

Are Financial Markets at all Times Rational?

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Abstract: This paper discusses various reasons why financial markets are sometimes irrational. Rationality implies a cold and calculating approach to choosing investments based on risk versus reward characteristics. A rational market would display a positive correlation between risk and return. However, human beings are subject to various behavioral idiosyncrasies that may be termed “irrational.” This paper will discuss irrational behaviors in the financial market with examples. In conclusion, this researcher finds that financial markets are prone to be affected by short run irrationality.

Keywords: Behavioral Finance, Efficient Markets, Investment Return, Investment Risk Management, Rational investing , Utility Theory.

1. Introduction

Rational decisions in finance involve making choices based on logical and calculated assessments of risk and return. It is crucial to set clear investment goals, evaluate risk tolerance, and conduct thorough research on various investment options. Diversifying one's portfolio across different asset classes, industries, and geographies helps manage volatility and specific risks. Additionally, evaluating fundamental factors and utilizing various analysis methods aid in assessing intrinsic value and determining the reasonable pricing of investments.

However, is it reasonable to assume that the financial market is always rational? In the Finance Market, Behavioral finance combines insights from psychology with traditional financial theory to understand how cognitive and affective biases affect financial decisions. Cognitive biases, such as prospect theory, loss aversion, and anchoring, demonstrate how people make erroneous judgments. Mental accounting, herd behavior, and framing also play a role in investment decisions and market dynamics, often deviating from logical expectations. Recognizing these biases is crucial for understanding investor behavior and the limitations of efficient markets.

2. The Financial Market Is A Complex Interplay of Both Rational and Irrational Behavior

While rationality implies a logical and calculated approach to investment decisions based on risk and return, human behavior often deviates from this ideal and exhibits irrational tendencies. This paper aims to explore the reasons why financial markets are not always rational and delve into the impact of cognitive biases and emotional factors on investment decisions. Initially, a succinct overview of rational and irrational decision-making processes within the realm of finance will be provided. It explores the concept of rational decisions, the important rules followed in making them, and the consequences of irrational behavior. The interplay between rationality and irrationality in financial markets is also examined, highlighting the significance of understanding cognitive biases and emotional factors in investment decisions.

Analysis:

Making sound investment decisions involves a series of steps. Firstly, it starts by setting clear investment goals, whether those goals are focused on capital appreciation, income generation, or wealth preservation. Once the goals are established, it is crucial to assess risk tolerance. Consider factors such as financial stability, investment horizon, and comfort level with volatility. This assessment helps determine the level of risk that is willing to be accepted.

Next, a sound investment involves conducting thorough research on various investment options, including analyzing historical performance, potential risks, and market trends. It is important to ensure that your portfolio is diversified across asset classes, industries, and geographies. This diversification helps reduce the impact of volatility and specific risks.

Furthermore, evaluating fundamental factors, such as financial statements and competitive positioning, is also a crucial part to assess the intrinsic value and long-term prospects of investments. Additionally, investors would utilize technical analysis and other forms of analysis to analyze price patterns and trends. For instance, considering valuation metrics, such as price-to-earnings ratios and discounted cash flow analysis, to determine whether an investment is reasonably priced.

In addition to those internal analysis mentioned above, evaluating external factors including macroeconomic indicators and industry-specific conditions is also essential for investors to predict the potential impact on an investment. Obtaining guidance from professionals, such as financial advisors, can offer valuable expertise and assist in adapting your investment strategy accordingly.

Once investments are made, it is crucial to monitor them regularly, review portfolio performance, and make necessary adjustments as market conditions change. It is important to practice discipline by sticking to the original investment strategy and avoiding impulsive decisions driven by short-term fluctuations or emotions. Maintaining a long-term perspective and adhering to a predetermined plan are key elements of rational decision-making.

It's important to understand fundamental financial theory behind rational decisions and biases. The research paper provides a comprehensive analysis of the importance of various aspects of finance, related to Return on Investment (ROI), Investment Risk^[1], Rational Expectations Theory, Utility Theory^[2], Efficient Markets Hypothesis, and Behavioral Finance.

2.1. Return on Investment (ROI)

Return on investment (ROI) measures are financial metrics used to evaluate the profitability and efficiency of an investment. The two components of return are Capital Growth and Income. Capital Growth refers to the increase in the value of an investment over time. Income may come from interest received on loans, stock dividends, or rent from real estate. The return formula calculates the return as a percentage by dividing the sum of capital growth (exit price minus cost) and income by the initial cost.

