

# Identifying Factors Influencing Investor Behavior in the Stock Market

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## ABSTRACT

The purpose of this qualitative study is to compare and contrast various factors influencing individual investor behavior in the stock market as detailed in surveys and interviews conducted in Sri Lanka, Nigeria, Vietnam, and Pakistan. The aim is to determine whether behavioral biases are consistent or vary depending on regional context, and if so, what determines the presence or expression of some biases over others. Searches were conducted and the conclusions from the four studies were extracted and comparatively analyzed. The findings indicate that investors are most likely to experience overconfidence above any other behavioral bias, and that the biases seen in the different markets were largely in agreement. Unique regional attributes, such as culture were identified and analyzed as potential influences on the relative presence or absence of behavioral biases, including overconfidence and herding.

## Introduction

Traditional economic theory holds that investors behave rationally, thereby making calculated decisions about their investments based on the risks and returns of securities (Barbera & Odean, 2013). According to the Efficient Markets Hypothesis outlined by Fama (1970), asset prices usually reflect all available information. Thus, stock prices instantly adjust to changes in information, so attempting to “beat the market” is an unrealistic and infeasible proposition.

However, Malkiel (2003) describes how recent research in the field of behavioral economics has called into question the validity of the Efficient Markets Hypothesis, as investors do not always behave rationally, resulting in inefficient markets. Various factors influence investor behavior, including overconfidence, anchoring, disposition effect, herding, familiarity, and mental accounting biases (Kumar & Goyal, 2015).

## Overview of Factors

Although many different authors name various biases affecting individual investors, and possibly categorize them differently, below is an overview of the most commonly recurring ones that are generally seen across studies in the field. There are others that are not included only because they are not as prominent as the ones listed below.

### *Overconfidence Bias*

Overconfidence occurs when investors overestimate the extent of their knowledge, believing themselves to be more knowledgeable or skillful than they actually are. Additionally, overconfidence can refer to the tendency of investors to rate themselves as “better-than-average,” better than the median person. Overconfidence has been shown to lead to excessive trading and can thereby result in decreased investment performance (Barber & Odean, 2013).

### *Anchoring Bias*

Anchoring bias is when investors continue to use the initial information they had available to make investment decisions, and are reluctant to change and adapt their decisions to newer, more relevant news. Both anchoring and overconfidence lie within the field of heuristics, which describes how in situations during which people are faced with uncertainty and only have limited information to make a decision, they revert to simpler established behavioral conventions. While heuristics may allow people to make decisions more quickly and efficiently, in some cases they may lead people to act irrationally in a given circumstance (Tversky & Kahneman, 1974).

### *Disposition Effect*

The disposition effect is when investors sell profitable stocks while holding on to less profitable ones (Barber & Odean, 2013). Prospect theory, most notably presented by Kahneman & Tversky (1979), has attempted to explain this phenomenon. This theory holds that investors treat gains differently than losses, and weigh uncertainty depending on whether they are considering a gain or a loss. Investors prefer more certain outcomes over less likely ones, even if they may ultimately result in poorer returns on investments. Within prospect theory, the disposition effect can be explained by loss and risk aversion. Investors are more likely to sell winning investments while holding on to losing ones because they are afraid of losing the gains they have made. Similarly, investors may hold on to stocks that have declined in value that they should realistically sell because they are afraid of not only selling the investment for lower than they paid for it, losing money, but also potentially missing out on any future gains after they sold the investment.

### *Herding Bias*

Herding bias is the tendency for investors to follow what others are doing, even when it is not the most rational course of action. Particularly in regards to investing, herding bias occurs when investors follow market trends and mimic other investors, as opposed to making the decisions most suitable to them. This can lead to investors making investment decisions based on irrational sentiments rather than reasonable grounded assumptions (Kumar & Goyal, 2015).

