

Qualitative Study of Individuals' Behavioral Biases toward Buying Decision of Financial Products: Evidence from Pakistani Stock Market

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Abstract

Due to increased complexity of financial instruments, the role of investors' bias in investment decision making has enhanced. To study this role, the present study aims identify the causes of behavioral biases which affect investment decision making. The main parameters of the study are home bias, disposition effect, herding bias, conformation bias and anchoring bias. The research design is exploratory in nature which will help to investigate the causes of behavioral biases that affect the investment decision making of individuals. The qualitative design was employed to get insights by conducting sixteen in-depth semi-structured interviews from individual investors. First and second order codes assigned to data mainly came from literature review. Researchers found that home bias, disposition effect, herding effect was quite evident in Pakistani Investor. However, anchoring bias has been found in half of the participants and confirmation bias not evident in Pakistani investors. The study has various implications for investors and academicians which will help to expand the scope of the future studies and generalizability by addressing the limitation of the current study.

Keywords: Behavioral biases, Investment decision making, Qualitative study, Individual investors, Pakistani context

Introduction

In the past few years, financial markets have become more competitive due to increased number of investment alternatives offered by key players of markets (Baker, 2018; Pradhan, 2008) due to which the buying behavior toward financial products has become important (Norouzi et al., 2021; Pompian, 2008). In every household, the decisions regarding financial investments are integral and decisions regarding financial resources should lead to satisfaction and quality life. The problem in financial decision making is due to complexity of financial products and also influenced by different biases and heuristics (Cao et al., 2021; Lovric, Kaymak & Spronk, 2008). It is difficult for the investor to make investment decision, especially on stock while facing uncertainty. The investor has to select stocks among various alternative stocks based on the information gathered and analyzed (Nofsinger, 2014). To analyze and interpret information, available financial arsenals for investors are either neoclassical/conventional finance and/or behavioral finance (Cao et al., 2021; Shiller, 2006). The main focus of behavioral finance is on psychology of the investor and limits to arbitrage (Barberis & Thaler, 2003; Kisney et al., 2019). Behavioral finance recommends that investment decision making process is affected by different behavioral biases that motivate investors to deviate from rationality and move toward making irrational decisions of investment (Din et al., 2021). As there is more complexity involved in financial instruments, it is integral to understand the role of investor biases in individuals investment decisions (Hsu et al., 2021; Olsen, 2007; Pompian, 2008). The preferences and beliefs of the individuals also called biases are used as lens by decision makers throughout decision making process of individual investors. Therefore, understanding individuals' decisions making behavior based on their beliefs and preferences is important to understand. Cummins and Nistico (2002) argues that it is more significant to use qualitative techniques to understand individual biases by using interviews, because it will be a true representation of natural circumstances in which they evaluate themselves, their abilities and future

plans. Kumar and Goyal (2015) have done systematic review of behavioral biases of investment decision making of last 33 years and found that almost all of the studies are quantitative in nature. They have suggested utilizing qualitative techniques to explore behavioral biases of investment decision making (Cao et al., 2021; Din et al., 2021). Therefore, the present study aims to bridge the methodological gap by studying types of biases through qualitative study design. The objectives of study are; to identify the causes of behavioral biases which affect investment decision making; to explore the impact of these behavioral biases on investment decision-making process, to understand the impact of market experience on investment decision making and to find deep insights of investment decisions making through semi structured interviewed of investors. The research questions are; what are the causes of behavioral biases which affect investment decision making? What is the impact of market experience on investment decision making? What is the impact of behavioral bias on investment decision making? The answers of the aforementioned questions will be addressed through interviews. The scope of the study is to explore the causes of individuals' behavioral biases in investment decision-making. To the knowledge of the author, there is no qualitative study available which focuses on causes of individuals' behavioral biases in investment decision-making. This study is an attempt to fill this gap by specifically focusing on five common biases namely specifically home bias, disposition effect, herding bias, confirmation bias and anchoring bias which will serve various research implications.

Literature Review

Behavioral biases and investment decision-making

Conventional finance theories assume that investor's investment decision making choices are based on maximization of risk-adjusted financial returns over a specified time period (Hsu et al., 2021; Williams, 2007). However, individuals sometimes follow some internal standards for decision making; they do not always make decisions based on objective standard (Cummins & Nistico 2002; Din et al., 2021). Individuals' make irrational decisions because their internal standards are influenced by their beliefs and values or cognitive limitations. Investors are affected by psychological biases when they invest because they are not capable to carry out dynamic optimization problems based on conventional finance (Montier, 2002). Therefore, they utilize rules of thumb (heuristics) based on their internal standards to deal with surplus of information which leads to biased behavior (Kisney et al., 2019; Montier, 2002). According to prospect theory, agents utilize value function evaluating risk on the basis of gains and losses, which is convex over losses and concave over gains, and kinked at the origin; and instead of objective probabilities using transformed probabilities by applying a weighting function. Kahneman and Tversky (1979) explained that individual decision making is not based on final outcomes but on potential gains and losses. This phenomenon happens because cognitive biases affect the individual's judgment regarding gains and losses. The focus of this study is on following five common biases that can affect investment decision-making, Home bias, Disposition effect, Herding bias, Anchoring bias, and Confirmation bias.

Home Bias

Home bias is also called equity home bias where individual or institutional investors prefer to buy local securities instead of foreign securities. It is also known as home equity puzzle because the more potential benefits are associated if a portfolio is internationally diversified but investors are inclined towards holding domestic securities (Kumar & Goyal, 2015; Zahera & Bansal, 2019). Initially French and Poterba (1991); Tesar and Werner (1995) examined and found home equity bias in their research studies. Kumar and Goyal (2015) explained possible reasons behind home equity bias can be transaction costs, investment barriers, inflation hedge and exchange rate effect. A lot of research has been done on home bias but there is no conclusive explanation of home bias. Chan, Covrig and Ng (2005) examined home bias utilizing the mutual funds data of 26 countries and found mutual funds allocate larger portion of investment into domestic stocks. [Campbell and Kraussl \(2007\)](#) explained that due to downside risk investors may think globally but act locally.

