Theory of Approximation and Applications, 2021, Volume 15, No. 1 : 53-69, DOR: 20.1001.1.25382217.2021.15.1.5.4

The investigation of loss aversion in investment companies in Tehran stock exchange

Zahra Madahi*, Roya Derakhshani

Department of Management, Qom Branch, Islamic Azad University, Qom, Iran

ARTICLE INFO

Keywords
Loss aversion, Investment companies, Behavioral finance, Optimal portfolio

Article history
Received: 2 September 2021
Accepted: 8 February 2022

ABSTRACT

Loss aversion, the principle that losses loom larger than gains, is among the most widely accepted ideas in the social sciences. Behavioral finance is a division of finance science that investigates the behavior of the financial markets regarding their psychology. Loss aversion is among the behavioral effects of the investors that have bad consequences and leads to a decrease in the portfolio return and makes the potential of receiving benefit limited. considering the salience of the role of the investing companies in selecting the optimal investment portfolio in the stock exchange of Tehran. Investors unfamiliar with financial markets and investor retailers have reduced their risk by turning to investment firms and expecting them to attract the best possible returns on their investments. The current research has investigated the disposition effect of loss aversion in the portfolio of 50 investment companies that includes 1100 companies for 3 succeeding years from 2017 to 2019 monthly. In order to categorize the data and define the variables and analyze them, two software has been used "Eviews" and "Excel". The results of the research confirm that there exists a disposition effect of the loss aversion in the investment companies of the stock exchange of Tehran.

1 Introduction

Loss aversion bias, according to the findings of the prospect theory that people tend to avoid losses, more than pull them toward profit was developed. Loss aversion prevents a person to rid itself of unprofitable investments. Some experts of funding industry has adaopted this recognition " remain what was before". Based on it, a person waits until an injured investment backfired and prosperity. " remain what was before" may be dangerous because the best answer is selling worthy documents and assets with problem , and applying the resources in other place. Loss aversion bias could lead investors when assessing the possible benefits, are too risk-averse, because loss aversion provides more anxiety and worry than acquiring profit. Loss aversion people grab act when their investment is increasing and growing, because they fear market

*Corresponding author's E-mail: zahramadahi@yahoo.com

work in reverse and destroy their profits (Badri, 2009). Here is a look that deprived in advance in order to maintain profits,limits the potential for increased price . In short, loss aversion results in keeping lossed investments and haste on sale of successful investments .hence, their investment portfolio returns earn less than optimal amount. Given the importance of optimal portfolio selection by investment firms we intended to investigate the behavior of investment company managers as opposed to the behavioral bias.

2 Literature review

Loss aversion definition is taken of the "prospect theory" where "Kahneman" and "Toersky" explicitly do not mention relatively clear and sensible priorities and preferences . For example, I prefer to stay away from loss that have profits]. They describe loss aversion as S value function , which represents utility. This function modeling overall assessment stage in prospect theory. According to the two researchers, people estimate all potential profit and loss compared to a reference point Index (chart's starting point). Value function that passes this spot is asymmetric. According to imagine, impact of loss is more than the impact of profit. (However, by taking the same amplitude in absolute value of the two). As a result, risk-seeking behavior in the range of losses (space below the x-axis) and risk-taking behavior in the range of profit (space above the x-axis) is dominant. The effect of interest, the tendency of people to long-term maintain of loss investment (risk-seeking behavior) and rapid selling describes profitable investment (risk behavior) (Badri, 2009).

