

# Herding Bias And Portfolio Performance

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## **ABSTRACT**

Behavioural finance integrates multidisciplinary fields such as finance, psychology, behavioural science and sociology. Theories of behavioural finance that are built on the models of standard finance can help the investors to understand their own behaviour and thus help them to improve upon their decision-making process (Sewell, 2007 and Kannadhasan, 2006). At the time of portfolio decision making, investors will exhibit herd behaviour with the same preference and action imitation, gradually forming herd effect. This research paper analyzed the performance and causes of individual investors' herding behaviour under the premise that people want to be rational and suggest relevant investment strategies to investors, which will ensure effective wealth generation in the long run.

## **INTRODUCTION**

According to conventional financial theory, the world and its participants are, for the most part, rational "wealth maximizers". However, there are many instances where emotion and psychology influence our decisions, causing us to behave or make 'mental' perceptual errors in unpredictable or irrational ways. Behavioral finance is a branch of finance that studies how the behavior of agents in the financial market and influenced by psychological factors and the resulting influence on decisions made while buying or selling the market, thus affecting the prices. The science aims to explain the reasons why it's reasonable to believe that markets are inefficient.

Behavioural finance emerged in the 1980s. It studies the cognition, emotion, attitude and other psychological characteristics of people in the process of financial investment, as well as the market inefficiency caused by it, and challenges the standard finance with the premise of efficient market hypothesis and rationality. With the development of behavioural finance, a series of behavioural models were proposed in the 1990s. For example, Shefrin and Statman proposed a behavioural capital asset pricing model (BAPM), which is an extension of the modern capital asset pricing model (CAPM). The subsequent Behavioural Portfolio Theory (BPT), developed in 2000, was put forward based on Markowitz's modern Portfolio Theory. In behavioural finance, "irrational man" or "actor" is its core concept. Behavioural finance negates the basic paradigm of traditional finance, regards the subject of economic activities as "actor", and believes that the psychological factors of people play an important role in people's financial decision-making process.

In real life, herd behaviour exists in all spheres of life. Civil servants ventured into business in the 1980s and 1990s, hot pursuit of babies born in the year of Pig, Chinese Damas snatching up tons of gold products are typical examples for herd behaviour. Herd behaviour is more obvious in the stock investment market where the biggest market crashes in history have happened due to the herding cognitive bias.

Herd behaviour plays a large role in market movements, and Robert J. Shiller of Yale University conducted a survey in 1987 which was involved nearly 900 investors who had lived through the great crash. The results showed that about 25 percent of investors believed the plunge was caused by irrational behaviour. When asked whether the main reason for the plunge was economic factors, such as corporate profits or interest rates, or psychological factors, two-thirds of investors said it was psychological rather than economic factors. The study of herd behaviour is one of the important applications of behavioural finance theory. Compared with the western securities market, China's securities market is not mature, so it is easier to emerge herd effect. Therefore, it is of practical significance to study herd behaviour from the perspective

of behavioural finance.

Many economists and scholars in the country and abroad have studied the herd effect in the stock market. They have conducted researches on the internal causes, behavioural characteristics and risk prevention of herd effect. In recent years, some scholars have studied herd behaviour from the perspective of behavioural finance. For example, Zhao Honghong and Huang Chunyan (2013) analyzed the herd effect in China's stock market from the perspective of behavioural finance. Xiao Zhu (2014) studied herd behaviour from the perspective of individual investors.

## **HERD BEHAVIOUR BIAS AND BEHAVIOURAL FINANCE**

- **The concept and connotation of herd effect**

Individual decision-making behaviour is interrelated and interactive. A typical phenomenon caused by the interaction between individuals is "The Effect of Sheep Flock" or "Herd Effect", sometimes also known as bandwagon effect. This term was firstly used to describe the behaviour of animals, which mainly refers to the phenomenon that sheep blindly follow the leader of sheep in the process of searching for food, water or territory. Later, through a large number of researches and practices, it was found that there was a blind following

phenomenon similar to herding among people. Herd effect was later applied to the field of behavioural science, which was used to compare the herd behaviour of people in life and describe the herd mentality of economic individuals.