Barron and Ni (2008) concluded that managers with larger portfolios invest more in foreign securities as compared to managers with small portfolios. Nieuwerburgh and Veldkamp (2009) found that local investors have not opted to invest in foreign securities even after learning about foreign securities and learning amplifies information asymmetry. Strong and Xu (2003) found that the fund managers from the United States, the United Kingdom, continental Europe, and Japan show a significant relative optimism towards their home equity market. Coeurdacier and Rey (2011) also argued that home equity bias is reducing due to factors like globalization, easy access to information and free trade.

Disposition Effect

Disposition effect is one of the major observed behavioral biases in financial markets all around the world. This means that people hold shares with decreasing prices and sell shares when prices are rising (Shefrin & Statman, 1985). This phenomenon has been explained earlier that according to prospect theory agents are risk seeking when changes in wealth is perceived as loss and risk averse in the case of profit (Nigam et al., 2018; Tversky & Kahneman 1992). Researchers argued that the fear of loss and seeking pride cause investors to sell stocks when prices are increasing and regret aversion and hope cause them to hold stocks when prices are decreasing (Cinner, 2018; Odean, 1998; Shefrin & Statman, 1985; Thaler, 1985) Previous research studies have provided mixed results related to disposition effect. Kaustia (2010) checked disposition effect and found that prospect theory has failed to explain the disposition effect. Liu, Tsai, Wang, and Zhu (2010) analyzed all stocks listed on Taiwan stock market using regression analysis and concluded that individuals has taken more risk after morning gains and taken less risk after morning loss. These results show there was no disposition effect. Ben-David and Hirshleifer (2012) utilized US individual investors' data and found no disposition effect. The author argued that trading based on belief revision can possibly explain these findings. Borghesi (2014) utilized the data of bets on NBA games and found that disposition effect among gamblers according to prospect theory. Hibbert, Lawrence and Prakash (2012) compared the data of finance professors and ordinary investor to test the behavioral biases. Cici (2012) study found disposition effect in substantial fraction of their sample size but learning effect reduces the disposition effect over time. Kong, Bai and Wang (2015) utilized mental accounting framework and found that momentum has no relationship with disposition effect. Pahlke, Strasser, and Vieider (2015) documented the effect of responsibility on decision making under risk pursuing experimental strategy and concluded that individual become slightly more inclined towards risk taking under influence of responsibility in case of loss which is consistent with prospect theory.

Herding Bias

Herding is a phenomenon where people make irrational decisions imitating the decisions or judgments of others (Banerjee, 1992). Lux (1995) argued that investor's inability to determine fundamental values can be a reason of herding behavior as the investor has to rely on what can be observed on the market as the only basis for their actions. Kumar and Goyal (2015) reported that individual investors are prone to herding bias because they follow large group or noise traders in investment decision making. Lee, Liu, Roll and Subrahmanyam (2004) argued that individual investors are more affected by herding bias as compared to institutional investors. In recent years herding behavior among stocks market participants has been extensively studied and provided mixed results. Christie and Huang (1995) has found no herding behavior in US stock market. Chang, Cheng and Khorana (2000) found significant evidence of herding behavior in Taiwan and South Korea. Chiang, Lee and Tang (2010) found evidence of herding behavior in Chinese stock market while Demirer and Kutun (2006) found no evidence of herding behavior in studying the same. Chiang and Zheng (2010) found in their study that most of the countries in their study herd around the US market. They utilized the data from 18 countries and found evidence of herding behavior in advanced stock markets (except the US market) and in Asian markets. In European markets, partial evidence of herding behavior is found in Athens stock market (Baker et al., 2018; Tessaromatis & Thomas, 2009). Khan, Hassairi and Viviani (2011) found significant evidence of herding behavior in four European countries namely France, UK, Germany and Italy.

Ganesh, Naresh and Thiyagarajan (2016) found no evidence of herding behavior in Indian stock market. Bhaduri and Mahapatra (2013) found herding behavior effect in Indian stock market. Hammami and Boujelbene (2016) examined herding behavior in the Tunisian stock market and reported that herding behavior is more pronounced during the periods of market boom and bust. Clements, Hurn and Shi (2017) utilized vector autoregressive framework to examine herding effect in US market and found little evidence of herding behavior which is in contrast with those obtained from the traditional methods like regression.

Confirmation Bias

The literature available on behavioral decision making shows that individuals suffer from confirmation bias which is the tendency to assign more weightage to evidence which assure their opinions and less weightage to those which invalidate the views (Shefrin, 2001). According to Evans (1989) the confirmation bias is generally accepted and the best known notion of inferential errors is available on reasoning of humans. According to Raghunathan and Corfman (2006) decision makers are mostly inclined to confirmation bias and downgrade the information which does not match to their beliefs. Behavioral finance literature argues that individual investors stick to their prior beliefs regardless of how much new information is available contrary to their already established beliefs (Ko & Hansch, 2009). Such adherence to already established beliefs becomes more important in online environments (Konana & Balasubramanian, 2005). It is also believed that investors hold very strong attachment with their stocks and their trading decisions because they get a lot of information on Internet (Barber & Odean, 2001). Hence the investors tend to have strong beliefs regarding their trading and future performance of the markets. Schulz-Hardt, Frey, Luthgens and Moscovici (2000) found that groups as well as individuals prefer supporting information and that the strength of this bias depends on the distribution of the group members' initial decision preferences. Jones and Sugden (2001) found Strong evidence of positive confirmation bias, in both information acquisition and information use. Park, Konana, Kumar and Raghunathan (2010) argued that investors would use message boards to seek information that confirms their prior beliefs and investors exhibit confirmation bias when they process information from message boards.

