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Impact of Optimism Bias on Investment Decision: Evidence from Islamabad Stock Exchange, Pakistan

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Abstract
Many economic and financial theories suggest that investor make rational decision making on the basis of all available information. According to standard finance humans are rational but behavioral finance treats them normal. So we can say human's sentiments and emotions are involved in decision making process. The main focus of this research is to determine the effect of psychological behavior on investment decision. In this study we examine the impact of optimism bias on investment decision. Results show significant relationship with investment decision. This study is carrying out on sample of convenience of investor. 20 items Questionnaire is used to collect the data based on bias and investment decision .This research conduct in Islamabad. Impact of optimism bias on investment decision is seen to be significant. This study will help investor to identify their biases, its influence on their investment decision and formulated different strategies to reduce the irrational behavior.
Key words: optimism bias, investment decision

Introduction:
Many of our daily working based on decision making, either small or large like in term of buying and selling of securities. Some decisions are simple while other is complicated. .

BF draws on the psychology and cognitive science literatures to examine why individual decision-making often deviates from rational choices in systematic ways. Psychologists have found that any person's decision could be affected and influenced by unavoidable psychological, cognitive and emotional biases. The opposing point of view of psychologists and early proponents of traditional theories has given birth to a new area of research, called behavioral

Finance

This study based on a behavioral bias that investor face at the time of decision making. Behavioral bias is defined as deviation from rational judgment. On the basis of irrational judgment investor make wrong decision or some time toward bitter consequences. So investor involve in several biases here we will discuss optimism bias

Some people overestimate future outcomes regarding decision making and other underestimate so behavior finance considered them to be biased. One of them is indulge in optimism bias, can be explained in this way Individual behavior to overestimate the results of their decision making with the perception which gave them favorable outcomes and underestimate the unfavorable results. For example an entrepreneur going to start a business with optimistic thinking he will be success as compare to other businessmen without incorporating the risk factor.

Optimism bias firstly describe by Irwin in 1953.Tendency of people to be unrealistically optimistic about life events (Weinstein 1980). Further describe by different authors in recent years. (Irwin 1953; Weinstein1980; Slovic,Fischoff, and Lichtenstein 1982; Slovic 2000.Optimistic situation gave better results at the time of difficulty (Carver, Scheier, & Segerstromin, 2010)

In short, this study offers information both for investing wisely and for understanding

Investors themselves better. Theoretical background of this bias is explained as investor irrational decision making.

To understand the behavior of investor while taking options between the existing alternatives certain theories are at its backend. Most popular theory describes the behavior of investor is prospect theory states that people make decisions based on the potential value of losses and gains rather than the final outcome, and that people evaluate these losses and gains on certain heuristic._The second theory related to optimism base expected utility theory, according to this investor make decision between risky and uncertain prospect by comparing their expected utility theory.

Optimism bias is an important element toward investment decision it translates into both microeconomic and macroeconomic activity. For example, optimism bias influences high-stakes decisions, such as startup investment, investment behavior, and decisions.

Problem statement:
To determine the impact of optimism bias on investor decision making in Pakistan (ISE)

Objectives:
- To Find out the impact optimism bias on Pakistani investor decision making

- To checkout effect of investor decision making on market performance.
- To study the influence of demographical factor on optimism level.

Significance:

The Significance of this study is to contribute in the literature and let the researchers know that irrational judgment leads toward wrong decision. Help them to understand how investment decision effected by optimism bias in current eras. Such type of irrationality creates inefficiency in the market. Gender discrimination is also seen in the risk context. Male are more optimistic as compare to female. Investment experience also matter to make investment. Educated investor can make good investment decision if they are not involve in any bias

This study gave an aspect that some investor makes investment on the basis of their own thinking without incorporating some other facts and consequently this decision effect the market either overreaction or under reaction occur in the market.

Contribution:

This research has academic contribution in investment process. Investors who are indulging in this bias can correct themselves after the evaluation of results. On the basis of this study investor practically incorporate it in their investment procedure

Literature review:

Financial and Economic theory have explained different assumptions that investors behave rationally. Such an assumption has led to the failure of explaining some properties observed in financial markets like (i) the low responsiveness or sometimes high responsiveness of the price to new information [Ritter (1991) and Womack (1996)], (ii) the excessive volume traded [Dow and Gorton (1997)], (iii) under reaction or overreaction of market participants [Debondt and Thaler (1985)], and (iv) the excessive volatility observed in financial markets [Shiller (1981, 1989)]. In order to explain these properties, financial economists have departed from the rationality assumption and have instead assumed that investors may have some psychological traits which would lead them to behave irrationally.

