The Effect of Herding Behavior and Overconfidence on Investors' Decision Making

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Abstract

Investors' decisions are influenced by many biases in this uncertain economic world. The study focuses on two biases that is over confidence and herding behavior that affects the investors' decision in Pakistan. Questionnaire were distributed among 150 respondents and managed to complete 100 responses. The results were tested using least square method. The result shows that both the biases, over confidence and herding behavior affect significantly investors' behavior towards decision.

Keywords: Herding Behavior, Overconfidence Behavior, Investor Behavior

Introduction

In the world of uncertain and unpredictable economic situation, the choices of the investors, decision vary accordingly. It becomes difficult and complex to make risky decisions. According to the economic theories, individual makes perceptive decisions and utilize all the available information. But with the advancement of technology and with the availability of information, investors' make rational decisions. The investors' has to make decisions on the available information (Myers & Majluf, 1984; Parveen, Satti, Subhan, Riaz, Baber, & Bashir, 2023). There are many factors that affects the impact of investors decision e.g. personality, over confidence, risk taking attitude and psychological problems (Hirshleifer, 2001). According to Grable and Roszkowski (2008) investors mood also effect the investment decision, if the mood is good and positive, he will make good and rational decision.

Investors' decision is also affected by herding behavior (Qasim, Hussain, Mehboob, & Arshad, 2019). Gender also affects the investors' decision. Male investors are more courageous and confident and make risky decision than female investors (Croson & Gneezy, 2009). Overconfidence is also the attribute that impacts the decision. Self-attribution is the key variable that arouses over confidence (Averill, DeWitt, & Zimmer, 1978; Kowalzick, Ahrens, Lauterbach, & Tang, 2023). Educated investors consider they are smart and make decisions overconfidently. Sometimes the decision made overconfidently goes wrong and investors has to suffer from a great loss. The time duration of investment also effects the investment decisions (Lakshmi & Mohideen, 2013). Investors make investment not in one country but in different countries and in different timeframe. This reduces the impact of biases and uncertainty that affect the investment behavior (Walters, Ülkümen, Tannenbaum, Erner, & Fox, 2023). According to Suresh (2013) different biases affect the impact of investment decision. If the investor understands all the biases it is very helpful to make rational decision and helps him or her in better financial decisions. In this study we will focus on two biases .i.e. overconfidence and herding behavior. In Pakistan, there is a limited study in this context and it is also important because the behavior and personality are the factors that affect the investment decisions. The study is also helpful for students in academic purpose and helps them in making suitable decisions.

Literature Review

Decision Making in Finance

Decision making is the process of making a suitable decision from the list of alternative choices. This choice is sometimes risky and becomes difficult and complex. The ability of a decision maker depends on the self-confidence and level at which he or she can take risky decisions. Decision making is the process of setting goals and targets and then the capability of achieving those targets with efficient and effective choices. There are three types of decisions in finance: investment decision, financing decision and the dividend policy decisions (Pompian, 2012).

Investment Decision

Investment decision refers to the ability of investor to make decisions regarding funds and finance regarding investment opportunities. Therefore investment decision refers to the selection of an asset in which the investment decision to be made. There are two categories in which the assets can be divided: long term assets and short term assets (Easton, Eddey, & Harris, 1993). Investment decisions revolve around the investing opportunities regarding funds.

Human being is a rational thinker and the process of decision making by a person depends upon the rationality and the confidence of a person. To make rational and effective decisions is a complex and risky process. The most important factor that a person should have while making risky decision is self-confidence. In these uncertain and unpredictable market situations, to make a decision regarding major investments is very difficult and complex. The process of making a decision by an investor involves the gathering of information from a variety of sources and analyzes this formation to make a suitable decision (Qasim, Hussain, Mehboob, & Arshad, 2019). There are many factors that can affect the impact of decision making of an investor according to a particular situation. For example, behavioral factors, over confidence, psychological factors, uncertain market conditions.

Herding Behavior

According to different economic theories the behavior of an investor is rational and he utilizes all the given information to make a decision but it was proved wrong by a study conducted by Kahneman and Tversky (1972). According to him it is the personality and situation that affects the behavior of an investor. There are different types of decision that are routine based or complex. Investors have to make decision based on the information available.