### *Familiarity Bias*

Familiarity bias concerns how an investor's familiarity with an investment influences their behavior towards that investment. For example, if an investor previously used a company's products, they might be biased towards that company and be more likely to invest in the company's stock. Investors can be "familiar" with a company in two ways: "geographically" or "professionally." Geographically, investors can be biased when they over-invest in assets located in the same country or region where they are located. Investors can also over-weight investments in the same field or even company where they are employed. Familiarity bias can lead to under-diversification, which can negatively impact the performance of an investor's stock portfolio (Barber & Odean, 2013).

### *Mental Accounting*

Mental accounting is the tendency to treat one's money differently based on different factors, such as what it is intended to be used for or where it comes from. It is the practice of segregating expenses when in reality they should be considered together. An example of mental accounting would be someone treating money that is won through a lottery differently than money that is earned through working. One might be willing to spend or part with lottery winnings in a riskier fashion than if the money had been earned through employment, even though both types of money hold the same intrinsic value (Barberis & Huang, 2001).

## Problem statement

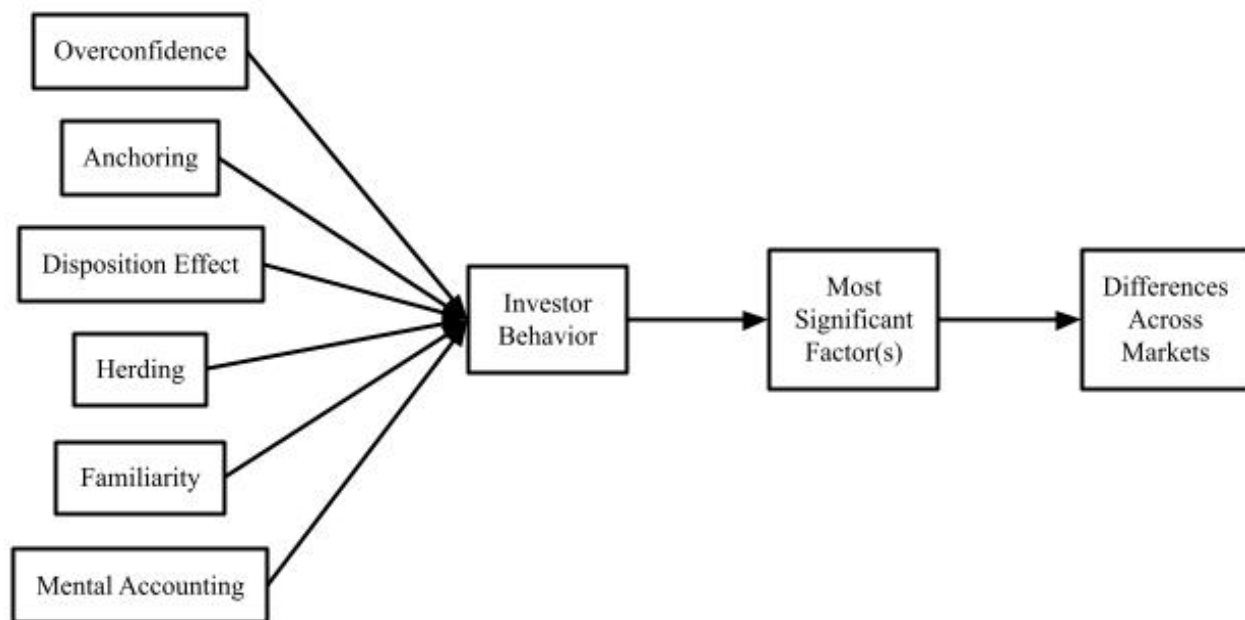
Existing studies typically survey investors in a particular country's stock exchange. As a result, there is a lack of research identifying or comparatively and critically analyzing potential factors that most influence individual investor behavior across different regions or countries.

## Purpose statement

The purpose of this qualitative study is to comprehensively compare and contrast various factors influencing individual investor behavior in the stock market as detailed in surveys and interviews conducted in Sri Lanka, Nigeria, Vietnam, and Pakistan. The aim is to determine whether behavioral biases are consistent or vary depending on regional context, and if so, what determines the presence or expression of some biases over others.

