Impact of Illusion of Control on Perceived Efficiency in Pakistani Financial Markets

Sidra Ajmal[1]
Maria Mufti[2]
Dr. Zulfiqar Ali Shah[3]

Abstract

The purpose of this study is to test impact of illusion of control on perceived market efficiency. On the basis of literature review, questionnaire was developed. The study is carried out on sample of convenience of investors, financial analyst and finance scholars of Islamabad/ Rawalpindi. Questionnaire comprises of 15 items related to three forms of market efficiency and particular bias (illusion of control). The findings of the regression show significant results. This means that illusion of control has impact on perceived efficiency of Pakistani financial market. This study focuses on only individual located in Islamabad/Rawalpindi, and the sample size is also small due to time constraints. Further research can be done on a bigger scale to get the more general conclusions. This study will help investors to identify their biases and then formulate different strategies to reduce their irrational behavior.

Key words: Illusion of control, market efficiency

[1]Sidra Ajmal, MS (Scholar), SZABIST, Islamabad.
[2]Maria Mufti, MS (Scholar), SZABIST, Islamabad.
[3]Dr. Zulfiqar Ali Shah, Associate Professor, SZABIST, Islamabad.

Illusion of control is a psychological term referring to the tendency of people to overestimate their abilities to control any event, where as market efficiency is the phenomena primarily explained by Fama (1970). He had created a hypothesis that

security prices prevailing in financial markets reflect all available information. Whereas, various studies showed that markets are not efficient in practical life because of behavioral as well as other attributes of investors. This study will focus only on behavioral aspects of investors and more specifically, the impact of illusion of control on market efficiency.

The concept of illusion of control is explained generally by "Gamblers fallacy" – gamblers throw a dice harder to get a higher number and softer to get a lower number. The studies have revealed that investors effecting from this factor had significant worst performance in analysis, risk management and trading profits which ultimately decrease their earning level. Illusion of control is basically a fact of "Over confidence" in which the investor become over confident about his capabilities that he can control the events. Although in reality he can't, which best fits on a proverb probably "pride comes before the fall" (Mackay, n.d).

Problem Statement

To determine the impact of illusion of control on perceived market efficiency in Pakistani financial market – an investor's perception.

Objectives

- To assess the efficiency of Pakistani financial market.
- To identify the impact of illusion of control bias on the decision making of Pakistani individual investor.
- To test the impact of illusion of control on perceived market efficiency.

Significance

The significance of the study is to contribute in literature as well as give knowledge to future researchers about reasons behind lack of efficiency in financial markets. Moreover, it will detect

presence of biases in investers' behaviors, reveal that how biases in their decision making can affect market efficiency and may guide them to modify it.

Research Questions

- Determine the efficiency of Pakistani financial market and impact of illusion of control on the decision making of Pakistani individual investor?
- Is biased investor created any impact on the efficiency of financial market?

Literature Review

Market efficiency refers to "Informational Efficiency" in the market. Means that how effectively the information reveals is making change in stock price or market movement. The concept of "market Efficiency" was introduced by Eugene Fama (1970) in his survey article, "Efficient Capital Markets." It is one of the well-built believes of standard finance that securities markets were efficient enough to reflect information about individual stocks and also about the stock market as a whole (Malkiel, 2003). It is generally assumed that as soon as the information arises, the news spreads very quickly and is incorporated into the prices of securities without delay.

For an efficient market, it has to be large and liquid. Information has to be extensively available to all types of investors more or less at same time, in terms of convenience and expenditure. Transaction costs have to be cheaper than the expected profits of an investment strategy. Investors must also have enough finances to take gain over the inefficiency until, it disappears again. An investor must have to believe that he can outperform (to take advantage of the fluctuating prices) the market. The efficient market hypothesis is associated with the financial concept of a "random walk". The term *random walk* was first introduced by Karl Pearson in 1905. The logic behind the concept

random walk theory is that if the flow of information is unchecked and information is straight away reflected in stock prices, then tomorrow's price changes will only be reflected in tomorrow's news and will be independent of the price changes today (Malkiel, 2003). In an informational efficient market, price changes must be un-forecast able if they are properly expected, that is, if they fully incorporate the information and expectations of all market participants (Lo, 2007). Thus, quick release of information may can create an overreaction or under reaction in the market. The EMH's concept of informational efficiency has a Zen-like, that is, the more efficient the market, the more random the series of price changes produced by such a market, and from all the most efficient market is one in which price changes are completely random and unpredictable (Lo, 2007).

A common clarification for disappearances from the EMH is that investors do not always react in appropriate percentage to new information that composes the trading behavior. For example, in some cases investors may overreact to performance, selling stocks that have experienced recent losses or buying stocks that have enjoyed recent gains. Such overreaction tends to push prices beyond their 'fair' or 'rational' market value or fundamental value. An implication of this phenomenon is price turnarounds: what goes up must come down and vice versa (Lo, 2007). The fact that both overreaction and under reaction are observed as consequence of trading behavior in the financial market has been interpreted by Fama (1997) as verification that the anomalies from the point of view of efficient market theory are just "chance results".