Herding in financial markets can be defined as mutual imitation leading to a convergence of action. This is the most common mental error where investors tend to follow the investment decisions taken by the larger group of investors. That is why, in financial markets, when the best time to buy or sell is clearly visible, even the portfolio investor who strongly feels he should take action experiences a strong psychological pressure refraining him to do so. The main reason for this is pressure from or influence by peers. The Reliance Power IPO, 2008 is an example of an instance where many investors subscribed without having full information on the issue. Investors apply to "herd behavior" or crowding because they are concerned of what other portfolio investors think of their investment decisions (Scharfstein and Stein, 1990).

The theory of market efficiency is based on a set of assumptions including that investor behavior is rational in which he/she collects and analyzes information before taking the investment decision. However, monitoring the movements of the market, which oscillates between the waves of bullish and bearish, indicates that the behavior of most investors is irrational. Add to that, the process of gathering and analyzing of data needs professional skills and high costs which may lead some individual investors to adopt herd behavior.

It makes sense that financial behaviour uses sheep to describe the herd mentality of investors. Because of their poor eyesight, shortsightedness and lack of analysis and judgment, these individual sheep, just like the retail investors in the financial market, can only follow the action of the majority of people, and most of the retail investors will have a great chance to become followers. According to Bayes' law in statistics, the more events that support an attribute, the more likely it is to be true. That is, if a person is seen to do good all the time, that person is more likely to become a model of a good person. From a theoretical perspective, assuming that all investors have the same public information, personal information and make decisions in the face of uncertain investment results, investors will imitate the behaviour of others, or judge whether the investment profit and infer whether profit in the financial market according to previous investment successful experience, so as to follow the behaviour of most people to decide to invest or not.

Herd behaviour mainly refers to the fact that investors are difficult to make accurate forecast on the market due to insufficient information. In this case, the investor's information is often observed from the behaviour of the crowd, and the information will be strengthened continuously, finally resulting in a herd behaviour. In the herd effect, the individual behaviour may be rational, but it may lead to collective irrational

behaviour.

Psychologically, in all spheres of life, when people communicate on an ongoing basis, usually they think in similar manner, which makes their responses to the same situations to be similar because of the similarity of their reactions. Accordingly, the individual tends to herd when mainly follows the actions of others (Bikhchandani et al., 1992 and Shiller, 2000).

Several economic studies such as De Long et al. (1990); Froot and Obstfeld (1991) and Hey and Morone (2004) referred to the strong relationship between bubbles and crashes in financial markets and speculative or irrational behavior of market participants. There are several definitions of herd behavior in the literature review. Banerjee (1992) defined the herd behavior as "the phenomenon of people following a crowd for a given period sometimes even regardless of individual information suggesting something else". In stock markets, Tan et al. (2008) described herd behaviour as a behavioral tendency for an investor to follow the actions of other investors. Also, Bikhchandani and Sharma (2001); Demirer and Kutun (2006) and Choi and Sias (2009) defined herding as the situation when a group of stock investors blindly follow other investors in either buying or selling stocks overtime. In this context, Bikhchandani et al. (1992), Lux (1998) explained the phenomenon of herd behavior as investor's respond to group pressure. Moreover, Banerjee (1992) showed that herd behavior may result from private information that not publicly shared. On the other hand, Avery and Zemsky (1998) defined herd behavior as a trade by an informed agent which follows the trend in past trades even though that trend is counter to his initial information about the asset value. Recently, Mandal (2011) defined herd behavior as the tendency of an individual to imitate other individuals as he/ she believes that their information is more accurate than his own privately information.

