



Research on Stock Investment Strategies Under COVID-19—Based on Behavioral Finance

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Abstract. Behavioral finance is a new and popular subject that combines psychology and other behavioral sciences, integrates traditional financial theories, and innovatively explains investors' behaviors and decisions from the perspective of micro individuals. In 2020, the outbreak of the COVID affected major countries around the world and caused major economic losses. The financial market was severely impacted with chaos occurring frequently, and people's choice of stock also changed. And the stock market is a barometer of the economy, the economy will inevitably decline in the stock market. Based on behavioral finance, this essay will analyze investors' stock buying preferences in different sectors before and after the COVID and establish a structural equation model to analyze the factors affecting stock selection, conduct in-depth research on investors' stock investment strategies and put forward effective improvement suggestions for investors.

Keywords: Behavioral finance · Stock · Structure equation model

1 Introduction

Since the 1980s, financial scientists began to study new financial theories in view of the “anomalies” in the securities market that were contrary to the standard financial theories, and behavioral finance has been rising continuously since then. When the epidemic of COVID-19 broke out in 2020, many enterprises went bankrupt one after another. Scholars constantly applied behavioral finance to analyze the market situation faced by small and medium-sized enterprises, but there was little analysis on stock selection for individual investors based on behavioral finance. Based on this, this paper intends to study the impact of the epidemic on investors' stock selection through behavioral finance theory. By analyzing the structure of the problem, this paper selects a structural equation model to explore the factors affecting stock selection, summarizes and analyzes the psychological factors of investors in combination with the real-time background of the epidemic and behavioral finance theory, and puts forward effective suggestions.

2 Basic Theory of Behavioral Finance

Behavioral finance theory emerged in the 1980s, abnormal phenomena that traditional finance theory could not explain appeared in the stock market. Under such circumstances,

experts and scholars began to look for a breakthrough, trying to combine applied psychology, behavioral science and sociology from another perspective, namely investor psychology and behavior, and interpret financial theories from the perspective of behavioral psychology, thus creating behavioral finance. Behavioral finance theory modifies the basic assumption of traditional finance, that is, people's choices and behaviors are rational [1]. Behavioral finance assumes that investors carry out irrational investment behavior, so in the process of market transaction, it gives birth to the uncertainty and randomness of transaction. Therefore, when behavioral finance theory integrates human psychology and behavior into the research of investment behavior, the research of securities investment behavior opens a new perspective and provides a brand new way for us to study the financial system and financial theory deeply.

The emergence of behavioral finance is related to the defects of traditional financial theories, such as modern investment theory, capital asset pricing theory and option pricing theory, which all believe that investors have the characteristics of complete rationality and risk aversion, and cannot get rid of the hypothesis of "rational economic man". Some phenomena in the bond market cannot be explained by traditional financial theory, because the hypothesis of a "rational economic man" is not in line with reality and is too idealistic. Many scholars have realized that relying only on traditional financial theory can not accurately explain investors' behavior, and there is information asymmetry in the securities market. In many cases, it is difficult for people with different investment risk preferences to reach the standard of "rational economic man". There should be a new theory as the basis of economic decision-making, otherwise, it may be wrong to use the traditional financial theory. To study the behavior of the financial market and investors in different situations and establish an analytical framework based on investor behavior, scholars put forward behavioral finance theory. Behavioral finance thinks that people are rational, but the rationale is limited, so people's cognitive level determines the irrational decision making, its core content is the prospect theory and limited arbitrage theory, behavioral finance with bounded rationality as the basic hypothesis, but this is not the negation of traditional finance, but a process of correction and supplement.

Similarly, the phenomenon of China's financial market cannot be explained by traditional financial theories, for the following two reasons: Firstly, China's financial market is influenced by the government and is a "policy market", which cannot be verified by traditional financial theories. Secondly, China's securities market is mainly composed of small and medium investors. Investors seldom use traditional financial theories to establish relevant financial models, and their investment behaviors are mostly influenced by other investors and their own psychology, which is the theory in behavioral finance. Therefore, it is of theoretical and practical significance to study investor behavior from the perspective of behavioral finance.

