Abstract

Behavioral finance theories, which are based on the psychology, attempt to understand how emotions and cognitive errors influence individual investors’ behaviors. The objective of this study, Survey behavioral Factors Influencing Investors’ Decisions Making. The statistical population includes investors in the Stock Exchange in Tabriz city. We choose the statistical sample, 385 people, using Morgan by random sampling method. In this study, to collect data and discover the opinion of the population study, a questionnaire was used. To determine the reliability of the questionnaire, Cronbach's alpha coefficient used which was 0.914. Based on the studied hypotheses, we concluded that, Heuristic factors, prospect factors, market factors, herding effect factors impact on investors’ decision-making. According to Friedman test, we found that the market factors has the highest correlation with investors’ decision-making. In later grades, the herding effect factors in the second, prospect factors in the third, Heuristic factors is in fourth places. The study has an overall picture of impacts of behavioral factors on the investment decisions at the Stock Exchange.

Keywords: Behavioral finance, Investors’ decision-making, Stock Exchange.

Introduction

Behavioral finance combines behavioral and cognitive psychological theory with conventional economics and finance to understand decisions investors make (Ackert and Deaves, 2009). Behavioral finance attempts to better understand what seems to be the suboptimal investor decisions, particularly those that impact markets and personal wealth. The Efficient Market Hypothesis argues that competition between investors seeking abnormal profits drives prices to their correct value (Ritter, 2003). Johnson et al (2002) note that financial prices incorporate all available information and prices can be regarded as optimal estimates of true investment value at all times. According to Shiller (1998), the Efficient Market Hypothesis is based on the notion that people behave rationally, maximize expected utility accurately and process all available information. The emerging discrepancy between the efficient market hypothesis and reality encouraged a deeper insight focused on psychology, as an important factor in financial theory. Behavioral finance was formulated a new branch of theory, combining the knowledge of psychology, sociology and other social sciences (Buss, 2009). Due to the integration of various scientific knowledge behavioral finance better explains market anomalies and financial behavior of individuals. An efficient market theory hypothesis maintains that investors, while competing for big profits, establish fair prices. In order to better understand an individual financial behavior, the behavioral theory of psychology, sociology and anthropology is applied. An efficient market is associated with the theory of rational expectations, including the assessment of all information about property. However, if there are many irrational investors and their financial behavior does not correlate, and their transactions invalidate each other and have an impact on prices, the question arises on a far too poor assessment of the irrational investors’ impact on the market. If investors are irrational, their financial decisions determine prices, although do not change the value of financial assets. As a result, rational investors can sell overvalued or buy undervalued assets, thus gaining profit, until the asset price converges with its value (Berg and Gigernezer, 2010). Behavioural finance study the effects of social, cognitive, and emotional factors on the economic decisions of individuals and institutions and the consequences for benefit and the resource allocation. Behavioral finance does not take the
characteristics of the decision maker as fixed, the focus is on the non equilibrium processes, actions of diverse agents with bounded rationality who may learn from experience and interactions (Guzavicius et al. 2014). Investment according to Bodie et al. (2008) is the current commitment of money or other resources in the expectation of reaping future benefits. Investment management is the professional management of investment funds for individuals, families and institutions. It can be done either by the consumer or a professional and can be passive, active, aggressive or conservative. The level of return will depend on internal factors and characteristics such as type of investment, quality of management, and how the investment is financed (Griffith, 1990). Investors have difficulties making long term financial decisions for reasons such as short sightedness, a lack of financial sophistication and inability to self regulate (Winchester et al. 2011). The individual investors can employ a team of investment professionals under the direction of a portfolio or fund manager. These individuals work full time on studying the markets, market trends, and individual stocks (Fischer & Jordan, 1995). According to the subjects expressed, The objective of this study Identifying the impact levels of behavioral factors on the investment decisions and performance of individual investors.

Behavioral factors impact the process of investors’ decision-making

According to Ritter (2003), behavioral finance is based on psychology which suggests that human decision processes are subject to several cognitive illusions. These illusions are divided into two groups: illusions caused by heuristic decision process and illusions rooted from the adoption of mental frames grouped in the prospect theory (Waweru et al. 2008). These two categories as well as the herding and market factors are also presented as the following.

