

## Comforting Investments are Rarely Profitable: Impediments in Investor Decision Making

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### Abstract

*This research aims at testing and confirming existence of selected behavioral biases of investors that affect their decisions. Five behavioral biases affecting irrational behavior of investors were selected: overconfidence bias, illusion of control bias, confirmation bias and recency bias and optimism bias. Primary data was collected through a questionnaire from 300 investors from banks, insurance companies, stock exchanges etc. The results were obtained by employing a correlation and regression analysis for the presence of behavioral biases and to detect degrees of their influence on decision making. Correlation results indicate moderate association between behavioral biases and decisions of investors. Outcome of the research indicates that while making financial decisions investors are moderately affected by behavioral biases.*

### Key Words

Investment Decisions, Overconfidence, Illusion of Control, Optimism, Confirmation, Recency, Behavioral Biases

### Introduction

Psychology is the study of behavior and mental processes of human being explaining the way people behave differently in different situations. It includes perception, cognition, emotions, intelligence, personality, etc. In psychology, heuristics are basic guidelines which individuals use time and again to settle on judgments and choices. They are mental alternate routes that generally include concentrating on one part of a troublesome issue while settling on choice and disregarding others synonymously known as “satisficing”. These also have effect on the decisions that people make on daily basis like spending and investment decision (Simon, 2000).

Raiffa (1968) stated that irrationality occur when principles of consistency and coherence in decision making are violated and Statman (1999) propounded that behavioral biases are systematic errors in judgment and investor is susceptible to many biases and errors while making decisions. Bashir et al (2016) elaborated behavioral finance as an extension of standard finance that explores and explains standard finance phenomena, results and outcomes by introducing behavioral aspects behind decision-making process. For example, overconfidence is a cognitive error due to which investors make decision within narrow confidence intervals (Shefrin, 2000, 2007).

Similarly, illusion of control is another cognitive error that involves investors in overvaluing their ability to control events and builds up sense of positivity in individual while making decisions. Resultantly, an investor become more confident when they are exposed to this bias, whereas pessimistic investors have lower tendency of developing illusion of control bias. In studies taking gambling formats, e.g. Langer (1975) revealed that frequently people behave as in control or command of situations that actually are determined by luck or are accidental and people massively overestimate their degree of control over heavily chance influenced events.

Weinstein, Marcus and Moser (2005) explained that individuals tend to consider themselves on low risk, in many circumstances, in comparison to others and they termed this aspersion from chances of suffering adverse happenings as optimism bias. It causes investors to believe that they will face no or less risk as compared to other investors leading them to become more optimistic and invest in highly volatile securities and labeled as optimism bias. On the other hand, confirmation bias is a propensity to remember, believe and retain past actions confirming the pre-

existing beliefs of the person subconsciously influencing to likely seek information supporting his or her initial idea about an investment instead of hunting opposing information.

Another tendency found in people is to retain trends, information, exposures and experiences from recent past that are likely to continue in future and weigh them more heavily than primary or earlier events. This tendency known as recency bias in combination with anchoring bias creates deceitful perception about market directions, has impact on the current and future decisions in an erroneous manner causing investors to neglect fundamental indicators leading to improper and irrational asset allocation (Montier, 2006).

The themes and ideas offered by behavioral finance are comparatively new and complex as they involve human psychology and emotions exposing the fact that investment decisions of even most prominent and well-educated institutional investors were unknowingly interrupted by behavioral biases. The number of existing studies related to Recency bias and Optimism bias is limited yet behavioral finance has a huge impact on people's everyday decision making regarding their buying habits. When we look at the prevailing trends and volatility in stock prices, this is all the consequences of optimism because people invest and reinvest due to optimistic bias despite experiencing losses. Therefore, we examine the investor behavior in order to understand the fluctuations in financial markets that are essential for decisions. Various behavioral biases can be possibly impacting the investment decisions of investors and this is where the problem was identified. The contribution of behavioral biases including Confirmation Bias, Optimism Bias, Illusion of Control Bias, Overconfidence and Recency towards individual decision making and their relationship with it will be analyzed and detected separately and also identified whether these biases taken together effect the individual investment decision or not. The outcome of the study will be helpful for individual investors, analysts, prospective researchers, financial planners, policy makers, financial advisory institutes, finance managers, government and private employees interested in future investments and will provide direction for the future researches.

