

Post Covid-19 impact of Availability Bias Effect on Investment Decisions of Pakistan Stock Exchange Registered Brokers Investors

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Abstract: In this study researcher analyzed Post Covid-19 impact of Availability effect bias on investment decisions of Pakistan Stock Exchange (PSX) after pandemic. Financial markets post Covid-19 changed the dynamics all over the World and affected investment decisions of investors of Broker houses registered with PSX. Conventional investments like maintaining saving bank account or booking of Fix term deposit, investments in mutual funds, buying Prize bonds or gold bars are outmoded investments Post Covid-19. Investor now evaluate thousands of options including e-currency investments and invest more wisely than before Covid19. They try to capitalize the opportunity of higher returns now in one of the volatile stock market PSX which is again gaining momentum after change in Government from PTI to PML-N recently in last week of ramzan-2022. Pakistani stock market is one of those volatile market where not only local but foreign investors are investing and buying shares through registered Brokers of PSX has raised and drop the KSE-100 index from 1st Jan to 4th May-2022 many times due to Availability effect bias. Researchers made an attempt to address post Covid-19 influence of Availability effect bias on investment decisions of PSX investors registered with Broker by taking Availability effect bias along with its sub variables as an independent variable and investment decision of these investors as dependent variable and evaluated the impact of both variables in post Covid-19 Pakistani stock market performance. Researcher used stratified random sampling technique by dividing Pakistani stock market such as: Karachi Stock exchange (KSE), Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE). The study is quantitative in nature, so questionnaire survey technique was employed for data collection from registered PSX brokers investors of KSE, LSE and ISE. Theory of mental accounting of behaviors finance is backing this study and has served the base for this study. Researcher used descriptive statistics, rank correlation and its analysis, association method and applied logistic regression model. Findings of this study suggest that Post Covid-19 impact of Availability effect

bias on investment decisions of PSX have positive impact on individual investors decisions at Pakistani stock market.

Keywords: Pakistan Stock Exchange (PSX), Karachi Stock exchange (KSE), Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE). Registered brokers, investment decisions and Availability effect bias.

INTRODUCTION

“Investor biases are often referred as capacity of irrational financial decisions that are caused by emotions”. Recent studies show that investor biases play a vital role in influencing investment decisions. Researchers evaluated availability effect bias influence and impact on individual investor decisions at Pakistani stock markets Post Covid-19.

BEHAVIOUR FINANCE IN ASIA AND SPECIFICALLY IN PAKISTAN

This part will provide an overview on importance of behaviour finance in Asia in general and Pakistan in particular. Asia is the largest continent in the world by a considerable margin, and it is rich in natural resources, such as petroleum, forests, fish, water, rice, copper and silver. Several trade blocs exist, with the most developed being the Association of Southeast Asian Nations which is famous for its variety of capitalist economy. Asia is the largest continent in the world and has the two most populated countries in the world, China and India. The largest *economies* in Asia in terms of PPP gross domestic product (GDP) are China, India, Japan, South Korea, Indonesia, Turkey, Iran, Saudi Arabia, Taiwan, Thailand, Pakistan, Malaysia and Philippines and in terms of nominal gross domestic product (GDP) are China, Japan, India, South Korea, Russia, Indonesia etc. Well, keeping aside these universally known

facts about Asia and Asian countries, it is an interesting place for studying behaviour finance. Although some economies are still at the developing stage, some others have been developed for a long time.

Pakistan is an emerging economy in Asian with many cultural characteristics similar to other Asian countries. As the difference level of knowledge and experience leads to the difference in decision making, Asia is a perfect platform for studying behaviour finance. Moreover, Asia people seem to suffer from cognitive biases more than Western people do and Asian individual investors are considered as mere gamblers (Kim & Nofsinger, 2008).

Theoretically, social scientists and psychologists believe that tendencies toward behaviour biases can be nurtured by culture although the levels may vary (Yates, Lee & Bush, 1997). Kim and Nofsinger (2008) explains the differences among cultures through an individualism collectivism continuum. Asian cultures are supposed to belong to socially collective paradigm, which has been argued for causing investors' overconfident resulting in behaviour bias. Cultural difference, more specifically, life experiences and education can affect behaviours, thus, it is believed that behaviour inclinations can differ among different cultures. Some evidences have been found to prove that Asian people exhibit more behaviour biases than people

raised in Western countries or the United States (Yates et al., 1997).