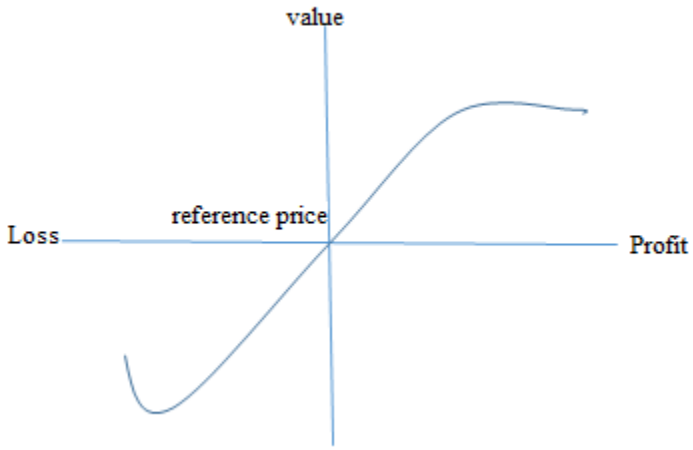

Figure 1: The value function - the intellectual base of prospect theory

According to results of psychological studies, lack of utility or feeling of unease by a financial loss is 2.5 times than pleasure of the same profit (Kahneman & Tversky, 1979). Due to this Psychological reactions, investors refrained from selling their lossed share for long-term , but sell profitable share sooner than required time. Justify such behavior from the perspective of psychology is that for investors believe the problem of the fact that they have an investment loss is difficult. They postpone pleasure feeling of recognizing loss mentally, and wait for uncertain future until selling their profit. But about the stock with profit, fear of sudden price reduction will require that investors yield the equity with more return for him, and avoid the risk of turning it into a losing share.thus, price of the asset is investor's mental reference point for judging an investment.theirn selling and buying decision depends on this image about price that has no relation with shares or company situation.

Ogden analysis states that the disposition effect is not rational. In fact, Ogden findings show that current investors often sell stock profitability, will have a better performance in the future.performance of loss aversion is worse in future (Shefrin &Statman, 1985). According to results of a study in 1998 about brokerage account of more than 163 thousand real customer in the USA showed that investors sell the share with higher price than purchase price 1.7 times sooner than lossed shares (Odean, 1998).

According to another investigation in Finland, investors sell a share that their price decreased more than 30% than purchase time 32% less than profitable shares of their basket (Grinblatt & Keloharju,2001).similar to other financial behavior issues, finance theories are to able to explain loss aversion phenomenon among investors. Based on the modern finance theory, an investor should compare his current price of shares with his prediction of intrinsic value , and make decion for sales or keeping based on it. Based on it, purchase price of a share should not play role in wise decisions of an investor. However, based on the above research , what happens in reality between investors opposed the idea. Based on what was said about loss aversion principle, financial behavior recommend investors to try selling their loosing shares easier in case of obtaining the necessary justification , and provide more situation for more profit by recognizing the natural behavioral pattern and try to control it. Tuersky and Kahneman (1979) proposed loss aversion firstly as a part of perspective theory. according to it, people make decisions based on studying profit and loss than number of reference points than wealth levels. Loss aversion happens when the following two conditions happen :

1- Reduction in utility for a loss (which is measured relative to a reference point) is much larger than the increase in utility for a profit, with the same size, which is measured relative to the same reference point.
2- Contingent losses relative to a reference point, provides higher utility than a final loss. Contrary of this statement is correct for profit.

Hessler (1994) investigated on the disposition effect among a small group of traders chicago treasury bills. According to results of this investigation, the average turnover when conditions indicate the initial damage is greater.also, there is negative relationship between tendency effect and success (profit of each transaction of traders. Based on these observations, he found out that traders show rational loss aversion behavior of themselves (Heisler,1994). Weber and Kmrer (1988) investigated on the disposition effect on the volume of transactions carried out under an experimental study. According to result of their investigations, Investors weigh profit and loss than reference price (price of stock).

Based on these studies, they proved this hypothesis that sales level of shares is more when price is more than purchase prive than when price is less than purchase price. Also, they confirmed this hypothesis that shares sales amount is mre when price is higher than last price of period than a time price is less than the last price of period (Weber,1998). Xu Zhaojin discussed to determine the disposition effect on the performance of joint venture cash flows in US funds by using Edin (1988). According to result of tis investigation, 325 of funds has lower performance than funds no disposition effect is confirmed there. Also, according to results of this investigation, in funds that disposition effect is confirmed there, cash flows annual input is 2% to 3% lower than other funds that is due to weak performance of these funds (Xu Zhaojin, 2007). Kustia (2004) investigated on loss aversion disposition effect by studying the importance of reference prices (offer price) and trading volume and confirmed the behavioral bias among stock investors. Brooks & Zank (2005) investigated on losses averse behavior. A behavior position of loss aversion is presented and tested in this paper.females are more loss aversion than men. According to the results , an important ration of selections of people is to avoid loss. Another result of this study was impact of sex on loss aversion.