Investors may evaluate the performance of their investments by taking into account both the value rise and the income produced. By combining these two elements, investors are able to comprehend the return on their investment according to the capital growth and income components. Nevertheless, the ROI formula has its shortcoming in addressing the time value of money which is also a vital part of investors' financial strategy.

$$\text{ROI} = \frac{(\text{Exit price} - \text{Cost}) + \text{Income}}{\text{Initial cost}}$$

Consider investing \$6,000 in a stock, for instance. Afterwards, if the stock's value increases and you decide to sell it at an exit price of \$7,000, you would earn \$1000 in capital gains. Additionally, if the stock paid a dividend in the meantime, then you may assume that you will earn \$300 in income (interest, dividend, or rent) from the investment during the holding period. The return on investment is 0.22, or 22% (formula: $[(7000-6000)+300] / 6000$). This means that your return on investment is 22% over the given period. Clearly, an investor would prefer to earn 22% in one day rather than in one year or longer. The ROI formula is actually a basic assessment of the profitability of an investment based on the capital growth and income components without taking into account the time value of money.

However, the time factor is crucial in evaluating investment returns because it directly impacts the value and potential profitability of an investment. Two investments with the same ROI may have significantly different outcomes based on the time it takes to achieve the desired return. For example, let's consider two scenarios. Scenario 1 is achieving the exit price in a shorter period (one day) and scenario 2 is achieving the same exit price in a longer period (a month). In Scenario 1, where the exit price is achieved in a shorter period, the investor may benefit from a higher annualized return. The shorter holding period allows the investor to free up their capital sooner and potentially reinvest it in other opportunities. In Scenario 2, where the exit price is achieved in a longer period, the investor may experience a lower annualized return. The longer holding period ties up the capital for a more extended period, limiting the investor's ability to allocate it elsewhere. Therefore, evaluating the cost of time in terms of how long it will take to achieve the exit price and the potential difference in value between achieving it in a shorter or longer period is essential. It helps investors understand the trade-off between time and return, as well as consider the opportunity costs associated with holding an investment for an extended period.

2.2. Investment Risk

When considering an investment, not only is the potential return relevant, but the investment risk is important as well. Investment risk can be defined as the probability or likelihood

that one's actual return will differ from his expected return. There are several types of investment risk: Market risk, Liquidity risk and Inflation risk. Market risk, for example, involves the loss of value due to various economic events that may affect the market as a whole. [1] This includes equity risk, interest rate risk, and currency risk. Liquidity risk is another type of risk that describes the risk of not being able to buy or sell investments quickly enough at a fair price. Inflation risk is the risk that inflation erodes the purchasing power of investment returns over time.

To mitigate these risks, investors often use a management strategy called: Diversification. Diversification involves spreading investments across different assets, sectors, regions or types of investments. It reduces the impact of the risk of any single investment on the entire portfolio. Thus, diversification allows investors to minimize their losses if one investment performs unexpectedly poorly. On the contrary, diversification will also reduce the upside from investments that do unexpectedly well, since the diversification tactic reduces the proportion of the portfolio invested in high-performing basket. Essentially, diversification is an effective measure to significantly increase the likelihood of realizing an approximate average expected return, as well as reducing the return variability or riskiness of the portfolio.

With effective risk mitigation strategies such as diversification, when it comes to making investment decisions on whether or not or to what extent investors would take on risk mitigation strategies, the decisions could vary case by case. An investor's risk tolerance is an important factor in determining how they invest. Risk tolerance refers to a person's ability and willingness to accept and tolerate deviations from one's expected return in comparison to the actual return. This includes both the possibility that one's actual return will be greater than and less than the expected return. Thus, this possible deviation represents investment risk. The investor who can not tolerate risk will choose an investment whose possible deviation will be as close to zero as possible. A risk taker will choose an investment with a high potential deviation in order to achieve a return that is greater than expected. This risk tolerance could vary from person to person because the ability to take advantage of risk is based on an individual's financial goals, time horizon and personal risk appetite. Some investors are risk-averse and prefer safe assets with slightly lower expected returns, while others are risk-tolerant and are willing to invest in risky assets with potentially high returns. An investment with low expected return will have a higher probability of being realized while an investment with high expected return is more volatile.

In addition to risk acceptance, which varies from person to person, the outcome of the risk assessment and risk-reward tradeoff is a factor that investors will certainly consider. Risk assessment allows investors to make the most informed decisions and to align their investments with their risk tolerance. The other factor risk-reward tradeoff refers to the investments with higher potential returns are generally accompanied with higher levels of risk. Therefore, to make rational decisions, Investors need to consider both their risk tolerance and investment goals because higher risk investments often have a greater potential for disappointment and possibly loss.