Herding behavior refers to the process in which an individual copies other person actions. He or she mimics all the actions whether they are right or wrong. It refers to the person's inability to make decisions at his own. For example, if a person invests in security A then the other person also invents in the same security without making his own judgments whether that investment suits his organization or that will be profitable or not. Making decision is the selection of best alternative. And in financial analysis it leads to selecting the best alternative in the most profitable manner. Time is the most precious element in the financial management. According to the economic theorists Kahneman and Riepe (1998) investors think rationally and make decisions after analyzing all the information but it cannot be true in case of investment decisions because investors do not have enough time to evaluate all the information and then analyze it and make a final decision. The second factor is the accuracy of the information that can affect the investor's decision. If the information is not accurate and appropriate this can cause a lot of loss to the investor. Investors can be categories as individual investors and institutional investors (Bushee, 2004). Individual investors usually do not have the access to the right and whole information and follows the institutional investors and makes short cut decisions without making their own strategies. Institutional investors have all the information from different sources and they make rational decision while taking advantage of this factor.

According to Kanojia, Singh, and Goswami (2022) studies about market wide herding in Indian capital market and found the impact of volatility and return on herding behavior of institutional investors, there exists a herding behavior in the market. Cipriani, Costantini, and Guarino (2012) studied the importance of herding behavior in the financial markets by taking data on Ashland Company listed on the New York stock exchange. The result showed that it affects buy, sell of traders, and affect prices of assets. Demirer and Kutan (2006) studied the impact of herding information in Chinese market by using individual and sector level data. The result showed that the herding behavior does not exist in the Chinese market.

Emotions also play an important role in the life of an investor. If he or she is emotionally strong, he or she can make rational and risky decisions. If a person is not emotionally strong then he cannot make a good decision and confused situation of his mind leads to loss of the organization. According to the study conducted by Chitra and Sreedevi (2011) on how the personality traits of the investor influence the choice of investment, showed that the returns and emotional stability were more strongly correlated with equity than with other investment choices, hence proving that emotions affected the equity investment process the most.

Hypothesis 1*: Herding bias has significant and positive influence on investment decision making.*

Overconfidence

Another important factor that impacts the investor's decision is overconfidence. Overconfidence refers to inner ability of an individual to belief his judgments strongly. According to Larrick, Burson and Soll (2007), overconfidence refers to the inner intention of an individual that he considers himself superior than others. It refers to the behavior of an individual that s/he overvalues himself too much. It refers to the over estimation of the performance of securities. Therefore investors take short cut to make decisions. When an individual is over confident, he beliefs his judgments and make more risky decisions. When an investor is over confident he or she makes decision without evaluating the information. These decisions usually lead to a greater loss. According to the study held by Le Luong and Thi Thu Ha (2011) about the behavioral bias and the impact on investor decision at the Securities Companies in Ho Chi Minh City, Vietnam, over confidence affects the investor's decision. Overconfidence could affect the decision of the corporate investment (Malmendier & Tate, 2005).

Hypothesis 2: *The overconfidence bias has a significant positive effect on investor decision making.*

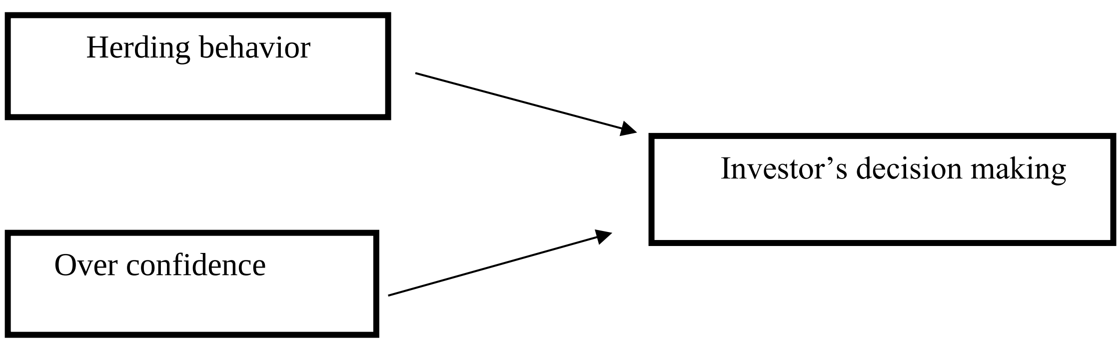

Fig 1. The structure of the proposed method

Proposed Study

Sample and Procedure

This research is based on the population of all investors in Pakistan, who have invested in different securities. Convenience sampling method is used to select the sample. This method is used to access the respondents easily. The sample consists of the investors who have invested money in market instruments, capital market and other financial institutions. The questionnaires are distributed among the employees of different banks and individual distributors. The total of 150 questionnaire are distributed, among them 120 are collected back and 100 were properly filled.

