

ROLE OF BEHAVIORAL FINANCE, INVESTMENT DECISION-MAKING AND PERCEIVED MARKET EFFICIENCY: A SURVEY AT TEHRAN STOCK EXCHANGE

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Abstract: This paper's objective is to review behavioral finance which considers human behaviors in finance. It's a quite new area within the field of finance which has been studied for thousands of years. Behavioral finance theories support psychology and plan to understand how emotions and cognitive errors influence and manipulate individual investors' behaviors. The most objective of this study is to research the behavioral factors influencing individual investors' decisions at the Tehran stock market. As there are limited studies about behavioral finance in Iran, this study is predicted to contribute significantly to the event of this field in Iran. The study begins with the prevailing theories in behavioral finance, supported that hypotheses are proposed. Then, these hypotheses are tested through the questionnaires distributed randomly to individual investors at the Tehran stock exchange. SPSS software has been used to analyze the collected data. The result shows that there are many factors but we've chosen five factors that affect investment decisions like Overconfidence, Herding, Representativeness, Availability, and Anchoring-ability bias. Most of those factors have moderate impacts. This study also tries to examine the correlation between these behavioral factors and investment decisions. All the behavioral factors mentioned above are found to influence the Investment Performance: Herding (choice of trading stocks; the number of trading stocks), The heuristic behaviors like overconfidence, representativeness, anchoring, availability are found to possess a moderate impact on the investment performance while the herding behaviors are reported to influence positively on the investment performance at the lower level.

Keywords: "Behavioral Finance", "Efficient Market Hypothesis", "Overconfidence", "Herd behavior", "Anchoring", "Representativeness", "Availability", "Decision making", "Stock Exchange".

I. INTRODUCTION

In recent years, it has become increasingly apparent that psychology is becoming more and more popular and it plays an important role in the financial markets as well as the impact of rational actions on financial marketers. Behavioral finance is a well-developed field based on its own theory as well as methods and methodologies. From ethnographic research to experiments. Behavioral finance is informed by three disciplines of psychology. The first is cognitive or behavioral psychology, in which the focus is on how our minds perform the calculations necessary to maximize wealth. Much of the Nobel Prize. The work of Daniel Conman (often in collaboration with the late Amos Tversky) was formed. Second is the emotional response to business intensity, where greater focus on decision-making is more than a calculated process. The third is social psychology, which recognizes the need to find acceptance and even encouragement for our actions. Surely, being rejected by our professional peers can be painful and potentially painful. This shows the results of the market along with the impact of various factors on the attitudes of individuals and company managers involved in investment decisions.

It was first developed in the early 1980s by a small group of academics in a variety of fields, including economics, psychology, and engineering, led by a small core. The academic group was organized by the Russell Sage Foundation in New York.

Every individual is different from others due to various factors which include demographic factors, age, race and sex, education level, social and economic background; the same is the situation with the investors. The most condemnatory challenge faced by them is the investment decision; they act in a rational way and commonly follow their inborn tendency and emotional biases while making investment decisions. Conventional theorists assume that most of the investors are risk-averse and try to minimize the risk at the maximum return but the nature of investors depends upon the risk attitude of investors towards the security. Behavioral finance research has emerged tragically in recent years, proving that investors' financial decisions are also influenced by internal and external behavioral factors. (Shefrin, 2000; Shleifer, 2000; Warneryd, 2001). Many researchers believe that market inefficiencies can be attributed to behavioral biases, including overconfidence, representativeness bias, herding, price anchoring, and conservatism bias. Many studies have reported that overconfidence, representativeness heuristic, and herding are strongly correlated to the long term reversal effect.

II. LITERATURE REVIEW

Over the past five decades, researchers have been identified as particularly biased in their studies, and behavioral finance research relies on a vast body of evidence pointing to the inefficiency of human decision making in various economic decision-making situations (Pompian, 2006). . Some scholars classify biases as cognitive or emotional biases as heuristics (Brabazon, 2000; Parikh, 2011) (Shane, 2005; Kristensen and Garling, 1997; Montier, 2002). Nevertheless, behavioural finance professionals believe that investors are additionally suffering from psychological feature errors more than behavioral biases (Jureviciene & Jermakova, 2012). Proponents of behavioral finance believe that when making investments, investors make seemingly irrational or irrational decisions and most of these investment decisions are based on actions or emotions (Sewell, 2007; Shefrin, 2000; Belsky and Gilovich, 1999; Fama, 1998). Herbert (1979) has long suggested that decision-makers should be regarded as "logically logical" rather than logical and has proposed a model in which maximum alternative productivity is satisfied. Tversky found that

- (i) In contrast to the assumption of the risk-averse investor, people often exhibit risk-seeking behavior while making investment decisions;
- (ii) Investors are inclined to attribute outcomes of assorted decisions differently; and
- (iii) Their expectations, which are said to be rational ones under the classical decision making, are often biased in predictable directions.