Investors typically use several metrics to assess the risk associated with their investments. One such metric is the beta measure, which provides an indication of the volatility of a stock or investment relative to the overall market. A beta

greater than one suggests higher volatility, meaning that the investment is expected to have larger price swings compared to the market. Conversely, a beta less than one indicates lower volatility, implying that the investment is expected to be less affected by market fluctuations. By considering the beta, investors can gauge the potential risk and volatility associated with an investment.

Another commonly used metric is the standard deviation, which quantifies the historical volatility of an investment's returns. A higher standard deviation suggests greater price volatility and higher risk. This metric provides insight into the range of potential returns and the likelihood of experiencing significant price swings. Investors often prefer investments with lower standard deviations as they indicate more stable and predictable returns.

The Sharpe ratio is a risk-adjusted return measure that takes into account both the excess return of an investment relative to the risk-free rate and its standard deviation. By dividing the excess return by the standard deviation, the Sharpe ratio provides a measure of how well an investment has performed in relation to the level of risk taken. A higher Sharpe ratio indicates a better risk-adjusted return, as the investment has generated higher returns relative to its volatility.

Liquidity ratios assess a company's ability to meet its short-term financial obligations. They measure the company's ability to convert its assets into cash to cover its debts. Higher liquidity ratios indicate a greater ability to handle financial obligations and mitigate risk. Investors often consider liquidity ratios to evaluate the financial health of a company and its capacity to manage unforeseen events or economic downturns.

Credit ratings assigned by credit rating agencies also play a crucial role in assessing investment risk. These ratings provide an evaluation of a company's creditworthiness and the risk of defaulting on its financial obligations. Ratings such as AAA, AA, A, BBB, and so on, provide an indication of the level of risk associated with investing in a particular company's debt instruments. Investors consider credit ratings as a measure of credit risk and use them to make informed decisions regarding the risk-return tradeoff of their investments.

Furthermore, investors evaluate legal and compliance risk by considering regulatory and compliance metrics. These metrics assess a company's adherence to regulatory requirements and compliance standards. By assessing a company's compliance track record and its ability to navigate legal challenges, investors can gain insights into the potential risks associated with legal and regulatory non-compliance.

In summary, investors utilize a range of metrics including beta, standard deviation, Sharpe ratio, liquidity ratios, credit ratings, and legal and compliance metrics to assess the risks associated with their investments. These metrics provide valuable insights into the potential volatility, risk-adjusted returns, financial stability, creditworthiness, and regulatory compliance of an investment, enabling investors to make informed decisions and effectively manage and mitigate risks.

2.3. Utility Theory

Investors often feel different levels of satisfaction or dissatisfaction from equal amounts of gain/loss. People do not necessarily experience the same amount of satisfaction from gains as dissatisfaction from losses. The extent of each of these emotions are not always equal or "symmetric."

The economic term, "Utility," quantifies levels of satisfaction or value individuals derive from consuming goods or experiencing investment outcomes. In a way, this notion helps explain why some investors may choose risk versus reward ratios that differ from others' ratios. It suggests that people make decisions based on maximizing their overall utility or happiness. [2] The emergence of the pleasure (gain)/pain (loss) phenomena is connected to this idea. When investments provide positive returns or profits, investors feel a pleasant emotional or psychological satisfaction known as "return-pleasure." Contrarily, investors may also experience "loss-pain." The investor's goal to maximize their utility through a profitable investment produces this pleasure.

The dynamic between risk and suffering is significant in the world of investments. Risk is the chance of a poor result or losing anything. The unpleasant feelings or psychological anguish that investors go through when their investments lose money or don't perform as expected are included in the loss-pain relationship in the form of negative utility. There is also the risk-return ratio, which was previously highlighted. When the risk-reward ratio is higher, more risk is being taken in search of a possibly larger return.

Risk-takers, that is, individuals or investors who are willing to assume higher levels of risk in pursuit of potentially higher returns, are often more accustomed to uncertainty and are ready to face the danger of losing money in return for a higher chance of success. Investors who are risk-averse, on the other hand, are less risk tolerant. They will feel the anguish of a loss more than the pleasure of an equal valued investment gain and are thus less willing to accept risk and will even sometimes choose outcomes with lower expected values if they are less risky. Since capital retention is their top priority, these individuals may opt to invest in safer, consistent, and lower-return investments.

