European Journal of Business and Social Sciences, Vol. 1, No. 5, pp 41-53, **August 2012.**
URL: http://www.ejbss.com/recent.aspx
ISSN: 2235 -767X

The Impact of Demographic and Psychological Characteristics on the Investment Prejudices in Tehran Stock

Babak Jamshidinavid.

Kermanshah Branch, Department of accounting,
Islamic Azad University, Kermanshah, IRAN.

MojtabaChavoshani.

Ghasr-E-Shirin Branch, Department of accounting,
Islamic Azad University, Ghasr-E-Shirin, Kermanshah, IRAN.

Shahla Amiri.

Kermanshah Branch, Department of accounting,
Islamic Azad University, Kermanshah, IRAN.

ABSTRACT

The purpose of this research is to discuss the relationship between Personality traits and demographic ones on the financial behavior prejudices in Tehran Stock in 2011. In this way, among the 1000 member of the population involved in the study, about 215 people of individual investigators are chosen based on simple random sampling as the suitable and reliable samples. The essential data are used by a questionnaire with the reliable coefficient of 0.855 for evaluating the extreme impact of five characteristics and demographic variables on the investment's prejudices through structural equation modeling analysis (SEM), and through AMOS6 software. The results show that the investment prejudices in individual investigators has relationship with personal characteristics meaningfully and with some of the demographic variables weakly.

Keywords: *Behavioral finance, Big Five, Investment Biases, Personality traits, Demographic Factors.*

INTRODUCTION

A behavioral finance perspective or school, which is made from psychological and financial integration, believes that psychology plays an important role in financial decision. Since cognitive errors and distortions impact investments' theories, therefore, they will also influence financial options.

Kahneman and Tverskey (1979) proposed the prospect theory to explain decision-making behavior under uncertain circumstances. According to the prospect theory, psychological factors of investors will drive their actual decision-making process to deviate from rationality, which is continued to Simon's (1957) argument of bounded rationality. Investors thus often simplify their decision processes and are prone to behavioral heuristics that might make systematic errors and lead to satisfactory investment choices, but does not maximize decisions. In recent decades, most empirical evidence generally views various behavioral biases as common cognitive illusions existing in decision making process among investors.

In this way, the purpose of this research is the use of five enormous characteristics for evaluating the relationship between personal characteristics and investment prejudices in Iran Stocking Market. In addition, this study incorporates demographic variables to reveal the influences on investment biases.

The howness of these relationships will be explored and explained in the structural equation model (SEM) format. In this way, we can more understand the antecedent of influence what caused investment biases.

Literature Review

In 1970, Fama has published an article titled: "Efficient capital markets; overview of the theory and empirical studies" that in an efficient market the stock prices can reflex all the information in the financial market thoroughly.

Traditional finance theory is based on the efficient market hypothesis (EMH). According to the theory, the general investors cannot earn abnormal returns by analyzing public information (Fama,1970). Until the later 1980s, some behavioral researchers found that the EMH cannot entirely explain the extraordinary phenomenon of the market and though of the investment decision were not completely rational. When investors face uncertain conditions, for benefit, they are likely to make different decisions or they may follow the relevant information to make profit from optimal investment decisions. Though the professional investors would obtain more sufficient information, their decisions are not all completely rational due to the existence of investment biases. These biases would consequently lead the return decline (Gaevey,Murphy,2007), (Sehgal,Tripathi,2009)

Kahneman and Tverskey have developed the applications of psychological knowledge in financial and economic sciences in a series of articles that they presented the theory of prospect in 1979. This theory shows that how investors ignore utility in some cases. Finally, their efforts lead to the Noble Prize in 2002 by Kahneman. Based on the prospect theory, investors have an extreme tendency towards keeping securities which are in loss (due to not identifying loss) and vice versa, they tend to sell the securities which have profit (due to identifying profit).

This bias is based on a mental accounting framework, that is so-called the disposition effect (Shefrin , Statman, 1985) .

However, many derivative analyses of disposition effect have been well- developed with respect to a variety of positions for market investment or investors in the last two decades, there still have no thorough discussions with respect to the antecedents of disposition effect (Huei lin,2011). Benartzi and Thaler (1995) conducted a follow up study on winning stocks sold by investors with the disposition effect. According to their results, the rate of returns of such stocks the following year were higher for 3.4% than losing stocks, in which investors are persistently holding on and waiting for a rebound. This finding implies that the disposition effect may lead to a decline in the whole rate of returns.