Anchoring Bias

A classic study conducted by Tversky and Kahneman (1974) described anchoring bias as the tendency of a human being to rely on first piece of information which is readily available while making decisions. Many previous researchers found the effects of anchoring i.e. valuation of real estate and task/effort motivation and buying decisions of consumers (Northcraft & Neale, 1987; Wansink, Kent & Hoch, 1998). Moreover, anchoring is also a very strong and powerful force in financial markets and experts may also suffer from anchoring bias (Englich, Mussweiler, & Strack, 2006; Shiller, 1999). It was indicated by researchers that there is still lack of research available on anchoring bias related to financial markets (Cen, Hilary & Wei, 2013). It was proposed that mostly investors are unwilling to bid a high price when a stock price is closer to its highest historical value (George & Hwang, 2004). Moreover, the financial forecasters anchor their predictions of available macroeconomics data i.e. previous values of consumer price index which will lead to sizeable or systematic errors of forecasting. It was also found that corporate acquisitions are even affected by anchoring bias which means that anchoring is a prevalent bias which is still questioned and less explored (Baker, Pan & Wurgler, 2009). Based on the literature review it is evident that behavioral biases especially home bias, disposition effect, herding bias, confirmation bias and anchoring bias are prevalent and affect investor decision making. It is interesting to explore what are the reasons of these biases and why investor behave in a manner which allows these biases to affect his decision making.

Methodology

The study adopted a qualitative research method in order to identify and explore the causes of behavioral biases of stock market investors in Pakistan. The focus of qualitative research is on perceptions, motivations, emotions and values, which in reality are the mechanisms of individuals' behavior in various contexts. It aims

to provide deeper understanding of the situation. The main purpose of qualitative research is to study the underlying perspectives of the phenomenon rather than generating concise results (Creswell, 2009). This study is a generalized qualitative study. Generalized qualitative studies regularly published in top quality journals (Yin, 2010). In-depth semi-structured interviews were carried out to identify and explore the causes of behavioral biases of stock market investors in Pakistan. Since the objective was to investigate individual level constructs in the context of financial investment decisions, in depth interviews were considered as an appropriate tool to understand the context, beliefs and preferences. Further, financial matters are not discussed comfortably in group discussion. Hence, in-depth interviews were considered a useful tool. Semi-structured interview starts with few specific questions and then followed by probing questions to extract details from participant (Blumberg, Cooper, & Schindler 2014). Keeping in view the structure of the interview related to this study starts with few general questions to make the participants comfortable. Interview Guide was prepared for the study and questions were divided into two sections. The first section starts with the introduction of researcher and introduction of participants, followed by few general questions regarding investment of participant in stocks and number of years' experience related to investment in stocks. The second section consists of specific questions related to behavioral biases followed by probing questions. Each question had several open-ended probes that were used to encourage further discussion on the topic but structure was provided by interview guide. With the permission of the interviewees, interviews were recorded and verbatim transcripts are prepared for analysis. All interviewees' were assured that all information would remain confidential. The period of the interviews was from 16 to 30 minutes. Sample size of qualitative study is generally small (Yin, 2016) but it is important to obtain a suitable sample size that would generate enough data (Creswell, 2009). Sample size of this study was 16 semi-structured interviews conducted from individual investor from Islamabad and Rawalpindi. The sampling strategy employed was criterion sampling, where the respondents were searched based on certain criteria. Including the participants based on a certain criteria was critical with regard to the phenomenon the study is trying to explore. To qualify for the interview, the participant was required to be: A regular investor and having at least two years of investment experience. The venue of all interviews was Pakistan Stock Market Islamabad. The author visited Pakistan Stock Market Islamabad and asked for permission from investor for interview as discussed earlier. The background details of the research participants are provided below in Table 1.

Table 1. Interviewees' Background Information

Interviewees	Age	Gender	Experience as Investor (years)	Education
1	47	Male	23	MS (Finance)
2	46	Male	3	MS (General Management)
3	57	Male	7	Intermediate
4	31	Male	3	Bs (Computer Sciences)
5	62	Male	2	Civil Engineering
6	32	Male	8	Graduate
7	37	Male	7	ACMA
8	67	Male	10	Intermediate
9	74	Male	37	Graduate
10	62	Male	5	Masters
11	58	Male	10	Masters in Economics
12	65	Male	37	Masters
13	28	Male	2.5	Master in Project Management
14	38	Male	6	Ms (Finance)
15	42	Male	5	ACCA
16	50	Male	8	Graduate

Content Coding

Data analysis began with the coding and software used for the analysis purpose was Nvivo 10. First and second order codes assigned to data mainly came from literature review. The transcribed interviews were reviewed to get in depth understanding of main topic on interest in the study: causes of individuals' behavioral biases in investment decision-making. Final number of parent nodes was five i.e. home bias, disposition effect, herding bias, confirmation bias and anchoring bias. Second and third order codes (child and grandchild nodes) were formed on the basis of literature but later on minor modifications were done and some new child nodes were generated on the basis of interview results. Every interview was considered as a single source. Coding structure is attached in Appendix.

Findings

Data analysis began with coding and first order codes mainly came from literature. The first order codes include home bias, disposition effect, herding effect, anchoring bias and confirmation bias. The author started relating data with first order codes that addressed the main topic of research. Second order codes are developed from literature but modifications were made based on the interview results. During the stage the author moved back and forth between literature and data analysis to better understand the data and refine the coding scheme. Second order codes related to home bias were “lack of information”, “lack of time” and “good options available in the local market”. Second order codes related to positive disposition effect were “hope”, “average out effect” and “regret aversion”. Second order codes related to negative disposition effect were “fear of loss” and “pride in being right”. Second order codes in favor of herding effect were “better market knowledge” and “low financial literacy”. Second order code against herding effect was “confidence in own skill set”. Second order code in favor of anchoring effect was “trading based on historical similar information” and against anchoring effect was “I want to confirm from other sources”. Second order code in favor of confirmation bias was “tendency to rely on own beliefs” and against confirmation bias was “I want to be sure”. After finalization of the coding structure, each interview was coded. The following section provides the findings related to causes of five biases focused in this study related to individual investor decision making.

