AVAILABILITY BIAS AND MARKET EFFICIENCY IN PAKISTAN

Akmal khan

Waince Academy Faisalabad

Dr. Abdullah Sethar

Deputy Project Director,
Sindh Agricultural Growth Project (Livestock Component)
World Bank Assisted, Government of Sindh,
Hyderabad-Sindh

Dr.Muhammad Ali

Assistant Professor-IBA-Sukkur

Dr.Faiz Muhammad Shaikh

Assistant Professor, SZABAC-Dokri-Larkana

NusratAbbassi

Assistant Professor, SZABAC-Dokri-Larkana

Abstract: Market efficiency has been a kind of pivot both for academic research and for policymaking concerning stock market for the last decades. But this hypothesis recently keeps being criticized both from archival and survey strategy. In this paper we also criticized it based on psychological survey. Concretely we show that the appearance of availability bias has a possibility in real stock markets and we also demonstrate that even information efficiency is a kind of problem concerning human psychology. In this study we conclude that availability bias is a factor contributing in inefficiency of Pakistani market.

Keywords:- Availability Bias · Market efficiency · Survey.

Introduction

In finance, it is commonly perceived that investors take selective actions based on a principle of rational behavior. However, there have emerged some researchers studying experimental economics and finance who have recently paid much attention to the research trend invoking the result of psychology in understanding man's economic behavioral decisions. Certain finance researchers (Hirshleifer 2001;Hirshleifer and Teoh 2001) are insisting that an economically rational action is only up to one special route of man's various and psychological action routes.

The Pakistan economy is a developing economy and the investors are not fully equipped with analysis tools and techniques. The investors' decisions are based on currently available information which they are analyzed with their limited knowledge. Mostly investors can get consultancy from their supervisor, family member, and financial advisors. This is a cause of making Pakistan stock markets inefficient.

When we take psychological results of security market pricing into consideration, however, it is very important to investigate whether the "Efficient Market Hypothesis (hereafter EMH)" can be justified in the mixed context of psychological and rational behaviors. In a sense, such justification efforts have already been aggressively discussed in the fields of archival and experimental research. In this paper, we search that the Pakistani security market is inefficient, whether this inefficiency is due to availability bias or not.

The objectives of the study, first to set the dimensions and then includes different factors to tests which factor have greater effect on the availability bias and then analyzed their behaviors. After that researchers can make correlation between factors and their behaviors with the efficiency of market

The academic significance of the study is to mold the thinking of researchers to expand the study and get more refined results. This study is also provides guidelines to the government and law enforcement authorities which are continuously working to make Pakistan stock market efficient.

Literature Review:

Tversky and Kahneman (1973) introduced the availability heuristic: a judgmental heuristic in which a person evaluates the frequency of classes or the probability of events by availability, i.e. by the ease with which relevant instances come to mind. The reliance on the availability heuristic leads to systematic biases. (Tversky and Kahneman 1974) availability When people are asked to assess the frequency of a class or the probability of an event, they do so by the ease with which instances or occurrences can be brought to mind.

When people make judgments under uncertainty, they tend to avoid exhaustive data analyses; rather, they often employ heuristics, which represent cognitive mechanisms that allow for 'short-cuts' in the decision-making process (Kahneman et al., 1982; MacLeod and Campbell, 1992; Tversky and Kahneman, 1973). The use of heuristics stems from the discrepancy between human information processing capabilities on the one hand, and the extreme complexity of the social world on the other: through the use of heuristics, "complex problems of judgment are reduced to relatively simple judgmental operations" (Stapel et al., 1995)

The essence of the availability heuristic is that, in making frequency or probability estimates concerning a particular category or class of event, people will often do so by attempting to recall previous or existing instances of such an event (McKelvie, 2000). Thus, when employing the heuristic, a person will base her estimate of the frequency or future probability of the category or class of event on the ease with which instances of that category or class can be brought to mind, or, alternatively, on the ease with which scenarios leading to such instances can be constructed.

