The Foundations of Behavioral Finance—Learning and Elaborations of the Basic Theories

Luhan Gao

Class 42, Shenzhen Middle School, Shenzhen, China
Email: luhan.gao2006@gmail.com

Abstract

This paper explores the fundamental concept of Behavioral Finance and how it relates to an individual's decision-making in regard to the balance between risk and return. A literature review was conducted, drawing from academic concepts in books and online resources, as well as data collected from online websites. The aim of this review is to build a foundation of knowledge in the study of Behavioral Finance. The theories discussed include Rational Expectation Theory, Efficient Market Hypothesis, Utility Theory, Prospect Theory, Loss Aversion, Anchoring, Mental Accounting, Framing, and Asymmetric Information. The next step is to analyze and synthesize the information, identifying key concepts and principles of each theory, exploring their implications, and examining their interrelations. Additionally, real-world examples and case studies will be considered to illustrate the application of these theories in practice. The ultimate goal is to develop a nuanced and in-depth understanding of the field of Behavioral Finance, its relevance to individual decision-making, and its impact on financial markets.

1. Introduction

Behavioral finance is a field of study that combines elements of psychology and economics to understand how individuals make financial decisions. This paper aims to delve into the fundamental aspects of Behavioral Finance and shed light on how it influences individuals' choices in managing the equilibrium between risk and return, thereby discovers the research problem of the connection between human behaviors and financial decision-making.

The primary objective of this review is to establish a solid knowledge base in the study of Behavioral Finance. By analyzing various theories such as Rational Expectation Theory, Efficient Market Hypothesis, Utility Theory, Prospect Theory, Loss Aversion, Anchoring, Mental Accounting, Framing, and Asymmetric Information, this paper seeks to identify and elucidate the key concepts and principles that underpin these theories. Furthermore, it endeavors to scrutinize their implications, as well as examine the interconnectedness that exists among these theories.

In this paper, to enhance the practical relevance of the study, real-world examples and case studies will be utilized, providing a clearer and more understandable explanation to each theory.

2. Principles upon Which Behavioral Finance Is Based

In this section, certain "psycho-economic" principles affecting decision making will be covered. These principles serve as the basis for Behavioral Finance. We may think of Behavioral Finance as an expansion of earlier notions, which explains why outcomes are not more in line with theoretical expectations.

3. Analysis

Before In Behavioral Finance, almost most of the decisions and behaviors of investors are affected by risk and return. To discover the principles behind their behaviors, we need to know the relationship between risk and return. The meanings of the terms "Return" and "Risk" are explained below.

4. Data and Methods

The methodology employed in this study involved conducting a comprehensive literature review to gather relevant information and insights. The following steps were taken:

1) Identification of Sources: Academic concepts and theories related to the field of study were identified as the primary focus. This involved searching for scholarly books, research papers, and reputable online resources that discuss behavioral finance and its various theories and principles.

2) Literature Review: A systematic review of the selected sources was conducted. This involved critically analyzing the content, identifying key concepts, theories, and empirical evidence related to behavioral finance. The review aimed to provide a comprehensive understanding of the subject matter and establish a solid foundation for the study.

3) Data Collection: In addition to academic literature, data was collected from online websites to supplement the information gathered from scholarly sources. These online resources could include financial news websites and market data platforms. The collected data was used to support and enhance the understanding of behavioral finance concepts and their practical applications.

4) Evaluation and Synthesis: The information obtained from the literature re-

view and data collection was carefully evaluated and synthesized. Key concepts, theories, and empirical findings were identified, and their interrelations and implications were explored. This process involved organizing the information in a coherent and logical manner to facilitate a comprehensive analysis of behavioral finance.

4.1. Selection Criteria for Online Resources

Relevance: Online resources should be directly related to the field of behavioral finance, covering topics such as cognitive biases, decision-making, investor behavior, and market anomalies. They should provide valuable insights and information that contribute to the understanding of behavioral finance concepts.

Credibility: The selected online resources should come from reputable and reliable sources. Academic institutions, established financial organizations, reputable news outlets, and recognized industry experts are examples of credible sources. It is important to prioritize sources that have a strong reputation for accuracy and integrity.

Timeliness: The selected online resources should be up-to-date, reflecting the latest developments and advancements in the field of behavioral finance. This is particularly important in a rapidly evolving field where new insights and research findings emerge regularly.