Although there are some literature about the behaviour biases difference between Asian people and Western people, the literature is still sparse (Kim & Nofsinger, 2008). According to Weber and Hsee (2000), the bottom line is that the topic of culture and decision making has not received much attention from either decision researchers or cross-cultural psychologists. In addition, a systematic literature about behaviours of Asian people and their effects on investment decision making is provided by Chen, Kim, Nofsinger and Rui (2007). In support of this theory, they find that Chinese investors suffer from an overconfidence bias and disposition effect more than U.S investors do (Kim & Nofsinger, 2008). Although behaviour finance is still a controversial topic, financial analysts now have better understandings of human behaviours, and it is accepted that these behaviours can influence financial decision-making. Many researchers also agree that arbitrage is limited hence, these behaviours can affect prices (Shleifer & Vishny, 1997).

Researches in behaviour finance have enhanced the knowledge of financial markets, it is more promising in the future. Recently, sessions on behaviour finance in finance conferences seems to have more attendants who are usually the young scholars of the academic profession (Kim & Nofsinger, 2008). Thaler (1999) wishes to have behaviour finance research bringing institutions into their models, more research on corporate finance, and more data on

individual investors in the future. Kim and Nofsinger (2008) add one more on the wish list: more behaviour finance researches on Asian markets. This paper is backed by theory of mental accounting which is explained as under:

Theory of Mental Accounting

This theory states that its in human nature that they categorize information into different mental compartments in their mind and they retrieve the required information whenever it is required. Best example of mental accounting investors invest to get high returns but when they are unable to get higher returns due to market deflation or economic conditions they refer to mental compartments where they have kept the profit once they earn in boom stock market situation so they wait for the boom market situation to sell these stock (Thaler, 2005).

Investment decisions, “decisions which are related to financial matters and profit making are known as Investment decision”. After lapse of more than six decades in South Asian Stock markets investment decisions are still difficult to be taken even if it is taken by investors or by stock market analyst. Many global financial organizations or even best security companies failed to take best on investment decisions which are less risky and more rewarding. If we start from Pakistan Stock Exchange (PSX) main index KSE100 before Covid-19, it was roaming around 43000 points many security companies and brokers on media (Express Tribune, 5th, January 2020) were confident and predicted that KSE-100 Index would go up further but

actually it does not happen and PSX faced severe dips in stocks movement due to Covid-19 pandemic and till now its volatile in nature.

Post Covid-19 impact of Availability effect bias on investment decision till October 2020(Rahim. A, 2020). Therefore, we can clearly state that conventional financial theories are out dated in today's stock market volatility of South Asian Stock markets specially when evaluating investor biases impact on investment decisions of individual South Asian Stock markets investors. Behaviour finance which is based on psychological factors, emotional factors, investor biases including feelings: fear, panic, anxiety, envy, euphoria, greed, satisfaction, ambition or vanity can be helpful in this case as it can best explain behaviour biases impact while trading (Waweru et al., 2008). Birau (2011) found that investment decision is influenced by emotions in a large while taking decision in behaviors finance.

Availability effect bias, happens when people make excessive use of all the easily available information of the stocks in their investment decisions. In Pakistani stock market this bias has a strong impact as investors invest a lot in local companies shares than in foreign companies shares because of easily obtainable information (Waweru et al., 2008).

Nofsingera and Varmab (2013) checked the effect of availability biasness on the process of decision making by the investors of stock market and he came to know that due to this biasness investors buy stocks on basis of

their own know how, means that they are not following the trend in the market rather they use their own knowledge to follow.

Past researches shows, that there is evidence of availability effect bias during the global financial crisis from 2008 till now and investor behaviour seems to have been rational for the European Countries and there stock exchanges in Covid-19 and till now its impact is witnessed in stock Spanish and the Italian stock markets (Rahim.A,2020).

RESEARCH OBJECTIVES

- * **To find**, Post Covid-19 impact of Availability effect bias on individual investor decision at PSX.
- * **To analyze**, Post Covid-19 Post Covid-19 impact of Availability effect bias on individual investor decision at PSX.
- * **To enable individual investors**, to avoid availability effect bias negative impact on individual investor decision at PSX and to enable them to get long term regular returns on their stock investments.

RESEARCH GAP

In Pakistan, so far, no study is carried out on this topic Post Covid-19 pandemic according to the best of my knowledge. No doubt there are some foreign studies under process to analyze Covid-19 influence of investor biases on investment decisions but not specifically on Post Covid-19 impact of Availability effect bias on individual investor decisions at PSX registered brokers. This paper will address the research gap of

finding Post Covid-19 impact of Availability effect bias on individual investors decisions at PSX where, availability effect bias is taken as independent variables and Investment decision as Dependent variable which are never analyzed at PSX registered brokers before.