2.4. Rational Expectations Theory

People will adjust their calculations of risk and return upon the release of new information. This phenomenon is captured by the Rational Expectations Theory, which states that because people make decisions based on the available information at hand and that people typically choose the best course of action based on their knowledge and experience, and assessment of the risk versus reward tradeoff. In general, people, being rational beings, will not take on any risk unless they are rewarded with more expected return. Risk makes most people feel uncomfortable. The greater the risk, the more return an investor will demand in order to compensate for the risk. Therefore, return and risk are positively related to one another.

The Security Market Line (SML), on the other hand, is a financial model used to assess a company's valuation in relation to its projected profits. It aids investors in estimating a security's worth based on its risk and possible return. When assessing investment possibilities, investors often take into account this risk-return trade-off in order to balance the possible return with the degree of risk they are willing to take.

Rational expectations theory, risk-return correlation, and the Security Market Line (SML) are interconnected concepts that collectively contribute to understanding and assessing the relationship between investors' expectations, risk and return, and the efficient pricing of securities in the market.

2.5. Efficient Markets Hypothesis

The Efficient Markets Hypothesis (EMH) states that at all times security prices reflect correct and accurate values for the relevant assets. Values are based on what is known about those assets. In the “weak form” of the EMH, prices reflect all known historical information. In the “semi-strong form” of the hypothesis, the concept of “information” is extended to include all contemporary information. When new information comes into the market, it is immediately reflected in stock prices and in theory no one should be able to consistently earn a return that exceeds what the market allows based on rational expectations and the risk return ratio. It is assumed that all market participants act rationally on the same information. The “strong form” of the EMH extends the definition of information to what many consider an absurd level, that is, to include nonpublic information. As a result, researchers have claimed that markets reflect accurate prices at all times.

The EMH is clearly based on Rational Expectations Theory. Investors are assumed to consume information, however defined, in a purely rational and always coldly objective way. Imagine a publicly traded company issuing a quarterly report outside of market trading hours. This report contains key information about the company's financial performance, future prospects and other relevant details. By releasing the report outside of trading hours, the company allows investors ample time to review the material and digest its contents.

Assume the company releases a quarterly report that contains positive news, such as higher-than-expected earnings, significant revenue growth, and a positive outlook for the next quarter. Since this information is considered valuable and may affect the value of the company, investors with access to the report will analyze it and form positive expectations for the stock. When the market opens on the next trading day, these investors, armed with positive information, will buy the company's stock. The increased demand for the stock causes its price to rise, reflecting the positive impact of the new market information. Throughout the trading day, as more and more investors learn of the news, the stock's price continues to rise until it reaches a level that reflects the perceived value of the company based on information from the quarterly report.

This example demonstrates the efficiency of the market. Even though the company released the report outside of trading hours, once trading resumed, the market quickly incorporated the new information into the stock price. Investors react quickly to the good news, causing the price to jump immediately, reflecting the perceived increase in the company's value.

3. Behavioral Finance

People are not computers or robots, they are prone to error, computation deficits and emotional misdirection. Behavioral Science lends insight into why markets are not always as efficient as the EMH would have us assume and how financial decisions could be affected by short-run irrationality.

In addition to the fundamental theory and evaluation models discussed earlier that explain the basis for decision-making in the financial industry, there are also cognitive and emotional factors that influence investment decisions. To understand how cognitive and emotional biases influence financial decisions, the field of study known as “Behavioral Finance” integrates ideas from psychology and economics. It aims to shed light on why people invest in financial markets

and how they manage their finances. Traditional financial theory assumes that people are logical and seek to maximize profits. All their judgments are based on all available data. Investors are assumed to have the same analytic tools. By pointing out the numerous cognitive and emotional factors that can influence human behavior and lead to systematic deviations from rationality, behavioral finance challenges the assumptions of traditional financial theory. There are many different idiosyncratic behaviors, which modify purely rational behavior. “Prospect Theory,” “Anchoring,” “Mental Accounting,” “Herd Behavior,” “Framing,” “Asymmetric Information,” “Myopia,” “Emotional Gap,” and “Self-attribution,” will be discussed below.

3.1. Prospect Theory

The first to be discussed is “Prospect Theory.” This theory stresses that people base their actions on possible profits and losses rather than the final result. Prospect theory states that when faced with possible losses, people prefer to behave risk averse because they are more fearful of losses than hungry for benefits. This characteristic, known as Loss Aversion, emphasizes people's strong preference for avoiding losses.