## Literature Review

Prospect hypothesis was formed normally (Kahneman & Tversky, 1979) upon the shortcomings of maximum utility hypothesis, assertions modeled and characterized genuine decisions instead of ideal options with approach demonstrating that individuals select among probabilistic option including dangers with known probabilities of outcomes. Higher weights are assigned to value losses as compared to gains and these higher weights depict higher aversion to loss thus forming an s-shaped value function.

Similarly, a theory of reasoned action was proposed (Ajzen & Fishbein, 1967) to establish connection between human practices and the mental processes behind them and conjectured the way people act in view of their prior conduct and aims. The goals are dictated by behavioral dispositions and subjective standards. Contingent upon an individual and circumstance, these elements may affect behavioral expectation, accordingly weights are assigned to subjective norms and attitude components.

## Overconfidence Bias

Odean (1998) defined overconfidence as extreme high faith in one's own reasoning, cognitive abilities and judgments leading them towards excessive trading that comes with the lower expected utility.

Men in USA are more overconfident than women and overconfident investors trade even when negative expected gains. Excessive trading investors underestimate their downside risk and keep on hunting next hot stock turning portfolio undiversified. Therefore, Jorgensen, Teigen and Molokken (2004) suggested that overconfidence can be removed with the help of better feedback and careful framing after detecting strong existence of overconfidence with too narrow prediction interval reflecting the chosen confidence level. Furthermore, Grinblatt & Keloharju (2009) also found excessive trading among overconfident people and they do it for seeking sensation this way. Whereas Bashir et al (2013) found men and women equally overconfident in their financial and investment decision in Pakistan maybe due to the sense of equality inculcated in women by the virtue of being Muslims.

*H1: Overconfidence bias effect decision making of investor.*

## Illusion of control

Alloy, Abramson and Viscusi (1981) found that depressed people judge their own control in an accurate manner as compared to non-depressed ones due to obsessed by illusion of control toward their response and outcome. They revealed that a person's current state of mood influences the accuracy of their judgment in examining their self-control and non-depressed people face illusion of control in both conditions of mood.

Durand (2003), investigated illusion of control in organizational performance for firm's ability to forecast. From 36 industries in France 785 firms were studied to measure firm's forecasting accuracy and industry growth through six indicators including internal performance indicators, investments in different resources, self-perception

bias of firm, investment in market information, investments in employee capabilities and organizational attention. Three stage least square methods revealed that ignorance of past performance effect positively the biased forecasts whereas firm investments in different resources increased the biased forecasts.

Bashir et al. (2013) analyzed influence of behavioral biases on financial decisions and concluded that status quo bias, mental accounting and loss aversion bias had no effects on decision making whereas illusion of control, overconfidence bias, optimism bias, and confirmation bias had significant impact. So, there is still room to investigate and explore these biases as variety of results are there.

*H2: Illusion of Control bias influence investor's decisions.*

### **Optimism Bias**

Sometime people become more optimistic and assume a low probability of negative event and by that way their important information like strategic level information in business is lost. Rhee, Ryu and Kim (2005) revealed that individuals are more optimistic toward their information security and biased in thinking that their information is more secured than their friends and other people dealing in same business. They also detected that people feel more control while protecting their information as compared to others, known as defensive and functional optimism.

Another research in USA took sample of 6369 individuals out of which 1245 were current smokers and results indicated that smokers exhibited optimism bias regarding their health and actually thought they have lesser chance of developing lung cancer than other smokers. Analysis produced a clear picture of unrealistic optimism bias that was resulted even when smokers were asked to compare themselves with the other smokers related to risk (Weinstein, Marcus & Moser, 2005). Similarly, in England Bain (2009) found toll road traffic prediction by investors was full of errors due to presence of optimism bias and these investors of toll road needs to be aware of the possibility of error and bias that can influence future projects.