Home Bias

Home bias was quite evident from the responses of the participants of the study. There was not a single participant who had invested in foreign securities. The main reasons identified from the responses of participants were lack of information, lack of time and good options available in the market. Table 2 provides the representative quotes related to each second order theme. Majority of participants revealed that they have no knowledge related to foreign securities. One of the participant said that there is high risk involved in investing in foreign securities because brokers who are dealing in foreign securities are not trust worthy. One of the participants when asked about learning about foreign securities investment said “I think so there is no need to learn. If you want to buy car then no need to ask about airplanes. I have no plan to invest in foreign securities so I do not want to learn”.

Disposition Effect

Almost all of the participants hold stocks when prices were decreasing which shows the disposition effect. The reasons to hold the stock in case of decreasing prices identified from the responses of participants were hope, averaging out effect and regret aversion. Investors have different options to buy securities in stock market. Investor can buy securities on margin, with cash and can also short sale securities. If investor is buying securities on cash then there is no extra pressure on investor to sale security in case of decreasing prices. Majority of respondents said that prices of stocks revert back that is the reason they hold securities in case of decreasing prices. Investor also revealed that if they have cash available then they purchase the stocks at lower prices in case of decreasing prices to lower the average purchase price of a specific share. Almost half of the participants said that they hold stocks in case of decreasing prices to avoid regret associated with loss. One of the participant said that it is important to identify the right entry and exit points related to stocks investment, buying or selling share in case of price increase or decrease depends upon the situation. Another

investor hinted about situational decision about selling stock in case of price decrease by saying “I sometimes sale the stock in case of decreasing price and buy again at lower prices”. The representative quotes related to each of the negative disposition effect are provided below in Table 2.

Herding Effect

Herding effect is the tendency for individuals to mimic the actions (rational or irrational) of a larger group. Majority of participants said they follow the market because they believe other people have some information which they do not know. Secondly they have low financial literacy so they cannot make sound investment decision. Participant said they keep an eye on traded volume of a stock. If price of a stock and volume of trade both are increasing then there is a chance of day trading. As mentioned earlier majority on investors are day trader so they follow the market. There are a few participants who said that they do are not financially sophisticated so they follow other investors. One of the participant said that he trust the people who guide him that is why he follow them. The quotes of participants related to herding effect are provided below in Table 2.

Anchoring Bias

Investors act on single source of information which is consistent with their beliefs, thoughts or analysis. It was identified from the responses of participants that almost half of the investors trade on single source of information mainly because similar type of information has performed positively for them. The long term investor usually do their complete analysis before investing in a stock but day traders acts upon news, rumors or tips to get benefit. One of the participant said that he stick to his own methods and beliefs because “we feel less pain when loss is due to our own decision”. One of the investor said that he traded on single source of information only when information is provided by broker because they have better access to latest development in the market. One of the participant said that he act upon single source of information because “There is not a lot of time available to consult and confirm from different sources so we have to act upon news or tips very quickly. The entry point is very important”. One of the investor said decision to act on single source of information depends upon the designation and exposure of the person who is providing you this information. So anchoring bias was prevalent in Pakistani stock investor and quotes of respondents are provided below in Table 2. However, long term investors very carefully select a company for investment. They do not act on single source of information because they want to be sure so they confirm it from different sources like from other investors, analysts' reports and company financial statements.

Confirmation Bias

There are few investors who think that it is always good to stick with your original decision. One reason identified by the investor was less pain is associated with loss if the decision is made by investor based on his beliefs. Majority of Investors reverse their decisions or correct their views about stocks investment after receiving contradictory opinion from other investors or sources. But they have highlighted they only reverse their decision if the other sources justify his views or thoughts. It also depends upon the experience and education of the other source whether investor will give importance to his or her views or not. This investor wants to be sure about their decisions or views so they give weightage to contradictory opinion and check from different sources. Table 2 provided below presents the quotes of participants related to second order theme of study.

Learning from the Market

All the respondents were asked about the change in their decision making due to learning from the market. They have identified few changes in their decision making due to learning from the market. One of the respondent argued that he is considering a lot of factors now while making a decisions as compared to the previous decisions. One of the respondent said that he has become long term investor and does not rely on day trading due to learning from the market. One of the respondent said he has become patient regarding

investment decisions. One of the investor argued that he has learned to diversify the investment portfolio for better return and minimize risk.

Table 2. Participants Quotes Related to Each Second-Order Theme

Second Order Theme	First Order Codes
Home Bias (Supporting Quotes)	
Lack of Information	<p>I do not invest in foreign securities because I have no information about those securities. For example we have good information about gold so we can trade in gold. (R11)</p> <p>I do not know anything about foreign securities till now but I have asked a friend to provide me information about foreign securities. (R2)</p> <p>First of all I have no exposure of foreign market. I have no information or knowledge about international market. (R4)</p>
Lack of Time	<p>You have to spend time to understand a market. You cannot invest in a market without properly following it. I have no knowledge about international securities nor any access or platform to trade. (R11)</p> <p>I have never even thought about foreign investment in stocks. With job it is very difficult to even follow local market. No one has told or guided me about foreign investment. I have no information about foreign securities but even I have then it is not possible to invest due to time shortage. (R13)</p> <p>There are so many options here after consider all this we do not have much time to go and study foreign markets and securities (R6)</p>
Good options in Local market	<p>There are a lot of good opportunities in domestic market so why should we even think about international investing. (R11)</p> <p>There are good shares in local market like oil or gas. These shares have good chances of profit. (R3)</p> <p>Foreign companies do not provide profit like our local companies provide. Investor of foreign securities earns in cents but we earn in rupees. (R5)</p>
Disposition Effect when Prices are decreasing	
Hope	<p>I know the price of stock will recover in a while. Different stock price take different time period to revert back. Some takes 6 months, some takes 2 years but prices will surely revert if a company is making profit. (R1)</p> <p>There is no need to sell it in loss. I am dealing with in my limit instead of working on credit. I bought some stock 2 year ago at the price of 70, it start declining and reached to 42 Rupees, I hold those because I was working on cash. After some time stocks prices started to rise and reached to 80. (R6)</p> <p>Local investors act on “buy and hold” strategy in case of decreasing prices. I hold a stock in hope that price will recover. (R2)</p>