A comprehensive study of literature relevant to behavioral decision-making and individual investor's psychology available gives a fair idea of the cognitive and emotional biases to which an individual investor's decision may be susceptible. In this article, the author attempts to discuss biases related to investment decisions.

III. PROBLEM STATEMENT

Based on the results of a study done by Asghar Nejad Nouri, B., Motamedi, S., Soltani, M.,(2017) suggest that the Tehran Stock Exchange has a poor performance and, on the other, confirm the relatively irrational behavior of a major part of Iranian shareholders who, under different conditions and changes in the general conditions of society such as the volatility of macroeconomic indicators, national and international political upheavals, financial conditions of companies and so forth, show totally unpredictable buying and selling behaviors. Therefore, this study examines the tendency of investors behavior to observe the effects of biases such as overconfidence, Anchoring, herd behavior, representativeness and availability on investors' decisions regarding the stock selection and the direct and indirect effects on the investor's decision-making process.

IV. RESEARCH OBJECTIVE

1. To measure the impact of overconfidence on individual investment decisions in the Tehran Stock Exchange.
2. To measure the impact of representativeness on individual investment decisions in the Tehran Stock Exchange.
3. To measure the impact of price anchoring on individual investment decisions in the Tehran Stock Exchange.

4. To measure the impact of the herd behavior on individual investment decisions in the Tehran Stock Exchange.
5. To measure the impact of the availability of information on individual investment decisions in the Tehran Stock Exchange.

V. RESEARCH HYPOTHESIS

It is beyond any doubt that behavioral factors impact the investment decisions of investors within the money markets, particularly within the stock markets. This study explores the influence levels of the Tehran stock market, as in the following hypotheses.

- H₁: Overconfidence has an impact on individual investment decisions at the Tehran Stock Exchange.
H₂: Availability of information has an impact on individual investment decisions at the Tehran Stock Exchange.
H₃: Representativeness has an impact on individual investment decisions at the Tehran Stock Exchange.
H₄: Price anchoring has an impact on individual investment decisions negatively at the Tehran Stock Exchange.
H₅: Herd behavior has an impact on individual investment decisions at the Tehran Stock Exchange.

VI. LIMITATIONS OF THE STUDY

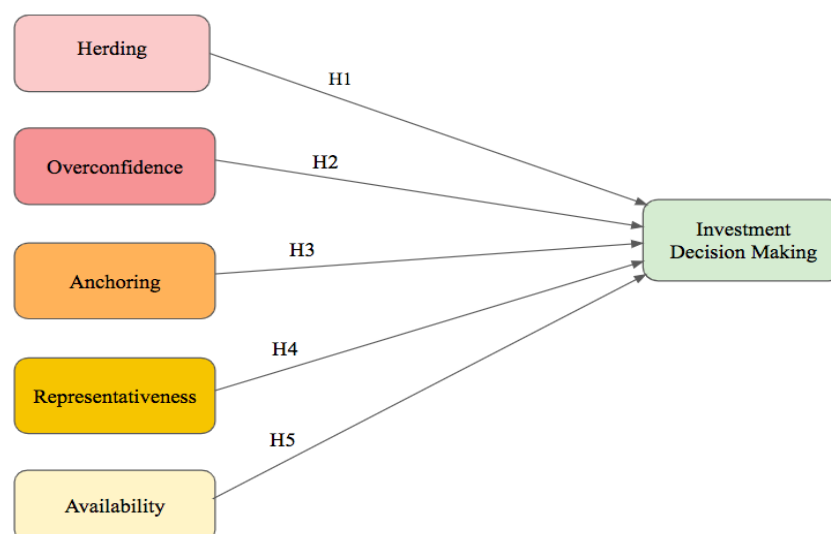
1. One of the major challenges i faced was the administration of the questionnaires
2. This study is limited to the time of applying this study.
3. I was not able to accomplish the 100% response of 200 questionnaires.
4. The study is limited to the study sample, which comprised investors at Tehran Stock Exchange.
5. The data obtained from this study is likely to lack details or depth on the topic being investigated- behavioral influences on the individual investor choices of securities.

VII. RESEARCH DESIGN

This study is a descriptive research design. This research design determines and reports the way things are and attempts to describe such things as possible behavior, attitudes, values, and characteristics. Descriptive design is appropriate in this study because it ensures an in-depth analysis and outline of the various phenomena under investigation.

VIII. RESEARCH FRAMEWORK

Based on a literature review of the cognitive biases, the following conceptual model has been developed. The graph below identifies the impact of psychological biases on investors' decision making.



Source: Adopted and Adapted from Asian Journal of Empirical Research, 8(3)2018: 99-109

IX. SOURCE OF DATA

Secondary Data; Secondary data was obtained from journals, standard finance, investor behavior in financial markets, and behavioral factors affecting investment decision making in financial markets.

Primary Data; This data was collected from investors in Tehran stock exchange by questionnaire. The questionnaire was designed and distributed to get responses from the target group of the research. Respondents were asked to furnish their opinions on the independent and dependent variables of this research, when trading in the stock market.