*H3: Optimism bias influence investor's investment decisions.*

### **Confirmation Bias**

Gallimore (1996) investigated the presence of confirmation bias in people and examined their price determination where major debate was to estimate value of purchases while achieving max level of validity and reliability. Confirmation bias is strongly found when people have expectation of guilt from the accused ones, so the questioning style of the interrogator is always planned that way. Basically, in general interviews, managers gather data or evidence in a sequential form and create their questions in a simultaneous way leading to self-fulfilling forecasting impression as they can't face the ideas and information conflicting to their own views (Hill, Memon & McGeorge, 2008).

Jonas et al. (2001) conducted an experiment to investigate that after taking decision, people used to support over the conflicting information and found that people searched sequential information indicating significant presence of confirmation bias as subjects selected only those articles that reinforced their earlier decisions in comparison to those that were conflicting to their decisions (Park, Konana, Kumar & Raghunathan, 2010; 2016)

*H4: Confirmation bias affect financial and investment decisions.*

### **Recency Bias**

Recency effect is the tendency of an individual to recall and cling to the most recent information while deciding between options. Experiments were conducted to analyze the difference between primacy effect and recency effect in people Australia (Murphy, Hofacker & Mizerski, 2006) where results supported both primacy effect and recency effects but showed relatively higher responses based on recency. It can be concluded that the most important information should never be given at beginning of any lecture, list of options etc because according to classic recency effect majority choosers retain recent most piece of information.

Koch, Köhler and Yankova (2016) used skepticism scale (Hurt, 2010) while studying consumer behavior and found that auditor with higher degree of trait skepticism are less prone to recency bias as compared to those with lesser degree of trait skepticism. Scanty and meager literature can be found on recency bias.

*H5: Recency bias has influence on financial & investment decisions.*

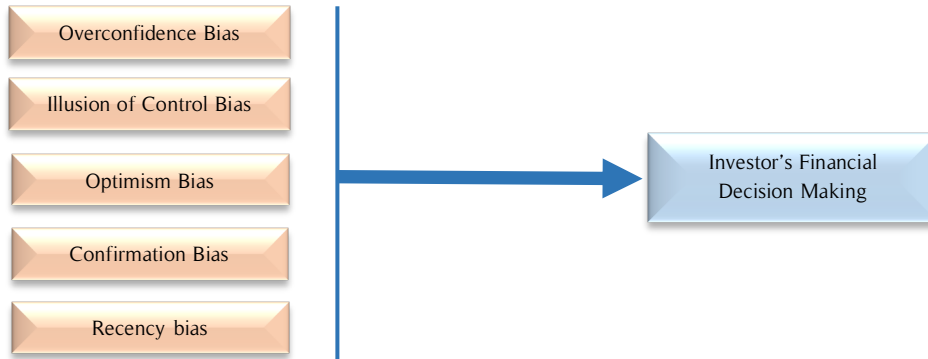
### **Theoretical Framework**

Raiffa (1968), proposed hypothesis of basic leadership and his commitment set the base for most significant work in the field of behavioral finance. He presented choice examination with the assistance of three methodologies / approaches that offer a more precise vision of thinking styles of a person. These methodologies incorporate regularizing examination (worried about the discerning answer for the current issue), expressive investigation

(worried about the way in which genuine individuals really decide) and prescriptive examination (worried about down to earth exhortation and instruments that may enable individuals to accomplish more intently approximation of standardizing investigation).

H6: Behavioral biases affect the investing decisions.

**Conceptual Framework**



**Methodology**

**Research Design**

The study is descriptive using survey method and data is collected through questionnaire from a sample of 300 investors at national saving center, PSX, various brokerage houses and insurance companies. The questionnaire had two parts i.e. first part consisted of demographics and second part consisted of questions related to behavioral biases and decision making.

**Tests and Procedures**

The validity and reliability of collected data is assessed by Cronbach alpha and to test relationships between the dependent and independent variables a regression analysis and correlation analysis is done.

**Data Analysis**

**Demographic Analysis**

The number of male participants in this study were 204 (68.0%) out of 300, while the number of female participants were 96 out of 300 constituting 32% of the respondents. Majority respondents were from the age between 31 to 35 years (33.7%) and least i.e. 15.7% respondents belonged to age between 20-25 years. Out of these 300, married were 186 (68%) whereas 114 (32%) were single in status. With respect to educational background, majority respondents achieved graduation only that is 36.3%, while only 16.7 % of respondents had attained post graduate degrees whereas 38% were either matric or attained intermediate level only.