Average out	<p>I always keep cash in hand to buy stocks at lower prices when prices started to decrease. (R10)</p> <p>Some time, I go for dollar base averaging. (R1)</p> <p>I have done at many times to lower the average purchase price. (R4)</p>
Regret Aversion	<p>Regret aversion is also a cause of holding a stock in case of decreasing prices. (R2)</p> <p>No, I am longterm investor. I do not panic because I buy in cash. When you buy in cash then there is no extra pressure on you to sell the stock so you can hold the stock in case of decreasing prices. (R13)</p>
Disposition Effect when prices are Increasing	
Fear of loss	<p>I sell a stock when price is rising because we cannot trust on this market. This market is based on speculation. Small news can bring the prices down. There is always a fear of loss due to highly speculative market. (R2)</p> <p>If the item is good then you can go for long term but if the item is ordinary or average then I sale it on lower profit. Like I was saying to a person that profit is like a thief, you should catch him wherever you find it. (R6)</p> <p>Small news can bring the market down without having any truth in it. The market is very volatile so it is better to sale a stock on small profit instead of selling it on breakeven or loss. (R14)</p>
Pride in being right	<p>Yes I feel pride even if I have made a very small profit and share with my friends that I have earned profit on a specific stock. (R11)</p> <p>It always gives me a sense of achievement and joy upon making profit from a stock. (R14)</p> <p>Yes, it is definitely a reason. I feel very good when I have earned something from a stock decision. I also give me confidence to keep on trading and investing in stocks. (R13)</p>
Herding Effect (Supporting Quotes)	
Better market knowledge	<p>I have good seniors who guide me. They are trustable. They have brought me here (Investment floor). I have earned a lot due to their guidance. Whatever they suggest I act upon it. Obviously there is no reason to not act upon their suggestions. (R4)</p> <p>People who have invested more as compared to me. They are buying and selling a lot of stocks. I follow them because they are making better decisions. (R9)</p> <p>Yes I have two three friends. I have a friend in Karachi and I also get some information from him. If I get some information then I go ahead. (R6)</p>
Low financial literacy	<p>I am relatively new in this market. They have better knowledge than me and I have low financial literacy. I feel safe while following other investors because they are experienced. (R2)</p> <p>I do not have a lot of stocks related knowledge so I follow other friends and colleagues in my investment decision making. (R13)</p> <p>The people I follow have better knowledge and they are more expert than me in stock investment decision. (R4)</p>

Herding Effect (Against Quotes)	
Confidence in own skill set	No, I am not influenced by others. Probably, from last one month I have cash in my account and I made up mind clearly I will not come into the market until unless the decision of Panama Case is announce. Many people are doing business in market but I will not do until unless things get clear and final. (R6) Decision is always mine. I do not believe on tips or rumors. (R11) No, I work according to my experience. I always invest in small amounts. (R5)
Anchoring Bias (Supporting Quotes)	
Trading based on similar/historical information	Yes provided if the previous deal was profitable then I will replicate it again. If the deal involves a loss then I will be less inclined to replicate it. (R1) Yes, I have traded on tips and news a lot of time just because I have earned a lot based on these kinds of tips and news. (R13) Yes, it is quite possible to replicate a transaction if it was profitable in past. (R14)
Anchoring Bias (Against Quotes)	
Confirmation from others	I think an investor should always look at the fundamentals of the company and then decide. (R2) There is always a fear of loss so I do not act on single source of information. I discuss with different sources and then act upon any information. (R4) If company is sound then we somehow believe and invest a little bit but if the company is not sound then I do not invest. Now after this much experience and time I know about companies and their potentials. Usually I know about shares and do my research. (R7)
Confirmation Bias (Supporting Quotes)	
Tendency to rely on own beliefs	I discuss my investment decisions with fellow investors but make decisions at my own. Fellow investors buy shares of their choice and I trade based on my analysis. Everyone has his own liking and choices. (R10) I consult my thinking with other investors but final decision is mostly made by me. I think so it is really easy to forgive our self. So even if a decision is wrong we do not feel so much pain as compared to if the wrong decision is made on someone else suggestion. (R14) I gave them weightage and listen to them. But final decision is mine. (R7)
Confirmation Bias (Against Quotes)	
I want to be sure	I will go through the financial statements of the company in case of contradictory opinion. If someone told me that a company will perform poorly in future. I will confirm from the company is there any specific development. I have talked with financial controller and CFO of companies a few times in which I have invested or my investors have invested to get information. (R1) It depends upon who is talking. If someone with good experience and education justify his point then I give a lot of weightage to his suggestion in my decision (R11) (R7) on accordingly.