Population; The questionnaires will be sent to individual investors currently trading and making their own decisions at the Tehran Stock Exchange.

Sample Size; Total of 200 questionnaires was distributed to the investors currently trading in Tehran Stock Exchange. 150 questionnaire was returned but only 120 questionnaires were fully completed by individual investors and used for analysis, representing a response rate of 60% percent.

Data Analysis; The data were analysed using SPSS 26.0 on certain relevant aspects such as Reliability, Correlation, t-Test and ANOVA. The Following tables indicate the analysis.

Table 1: Impact of Anchoring Variables on the Investment Decision Making

Factor	Variables	Mean	Std. Deviation
Anchoring Bias	I use the stock purchase price as a reference point for trade.	3.25	1.312
	I believe that the position of the year high and low price determined the current stock price movement range.	3.31	1.182
	I see the stock price as high if the price has increased to the current year high.	3.12	1.260
	I am unlikely to buy a stock if it was more expensive than last year.	3.30	1.100
	I am likely to sell my stock after the price hits recent year high .	3.51	1.111
	I compare the current stock prices with their recent year high and low price to justify my stock purchase.	3.24	1.258

In terms of anchoring, its moderate impact (mean = 3.28) suggests that there are two schools forecasting future stock prices for investment decisions. One of them depends on recent price forecasts and the other is not affected by recent prices. Price reflects the current situation in the Iranian market where many people use techniques to analyze and predict future stock price changes based on previous prices while others prefer other information instead of price, which can be information as mentioned in the past. This can be explained by the sudden and unexpected fluctuations in the stock price trend at TSE, which makes investors think of safer ways to predict stock price changes than they have experienced in the past. Hvide's (2002, p. 27) study reveals various findings that many believe today's price is determined by the previous one.

X. CORRELATION ANALYSIS

Table 2: Means, standard deviations and Pearson correlation

Variables	Mean	SD	1	2	3	4	5	6
Herd Behavior	3.3430	0.89042	1					
Overconfidence	3.3365	0.77916	0.564**	1				
Anchoring	3.2865	0.77526	0.555**	0.624**	1			
Representativeness	3.3595	0.83784	0.594**	0.572**	0.636**	1		
Availability	3.0937	0.77127	0.536	0.612**	0.695**	0.636**	1	
Investment Decisions	3.1777	0.8511	0.014	-0.24	-0.013	0.035	0.008	1

Note: N=121
 ** $p < 0.01$

Current descriptive statistics and correlations among the variables. The output of the analysis demonstrates the correlation coefficient for five variables. The results show that each variable is perfectly correlated with itself because the value of the correlation coefficient is one ($r = 1$). Beside heuristics factor represented by overconfidence, representativeness, anchoring, and availability, herding factor also has a positive impact on investment performance. Hirshleifer and Teoh (2003, p.45) claim that overconfidence can elevate herding in security markets. The table above illustrates, herd behavior has a low but positive correlation with investment decision making ($r=0.014$).

Table 3

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.94 ^a	.094	-.034	.87086	.094	0.207	5	115	0.959

a. Predictors: (Constant), Availability_of_information, Herd_Behavior, Overconfidence, Representativeness, Price_Anchoring

As shown in the Model summary in Table 3, R^2 value is 0.094 which means that only 9.4% of the changes in the dependent variable (IDM) are explained by the independent variables.

XI. RESEARCH FINDINGS

The study is summed up by giving all the answers for the research questions raised in the introduction part. This implies that the research objectives are done and therefore the hypotheses are tested. The following part by presenting the main points to answer the research hypotheses, gives the conclusions for the study by presenting the main points to answer the research hypotheses.

H₁- Overconfidence has an impact on individual investment decisions at TSE - The conclusion in regard to this hypothesis is that individual investors are moderately influenced by the overconfidence bias. Consequently, the hypothesis cannot be rejected.

H₂- Herd Behavior has an impact on individual investment decisions at TSE - The findings of the research concluded that individual investors in TSE are affected or impacted by the Herd behavior bias and that the hypothesis cannot be rejected.

H₃- Representativeness has an impact on individual investment decisions at TSE - The findings of the research concluded that individual investors in TSE are moderately influenced or impacted by the representativeness bias so, the hypothesis cannot be rejected.

H₄- Anchoring has an impact on individual investment decisions at PSE - The research found that individual investors in TSE are moderately affected by the anchoring bias; therefore the hypothesis cannot be rejected.

H₅- *Availability has an impact on individual investment decisions at TSE* - The findings of the research concluded that individual investors in TSE are moderately affected or impacted by the Availability bias therefore, the hypothesis cannot be rejected.

XII. CONCLUSION

This research study concludes that the decision-making process of investors could be affected by many behavioral factors. These behavioral factors' impact on decision making is varied to different degrees. The current study also checks the relationship of investment decision making with behavioral factors (Overconfidence, Herd behavior, Availability, Representativeness bias, and Anchoring). The response from the sample presents that all behavioral factors make an influence on the decision-making process of investors.

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