**Descriptive Statistics:**

Data of all variables is normally distributed as they are in the valid range of skewness and kurtosis.

**Table 1.** Descriptive Statistics

Descriptive Statistics		OC	IOC	OB	CB	RB	FDM
Mean	Statistic	2.9147	3.1107	3.1093	2.9667	3.1189	2.8040
	Std. Error	.08076	.08001	.08733	.07440	.07784	.07090
Std. Deviation	Statistic	.98916	.97994	1.06955	.91120	.95330	.86838
	Std. Error	.198	.198	.198	.198	.198	.198
Skewness	Statistic	-.350	-.464	-.637	-.630	-.693	-.450
	Std. Error	.198	.198	.198	.198	.198	.198
Kurtosis	Statistic	-1.265	-.699	-1.083	-.710	-.699	-.908
	Std. Error	.394	.394	.394	.394	.394	.394

### Reliability Test Results

Gregory (2000) termed Cronbach alpha as a useful estimate of reliability and described it as guide for item's internal consistency and it is high for vastly correlated scale items (DeVellis, 2003).

**Table 2.** Reliability Test

Variables	OCB	IOCB	OB	RB	CONF	FDM
Cronbach's alpha	.798	.861	.733	.767	.713	.801

Table 2 express how well things incorporated into the poll are decidedly related with each other where Cronbach's alpha scores show that all the dependent variables are reliable.

### Correlation Analysis

Correlation of overconfidence bias to all other variables is of moderate level. Similarly, Illusion of control bias also shows moderate level correlation with all other study variables while holding strong correlation with confirmation bias and financial decision making.

**Table 3.** Correlation Analysis

Variables	OC	IOC	OB	CB	RB	FDM
OC	1					
IOC	.433**	1				
OB	.439**	.570**	1			
CB	.471**	.675**	.618**	1		
RB	.461**	.546**	.785**	.578**	1	
FDM	.595**	.629**	.529**	.634**	.578**	1

\*\*Correlation significant at the 0.01 level (2-tailed).

Optimism bias has strong positive relationship with confirmation bias and recency bias. Whereas Confirmation bias shows strong correlation with illusion of control bias, optimism bias and financial decision making. Recency bias has strong correlation with optimism bias and financial decision making. In nutshell, financial decision making has moderate positive relationship to all and strong significant one with illusion of control bias and confirmation bias.

### Regression Analysis

In Table 4 R-square value is worthwhile in the speculative choice of financial specialists clarified by the behavioral predispositions to distinguish and investigate the effect of behavioral inclinations in speculators.

**Table 4.** Overall sample model summary

Model Summary					
Model	R	R Square	Adj R Square	SE of the Estimate	Sig. F Change
1	.897 <sup>a</sup>	.805	.799	.38965	.000

a. Predictors: (Constant), RB, OC, IOC, CB, OB

### Regression Coefficients

Table 5 shows that all biases have statistically significant contribution towards investment decision of investors except optimism bias.

**Table 5.** Overall sample model Coefficients

Coefficients					
Model	Unstandardized Coefficients		Std Coefficients	t	Sig.
	B	Std. Error	Beta		
(Const)	.055	.122		.449	.654
OC	.284	.048	.324	5.919	.000
IOC	.189	.069	.213	2.731	.007

OB	-.068	.097	-.084	-.706	.481
CB	.266	.079	.279	3.382	.001
RB	.243	.102	.267	2.379	.019

a. Dependent Variable: FDM

### Discussion

The literature concluded that behavioral biases existing in investors affect their financial decisions. This study was intended to identify behavioral biases including overconfidence bias, Illusion of control bias, confirmation bias, optimism bias and recency bias and their impact on the decision making of investors. It is troublesome for the person to self-evaluate and distinguish the predispositions that affected them or are normally displayed by them while settling on money related choices. Sanity of financial specialists is tried in this exploration whether the choices made by them depend on reasonability or behavioral elements are impacting their basic leadership process.