Suppose you are considering investing in a stock. Now, there are two possible outcomes. In Scenario A, you have a 50% chance of gaining \$1,000 and a 50% chance of losing \$500. In Scenario B, you have a 100% chance of gaining \$250 and a 0% chance of losing money. From an objective point of view, the expected value of both options is \$250. The expected value is calculated as the average of the two possibilities. Thus, traditional financial theory suggests that rational individuals would be indifferent to either option.

However, Prospect Theory and Loss Aversion suggest that individuals may exhibit biased decisions based on potential gains and losses. When it comes to potential losses, people tend to be risk-averse and more sensitive to losses than gains. In this case, most, but not all people are likely to choose Scenario B, despite having a lower potential gain. However, the thought that Scenario A may yield a loss is undesirable on a psychological level. Scenario B, the \$250 guaranteed return ensures that potential losses are avoided. Loss aversion leads individuals to prioritize avoiding losses over maximizing gains, even if this means settling for a lower expected value.

This researcher conducted a survey to test out Prospect Theory and Loss Aversion. In all, 25 individuals were presented, by means of Wechat, the choice of Scenario A or Scenario B. The participants' age ranges varied from 20 to 60 years old. The survey was conducted through WeChat and lasted for a period of one week. Participants were presented with the choice between Scenario A and Scenario B and were asked to select their preferred option. The results of the survey, represented in the pie chart below, provide insights into the decision-making tendencies of individuals across different age groups in relation to Prospect Theory and Loss Aversion.

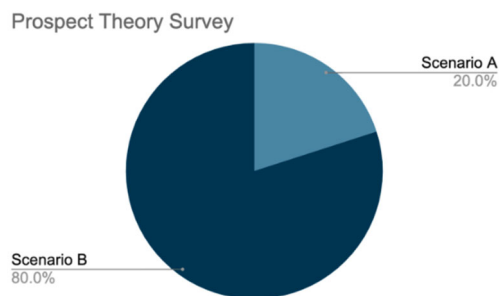


Figure 1. Prospect Theory Survey

The survey data shows most people (80%) prefer Scenario B. A possible reason for responders to choose Scenario B is the low tolerance for the risk of Scenario A. They prefer a guaranteed gain over a potential loss. In Scenario B, there is no chance of losing money, which provides a sense of security and peace of mind. Another possible reason is the stability and predictability of Scenario B. Scenario B offers a certainty for respondents. This predictability can be attractive to individuals who prefer a stable outcome rather than facing the uncertainty of potential gains or losses in Scenario A.

The most important reason for responders to choose Scenario B is affected by psychological factors. Emotional and psychological factors can play a significant role in decision-making. Some respondents may feel more comfortable and less stressed when they know they cannot lose money. When collecting answers to the questionnaire, one respondent gave the following reason: "I chose Scenario B because I think those who are content are always happy. I would rather get some benefits than choose a bigger adventure to get more." The peace of mind that comes from the absence of risk can outweigh the potential for higher gains in Scenario A.

The rationale for those who chose Scenario A is that they believe that from a long-term investment perspective, they would prioritize maximizing potential returns over short-term stability. Although Scenario A involves the risk of loss, over time, Scenario A has the potential for somewhat higher live returns. These people are more tolerant of risk.

3.2. Anchoring

Another cognitive bias that can significantly influence financial decisions is "Anchoring." When making future judgments or conclusions, people often rely primarily on the first information they encounter. This bias can have a significant impact on how investors evaluate assets in the financial sector. For example, if an investor reads a news article stating that the target price for a stock will be high, he may attach his expectations to that target and base his investment decision on it. However, because investors may not fully consider other relevant information or revise their expectations in light of new evidence, this bias may lead to a distorted or incorrect assessment of an asset's actual value. For example, investors may not thoroughly analyze the financial statements, earnings growth, competitive positioning, or management quality of the company issuing the stock. Focusing solely on the initial target price can overshadow these critical factors.

There are some effective ways that can help people to avoid "anchoring" behavior. One way is to actively seek alternative ideas and perspectives. By considering a variety of perspectives, you can broaden your thinking. Participating in brainstorming sessions, consulting with colleagues or industry experts, or attending investment forums can provide valuable insights and help break the impact of the information you initially encounter.

In addition, conducting comparative analysis of similar assets or investments can provide a broader context and prevent fixation on one reference point. For example, during a study, car experts were tasked with evaluating whether a specific car's resale price, known as the anchor, was considered too high or too low. Subsequently, they were required to offer their own estimate for a more accurate resale price. However, prior to providing their own price, only half

of the experts were instructed to generate arguments that countered the anchor price. Surprisingly, the participants who had engaged in developing counter arguments exhibited a reduced influence of the anchoring effect when compared to those who had not been involved in generating counterarguments. This finding suggests that actively considering opposing viewpoints and formulating counterarguments can diminish the impact of anchoring bias on experts' judgments and estimates[3].