Illusion of control is basically a behavioral bias in which individual tend to think that he can control or at least influence out comes when he cannot. Ellen Langer defines illusion of control bias as the "expectancy of a personal success probability inappropriately higher than objective probability would warrant."

Langer found that choice; task familiarity, competition, and active involvement can all inflate confidence and generate such illusions. Creevy, Nicholson, Soane, & Willman (2003) examined the impact of illusionary control beliefs on the performance of traders in financial instruments. They argued that tendency to illusions of control bias would be related to trader's performance. The study reveals that traders with higher level of illusion of control perform less as compare with those with lower level. Furthermore, illusion of control rests on a combination of situational factors and individual predispositions, which have their roots in personality and learning. In financial market, there might be some traders that intentionally mislead other market participants by creating illusions in order to obtain a profit. (Hamadi, Rengifo & Salzman 2005). This new concept is called as *illusionary finance*, showed how illusions could be incorporated (directly or indirectly), in the expected prices of the traders? Illusionary traders take advantage from the believers which can be either information traders or noise traders.

The task and environment faced by traders are conductive to the development of illusions of control and that individual propensity to illusion of control will be inversely related to trader performance (Ejova, Delfabbro & Navarro, 2009). The study also reflects that illusion of control is inversely related to trader performance for all of the relevant performance measures. In a study of the illusion of control in a population of traders working in investment banks it was found that traders who were prone to high illusions of control had significantly worse performance in analysis, risk management and trading profits. They also earned significantly less (Zimmermann, n.d).

Illusions of control were common even in purely chance situations (Thompson, 2011). It is more likely to occur in settings that can be characterized under the heads of personal involvement, familiarity, foreknowledge of the desired outcome, and a focus on

success. Person based factors that affect illusions of control include depressive mood and need for control. Motivational influences on illusory control and consequences of overestimating one's control are also covered.

In the 1990s, the attention of academic discussion transferred away from the econometric analyses of time series on prices, dividends and earnings towards developing models of human psychology as it relates to financial markets. The field of behavioral finance developed (Shiller, 2002). The financial markets are not rational and the movement of the market reflects that there is no efficient processing of new information into price adjustments. The financial markets are the place of play and display of the full range of the qualities and vagaries of human nature and behavior. Any theory that attempts to illustrate the financial markets without placing human nature and collective human behavior as the center piece of the theory is doomed to failure (Zimmermann, n.d).

In recent years, research in the field of behavioral finance also shed some light on efficient market hypothesis. According to Shefrin (2001), markets cannot ever be strongly efficient, for the reason that investors don't make decision and act rationally in the market. The efficiency of financial market depends upon the trading behavior of the investors. The faults in the efficient market hypothesis that behavioral finance has brought under discussion are called 'biases.' The common understanding about biases is something voluntary. However, the biases employed by behavioral finance are not something that can be unlearned. These biases are cited by behavioral economists and have deeply rooted qualities of human nature (Zimmermann, n.d).

The efficient market hypothesis (EMH) proposes that, prices fully and instantaneously reflects all available relevant information on a particular stock or market at any time (Fama, 1970). The information enclosed in the prices also reveals the

interpretation and perceived way of the investors. Thus, no investor can take an advantage by predicting stock prices as no one have access to information that is not already available. In view of that, the EMH states that no one can "beat the market" because prices already incorporate and reflect all relevant information. More importantly, the EMH framework assumes the existence of rational agents. However, in reality investor's decisions possibly often communicate affective evaluation (attitudes) which do not confirm the logic behind economic rationality.

Illusion of control is also a bias identified by behavior finance which directly or indirectly has an impact on trading behavior in the stock market, i.e. overreaction and under reaction of stocks. From the above stated statement, EMH framework is more likely to be affected by investor's decision and as per the foundation layout of *Behavioral Finance*, people (investors) are normal (Meir Statman). So the assumption of EMH nullify over there, i.e. market have rational agents, which means that the market efficiency also relay upon the trading behavior. In this study we would like to sort out some evidence through which we can prove that market efficiency also have an impact of trading behavior and trading behavior is influence by psychological bias i.e., illusion of control.

Theoretical framework

According to the literature review following theoretical framework is formulated where Illusion of Control is the independent variable and Market efficiency is dependent variable.

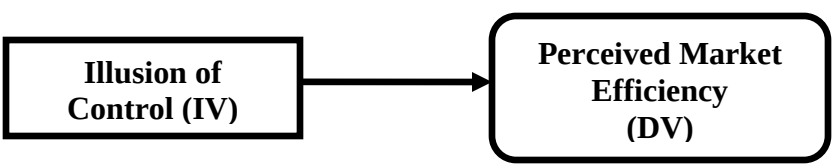

Figure 1. Conceptual Framework

Research Hypothesis

H_1: Illusion of control has significant impact on the perceived market efficiency of Pakistani financial market.

Methodology

A quantitative research methodology based on a survey using a questionnaire was used. Questionnaire was developed by the researchers after reviewing the relevant literature.