In some empirical studies, they found that the sales ratio in winning stock is 2.5 times greater. In this way, they suggested the intentional effects in Thais investors are more powerful than the individual investors in the United States (Shu et al; 2005).

In addition to disposition effect, there are other types of investment biases. For instance, if investors overestimate their own abilities of accurate forecast, they may be regarded as overconfidence. Such as investment bias would also lead to a return decrease on investment (Hirshleifer, 2001) . Some studies indicate that males were more overconfidence than females, and the return rate of males were causing decrease 2.65%, but only causing decrease 1.72% for females (Barber,Odean,2001).

The surveys done by Gallop institute shows that the newcomers investors in stock marketing are more confident than those with a history. In this way, amateurs usually imagine to earn better returns from the average of stocking market than professional ones. This false confidence among the investors has a great impact on individual's decision-making; which one of its prototypes can be found in over -trading phenomenon exemplified in the individual's behavior having access to On-line Trading. Researches on the investors who turned from Telephone Trading System to On-line Trading show that despite having the average of 0.03 efficiency better than marketing scale in each year, but after the change, the average of efficiency for these investors, in a long term investigation, reaches to 0.02 lower than the marketing scale. The cause of this issue is related naturally to an increase in the number of transactions and the loss of great amount of profit due to transactions' wages (Oden, Barber, 2003).

Also, Tourani-Rad and Kirkby 2005) examined optimistic and overconfident investors in New Zealand who believe they have investment ability and knowledge to understand the latest market trends or select the next hot stocks.

According to the evidence of prior empirical studies, if most of investors with strong investment biases such as disposition effect and overconfidence, it may be interfere with the entire financial market. For example, the financial market bubble in the 1990s results in the herding of mutual fund managers (Costa , Massa,2008). Indeed herding as a behavior that blindly follows the decisions of the majority rather than relying on stock price moments may influence the investor risk and return characteristics (Huei lin, 2011). Research results indicate that financial managers may follow the investment choices of other managers because they will not bear all losses once the investment fails. The managers are thus apt to suppress their own beliefs, and their investment decisions are more likely to rely on collective actions (Scharfstein, 1990). Usually luck of confidence and professional competence to make a better investment decision so that they might take the market signs or the opinions of professional investors for the foundation of making investment decision. Based on this, the impacts concern of individual investors should be the most concern of individual investors (Scharfstein, 1990). Research indicated that investors' behavior will be affected by personality traits,

interpretation of information, responses of sentiments, return and risk (Maital et al; 1986). There were many researches using various dimensions to deal with the measurements of personality traits, Myers-Briggs Type Indicator (MBTI) by (Myers, McCaulley, 1985); Big five personality traits (Costa , McCrae, 1992).

Methodology

The present study is a descriptive survey in respect of its nature and because of its practical aim.This study performs a cross-section analysis via Structural Equation Modeling (SEM) that constructs a comprehensive path to link five types of personality traits with three proposed behavioral biases.

The statistical population of this research consists of 1000 individual investigators who have trades in Tehran Stock Market. Sampling in this research is simple random.

Demographic statistical data in this research includes 172 men and 43 women, in which 36 are younger than 25 years old, 109 are between 26-35 years old, 45 between 36-50 years old, 20 between 51-65 years old and 5 are older than 65 years old. 12 of them have education less than high school education, 79 have BA and 18 have MA. 69 live in Northern area, 39 live in South, 88 live in East and 26 live in West part.