3.3. Mental Accounting

"Mental Accounting" is a cognitive phenomenon that involves the process of categorizing financial resources into different mental accounts based on subjective criteria. In this process, each account is assigned a specific purpose or value, leading individuals to make financial decisions based on these categories rather than considering the overall financial situation. This can lead to some irrational behavior, as people may treat money based on the mental account to which it belongs.

For example, people may be more inclined to spend unexpected gains (such as tax returns, work bonuses, or lottery winnings) on indulgent purchases rather than saving or investing, while being more conservative with their regular income, for example salary. When Mental Accounting prevents individuals from considering their overall financial situation and making decisions that are consistent with their long-term goals, it can lead to suboptimal financial outcomes.

To avoid the pitfalls of "Mental Accounting," several strategies can be used to make more rational financial decisions.

First, it is beneficial to adopt a holistic financial perspective. Rather than segregating funds into separate mental accounts, it is better to consider the overall financial picture and evaluate decisions in light of the big picture. Second, setting clear financial goals and aligning decisions with those goals can help maintain focus and prevent siloed thinking. By looking at long-term financial plans, individuals can make more informed choices rather than being swayed by specific account balances.

Self-reflection is also critical. Periodically examine financial decisions and consider whether mental accounting biases are influencing choices. Being aware of these biases can help correct them and make more rational decisions.

Finally, seeking the professional advice of a financial advisor or planner can provide an objective perspective and assist in developing a holistic financial strategy. By employing these strategies, individuals can mitigate the effects of mental accounting and make more rational and holistic financial decisions.

3.4. Herd Behavior

An intriguing phenomenon that often occurs in financial markets is "Herd Behavior." It occurs when people imitate the behavior or decisions of a larger group, often without doing their own independent analysis or using their own judgment. This situation leads to inefficient markets and sometimes irrational price fluctuations. Market bubbles, where the value of an asset rises far above its intrinsic value, may be induced through herd behavior. Participants focus more on herd behavior than on analyzing the underlying problems, which can lead to market dynamics that are divorced from reality. One example of this phenomenon occurs when investors follow the investing decisions of famous investors such as

Warren Buffett. When Buffett makes a comment on a stock or announces he has invested in a stock, it can have a significant impact on the short run trading price of the stock.

To avoid “Herd Behavior,” individuals can take several steps to make more independent and rational decisions.

First, it is critical to conduct thorough research and analysis. Rather than blindly following the herd, individuals should gather information from multiple reliable sources and critically evaluate the data before making an investment or financial decision. Second, it is critical to maintain a long-term perspective. Individuals should focus on their financial goals, risk tolerance and investment strategy rather than being swayed by short-term market trends or the actions of others. By sticking to their goals, individuals can avoid making impulsive decisions based on the actions of others. In addition, seeking different perspectives and opinions can provide a more balanced perspective. Discussions with trusted advisors, experts or financial professionals can provide alternative insights. Finally, individuals should trust their own judgment and not be easily influenced by the fear of missing out or the pressure to conform.

3.5. Framing

A cognitive bias known as “Framing” involves presenting or constructing information in a way that may affect how the receiver of the information perceives and reacts to it. Different “frames” can elicit different emotional responses and cognitive biases, which can lead to different conclusions and perceptions. The way risk or investment choices are presented in finance may have a significant impact on investor behavior.

For example, if an investment is presented as having a large potential return, investors may increase their interest and choose to invest. However, if the investment is presented as dangerous or unstable and uncertain, that may deter investors from investing. People's risk tolerance and desire to engage in particular financial activities are strongly influenced, often incorrectly, by the way information is presented.

For example, consider the business case of a company that strategically packages information to artificially increase its stock price. By framing the message in a way that highlights the potential for sizable returns, the company may be able to attract investors who are attracted to the prospect of sizable profits. Such packaging can cause the cognitive “Framing” biases through creating a positive perception of the investment and stimulating investor interest.

Conversely, if the same investment is portrayed as high risk, volatile or uncertain, it may deter investors. The portrayal of risk can evoke fear or apprehension in investors, which can lead them to perceive the investment as unfavorable or uncertain. Thus, risk framing can affect investors' risk tolerance and willingness to engage in particular financial activities.

