological factors in the financial decision-making process. In 1965, Eugene Fama proposed the Efficient Market Hypothesis (EMH) theory, in which the author suggested that if stocks function in a market where the data regarding the prices are available, then the stock prices precisely reflect the intrinsic value of the stock. Fama also proposed the Random Walk Hypothesis

(RWH), which assumed that future stock price levels were not predictable other than by a series of random numbers (Fama, 1965). Moreover, the author argued that any attempt to predict the future prices of stocks based on past trends was completely irrelevant.

Fama proposed a three-fold approach to the efficient market hypothesis theory in 1970, as a continuation of his previous work. The proposed approach is comprised of three layers, where every layer builds upon the notion in the previous layer to make the concept more comprehensive. The first layer is termed the "weak layer," which assumes that future stock prices cannot be predicted based on past values. The second layer, which is called the "semi-strong layer," suggested that the stock prices adjust themselves to new information in an equitable manner, leaving zero possibility for the investor to beat the market. The third, which is the "strong layer," proposed that the stock prices reflect private information along with all the public information. Hence, the theory rejects the possibility of any competitive advantage for insider trading.

In 1973 and 1974, Kahneman and Tversky introduced behavioural biases such as representativeness, availability, anchoring and adjustment. In 1979, Kahneman and Tversky developed the prospect theory, which challenged the efficient market hypothesis theory. Prospect theory describes how people select between two different outcomes that involve risk and are aware of the probabilities of the outcomes. They also pointed out that the tendency of people to avoid risk while making financial decisions is one of the problems people exhibit in their approach to analysing risk. This was one of the initial studies on the possibility of the interference of psychological bias in individual financial decisions. Loss of aversion bias was also discovered in the same year.

In 1980, Thaler argued that rational decision-making is not completely true and recognised various mistakes individuals make in making decisions, such as regret aversion, underweighting opportunity costs and failing to ignore sunk costs. These findings laid the foundation stone for the concept of behavioural finance. In 1981, framing bias was discovered (Kahneman & Tversky, 1981). In 1985, the concept of mental accounting was introduced (Thaler, 1985). Thaler and De Bondt (1985) proposed that an individual's cognitive bias can result in the predictable mispricing of equities. Furthermore, they stated that individuals often overreact to unforeseen events to gain portfolio returns. Their findings indicate that prior losers' portfolios steadily outperform portfolios of prior winners since people usually overreact to depressing news and this overreaction further impacts their investment decisions. Andreassen and Kraus (1988) also challenged the efficient market hypothesis theory by indicating that people always tend to extrapolate past prices during a market trend and permit it to affect their investment decisions.

In 1996, Robert Shiller's book titled "Irrational Exuberance" was published and discussed the sudden loss of value of an investment when investors predict the rise in the share prices and become overconfident about the increase in the share values. The investor sentiment model for overreaction and underreaction of stock prices was explained by Thaler and Barberis (1998).

Thaler (1999) successfully predicted the downfall of the stock market using behavioural finance and criticised the EMH theory for the collapse. In the same year, behavioural asset pricing theory and behavioural portfolio theory were discovered by Statman, M. (1999). The linkage of behavioural finance with the efficient market was discussed by Shleifer A. in “Inefficient Markets.”

In 2000, Hersh Shefrin authored the book "Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing," which explains how psychology impacts the entire field of finance. He has also classified behavioural biases into heuristics and frame-dependent biases.

Robert J. Shiller has also made significant contributions to the field of behavioural finance. Shiller (2003) indicated that the emotions of individuals play a crucial role in the rise and fall of the market and further criticised the media for spreading false sentiment regarding the upward market movement, which in turn influences the public highly. Currently, behavioural finance is used to identify the possible causes of stock rallies and crashes and their relationship with human actions.

1.1.9 Important Contributors

Many academicians, economists and psychologists have immensely contributed to the field of behavioural finance. A few of them are mentioned below:

- **Daniel Kahneman and Amos Tversky**

  Daniel Kahneman and Amos Tversky are regarded as the fathers of behavioural finance. Both of them worked on contrasting ideas during the 1960s and thereafter they decided to work together in the 1970s to make major contributions that became the yardstick in this field. Daniel Kahneman received the Nobel Prize in Economics in 2002 for integrating insights from psychology into economics.