The tool for collecting data in this research is a questionnaire; the questionnaire involves 27 questions. The first section evaluates the three behavioral prejudices of investment as overconfidence, mass behavior and the desire; in a way that it has defined behavioral prejudices in behavioral finance and psychological literature. The other section of these questions involves five personal characteristics as Extraversion, psychology, openness to experience, agreement and dutifulness. Each of the behavioral prejudices and personal characteristics is considered as an internal variable. Measurement scale of each component in these two sections is based on the scoring from 1to 20 in which such a scale can determine the correspondent's sensitivity of attitude, and it is more suitable than Likert scale. Demography section includes gender, age, educational background and residential area in Iran, which is designed, closed. For designing the questionnaire, similar questionnaire presented in foreign studies, the experts' confirmation has been used, and through removal and modification of some of the questions, its validity has been approved. For the assessment and evaluation of the answers and statistical results, the value of the questionnaire, which is based on Cronbach’s alpha, will be accounted. As this value closes to 1, the questionnaire is more dynamic. The average of Cronbach’s alpha for the questions in the questionnaire related to investment prejudices variables based on SPSS outcome is 0.783, and for questions related to personal characteristics variables is 0.733, which is an acceptable amount for the dynamicity of these parts. The average of Cronbach’s alpha for all questions in this questionnaire via SPSS software is 0.855, which results in the appropriate dynamism of the questionnaire. In analyzing data, AMOS software 6^{th} edition and SPSS software 19^{th} edition have been used, because of the variability of personal characteristics and demographic variables on behavioral prejudices on parameter estimation and model processing. For analyzing the normality of investments prejudices' internal variables Kolmogrov- Smirnov test has been used, in which SPSS result for Overconfidence (X1), the inclination (X2) and mass behavior (X3) internal variables respectively are 1.67, 1.211 and 0.892 that based on P-value=0.131 for X1, P-value= 0.106 for X2 and P-value= 0.403 for X3 which are bigger than 0.05, Assuming normal distribution of the three internal variables are

accepted at the level α =0.05. The final criteria and the reliability of each question and the concept of internal variables are presented in chart 1. (Here the zero is the fault for normal distribution).

TABLE I

THEINTERNAL QUALITY OF LATENT VARIABLES

	Variables	Cronbach ∝	SD	Mean
Extraversion	y11	0.431	3.73003	11.54
	Y12			
	Y13			
Neuroticism	y21	0.467	3.49695	10.75
	Y22			
	Y23			
	Y24			
Openness	Y31	0.554	3.75993	14.56
	y32			
Agreeableness	y41	0.589	4.33569	13.93
	y42			
Conscientiousness	y51	0.155	3.02147	13.67
	y52			
	y53			
Overconfidence	x11	0.887	3.90314	12.22
	x12			
	x13			
	x14			
	x15			
Disposition	x21	0.535	3.66030	11.02
Effect	x22			
	x23			
	x24			
	x31	0.504	3.16961	12.94
Herding	x32			
	x33			
	x4			

Hypothesis

According to the financial behavioral theory, some evidence shows the significant relationships among personality traits and financial behavioral biases. For example, Venter & Michayluk (2008) suggested that investors would be lack of confidence when they have anxiety traits. Besides, when investors have the trait of neuroticism (y2), they would be anxiety, emotionally unstable and nervous. In addition, Schafer & Williams (2008) found that the trait of extraversion (y1) was negatively associated with overconfidence.

Extraversion is defined to describe people who have characteristics as seeking excitement, enthusiasm, social and emotional ability to achieve positive feeling, in which such characteristics can increase willing to risk aversion in investors.

Therefore, the investors with the trait seem to be prone to continue holding the loss stocks because they would believe a rise on those loss stocks. Barber & odean (1999) found, the investors with the trait of openness (y3) mean that

Individuals interested in novelty and new experiences, action-oriented, and curious about others' ideas buy and sell their shares because of their high confidence.

Investors with the adjective of agreement (y4) are humble, patient, kind and following who tends to be consistent with others.

The type of investors often makes their investment decisions relying on more market information that would lead to herding. Additionally, the investors with the trait of conscientiousness (y5) would be seriousness, target seeker and excellence, believes that their own performances in investment are better than other investors.

Huei Lin (2011) found that four personal characteristics and three demographic characteristics have a meaningful influence on three behavioral prejudices in investment. Eagly and Carli (1981) identified females are more prone to herding than males. Menkhoff et al. (2006) found that the people without college degree are more apt to herding, but there is no significant evidence in gender.

In this way, there are two hypotheses based on theoretical consideration in this research:

1- There are significant relationships among personality traits and investment biases.
2- There are significant relationships among Demographic variables and investment biases.