## Research questions

1. What factors most influence individual investor behavior in the stock market?
2. To what extent do individual investors' geographic context affect the factors influencing their behavior?



**Figure 1.** Conceptual framework of study

## Methodology

Carefully choosing an approach to best align with the needs of the study is vitally important. Consequently, I selected a qualitative, case-study approach to address the research questions this paper intends to answer.

According to Fossey et al. (2002), qualitative research is “oriented towards developing understanding of the meaning and experience dimensions of human lives and their social worlds” (p. 730). Qualitative studies can provide more nuanced accounts than quantitative studies, lending themselves to greater depth and complexity. As opposed to quantitative studies, qualitative studies can not only track what phenomena occur, but also, answer why they occur.

This attribute of qualitative studies is especially advantageous when studying complex topics such as investor behavior. Because there can be multiple factors interacting to influence an investor's psychology and behavior, it is important to have a method that can capture each aspect in its complexity.

A case study approach as detailed by Baxter & Jack (2008) can further build upon the benefits of qualitative research. Using a case study approach may prove advantageous when trying to answer "how" and "why" questions, and when one desires to "cover contextual conditions" that are believed to be "relevant to the phenomenon under study" (p. 545), among other reasons. The specific type of case study I utilize is a multiple-case study, which "enables the researcher to explore differences within and between cases" (p. 554) while also further strengthening the trustworthiness of the data.

Since it is crucial to possess the most complete, thorough, detailed, and nuanced understanding of people's behavior and biases as possible, an application of qualitative research methods to the field of behavioral finance, specifically studying investor behavior, as is the case with this study, proves particularly apt.

## Study Data

Searches were conducted in databases, such as EBSCO, JSTOR, ProQuest, and the Google Scholar search engine for qualitative or mixed methods studies on factors influencing individual investor behavior. Keywords including "behavioral finance," "individual investors," and "qualitative research" were used to help search for studies and articles. Qualitative results and conclusions were extracted and subsequently comparatively analyzed for potential similarities and differences.

Four mixed methods studies surveying investors in the developing markets of Sri Lanka, Nigeria, Vietnam, and Pakistan were chosen for this research. These studies were selected because they employ similar methodology, and their results are presented in a way allowing for relatively straightforward comparisons between their conclusions. The following section presents a brief overview of each study containing the pertinent background information and context as well as their conclusions.

### Study 1 - The Influence of Behavioral Factors in Making Investment Decisions and Performance: Study on Investors of Colombo Stock Exchange, Sri Lanka

Kengatharan & Kengatharan (2014) studied investors in Sri Lanka's Colombo Stock Exchange. They determined that anchoring bias had the most significant influence on investor behavior. Overconfidence, prospect, and market biases moderately affected investment decisions, and herding bias impacted investor behavior the least. Furthermore, they find that herding and overconfidence have negative impacts on investment performance, while anchoring has a positive effect. This study is unlike some others in that it measures not only the extent to which biases impact investor behavior, but also the extent to which those biases impact investment performance. No research of this nature has been conducted in Sri Lanka previously.

### Study 2 - Investors' Behavioural Biases and the Security Market: An Empirical Study of the Nigerian Security Market

Babajide & Adetiloye (2012) randomly surveyed 300 investors in the Nigerian stock market, specifically in Lagos, Nigeria, testing to see if overconfidence, loss aversion, confirmation, framing, anchoring, status quo, and myopic loss aversion biases exist, thereby influencing investors. Myopic loss aversion combines loss aversion with an increased frequency of assessing investments, leading to reduced earnings on investments. The authors frame their study in the context of the 2008/2009 Nigerian stock market crash, and seek to address perceived gaps in literature concerning research about investor behavior in developing markets. They conclude that while overconfidence, loss aversion,

framing, status quo, and myopic loss aversion biases exist and have a statistically significant effect on Nigerian investors, the impact on the market is not strong, harboring only a minimal effect. On the other hand, Babajide & Adetiloye also examine the effect of confirmation and anchoring biases but found they do not statistically significantly impact investor performance, and correspondingly, the stock market. The reason why investor biases exist yet exert minimal to no impact on the Nigerian securities market is because according to the authors, most Nigerians trade through stockbrokers, so it is assumed that trading through professional stockbrokers will diminish the potential impact of biases on individuals' investing behavior.