- **Richard H. Thaler**

  The concept of mental accounting was introduced by Richard Thaler. He has written a classic book, "Can the Market Add and Subtract? Mispricing in Tech Stock Carve-Outs." Richard Thaler was awarded the 2017 Nobel Prize in Economics for his contributions to behavioural economics.

- **Robert J Shiller**

  From the 1980s on, Shiller was a pioneer in the field of behavioural finance. Shiller was awarded the Nobel Prize in Economics in 2013 along with Eugene Fama and Lars Peter Hansen for the empirical analysis of stock prices. His most notable work is "Irrational Exuberance," in which he accurately predicted the stock market crash in 2000.

- **Hersh M. Shefrin**

  Shefrin and Statman together introduced the concept of the "disposition effect." Shefrin, along with Richard Thaler, developed an economic theory of self-control. His notable work is "Beyond Greed and Fear: Understanding Behavioural Finance and the Psychology of Investing."

- **Vernon L. Smith**

  Vernon Smith is recognised as the father of experimental economics. In 2002, he was awarded the Nobel Prize along with Daniel Kahneman.

1.1.10 Standard Finance versus Behavioural Finance

- Standard finance assumes that investors are rational while investing. As per behavioural finance, investors possess certain biases that lead them to commit errors in making investment decisions.

- According to standard finance, people take every decision after considering the elements of risk and return. On the other hand, behavioural finance assumes frame dependence. It suggests that investors' perceptions of risk and return are affected by how decision problems are framed.

- Standard finance assumes that markets are efficient and the price of a security is an unbiased estimate of its intrinsic value. In contrast, behavioural finance believes that there will be a mismatch between a security's market price and its intrinsic value due to various investor biases and errors.

- According to standard finance, investors are guided by logic and independent judgment, whereas in behavioural finance, emotions and a herd mentality influence their investment decisions.

- As per the views of the efficient market hypothesis, stock prices follow a random walk, i.e., even though there are fluctuations in prices, they are corrected and bought back in time, while behavioural finance suggests that investors push the prices of securities to unsustainable levels in both directions.

1.1.11 Behavioural Theories

The major theories that play a dominant role in behavioural finance are:

1. **Prospect Theory**

The prospect theory is a behavioural model formulated by Daniel Kahneman and Amos Tversky in 1979. According to it, investors admire gains and losses differently and take decisions based on anticipated gains rather than anticipated losses. It demonstrates how investors chose between risky and uncertain alternatives. Prospect theory reveals that investors are loss averse, and if two equal options are given to them, one in terms of probable gains and the other in terms of probable losses, the former option will be preferred.

2. **Behavioural Asset Pricing Model**

Shefrin and Statman (1994) proposed the behavioural asset pricing model, which assumed a market in which investors interact with information traders. Those who commit cognitive errors were referred to as "noise traders," while those who do not commit cognitive errors are "information traders." The theory suggests that capital market investors are not only affected by risk but also by their moral sentiment.

3. **Behavioural Portfolio Theory**

The behavioural portfolio theory was developed by Shefrin and Statman (Behavioral portfolio theory, 2000). According to the theory, investors have many goals, and portfolios are created to meet those goals. This theory explains portfolios in terms of behavioural frontiers. The theory further states that investors construct their portfolios as a pyramid of assets with well-defined roles.

4. **Behavioural Efficient Market Hypothesis**

The behavioural efficient market hypothesis theory was developed as an alternative to the efficient market hypothesis theory by Shleifer (2000). The theory focuses on irrational investors. It states that in the actual financial markets, irrational investors trade against arbitrageurs whose resources are limited by short horizons, risk aversion and agency problems. In this theory, behavioural models are presented to explain market anomalies. As per this theory, most investors react to irrelevant information or trade on noise rather than information.

1.1.12 Behavioural Bias

Behavioural bias is defined as a predisposition towards error by Shefrin (2007). It refers to the propensity to make decisions while being influenced by an underlying belief. Investor biases are mainly divided into cognitive biases and emotional biases.