This indicates that the respondent responses are the 67%. Out of the hundred respondents, 59 are male and 41 are female which indicate the percentage of 59% and 41%. Out of 100 respondents the 28% is under twenty and 62% are between 20-30, it indicates that many of the investors are youngster, 8% are of middle age between 30-40. The out of hundred 54% are graduates, 20% are intermediate, 12% are masters, 8% are M-Phil and 5 % are PhD. In rupees the 29 % respondents had income ranging (21,000 to 40,000), 26% had income between (41,000 to 60,000), 25% had below 20000, 15% had income between (61,000 to 80,000) and only 5% had income more than 100,000.

Measures

The primary data are collected by using the questionnaire of 21 items. The Likert scale questionnaire has been used for collecting the data from respondents. It is five point Likert scale from 1-5. One= strongly disagree, two= disagree, three= neutral, four= agree and five= strongly agree. The herding bias is measured by adopting four-item questionnaire of Nagoc (2013). The reliability value for this variable is 0.61. Over-confidence bias is measured by adopting questionnaire designed by Nada and Moa'mer (2013**)**. The reliability of the overconfidence bias questionnaire is 0.66. This tells the behavior of investor on whether or not they learn from mistakes. The individual investment decisions are determined by using the five-item questionnaire by Aspra and Tikkanen (2011). The reliability value of that factor is the 0.65. It helps us determine the effect of individual on their investment decision.

Table1

Means, Standard deviations and Correlation

		Mean	SD	1	2	3
1	DM	3.4600	0.62628	1		
2	HB	3.4600	0.72624	0.250*	1	
3	OCB	3.5100	0.56696	0.232**	0.331**	1

Table 1 represents the descriptive statics and the correlation between the dependent and independent variables. The mean for herding bias is 3.4600 and standard deviation is 0.72624. The means of overconfidence bias in 3.5100 and standard deviation is 0.56696. The means for investment decision making is the 3.4600 and standard deviation is 0.62628. The correlation matrix indicates the relationship between the investment decision and HB is 0.250, which shows that the relationship is positive. The correlation between the investment decision making and over confidence bias is positive and it is 0.232. The relationship between the investment decisions making is positive. Linear regression is used to test the hypothesis. The hypothesis predicts that the biases are positively affecting the investment decision. Regression is run by controlling the demographics variable. Regression analysis showed that the p-value for overconfidence bias is

0.00456 at $p < 0.05$ which indicates that the relationship is positive and significant. The p-value for the Herding bias is 0.0037 at $p < 0.05$, which indicates that the Herding bias has strong impact on the investment decision.

Hypotheses are supported by the results. The value of R square change is 4 which indicate that which have an overall significant impact on the investment decision.

Table 2

Regression analysis outcomes

Predictors	Intercept	p value	R-square
HB	0.265	0.00375	0.346
OCB	0.270	0.00456	

Discussion and Conclusion

With the passing time and with the advancement in technology investors are becoming more curios and courageous in making financial decisions. Investors are becoming more dependent on all information collected from the sources and making rational decisions while utilizing this information. There are many factors that can distort the decision making process. In this study two biases will be discussed namely herding behavior and over confidence. The research shows that both the factors herding behavior and over confidence have a positive and significant effect on investor's decision making. This study also indicates the impact of both biases on investor's decision. In order to protect their business, small investors try to copy the strategies of other investors in the market. In Pakistani market information is not equally distributed to the investors. Herding bias affects the investor's decision for two reasons: to reduce the impact of loss and to gain maximum profit from the investment (Raddatz & Schmukler, 2011). Market performance is another factor that can distort the investor's decision making. Most of the investors are affected by herding behavior based on the market performance (Priori et al., 2013). The results are also supported by Malmendier and Tate (2005) and Ullah and Elahi (2014). The results of study also indicate that over confidence has a positive and significant impact on investment decision making. Education and experience are two factors that can enhance the impact of over confidence in investor's decision making process. When an individual overvalue his education and experience he or she becomes overconfident. The previous studies have showed that male investors are more confident than female investor and are more likely to take risky decisions (Barber & Odean, 2001). Over confident individuals make inappropriate and poor decisions that lead to the loss for an investor.

