Psychology Analysis of Investors from the Perspective of Behavioral Finance

Zizhen Cheng(✉)

The University of British Columbia, Endowment Lands, Canada
chengziz@student.ubc.ca

Abstract. With the continuous expansion and integration of the securities market, the efficient market hypothesis of traditional finance can no longer fully explain the changeable psychology of investors. Behavioral finance and traditional finance are constantly colliding. Knowing various risk indicators and returns, how investors will make choices is the core of behavioral finance. This paper rationally explored investor personality traits and emotional decision-making, the causes of cognitive errors, mental accounting effects, and investment portfolio recommendations. This paper added more explanations and case studies on the basis of some theories put forward by economists. It includes some economic problems existing in traditional finance, the collision between traditional finance and behavioral finance, and the contradiction of efficient market and rational expectations. And also analyze some personal traits in investment psychology, like the cognitive bias, overconfidence, bystander effect, and other traits. Finally, some investment suggestions are put forward to help investors better build psychological accounts.

Keywords: behavioral finance · investor · psychology · stock

1 Introduction

G. LeBon said in the Psychologie des Foules that “Human nature is the biggest threat to investment. Before the market solves you, you solve yourself first” [1]. For many years, the volatility of financial markets has been analyzed by economists in an attempt to predict future economic trends. But what is overlooked is that the psychology of investors is a factor worth exploring. Behavioral finance raises questions and theories under the premise of ‘rational people’ in traditional finance [2]. Behavioral finance combines finance, psychology, biology, and other disciplines to analyze investor psychology. Different situations faced by different investors, and even financial practitioners also have the enlightenment to the public by the investment mistakes made by investors. Behavioral finance help to better realize the transformation of traditional finance from rationality to psychology after the double impact of reality and theory.

The spread of behavioral finance has a tendency to develop as early as the Malkiel’s “castles in the air theory” [3]. Greenspan’s “Irrational Exuberance” also discusses that the driving force behind the bursting of the stock market bubble comes from irrationality [4]. The psychological factors of investors are gradually being considered and they believed

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psychological factors play a large part in investor decision-making. Since the 1980s, behavioral finance has been analyzed and accepted by more economists.

This paper analyzed the psychology of investors and the different reactions of individual investors to the market by analyzing the behavioral financial market hypothesis and the individual personality traits of investors. The paper could be divided into three themes. The first one analyzed the conflict between traditional finance and behavioral finance. It included effective economic hypothesis theory and irrational expectation theory which put forward by economists from the perspective of macroeconomics. Combined with case analysis, the latter two themes were driven by psychological factors from the perspective of investors which included cognitive bias, regional environmental factors, overconfidence, bystander effect and other psychological theories. Finally, effective suggestions would be provided for the establishment of investors' psychological accounts based on the analysis above.

2 Collision of Traditional Finance and Behavioral Finance

2.1 Problem Existed in Traditional Finance

Traditional financial theory can be traced back to the neoclassical economic theory of the 20th century. The cores lie in traditional financial theory are the efficient market hypothesis, arbitrage, and rational man claims.

Traditional finance has always hoped to use digital model tools and other precise analysis of the impact of individual factors such as market prices. If the personality traits in psychology are used to explain, scholars who support traditional finance believe that the environment changes individual traits as the most fundamental background. Although people with different characteristics invest in a financial market, they also make rational judgments based on the analysis of mathematical tools. Despite the misjudgment of irrational investors, the randomness of trading behavior and the actions of other rational arbitrageurs will eventually offset the volatility of security prices.

2.2 Challenging the Efficient Market Hypothesis

The effective market hypothesis proposed by Fama in the 1970s has been questioned [5]. Kahne-man (1998) argues that investors' decisions do not produce rationalized results most of the time [6]. Shleifer (1997) put forward the view of arbitrage limitation, the risk of arbitrage is huge and difficult to achieve in reality [7]. Shiller (1981) put forward the "Volatility Mystery", which also gives the result of substantive research, that is, the stock market price is unpredictable, and the traditional model cannot well meet the situation of stock market price fluctuation [8].

The volatility of stock prices in traditional financial theory is quickly integrated into the information of earnings announcements, so they believe that trading information is not enough to affect the changes in the stock market and the formation of stock market bubbles.

Therefore, behavioral finance, on the premise of questioning the efficient market hypothesis, believes that investors are irrational, and that people are the decisive factor that dominates the financial market. Limited arbitrageurs and inefficient markets become the two cores of behavioral finance.