Yes I do discuss with other fellows. If they justify than I agree with them and make decis
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Discussion

The analysis of interviews conducted from investor indicates the presence of behavioral biases in Pakistani investor. The study focused on five biases home bias, disposition effect, herding effect, anchoring bias and confirmation bias. The results indicated the strong evidence of home bias in Pakistani context. The results are in line with previous studies (Chan, Covrig, Ng, 2005; [Campbell & Kraussl, 2007](#); [Strong & Xu, 2003](#)). Respondents explained that they are not interested in learning about international securities and one of the respondent said he will not trade in international securities even if learning about the international securities and markets which is consistent with the study of (Nieuwerburgh & Veldkamp, 2009). Our study showed strong home bias effect which is contradictory to results of Akbar, Ali and Shah (2014) study. They found diminishing trend of home equity bias in Pakistani context. The three main reasons identified of home bias in this study were lack of information, lack of time and good options available in Pakistani market for investment. Disposition effect was also evident from analysis of interview data. Pakistani investor hold stocks in case of prices are decreasing and sale when prices are increasing. Previously studies have provided mixed kind of results regarding disposition effect for example Kuo and Chen (2012) found disposition effect in 50 % of the respondents. Ben-David and Hirshleifer (2012) and Kaustia (2010) found no disposition effect in their studies. The main reasons found of disposition effect when prices of stocks were decreasing were hope, average out effect and regret aversion. Investors believed that it is better to hold stocks in case of decreasing prices because prices will revert back and to avoid the regret feeling associated with selling stocks in loss. The main reasons of disposition effect in case of increasing prices found out were fear of loss and pride in being right. There were no specific reasons identified in previous literature about disposition effect so this study adds value in literature by identifying probable reasons of disposition effect. Herding effect was quite evident from the results of interviews. Previous studies provide mixed kind of results related to herding behavior but herding effect is evident in most of the studies like (Bhaduri & Mahapatra, 2013; Bhaduri & Mahapatra, 2013; Chang, Cheng & Khorana, 2000; Chiang, Lee & Tang, 2010; Khan, Hassairi & Viviani, 2011). So results are according to the previous studies. The main reason identified for herding behavior was investor believe other investor have better information which is consistent with the study of (Lux, 1995). The second reason found in the study was low financial literacy which is also according to the study of (Lux, 1995). The investors who have not shown herd behavior argued that they rely on their own skill set / analysis to make decisions about stocks investment. Confirmation bias is the tendency to interpret new evidence as confirmation of one's existing beliefs or theories. Investors discount the information which contradicts with their beliefs when prone to confirmation bias. In this study majority of investors give weightage to the contradictory opinion and change their decisions which shows that Pakistani investors are less prone to confirmation bias which is contradictory to previous studies like (Luthgens & Moscovici, 2000; McMillan & White, 1993; Park, Konana, Kumar, & Raghunathan, 2010). The reasons against confirmation bias identified was that investors wants to be sure about their decision regarding stock investment so they discuss with different sources and then make a rational and informed decision. There are almost 40 % respondents which are affected by confirmation bias and reasons identified was the tendency to rely on own beliefs which is according to the (Ko & Hansch, 2009). The results related to anchoring bias suggest that almost half of the participants are affected by anchoring bias. Previous studies found that anchoring effect is very strong in financial markets like (Englich, Mussweiler, & Strack, 2006; Shiller, 1999). The reason identified related to anchoring bias was investors act on the information if similar type of information has performed positively for the investor. There were half of the investors who do their analysis by incorporating new information and were not affected by the anchoring bias. They argued they want to be sure about their decision so they confirm

Conclusion and Recommendations

The main objective of the study was to identify the causes of individuals' behavioral biases in investment decision-making. The study focused on five biases home bias, disposition effect, herding bias, anchoring bias and confirmation bias. Home bias and disposition effect and herding were quite evident from the results. Majority of the investors were affected by confirmation bias and almost half of the investors were subject to anchoring bias. They study has identified causes related to these behavioral biases. The study has also identified the changes in decision making due to learning from the market. The government can make policies to educate investor so that they can make rational and better decisions. Improved financial literacy will also improve the stock market participation of investors.

Limitations of Study

This exploratory research has some limitations. The research has utilized qualitative methodology so analytical generalizations were made. The sample size of the study was small. Further study can be conducted on larger scale of individual investor that would give support to present study findings. The list of biases resulting from this study is not exhaustive so more biases can be added to future study. In addition, the data collected from Pakistani investors, further studies can be conducted across other countries to provide comparative assessments of the behavioral biases. This study only collected data from Islamabad stock exchange and all respondents were males. Since the scope of this study was qualitative, future studies may be conducted on quantitative and empirical testing of biases on buying of financial products with a large sample size comprised of males and females from stock exchanges.

References

- Akbar, U. S., Ali, M., Ali, M., & Shah, Z. A. (2014). Home Equity Bias. *Sukkur IBA Journal of Management and Business*, 1(1), 40-56.
- Banerjee, A. V. (1992). A simple model of herd behavior. *The Quarterly Journal of Economics*, 107(3), 797-817.
- Barberis, N., & Thaler, R. (2003). A survey of behavioral finance. *Handbook of the Economics of Finance*, 1, 1053-1128.
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The quarterly journal of economics*, 116(1), 261-292.
- Blumberg, B. F., Cooper, D. R., & Schindler, P. S. (2014). *Business research methods*. McGraw-hill education.
- Barron, J. M., & Ni, J. (2008). Endogenous asymmetric information and international equity home bias: the effects of portfolio size and information costs. *Journal of International Money and Finance*, 27(4), 617-635.
- Baker, M., Pan, X., & Wurgler, J. (2009). *A reference point theory of mergers and acquisitions* (No. w15551). National Bureau of Economic Research.
- Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2018). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*.
- Ben-David, I., & Hirshleifer, D. (2012). Are Investors Really Reluctant to Realize their Losses? Trading Responses to Past Returns and the Disposition Effect. *The Review Of Financial Studies*, 25(8), 2484-2532.
- Bhaduri, S. N., & Mahapatra, S. D. (2013). Applying an alternative test of herding behavior: A case study of the Indian stock market. *Journal of Asian Economics*, 25, 43-52.
- Borghesi, R. (2014). The impact of the disposition effect on asset prices: insight from the NBA. *Journal of Economics and Finance*, 38(4), 698-711.
- Campbell, R. A., & Kräussl, R. (2007). Revisiting the home bias puzzle: Downside equity risk. *Journal of international money and finance*, 26(7), 1239-1260.
- CAO, M. M., NGUYEN, N. T., & TRAN, T. T. (2021). Behavioral factors on individual investors' decision