References

Aspara, J., & Tikkanen, H. (2011). Individuals' affect-based motivations to invest in stocks: Beyond expected financial returns and risks. Journal of Behavioral Finance, 12(2), 78-89.

Averill, J. R., DeWitt, G. W., & Zimmer, M. (1978). The self-attribution of emotion as a function of success and failure 1. *Journal of Personality*, *46*(2), 323-347.

Barber, B. M., & Odean, T. (2001). The internet and the investor. *Journal of Economic Perspectives*, *15*(1), 41-54.

Bushee, B. (2004). Identifying and attracting the "right" investors: Evidence on the behavior of institutional investors. *Journal of Applied Corporate Finance*, *16*(4), 28-35.

Chitra, K., & Sreedevi, V. R. (2011). Does personality traits influence the choice of investment?. *IUP Journal of Behavioral Finance*, *8*(2), 47.

Cipriani, M., Costantini, R., & Guarino, A. (2012). A Bayesian approach to experimental analysis: trading in a laboratory financial market. *Review of Economic Design*, *16*, 175-191.

Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic literature*, *47*(2), 448-474.

Demirer, R., & Kutan, A. M. (2006). Does herding behavior exist in Chinese stock markets?. *Journal of international Financial markets, institutions and money*, *16*(2), 123-142.

Easton, P. D., Eddey, P. H., & Harris, T. S. (1993). An investigation of revaluations of tangible long-lived assets. *Journal of accounting research*, *31*, 1-38.

Grable, J. E., & Roszkowski, M. J. (2008). The influence of mood on the willingness to take financial risks. *Journal of Risk Research*, *11*(7), 905-923.

Hirshleifer, D. (2001). Investor psychology and asset pricing. *The journal of Finance*, *56*(4), 1533-1597.

Kahneman, D., & Riepe, M. W. (1998). Aspects of investor psychology. *Journal of portfolio management*, *24*(4), 52-+.

Kahneman, D., & Tversky, A. (1972). Subjective probability: A judgment of representativeness. *Cognitive psychology*, *3*(3), 430-454.

Kanojia, S., Singh, D., & Goswami, A. (2022). Impact of herding on the returns in the Indian stock market: an empirical study. *Review of Behavioral Finance*, *14*(1), 115-129.

Kowalzick, M., Ahrens, J. P., Lauterbach, J. G., & Tang, Y. (2023). Overconfident CEOs in dire straits: How incumbent and successor CEOs' overconfidence affects firm turnaround performance. *Journal of Management Studies*.

Lakshmi, S., & Mohideen, M. A. (2013). Issues in reliabilityand validity of research. *International journal of management research and reviews*, *3*(4), 2752.

Larrick, R. P., Burson, K. A., & Soll, J. B. (2007). Social comparison and confidence: When thinking you're better than average predicts overconfidence (and when it does not). *Organizational Behavior and Human Decision Processes*, *102*(1), 76-94.

Le Luong, P., & Thi Thu Ha, D. (2011). Behavioral factors influencing individual investors decision-making and performance.: A survey at the Ho Chi Minh Stock Exchange.

Malmendier, U., & Tate, G. (2005). CEO overconfidence and corporate investment. *The journal of finance*, *60*(6), 2661-2700.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, *13*(2), 187-221.

Nada, S. M. A., & Moa'mer, F. A. (2013). Behavioural Factors influencing investment decision making: An empirical study of Palestine Stock Exchange. *Gaza: The Islamic University*.

Ngoc, L. T. B. (2013). Behavior pattern of individual investors in stock market. International Journal of Business and Management, *9*(1), 1

Parveen, S., Satti, Z. W., Subhan, Q. A., Riaz, N., Baber, S. F., & Bashir, T. (2023). Examining investors' sentiments, behavioral biases and investment decisions during COVID-19 in the emerging stock market: a case of Pakistan stock market. *Journal of Economic and Administrative Sciences*, *39*(3), 549-570.