For example, Tversky and Kahneman (1973) assert that an individual might make an estimate of the divorce rate in her community based on her ability to recall acquaintances from the community who have, in fact, divorced, or might assess the probability that a politician will lose an election by imagining the various ways in which her political support might be diminished. According to Tversky and Kahneman, in order to assess availability, the person need not actually retrieve or construct instances of the category or class for example, the divorce rate estimator need not actually bring to mind actual divorces. Rather, one need only assess the ease with which such retrieval of instances or construction of scenarios leading to such instances could be accomplished were it attempted; that is, one estimates what has been termed the 'accessibility' of memory traces of such an instance or scenario.

Use of availability for estimation of frequencies or probabilities seems intrinsically reasonable, since instances of larger categories or classes are often more easily brought to mind than are instances of small categories or classes (i.e., if there are actually many divorces in the community, the individual may be more likely to recall specific divorces, or to perceive that it would be relatively easy to recall such instances), and it is easier to imagine an event which has a high probability of occurrence than one which has a low probability of occurrence (i.e., if the politician has, in fact, a high probability of losing, it is probably easier to imagine reasons why he or she would lose) (Schwarz et al., 1991). However, availability is also affected by factors which are not in fact related to frequency or probability; for example, such variables as salience and vividness (Nisbett and Ross, 1980). Therefore, these variables, through their influence on availability, will also influence assessments of frequency and probability, which can lead to erroneous and biased assessments (Tversky and Kahneman, 1973); for instance, events which are very vivid (and therefore high in availability) but rare in actual occurrence will lead to an overestimation of their frequency or probability of occurrence (Sunstein, 2003).

In early studies, Tversky and Kahneman (1973) attempted to demonstrate the effects of use of the availability heuristic. In one study, they presented subjects with the letters K, N, L, R, and V, all of which occur more frequently in the third position of a word than in the first position. Most subjects believed that the majority of these letters occur more frequently in the first position than in the third position. The researchers ascribed this misperception to the high availability of words in which these letters appear in the first position relative to the availability of words in which they appear in the third: it is much easier to call to mind words that begin with the letter R than to think of words in which the letter R is in the third position.

In another famous study, Tversky and Kahneman (1973) presented research subjects with lists of names. Approximately half the names were male, and half female. Some subjects were given lists in which the names associated with one gender were famous. Results indicated that the inclusion of famous names (which should be more readily available than non-famous names) of one sex led to biased recall in the form of overestimates of the number of names in that sex category.

Various subsequent empirical studies have provided substantial supporting evidence for the use of the availability heuristic as a mechanism for estimating frequencies and probabilities in a variety of contexts. For example, Carroll (1978) found that instructing subjects to imagine an event and providing scenarios that led to that event increased subjects' expectations for that event. Levi and Pryor (1987) found that predictions of an outcome (a particular candidate's victory in a presidential debate) were affected by the availability of reasons for the outcome. MacLeod and Campbell (1992) identified an inverse relationship between the speed with which memories of particular events can be recalled and subjects' perceptions of the probability of similar events occurring in the future. Lewandowsky and Smith (1983) found that increasing the memorability (and thus the availability) of category instances resulted in increases in the judged frequency of such instances. Folkes (1988) applied the availability heuristic to perceptions of the likelihood of product failure, and found subjects provided higher estimates of product failure rates when the ineffective products had distinctive (and therefore more available) brand names than when they had non-distinctive brands. McKelvie (1995, 1997, 2000), in a series of experiments, corroborated Tversky and Kahneman's (1973) findings concerning famous names' effects on frequency estimates of the genders associated with the names, and Triplet's (1992) results suggested that the availability heuristic was being used in the evaluation of illness symptoms, resulting in biased 'diagnoses' of illnesses.

Evidence that runs counter to at least some of the assumptions concerning the availability heuristic does exist. Experiments by Manis et al. (1993) using famous names indicated that only category size judgments were affected by availability: frequency of occurrence judgments (e.g., how often a particular name was repeated on a list) were not. Similar results concerning the lack of an effect of availability on frequency of occurrence judgments were found by Shedler et al. (1985) and Zacks et al. (1982). Maley et al. (2000) found that neither category size nor frequency of occurrence judgments were affected by availability, and posited that an automatic processing mechanism was behind both forms of judgment.