The first paper to mention human behavior in the financial market context was that of Burrell (1951), although overlooked for many years until the discussions of organizational and behavioral disciplines. Burrell (1951) suggested that "... The behavior of markets is... reflection of relatively constant human behavior patterns and that experimental studies designed to reveal how men behave in the market may be of value in "Understanding how stock markets work"

Literature has abundance of psychological trait of investors having different decision making in particular scenario. Investor tendency to overestimate the results, anticipate the best possible outcome while believing that most situation work out in the end for best (optimistic).

Optimism bias is due to some cognitive factor. Such people focusing on their risk as compare to other investor Chambers & Windschitl, 2004**.**This bias was first demonstrated by Weinstein (1980) .

In other words, optimistic investors get lower expected pro

Some of the portfolio managers believe that their stock selection is fit than their rational counterpart [Odean (1998b), Gervais and Odean (1999), Caball´e and S´akovics (2003), Biais et al. (2004) among others].However, Kyle andWang (1997) and Benos (1998) find that overconfident traders may earn larger expected profit than rational ones. Moreover, a common finding to all these papers except Caball´e and S´akovics (2003) is that trading volume, Price volatility as well as price efficiency increase with the level of optimisim.

The Dual Theory of choice under risk developed by Yaari (1987) is a special case of RDEUtheory which reflects individuals' "optimism" and "pessimism" with respect to probabilities. People seem to have different attitudes towards small probabilities and large probabilities. Rank Dependent Excepted Utility models like that of Yaari (1987) take this behavior into account, as probabilities are distorted by individuals. Financial practitioners are well aware of the existence of such a trait in markets.

Indeed the terminology used in order to qualify the market proves that fact: they interchangeably use optimistic market for bullish market. Some papers tried to quantify it. In October 1996, the Union des Banques Suisse's together with Gallup Organization has launched the Index of Investor Optimism. This index measures the level of optimism in the American market.

Variation of the value of the Index shows the presence of relative Period of optimism and pessimism in the American market. the best one. More generally this optimism/pessimism trait is likely to be present for most people.

Anne Vanhems (2006) unrealistic trader allows misperceiving the expected return and variance. Optimistic market maker exacerbates the occurrence of a market breakdown. Unrealistic market maker may affect differently the traders. When the market maker is unrealistic, his expected profit may be either positive or negative as compare to other investor.

Paul, Pablo (2007) uncertainty in economic function leads to divergence in believe. Two sets of believes emerged about fundamental values. Existence of different believes about underlying fundamental values of currency effect the dynamics of exchange rate. Small change in beliefs fundamentally alters the time path of exchange rate.

Orie E. Barron, Donal Byard, Lihong Liang(2012) it show that this analysts' forecast timing effect contributes to explaining the decrease in the average forecast optimism over the forecast period before annual earnings announcements. Analysts who hold relatively pessimistic views about future earnings may also choose to forecast later than other analysts

Rudiger and steffen (2013) heterogeneous firms make decisions which are biased regarding misleading factors are involve. Firms systematically under predict or over predict their production. Majority of firms have biased expectation while realistic average expectations are not considered to be zero.

M. Blanchard and F. Peltrault (2007) investors misperceive the probability of outcome. People have different attitude toward small probability or large probability. Key assumption of this paper is distortion of probabilities and manager heterogeneity has impact on gain of trade. Optimistic country exports the risky commodity while pessimistic country exports certain commodity.

Jens Martin (2008) investigates if and to which extent managerial behavior, its mindset and potential behavioral biases can be accounted for the underperformance of companies. Behavioral explanations, such as optimistic managers, as well as rational theories, for example agency costs or that informed managers take advantage of a possible window of opportunity. The Optimistic Manager predicts that the more proceeds are generated, the worse the future performance will be. And find a significant negative effect on the long term performance of the firm for SEOs