According to Scharfstein and Stein (1990) and Bikhchandani and Sharma (2001), herding behavior can be rational or irrational. Herding can be rational if the investor's actions are intentional whereas irrational herding means that the actions of the investor are non-intentional as the investor disregards his prior beliefs and blindly follows other investors' decisions (Christie and Huang, 1995; Devenow and Welch, 1996). Rational herding can be supported by the theory of planned behavior which assumed that planned behavior can be used in anticipating human behavior, where the theory of reasoned action supposed that intentions can be considered as a mediator variable between the behavioral motivators and the behavior itself (Ajzen and Fishbein, 1980; Ajzen, 1991, 2002).

Many studies in the finance and experimental economics literature have examined the possible motives behind herding behavior in financial markets. Some of these studies provide support for rational asset pricing models whereas other studies find significant evidence of herding behavior.

- **Classification of Herd Behaviour**

Regarding the classification of herding effect, different scholars have proposed different classification methods. It can be divided into true herd effect and false herd effect from the perspective of internal mechanism, and rational herd effect and irrational herd effect from the perspective of whether rational behaviour is distinguished or not.

- 1) *True herd behaviour and pseudo-herd behaviour*

True herd behaviour refers to the fact that participants have obvious imitation and follow of others' behaviour, while false herd refers to the fact that members of a group have the same information and take on similar behaviour when facing the similar decision-making problem. For example, a sudden rise in interest rates makes stocks much less attractive, and many investors choose to withdraw from the stock market. When interest rates suddenly drop and stocks become much more attractive, investors simultaneously increase the proportion of stocks in their portfolios. This change in economic behaviour is not because investors change their decisions based on the behaviour of others, but is generally driven by fundamental factors, so it is called pseudo-herd behaviour.

The biggest difference between true herd and pseudo-herd lies in the mutual influence between individuals

in the decision-making process. In the true herd effect, the fundamental reason why followers make decisions is that they often see the behaviour of other investors and make rational decisions. From the perspective of behavioural finance, this kind of behaviour originates from the sense of belonging of the group in the process of evolution. Or it may be the result of economic game, that is, the result of rational thinking in pursuit of maximum interests. For example, due to the consideration of information cost and the credibility of decision-making ability, small investors will adopt the policy of “following the leader” and directly imitate the trading decisions of big investors.

## 2) *Rational herd behaviour and irrational herd behaviour*

Rational herd effect refers to the fact that market participants consider participating in herding as the optimal strategy and actively choose to follow and imitate the behaviour of other participants based on factors such as difficulty in obtaining information, incentive factors of actors and payment externalities. Irrational herd behaviour is a denial of rational herding behaviour, that is, the herding behaviour of participants is not from the perspective of interests at all, but just blindly imitate each other and ignore the importance of rational analysis. Its characteristic is that the behaviour of the investors who take the lead in making decisions enters the market as new information, which has an important impact on the investment decisions of most of the later investors.

Both true herd behaviour and pseudo-herd behaviour are rational herding behaviour. Because in the process of individual decision making, both of these two kinds of investors aim to maximize their own interests. The real heard individual makes rational judgments based on the information brought to them by the behaviour of other investors, while the pseudo-herd individual makes decisions in line with their own interests based on the common information in the market. Therefore, both belong to rational herding behaviour.

- **Reasons for herd effect**

There are several explanations for herding behaviour and herd effect. Philosophers think it is the limitation of human reason, psychologists attribute it to human conformity psychology, sociologists pin it on human collective unconsciousness, and economists explain herding behaviour from the perspectives of incomplete information and principal-agent. Here, two reasons are discussed, namely, incomplete information and reputation and reward.