As noted by Oppenheimer (2004), others have found that availability effects are moderated when participants are given alternative explanations for the availability of the type of event for which frequency or probability is being estimated (Schwarz et al., 1991; Waenke et al., 1995). Similarly, Stapel et al. (1995) found that, in their famous names experiment, circumstances that made individuals more aware of the biasing relationship between fame and sex and fame led to decreased reliance on the availability heuristic. In the experiments of Stapel et al. (1995), task instructions that made different categories more salient and the use of successive trials (which made the true nature of the task more apparent) also moderated the effects of availability.

Selden (1912) wrote Psychology of the Stock Market. He based the book upon the belief that the movements of prices on the exchanges are dependent to a very considerable degree on the mental attitude of the investing and trading public.

In the field of archival studies, many researchers tried to verify if the real stock markets were informationally efficient or not (Gonedes and Dopuch 1974). (De Bondt and Thaler 1985) They discovered that people systematically overreacting to unexpected and dramatic news events results in substantial weak-form inefficiencies in the stock market. After Fama's (1970) operational definition and classification of EMH, many empirical accounting studies supported semi-strong form of EMH in the 1970s. But refined empirical studies started to assert some limitations concerning the proof of EMH by showing observed anomalies and drafts (Ball 1978; Ou and Penman 1989; Fama and French 1993; Fama 1995, 1996). Such research trends stimulated experimental studies on EMH and the latter approach asked what kind of characteristics stock markets should have if the markets were informationally efficient. Plott and Sunder (1982, 1988) stressed the importance of information structure of stock markets and Lundholm (1991) and Bloomfield and Libby (1996) also stressed the low level of estimation diversification about future price if markets became more efficient. Bloomfield and Libby (1996) also pointed that psychological bias would interfere the pricing process of experimental stock markets. After their research we should pay attention to the psychological aspects of stock pricing. Basically our research follows the trend originally made by Bloomfield and Libby (1996). When we start to follow and develop the previous studies, it is necessary to perform verification for the information efficiency of the market from two viewpoints (Plott and Sunder 1982, 1988). One viewpoint is whether the market has the ability to disseminate different information. The other viewpoint is whether the market has the ability to aggregate different information which has appeared on the market. Our idea here is that availability bias found in psychology also diffuses these two security market abilities, so that the market can not meet easily the conditions of the informationally efficient market. For instance, the market pricing process could be disturbed by the psychological availability bias held in the mind of investors. If that is true, security markets can not carry out appropriate capital distribution functions in an economic society. This is a severe problem which cannot be overlooked for the policy making of accounting disclosure.

Methodology:

For purpose of study researchers developed self administrative questionnaire for data collection from a sample size of 100 investors working in Islamabad stock exchange. The researcher distributed 140 survey questioners from which 108 were received back having response rate 77%. Eight questioners are not completely filled and we have rejected.

Data is analyzed by taking mean average of the total observations and compare the total results with the individual specified dimension and also with the individual factors by assigning equal weight to each and every observation in a includes in to test the specified dimension.

Results:

Presently in Pakistan three stock markets are working, Karachi stock exchange, Lahore stock exchange and Islamabad stock exchange. The stock markets of Pakistan are in a development stage as is Pakistan economy. A research conducted on inefficiency of Karachi stock exchange by Mustafa, 2008, concluded that Pakistani market is informationally inefficient because investors do not show any behavior in the stock market in response to the change in political conditions and industrial development or shutdown of any industrial sector. The Karachi stock market there is not random walk exist in the market compared with the returns of daily weekly ,monthly as a whole and finds that there is not change in the returns of market (Ali & Akbar, 2009), (Nishat, 1999). After literature review researchers are interested to test availability bias is a cause of this in efficiency of Islamabad stock exchange.
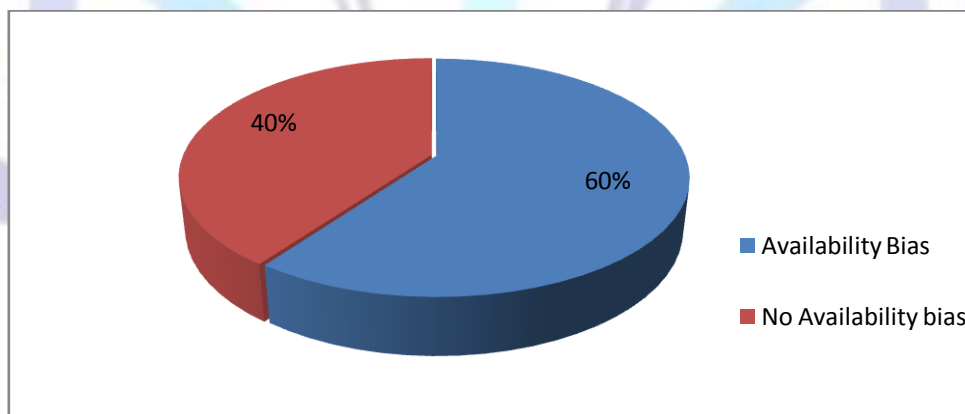
ANALYSIS TABLE