- making and investment performance: A survey from the Vietnam Stock Market. *The Journal of Asian Finance, Economics and Business*, 8(3), 845-853.
- Cen, L., Hilary, G., & Wei, K. J. (2013). The role of anchoring bias in the equity market: Evidence from analysts' earnings forecasts and stock returns. *Journal of Financial and Quantitative Analysis*, 48(01), 47-76.
- Chiang, T. C., & Zheng, D. (2010). An empirical analysis of herd behavior in global stock markets. *Journal of Banking & Finance*, 34(8), 1911-1921.
- Chiang, T. C., Li, J., & Tan, L. (2010). Empirical investigation of herding behavior in Chinese stock markets: Evidence from quantile regression analysis. *Global Finance Journal*, 21(1), 111-124.
- Christie, W., & Huang, R. (1995). Following the Pied Piper: Do Individual Returns Herd around the Market?. *Financial Analysts Journal*, 51(4), 31-37.
- Chang, E. C., Cheng, J. W., & Khorana, A. (2000). An examination of herd behavior in equity markets: An international perspective. *Journal of Banking & Finance*, 24(10), 1651-1679.
- Creswell, J. W. (2009). Mapping the field of mixed methods research. *Journal of Mixed Methods Research*, 3(2), 95-108.
- Chan, K., Covrig, V., & Ng, L. (2005). What determines the domestic bias and foreign bias? Evidence from mutual fund equity allocations worldwide. *The Journal of Finance*, 60(3), 1495-1534.
- Cici, G. (2012). The Prevalence of the Disposition Effect in Mutual Funds' Trades. *Journal Of Financial And Quantitative Analysis*, 47(04), 795-820.
- Cinner, J. (2018). How behavioral science can help conservation. *Science*, 362(6417), 889-890.
- Clements, A., Hurn, S., & Shi, S. (2017). An empirical investigation of herding in the US stock market. *Economic Modelling*.
- Coeurdacier, N., & Rey, H. (2011). Home Bias in Open Economy Financial Macroeconomics *NBER Working Paper No. 17691*. <http://www.nber.org/papers/w17691>
- Cummins, R. A., & Nistico, H. (2002). Maintaining life satisfaction: The role of positive cognitive bias. *Journal of Happiness studies*, 3(1), 37-69.
- Din, S. M. U., Mehmood, S. K., Shahzad, A., Ahmad, I., Davidyants, A., & Abu-Rumman, A. (2021). The impact of behavioral biases on herding behavior of investors in islamic financial products. *Frontiers in psychology*, 3887.
- Demirer, R., & Kutan, A. M. (2006). Does herding behavior exist in Chinese stock markets?. *Journal of international Financial markets, institutions and money*, 16(2), 123-142.
- Englich, B., Mussweiler, T., & Strack, F. (2006). Playing dice with criminal sentences: The influence of irrelevant anchors on experts' judicial decision making. *Personality and Social Psychology Bulletin*, 32(2), 188-200.
- Evans, J. S. B. (1989). *Bias in human reasoning: Causes and consequences*. Lawrence Erlbaum Associates, Inc.
- French, K. R., & Poterba, J. M. (1991). Investor diversification and international equity markets. *Economic Review*, 81(2), 222-226.
- Frey, D. (1986). Recent research on selective exposure to information. *Advances in experimental social psychology*, 19, 41-80.
- Ganesh, R., Naresh, G., & Thiyagarajan, S. (2016). Industry herding behaviour in Indian stock market. *American Journal of Finance and Accounting*, 4(3-4), 284-308.
- George, T. J., & Hwang, C. Y. (2004). The 52-week high and momentum investing. *The Journal of Finance*, 59(5), 2145-2176.
- Hammami, H., & Boujelbene, Y. (2016). Boom-bust cycles and herding behaviour in the Tunisian stock market. *International Journal of Data Science*, 1(3), 259-275.
- Hsu, Y. L., Chen, H. L., Huang, P. K., & Lin, W. Y. (2021). Does financial literacy mitigate gender differences in investment behavioral bias?. *Finance Research Letters*, 41, 101789.