4.2. Potential Limitations or Biases

Language: The selection criteria may unintentionally favor resources published in English, potentially excluding valuable research published in other languages. This could result in a limited perspective and overlook important contributions from non-English sources.

Access: The criteria may inadvertently favor resources that are more easily accessible online, potentially excluding valuable research behind paywalls or limited to specific academic institutions. This could introduce a bias towards freely available information and limit the inclusion of diverse perspectives.

Publication Bias: The criteria may unintentionally favor resources that have been published in prestigious journals or by well-known researchers. This could lead to a bias towards established viewpoints and potentially overlook emerging or alternative perspectives.

Confirmation Bias: There is a risk that the selection criteria may unintentionally favor resources that align with pre-existing beliefs or theories, potentially overlooking contradictory or alternative viewpoints. This could introduce a bias towards confirming existing ideas rather than considering a wide range of perspectives.

5. Analysis
5.1. Risk and Return

In Behavioral Finance, almost most of the decisions and behaviors of investors

are affected by risk and return [1]. To discover the principles behind their behaviors, we need to know the relationship between risk and return. The meanings of the terms "Return" and "Risk" are explained below.

5.1.1. Risk

Risk is the chance that an outcome or investment's actual gains will differ from an expected outcome or return. In other words, risk is the probability that the investors will earn more or less than expected. This includes the possibility of loss.

Generally speaking, risk can be divided into two parts: systematic risk and unsystematic risk. Systematic risks, also known as market risks, are risks that can affect the whole economic market. This kind of risk occurs due to some factors like political risk and macroeconomic risk, so it cannot be easily mitigated through human factors. Systematic risks include interest rate risk, currency risk, liquidity risk, and so on.

Likewise, unsystematic risk, also known as specific risk or idiosyncratic risk, just often affects a specific industry or company. This is the kind of risk of having loss because of industry or company hazards. For instance, managing errors and consumer behaviors can affect the sales or market shares of a company. To deal with this problem, investors use diversification to manage it by investing in a variety of assets [2].

5.1.2. Return

Return is the amount of money made or lost expressed as a percent relative to the original investment. It is usually articulated in annual terms. A positive return represents the percentage of profits, while a negative return represents the percentage lost on investments.

"Return on Investment" (ROI), is a common way investors measure return. ROI is percentage or ratio and is calculated as followed:

$$\text{ROI} = \frac{\text{Current Value of Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

ROI can be misleading for long-term investments because it does not account for the time value of money (a sum of money is worth more now than the same sum in the future because of its earning potential in the interim)—time value of money will change as the time passes due to several inevitable reasons such as inflation or deflation.

Other financial metrics such as NPV (Net Present Value) takes into account the time value of money and is more appropriate for evaluating long-term investments. NPV is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. In other words, it calculates the value of an investment by comparing the money you have to spend today with the expected cash flows in the future [3].

The formula for calculating NPV is:

$$\text{NPV} = \frac{\text{Cash Flow}}{\left(1+r\right)^t} - \text{Initial Investment}$$

where,

Cash Flow: the amount of cash generated by the investment in each period.

r: the discount rate or the rate of return that could be earned on an alternative investment of similar risk.

t: the number of time periods.

5.1.3. Risk vs. Return

In investing, risk and return are highly correlated. The relationship between them shows a positive slope. As risk increases, expected returns go higher. When risk decreases, expected returns will decrease. Therefore, a higher-risk investment has a higher potential profit but also a potential for greater loss. We refer to this relationship as "the risk-return trade-off".

Standard deviation is a measure of the dispersion of a data set relative to its mean. It can be depicted as the symbol: σ. The greater the standard deviation, the greater the chance that the actual return will differ from the expected return. When we analyze the relationship between risk and return, the risk, the lateral axis in Figure 1 (below), can be described as standard deviation.

5.2. Rational Expectations Theory

Rationality is the quality of being guided by reason. In finance, it simply means that when people make choices, they will choose to simultaneously minimize risk while maximizing expected returns. We speak of this as "optimizing the risk-return relationship".

Rational Expectations Theory states that generally, we can predict future conditions accurately by absorbing all available information. The theory posits that individuals make decisions based on three primary factors: rationality, the information available to them, and their past experiences. People often make decisions from information such as the things that occurred before or are happening right now, and the policies the government has implemented. The theory of Efficient Markets discusses how information is processed by individuals and then acted upon.