Existence of Availability Bias in Investors = 60%

Availability Bias not exist in Investors   =40%

Pie Chart of Total Results

Dimension	Factors	Individual Results	Weighted Average of Individual Result With Total Results
Narrow Range of Experience		48%	
	Family insight	33%	18%
	Predict change in political conditions	59%	33%
	Difficulties in financial analysis	53%	29%
	Other factors effects		20%
Categorization		59%	
	Supervisors effect	59%	49%
	Close friends	58%	48%
	Other factors effects		03%
Retireability		53%	
	Stored information	46%	26%
	Confirmation of present information from future outcomes	49%	23%
	Financial reports and periodicals	63%	19%
	Reliability on financial reports and periodicals	55%	20%
	Other factors effects		12%
Resonance		54%	
	Financial strength	54%	90%
	Other factors effects		10%

The results of study show that the availability bias exists in average 60% investors working in stock market.

In data analysis researchers finds the causes of existence of this bias the First they finds that 48% average investors facing this bias due to narrow range of experience. Results explains that those investors who are facing the problem of narrow range of experience from which in 18% investors it comes through family insight, 33% investors wrongly predict change in political conditions and 29% investors facing difficulties in selecting their portfolio to get support from financial analyst and peer and 20% investors it comes through other factors that is not the part of our study.

Secondly researcher intension is to check availability bias that comes through categorization. 59% average investors face availability bias through categorization and that is compared with total results, 49% investors mostly invest in those companies in which their supervisor has given remarks and 48% investors invest in those companies where their close

friends and family members working in it and in 3% investors' categorization bias comes from other factors which are not the part of study

Thirdly researcher finds that 53% investors facing availability bias which is comes through retire ability and compared with the total results in this most contributing factor is that 26% investors store the information in their data-base from this 23% investors confirm it from their future outcomes. When an investor going to make portfolio, 19% investors use financial reports and periodicals but 20% investors do not rely on the information provided in financial reports and periodicals and 12% investors its comes from other factors which are not the part of our study.

Finally results show that 54% average investors facing problem of availability bias through resonance which is compared with total results 90% investors like to invest in those companies which show financial strength but in 10% investors' it comes from other factors which are not part of study.

CONCLUSION:

The empirical results show that investors face the problem of availability bias due to narrow range of experience, categorization, and resonance and retrieve ability. In the end study conclude that more critical factors which can cause inefficiency is to wrongly predict the incoming news relating to changes in political conditions as well as about the sector of in which investor is already invested or intended to invest.

Secondly the investors have less technical skills of making analysis of financial statement and periodicals and not able to make decisions confidently because most of the times investors received any good or bad information they can store it in their data basis but not confirm it through future events.

Finally the investors make investment in that sector which shows its financial strength but returns are not taking into account due to the influence of these factors make the Pakistani market inefficient.

The results shows that availability bias does not comes from family insight because the people of this country are not like to invest in more risky business due to their financial and social considerations. So it is not a family business of the investors in Pakistan.

The results of factors can be refined by getting more information through putting more questions on the investors as well as includes more psychological factors for the concreteness. The sample size of the study increased to verify or reject the correctness of the results. The researchers can change sample selection and data collection techniques. Data can be analyzed by changing data analysis techniques and interpret accordingly..

RECOMENDATIONS:

This study provides recommendations for investors they can improves their analysis and decision making skills by making data basis of all types of information relating to market situations particularly the sector of investment and confirm it time to time from the happening of future events and protect himself from availability bias.

This study provides recommendations for the government and the regulatory authorities of stock market to formulate the policies and by laws in this way which works as a glass proof wall for wrongly coming information which make market inefficient.

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