Cognitive Biases

Cognitive biases are systematic errors in thinking that occur when people process and interpret information around them and affect the decisions they make. A cognitive bias arises as a result of one's brain's attempt to simplify information processing. The concept of cognitive bias was first introduced by Tversky and Kahneman in 1972.

Belief Perseverance Bias

Belief perseverance bias refers to the tendency of individuals to stick on to their previously held beliefs irrationally. Investors tend to hold securities to justify their beliefs because they believe in themselves or their own abilities (Pompain, 2006). The different types of belief perseverance biases are representativeness, confirmation, cognitive dissonance and illusion of control.

Representativeness Bias

Representativeness bias refers to the tendency of individuals to form judgements based on stereotypes (Shefrin, 2000). It is heuristic-driven. Investors who are prone to representative bias often become highly optimistic about past winners and highly pessimistic about past losers. They assume that the stocks of a good company will also be good, which cannot always be true. Investors may be attracted to mutual funds with a good track record as they believe that these funds are representative of high-performing funds.

Confirmation Bias

People usually pay more attention to the information that supports their views while ignoring the rest. Confirmation bias is about interpreting the available evidence in a way that aligns with one's own beliefs or views (Shefrin, 2007). Investors who are exposed to confirmation bias seek information that supports their original views on that particular investment, avoiding information that contradicts their views. As a result, confirmation bias causes investors to make poor investment decisions. Furthermore, it can cause investors to hold onto their under-diversified portfolio.

Cognitive Dissonance Bias

Cognitive dissonance refers to the mental conflicts experienced by people when they come across evidence that their assumptions or beliefs are wrong (Shiller, 1998). Cognitive dissonance theory was proposed by Festinger in 1957. The theory suggests that discrepancies between past choices and empirical evidence cause distress among individuals and to support their past decisions, they alter their existing beliefs. Moreover, people who are prone to cognitive dissonance bias will jump through mental hoops to avoid or reduce inconsistencies.

Illusion of control Bias

Investors who are prone to the illusion of control bias tend to think that they have control over the outcomes, which they actually don’t have (Pompain, 2006). Investors who are affected by the illusion of control bias would maintain under-diversified portfolios. Many studies suggest that the illusion of control often leads to overconfidence among investors.

Information Processing Bias

Information processing biases are cognitive biases in which individuals make errors in thinking while processing information related to a financial decision. Information processing bias occurs when people process information irrationally or illogically (Pompain, 2006).

Anchoring Bias

Tversky and Kahneman (1974) suggested that when forming estimates, people start with some initial arbitrary value and make adjustments to it. The initial value may be suggested as a result of a partial calculation. In the financial market, investors often refer to the initial purchase price when selling or analysing. Moreover, it is the mindset of individuals to hold on to a notion and then consider it as a reference point for making decisions in the future.

Availability Bias

Availability bias refers to the mentality of individuals to rely upon information that is readily available instead of examining other alternatives (Tversky & Kahneman, 1974). There are instances where people assess the probability of a particular event by the ease with which the occurrence of that event can be brought to mind.Investors affected by availability bias would selectthe funds based on the information they have rather than analysing the fund.

Self-Attribution Bias

Self-attribution bias refers to the tendency of individuals to attribute success to innate factors while attributing failures to situational factors. This concept was proposed by Heider in 1958. Individuals tend to take credit for their successes and blame external factors for their failures (Bradley, 1978). Investors who are prone to self-attribution bias tend to take credit for profits from their investments and blame their losses on situational factors. They tend to take high risks due to overconfidence in their attitude.

Mental Accounting Bias

Mental accounting bias refers to the intentions of individuals to place their invested assets in different categories and attribute separate functions to these categories (Kivetz, 1999). This categorisation and assignment of functions may be illogical, which would lead them to make improper investment decisions. It leads investors to make illogical distinctions between the return on income and the return on capital gain. Many investors spend their dividends while retaining the principal. This is due to the different weights assigned by them to these two.

Emotional Bias

Emotion is a mental state that acts spontaneously. Emotional bias arises from intuition or impulse rather than conscious calculations. It deals with the way one feels. Emotional bias consists of overconfidence, loss aversion, regret aversion and herding bias.

