

Macedonian Small Investors' Behavior Towards Stock Market

*Julijana Angelovska**

Abstract: Convenience sample survey was fielded to the Macedonian individual stock market investors to find out whether their investment behavior can be explained by some underlying factors grounded in the behavioral approach to the study of financial markets. Descriptive statistics technique has been used to analyze the investors' attitude about the market's efficiency and to test different theories of behavioral finance. The results have indicated that investors are not completely rational individuals as supposed by theories of traditional finance. Also in the theoretical framework of behavioral finance Macedonian investors use heuristics, or rules of thumb, when judging information and forming beliefs, but Macedonian investors do not behave as suggested within prospect theory and regret aversion.

Keywords: Investor Behavior, Individual Investors, Behavioral finance, Market Efficiency, Survey, Macedonian Stock Exchange

JEL Classification: C12; G10; G11; 016

Introduction

Individual investors constitute an important group in the financial marketplace and their decision-making behaviour is likely to have an impact on the stock market as a whole (De Bondt, 1998). In that way we can say the market has moods that can turn from irritable to euphoric depending on the mood of investors. Consequently the question of including psychology to understand investor behaviour is more than necessary.

Psychology-based theories were included to explain the stock market behaviour in a field of finance called behavioural finance. Research in behavioral finance is relatively new. Within behavioral finance it is assumed that information structure and

* Julijana Angelovska is at Faculty of Economics and Administrative Science, International Balkan University, Skopje, Macedonia.

the characteristics of market participants systematically influence individuals' investment decisions as well as market outcomes. According to behavioral finance, investor behavior derives from psychological principles of decision making to explain why, when and which stocks investors decide to buy or sell. Behavioral finance is defined by Shefrin (2000) as "a rapidly growing area that deals with the influence of psychology on the behavior of financial practitioners". Behavioral finance research is developing rapidly and now beginning to answer such questions as: Why, when all the evidence shows investors cannot beat the market on any systematic basis, they still resolutely do; how can we explain the stock market "bubbles"; why is the volume of trading in financial markets so excessive and why is the stock market so volatile; why do investment analysts have so much difficulty in identifying under- and over-valued stocks; why do stock prices appear to under-react to bad news; why do acquisitions on average turn out to be unsuccessful; why do corporate managers find it so difficult to terminate loss-making projects; why do most boards believe their companies are undervalued by the stock market; why should new issues exhibit short-run stock market out-performance and then long run under-performance (Taffler, 2002).

Studying investors' behavior arises from the need for reducing the distance between economic theories and the actual behavior that does not appear to be sufficiently linked to principles of rationality (Thaler, 1993; Kahneman & Riepe, 1998; Shefrin, 1999; Shiller, 2000; Waeneryd, 2001). In the last few decades, psychologists showed an increased interest in economical phenomena. Behind this growing interest there is the awareness, both inside and outside psychology, about the inadequacy of the economic models of rationality. Many experimental results showed that individuals do not behave in a rational way, but are influenced by: their past experiences, their beliefs, the context, information presentation formats, and the frequent information incompleteness which characterizes real environments (Kahneman & Tversky, 2000). One possible explanation of those results refers to the fact that individuals have limited cognitive resources which in many occasions oblige them to simplify the space of the problem that would be otherwise unmanageable because too much demanding (Simon, 1982). Another explanation is, instead, that choices appear to be led by affective attitudes and evaluations more than by economic reasons based on gain maximization (Kahneman, Ritov & Schkade, 1999). Attitudes are defined as subjective inclinations expressed throughout a favorable or unfavorable evaluation of a specific stimulus (Chaiken & Eagly, 1996). The core side of this alternative explanation is that the stimuli evaluation is not done in mathematical terms but aims to attach objects with an affective value; the affective value could vary from highly positive to highly negative.