PROBLEM STATEMENT

Registered brokers Investors could not avoid influence of investor biases specially availability effect bias at PSX Post Covid-19 pandemic on daily basis while taking investment decisions. To neutralize and buffer this availability effect bias problem researcher analyzed its influence on registered brokers investor decisions at PSX.

RESEARCH METHODOLOGY

This research is quantitative in nature and primary data was collected through Questionnaire survey technique and then stratified random sampling technique was employed to the five strata's of Pakistan

Stock Exchange (PSX) : KSE, LSE and ISE. From Literature review some hypotheses were proposed on Post Covid-19 impact of Availability effect bias on registered brokers investors investment decisions at PSX. In markets Post covid-19 pandemic these hypotheses were tested through self-administered questionnaires. Researcher created sample profile of individual investor on some characteristics such as: Experienced Stock Investors, above than 30 years of age and 1-5 years' experience. Young Stock Investors, below 30 years with less than 1 year investing experience.

HYPOTHESIS

Null Hypothesis H_0 : The availability effect bias has No influence on individual investor decision at PSX Post Covid-19 pandemic.

Hypothesis H_A : Availability effect bias has influence on individual investor decisions at PSX Post Covid-19 pandemic.

DATA ANALYSIS AND INTERPRETATION

Table 1.1 *Distribution of sample size gender-wise*

	Frequency	Valid Percent	Cumulative Percent
Male	412	89.2	89.2
Female	50	10.8	100
Total	462	100	

Above table explains distribution of total sample size of 462 respondents' gender wise in data collected for this study in which Male respondents were 89.2% (412) of the total population. Female respondents were 10.8 % (50) of the total population.

Table 1.2 *Distribution of sample size age-wise*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00	2	0.4	0.4	0.4
18-25	39	8.4	8.4	8.9
26-30	187	40.5	40.5	49.4
36-45	105	22.7	22.7	72.1
46-55	56	12.1	12.1	84.2
55 above	73	15.8	15.8	100
Total	462	100	100	

This table explores distribution of age wise total sample size of 462 respondents. Respondents aged between 18 and 25 were 8.4% (39) of total population under study. Respondents aged between 26 and 30 were 40.5 % (187) out of total population and was found to be higher than other Age groups respondents. Respondents aged between 36 and 45 were 22.7% (105) which of total population. Respondents aged between 46 and 55 were 12.1 % (56) of total population. Respondents aged 55 and above were 15.8% (73) of total population under study.

Table 1.3 *Distribution of sample size experience and gender wise*

Variables Years of experience	Male		Female	
	Freq	%	Freq	%
Less than 1 year	61	13.20%	14	3.00%
1 to 3 years	233	50.40%	20	4.30%
More than 3 years	118	25.50%	16	3.50%

The above table explains distribution of total sample size of 462 respondents on the basis of Experience and Gender wise data. Less than 1 year experience Male respondents were found to be 13.2% (61) of total population under study. 1-3 years' experience Male respondents were found to be 50.4% (233) of total population was found to be higher than other groups of respondents. More than 3 years' experience Male respondents were found to be 25.5% (118) of total population under study. Less than 1 year experience Female respondents were found to be 3% (14) of total population under study. Female 1-3 years' experience respondents were found to be 4.3% (20) of total population was found to be higher than other groups of respondents. More than 3 years' experience Female respondents were found to be 3.5% (16) of total population under study.

Table 1.4 *Descriptive Statistics of Availability effect Bias Factors*

Sub Factors	Minimum	Maximum	Mean	Std Dev	Skewness	Kurtosis
Av1	1	5	3.2857	1.45077	-0.614	-0.751
Av2	1	5	3.6061	1.27406	-0.817	-0.232
Av3	1	5	3.9719	1.0929	-1.286	1.241
Av4	1	5	3.6017	1.21158	-0.912	0.212
Av5	1	5	3.0433	1.39657	-0.322	-1.224
Av6	2	5	3.9437	2.63488	1.749	1.932
Av7	1	5	3.7554	1.30189	-0.919	-0.293

In this table, results of descriptive statistics each factor and sub factors of availability effect bias is shown. It includes minimum, maximum, mean, standard deviation, skewness and kurtosis of each factor. Maximum negative skewness -1.286 was recorded in Av3 followed by Av4, Av2, Av1 and Av5 which shows that maximum values are in left side of the mean value 3.9719 or less from the mean while in Av6 positive skewness 1.749 has been recorded which shows maximum values are in right side of mean 3.9437 or greater than from mean. The maximum positive kurtosis 1.932 were recorded in Av6 followed by Av3 and Av4 which shows that this factor has heavier tails or leptokurtic distribution as greater than zero. While in the rest of factors negative kurtosis was observed which shows these factors have light-tailed or platykurtic distribution as less than zero.