Overconfidence

Overconfidence refers to an overly optimistic assessment of one's knowledge or control over a situation. According to Michael Pompain (2006), overconfidence refers to unwarranted faith in one’s intuitive reasoning, judgments and cognitive abilities. Investors who are prone to overconfidence bias tend to trade excessively, as they believe that they have more knowledge than other investors. They also underestimate their downside risk, resulting in poor fund performance.

Loss Aversion

Loss aversion is the tendency of individuals to avoid losses in exchange for acquiring equivalent gains. Daniel Kahneman and Amos Tversky coined this term in 1979 while working on the prospect theory. The theory suggests that the pain caused by a loss would be greater than the joy created by an equivalent gain.

Investors with loss aversion tend to hold the losing funds too long, which in turn diminishes the returns generated from the funds. On the other hand, they tend to sell the winning ones too early. As a result, it restricts the upside potential of the fund.

Regret Aversion

Individuals tend to avoid actions that have the potential to cause discomfort over faulty investment decisions (Kahneman & Tversky, 1979). The underlying cause of this bias is human beings' inherent fear of failure. Investors with a regret aversion bias are hesitant to sell losers for fear that the price will rise, causing them mental pain. However, they tend to sell the winning stocks too soon as they think that the price might decrease in the future. Such investors frequently engage in herding behaviour to alleviate the pain of regret because they feel safer in popular investments. Moreover, they underestimate themselves and rely on others' recommendations.

Herd Behaviour

Herd behaviour refers to the tendency of individuals to follow the crowd. Investors with a herd mentality follow the investment decisions of the market majority (Shefrin, 1996). In a bullish market, they tend to buy more shares since others are doing so, whereas in a bearish market, they sell their shares as others are doing so. Investors who resort to herd behaviour make easy investment decisions because they do not need to properly analyse because they are imitating others. It could also reduce feelings of regret, even if it leads to loss.

1.1.13 Investment Decisions

Decision-making refers to the process of selecting the best alternative from several alternatives. Investment decisions are concerned with the allocation of financial resources to obtain the maximum return. Decision-making is the most challenging activity for investors. The decisions taken by investors differ according to various factors such as their gender, age, education level, income and so on. Moreover, emotional factors also exert an influence on their investment decisions.

The quality of investment decisions taken by investors affects their investment performance.

1.1.14 Investment Performance

Investment performance refers to the rate of return obtained from the investment made. It is measured during a specific period of time. In the case of mutual funds, the rate of return can take the form of dividends, interest, or capital appreciation. The performance of a mutual fund is represented by its NAV. Performance is said to be high when the NAV of the fund is higher than its NAV in the previous period. When the investor has an expectation about the return on his investment and the actual return is higher than his expectation, the investment performance is said to be high. Furthermore, when the return delivered by a fund is higher than the market return, the investment performance is high.

1.2 Statement of the Problem

The Indian economy is the sixth largest economy in the world in terms of nominal GDP (World Bank, 2022). According to the World Economic Outlook published by the IMF, India's GDP grew at a rate of 9% in 2021, making it one of the fastest-growing economies in the world. Economic growth resulting from domestic savings is more sustainable than the growth achieved from borrowed capital (Patra et al., 2017). According to the World Bank's reports, India’s domestic savings rate is 28.9%, higher than the world average of 26.16% in 2020. A remarkable shift is witnessed in individuals' savings from physical assets to financial assets. The net savings in financial assets increased at a CAGR of 15.7% between 2014 and 2021 (MOSPI, 2022).

A developed financial market plays a crucial role in the overall economic development of a nation. A bi-directional causal relationship exists between economic growth and stock market development in India (Deb & Mukherjee, 2008). By analysing economic history, it is obvious that stocks have provided huge returns in the long run. Investing in equity shares enables even common men to participate in the economic growth of the nation. But to invest directly in equity shares, one must have appropriate knowledge regarding the financial markets.

Investment in equity through mutual funds provides professional expertise and diversification among various asset classes.

