

**REPUBLIC OF TURKEY
ÇUKUROVA UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
BUSINESS ADMINISTRATION DEPARTMENT**

**THE INVESTIGATION OF INDIVIDUALS' FINANCIAL DECISIONS IN
BEHAVIORAL FINANCE PERSPECTIVE: A STUDY OF GENDER
DIFFERENCES IN INVESTMENT DECISION-MAKING**

Laila YOSOFI

MASTER THESIS

ADANA / 2018

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Laila YOSOFI

Thesis supervisor: Assoc. Prof. Dr. Gamze VURAL

Member of Examining Committee: Prof. Dr. Hatice DOĞUKANLI

Member of Examining Committee: Asst. Prof. Dr. Ahmet Gökhan SÖKMEN

MASTER THESIS

ADANA / 2018

To Institute of Social Sciences of Cukurova University,

We certify that this thesis is satisfactory for the award of the degree of Master of
Business Administration Department

Supervisor: Assoc.Prof.Dr.Gamze VURAL

Member of Examining Committee:

Member of Examining Committee:

I certify that this thesis conforms to the formal standards of the Institute of Social
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ABSTRACT**THE INVESTIGATION OF INDIVIDUALS' FINANCIAL DECISIONS IN
BEHAVIORAL FINANCE PERSPECTIVE: A STUDY OF GENDER
DIFFERENCES IN INVESTMENT DECISION-MAKING****Laila YOSOFI****Master, Department Of Business Administration****Supervisor: Asso.Prof.Dr.Gamze VURAL****June 2018, 94 pages**

Behavioural finance as a new perspective to finance is based on the role of psychology on investors' financial behavior and decision-making process, according to this perspective, the assumption of traditional finance which is based on making financial decisions rationally by investors is rejected, behavioural finance explains investment decisions of individual investors are not rationally always because they are influenced by psychological and behavioural biases, that make errors in their investment decisions.

Gender difference in investment is an expanding and important research area in behavioral finance. According to some of past researches males and females behave differently in some of their decisions, and accordingly investment decisions.

Here, in this study, the relationship between behavioral finance biases and gender differences is investigated. The gender difference is independent variable and behavioral finance biases are dependent variables. Behavioral finance factors are divided into two parts which are emotional and cognitive biases. And they are measured by several dimensions to achieve the results. The data are collected by questionnaire. The population of the study is individuals investors in stock market in Adana province and the sample size is 400 individuals who invest in stocks. The collected data was analyzed by SPSS program. The achieved results show behavioral finance factors influence in decision-making and there is a relationship between gender and some of these factors.

Keywords: Behavioral Finance, Gender Differences in Investment Decisions, Behavioral Factors



ÖZET

BİREYLERİN FİNANSAL KARARLARIN DAVRANIŞSAL FİNANS AÇISINDAN İNCELEMESİ: YATIRIM KARAR VERME SÜRECİNDE CİNSİYET FARKLILIKLARI ÜZERİNE BİR ÇALIŞMA

Laila YOSOFI

Yüksek Lisans Tezi, İşletme Anabilim Dalı

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Davranışsal Finans, finans alanında yeni bir bakış açısı olarak, yatırımcıların finansal davranışları ve karar verme süreçlerinde psikolojinin rolüne dayanır. Bu bakış açısına, finansal kararları yatırımcılar tarafından rasyonel bir şekilde yapmaya dayalı geleneksel finans varsayımı reddedilmiştir. Davranışsal finans, bireysel yatırımcıların yatırım kararların rasyonel olarak almadığını, ve yatırım kararlarında hata yapan, psikolojik ve davranışsal önyargılardan etkilendiklerini ifade eder.

Yatırımlarda cinsiyet farklılığı davranışsal finans alanında genişleyen ve önemli bir araştırma alanıdır. Geçmişte yapılan bazı araştırmalara göre erkekler ve kadınlar kararlarının bazılarında ve dolayısıyla yatırım kararlarında farklı davranmaktadırlar.

Bu çalışmada davranışsal finans ve cinsiyet farklılıkları arasındaki ilişki araştırılmıştır. Cinsiyet farkı bağımsız değişken, davranışsal finans yanlılıkları bağımlı değişkenlerdir. Davranışsal finans faktörleri, duygusal ve bilişsel önyargı olan iki bölüme ayrılmıştır. Ve sonuçları elde etmek için çeşitli boyutlarla ölçülmüştür. Veriler Adanada hisse senedlere yatırım yapan bireylerden anket yoluyla toplanmıştır. Araştırmanın popülasyonu bireyler ve örneklem büyüklüğüne göre 400 bireydir. Toplanan veriler SPSS programı ile analiz edilmiştir. Elde edilen bilgiler davranışsal finans faktörlerinin yatırım kararlara etkili olduğunu, cinsiyet ve bazı faktörler arasında ilişki olduğunu göstermektedir.