It is important to recognize that people's reactions to investment opportunities are often influenced, sometimes incorrectly, by the way information is presented. The way it is presented can capitalize on people's cognitive biases and emotional responses, which can lead to poor decision-making. Investors need to be vigilant in critically evaluating the information they are presented with and using the framework to objectively assess potential risks and potential rewards.

By being aware of the potential biases introduced by the framework, investors can take steps to mitigate their impact. They can seek out multiple sources of information and

perspectives and actively engage in research and analysis to gain a comprehensive understanding of investment opportunities. By considering a variety of perspectives, investors can counteract the effects of biased or framed presentations and make more informed decisions.

In addition, investors can adopt a systematic and disciplined approach to decision-making, focusing on a comprehensive assessment of the investment opportunity rather than succumbing to an emotional reaction caused by framing. They can also implement risk management strategies such as diversification and asset allocation to mitigate the impact of the performance of any single investment.

In summary, “Framing” plays an important role in shaping investor behavior by influencing perceptions of and reactions to investment opportunities. Investors should be aware of the potential biases introduced by framing and take proactive measures to mitigate their impact. By seeking multiple perspectives, conducting comprehensive assessments, maintaining a disciplined approach, and staying informed, investors can make more objective and informed decisions and ensure that their investment choices are based on sound analysis rather than biased statements.

3.6. Asymmetric Information

“Asymmetric Information” emphasizes the knowledge gap between transaction participants. When one party has more or better knowledge than the other, there is the potential for an unfair advantage. When the party with more information decides to participate in a transaction that is more advantageous to them, the information advantage can expose individuals with less knowledge to potentially damaging outcomes. Information asymmetries can lead to inefficiencies in financial markets, which also impede transparency and fairness. Depending on which side of the transaction has the informational advantage, the price of the exchange may be either too high or too low. In order to create a more level playing field for market participants, the rules and procedures for information disclosure need to be modified to address this issue.

3.7. Myopia

The term “Myopia” in finance refers to a person's short-sightedness or greater emphasis on immediate results at the expense of potential long-term effects and larger concerns. Because a focus on short-term gains or quick profits is a classic sign of financial myopia, investors may ignore the value of long-term investment approaches or the fundamentals of the assets they invest in and focus excessively on short-term market fluctuations or speculative opportunities.

As a result of this myopic tendency, investors may be more likely to make impulsive buying and selling decisions based on short-term market fluctuations rather than good analysis. The key for people and market participants to make better educated and thorough financial decisions is to recognize and overcome the myopic tendency. This requires taking a long-term view, thinking about the impact decisions may have on others, and weighing current desires against long-term goals. This requires discipline.

3.8. Emotional Gap

In Behavioral Finance, the concept of an “Emotional Gap” refers to the difference between a purely rational decision and the actual decision made based on emotions. It recognizes that

humans are not purely rational beings. Emotions such as fear, greed, and overconfidence can severely influence investment decisions, often leading to suboptimal outcomes. The Emotion Gap highlights the importance of understanding and managing these emotional biases in order to make more informed and objective financial choices.

Let's consider a situation in which the stock market experiences a sharp drop in a few days due to negative economic news. Rational analysis suggests that this temporary downturn may provide an opportunity for long-term investors to purchase stocks at a discount. However, as individuals often react based on fear, anxiety, and panic, emotional gaps arise. During such market turmoil, emotions may overwhelm rational decision-making. Investors may succumb to the urge to sell their holdings, fearing further losses and wanting to protect their capital. This emotional response may lead to a surge in selling activity, exacerbating the market's decline.

Conversely, an emotional gap can also manifest itself in the form of greed during a market boom. When markets are on an upward trajectory and investors witness others making large profits, excitement and overconfidence can influence individuals to jump into the market without considering fundamentals or potential risks, leading to irrational investment decisions and even market bubbles.

3.9. Self-attribution

“Self-attribution” refers to the tendency of individuals to attribute the success of their investments to their own skills or decision-making abilities, and to attribute their failures to external factors or bad luck. Many people think very highly of themselves. When investors experience positive outcomes, such as high returns on their investments, they tend to attribute them to their own superior knowledge or expertise. On the other hand, when faced with a negative outcome, investors tend to attribute it to factors beyond their control, such as market fluctuations or unforeseen events. This tendency to avoid taking personal responsibility for losses can prevent learning from mistakes and lead to a reluctance to adjust investment strategies. Recognizing the impact of the self-attribution bias is critical for investors to maintain a more balanced and objective perspective, allowing for a more realistic assessment of their capabilities and the risks involved in their investment decisions.