Table 1.5 *Descriptive Statistics availability effect bias*

Variable	Minimum	Maximum	Mean	Std Dev	Skewness	Kurtosis
Availability Effect Bias	1.43	11.57	3.6011	0.67072	3.325	42.435

In this table, Mean value was found to be 3.6 which lies between 3 to 4 it shows that the availability effect bias has high influence on investment decisions of individual investor at South Asian Stock markets.

CORRELATION ANALYSIS

It is employed to know whether linear relationship exists between different factors of same variable or not if it exists then whether it is negative or positive and its statistically significant or not, for this purpose Researcher used Rank Correlation method in this study whose data is Categorical in Nature. Chaudhry and Kamal (2016) studies found that; when you have categorical data then apply rank Correlation which is the best method in this case.

Table 1.6 *Rank Correlation in availability effect bias*

Correlation between sub factors of availability effect bias							
Factors	Av1	Av2	Av3	Av4	Av5	Av6	Av7
Av1	1						
Av2	.142**	1					
Av3	0.016	-0.063	1				
Av4	0.078	.100*	0.008	1			
Av5	.145**	0.004	0.031	.196**	1		
Av6	0.007	-0.033	-0.067	.115*	.192**	1	
Av7	0.033	-0.035	.144**	0.021	.024	0.07	1

*. Correlation is significant at the 0.05 level (2-tailed)

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

The above table explains; the strength of linear relationship among different factors used in availability effect bias through correlation matrix. As the data set involving these factors all are categorical type thus correlation matrix contains the results of rank correlation coefficients and p-value of significance and non-significance. It is evident that, factor Av1 is positive correlated with all others factors but positive and significantly correlated with Av2 and Av5 with p-value = .002 for both. Positive and significant correlation is recorded between Av2 and Av4, while positive but insignificant correlation between Av2 and Av5 were also noticed. Correlation between Av2 and other factors are recorded negative and insignificant. Correlation of Av3 with Av4, Av5, and Av7 are recorded positive but significant except with Av7 which is found significantly correlated with Av3, also correlation between Av4 and Av5 were recorded negative and insignificant. The results of correlation of Av1 with Av2, Av3 and Av4 showed positive and highly significant except Av7 which relation with Av4 is positive and significant. Similarly, the correlation of Av5 with Av6, Av7 and Correlation of Av6 and Av7 are noted positive and significant.

ASSOCIATION METHOD

Here in this analysis Association method is used to evaluate hypothesis which are not justified by logistic regression model.

Table 1.7 Association of Individual investor decisions and gender

	Status	Male	Female	Total
Individual Investor Decisions	Disagree	68	6	74
	Agree	344	44	388
	Total	412	50	462

Chi square 0.673, P-value = 0.412

From the table 1.7 shows that out of total 462 respondents in which 68 are male and remaining 6 are female respondents all are disagree that availability effect bias influencing investment decisions. The remaining 388 respondents agreed that investor biases influencing investment decisions. But overall, the association between gender and investor decisions are found insignificant with Chi-square = 0.673 and P-value = 0.412 > 0.005, which means that respondent gender have no significant impact on investment decisions.

Table 1.8 Association of *Individual investor decisions and Education*

Variable	Status	Education Level				Total
		0	Graduate	Masters	Other	
Individual Investor Decisions	Disagree	2	12	32	28	74
	Agree	6	20	164	198	388
	Total	8	32	196	226	462

Chi square 13.684 P-value = 0.003

From the table 1.8 it is recorded that out total 462 respondents 196 respondents having master's degree and above 164 of them are agreed to that investor biases influencing investment decisions and the remaining and 32 are disagree. Maximum number of respondents which is 226 having education degrees others in which 28 are disagree and the remaining 198 are agreed that investor biases influencing investment decisions. Overall, 74 are disagree that investor biases influencing investment decisions and the remaining 388 respondents agreed to that. However, the association between education and investor decisions are found significant with Chi-square = 13.684 and P value = 0.003 < 0.05, which means that respondent education have significant impact on investment decisions of investor.

Table 1.9 Association of *Investor decisions and Age*

Variable	Status	Age						Total
		0	18-25	26-30	36-45	46-55	Above 55	
Individual Investor Decisions	Disagree	1	8	26	13	7	19	74
	Agree	1	31	161	92	49	57	388
	Total	2	39	187	105	56	76	462

Chi square 9.909 P-value = 0.078

Table 1.9 shows result of association between individual investor decision and age. Maximum number of respondents lie in the age group 26-30 are 187 in which 26 disagreed and 161 to that, that investor biases influencing investment decisions. However out total 462 respondents 74 are

disagreed and 388 are agreed that investor biases influencing investment decisions. But overall, the association between respondent age and investment decisions are found significant with Chi square = 09.909 and P-value = 0.008 < 0.05, which means that respondent age have statistically significant impact on investment decisions.