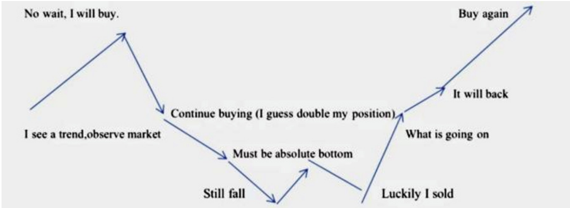

Fig. 1. Simply Investment Process - Roller Coaster of Emotion

2.3 The Theory of Irrational Expectations

Adam Smith believed that human decision-making stems from rational choices. Under the premise of forecasting the stock market, investors' profit-seeking will not produce a stock market bubble (Fig. 1).

In fact, during the investment process, investors are often faced with an "emotional roller coaster" as shown in the chart above. The cyclical investment process includes the choice of stock picking, holding stocks, selling investments or short positions. Each step is a choice and contains investors' expectations for the future. Although the stock market is full of volatility and rational analysis of the stock market by some economists, it actually uses investors' psychology to arbitrage at every step.

Irrational expectations arise from the observation by economists that investors follow animal nature to judge risks and expected outcomes. Compared with rational choices, most investors tend to follow an unconscious choice behavior to invest. Similar to the "foolish behavior" in the capital market, one's own expectation for the future is to never be the last fool. Some investors simply don't care about the stock price and intrinsic value of the stock, they buy the stock simply because they believe there will definitely be the next fool to take over the stock.

Deviations from expected utility theory were first pointed out by Maurice Allais (1953) [9], the "Allais Paradox" and Prospect Theory" published by Kahneman and Tversky in 1979 [10]. The expectations generated by individuals under uncertain conditions will deviate from psychological factors such as personality deviations, overconfidence, cognitive deviations, and self-constructed mental accounts.

3 Speculator's Cognitive Bias

3.1 Environment Forced Different Investors

In the movie "The Wolf of Wall Street", Jordan Belfort's first pot of gold in the investment world came from being a stockbroker in a small stock company on a rural area. The stocks here are all penny stocks, which is a very Inexpensive low-priced stocks and under \$1 share price. Due to the general awareness of poverty among the islanders, they are easily persuaded by stockbrokers' pyramid schemes. The penny stock sales pitch can come from brokers who end up with very high yields. For example, a penny stock priced at \$1 would return 200% after earning \$1. A normal stock may gain only 0.1% after earning \$1. Investors with cognitive biases are influenced by biased decision-making.

This is an extreme example. In daily life, there are also existing large deviations between investors. Due to the different working environment and geographical location, etc., the source of receiving information and decision-making will also be affected. For example, some retail investors who do not have professional investment knowledge and independent analysis ability will be more easily affected by the bystander effect. And thus follow the venture investment.

3.2 Representational Error

People often make the representational error in financial markets, believing that good companies represent good stocks and good investments. Therefore, investors who are new to the market generally choose to invest their funds in large leading companies and have a very good attitude towards the seemingly stable trend in the future. Most of the results are that the stock prices of these leading companies are high, but the increase is slight.

Moutai has been a leading company in China during many years. Many Chinese investors who have just entered the stock market will choose to buy Mao-tai shares.

Such investors are more inclined to use Moutai stock as a stable stock for long-term investment, because Moutai liquor occupies a relatively monopoly company in the Chinese liquor market. It can be seen from the figure that the investment price of Moutai is high, but the rate of return is not very high. The stock price is high and volatile, but it still attracts countless Chinese people to invest over the years. The world shares also reached the highest 71.55%. During the long period of time, there is a stable upward trend, but it is time-consuming and meaningfulness.

3.3 Herd Mentality

For example, since the epidemic, the attention to the pharmaceutical industry has sky-rocketed. Due to the sudden situation of the epidemic in recent years, stocks in the pharmaceutical industry have attracted wide attention. Collectivist countries tend to have a stronger herd mentality, resulting in a large number of investors following or selling within a specific time period. The social effects brought about by copying others' opinions have caused great fluctuations in the psychology of investors, who panic about whether they will miss opportunities. It has a great psychological expectation weight for social effects, and the result is that it affects the unstable development of the stock market.

3.4 Overconfidence

Overconfidence is a big factor for some investors who like to research the future of the industry on their own.

According to a survey by an investment bank, the group with the highest turnover rate among comparative investors is single men. Followed by married men, married women, and finally single women. Men are more prone to self-perception hallucinations and have higher self-confidence in the financial field [11].