The efficient market hypothesis assumes that all investors perceive all available information in precisely the same manner (Fama 1965). Since the late 1970s, a large body of research in finance has been questioning the efficient market hypothesis and an active area of investigation in finance literature explores the existence of a pattern

in stock returns. As stated by Slovic (1972) few sectors in our society are characterized by such an amount of information as financial markets; this huge amount of information has to be pooled together and weighted every time a decision is made (whether if the decision is to sell or to buy). The numerous methods for analysing and valuing stocks pose some problems for the validity of the EMH. If one investor looks for undervalued market opportunities while another investor evaluates a stock on the basis of its growth potential, these two investors will already have arrived at a different assessment of the stock's fair market value. Therefore, one argument against the EMH points out that, since investors value stocks differently, it is impossible to ascertain what a stock should be worth under an efficient market.

The approach named as Prospect Theory is an approach that explains investors' behavior in decision making in uncertainty period. This approach emerged from the studies of Kahneman & Tversky who explained how individuals make decision under risky conditions (Kahneman & Tversky, 1979 and 2000; Barberis & Huang, 1999). Empirical analysis within this framework have depicted that process of decision making is not an entirely rational procedure and investors take more risk for avoiding losses instead of attaining greater returns (Laver, 1997). Prospect theory gives high relevance to how the decision problem is interpreted since experimental evidence showed that logically equivalent problems framed as gains or losses induce different decisions (Tversky & Kahneman, 1981). Some studies have also shown that people give more weight to the outcomes codified as losses than those framed as gains (Slovic, 1967 and 1987).

Regret is a strong emotional situation related to an information about the past regarding a decision in the past leading to a worse result than an alternative decision of someone else. The opposite of regret is gratification. This conception is about joy of gratification and pain of regret. Regret is frustration occurring as a result of bad selection (Kahneman & Tversky, 1979). According to Shefrin & Statman (1985) regret is an emotional feeling associated with the ex post knowledge that a different past decision would have fared better than the one chosen, as one of the factors leading to the disposition effect. Barber & Odean (1999) suggested investors want to avoid regret. Shiller (2000) argued that regret theory may apparently help explaining the fact that investors defer the selling of stocks that have gone down in value and accelerate the selling of stocks that have going up in value. Since the fear of regret leads investors to postpone losses, symmetrically, the desire for pride leads to the realization of gains. In summary, we can infer that investors might feel regret when they realize a loss, and, conversely, feel pride when they realize a paper gains. Investors expected stock price will mean reversion when investors hold losses stock, conversely. Investors worried about stock price will fall in the future when investors hold gains stock, so causing irrational behavioral.

Prospect theory deals with the evaluation of financial and non-monetary outcomes, or preferences, and is the first pillar of behavioral finance. The second pillar

of behavioral finance concentrates on beliefs, or the way in which people use information. Cognitive psychology has found that people use heuristics and are biased in forming beliefs and in processing information.

As a result of these heuristics and biases, information is not used in an objective manner. This section introduces a number of heuristics and biases that behavioral finance uses to account for irrational behavior in financial markets.

The availability heuristic is the tendency of people to estimate the frequency or probability of an event by the ease with which it can be brought to mind (Herring, 1999).

The representativeness heuristic is defined as the phenomenon that people look for a pattern in a series of random events (Tversky & Kahneman, 1974). It may cause people to draw far-reaching conclusions on the basis of merely a few indications. The investors tend to learn from the past price movements (Kahneman et al., 1982) and investors' future expectations will resemble their past experiences and they will move away from requirement of evaluating current information in its own conditions.

Anwar, et al. (2013) and Sevil, et al. (2007) investigated the behavior of small investors in Pakistan's stock exchanges and Istanbul Stock Exchange and the results of descriptive statistics have indicated that investors are not completely rational individuals as supposed by theories of traditional finance

Based on these understandings and concepts, the objective of this paper is to present the results of a survey conducted to understand, analyze and interpret the behavior and decision making process of equity investors trading in Macedonian Stock Exchange, within the theoretical framework of the following issues:

- The attitude of investors regarding market efficiency
- The investor's behavior within prospect theory framework
- Regret aversion conception
- Heuristics

The rest of the study has been organized as follows: data and methodology is presented in Section 2, empirical results are described in Section 3, whereas, the last section describes the conclusions.