Blavatskyy (2011) investigated on risk aversion. Pavlo findings showed that the probability of loss is more important for people who avoid losses. These findings indicate steep losses against the profits of this function (Blavatskyy, 2011). Loss aversion is more considerable in competi-

tive environmnts. Gill and Prowse (2012) investigated on risk aversion of people around reference points in a competitive environment.

Shams, Yahyazadehfar, Imami (2010) investigate the desired effect , in investment companies in Tehran Stock Exchange and its effect on yield and cash flow by Edin models. According to the findings, the ratio of identified profit than investigator ratio of investing companies is 19% more than loss ratio of recognition than loss of researcher. Companies sold winner profit soon and kept lost share for long-time. Also, behavior based on tendency effect of investment companies has significant negative effect on performance of these companies (risk adjusted with return). In addition, according to results of the investigation, there is significantrelationship between intention behavior and cash flow in investment companies. The relationship between the companies that had better performance is direct and companies that have poorer performance is reverse.

Neshat omidvaran at el. (2021)The disposition effect refers to the tendency of selling stocks that have appreciated at price and holding stocks whose price is lower than the purchase price. Although an extensive literature has examined and confirmed the existence of the disposition effect among individual investors, there is no consensus in the literature as to whether institutional investors are also subject to similar behavioural biases or not. We test for the presence of the disposition effect among a sample of Iranian mutual funds.

They find that Iranian mutual funds tend to sell winning stocks more quickly than losing stocks. To be specific, the probability of selling a winning stock is approximately 1.46 times the probability that a losing stock be sold. Excluding taxes and commissions in calculating the realized profit on the sold stocks, the ratio grows to 1.51. The measured disposition effect is not driven by the effect of tax-motivated selling, since there are no capital gains taxes on the Tehran Stock Exchange. The documented disposition effect cannot be explained by funds' internal portfolio rebalancing regulations nor by the potentially higher trading cost of selling low-priced stocks. The disposition effect exhibits a mild downward trend line throughout the sample period; however, the downward trend is not statistically significant. Partitioning the data based on the fund's portfolio value shows that both more skilled and less skilled fund managers – as proxied by fund size - are prone to the disposition effect. Fallah Shams and Reza Zadeh (2012) investigated on The effect of loss aversion reluctant investors on IPO trading volume in Tehran Stock Exchange during the years 2003-2009. In this study, initial public

offering price was used as the reference price. According to results of this investigation, shares price with initial positive return results in increasing turnover, if is less than initial public offering prices. The stock price with a negative initial returns, if is higher than the initial offering price, increasing trading volume. New price of shares after four weeks increases stock trading volume. This approval implies the existence of behavioral bias due to loss aversion reluctant investors on IPO trading volume on the Stock Exchange of Tehran.

Hypothesis of research: loss aversion tendency effect in trading volume of Iran investing companies is seen.

3 Methodology

This is descriptive- correlative research. Also, this is applied research. Companies in Tehran Stock Exchange are population of this study including portfolio of 50 investment companies during here years monthly. totally they are 1116 companies for 36 months. Library method , Rah Avard Novin software were used to collect data by studying on baskets of investment companies. Excel and eviews software were used to analyze data. The used statistics models were described. Since the transactions are linked to cost and efficiency and turnover in last period before , error in the following model reflect other factors such as behavior impact of investors will be on trading volume. Errors are gained by the following model:

Model 1 :

$$\log v_t = \beta_0 + \beta_1 \log p_t + \beta_2 R_t + \beta_3 R^2{}_t + \beta_4 \log M v_{t-1} + \beta_5 \log v_{t-1} + \beta_6 \log v_{t-2} + u_t$$

P_t = daily shares price of company

R_t = Daily stock returns calculated as follows:

$LN(P_t/P_{t-1}) = R_t$

$R^2{}_t$ = daily volatility stock variable equal to squared daily stock returns

$M\,v_{t-1}$ = delay variable of daily market turnover of prior period

v_t = Late variable of daily turnover of stock

v_{t-1} = delay turnover of daily stocks variable of last period

v_{t-2} = Late turnover volume variable in two last shares period

u_t = disruption or waste of normal daily turnover of stock

In the second step of the used panel data model so that residuals (errors) calculated in the first regression (u) as the dependent variable and a dummy variable with a value of zero and one are independent variables of the model.