Suppose an investor chooses a specific stock and does exceptionally well, resulting in a large gain. The investor may attribute this success to their own skill in conducting thorough research, analyzing market trends, and making astute investment decisions. Then, self-attribution bias may lead investors to feel highly confident in their own abilities. They may attribute positive results solely to their own expertise, ignoring factors such as broader market trends or luck. This overconfidence may prompt them to take more risk or make subsequent investment decisions without performing the same level of thorough analysis.

Conversely, if the same investor picks an underperforming stock and incurs significant losses, they may be quick to blame external factors beyond their control for their failure. They may blame the overall market downturn, unforeseen events, or even the actions of other market participants. By externalizing responsibility, investors can avoid taking personal responsibility for poor investment decisions and the resulting losses. Self-attribution prevents investors from learning from their mistakes.

4. Conclusion and Summary

The Financial Market is not always rational, it's a blend of both rational and irrational behavior. We have presented reasons for financial markets' not always being rational. While rationality implies a logical and calculated approach to investment decisions based on risk and return, human behavior often deviates from this idea and exhibits irrational tendencies. People often exhibit cognitive failures and emotional biases. This paper examined fundamental financial concepts first and delved into irrational behaviors and bias with various examples. For example, “Prospect Theory,” “Anchoring,” “Mental Accounting,” and “Herd Behavior,” etc.

To further scrutinize how rationality shaped the financial market, this paper demonstrated that rationality plays a significant role in shaping the financial market, but it is influenced by various cognitive biases and emotional factors. While theories and valuation metrics such as ROI, risk-return correlation, and the EMH provide frameworks for understanding investment decisions and market efficiency, it is essential to consider the human element and behavioral aspects that can deviate from strict rationality. By acknowledging these biases and employing strategies to mitigate their impact, investors can make more informed and rational financial decisions, contributing to a more efficient and resilient market.

This essay delved into Behavioral Finance to evoke the idea that irrationality could subconsciously impact financial decisions through cognitive and emotional biases. It challenges the assumptions of traditional financial theory, and emphasizes the importance of understanding these biases to make informed investment decisions. We were thus able to conclude that markets are not always rational.

Overall, the essay provided a comprehensive analysis of various aspects of finance and behavioral factors that contribute to the irrationality of financial markets. It shed light on the complexity of investment decision-making and emphasized the significance of understanding human behavior to navigate the challenges of managing investments successfully. Investors who wish to avoid the pitfalls of irrational behavior must understand the interaction of behavioral biases and rationality. In this way investors can better understand the complexity of financial markets and improve their investment strategies by incorporating behavioral finance ideas into traditional financial theory. Investors can improve the quality of their decisions and get closer to achieving their financial goals by being aware of the impact of cognitive and emotional biases.

To reduce cognitive biases associated, this essay offered a few suggestions to help investors recognize their own behavioral patterns better:

By conducting a comparative analysis, investors can reduce bias in decision making. This involves comparing different investment options, considering their strengths and weaknesses, and evaluating their risks and rewards.

Investors can reduce bias by considering both long-term and short-term factors. Short-term factors can trigger emotional reactions and cognitive biases, while long-term factors are more revealing of an investment's potential risks and rewards. By evaluating an investment opportunity over a broader time frame, investors can avoid focusing on short-term fluctuations and evaluate the viability of an investment more holistically.

Investors can reduce bias by adopting an evidence-based approach to decision-making. This means relying on reliable data, research, and empirical evidence, rather than relying solely on emotion or subjective judgment. Adopt an evidence-based approach to decision-making which means relying on reliable data, research, and empirical evidence, rather than relying solely on emotion or subjective judgment.

Seeking peer review and professional consultation is an effective way to reduce bias. Interacting with other investors, professionals or financial advisors to share opinions and perspectives can provide feedback and advice from a wider range of perspectives. This helps investors broaden their perspectives, evaluate investment opportunities more fully, and benefit from the experience and expertise of others.

Investors should continue to learn and improve their self-awareness to minimize the impact of bias. By learning about behavioral finance and recognizing their own emotional and cognitive biases, investors can better recognize their own weaknesses and take appropriate steps to avoid these biases. Continuous learning and self-reflection help investors grow and improve the quality of their decisions.

5. Suggestions for Further Research

While this paper offers reasons for financial markets' being irrational, the extent of its irrationality has not been determined. We now know merely that markets are not always rational. Does that mean that markets are not efficient? Future researchers may consider or list behavioral idiosyncrasies not considered herein.

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