Security Market Line is the graphical representation of the capital asset pricing model (CAPM)—which shows different levels of systematic risk of various marketable securities. In Figure 2, SML shows the expected return using all available information to predict the future. The x-axis implies risk in beta, and the y-axis represents the expected return.

Above the line are the portfolios outperforming the market and they are undervalued. Below the line are the portfolios underperforming the market which are overvalued.

5.3. Efficient Market Hypothesis

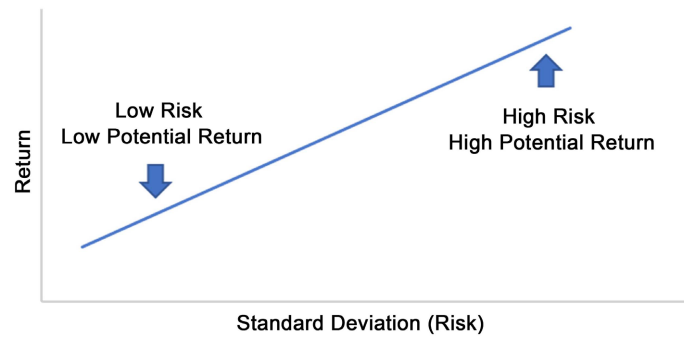Efficient Markets Hypothesis states that all information relevant to stock prices

Figure 1. Risk-Return Trade-off (MI Research team, 2018) "The Risk-Return Trade-Off." Modelinvesting.com. Retrieved from https://modelinvesting.com/articles/the-risk-return-trade-off/.
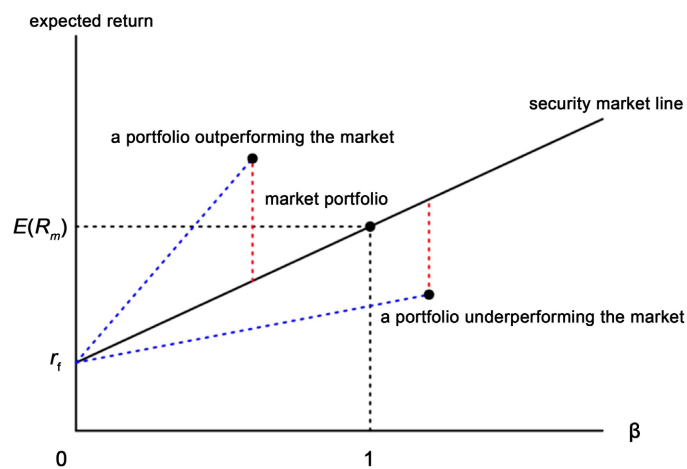

Figure 2. Security market line (2022, October 19). In Wikipedia. Retrieved September 16, 2022, from https://en.wikipedia.org/wiki/Security_market_line.

is freely available, shared simultaneously with all market participants, and acted upon. In other words, share prices reflect all available information, and consistent alpha generation is impossible.

The excess return of an investment relative to the return of a benchmark index is the investment's alpha. Alpha may be either positive or negative. Explained in **Figure 2**, alpha is the excess part of the normal return, which is the distance from the exact point of the return to the point on SML with the same amount of risk. Risk is represented by the Greek letter beta. Thus, alpha equals the actual return less the expected return given the relevant beta.

There are two indicators to measure whether the securities market has efficiency: whether the prices can fluctuate and change freely according to relevant information, and whether the relevant information of the securities can be fully disclosed and evenly distributed so that each investor can get the same amount of information of the same quality at the same time [4].

According to EMH, the prices in the stock market are unpredictable. The time, money, and effort invested in forecasting stock prices are in vain, and any

technical analysis of stocks is ineffective [5]. Therefore, investors cannot purchase undervalued stocks and sell them at inflated prices.

Efficient Market Hypothesis often can be parted into three forms: weak form EMH, semi-strong form EMH, strong form EMH [6].

Weak form EMH suggests that today's stock price reflects all the information of past stock prices. Fundamental analysis of securities can provide you with information to produce returns above the market average in the short term. But the technical analysis in long term does not work.

Semi-strong EMH implies that either fundamental analysis or technical analysis can help you to gain high returns in the market.

Strong EMH says that all the information, either public or private, is completely accounted for or reflects the current stock price. Therefore, no investor can gain an advantage over the market as a whole.