Test the first hypothesis

For determining the meaningful relationship between personal characteristics and investments prejudices, Spearman correlation coefficient is used. Based on the SPSS result, the correlation average between these two variables is 0.691; and this correlation average shows the direct and meaningful relationship in the scale of α=0.05 between two variables.

Test the second hypothesis

For evaluating the meaningful relationship between demographic and behavioral prejudices, variables Kendall's tau correlation efficient is used which is calculated by SPSS software. Considering the meaningful scale of 0.05, this can be concluded that only the correlation between the variables of gender (B) and a with age (A) with mass behavior variable (x3) are meaningful with coefficient relative of 0.24,0.137 respectively and correlation variable of education (c) with (X1) high confidence. Totally one can conclude that there is no meaningful correlation between demographic variables and investment prejudices variables in α=0.05 and the research hypothesis is not acceptable.

Model Analysis

The study uses SEM to simultaneously estimate and test how latent variables and their measurements are related. Based on previous literature, two hypothetical structure equation models are proposed and analyzed with the AMOS 6 Software package, respectively.

Considering the meaningful correlation coefficient of 0.691, we will analyze the relationship between these two variables. In this way, we will examine an appropriate regression model between these two variables. Based on the results of AMOS6 in a meaningful scale of α=0.05, the regression model relationship between personal characteristics variable (Y) and investors prejudices' variable (X) is accepted; because the calculated amount of P-value by software in analyzing the relationship between two variables is more than0.05. In addition, regression coefficient related to personal characteristics having meaningful effect on variable X, has been calculated by Maximum Likelihood method and is equivalent to 0.74. Therefore, an appropriate regression model for expressing the relationship between variables is as follow:

X= 3.66+0.74 Y

Considering the influence of personal characteristics internal variables on investors prejudices' internal variables one can conclude that personal characteristics of people are influential on investment's prejudices and the structural model for this relationship is showed figure 1.

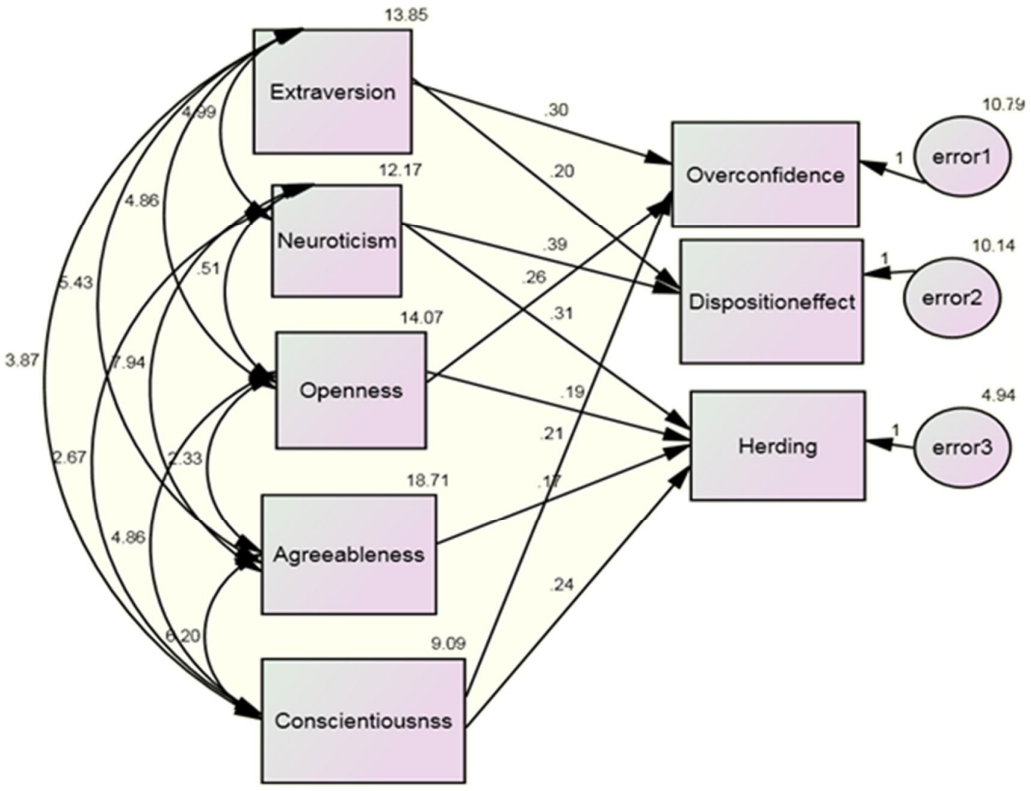

Fig. 1 The structure relationship of personality traits and investment biases

Similarly, Model II is constructed to examine how demographic variables of investors vary in various behavioral biases. In fact, this model shows the weak relationship between external

variables and internal variables. Based on the result of AMOS6 software, totally there is no meaningful relationship between demographic variables and investors prejudices variables (X) in scale of 0.05.