Table 1.10 *Association of Individual investor decisions and experience*

Variable	Status	Experience			Total
		Less than 1 year	1 to 3 years	More than 3 years	
Individual Investor Decisions	Disagree	13	49	12	74
	Agree	62	204	122	388
	Total	75	253	134	462

Chi square 7.176 P-value = 0.028

Table 1.10 presents result of association between respondent individual investor decision and their experience. Total respondents having experience more than three years are 134 in which 12 disagreed and remaining 122 agreed to that. However out of total 462 respondents 74 are disagreed and 388 are agreed that, experience of respondents influencing investment decisions. But overall, the association between respondent experience and investment decisions are found significant with Chi-square = 7.176 and P-value = 0.028 < 0.05, which means that respondent experience have statistically significant impact on investment decisions.

LOGISTIC REGRESSION

“The purpose of logistic regression is to identify the significant impact of each independent variable on dependent variables also to identify the positive and negative impact of independent variables on dependent variable”. So, researcher employed this in the current study and found these results:

Table 1.11 *Logistic Regression Model Summary*

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	383.150 ^a	49.547	64.764

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001

Table 1.11 explains results of model performance through -2 Log likelihood and

two type's pseudo-R Square to estimate the explained variance in the fitted model. The

recorded values of Cox & Snell R Square = 49.547 and Nagelkerke R Square = 64.764, indicates that about 50 percent and 65 percent variation is explained in dependent variable on the basis of given independent variables, which are quite good.

Impact of overall availability effect bias on investment decision of South Asian Stock Markets during Covid-19 Pandemic

Table 1.4 shows summary of descriptive statistics for overall availability effect bias. The minimum and maximum values were recorded for overall availability effect bias 2.29 and 4.29 respectively. The mean value = 3.62 recorded for overall availability effect bias with standard deviation = 0.39677. The recorded mean value lies between in the range 3 to 4, indicates that, the availability effect bias has high impact on investment decisions of Pakistani stock investors. Also, from table negative skewness and positive kurtosis were recorded for overall availability effect bias which shows that mostly values are lie lift side to the mean or less than from mean and the distribution has high peak or leptokurtic.

CONTRIBUTION TO THE FIELD

Findings of this study can help brokers, agents, individual investors, institutional investors, investment analysts, Mutual fund managers, financial advisors and portfolio managers on daily basis while taking investment decisions at PSX Post Covid-19 pandemic. It will try to overcome influence and Post Covid-19 impact of Availability effect bias while taking individual investment decision specifically in Pakistani Stock markets (KSE, LSE and ISE) post

Covid-19. It will help them to gain shareholders confidence and add value to the firms by increasing earnings per share of shareholders if availability effect bias and other biases are neutralized these investor biases even when they face pandemics like Covid-19 in future as well. As these pandemics are fortune breaker and changer at the same time. Financial market experts could capitalize these pandemics in both ways during pandemic exploitation of poor investors and after pandemic end by increasing prices of shares they bought from poor investor.

FUTURE AVENUE

The researcher carried study on Post Covid-19 impact of availability effect bias on individual investment decision of Pakistani stock markets investors after Covid-19 pandemic upcoming researchers can extend it to other areas such as: investor biases other than availability effect bias, Similar size stock markets of first and second World countries, pre and post Covid-19 analysis of investment decisions of institutional investors.

CONCLUSION

Findings of the current study shows that Post Covid-19 impact of Availability effect bias have positive influence on individual investor decisions at Pakistani stock markets Post Covid-19 pandemic by accepting main Hypothesis and rejected Null Hypothesis and found availability effect bias have No influence on individual investor decisions at PSX post Covid-19. Descriptive statistics mean value of availability effect bias was 3.60 which shows that the Herding bias have high

level of influence on individual investors decisions. However, availability effect bias infected traders underestimate both systematic and unsystematic risks of stock market so best advice for individual PSX registered investors Post Covid-19 pandemic is availability effect bias can be avoided if prior information and knowledge about market volatility is fully available and we learn how to capitalize investments done in pandemics after end of pandemics.

Therefore, Pakistani Stock markets registered brokers investors will be Overconfident investment decision on the basis of Availably effect bias and to an optimal level to utilize their expertise and experience to get rewarding investment decisions.

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