### Study 3 - Behavioral factors influencing individual investors' decision-making and performance: A survey at the Ho Chi Minh Stock Exchange

Luong & Ha (2011) surveyed Vietnamese investors, aiming to identify factors influencing investors and to what extent those factors affect investing behavior. They describe how behavioral biases tend to have an outsized impact on Asians compared to those in the rest of the world. The authors conclude that herding, market, prospect, overconfidence-gambler's fallacy, and anchoring-ability biases all affect individual investors in the Ho Chi Minh Stock Exchange. Out of those five factors, market factors and mental accounting were found to impact the investing behavior of Vietnamese investors the most. In terms of individual investor investment performance, herding, prospect, and heuristic biases all show impacts. Heuristic biases have the most positive effect and herding to a lesser extent. Meanwhile, prospect biases negatively impact investment performance.

### Study 4 - Behavioral biases and investors' decision-making: The moderating role of socio-demographic variables

Kapter et al. (2019) surveyed 179 individual investors in the Pakistan Stock Exchange, finding that overconfidence, herd mentality, representativeness, and emotional bias all have a significant effect on investor decision making. They also find that demographic factors, such as marital status, occupation, and education play a moderating role in influencing these biases. Out of the biases they studied, they identified emotional bias as the most significant bias affecting investors in Pakistan.

## Analysis

An analysis of this study's data is displayed in two sections, mirroring the structure of the research questions that were posed at the beginning of the study. Answers to both research questions will now be provided.

### Question 1

Short summaries of several studies were presented, highlighting their most important details and conclusions. These selected studies comprise just a few of the myriad studies that identify factors influencing investor behavior in different regions of the world. However, no study identifies any one factor stretching across multiple studies as exerting the most influence on investor behavior. Thus, one of the goals of this study is to compare the different factors presented in the preceding studies and select one or several that were observed the most frequently throughout to have affect investor behavior. Bearing this in mind, having presented each study's conclusion in turn, their results will now be analyzed and compared to determine the factor that most influences individual investor behavior.

Anchoring is a principal bias that was identified in several of the studies. In Sri Lanka, "anchoring... has a high impact on [individual] investment decision making" (Kengatharan & Kengatharan, 2014, p. 16). Specifically, anchoring bias has a strong effect on investor behavior in that investors depend on prior market experience to help

choose their next investment. Similar to what was found in Sri Lanka, Luong & Ha (2011) in Vietnam count anchoring among the factors moderately influencing investor behavior. However, Babajide & Adetiloye (2012) claim Nigerian investors do not exhibit anchoring bias. They “do not rely on high rate of return achieved in the market only to judge the future outcome of an investment in the Nigeria security market” (p. 224), but rather, avoid anchoring bias. Thus, while anchoring bias exerts moderate to strong influence in Sri Lanka and Vietnam, its conspicuous absence in Nigeria leaves questions as to whether it is the most significant factor influencing investor behavior.

Mental accounting bias is the most prominent out of all the biases measured in Vietnam, exerting “high influence on the investment decision making” (Luong & Ha, 2011, p. 64). However, the rest of the studies do not endorse mental accounting nearly as wholeheartedly. Kengatharan & Kengatharan (2014) in Sri Lanka only briefly mention mental accounting, not at length, and in the studies conducted in Nigeria and Pakistan mental accounting is not even alluded to at all. Although the data from the study in Vietnam is compelling, there is not nearly enough data from the other studies to create an informed argument one way or the other.