Heuristic theory

Kahneman and Tversky seem to be ones of the first writers studying the factors belonging to heuristics when introducing three factors namely representativeness, availability bias, and anchoring (Kahneman and Tversky, 1974). Waweru et al. also list two factors named Gambler’s fallacy and Overconfidence into heuristic theory (Waweru et al. 2008).
- Representativeness may result in some biases such as people put too much weight on recent experience and ignore the average long-term rate (Ritter, 200). A typical example for this bias is that investors often infer a company’s high long-term growth rate after some quarters of increasing (Waweru et al. 2008).
- More specifically, in stock market, Gamblers’ fallacy arises when people predict inaccurately the reverse points which are considered as the end of good (or poor) market returns (Waweru et al. 2008). In addition, when people subject to status quo bias, they tend to select suboptimal alternative simply because it was chosen previously (Kempf and Ruenzi, 2006).
- Anchoring makes investors to define a range for a share price or company’s income based on the historical trends, resulting in under-reaction to unexpected changes. Anchoring has some connection with representativeness as it also reflects that people often focus on recent experience and tend to be more optimistic when the market rises and more pessimistic when the market falls (Waweru et al. 2008).
- Overconfidence is believed to improve persistence and determination, mental facility, and risk tolerance. In other words, overconfidence can help to promote professional performance. It is also noted that overconfidence can enhance one’s perception of one’s abilities, which may help to achieve faster promotion and greater investment duration (Oberlechner and Osler, 2004).
- Availability bias happens when people make use of easily available information excessively. In stock trading area, this bias manifest itself through the preference of investing in local companies which investors are familiar with or easily obtain information, despite the fundamental principles so-called diversification of portfolio management for optimization (Waweru et al. 2003).

The first hypothesis: Heuristic factors influence investors’ decision-making.

Prospect theory
Prospect theory focuses on subjective decision-making influenced by the investors’ value system, whereas Expected Utility Theory concentrates on investors’ rational expectations (Filbeck, et al. 2005). Prospect theory describes some states of mind affecting an individual’s decision-making processes including Regret aversion, Loss aversion and Mental accounting (Waweru et al. 2003).

- Regret is an emotion occurs after people make mistakes. Investors avoid regret by refusing to sell decreasing shares and willing to sell increasing ones. Moreover, investors tend to be more regretful about holding losing stocks too long than selling winning ones too soon (Forgel and Berry, 2006).

- There is evidence showing that people are more distressed at the prospect of losses than they are pleased by equivalent gains (Barberis and Thaler, 2003). Moreover, a loss coming after prior gain is proved less painful than usual while a loss arriving after a loss seems to be more painful than usual (Barberis and Huang, 2001). In addition, Lehenkari and Perttunen (2004) find that both positive and negative returns in the past can boost the negative relationship between the selling trend and capital losses of investors, suggesting that investors are loss averse.

- Mental accounting is a term referring to “the process by which people think about and evaluate their financial transactions” (Barberis and Huang, 2001). Mental accounting allows investors to organize their portfolio into separate accounts (Ritter, 2003).

**The second hypothesis:** Prospect factors influence investors’ decision-making.

**Market factors**

Market factors, in turns, influence the decision making of investors in the stock market. Waweru et al. (2008) identifies the factors of market that have impact on investors’ decision making: Price changes, market information, past trends of stocks, customer preference, over-reaction to price changes, and fundamentals of underlying stocks. Normally, changes in market information, fundamentals of the underlying stock and stock price can cause over/under-reaction to the price change. These changes are empirically proved to have the high influence on decision-making behavior of investors. Researchers convince that over-reaction (DeBondt and Thaler, 1985) or under-reaction (Lai, 2001) to news may result in different trading strategies by investors and hence influence their investment decisions. Waweru et al. (2008) conclude that market information has very high impact on making decision of investors and this makes the investors, in some way, tend to focus on popular stocks and other attention-grabbing events that are relied on the stock market information. Moreover, Barber and Odean (2000) emphasize that investors are impacted by events in the stock market which grab their attention, even when they do not know if these events can result good future investment performance. Waweru et al. (2008) indicate that price change of stocks has impact on their investment behavior at some level. Additionally, Caparrelli et al. (2004) propose that investors are impacted by herding effect and tend to move in the same flow with the others when price changes happen. Besides, investors may revise incorrectly estimates of stock returns to deal with the price changes so that this affects their investment decision-making (Waweru et al., 2008).

**The third hypothesis:** Market factors influence investors’ decision-making.

**Herding effect**

Investors may prefer herding if they believe that herding can help them to extract useful and reliable information. Whereas, the performances of financial professionals, for example, fund managers, or financial analysts, are usually evaluated by subjectively periodic assessment on a relative base and the comparison to their peers. In this case, herding can contribute to the evaluation of professional performance because low-ability ones may mimic the behavior of their high-ability peers in order to develop their professional reputation (Kallinterakis et al. 2010). There are several elements that impact the herding behavior of an investor, for example: overconfidence, volume of investment, and so on. The more confident the investors are, the more they rely on their private information for the investment decisions. In this case, investors seem to be less interested in herding behaviors. When the investors put a large amount of capital into their investment, they tend to follow the others’ actions to reduce the risks, at least in the way they feel. Besides, the preference of herding also depends on types of investors, for example, individual investors have tendency to follow the crowds in making investment decision more than institutional investors (Goodfellow, Bohl & Gebka, 2009). Waweru et al. (2008)
propose that herding can drive stock trading and create the momentum for stock trading. However, the impact of herding can break down when it reaches a certain level because the cost to follow the herd may increase to get the increasing abnormal returns.