5.4. Utility Theory

In general, Utility refers to the quantity of pleasure one derives from engaging in a certain activity. In Finance specifically, Utility refers to how much pleasure investors gain from portfolio performance. Investment gains are thought to provide positive utility whereas losses cause negative utility. The utility is based on the theory that people face trade-offs, which can be explained by risk and return. Investors will choose their risk-return ratio based on their utility profiles.

We can depict three types of utility curves. In the figures below, the risk is represented on the horizontal axis, while the return is represented on the vertical axis. In Figure 3, the individual is thought to be risk neutral whereas, in Figure 4 and Figure 5, the individuals are considered to be risk-seeking and risk-averse respectively.

In Figure 3, the investor increases his risk by one percent, and his return is the same amount of risk. We can see a proportional line of risk and return in Figure 3. But that's not true in Figure 4 and Figure 5. In Figure 4, the investor increases his risk a lot to reach a demand of low return. Every unit of return is changed by more risk every unit. Likewise, to explain Risk Aversion, fewer return accounts for more risk in each unit, which means the investor could not withstand too much loss while deciding to invest and earn money. Therefore, the curves of Risk Seeking and Risk Aversion are not proportional.

The risk curve is a visual depiction of the trade-off between risk and return among investments. What influences the types of risk curves among different investors is investors' behavior [7].

5.5. Prospect Theory and Loss Aversion

Prospect Theory stems from Loss Aversion. The theory describes how investors access their losses and gain perspectives asymmetrically. This theory states that individuals view gains and losses differently and they place more positive weight on perceived gains versus perceived losses [8]. Investors tend to feel greater negative emotions from losses than from an equivalent gain [9].
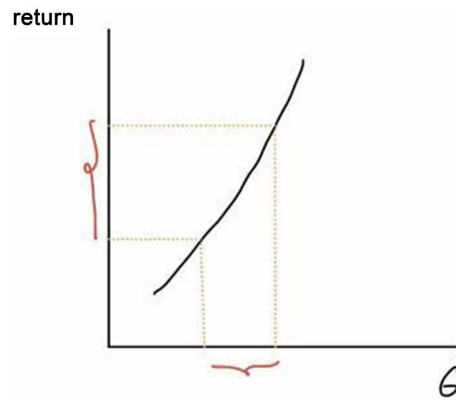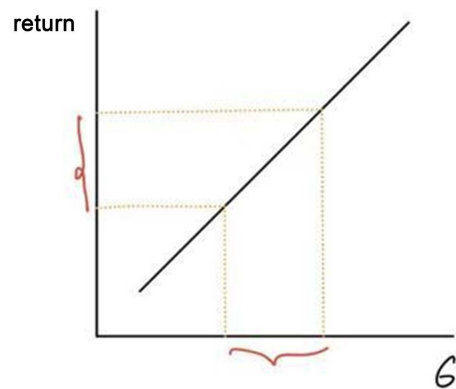
Figure 3. Risk neutral.
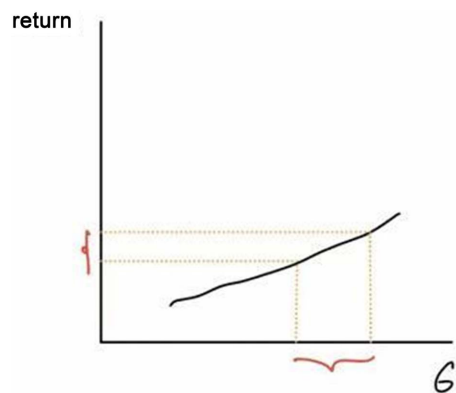

Figure 4. Risk seeking.

Figure 5. Risk aversion.

Loss Aversion is the tendency to prefer avoiding losses to acquiring equivalent gains. What distinguishes Loss Aversion from Risk Aversion is that the utility of investment depends on the experience or future expectations of investors [8]. Risk aversion explains the investors' preferences for low risk when they face similar expected returns of different risks. This theory is about investors' behavior in avoiding risks. Loss aversion is a general bias that individuals show higher sensitivity to loss than to gain. It explains how people assess decisions under uncertainty. Compared to the degree of pain and the degree of happiness when people

invest, loss-averse individuals tend to receive a greater degree of pain in a pay cut than the degree of happiness in the same amount of pay raise [10]. Therefore, they will invest more carefully in the investments that might have a loss.