Equity mutual funds have emerged as an attractive investment option for investors. In 2021, 77% of individual mutual fund investors' assets were invested in equity mutual funds (AMFI, 2021). The average AUM of equity mutual funds grew at a CAGR of 27.5% as of December 2021. Even though India's mutual fund AUM as a percentage of GDP grew from 4.3% in 2002 to 16.6% in 2021, it is still significantly lower than the world average of 75% (World Economic Outlook, IMF).

There are different types of equity mutual funds in India with different market capitalisations. They have exhibited hikes and dips in their performance based on market movement. Many equity mutual funds have outperformed the market barometer. However, the lower investment rate in equity mutual funds makes it evident that people are highly reluctant to invest in equity mutual funds.

Kerala is the state with the highest literacy rate in India (Census Report, 2011). But it lags far behind in terms of mutual fund investment. Despite the high returns provided by equity mutual funds in the long run, investors in Kerala are reluctant to make a higher share of their investment in equity mutual funds. The percentage of AUM to GDP accounts for only 5% of the state's GDP, which is quite low (AMFI, 2021). Lack of financial knowledge stood as a stumbling block to the growth of mutual funds in Kerala.

The investment decisions of investors play an important role in defining the trend of the market. The investment decisions of individuals are influenced by various socio-economic factors such as their gender, age, education, occupation, annual income, investment experience and so on. Furthermore, investment decisions are also driven by various behavioural biases, which would influence their investment performance.

Thus, it is important to assess the types of behavioural biases that exist among equity mutual fund investors in Kerala and their variability in accordance with different socio-economic variables. Moreover, it would be essential to examine whether the behavioural biases of investors exert any impact on their investment performance.

1.3 Research Questions

The present study is undertaken to resolve the following research questions:

- Is there a relationship between the stock market and equity mutual funds in India?
- What is the trend of the performance of equity mutual funds in India?
- To what extent does the behavioural bias of equity mutual fund investors in Kerala change according to their gender, age, education level, occupation, marital status, annual income and investment experience?
- Does the behavioural bias of equity mutual fund investors in Kerala exert any influence on their investment performance?

1.4 Objectives of the Study

The present study is undertaken with the following specific objectives:

1. To examine the relationship between the stock market and equity mutual funds in India.
2. To evaluate the trend of the performance of equity mutual funds in India.
3. To assess the nature and extent of behavioural bias among equity mutual fund investors in Kerala and its variability with regard to the identified socio-economic variables.
4. To examine the influence of behavioural bias among equity mutual fund investors in Kerala on their investment performance.

1.5 Hypotheses of the Study

Based on the objectives, the following hypotheses are formulated:

- H1: There exists a long-run relationship between equity mutual funds and the stock market in India.
- H2: The performance of equity mutual funds in India would progress in the future.

- H3: There is a significant difference between behavioural biases with regard to their gender, age, education level, occupation, marital-status, annual income and investment experience.
- H4: There is a significant difference between the investment performance of investors with regard to their gender, age, education level, occupation, marital status, annual income and investment experience.
- H5: There is a significant relation between behavioural biases and the investment performance of equity mutual fund investors.

1.6 Scope of the Study

The present study focuses on analysing the relationship between equity mutual funds and the stock market in India, the trend of the performance of equity mutual funds, the influence of investors' socio-economic factors on various behavioural biases, and the influence of these behavioural biases on the investment performance of equity mutual fund investors in Kerala.

In order to study the relationship between equity mutual funds and the stock market, the net asset values of four types of equity mutual funds and the Sensex for the period 2011–2021 have been considered for the study. For analysing the performance, the daily net asset values of these equity mutual funds for the same period have been used. The study of behavioural biases and investor performance has been limited to equity mutual fund investors in Kerala. Furthermore, the scope of the study is limited to the influence of selected cognitive and emotional biases among equity mutual fund investors in Kerala.