Similarly, in the study from Pakistan, emotional bias is identified as the most significant factor (Katper et al., 2019). While the authors do argue that “emotions play an important role in investment decision-making” (p. 10), because emotional bias was not a factor seen in any of the other studies, there is insufficient data to make a judgment on how significant of a factor it really is.

Other potential factors to consider include prospect bias, categorized into loss and risk aversion, and herding bias. While both factors were seen throughout almost all of the studies, and generally recorded as moderately influencing investor behavior, for each factor there was one study that did not refer to it. Katper et al. (2019) in Pakistan made no mention of prospect bias, while Babajide & Adetiloye (2012) in Nigeria did not even consider herding bias. Thus, there is insufficient data to be able to confidently conclude that both loss and risk aversion and herding bias affect investor behavior the most.

The last factor to analyze is overconfidence. Regarding overconfidence bias, many studies name it as one of the, if not the, most influential factors affecting investor behavior. In Sri Lanka, Kengatharan & Kengatharan (2014) find that “overconfidence has a moderate impact on individual decision making” (p. 16), in addition to a significant negative impact on investment performance. In Vietnam, overconfidence moderately impacts investors (Luong & Ha, 2011). And in Pakistan, “overconfidence bias... is positively significant with the investment decision” (Katper et al., 2019, p. 8). However, again there is one exception: Nigeria. While investors do show overconfidence, it impacts their behavior only to a limited extent (Babajide & Adetiloye, 2012). This is because out of the four countries studied, Nigeria is the only country where there is widespread use of brokers, limiting the potential effect of biases on investors. As to what could prompt Nigeria to use more brokers, it is plausible that using stockbrokers could reflect Nigerian investors’ lack of confidence in their investing knowledge or ability, thus compelling them to seek out professional advice and expertise in stockbrokers. This would further reduce the probability that overconfidence bias would manifest itself. A lack of confidence amongst Nigerian investors could explain both the use of stockbrokers and the lack of overconfidence as a factor influencing investors; however, it is not known whether it is a causation or just a correlation.

One explanation for the prominence of overconfidence may be gender. Investors are more likely to be male than female, a reality which can be clearly seen from the survey data — men by far made up a larger percentage of the investors surveyed than women did. In the study from Pakistan, “61.5% of the respondents are males and 38.5% are females” (Katper et al., 2019). Likewise, in Sri Lanka, males made up 67.2% of survey respondents while females comprised 32.8% (Kengatharan & Kengatharan, 2014). In Nigeria, 63% were male versus 37% female (Babajide & Adetiloye, 2012). It has been found that men are more likely to be more overconfident than their female counterparts (Barber & Odean, 2001). Thus, the fact that more investors are male may help account for the presence of overconfidence as one of the most influential factors within the three studies.

Interestingly, in the study of Vietnamese investors, the researchers chose a group that was 50% male and 50% female (Luong & Ha, 2011). Hence, judging solely based on the fact that men tend to be more overconfident than women, one would expect to see overconfidence play a diminished role, which it arguably does. On a scale



ranging from very low, low, moderate, high, and very high, overconfidence only has a moderate impact on investors in Vietnam (Luong & Ha, 2011). A moderate impact would be consistent with a factor that still sees a measurable influence, but would have likely been higher if the group had been skewed towards comprising more males.

Based on the analysis of the data gathered from the four studies, examining the frequency of the various behavioral biases occurring across the different studies conducted in distinct markets, overconfidence is the most prevalent and significant investor behavior bias that can be seen in the developing and emerging markets of Sri Lanka, Nigeria, Vietnam, and Pakistan. The biases seen throughout the studies were relatively similar, with, anchoring, mental accounting, prospect, and herding almost consistently recurring. However, because overconfidence was the only factor influencing individual investor behavior that was consistently seen across all four studies, it is the bias that can with the greatest certainty be said is the most significant.

## Question 2

In addition to identifying the most significant factor that influences investor behavior, the second aim of this study was to comprehensively compare the factors that influence investor behavior across different regions and their various markets.