For example, a loss-averse investor is holding onto a stock that has declined severely in value since the time was purchased. However, he is not willing to sell the stock because selling the stock means realizing a loss. Sometimes, loss aversion would be strong enough to keep the investor holding a stock that has poor performance since the influence of loss aversion is stronger than the real depreciation in the stock for the investor [11].

In Figure 6 (below), the horizontal axis represents how much people gain or lose, and the y-axis represents the utility (or pleasure) people derive from a given amount of gains. Losses represent negative utility or pain whereas gains represent positive utility or pleasure. This relationship can be quantified. The figure shows that a $0.5 gain has a value of around 16, while the same amount of loss has a value of −40. The results suggested that losses are more than twice as powerful as gains.

Rational Investing implies a certain proportionality between risk and return, including the possibility of negative return. Prospect Theory stands in contrast to the notion of proportionality. Here, prospective gains and losses and not viewed symmetrically. While it is recognized that investors have an appetite for gain, the fear of loss is more powerful that the appetite for gain. Thus, prospective gains and losses are not equal.

5.6. Anchoring

Anchoring describes the subconscious use of irrelevant information, such as setting the price for securities to make them seem more valuable. Thus, people estimate a higher value for the investment at a high price instead of the same investment at a low price.

Anchoring Bias is a mental flaw that impacts the way a person derives the price of anything. This bias is based on the fact that the first information about the price of something creates a big misconception of podcasting in our mind, which will lead investors to make incorrect financial decisions such as purchasing overvalued investments irrationally [12].

In investing, market participants with Anchoring Bias tend to hold risky investments or investments that have lost value because they have anchored the fair value estimate to the original price. Thus, they incorrectly believe that securities whose value has decreased will return to their original purchase price.

5.7. Mental Accounting

Mental Accounting refers to the different values people place on the same amount of money, based on subjective criteria, personal experiences, and market influences. And it often comes with detrimental results [13]. Mental Accounting describes how people tend to assign subjective value to money. Under the impact
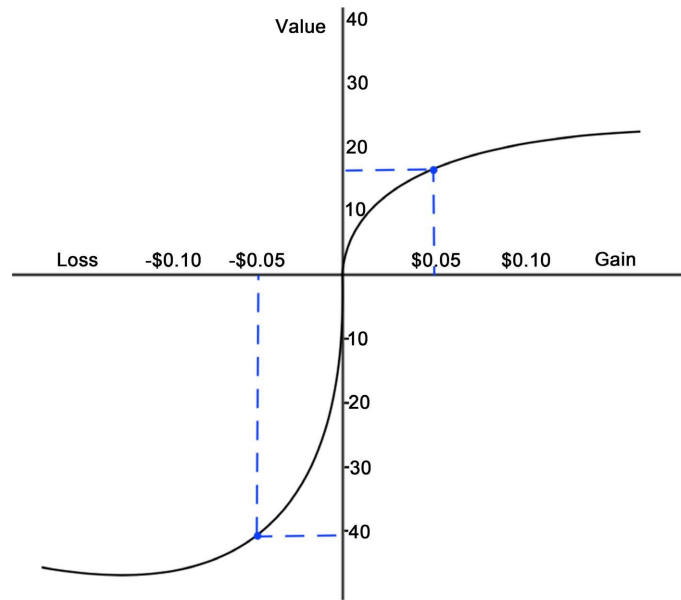
Figure 6. Prospect theory quantified.

of this bias, people make irrational financial decisions.

For example, lottery winnings are at the core of Mental Accounting more often than any other sum of money. Countless lottery winners managed to go bankrupt after they spent millions on dubious purchases that seemed to be justified by the unexpected prize they won. However, they just consider less value on money than before because they have more money. If these fallen lottery winners spend their money slightly more in line with how they spent their job income before winning, they will still be rich today.

To avoid the impact of Mental Accounting, investors should treat money as if they are fungible as well as value different forms of investments of the same prices [14].

5.8. Framing

"Framing" describes how an investment is expressed or presented and can change investors' views about whether it is advised or not. That it's to say, investors' decisions tend to be affected by how the choices are framed.

Framing bias occurs when investors make a decision based on how the information is presented or framed, but not the facts themselves. The ways the information is presented can affect investors' choices, and investors will react differently to the same facts presented in two different ways.

When investors are presented with a situation where they have already gained satisfactory profits, they tend to have a conservative mentality to protect the existing profits, as opposed to taking more risks in larger expected earnings. On the other hand, when investors are presented with a situation in which they have already lost money, they are likely to subscribe to a more risk-taking mentality [15].