1.7 Significance of the Study

The economic development of a nation depends upon the mobilisation of savings and the flow of these savings to companies. Individuals would benefit from these savings only if they gained profits from their investments. Equity shares are the highest return-generating asset class and their profit from them could beat inflation. However, a great level of knowledge regarding the financial market is required for investors in order to make a profit from it. Investing in equity mutual funds enables them to invest in equity shares with the professional expertise of fund managers and thereby reap the benefits. Hence, it is of paramount importance to examine the relationship between the stock market and mutual funds in India. To assist investors and fund managers in making decisions regarding the selection of funds, it is significant to explore the trend of the performance of equity mutual funds in India.

Kerala is the state with the highest literacy rate in India. However, it is one of the least penetrated states in terms of mutual fund investment. Many investors would be hesitant to invest in mutual funds due to their ignorance of financial markets and the information about losses incurred by their peers. Different behavioural biases may exist among the investors, which may prevent them from earning profits. Therefore, it is imperative to examine the behavioural biases that exist among investors and their variability in accordance with different socio-economic variables.

The returns earned by investors vary from one person to another. Some investors obtain profit from their investments while others incur losses. The investment performance of investors is influenced by many variables. Profits being the key motive for investment, the factors affecting the equity funds' performance have to be analysed. Hence, the influence of investors' socio-economic factors and behavioural biases on their investment performance has to be examined.

1.8 Operational Definitions

Investors

Investors are individuals who make an investment in equity mutual funds with the objective of gaining returns.

Cognitive Bias

Cognitive biases are systematic errors incurred in the way of thinking that lead people to make wrong decisions.

Emotional Bias

Emotional biases occur when the decision-making power of an individual is distorted by his emotions.

Belief Perseverance Bias

Belief perseverance bias refers to an individual's tendency to stick on to his previously held beliefs irrationally or illogically.

Information Processing Bias

Information processing biases are the biases that are incurred when people process information irrationally or illogically.

Investment Performance

Investment performance is the performance of the return (increase or decrease in NAV with respect to NAV on the date of purchase) on the investment.

1.9 Limitations of the Study

The present study is subjected to the following limitations:

- The researcher considers only four types of equity mutual funds and within that, the most performing fund from each category was selected as the sample and the data pertaining to the period 1st January 2011 to 31st December 2021 were considered.

- The study does not cover the entire equity mutual fund investors in Kerala. Data were collected from investors with the help of various stock brokers. Some of the brokers were hesitant to provide the details. It may affect the sampling even though the researcher has taken maximum efforts to make the sample frame comprehensive.

- The researcher used subjective assessment to assess the investors' investment performance. It is done by asking them to compare their current return to the average return of equity mutual funds in the market.

- The present study has not been conducted over an extended period of time having positive and negative movements in the stock market which would be the key influencer on investors' decision-making. Hence, the investors' opinions regarding theirinvestment performance may not be the same always.

1.10 Structure of the Thesis

The whole thesis is divided into nine chapters which are as follows:

Chapter 1: Introduction

The chapter includes a brief introduction of the topic, scope and significance of the study, statement of the problem, research questions, objectives of the study, major hypotheses, operational definitions of important variables, and limitations of the study.

Chapter 2: Literature Review

The chapter includes the existing literature reviews based on the topic under study.

Chapter 3: Research Methodology

The chapter elucidates the detailed methodology adopted for the study, including the research design, sampling design and a brief explanation of the tools adopted for analysis.

Chapter 4: Relationship between the Stock Market and Equity Mutual Funds in India

The chapter includes the analysis regarding the existence of relationship between the stock market and equity mutual funds in India using various econometric analyses.

Chapter 5: Trend of the Performance of Equity Mutual Funds in India

The chapter explains the trend of the performance of equity funds in India using trend analysis and Auto Regressive Integrated Moving Average (ARIMA) model.

Chapter 6: Nature and Extent of Behavioural Bias of Equity Mutual Fund Investors

The chapter covers the profile of investors, various behavioural biases and how it varies among investors with regard to different socio-economic factors.

Chapter 7: Behavioural Bias and Investment Performance among Equity Mutual Fund Investors

The chapter discusses the influence of behavioural bias among investors on their equity fund performance in Kerala.

Chapter 8: Findings and Conclusions

The chapter presents the findings and conclusions emerging from the present study.

Chapter 9: Recommendations

The chapter includes the recommendations, implications and scope for further research.