Second model is as follows:

$$u_t = \beta 1 + \beta 2\, D + \mathcal{E}$$

D : Dummy variable that is equal to one in loss aversion , otherwise is zero. The following six cases are defined for recognizing loss aversion:

Case one: In the event that the share for the last month period, is profitable and is in the profit since the beginning of the investment period, the investment company trades for loss aversion, identifies profit in order to prevent loosing the made profit.as a result, transaction volume increases.

Case two: If the share, since the beginning of the investment period, is in the profit , and has loosed over the past one-month period (profit since initial > loss of period), investment company trading due to loss aversion, identifies profits not to loose the profit more . As a result, trading volume increases.

Case three : if the share is in profit since start of investing period, and loss more than profit during a one-month period, the investment company does not trade due to loss aversion and does not identify the loss, because beliefs this loss is just on paper before recognition and is not occured. Therefore, trading volume did not change.

Case four: if the company is in loss since start of investment period, and its profit is more than loss during last one-month period, the investment company does not trade due to risk-aversion, identifies the profit not to suffer of loss. Therefore, Trading volume increases.

Case five : share is in dangeor since start of investment , and during last one month has profit less than loos in start , the investment company does not trade due to loss- aversion and does not identify the loss , because belives this loss is on paper before recognition and is not certain. Therefore, trading volume did not change.

Case six: if share is in loss during one month period, and is in loss since start of investment period, the investment company does not trade due to loss aversion, because believes thais loss is on paper before recognition and is not certain. Hence, trading volume did not change.

D: at least in one cases defined above is 1. Otherwise, is 0. Diagram 2 represents these six cases

briefly.

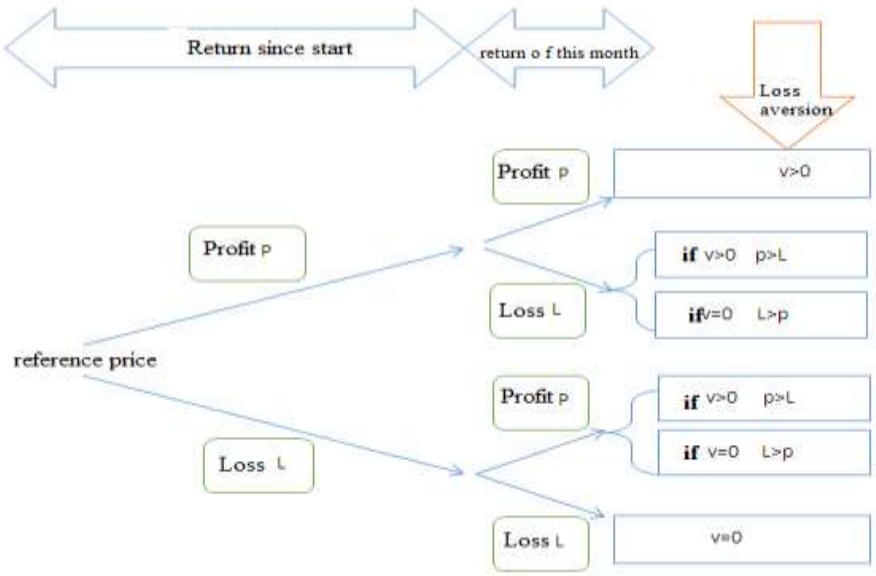

Figure 2: The loss aversion on the basis of turnover and efficiency

4 Results

Before testing hypothesis of the research, descriptive statistical analysis variables are studied briefly in table 1 : this table includes some indexes for describing variables of investigation including: central indexes, dispersion indexes, and dispersion form indexes. Table 1 shows characteristics of the variables . mean is the main index represents balance point. For example, mean amount for delay log of daily transaction volum is 1.67 represents most data are concentrated around this point.average is other central index represents situation of society. Accordingly, average of delay log of daily turnover of stock is 1.60 . it shows that half of data is less than this amount, and half of them are more than this amount. In addition, equality of mean and average for Log of daily trading volume of prior period market represents normality of this variable.