Investors are usually induced to invest in an opportunity with details that are framed optimistically, such as high profits with very few risks. But if the detailed information of an investment portfolio is framed negatively, the investors will easily give up investing.

We consider another example of framing in Finance. Suppose we give two choices to participants in an experiment coin toss. The first choice is whether to earn $50 or nothing by throwing the coin. The second choice is to give the participants a gift that has a value of $50, but they have to toss the coin to either lose $50 or gain nothing. In this experiment, most of the people will choose the first choice instead of the second choice although they have the same result, which is to gain $50 or nothing. This can illustrate Framing Bias in Finance that people will view the first choice as potential gain but the second choice as potential risk.

5.9. Asymmetric Information

Asymmetric Information, also known as information failure, occurs when two parties have disproportionate information, and one party has greater knowledge to take advantage of the other. This circumstance often occurs between sellers and buyers [16]. Almost all economic transactions involve information asymmetry.

Information failure sometimes happens between investors and investment intermediaries. Investment Intermediaries receive direct information from the financial market and recommend an investment portfolio to the investors. Therefore, the information investors receive is second-hand. Since there is information inequality, investment intermediaries gain benefits by packaging some investment proposals to better sell them. However, because the intermediary hides some of the portfolio's downsides, those portfolios may not be that yielding. This can explain asymmetric information in investment.

6. Interrelations between Different Theories

6.1. Complementary Relationship

1) Rational Expectation Theory and Efficient Market Hypothesis:

Rational Expectation Theory suggests that individuals make decisions based on all available information, including expectations of future events, and Efficient Market Hypothesis posits that financial markets fully reflect all available information, making it impossible to consistently outperform the market.

2) Mental Accounting and Framing:

Mental Accounting and Framing are interconnected as they both involve the cognitive processes that shape individuals' perceptions and choices. Mental Accounting can influence individuals' decision-making by categorizing money into different mental accounts, leading to suboptimal financial decisions. Framing plays a role in how choices or options are presented, influencing individuals' preferences and decisions.

3) Prospect Theory and Loss Aversion:

4) Prospect Theory incorporates the concept of loss aversion, which suggests that individuals are more sensitive to potential losses than gains.

5) Mental Accounting and Utility Theory:

Mental Accounting can impact people's utility function by treating money differently based on subjective criteria. Utility Theory suggests that people make decisions that maximize their utility, and Mental Accounting can influence the perceived utility of different financial outcomes.

6) Anchoring and Framing:

They can be closely related as they both involve the presentations of information that influence people's decision-making.

6.2. Contradictory Relationship

1) Utility Theory and Prospect Theory:

Utility Theory assumes individuals make rational decisions based on maximizing their expected utility, while Prospect Theory recognizes the impact of framing, loss aversion, and other biases on decision-making. Prospect Theory expands on Utility Theory by acknowledging that individuals' preferences are not solely based on expected outcomes but are also influenced by the way choices are presented and the reference point used.

2) Rational Expectation Theory and Prospect Theory:

Rational Expectation Theory assumes individuals make decisions based on rational expectations, considering all available information. Prospect Theory recognizes that individuals' decision-making can be influenced by cognitive biases and subjective evaluations, which may deviate from rational expectations.

3) Anchoring and Rational Expectation Theory:

Rational Expectation Theory assumes individuals incorporate all available information into their decision-making. Anchoring bias, where individuals rely heavily on initial information or reference points, can lead to decisions that are influenced by irrelevant or biased anchors, potentially deviating from rational expectations.

7. Research Gaps

Despite the extensive research conducted in the field of Behavioral Finance, there are still several research gaps that require further exploration. In Rational Expectation Theory, a lack of empirical evidence to support its assumptions is one such gap. Additionally, there is a need for further research into the application of rational expectations to various economic models. The Efficient Market Hypothesis, despite being widely accepted, exhibits anomalies that contradict its assumptions, highlighting the need for further research on the role of information and market structure in determining market efficiency. In Utility Theory, there is a lack of consideration for non-monetary factors in decision-making, and further research is required to understand how individual preferences and attitudes towards risk affect utility. Similarly, in Prospect Theory, there is a need for more

research into the role of emotions in decision-making and how the theory can be applied to various economic models. Further research is also needed in Loss Aversion, Anchoring, Mental Accounting, Framing, and Asymmetric Information to understand the impact of these phenomena on decision-making in different contexts and how they can be incorporated into economic models.