The turnover rate does not mean a high rate of return, but it means that there will be more transaction fees in the decision-making process.

In addition to this factor, most of the factors that affect them come from uncertainty about changes in international financial markets and changes in national policies. In the two years after the 2008 financial crisis, China's domestic margin financing policy published that securities lending business to attract a large number of people from the financial industry to follow the investment.

Secondly, there is also the stock circuit breaker mechanism, which can easily cause large-scale investor panic. In fact, the result is that you lose more. The fundamental reason is that investors are too optimistic about the ability to estimate risks and are tired of the unchanging trading pattern of the stock market. Using funds borrowed from securities companies to increase investment with leverage increases the impact on stock decisions many times.

4 Building a Mental Account

4.1 Disposition Effect

In the establishment of psychological accounts, the loss aversion principle of investor psychology and the psychology of signal game gamblers will occupy a larger factor.

The desire to avoid regret and seek pride leads investors to cash out winning stocks too early and hold losing stocks too long. They call this the disposition effect. Selling an asset conditional upon a gain is greater than it is conditional upon a loss [12]. This effect is often appealed to as strong evidence that psychological bias affects trading.

When making portfolio decisions for mental accounts, investors tend to keep stocks with losses and sell stocks with gains. The principle of loss aversion states that people tend to value losses more than gains. Avoiding losses is often the psychological avoidance of regret. Compared with the pride that earnings bring to investors, if you sell stocks with low yields, then the regret brought about by subsequent gains will affect investment psychology more.

4.2 The Gambler's Fallacy

Risk seekers use the gambler's psychology to build mental accounts more easily. Gamblers have their own set of theories known as The Gambler's Fallacy, which is characterized by the constant belief that their intended goals will be achieved. The policy of margin financing and securities lending actually uses the gambler psychology of activist investors. For example, in the futures market, if the leverage ratio is controlled within one time, as long as the futures price does not fluctuate more than 100%, the investor's principal gain or loss will be controlled within 100%. The profit and loss volatility of the operator will increase, and the result will be doubled accordingly.

Leverage can amplify the psychology of gamblers, and the combination of the two can easily cause huge losses. If the selection of the investment portfolio is dominated by risky stocks, the room for adjustment and retreat will be greatly reduced.

Therefore, the necessity of building a mental account is reflected, and a certain degree of self-control and coordination can be carried out to promote the balance between high-dividend and high-risk products and stable long-term products.

5 Conclusion

Irving Fisher said in "The Theory of Interest" that investment is a balanced consumption in the time dimension [13]. Investors are irrational, because of the deviation of cognitive behavior and the influence of various psychological effects, which are inevitably contrary to other investors or the overall market tide. Investors come for profit, keep a peaceful mind, and maximize their interests in the future.

Regarding the efficient market hypothesis of traditional finance, behavioral finance is skeptical and analyzes the topic of "rational people" in depth. Investor psychology is studied and valued. They also hold an irrational attitude towards the expected future stock market trends, and investors often cannot make rational investments and expectations based on market trends. Investing is uncertain.

In addition, the investor's personal psychological factors are also considered. The causes of investors' cognitive and behavioral biases are influenced by environmental factors. The sources of information received, the social status of the investors themselves, and the mental analysis training they have received will create different investors. Under this premise, investors generally have the characteristics of herd mentality, herd effect, misunderstanding of representative things, and overconfidence. It is often easy to follow the general trend of the market to invest, thinking that you have a very accurate grasp of future expectations, and your impatience and easy panic and hesitation will create cognitive biases for investors.

Effective advice is that investors can build a personal psychological account. The disposition effect suggests that most investors tend to keep losing stocks. The principle of loss aversion states that people tend to put more energy into things they hate than gains. In the process of building a mental account, the gambler's psychology will also be brought into play. The gambler's fallacy is a decisive factor influencing decision-making judgment and future expectations. Investors are advised to achieve a balanced relationship between risky and robust stocks. Focus more on long-term interests. If you want to liquidate in a short time, try your best to maintain a peaceful mind and know how to close it when you see it. Don't rely too much on the drive of the gambler's psychology.

In conclusion, behavioral finance provides investors with more effective value to analyze their own psychological construction. Better help investors and the capital market to achieve a harmonious and win-win situation. Behavioral finance allows investors to better gauge their own psychology and a balanced state of mind in the face of environmental fluctuations.

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