Based on the result of AMOS6 software, education variable (C) has a meaningful relationship on high confidence investor prejudices' variable in scale of 0.05. Therefore, the width of the source model is accepted at α =0.01. In this way, an acceptable regression model for these variables is as follow:

X1=17.55-2.14A-0.49B

The structural equation model for these relationships is showed figure 2

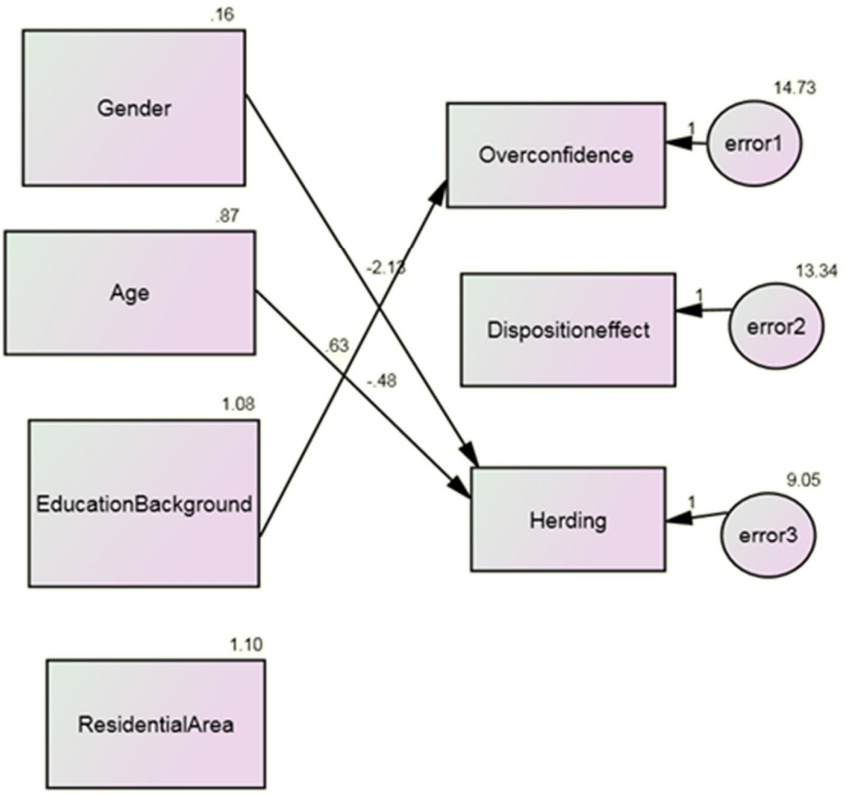

Fig. 2 The relationship between investors' demographics and investment biases

The fitness test model for structural equations

By using the scales of fitness for structural equations, we will analyze the fitness of model 1 with the relationship between five enormous personal characteristics and investments prejudices, In which IFI=0.980, CFI=0.980, GFI=0.978, AGFI=0.913, NFI=0.964, RMSEA=0.074 scales and chi-square statistics with free degree of 9 which according to P-value=0, the relationship model will be accepted. Its reason is the meaningful being of two regression models related to two internal variables of X1 and X2.because of low NFI and High RMSEA, the second hypotheses will be rejected.

Structural model parameters are NFI, IFI, CFI, GFI, and AGFI. To what extent these scales be closer to one, the suggested fitness model will be more appropriate. RMSEA scale shows the average Root square error of approximation and if its amount is lower than 0.05 the model is more appropriate. If the amount is between 0.05 and 0.08, the tested model as appropriate and if it is higher than 0.1, it shows the weakness of tested model. chi-square statistics test which is related to the size of relative sample will accept the fitness model if the amount of P-value in it is lower than 0.05.