- Hibbert, A. M., Lawrence, E. R., & Prakash, A. J. (2012). Do Finance Professors Invest Like Everyone Else?. *Financial Analysts Journal*, 68(5), 95-108.
- Jones, M., & Sugden, R. (2001). Positive confirmation bias in the acquisition of information. *Theory and Decision*, 50(1), 59-99.
- Kaustia, M. (2010). Prospect Theory and the Disposition Effect. *Journal Of Financial And Quantitative Analysis*, 45(03), 791-812.
- Kahneman, D., & Tversky, A. (1982). On the study of statistical intuitions. *Cognition*, 11(2), 123-141.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263-291.
- Khan, H., Hassairi, S. A., & Viviani, J. L. (2011). Herd behavior and market stress: The case of four European countries. *International Business Research*, 4(3), 53-67.
- Kinsey, M. J., Gwynne, S. M. V., Kuligowski, E. D., & Kinatader, M. (2019). Cognitive biases within decision making during fire evacuations. *Fire Technology*, 55(2), 465-485.
- Kong, L., Bai, M., & Wang, P. (2015). Is disposition related to momentum in Chinese market? *Managerial Finance*, 41(6), 600-614.
- Ko, K. J., & Hansch, O. (2009). Persistence of Beliefs in an Investment Experiment.
- Kuo, M. & Chen, S. (2012). Prospect theory and disposition patterns: evidence from Taiwan investors. *Studies In Economics And Finance*, 29(1), 43-51.
- Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making—a systematic literature review. *Qualitative Research in financial markets*, 7(1), 88-108.
- Konana, P., & Balasubramanian, S. (2005). The social–economic–psychological model of technology adoption and usage: an application to online investing. *Decision Support Systems*, 39(3), 505-524.
- Klayman, J. (1995). Varieties of confirmation bias. *Psychology of learning and motivation*, 32, 385-418.
- Kvale, K. (2007). Do cancer patients always want to talk about difficult emotions? A qualitative study of cancer inpatients communication needs. *European Journal of Oncology Nursing*, 11(4), 320-327.
- Lee, Y. T., Liu, Y. J., Roll, R., & Subrahmanyam, A. (2004). Order imbalances and market efficiency: Evidence from the Taiwan Stock Exchange. *Journal of Financial and Quantitative Analysis*, 39(02), 327-341.
- Liu, Y. J., Tsai, C. L., Wang, M. C., & Zhu, N. (2010). Prior consequences and subsequent risk taking: New field evidence from the Taiwan Futures Exchange. *Management Science*, 56(4), 606-620.
- Lux, T. (1995). Herd behaviour, bubbles and crashes. *The economic journal*, 105(431), 881-896.
- Lovric, M., Kaymak, U., & Spronk, J. (2008). A conceptual model of investor behavior. Working paper.
- Montier, J. (2002). *Applied Behavioural Finance: Insights into irrational minds and market*. Wiley, New York, NY.
- McMillan, J. J., & White, R. A. (1993). Auditors' belief revisions and evidence search: The effect of hypothesis frame, confirmation bias, and professional skepticism. *Accounting Review*, 443-465.
- McMahon, R. (2005). *Behavioural finance: a background briefing*. Pusan University National Press.
- Nigam, R. M., Srivastava, S., & Banwet, D. K. (2018). Behavioral mediators of financial decision making—a state-of-art literature review. *Review of Behavioral Finance*.
- Nofsinger, J. R. (2014). *The Psychology of Investing* (5th Editio). New Jersey, USA: Pearson Education, Inc.
- Northcraft, G. B., & Neale, M. A. (1987). Experts, amateurs, and real estate: An anchoring-and-adjustment perspective on property pricing decisions. *Organizational behavior and human decision processes*, 39(1), 84-97.
- Norouzi, N., Fani, M., Bahramani, E. H., Hemmati, M. H., & Jafarabadi, Z. B. (2021). Behavioral Economics and Energy consumption: Investigating the Role of Attitudes and Beliefs on Household Electricity Consumption in Iran. *Journal of Artificial Intelligence and Big Data*, 1(1).
- Odean, T. (1998). Are investors reluctant to realize their losses?. *The Journal of finance*, 53(5), 1775-1798.
- Olsen, R. A. (2007). Investors' Predisposition for Annuities: A Psychological Perspective. *Journal of*

Financial Service Professionals, 61(5).

- Park, J., Konana, P., Gu, B., Kumar, A., & Raghunathan, R. (2010). Confirmation bias, overconfidence, and investment performance: Evidence from stock message boards. *McCombs Research Paper Series No. IROM-07-10*.
- Pahlke, J., Strasser, S., & Vieider, F. M. (2015). Responsibility effects in decision making under risk. *Journal of Risk and Uncertainty*, 51(2), 125-146.
- Pradhan, P. (2008). Financial literacy: how critical for banking?. *Indian Banker*, 3(July), 14-23.
- Pompian, M. M. (2008). Using behavioral investor types to build better relationships with your clients. *Journal of Financial Planning*, 21(10), 64-76.
- Plous, S. (1989). Thinking the unthinkable: The effects of anchoring on likelihood estimates of nuclear war I. *Journal of Applied Social Psychology*, 19(1), 67-91.
- Raghunathan, R., & Corfman, K. (2006). Is happiness shared doubled and sadness shared halved? Social influence on enjoyment of hedonic experiences. *Journal of Marketing Research*, 43(3), 386-394.
- Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *The Journal of Finance*, 40(3), 777-790.
- Schulz-Hardt, S., Frey, D., Lüthgens, C., & Moscovici, S. (2000). Biased information search in group decision making. *Journal of personality and social psychology*, 78(4), 655.
- Shefrin, H. (2001). Behavioral Corporate Finance, *Journal of Applied Corporate Finance* 14, 113-124.
- Shiller, R. J. (1999). Human behavior and the efficiency of the financial system. *Handbook of macroeconomics*, 1, 1305-1340.
- Shiller, R. J. (2006). Tools for Financial Innovation: Neoclassical versus Behavioral Finance. *The Financial Review*, 41(1180), 1-8.
- Strong, N., & Xu, X. (2003). Understanding the equity home bias: Evidence from survey data. *Review of Economics and Statistics*, 85(2), 307-312.
- Tessaromatis, N., & Thomas, V. (2009). Herding behavior in the Athens stock exchange. *Investment Management and Financial Innovations*, 6(3), 156-164.
- Tesar, L. L., & Werner, I. M. (1995). Home bias and high turnover. *Journal of International Money and Finance*, 14(4), 467-492.
- Thaler, R. (1985). Mental accounting and consumer choice. *Marketing science*, 4(3), 199-214.
- Van Nieuwerburgh, S., & Veldkamp, L. (2009). Information immobility and the home bias puzzle. *The Journal of Finance*, 64(3), 1187-1215.
- Wansink, B., Kent, R. J., & Hoch, S. J. (1998). An anchoring and adjustment model of purchase quantity decisions. *Journal of Marketing Research*, 71-81.
- Wright, W. F., & Anderson, U. (1989). Effects of situation familiarity and financial incentives on use of the anchoring and adjustment heuristic for probability assessment. *Organizational Behavior and Human Decision Processes*, 44(1), 68-82.
- Williams, G. (2007). Some determinants of the socially responsible investment decision: A cross-country study. *The Journal of Behavioral Finance*, 8(1), 43-57.
- Yin, R. K. (2015). *Qualitative research from start to finish*. Guilford Publications.
- Zahera, S. A., & Bansal, R. (2018). Do investors exhibit behavioral biases in investment decision making? A systematic review. *Qualitative Research in Financial Markets*.