Data and Methodology

The survey was targeted to the individual investors who were investing in stocks on Macedonian Stock Market and who visited brokerage houses in the period of September 2009 to January 2010. The questionnaire was distributed through several brokerage houses toward their clients qualified as small investors. It is worth mentioning that even though the constitution of the Macedonian Stock Exchange was launched in 1995, a robust development has undergone since the 2005. During the period 2005

– 2009, the Macedonian (MSE) witnessed its first bull and bear market in its short history. Faced by the recession in the surveying period and lower trading volume, there was difficulty in surveying caused mostly by the very few clients entering the brokerage houses. 108 clients responded to the questionnaire.

The mean age of the participants was 33.6 years, with a median of 30.5 years. The youngest participant was 20 years old, while the oldest participant was 68 years old. The sample consisted of 88 male investors and 20 female investors. Mean portfolio size was 38356 Euro with a median of 100,000 Euro. On average, the respondents had 2.96 years of investing experience. The majority of the respondents were young male with less than three years of experience of investing in a financial market, what is maybe normally considering the short history of the Macedonian Stock Exchange.

In accordance with the literature, the self-reported level of investment-related knowledge and experience of the respondents were tested as predictors of the level of informational and normative conformity behavior of investors. A 3-point Likert Scale was used to measure both items, where 1 = I have very much knowledge/experience; I have very little knowledge/experience; 2 = I have an average amount of knowledge/experience; 3 = I have very little knowledge/experience. As knowledge and experience can be seen as related items, these two items were combined in one average score forming a single construct. Factor analysis confirmed the unidimensionality of the scale; with both variables loading highly on the same factor (both variables had an identical loading of 0.87). The self-reported level of investment-related knowledge and experience of the Macedonian investors is middle (2.1).

The survey form contained 7 questions which were related to investor behaviors. Different possible options have been provided for these questions in order to determine the attitude of respondents. Every effort had been made to get the fair and unbiased responses from the sample population. Descriptive Statistics has been used for evaluation of the survey forms.

Empirical Results

Based on the responses of investors to the questions, following empirical findings have been discovered:

The Attitude of Investors Regarding Market Efficiency

The answers of the investors to the questions intended to identify their opinions regarding market efficiency have been presented in Table 1 and Table 2:

Table 1: Frequency distribution of the responses to: What do you think about following the stock index – entering the market before the index goes up and sell out the shares before stock market index goes down?

	Freq.	%
It is wise thing to try, I think it is possible to earn profit by doing this.	87	80,6
It is not wise thing to try, I don't think it is possible to earn profit by doing this.	7	6,5
I have no idea about it.	14	13

Table 2: Frequency distribution of the responses to: What do you think about individual stock selection and trying to forecast the movement of market price.

	Freq.	%
It is wise thing to try, I think it is possible to earn profit by doing this.	74	68,5
It is not wise thing to try, I don't think it is possible to earn profit by doing this.	23	21,3
I have no idea about it.	11	10,2

If people really believe in the efficient market model, they would be answering this question “It is not wise thing”, because it would not matter to choose the timing of entering the market or to choose individual stocks if the prices followed a random walk in accordance with the efficient market theory.

It is evident from answers of the above two questions that investors don't believe on efficiency of market as majority (80.6 and 68.5%) of them answered “It is wise thing to try, I think it is possible to earn profit by doing this”. Because if they really believe market efficiency, their responses would be “It is not wise thing to try, I don't think it is possible to earn profit by doing this” as it should not matter to prefer timing of market entry or particular shares if stock prices pursue random walk as described by efficient market hypothesis.

The Investor's Behavior within Prospect Theory Framework

Prospect Theory has an important place in the literature of psychology. The importance and the influence of the Prospect Theory comes from the facts that it enables to see deficiencies and mistakes of the way traditional finance explains the attitude of individuals toward risk based on the “rational human being”. The rational investor is a figure who refrains from risk but inclined to take risks in return for more returns. The responses of question intended to measure investors' behavior in the period of uncertainty are presented in Table 3.

Table 3: Frequency distribution of the responses to: In a period of uncertainty in the stock exchange market conditions, which group of stocks would you prefer to sell?