In general, scattering parameters, are criteria for determining the amount of dispersion of each other or their distribution relative to the mean. Standard deviation is one of the most important parameters of dispersion. The value of this parameter for the variable delay logarithm of the daily turnover of stocks for variable log equal to 2.21 and the daily price of shares is equal to 0.104. Skewness is degree of frequency curve asymmetry . If the coefficient of skewness is zero,

the community is completely symmetric and if the coefficient is positive, skewness is toward right. negative coefficient of skewed is toward the left.for example, skewness coefficient for delay logarithm variable of the daily turnover of stocks equal to 0.120. If the coefficient of skewness is zero, the community is completely symmetric. If this coefficient is positive, skewness is toward right. If this coefficient is negative, skewness is toward left.hence, this variable has skewness toward right.

Table 1: Descriptive statistics of variables

	Mean	Average	Max	Min	SD	Skewness	Strain
Late log of daily turnover stock	1.67	1.60	5.62	0.00	2.218	0.120	1.48
normal daily trading volume waste	733.47	-765.28	96004.23	-43332.28	24883.20	0.269	8,02
daily trading volume Log of prior period market	9.95	9.96	10.29	9.54	0.157	-0.516	4.19
daily price shares Log	4.61	4.64	4.80	4.43	0.104	-0.034	1.99
Log of daily trading volume of prior period market	1.82	0.00	5.62	0.00	2.47	0.473	1.31
Log of daily trading volume of two prior period markets	1.96	0.00	5.62	0.00	2.270	0.322	1.20
Daily market turnover prior period figures in million	9.580	9.070	19.400	3.470	3370000	1.006	4.69
Daily price shares of company	41923.73	43328.50	62852.00	26930.00	10027.800	0.355	2.35
Daily stock returns	0.00	0.01	0.14	-0.57	0.119	-3.502	17.83
Squared stock returns	0.01	0.00	0.33	0.00	0.058	5.123	27.51
Daily turnover of stock	28228.67	0.00	415093.00	0.00	78156.440	4.142	20.22
Daily turnover of stocks prior period	28997.83	0.00	415093.00	0.00	77988.200	4.141	20.23
The stock turnover of two last periods	29997.80	0.00	415093.00	0.00	77802.000	4.134	20.21

The last parameter of scattering oblong elongation rate or frequency curve of the standard normal curve to land or called the slenderness. If the strain is nearly zero, i.e. the frequency curve has normal situation of strain-balanced. If this value is positive, the curve is highlight and If it is negative, the curve is flattened . Strain of variables in this model were all positive. Among variables of this investigation, daily volatility stock variable has the most , and Log of daily trading volume of two prior period markets has the less highlight than normal curve. Reliability of the variables should be assessed before estimating the model. A variable is reliable when

mean, variance and autocorrelation coefficient remains constant over time. Generally, if the time origin of a variable changes and its mean and variance and covariance do not change, then variable is reliable . otherwise, the variable is not reliable. ADF Fisher Test was used to recognize reliability . assumptions of reliability of variables are as follows:

H0: variables are not reliable

H1: Variables are reliable.

Table 2: The results of reliability of variables

	ADF - Fisher Chi-square	Probability
Log mv1	16386.8	0.000
Log p	2927.88	0.000
Log v	6139.53	0.000
$logv_{t-1}$	18791.4	0.000
$logv_{t-2}$	18791.4	0.000
$M\,v_{t-1}$	14741.1	0.000
R	22467.6	0.000
R^2	21450.3	0.000
V	22659.7	0.000
v_{t-1}	20804.4	0.000
v_{t-2}	19358.1	0.000

According to table 2, sig level of test in all variables is less than 0.05 . hence, H0 is rejected and variables are reliable. Hence, all variables of variables are in reliable level. it means that mean and variance of variables during time and covariance of variables was fixed in different years. Therefore, using these variables in the model does not result in false regression. Testing hypotheis , requires normal hypothesis .