Although, overall, the studies' conclusions were similar, there were still some variations that emerged which were detailed in the previous section. One explanation for the differences in factors influencing investor behavior could lie in the cultural context of the country the market is located in. Yates et al. (1996) claim that Asians from particular cultures are generally more overconfident than their Western counterparts, although there has been very little research done within this area and they cannot conclude for certain why this is the case. The presence of this general overconfidence could conceivably result in more overconfident investing behavior among Asian investors. Since most of the studies that were analyzed in this paper were conducted in Asian markets, the phenomenon that Asians are more overconfident could explain the fact that overconfidence was found to be the most significant factor influencing individual investor behavior.

Furthermore, it is known that certain Asian cultures are more family and community-oriented, with a greater emphasis on the collective than the individual (Yates et al., 1996). This has at least two consequences, one obvious but the other not as apparent. Though it was not the most significant factor in influencing investor behavior, at least in the Asian markets which encompass most of the scope of this study, evidence of investors being influenced by herding biases can conceivably be explained by their cultures' collectivism. It stands to reason that a collective society would be more prone to herding behavior, and that people in a society focused on community would want to stick with others, following others' investing decisions. Consequently, despite the fact that herding bias was not the most prevalent behavioral bias seen in this study, in addition to overconfidence bias, investors in the various markets studied may be more susceptible to herding bias due to cultural collectivism, blindly following other peoples' investment behavior without fully realizing the impact on their own investments.

However, there is another aspect of the collectivism of certain Asian cultures that may be able to provide an explanation for not just herd behavior, but for overconfidence as well. The reason why collectivism relates to Asians being more overconfident, according to Hsee & Weber (1999), is due to what they deem the "cushion hypothesis." They contend that Asian investors, Chinese in this case, are more willing to take risks, knowing that in a collective society they have a financial safety net if any adverse unforeseen circumstances should arise. Conversely, in a more individualistic Western country like the US, with weaker family and community ties, investors have less options for financial assistance, and are therefore more hesitant to take risks. Though Yates et al. could not say for certain, it can now be argued that it is because of the collective nature of certain Asian cultures that they are more predisposed to be overconfident, and exhibit overconfidence in the stock market.

Therefore, a possible reason for this study finding that overconfidence was the most significant factor influencing investor behavior in the stock market is that particular Asian cultures tend to be overconfident due to their collective nature, which can also play a role in herding bias.

## Conclusion

This qualitative study comparatively analyzed various factors influencing individual investor behavior in the stock market as detailed in surveys and interviews conducted in Nigeria, Thailand, Vietnam, and India. It was found that investors are most affected by overconfidence, while biases such as prospect and herding seen in the different markets were largely in agreement. Differences in the relative presence or absence of investor behavioral biases, especially overconfidence and herding behavior, are potentially attributed to general overconfidence and collectivism in Asian cultures.

Despite the fact that case studies provide a more nuanced and complex perspective, one of the limitations inherent to such an approach is that there is a limited sample size of data from which to draw.

This paper did not explore whether institutional investors are subject to the same type and intensity of biases that affect individual investors, and whether those biases are consistent or vary across different regions and stock markets. Potential areas of future research could include identifying biases affecting institutional investors across various markets. This study draws data primarily from investors in developing markets, but further research can be conducted to compare and contrast investors in developing markets to those in developed markets. Hence a larger study with standardized survey and interview methods and questions should be conducted in order to more conclusively compare factors influencing investor behavior across different markets. These and many other questions to be addressed by future research within the field of behavioral finance promise to positively contribute to not only investors and behavioral finance but society as a whole.

The author sincerely hopes that the information and conclusions presented in this study can guide individual investors by informing them about any biases that they may unknowingly be susceptible to in the present or future, thereby helping them to make more informed investment decisions. Only by acknowledging and addressing biases that might affect investors can they behave as rationally as possible, avoiding illogicality and making decisions fully in line with their financial well-being.

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