**the fourth hypothesis**: Herding effect factors influence investors’ decision-making.

**Research Methodology**

This is an applied study and in terms of data collection, it is a descriptive survey. The statistical population includes investors in the Stock Exchange in Tabriz city. We choose the statistical sample, 385 people, using Morgan by random sampling method. In this study, to collect data and discover the opinion of the population study, a questionnaire was used. To determine the reliability of the questionnaire, Cronbach's alpha coefficient used which was 0.914. In inferential statistical methods, regression test, Freidman test, and SPSS software used to analyze the data.

**Results**

There were totally 385 subjects, 108 women (28.1%) and 277 men (71.9%). Among them, 18.5% of the sample was 15 - 25 years old and 27.9 % was 25 - 35 years old, 32/2% was 35 - 45 years old, 12% was 45 - 55 years and 9/4% was 55 - 65 years old.

**the first hypothesis**: Heuristic factors influence investors’ decision-making.

As Table 1 shows, the estimated significance level was 0.002 which is less than 0.05 and the calculated correlation coefficient was 0.252. It shows that there is a direct and significant relationship between Heuristic factors and investors’ decision-making. Coefficient of determination is 0.63.

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<th>Adjusted determined coefficient</th>
<th>Coefficient of Determination</th>
<th>Correlation coefficient</th>
<th>P-Value</th>
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<td>0.089</td>
<td>0.063</td>
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**the second hypothesis**: Prospect factors influence investors’ decision-making.

As Table 2 shows, the estimated significance level was 0.000 which is less than 0.05 and the calculated correlation coefficient was 0.318. It shows that there is a direct and significant relationship between prospect factors and investors’ decision-making. Coefficient of determination is 0.098.

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<thead>
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<th>Adjusted determined coefficient</th>
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<td>0.093</td>
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**the third hypothesis**: Market factors influence investors’ decision-making.

As Table 3 shows, the estimated significance level was 0.000 which is less than 0.05 and the calculated correlation coefficient was 0.367. It shows that there is a direct and significant relationship between market factors and investors’ decision-making. Coefficient of determination is 0.121.

<table>
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<th>Adjusted determined coefficient</th>
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<td>0.114</td>
<td>0.121</td>
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**the fourth hypothesis**: Herding effect factors influence investors’ decision-making.
As Table 4 shows, the estimated significance level was 0.004 which is less than 0.05 and the calculated correlation coefficient was 0.342. It shows that there is a direct and significant relationship between herding effect factors and investors’ decision-making. Coefficient of determination is 0.119.

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<th>Table 4: regression test of 4th hypothesis</th>
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<td>Adjusted determined coefficient</td>
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<td>0.112</td>
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**Friedman Test**

In this study, Friedman test has been used for prioritizing behavioral factors in relation to their impact on investors’ decision-making presented in Table 5. Comparing “mean scores” of each of the behavioral factors, it is determined that the Heuristic factors with an average rating of 2.95 has the highest correlation with investors’ decision-making and in later grades, the market factors with an average rating of 3.13 in second and prospect factors with a mean rank of 2.97 at the third level and the herding effect with an average rating of 3.08 in the fourth place.

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<th>Table 5: mean comparing the mean scores of behavioral factors</th>
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**Conclusion**

Capital markets are an essential part of the financial sectors of modern economies and more so for growing economies. Well developed capital markets promote economic growth through increased savings and mobilization, access to foreign savings, spreading of financial risk, and a facilitating role in translating savings to investments. The decisions of investors on stock market play an important role in determining the market trend, which then affects the economy. To understand and provide an appropriate explanation for the investors’ decisions, it is important to explore which behavioral factors influencing the decisions of investors at the Stock Exchange and how these factors influence their investment performance. In this regard, we examined each of the behavioral factors. Based on the studied hypotheses, we concluded that, the Heuristic factors 6.3%, the prospect factors 9.8%, market factors 12.1%, herding effect factors 11.2% impact on investors’ decision-making. These results were in consistent with the results of Welch (2000), Ritter (2003), (Waweru et al. 2008), Dohmen et al. (2011) . According to Friedman test, we found that the market factors has the highest correlation with investors’ decision-making. In later grades, the herding effect factors in the second, prospect factors in the third, Heuristic factors is in fourth places.

**References**