Table 3: normality of error

Average	Mean	Max	Min	Jock-braw test	Sig
-0.155607	-0.166772	2.588320	-3.590985	5.239020	0.094120

According to tables results, Jock-braw test is 5.23 with probability value 0.094120. h_0 of normailiy of data sentence was accepted. As was mentioned, since the transactions are linked to cost and efficiency and turnover of before period . error in the following model, represents other factors such as the effects of investor behavior on trading volume. Initially, errors were

obtained by he following model :

$$\log v_t = \beta_0 + \beta_1 \log p_t + \beta_2 R_t + \beta_3 R^2{}_t + \beta_4 \log Mv_{t-1} + \beta_5 \log v_{t-1} + \beta_6 \log v_{t-2} + u_t$$

Before estimating models, estimation method were determined. His painting technique using two models of "random effects" and "fixed effects" can be done. F-Likmer Test was used for this aim. Integration Method was used for observations their probability was more than 5%. Table method was used for observations with probabilility less than 5%.

Chow test was used to apply table effects against integrating total dtat. Its assuptions are as follows:

H0: Integration method

H1: Table method

H0 is based on personal and group efecs. H1 is based on existence of individual and group effects. Hausman test needed to determine the random effects is done using fixed effects model.

Table 4: F-Limmer Test results $\log v_t = \beta_0 + \beta_1 \log p_t + \beta_2 R_t + \beta_3 R^2{}_t + \beta_4 \log Mv_{t-1} + \beta_5 \log v_{t-1} + \beta_6 \log v_{t-2} + u_t$

F-Limmer Test	Test value	p-value	Result
F-Limmer	0.000	1	Integrated method

According to the results presented in table 4, as F-Limmer amount is more than 0.05, Ho was accepted and it is essential to use integrated method for estimating models. As it is not integrated, estimating Hausman test is not essential. The model is assesses . its results are presented as Table 5.

According to results of the estimation, t-test probability for constant factor, daily price variable coefficients company's stock, daily stock returns, daily trading volume prior period deferred variable market, daily turnover of stocks variable delay period before, late variable volume two periods before stock, are less than 5%. Hence, estimated coefficients of the variables are statistically significant. Variable coefficients daily volatility stock is 54% anf its Prob is 0.899.

Considering t-value and P-Value of yhis variable, results represent lack of significance of this coefficient in error level of 5%. The results of the co-linearity test indicate extreme co-linearity

of daily volatility stocks with other explanatory variables which are presented in the following.

Table 5: Preliminary results of regression estimates

	Varibles	Coeffi-cients	Standard error	t-value	Sig	Result
Intercept	β_0	-73.28	1.052	-69.63	0.000	.....
Daily price of shares	LOGP	9.640	0.20	-46.19	0.000	Positive
Daily stock returns	R	-9.29	0.43	0.125	0.000	Negative
Daily stock volatility	R2	0.054	0.093	32.43	0.899	No sig
Delay variable of daily trading volum of last period market	LOGMV1	3.03	0.006029	14.07	0.000	Positive
Delay variable of daily trading volum of last period stock	LOGVT1	0.091	0.006029	17.51	0.000	Positive
Delay variable of daily trading volum of last 2 period stocks	LOGVT2	0.010	0.144	66.54	0.000	Positive
The coefficient of determination	35%	F-value		3153.933		
Adjusted coefficient of determina-tion	35%	Sig		0.000		
Durbin Watson	1.94					

Table 6: Test results linearity between variables

	LOGV	LOGP	R	R2	LOGMV1	LOGVT1	LOGVT2
LOGV	1.0000	0.322	0.3072	0.3378	0.0997	0.1072	0.22440
LOGP		1.000	0.3582	-0.2948	-0.232	0.4692	0.5947
R			1.000	-0.8370	-0.066	0.19038	0.2844
R2				1.000	0.3550	-0.1268	-0.144
LOGMV1					1.000	-0.4781	-0.047
LOGVT1						1.000	0.052
LOGVT2							1.000

According to table 6, R^2 variable makes extreme co-linearity. Hence, it was taken out of the equation. The equation was estimated again withoit the R^2 variable. At first Limer test after eliminating R2 variables was estimated for the equation .