	Frequency	%
The ones which earned a profit.	49	45,4
The ones which earned a loss.	59	54,6

The results in Table 3 show that 45.4 % of the investors answered that they prefer to sell shares which earned profits instead of the shares which earned losses. 54.6% answered that will sell the stocks with losses. The results mean that investors choose to sell shares having losses and realizing those losses. The fact that more respondents choose to sell stocks with losses do not support the risk seeking tendency of investors within the framework of the Prospect Theory.

Regret Aversion Conception

This conception is about joy of gratification and pain of regret. Ambition of gratification and regret aversion leads to profits realization and losses retardation respectively. It has been evident that this scenario is not valid for small equity investors in Macedonia as depicted through Table 4. The results described that 59 (54.6 %) of the respondents have pointed that the magnitude of gratification is greater than the magnitude of regret as compared to amount of gratification when comparing 50 % appreciation and 50 % decrease in share prices, what is surprising and opposite of regret aversion conception. Macedonian investors fill more joy of gratification than pain of regret.

Table 4: Frequency distribution of the responses to: If you compare the gratification of 50% increase in the price of the stocks you purchased and the regret of 50% decrease in the price of the stocks you have purchased:

	Frequency	%
The magnitude of gratification is greater than the magnitude of regret	59	54,6
The magnitude of regret is greater than the magnitude of gratification	49	45,4

However 45,4 % of the respondents fill more pain of regret suffering losses. The investors avoiding the pain of regret would tend to decrease their share of personal responsibility in their investment decisions. Investors circumventing grief of regret might incline to lessen their portion of personal liability regarding their decisions of investment. Table 5 shows the distribution of the answers to the question: "Which was the most influencing factor of your decision making to purchase the stock that earned a profit?" 67.6% of the respondents have mentioned that they have made decisions based

on their own analysis whereas others have used different references for making their decisions. There are no significant differences between investors' responses who specified that regret pain is larger as compared to gratification pleasure and investors' responses who specified that gratification pleasure is larger as compared to regret pain. The results are that Macedonian investors in both cases blame themselves.

Table 5: Frequency distribution of the responses to: Which was the most influencing factor of your decision making to purchase the stock that earned a profit?

	Friend's advice	Professional advice	Your own analysis and evaluation	Total
The magnitude of gratification is greater than the magnitude of regret	6	13	40	59
The magnitude of regret is greater than the magnitude of gratification	4	12	33	49
Total	10	25	73	108

Heuristics

Heuristics explains that people have inclination for making decisions promptly, and making simpler policies for approaching complicated difficulties and limiting explanatory data. Availability based heuristics describes that individuals tend to assign greater probability to known actions or to events which they are familiar with. This phenomenon has been verified in table 6 where results on the question: "The stocks of well recognized companies are less risky as compared to risk of the stocks of the smaller companies" are presented.

The results indicate that 74.07 % of the respondents have stated that they "agree" or "strongly agree" with statement that well recognized organizations have lesser risk. On the other hand, it cannot be claimed that this thought is absolutely true, but it is seen to be widespread.

Table 6: Frequency distribution of the responses to: The stocks of well recognized companies are less risky as compared to risk of the stocks of the smaller companies:

	Frequency	%
Agree strongly	32	29,6
Agree	48	44,4
Disagree	16	14,8
Disagree strongly.	5	4,6
Have no judgment.	7	6,5

Representative heuristics stated that individuals are expected to get lessons from historical changes in prices, their anticipations about future will have resemblance with their historical experiences, and it will shift them away from analyzing present information independently. This notion has been verified through table 7 where distribution of the answers to the question: "A friend of yours, by the suggestions of whom you made a profit before, told you that the price of a certain stock would rise. What would your decision be about purchasing that stock?" The fact that 74 % of the respondents would buy it at once or research it first shows that individual's historical experiences could not be disregarded.

Table 7: Frequency distribution of the responses to: A friend of yours, by the suggestions of whom you made a profit before, told you that the price of a certain stock would rise. What would your decision be about purchasing that stock?