3 Analysis of Influencing Factors of Stock Selection

3.1 Set Investigation Background

When the epidemic broke out in 2020, the stock market was greatly impacted, and investors' choices of stocks in different sectors also significantly changed. Based on this, this paper selects a total of 30 stocks from 7 sectors including medicine and medical care,

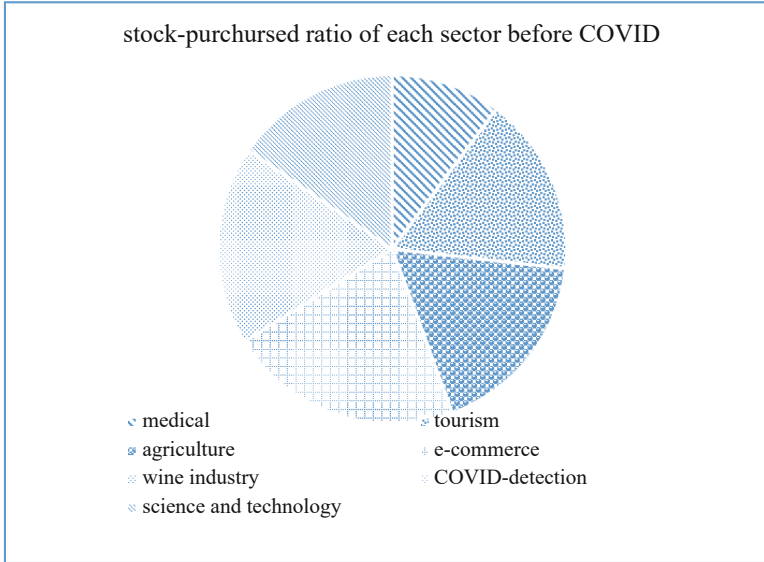


Fig. 1. Stock-purchased ratio of each sector before COVID

tourism, agriculture, e-commerce, wine industry, COVID-19 detection and technology. Panlong pharmacy, Zhongsheng medical, Mairay medical, Fuxing pharmacy, Health 100, KangXinuo, Lingnan holdings, CITS, Pathfinder, good HOMEY, Muyuan stock, ST agricultural development and the great lakes stock, star badge stock, KaiChun stock, the South Pole e-commerce, the head of lion stock, Yilite group, the god bless wine, Jiu gui wine, SHEDE spirits wine, Gujingong liquor, Guizhou Moutai, Hua’ce Detection, Anxu Biological, Tianrui instrument, Zhongtian Technology, Sifang da, Hongyu new material.

500 questionnaires were distributed to the society, and 482 were recovered, with a recovery rate of 96.4%. According to the questionnaire data, the reliability scale test was carried out on the results, and the results showed that the Cronbach coefficient reached a good level of 0.859, indicating that the questionnaire questions were in good consistency, and then output the results of stock purchases before and after the epidemic as pie charts.

3.2 Analyzing the Impact of the COVID-19 on Stock Selection

The results show that before the epidemic, there was no significant difference in the proportion of stocks in the six sectors (COVID-19 detection sector is 0). The E-commerce sector accounted for 21.7%, agriculture and wine sector 17.6% and 18.5% respectively, tourism 16.6%, technology 15.4%, and medicine and medical sector 10.2% (Fig. 1).

After the outbreak of the epidemic, seven sectors have undergone some changes. The COVID-19 detection sector has significantly increased to 25.4%, followed by the medical sector at 24.9%, technology, wine and agriculture sectors have slightly decreased

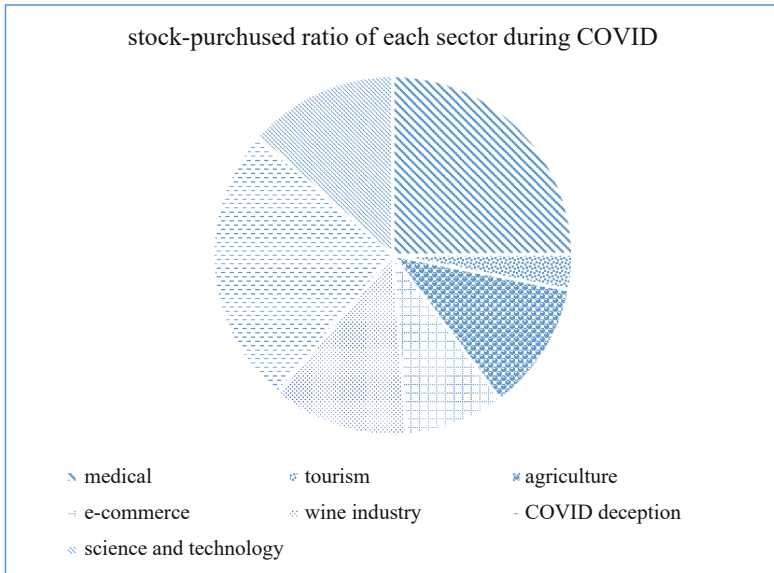


Fig. 2. Stock-purchased ratio of each sector during COVID

to 13.5%, 12.3% and 11.7%, respectively. The e-commerce sector and tourism sector have been hit hard at 9% and 3.2% (Fig. 2).