8. Conclusion

In conclusion, this paper presented a literature review that explored the fundamental concepts of Behavioral Finance and how it relates to an individual's decision-making in regards to the balance between risk and return. The review covered various theories, including Rational Expectation Theory, Efficient Market Hypothesis, Utility Theory, and Prospect Theory, among others. Through analyzing and synthesizing the information, key concepts, and principles of each theory were identified, and their implications and relationships were explored. In essence, the literature review aimed to provide a comprehensive understanding of the interrelation between Behavioral Finance and individual decision-making.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

[1] Ye, S.Q. and Peng, Y. (2007) The Relation between Risk and Return of Portfolio Based on Standard Finance and Behavioral Finance. 2007 *IEEE International Conference on Control and Automation*, Guangzhou, 30 May 2007-1 June 2007, 518-522. https://doi.org/10.1109/ICCA.2007.4376410

[2] Sembieva, L. and Ismailova, A. (2022) Relevance of Budget Investment and Definition of Its Concept. *Herald of Economics*, **4**, 69-86. https://doi.org/10.35774/visnyk2021.04.057

[3] Elise, E. and Daryanto, W.M. (2018) The Effect of Depreciation Methods on the Profitability and Net Present Value (NPV): A Case Study of Nam Con Son 2 Phase Pipeline Project, Vietnam for the Period of 2019-2037. *South East Asia Journal of Contemporary Business, Economics and Law*, **17**, 8-12.

[4] Patel, S., Krishnan, B. and Meziani, J. (2002) Addressing Risks in Hedge Fund Investments. *The Journal of Retirement Fall*, **2002**, 89-97.

[5] Fama, E.F. (1970) Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*, **25**, 383-417. https://doi.org/10.2307/2325486

[6] Malkiel, B.G. (2003) The Efficient Market Hypothesis and Its Critics. *Journal of Economic Perspectives*, **17**, 59-82. https://doi.org/10.1257/089533003321164958

[7] Grossman, S.J. and Stiglitz, J.E. (1980) On the Impossibility of Informationally Efficient Markets. *The American Economic Review*, **70**, 393-408.

[8] Kahneman, D. and Tversky, A. (1979) Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, **47**, 263-292. https://doi.org/10.2307/1914185

[9] Kahneman, D. and Tversky, A. (1979) Prospect Theory: An Analysis of Decision

under Risk.
https://web.mit.edu/curhan/www/docs/Articles/15341_Readings/Behavioral_Decisi on_Theory/Kahneman_Tversky_1979_Prospect_theory.pdf

[10] Huachen, W. (2013) Behavioral Finance and the Dynamic Adjustment of Capital Structure: A Loss Aversion Perspective. Finance & Trade Economics.

[11] di Toro, M. (2022) Asymmetric Volatility Bias and Loss Aversion in Investment Decision-Making. *International Journal of Research and Review*, **9**, 476-481.
https://doi.org/10.52403/ijrr.20221054

[12] Weber, M. and Camerer, C.F. (2011) The Disposition Effect Revisited: Psychological Mechanisms of Market Inefficiencies. *Journal of Economic Behavior & Organization*, **77**, 20-36.

[13] Li, Z. (2021) The Gender Psychology of Mental Accounting Financial Decision Making. 2021 5*th International Conference on Business and Information Management*, Guangzhou, 26-28 August 2021, 62-68. https://doi.org/10.1145/3483794.3483804

[14] Hamzah, A. (2022) Pengaruh Overconfidence Bias, Mental Accounting Dan Familiarity Bias Terhadap Pengambilan Keputusan Investasi. *Journal of Global Business and Management Review*, **4**, 50-65. https://doi.org/10.37253/jgbmr.v4i1.6777

[15] Dewi, M., Hamidah, H. and Buchdadi, A.D. (2021) The Influence of Financial Literacy, Experienced Regret, Framing Effect and Mental Accounting on Millennial Generation Investment Decisions in DKI Jakarta with Risk Tolerance as Intervening Variables. *International Journal on Advanced Science, Education, and Religion*, **4**, 147-163. https://doi.org/10.33648/ijoaser.v4i3.155

[16] Kulkarni, K. (2021) Asymmetric Information and Its Behavioural Impact on Investors: A Review. *Journal of Emerging Technologies and Innovative Research*, **8**, d862-d866.