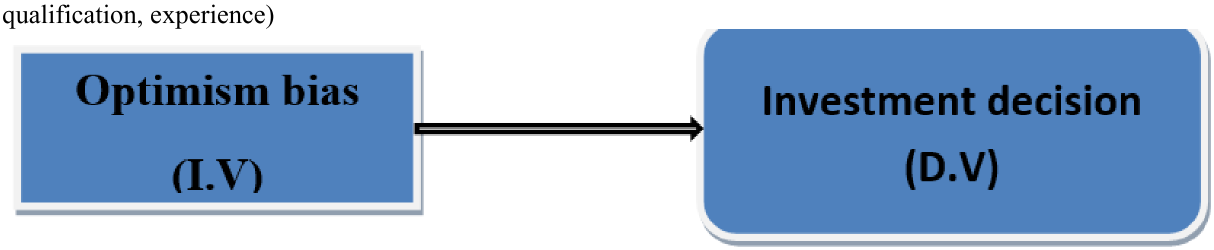
All the existing literature has explanation of investor behavior regarding investment decision. Optimistic investor exists in the market best example of such trait in specific period is due to bubble and crash. Although the existence of such trait is established, bring the attention of financial economist. Our main purpose of this study is to fill up the gap. In fact our study follows the psychological trait of investor such as positive illusion /negative illusion.

Information based on two parts;

1. Pure optimism/pessimism which represents the
Misperception of prior information (expectation and variance) and,
2. pure Overconfidence/under confidence which is the misperception of the precision of Private information. All recent papers analyze this market. So we will check the impact of optimistic trading on stock market. There is some grey area to be work out and find out the answer how market reacts when both unrealistic and realistic traders are present.

Theoretical framework:

On the basis of literature particular theoretical frame work is formulated. Where optimism bias is taken as independent variable and investment decision is independent variable. Optimism bias is an irrational behavior of investor which is supported by different finance theory. Investment decision incorporated on the basis of investor preferences through asking. While the demographics are taken as control variable (Gender, Age qualification, experience)



Hypothesis:

The hypothesis to be tested in this research is;

H1= Optimism bias has positive and significant association with investment decision in Pakistan (ISE).

Methodology:

A quantitative research methodology based on using questioner. So In order to test the optimism bias in investment decision making a questioner is used. Questioner consists of 20 items. For the result interpretation 15 questions of investment and 5 questions on optimism bias asked to the investor.

Research design:

Population of this study was all respondents (investor) who are above the age of 20 years and qualification from intermediate to post graduate. Experience range from 1 to 10 years. Sample size is 100 respondent both male and female investor located in ISE (Islamabad stock exchange).

Data analysis and technique:

Questioner fill by investor on optimism bias (OB) and investment decision (I.D). Then after taking the mean of each dependent and independent variable check the reliability of variables. To check the frequency distribution of data takes descriptive statistic. Pearson correlation is run to check the relationship between dependent and independent variable. After that regression analysis is to check the dependency of optimism bias on investment decision.

Findings:

Descriptive statistic:

Descriptive statistic gives detail summary of respondent demographics and experience in trading. Table shows that 86% respondents are male and 14% respondents are female. This show male are more likely to trade in stock market than female. The range of respondent's age is from less than 25 to more than 60. Results show 22% respondents are less than 25, while 48% respondents are range from 25-40 and 24 % respondents are from 41-50 and 4% respondent are from 51-60 greater than 60% are only 2 respondents.

In term of qualification 14% respondent are post graduate, 60% are graduates, 10% intermediate, while 16% respondents has qualification of metric. Most of investor are doing private jobs they occupied 36% of our sample size. While remaining 24 % are professionals and 24 % respondents do their own business. Investor of ISE has maximum experience of 3 years .while other investors (32%) have experience of 4-10 years.16% investor are having experience of greater than 10 years.

Table # 1 Statistic for demographic variable

Item		Frequency	Valid %	Cum. %
Gender	Male	86	86%	86%
	Female	14	14%	100
	Total	100	100.0	
Age	>25	22	22.0	22.0
	25- 40	48	48.0	70.0
	41-50	24	24.0	94.0
	51-60	4	4.0	98.0
	<60	2	2.0	100.0
	Total	100	100.0	
Qualification	Post graduate	14	14.00	14.0
	Graduate	60	60.0	74.0
	Intermediate	10	10.0	84.0
	Matric	16	16.0	100
	Total	100	100.0	
Occupation	Government	6	6.0	6.0
	Private	36	36.0	42.0
	Professional	28	28.0	70.0
	Business	24	24.0	94.0
	Other	4	4	100.0
	Total	100	100	
Experience	No experience	10	10.0	10.0
	1-3 years	42	42.0	52.0
	4-10 years	32	32.0	84.0
	< 10 years	16	16.0	100.0
		100	100.0	