Results of path analysis in structural equation

According to the second chart, extraversion is high confident and it has a positive meaningful intentional influence. It means that extrovert investors will obtain profit via pre-sale stocks and they continue keeping disadvantageous stocks that leads to unwilling behavior. In addition, this kind of investors has more confidence than others.

Also, neuroticism has a positively significant relationship with disposition effect and herding.

It means that the investors will invest based on others ideas and opinions and try to keep disadvantageous stocks for higher prices; these results are similar to those of Schaefer & Williams (2004) and Huei Lin (2011).

Similarly, openness has a positively significant relationship with herding overconfidence. It means that the investors with the trait of openness would prefer to seek new investment information, such like newspaper and institutional investors' suggestions so that would result in herding behavior. In addition, the type of investors is more overconfidence than investors that is corresponding to the findings of Barber & Odean (1999)، Huei Lin(2011).

The results show agreement has a positive meaningful relationship with mass behavior. It means that when the investors participate in the stock marketing, they follow others opinions and information, and they do not have confidence.

In addition, conscientiousness have positive relationship with disposition effect and overconfidence. It means that the investors with the trait of conscientiousness are careful than other investors on investment. Thus, with the characteristic of investors are more confident on themselves investments and lead to overconfidence bias.

Investors having such a quality analyze financial data and newspapers based on their on knowledge and ability, and then they start investing money in stock markets.

The data in the second chart shows a diverse relationship between the age and the mass behavior. It means that whenever the age of the individuals becomes older, their mass behavior becomes lower. Based on this model, mass behavior in women is more than men. As an example, based on the statistical data, mass behavior for individuals younger than 25 for women is 14.92 and for men is 12.78. In addition, based on this model, high confidence has a direct relationship with the level of education. It means that higher education will increase the level of confidence. Therefore, most of the educated investors invest based on their own knowledge, abilities and their confidence. According to the relationships in figure 2, the only variable, which is ineffective in investment's prejudices, is residential area's variable, which has no relationship.

TABLE II

THEESTIMATED COEFFICIENTS OF PERSONALITY TRAITS AND DEMOGRAPHICS ON THREE TYPES OF I_{NV}ESTMENT BIASES

Variables	Overconfidence	Disposition effect	Herding
Extraversion	0.30**	0.20 **	0.08
Neuroticism	0.03	0.39**	0.30**
Openness	0.26**	0.08	0.18**
Agreeableness	- 0.04	- 0.06	0.16**
Conscientiousness	0.21**	0.03	0.24**
Gender	- 0.06	0.08	- 0.24**
Age	- 0.06	0.01	0.13**
Educational Background	0.13**	0.05	0.01
Residential area	0.01	0.07	0.06

This sign (**) means correlation in the scale of α =0.05 has a meaning.

Conclusion

In this paper we examine the relationship between Big Five personality traits and investment biases of individual investors through constructing two concrete structure equation models. The results show that four personality traits and three demographics would significantly influence three behavioral biases in investment.

In conclusion, the meaningful being of the first hypothesis was confirmed, but the relationship between demographic variables and each of investment's prejudices internal variables caused the demographic variables to cut its meaningful relationship with investment prejudices and lead to the rejection of the second hypothesis.

So, based on the findings, we conclude the following suggestion:

First, the investors who have the extraversion characteristics, should compare the present price of the stock and their own prediction from the natural value time to time, and on its basis make a limitation for decreasing the loss and try to keep it. They should keep a lost stock in a circumstance that shows the potentiality of its recovery and increase in future. They should intentionally evaluate the investment's entire program through following the logical decision making processes; they need to decrease the negative effect of the prejudice's reluctance and high confident through an increase in information, knowledge and experience in the field of investment.

Second, investors who are qualified as having responsibilities and being open to experience should analyze market's information carefully and advise with the experts. They should find a real understanding of their own abilities in the stocking market. They should try to limit their false confidence by doing more trades for a decrease in the cost of the trades and an increase in their own outcome.

Third, the investors with stronger neuroticism personality should set up a stop-loss point and a lock-gain point so as to avoid the loss resulted from the biases of disposition effect and herding.