Table 7: Results of limer test among variables after remove variable R2

Test	Test –value	p-value	Result
F-Limmer	0.000	1	Consolidated method

$$\log v_t = \beta_0 + \beta_1 \log p_t + \beta_2 R_t + \beta_3 \log Mv_{t-1} + \beta_4 \log v_{t-1} + \beta_5 \log v_{t-2} + u_t$$

According to the results in table 7, as F-Limmer significance is more than 0.05, the consolidated method is acceptable. Hausman test estimation is not required because of the consolidated method. According to results of the estimation, t-test probability for constant and daily price variable coefficients company's stock, daily stock returns, variable delay period before the market daily trading volume, variable delay and variable delay period before daily turnover of stock trading volume in two periods before stock are less than 5%. Therefore, estimated coefficients of the variables are statistically significant.

Table 8: Estimated regression results after eliminating variables R2

	Variable	Coefficients	Standard error	t-value	Sig	Result
Intercept	β_0	-73.43	0.933	-78.59	0.00	.....
Daily price shares	LOGP	9.63	0.14088	68.39	0.00	Positive
Daily stock returns	R	-9.32	0.86	-107.32	0.00	Negative
Daily trading volume prior period deferred variable market	LOGMV1	0.042	0.068	44.66	0.00	Positive
Daily turnover of stocks variable delay period before	LOGVT1	0.091	0.005645	16.30	0.00	Positive
Late variable volume two periods before stock	LOGVT2	0.058	0.005645	18.74	0.00	Positive
The coefficient of determination	0.85	F-Value	3784.82			
Adjusted coefficient of determination	0.85	Sig	0.000			
Durbin Watson	1.89					

The results of linearity test represents high lack of linearity among explanatory variable explained as follows:

Table 9: results of linearity test among variables after removing R2 variable

	LOGV	LOGP	R	LOGMV1	LOGVT1	LOGVT2
LOGV	1.000	0.32	-0.3072	0.099	0.107	0.2240
LOGP		1.000	0.35	-0.23	0.46	0.5947
R			1.000	-0.066	0.190	0.2844
LOGMV1				1.000	-0.4781	-0.047
LOGVT1					1.000	0.052
LOGVT2						1.000

According to the table 9, there is no severe collinearity among variables. Hence, based on results of table 8, error amount was estimated. In step 2, after calculating error in the first regression (u), it is considered as dependent variable. The following model was estimated in order to comment on the study hypothesis. Second model is as follows:

$u_t = \beta 1 + \beta 2\ D + €$

D: dummy variable that in loss-aversion case is 1 , otherwise is equal to 0. Limer test is studied to study the test of the model of the main hypothesis.

Table 10: results of Limer test

Model	Test	T-value	p-value	Result
$u_t = \beta 1 + \beta 2\ D + €$	F-Limer	0.000	1	Consolidated method

Table 11: Results of hypothesis regression estimates test

	Variable	Coefficients	standard error	t-value	Sig	Result
Intercept	β_0	-2660	168.79	-15.76	0.00	.....
Loss aversion	D	6873.33	271.32	25.33	0.00	Positive
The coefficient of determination	0.41	F-value	641.860			
Adjusted coefficient of determination	0.41	Sig	0.00			
Durbin Watson	1.90					

According to the results presented in table 10, consolidated method is confirmed , because sig

of F-Limer is more than 5% . estimating Hausman test is not necessary, because ot is a consolidated method. The results of estimating main model are presented in table 11 for calculating about main hypothesis.

Variable coefficients of loss aversion is 6873.4 , and its Prob significance is 0.00. according to t-value and p-value of these variables, the results represent significance of this coefficiwnt in 5% error level. according to these results, risk aversion impacts positive significant effect on errors in the first regression (u). hence, this variable is significant with 95% confidence.