Reliability Analysis:

Reliability analysis is performed using Cornbach's alpha. Cornbach's alpha is one of the most used reliability statistics to test the reliability of each variable. It verifies the internal consistency or average correlation of items in a survey instrument to measure its reliability. Cronbach's value of 0.60 and above is considered to be reliable (Nunnally and Bernstein, 1994) as it indicates the items are homogenous and measuring the same construct. Optimisim biase has 5 items and cronbach's alpha is0.742.investment decision has 15 items and cronbach's alpha is 0.774

Table # 2 Results of reliability of analysis

Variables	No of items	Cronbach's Alpha
Optimism Bias	5	.742
Investment decision	15	.774

Correlation analysis:

Correlation analysis is used to describe the strength and direction of linear relationship between two variables. The relationship between each dependent and independent variable is measured using Pearson correlation.

Table 3: Pearson Correlations

	ID	OB	Gender	Age	Qualification	Experience
ID	1					
OB	-0.101	1				
Gender	0.331**	0.003	1			
Age	-0.157	-0.003	0.335**	1		
Qualification	-0.067	-0.112	-0.003	-0.311**	1	
Experience	-0.023	0.025	0.338**	0.458**	-0.142	1

Correlation results indicate there is negative and significant relationship between investment decision and optimism bias.so it shows there is some other variables effect investment decision are missing here. Relationship between these two variables indicate value p <0.05.gender. Investment decision has strong and positive relationship. Its mean investment decision really depends on age factor as our research show most of the investors are male and are involve in risky investment. Age, qualification, and experience have negative but significant relationship with investment decision.

Optimism bias has positive and significant relationship with gender and Experience while with all other variables show negative relationship.

Regression analysis:

Regression analysis is a technique is used estimating the relationship among variables. Regression analysis help to understand that how value of dependent variable change when any of independent variable is varied.

$$\mathbf{ID} = \beta_0+\beta_1 OP + \beta_2 Gend + \beta_3 Age+\beta_4 Qf + \beta_5 EXP+\mu$$

Table 4: Co-efficient[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.669	.313		5.330	.000
	OB	.498	.083	.515	5.986	.000
	Gender	.428	.136	.288	3.143	.002
	Age	-.136	.056	-.233	-2.453	.016
	Qualification	.028	.049	.048	.567	.572
	Experience	-.090	.055	-.153	-1.639	.104

Results of regression show that optimism bias has positive and significant impact on investment decision.in the same way gender also have significant an positive influence as disruptive statistics explain most of the respondents are male so we can say male are involve in risky investment as compare to females. Qualification also has positive but insignificant impact on investment. Age has negative and insignificant impact. While has negative and significant impact .Experience also indicate negative influence on investment decision but show significant relation.

Model summary:

Table # 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.454[a]	.206	.164	.47341

a. Predictors: (Constant), Experience, OB, Qualification, Gender, Age

This table indicate the value of R square indicate variation in dependent variable due to independent variable. So result interpret 20 % dependent variable (ID) is being explained by independent variable (OP).

ANOVA analysis:

Table 6: ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.472	5	1.094	4.884	.001[a]
	Residual	21.067	94	.224		
	Total	26.539	99			

a. Predictors: (Constant), Experience, OB, Qualification, Gender, Age

b. Dependent Variable: ID

Anova analysis indicates that value of F which is 4.884.it shows the fitness of model .its mean our model is fit in term of its variable. It shows the level of significance is >0.05.

Conclusion:

The evidence in study shows that psychological characteristic will effect investor decision making. Hypothesis tested earlier indicate optimism bias has significant relationship with investor decision. There is a relationship between optimism bias and investor decision. This suggests that investor relay on their beliefs and personal judgment. Investor overestimate his own perception Which misguide them in the process of decision making. in this way investor make irrational judgment. So we can say irrational behavior of the investor is due to biases. Anomalies created in the market are due to the bias behavior of investor. Optimistic investor don't incorporate the taxes, inflation, and other factor and consider he will not get the market like return infect which is not possible. as a result also inefficiency created in the market.

This study will helps the investor to access bias in his behavior while making decision and formulate different strategies to reduce their irrational behavior and make profitable and rational investment decision.

Limitations:

This study focus only on investors located in Islamabad and sample size is also small due to time constraints. We take only the optimism bias. Further research can be done at large scale as well other related biases can be included in research.

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