As a result, many investors have been attracted to medical and COVID-19 stocks as a result of repeated COVID-19 and COVID test policies, while the tourism industry has been hit hard and many small and medium-sized companies have gone bankrupt. Considering the negative impact of the epidemic on transportation, express delivery has been suppressed and the e-commerce industry has also been impacted.

3.3 Establish a Structural Equation Model for Factor Analysis

For stock selection, selection of the five main factors influencing investors to buy shares of market supply and demand, respectively, the psychological expectations, financial markets, the economic cycle, the company's performance, and set the five factors to latent variables, structural equation model is established, (Fig. 3) between the main effect is to reveal latent variables, namely between latent variables and measured variables and the measurable variables, the structure of the relationship between These relationships are represented by path coefficients in the model.

3.4 Analyze the Result of the Structural Equation Model

From cause variable to effect variable, it is the sum of direct effect and indirect effect. It can be seen that the effect of the latent variable on the stock selection of the outcome variable is as high as 0.865.

Investors' psychological factors are important factors in buying and selling stocks. Many investors' psychological expectations interact with each other to form market

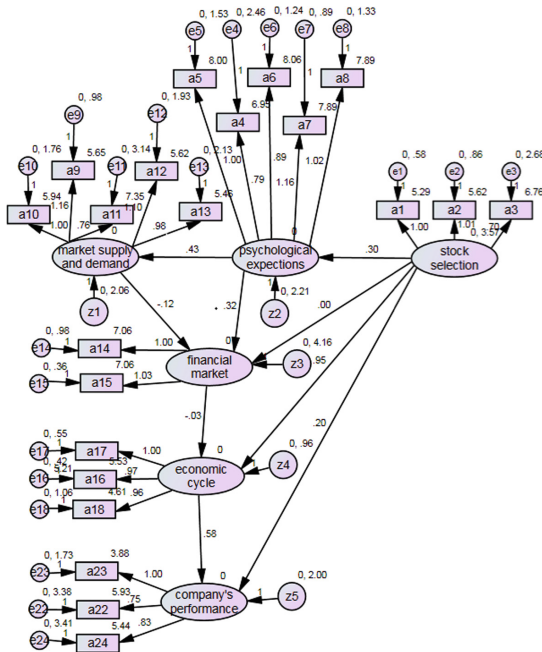


Fig. 3. Structural equation model of stock selection factor

Table 1. Total effects among potential variables in the model (standardized results)

	Stock selection	expectations	Market supply and demand	The financial markets
Market supply and demand				
(Total effect)	0.384			
expectations	0.814 * * *	0.134 * * *		
(Total effect)	0.865	0.134		
The financial markets	0.345 * * *		0.627 * * *	
(Total effect)	0.888	0.084	0.627	
The economic cycle				0.753 * * *
(Total effect)	0.669	0.063	0.473	0.753

psychological expectations, which have a strong influence on the trend of stock prices [2]. Therefore, based on the above data analysis results, this paper will conclude in combination with behavioral finance theory.

4 Research Results

By sorting out the questionnaire results, this paper classifies the factors affecting the psychological expectation of stock selection into three categories: overconfidence, herd effect and cognitive bias.

4.1 Overconfidence

Investors tend to overestimate their investment ability in the securities market and expect that they can get a higher income, that is, overconfidence (or overconfidence).

This is an irrational behavior of investors, which usually shows that investors will exaggerate their probability of success and ignore the risks and uncertain events that may occur in securities investment after completing securities investment, bringing some hidden risks to investors. It can be seen from social surveys that their own judgments and cognitions are biased, and their evaluations are often greater than their abilities. This kind of psychology will make derivative investors ignore the objective conditions of the securities market, make blind investments more likely to fail, and will be more likely to fail due to external factors. And if you fail, you don't find problems in yourself, and you don't find mistakes in time for self-reflection. Therefore, investors' overconfidence is often a hidden danger that investors bury for themselves [3]. The success of securities investment may be accidental. After several flukes, investors will have unexpected consequences due to their lack of solid professional knowledge and keen investment vision. A research survey found that a large securities trading company's clients' return on securities trading was lower than the market return, but if the clients reduced the relative trading volume, its return would increase, but investors always maintained a high trading volume, did not realize their own risks, and were confident that their investment behavior was correct.

4.2 Herd Effect

The herd effect, also known as herd psychology, is often used in economics to describe the herd mentality of economic individuals. Sheep are a very disorganized organization. Usually, they rush blindly together, but once one sheep starts to move, the other sheep will rush forward without thinking, regardless of the Wolf ahead or the better grass not far away. Therefore, the "herd effect" is a metaphor for people who have a herd mentality, which is easy to leads to blind obedience, which often leads to deception or failure. When securities investors are in the financial market, due to a lack of relevant experience and judgment of the situation, the investment direction is not clear. In this case, it is easy to appear the herd effect.