Research design

A sample size of 100 self-reported respondents was taken with a combination of both male and female investors. The investors located in Islamabad/ Rawalpindi was taken as sample respondents for the study.

Findings

Table 1
Descriptive Statistics

Variables	Mean	F	Standard Deviation	Min	Max	Count
IOC	0.598	0.63	0.221621	0.18	1.18	100
M.E	0.532	0.40	0.234792	0.20	1.00	100

The researchers analyzed the descriptive statistics of the different study variables. Table I shows means and standard deviations of the variables. The mean of market efficiency refers to strong agreement as compared to Illusion of control's mean. That indicates; average of 59% of the respondents are effected by Illusion of control bias with dispersion of 22%, where as the respondents perceives 53% efficiency in financial market of Pakistan with the dispersion of 23%.

Table 2
Correlation

	IOC	M.E
IOC	1	
M.E	-0.21	1

The correlation is a measure of relationship between the studied variables. Table II is stating that there is negative relationship between the variables of the study. Furthermore, the correlation coefficient between variables indicates that with increase in bias (i.e. illusion of control) decreases the efficiency of Pakistani financial market. The correlation coefficient also interprets that there is no multicollinearity between two variables as correlation coefficient is less than 0.9 which means that there is no linear relationship between two variables.

Table 3
Regression Analysis

	Coefficients	t statistics	P-value
Intercept	0.669	10.044	9.71E-17
IOC	-0.229	-2.193	0.030
R square	0.046		
F	4.809		

Regression equation as per the statistics in table 3

$$M.E = 0.669 - 0.2294\ (IOC)$$

This equation mathematically shows that the dependent variable, market efficiency, directly proportional to or negatively dependent on the independent variable which is individual bias i.e. illusion of control (IOC).

If illusion of control bias would increase by 1 then market efficiency would decrease by 0.4396 (0.669 - 0.2294 * 1). This shows that whenever, IOC increases in magnitude then M.E would decrease almost twice.

The value of R-square interprets that 4% of the dependent variable (M.E) is being explained by the independent variable (IOC). As P-value is less than 0.05% level of significance that's why we reject our null hypothesis H0 and accepts H1 i.e. Illusion of control has significant impact on the perceived market efficiency of Pakistani financial *market.* Furthermore, F test value (i.e. 4.809) represents model significance.

Conclusion

The objective of the study is to test the significant impact of illusion of control on perceived efficiency of Pakistani financial market. The study has provided the information that there is significant impact of particular bias i.e. illusion of control on the perceived market efficiency of Pakistani financial market which answers the reasons behind the anomalies prevailing in the Pakistani financial market, which creates inefficiency in Pakistani financial market. Individual biases are the important reasons for irrational behavior of an investor, the study will help the investor to access biases in his behavior while making decision and then formulate different strategies to reduce their irrational behavior – which are the reasons behind anomalies of inefficiency in Pakistani financial market.

Limitations

This study focuses on only individual located in Islamabad/Rawalpindi, and the sample size is also small due to time constraints. Further research can be done on a bigger scale to get the more general conclusions.

References

Creevy, M., Nicholson, N., Soane, E., & Willman, P. (2003). Trading on illusions: Unrealistic perceptions of control and trading performance. *Journal of Occupational and Organizational Psychology*, *76*, 53-68.

Ejova, A., Delfabbro, P., & Navarro, J. (2009). The illusion of control: structure, measurement and dependence on reinforcement frequency in the context of a laboratory gambling task; available at: http://www.maccs.mq.edu.au/news/conferences/2009/ASCS2009/pdfs/Ejova.pdf

Fama, E. (1997). Market efficiency, long-term returns, and behavioral Finance. *Journal of Financial Economics* 49, 283 – 306.

Hamadi, M., Rengifo, E., & Salzman, D. (2005); available at: www.econ.ku.dk/fru/conference/.../G3/Hamadi_hrs_Denmark.pdf.

Lo, A. (2007). *Efficient markets hypothesis* (2nd ed.)*: A dictionary of economics*. New York: Palgrave Macmillan.

Malkiel, B. (2003). The efficient market hypothesis and its critics. *CEPS Working Paper*, 91.

Pompian, M. (2006). *Behavioral Finance and Wealth Management.* London: Wiley and Sons.

Rodrick, D., (2001). Trading in illusions; available at: www.foreignpolicy.com/issue_marapr_2001/rodrick.html.

Shefrin, H. (2001). Behavioral corporate finance. *Journal of Applied Corporate Finance*, 14(*3*).

Shiller, R. (2002). From efficient market theory to behavioral finance. *Cowles Foundation Discussion Paper,* 1385.

Thompson, S. (2011). Illusions of control: How we overestimate Our Personal Influence. Available at: http://www.jstor.org/stable/20182602

Zimmermann, W. (n.d). Behavioral finance and technical analysis as the solution to fundamental analysis and the efficient market hypothesis. United- ICAP. Available at: http://www.united-icap.com/LinkClick.aspx?fileticket=d3Qxqx8EA9c%3D&tabid=88&mid=530