Pompian, M. M. (2012). *Behavioral finance and investor types: managing behavior to make better investment decisions*. John Wiley & Sons.

Priori, S. G., Wilde, A. A., Horie, M., Cho, Y., Behr, E. R., Berul, C., ... & Tracy, C. (2013). HRS/EHRA/APHRS expert consensus statement on the diagnosis and management of patients with inherited primary arrhythmia syndromes: document endorsed by HRS, EHRA, and APHRS in May 2013 and by ACCF, AHA, PACES, and AEPC in June 2013. *Heart rhythm*, *10*(12), 1932-1963.

Qasim, M., Hussain, R., Mehboob, I., & Arshad, M. (2019). Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan. *Accounting*, *5*(2), 81-90.

Raddatz, C., & Schmukler, S. L. (2013). Deconstructing herding: Evidence from pension fund investment behavior. *Journal of Financial Services Research*, *43*, 99-126.

Suresh, S. (Ed.). (2013). *Fundamentals of metal-matrix composites*. Elsevier.

Ullah, S., & Elahi, M. A. (2014, May). Behavioral Biases in Investment Decision Making and Moderating Role of Investor's Type. In *SZABIST's 20th National Research Conference, 10th May*.

Walters, D. J., Ülkümen, G., Tannenbaum, D., Erner, C., & Fox, C. R. (2023). Investor Behavior Under Epistemic vs. Aleatory Uncertainty. *Management Science*, *69*(5), 2761-2777.

Questionnaire

Respected Respondent,

I am pursuing my research from Riphah University, on the topic *"**Herding Behavior and Overconfidence Behavior of the Investor**"*. The present research aims at investigating the presence of herd behavior among retail investors in Pakistan. Kindly devote your valuable time to fill this questionnaire and help me in completing the research. All information will be kept confidential and will be used for research purpose only.

Gender

Male ☐

Female ☐

Age

Less than 18 years ☐

19-36 years ☐

37-54 years ☐

More than 54 years ☐

Occupation

Student ☐

Government employee ☐

Private organization employee ☐

Businessman ☐

Professional ☐

Q1.When do you monitor the investment done in stocks?

Many times in a day ☐

Daily ☐

Weekly ☐

Once in a Month ☐

Q2.Usually, how much amount do you invest in stocks/securities?

Less than 20000 ☐

20000- 40000 ☐

40000- 60000 ☐

More than 60000 ☐

Q3. What is your objective of investment in stock market?

Take benefit from the daily price fluctuations ☐

Earn steady income in the form of dividends ☐

Combination of income and capital gain ☐

Q4. What do you think? Is this your intuition (your internal feeling) which affects your decision about purchasing a stock?

No effect ☐

Little effect ☐

Moderate effect ☐

Quit a high effect ☐

Q 5.On a scale of 1 to 5 (1: low risk), what levels of risk do you undertake risk?

____

Q 6.How often has your investment decisions proved to be right?

>80% 50-80% <50% ____________________

The following statements attempts to analyze herd behavior of retail investors. Kindly tick the appropriate option against statements S.D. D N A S.A.

S.NO	**STATEMENTS**	**S.D**	**D**	**N**	**A**	**S.A**
1	I usually invest in companies I am familiar with.					

2	Rumours in the market affect my own investment decision making power					
3	I don’t possess enough knowledge about stock market.					
4	Greed of earning more returns makes me more aggressive in terms of investing money					
5	I prefers to follow group behavior in risky financial products					
6	I find it easy to imitate the behaviour of other people.					
7	I would like to invest in those stocks where my friends and family have done their investment					

S.NO	**STATEMENTS**	**S.D**	**D**	**N**	**A**	**S.A**
8	I seek the comfort of trading in a group to avoid reputational scrutiny					
9	I intentionally replicate others’ decisions in order to protect my interest because I believe the decision of others are better informed.					
10	I prefer to follow group decisions to protect my current level of Status.					
11	My conservative attitude forces me to follow the investment decision of others.					

12	I don’t have appropriate information accessibility to decide about investment decision making.					
13	When I am uncertain how to act in a given situation, I look to the behavior of others.					
14	I don’t perform technical analysis of the company rather trust on the sentiments of the market.					
15	I rely on the opinion of my family, friends or peer group while investing in International markets.					