Investors have limited capacity. When they see others making profits, they blindly follow the trend and choose others who have made profits without considering the risks and future development of the investment object, which will bring hidden dangers to the healthy development of the financial market. There are two types of herd effect: on the one hand, herd effect is due to the conformity of information, which implies a lot of information assumptions in the securities market, but the information is not complete, and investors will blindly follow the incomplete information when they receive it; on

the other hand, Herding effect is due to remuneration. There are securities managers in the securities market, whose remuneration comes from customers' income. In order to obtain more benefits, securities managers will follow the trend when they get the information that a certain project can be profitable. In any case, blindly following the trend will not bring large returns to investors, but there are great risks. Once risks appear, it may lead to a vicious circle in the financial market, which will multiply the risks of investors and have a huge impact.

4.3 Cognitive Deviation

Cognitive deviation refers to that people's cognition is affected by psychological factors and deviates from rational cognition. Cognitive bias can be divided into typical demonstration bias, decimal law bias, conservatism bias and frame of reference bias. Typical demonstrative bias mainly occurs in the securities market, that is, when investors observe the market, they take the uncertain phenomenon as the main investment basis and make investors' behavior deviation. This is mainly because investors have no professional level and are irrational in investment. Taking one-sided information in the securities market as the basis of investment reduces investors' understanding of the market and reduces the possibility of investors' earning returns [4]. In the financial market, investors only see individual phenomena, which reduces their understanding of the securities market and brings more risks to investors' investment transactions. The trading behavior of the stock market requires investors to have good psychological quality, long-term goals and risk tolerance, so the phenomenon of typical demonstration deviation will bring hidden risks to investors, especially non-professional investors, and affect the stability of the stock market.

5 Suggestions

5.1 Contrarian Investment Strategy

Contrarian investment strategy is a mature investment strategy of behavioral finance theory and also one of the strategies implemented by investors. This stems mainly from an overreaction of information to the people, based on the anchor effect of investor psychology and characteristics of overconfidence and explore the contrarian strategy in general, reverse investment strategy is the core of "the opposite", it is using the sensitive degree of citizens for stock information, based on equity investors fault effect and overconfidence mentality, to the public from good stock reverse investment. In essence, it is the correction of self-cognitive biases, and people ultimately achieve profits through correcting behaviors.

However, the implementation of a contrarian investment strategy is conditional, that is, the strategic decision must be based on the correct investment behavior [5]. When investors make investment decisions, they tend to make excessive reactions to the recent price changes and ignore the long-term trend of the stock.

5.2 Strategy of Time Diversification

The strategy of time diversification refers to the fact that investors invest in different depths at different ages. For example, a person may increase his risk investment when he is young and reduce his risk investment when he is old, because the ability to take risks is different at different ages. When you are young, you are more willing to accept products with high risks and high returns because you have more time and the labor force is in full flow, and you have more opportunities to create your own value. But as people get older, with a shrinking workforce and disease and diminished economic realization of self-worth, they are less likely to accept a loss of principal and therefore more likely to opt for less risky investments. Therefore, in the selection of investment strategy, the division of investment groups according to age reflects the role of the time factor in the selection of investment strategy, that is, the diversification of time will also have an important impact on the selection of securities investment.

5.3 Establish a Stop Loss Point

The establishment of stop loss point is a very important operation method to avoid loss in securities trading. That is, if the change in the stock price exceeds the bottom line of the decline set by investors, then investors should immediately talk to sell the stock, to prevent the price continues to decline and bringing irreparable losses to investors. By setting a stop loss, investors can limit their losses and avoid further losses. Avoid the inaction of investors' behavior and make investors suffer greater losses [6]. In the practical application process, investors establish stop loss points, which can help them avoid loss enlargement and avoid greater loss due to their behavioral cognitive deviation. At the same time, timely stop loss can also protect the safety of their assets for investors, which is another form of profit.

Investors should improve their investment experience, correctly understand market risks, and pay attention to the theoretical research and application of financial investment. Investors predict investment projects based on research and their own situation and choose investment projects rationally, which will bring scientific, reasonable and efficient integration of social development under the new situation for the entire stock market.

6 Conclusion

Combined with behavioral finance theory and through the above model analysis, it is found that psychological expectation is the main factor affecting investors' stock selection, which can be divided into overconfidence, herd effect and cognitive bias. Due to the small sample size of data, the results may be biased. In addition, the selection of stocks also has certain limitations. In future studies, larger data sets will be selected to analyze a wider range of financial products.

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