### A. *Herd Effect Caused by Incomplete Information*

Information can reduce uncertainty, and investor's access to accurate, timely and effective information means they can obtain high profits or avoid major economic losses. However, in the real market, the acquisition of information requires the payment of economic costs. Different investors have different access to information and different capabilities. Institutional investors have the scale advantages of capital, technology and talent, and individual investors are far from comparable with institutional investors in the payment of information costs. The direct result is that institutional investors get more effective information than individual investors, and individual investors are at a disadvantage in obtaining effective information and investment returns. Individual investors, in order to seek profits and avoid risks and obtain more real economic signals, will probably look around for “stable push” of the banker or be fond of saying unwarranted information, which to a greater extent encourages the market's tendency to follow the trend.

In fact, even for institutional investors, the information is inadequate as well. In the market environment with incomplete and uncertain information, it is assumed that every investor owns the private information of a stock, which may be the result of the investor's own research or obtained through private channels. On the other hand, even if the public information related to the stock has been fully disclosed, investors still cannot be sure of the quality of the information. In such a market environment, investors cannot directly obtain other people's private information, but they are prone to herd behaviour when they can infer other people's private information by observing their buying and selling behaviour. Although institutional investors are

stronger in information than individual investors, they are more prone to herd behaviour than individual investors because they know more about the buying and selling situation of their peers and have higher information inference ability.

#### *B. Herd Effect Caused by Reputation and Reward*

Scharfstein et al. (1993) provided the herding theory based on reputation of fund advisors and analysts. Since the competence of investment advisors is unknown, concerns about reputation arise. For instance, Agent 1 invests after receiving a “high income” signal. Since agent 2 is concerned about his reputation, he will follow the same investment strategy as agent 1, regardless of the signal. Because if he gets it right, his reputation will grow. If it’s wrong, it means that either they’re stupid or they’re both smart, but they get the same wrong signal, and it doesn’t do harm to their reputation. If the decision is different, the client thinks at least one person is stupid. Therefore agent 2 will always use herding strategy regardless of the signal difference between him and agent 1.

If several investment advisors make investment decisions one after another, everyone will imitate the decision of the first investment advisor who makes the choice. In the end, if investments are profitable, good signals will prevail. Private information will not ultimately be reflected in investment decisions, because all investment advisors will follow the first investment advisor to make decisions. This herding effect is therefore ineffective. And it is vulnerable because the behaviour of the later investment advisor is changed by a bit of information received by the first investment advisor.

#### *C. Herd Effect Caused by Speculative Mentality*

The mentality state change from investment to speculation in the securities investment market is an important factor for the occurrence of herd behaviour of individual investors. In the view of the original purpose of building securities financing market, the stock market can be regarded as a capital financial investment market, in which listed companies can realize direct financing in the securities market through the issuance of stock, for the enterprise provides a wider range of financing channels. Institutions or individuals who have spare money can choose their favorite company in the securities market for investment or trading in order to get bonus, thus make the most of idle funds.

However, from the perspective of long-term practice, the vast majority of individual investors have been not only satisfied with holding shares of listed companies to share dividends and achieve their own capital appreciation, people’s mentality for securities investment tends to move from the most primitive investment to speculative. More people are willing to buy low and sell high in the securities market to obtain the spread of securities transaction. Many people believe that this can increase their wealth more quickly and effectively. Although the words “investment” and “speculation” overlap with each other, they are different in essence. Speculation means that risks cannot be controlled and investors want to make high profits while investment is based on the value analysis of stocks and another financial derivative instrument. Most individual investors adopt the short-term speculation approach instead of long-term investment. In addition, stock market comments and media publicity drive the similar behaviour choice of the individual investors. When the market fluctuates, investors are easily influenced by stock market comments and media information, leading to investors’ blind following and the convergence of investment strategies. In this case, herd effect has become the normal state of the investment market.