	Frequency	%
I would purchase it at once	32	29,6
I would research it first and purchase it	48	44,4
I would consider similar cases	16	14,8
I would not consider purchasing it	5	4,6
I would decide according to the trend of the market	7	6,5

Limitations

To enable a correct interpretation of the study's results, it is important to acknowledge its limitations. Convenience sample covered only clients who have visited brokerage houses in this period. The possibility that the other clients who did not participate to our survey can be systematically different from those that did participate can make biased the results.

Conclusion

In standard finance people are modelled as "rational", whereas in behavioral finance people are modelled as "normal" (Statman, 1999).

The purpose of this study is to understand decision making processes of investors operating in Macedonian Stock Exchange. Findings of this study have indicated that investors have not been completely rational individuals as supposed by theories of traditional finance. According their answers they don't believe in market efficiency. Traditional theories are attempting to describe financial markets concentrating at "what should be done" instead on "what was previously done". Behavioral finance uses insights from cognitive psychology to take into account that people, when judg-

ing information and forming beliefs, use heuristics and biases that are difficult, if not impossible, to overcome. In this context Macedonian investors showed that they use availability based heuristics and representative heuristics when making decision which stock to buy or sell. Macedonian investors referring the survey answers didn't support theoretical framework of the prospect theory and regret aversion.

REFERENCES

- Anwar, Z., Nazir, M. S., M. Khan, K. & Khan, A. (2013). Behavior of small equity investors in Pakistan's stock exchanges, *Elixir Fin. Mgmt. Vol. 63, 18433-18437*
- Barberis, N. & Huang, M. (1999). Prospect Theory and Asset Prices, The center for research in Security Prices, *Working Paper, No:494*.
- Chaiken, S. & Eagly, A.H. (1996). *Principles of persuasion*. In E.T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp.702-742). New York: Guilford.
- De Bondt, W. & Thaler, R. (1987), Further Evidence on Investor Overreaction and Stock Market Seasonality, *Journal of Finance. 42:3*.
- Fama, E. (1965), The Behavior of Stock Market Prices, *Journal of Business, 38*, pp. 34-105.
- Kahneman, D.E. & Riepe, M.W. (1998), Aspects of investor psychology, *Journal of Portfolio Management, 24*, 52-67.
- Kahneman, D.E. & Tversky, A. (2000), *Choices, Values, and Frames*. New York, NY: Russell Sage Foundation.
- Kahneman, D. & Tversky A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*, 263-291.
- Kahneman, D. & Tversky, A. (1982). The Simulation Heuristic, in Kahneman, D. Slovic, P. & Tversky, A., eds., *Judgment Under Uncertainty: Heuristics and Biases* (New York: Cambridge University Press.), pp. 201–208.
- Laver, R. (1997). Who's Afraid of Risk, *Maclean's, Vol.110*, No.38.
- Sevil, G., Sen, M. & Yalama, A. (2007). Small Investor Behavior in Istanbul Stock Exchange. *Middle Eastern Finance Economics Vol.1*.pp74-80.
- Shefrin, H. M. & Statman, M. S. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *Journal of Finance, 40*, 777–790.
- Shefrin, H. (2000). *Beyond Greed and Fear*, Harvard Business, School Press, Boston
- Shiller, R. (2000). *Irrational exuberance*, New Jersey: Princeton University Press.
- Simon, H.A. (1982). *Models of Bounded Rationality, Vols. 1 and 2*. MIT Press.
- Slovic, P. (1972). Psychological study of human judgment: Implications for investment decision making, *Journal of Finance, 27*.
- Statman, Meir. 1999. Behavioral Finance: Past Battles and Future Engagements. *Financial Analysts Journal. 55:18-27*.
- Taffler, R.J., (2002). What can we learn from behavioral finance? *Credit Control, Vol.23*.
- Thaler, R. (1993). *Advances in Behavioral Finance*. New York: Russell Sage Foundation.
- Tversky, A. & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases, *Science 185*, pp. 1124-1131
- Waeneryd, K.E. (2001). *Stock Market Psychology: How People Value and Trade Stocks*, Northampton, US: Edward Elgar Publishing.