Fourth, the investors who have the quality of agreement should never accept an idea without any reason, and whenever many other individuals recommend them to trade am specific stock, they should consult with experts. In addition, we recommend educated individuals evaluate the investment's programs consciously and consult with others about their own ideas. Women and young individuals are recommended to follow experts' experiences and accept the market's information and use them in their investments.

References

B. M. Barber, and T. (1999), Odean, "The courage of misguided convictions," *Financial Analysts Journal*¸vol. 55, no. 6, pp. 41-55.

B. M. Barber, and T. Odean, , (2001), "Boys will be boys: gender, overconfidence, and common stock investment," *Q. J. Econ.*¸vol. 116, no. 1, pp. 261-292.

Barber BM, Odean T (2003). Online investors: Do the slow die first. Rev. Financ. Stud., 15(2): 455-487.

Benartzi S, Thaler RH (1995). Myopic loss aversion and the equity premium puzzle. Q. J. Econ., 110(1): 73-92.

P. T. Jr. Costa, and R. R. McCrae. (2008), Revised NEO Personality Inventory and NEO Five-Factor Inventory: Professional Manual. FL: Assessment Resources.

N. Dass, M. Massa, and R. Patgiri. (2008), "Mutual funds and bubbles: The surprising role of contractual incentives," *Rev. Financ. Stud.*¸vol. 21, no. 1, pp. 51-99.

A. H. Eagly, and L. L. Carli, (1981), "Sex of researchers and sex-typed communications as determinants of sex differences in influence ability: a Meta-Analysis of Social Influence Studies," *Psychol. Bull.*¸vol. 90, no. 1, pp.1-20.

E. F. Fama, (1970). "Efficient capital markets: a review of theory and empirical work," *J. Finance*¸vol. 33, no. 4, pp. 75-83.

R. Garvey, A. Murphy, and F. Wu. (2007), "Do losses linger," *The Journal of Portfolio Management*¸vol. 33, no. 4, pp. 75-83.

Haren,E.,& Mitchell,c.w.(2003).Relationship between the five-factor personality Model and coping styles,psychology &Education:An Interdisiplinay

Huei- wenlin(2011),"Elucidating rational biases: Evidence from the Taiwanese stock market", Africa Journal of Business management vol.5(5).pp.1630-1341.

Kahneman,D.and A.Tversky, (1979)." Prospect theory: An Analysis of Decision making under Risk" Econometrica, 47(2),pp. 263-291.

Maital, R. Filer, and J. Simon, "What do people bring to the stock market (beside money)?" The Economic Psychology of Stock Market Behavior, In B. Gilad and S. Kaish (Eds.), *Handbook of Behavioral* Economics Behavioral *Macroeconomics*, ¸vol. B, Greenwich, Connecticut, JAI Press Inc., 1986, pp. 273-307.

Menkhoff L, Schmidt U, Brozynski T (2006). The impact of experience on risk taking, overconfidence, and herding of fund Complementary survey evidence. Eur. Econ. Rev., 50: 1753-1766.

Scharfstein DS, Stein JC (1990). Herd behavior and investment. Am. Econ. Rev. 80(3): 465-479. .

P. S. Schaefer, C. C. Williams, A. S. Goodie, and, W. K. Campbell, Overconfidence and the Big Five," *J. Res. Pers.*¸vol. 38, pp. 473-480, 2004.

S. Sehgal, and N. Tripathi, "Investment strategies of FIIs in the Indian equity market," *The Journal of Business Perspective*¸vol. 13, no. 1, pp. 11-18, 2009.

H. Shefrin, and M. Statman, "The disposition to sell winners too early and ride losers too long: theory and evidence," *J. Finance*¸vol. 40, no. pp. 777-790, 1985.

Shu PG, Yeh YH, Chiu SB, Chen HC (2005). Are Taiwanese individual investors reluctant to realize their losses? Pac. Basin Financ. J., 13(2): 201-223.

Suleyman Gokhan Gunay and Engin Demirel, International Research Journal of Finance and Economics, ISSN 1450-2887 Issu 66(2011)

G. Van de Venter, and D. Michayluk, "An insight into overconfidence in the forecasting abilities of financial advisors," *Aust. J. Manag.*, vol. 32, no. 3, pp. 545-557, 2008.