## **HOW TO DEAL WITH HERDING BIAS**

How should we deal with the failure of portfolio performance caused by blind herding? The truth is, no one has ever succeeded by following the crowd. Through learning, summarizing and correcting their own behaviour, individual investors can still make use of the law of herding behaviour to bring rich benefits for themselves. In the securities investment market, those who insist on their correct value investment ideas in the ever-changing securities trading market can often become the outstanding ones in the securities investment behaviour. Integration of these successful history of investment idea, skill, and it is not hard to

find these winners without exception have wide knowledge and good at summary and research of the securities market of all kinds of behaviour, can through the summary of your own or another's wrongdoing to evade his shortcomings on emotional and cognitive, overcome the blind investment behaviour, so as to achieve the rational investment, allow yourself to gain success in the investment behaviour. We can deal with the herding effect from the following three aspects.

1) *Set clear goals for wealth management*

When the goal is clear, the corresponding investment duration and liquidity requirements will be determined, so as to narrow the range of financial products. For example, funds for children's education have a relatively long investment time limit and low liquidity requirement, so they can choose high-quality funds with stable performance in the medium and long term to pursue long-term excess returns. As a substitute for demand deposits, short-term financial products or money funds are suitable for the purpose of financial management. These products have good liquidity and can also enjoy the fixed income brought by fund management.

2) *Analyze financial situation and risk appetite objectively.*

This may be related to the age of investors. Investors with strong risk tolerance and high-income expectation can choose fund products with higher risk and higher income according to their income. The older investors with weak risk tolerance are suitable for low-risk or fixed-income fund products. If we blindly select equity fund products that have shown wealth effect without considering our own risk tolerance, we may bear a greater risk of loss. Therefore, investors should be fully aware of the risk problems in investment activities, establish a correct investment concept and risk prevention system, ensure the health of investment mentality, carefully participate in the investment system, and avoid risky speculation, so as to restrict decision-making to a certain extent. In addition, individual investors should give effective cognition to investment trading work, establish the consciousness of safeguarding their rights, and at the same time ensure that their rights will not be violated.

3. *Embrace the spirit of accepting new things and pursuing innovation.*

To borrow a sentence from Jack ma, "Sometimes, it is a blessing to be underappreciated, because everyone is underappreciated, and no one is killed. In terms of investment and financing, risks and opportunities coexist. Many people choose to give up the crab, because they unilaterally see the existence of risk, get rid of the risk, but also lost a lot of opportunities and benefits. A person different from the crowd, however, is not out of line or out of place. Decisive quality instead of arbitrary is needed to do a good job of wealth management.

## **CONCLUSION**

Behavioural finance theory not only deeply analyzes the individual behaviour of investors, but also studies the group behaviour of individual investors. Herd effect refers to the phenomenon that individuals give up their own opinions, change their original attitude and adopt the behaviour consistent with the majority under the pressure of social groups. People's pursuit of relative economic status is reflected in spatial comparison with others. People's mutual comparison has a great impact on individual decision-making behaviour, and the pursuit of fashion and herd mentality is the most prominent performance. In the field of finance, this preference factor is often manifested as the obvious irrational herd mentality and behaviour, which financial experts have begun to take as an important investment decision making factor for reference. Herd behaviour is more complex, the cause of formation of behavioural finance theory, based on the communication between investors' herd mentality, investors have rumors spread, the information uncertainty, information cost is too high, the need on payment and fame, loyal to the collective, between the investors will have preference, the same action to imitate "herd behaviour". To sum up, herding effect occurs due to insufficient information and incomplete, and it is difficult for individual investor to make reasonable expectations for the market, so the investors often observe the behaviour of the crowd around them and extract information. In this case, the information will be roughly the same and reinforce each

other, thus forming a herd mentality. Through the analysis above, it can be concluded that herd behaviour is a common phenomenon in the investment market. At the same time, herd behaviour is also a double-edged sword. Investors need to know, learn, summarize and use the law, so that they can use the herd effect to make reasonable and effective investment. Only by learning to think independently and make decisions, can the investors seize real opportunities and achieve investment success. One needs to think calmly and comprehensively, so as to make wise independent rational choices and lead to optimal portfolio performance.

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