The adjusted coefficient of determination represents the explanatory power of the independent variables which are able to explain changes of the dependent variable as 41% . Probability of F statistics indicate that the model is statistically significant.high amount of Fisher test represents there is significant relationship among variables in this model. hence, the H0 is rejected generally. In other words, it is claimed that disposition effect of loss aversion can be seen in the volume of Iran investment companies. Hence, main hypotheis of research is confirmed.

5 Conclusion

In summary, behavioral tendencies as "systematic errors" is defined in the judgment. Some authors believe behavioral tendencies as "rules of thumb" , while the other group call them as "believe", "judgment" or "preferences" . Investors can use the knowledge of "behavioral finance" to widely benefit in certain situations. Financial companies are intermediaries investment which collect funds from retail investors, and invest in a wide range of securities or other assets. Proper functioning of the companies will increase market efficiency. Therefore, right decisions and devoid of any orientation can be effective on the market. However, results of this investigation confirms risk-aversion among investment companies of Tehran Stock Exchange. Similar to many other financial and behavioral researches, many investment decisions are not only influenced by economic indicators and rationality, but are influenced by other categories such as investment horizon, the risk-taking, investor confidence, so on in investment behavior and their decisions.

These results are in consistent with results of some researches such as Neshat omidvaran at el. (2021), Reza Zadeh and Fallah Shams (2013) , Hisler (1994), Weber and Kamrer (1998) , Kastia (2004), Brooks and Zenk (2005), Powlo (2011), Gill and Proze (2012). According to

results of this investigation to investors, it is suggested to investment companies to move toward gaining more profit by understanding of phenomena such as loss aversion to rational decisions as well as forming optimal investment portfolio.

Reference

[1] Aflatooni, A, 2013, Statistical analysis by Eviews in accounting and financial management research, Publications cashmere.

[2] Badri, A, 2009. Knowledge of behavioral finance and asset management, publishing universe, 1.

[3] Blavatskyy, P.R. (2011). "Loss aversion, Econ Theory", 46, 127-148.

[4] Brooks, p. & Zank, H. (2005)." Loss Averse Behavior, The Journal of Risk and Uncertainty", 31, 301-325.

[5] Gill, David and Victoria Prowse (2012). "A structural analysis of disappointment aversion in a real effort competition". American Economic Review 102 (1): 469–503

[6] Heisler, J. (1994). "Loss aversion in futures markets: An empirical test. The Review of Futures Markets", 13, 263–291.

[7] Kahneman, D.; Tversky, A. (1979). "Prospect Theory: An Analysis of Decision under Risk". Econometrica 47 (2): 263–291

[8] Kustia, M. (2004). "Market-wide impact of the disposition effect: evidence from IPO trading volume", Journal of Financial Markets, 7, 207-235.

[9] Odean T (1998). "Are investors reluctant to realize their losses?" Journal of finance, Vol. 53: 1775-1798.

[10] Reza Zadeh, E, Falah Shams, M.F. 2013, The effect of loss aversion reluctant investors on IPO trading volume in the Tehran Stock Exchange, Journal of Financial knowledge of securities , seventeenth Issue.

[11] Shams, Sh, Yahya Zadeh Fard, M, Imami, A, 2010, The relationship between flow and performance disposition effect with investment companies in Tehran Stock Exchange, Financial Research, Volume 12, Number 30, Pages 95 to 116.

[12] Shefrin H, M. Statman (1985). "The disposition to sell winners too early and ride losers too long: Theory and evidence", Journal of Finance, Vol. 40: 777-790.

[13] Weber M, C. F Camerer (1998). "The disposition effect in securities trading: An experimental analysis", Journal of Economic Behavior and Organization, Vol.33: 167-184.

[14] Xu Zhaojin (2007). "Selling winners and holding losers: Effect on mutual fund performance and flows", Dissertation of Doctor of philosophy in finance on faculty of the Virginia: 1-98.

[15] Ali, Ebrahim Nejad; Barakchian, Seyyed Mehdi and Neshat Omidvaran, Navid (2021). The Disposition Effect in Mutual Funds: Evidence from Iran. Financial Research Journal, 23(2),222-248. https://doi.org/10.22059/FRJ.2021.297422.1006993 (in Persian)