Decision making is most important element of human action encompassing majority life span. This examination went for recognizing the effect of behavioral inclinations causing silly choice by speculators. Investors are confronted with both emotional and cognitive errors while taking decisions. Whether the bias of behavior is cognitive or emotional, it is important for the investor to understand the impact and outcome of decision made by the investors as any decision can result in huge loss for the individual or an organization. The reason for this examination was to explore the impact of behavioral inclinations in the basic leadership of financial specialists and decide if the connections arranged by the hypothetical system are noteworthy or not. This investigation tried five behavioral inclinations and the impact of these behavioral predispositions on the basic leadership of financial specialists which are carelessness inclination, fantasy of control inclination, affirmation predisposition, hopefulness predisposition and recency inclination.

It was found that the beta values of the five independent variables including Overconfidence bias, Illusion of control bias, optimism bias, confirmation bias, recency bias were significant, whereas Overconfidence bias having the highest beta value of all. Results indicated that Overconfidence bias was the most significant in influencing the financial decision making compared to the other independent variables and results are consistent with findings by Barber and Odean (2001) who investigated overconfidence in America and gave empirical details in response to theoretical models that overconfident investors trade excessively where men are more confident than women and because of this fact they trade excessively.

Illusion of control bias had a significant impact on financial decisions and findings support Bashir et al. (2013) whereas optimism bias is found to have an insignificant impact on financial decisions in Pakistan. Although results of the overall study were significant, this specific finding is inconsistent with Rhee et al. (2005) as they stated that user shows optimism bias in their risk perception of information security and studied the perception of people that were optimistic and risk averse. It might be due to the reason stated by Rhee et al (2005) that sometime people become more optimistic and assume a low probability of negative event and that way their important information like strategic level information in business is lost.

Findings about recency bias are in line with the analysis by Jonas et al. (2001) who conducted a research to investigate how after taking decision, people used to support the existing information over the conflicting information. It was concluded that information given in the sequence or information given simultaneously had something to do with confirmation bias. This finding is also consistent with Murphy et al. (2006). Overconfidence bias, illusion of control bias, confirmation bias and recency bias show substantial influence on the investment decision of investors. Whereas, optimism bias is the only variable which has statistically no significant impact on investors decisions making.

### Conclusion

Behavioral biases actually creep in the individual's decisions may they be from general life or related to financial matters. Most of the investor are not only overconfident but also use confirming news and views in order to qualify their failing decisions and few are cautious. The investigation shows that most investors are content with their investment and opposite to conservatism they rely mostly on recency bias and they feel themselves a superior to others while comparing themselves. Intense information gathering and processing by investor for particular investment while deciding is established as they learn from their past experiences and everyone faces regret in real life somehow. Generally from the findings it can also be concluded that strong relationship between risk and regret exists. To attain high returns, regrets are to be avoided as biases blur the sight and regrets distort decisions.

This examination introduced an extensive and definite review of money related basic decisions including both financial and investment aspects. This study confirms the existence of behavioral factors that are affecting investment decisions. Study gathered primary data through questionnaire survey. The sample population include

300 investors from six different institutions considered for analysis such as banks, insurance company, stock exchange, national saving center and brokerage houses etc. The after effects of this examination in the wake of applying measurable tests that is connection and relapse investigation, give a proof of the presence of behavioral predispositions in financial specialists and their choices are affected by these inclinations. Majority people experience the ill effects of behavioral inclination either due to linking or disliking Research revealed that financial decision making was largely influenced by all the variables including overconfidence, illusion of control, confirmation bias, and recency bias but optimism isn't much experienced here.

### **Suggestions**

This exploration was directed to recognize and show the impact of chose behavioral inclinations on the way toward settling on venture choices of financial specialists. It is suggested to conduct another study by adding more cognitive biases and emotional biases. In not so distant future, it might propose to lead this examination utilizing the majority of the behavioral predispositions to get a full sight on the financial specialist's conduct while settling on speculation choices. It is also suggested to increase the sample size and to conduct at different locations of Pakistan to compare the outcome with other cities. The findings are beneficial for the financial advisors, brokers, portfolio investors, financial managers, and individual as it will help them out to detect various biases residing in them and how these biases are interrupting their decision process. They can learn from their past experience to prevent themselves from different behavioral biases present in them from taking irrational decisions. Speculator will break down and propose the venture openings that are to the greatest advantage of their speculation execution. Thus, presumption of discernment that business sectors are productive can be meet once the market patron begin taking levelheaded choices.

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