Anahtar kelimeler: Davranışsal Finans, Yatırım Kararlarında Cinsiyet Farklılığı,
Davranışsal Faktörleri



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CHAPTER I

INTRODUCTION

1.1. Introduction

During the 1990s a new field in finance began to appear in academic journals and business publications, it was called behavioral finance which indicates sociological and psychological factors that affect individuals, groups and organizations' decision-making progress.

In traditional finance (standard finance) this fact that psychological and behavioral factors can influence investors' decisions is missed and people assumed to be rational in their decisions without any effect of psychological biases, but nowadays finance scholars notice more about the impacts of psychological and behavioral factors on people's decisions.

John R. Nofsinger (2005) stated that: " For the past three decades, the field of finance has involved based on the following two assumptions: people make rational decisions and people are unbiased in their predictions about future."

Amos Tversky, Daniel Kahneman, and Richard Thaler are considered to be founding fathers of behavioral finance.

Nowadays we can see an abundant supply of behavioral finance literature including the psychology of investment, the psychology of finance and etc...

Ricciardi and Simon (2000, p.1) stated that: "The uniqueness of behavioral finance is its integration and foundation of many different schools of thought and fields."

Haugen (1999) described the evolution of finance as a separate discipline by identifying three schools of thought which he called old finance, modern finance, and new finance. He argues that old finance focuses on financial statement analysis and the natures of financial claims, modern finance focuses on asset pricing and valuation based on rational economic behavior. He explains that in modern finance market is always efficient and deviations from fundamental values are expected to be short-lived as they are eliminated by arbitrage. And the new finance which deals with inefficient markets, and adopting behavioral models.

Behavioral finance rejects the rational behavior of market participants and tends to show market participants' irrational behavior which comes from the influence of

psychological factors on people's behaviors when it comes to making investment decisions.

Ricciardi and Simon (2000,p.2) explained that: "Behavioural finance attempts to explain the understanding of reasoning patterns of investors including the emotional process involved and the degree to which they influence the decision-making process."

Kent, Hirshleifer, and Hong Teoh (2001) described the most common behaviors that most of the investors do when they make investment decisions. These common behaviors are: 1-Investors often do not participate in all asset and securities categorise, 2- Individual investors exhibit loss-averse behavior, 3-In the stock purchase decisions, investors use past performance as an indicators of future performance, 4- Investors trade too aggressively, 5- Investors behave in status-quo, 6- Investors do not always form efficient portfolios, 7- Investors behave parallel to each other, 8-Investors are influenced by historical high and low trading stock.

People sometimes make decisions emotionally, and their decisions are not always rational, because emotions and feeling are definitely working while people make decisions and investment decisions are not separate from other decisions. As Nofsinger (2005) states sometimes, for some people, it is difficult to distinguish good stock from good companies and this is the result of the influence of behavioral biases.

Behavioral finance school of thought allows the market to be inefficient in the case that market participants as a human might be faced with common human errors, and these errors arise from heuristics and biases. Accordingly, traders do not operate rationally and markets are not always efficient.

Therefore, according to studies have been done by difference scholars, in the case of rational behavior of investors in the investment field, behavioural finance is on the opposite side of traditional finance in some cases, and explain that people are not rational always, they make common errors because their decisions are influenced by several factors, and behavioural finance identifies these factors because identifying and understanding these factors help investors to avoid them.

1.2. Background

In the 1980s one of the supporters and main theories of traditional finance which is the efficient markets model of the traditional system was starting to be challenged. The problem of excess volatility was one of the issues that troubled the complete

acceptance of this model. By starting this challenge behavioral scholars began to develop and study behavioral models. Behavioral researchers used several types of research from psychology branch to develop an understanding of financial decision-making and created the discipline of behavioral finance. Researchers of psychology have documented a range of decision-making behaviors that called biases. These biases are influenceable in all types of decisions, and have particular implications in relation to money and investing.

Amos Tversky, Daniel Kahneman, and Richard Thaler are today considered to be among founding fathers of behavioral finance. Tversky and Kahneman in 1974 described three heuristics (representativeness, availability, and anchoring) that work when people make judgments under uncertainty. Tversky and Kahneman (1974) argued that cognitive biases occur because people use heuristics. Although Tversky and Kahneman (1974, p. 1131) argued that “These heuristics are economical and usually effective”, they pointed out that their use leads to biases under certain circumstances.

Behavioral finance can be defined as the application of psychology to the decision-making process of investors to explain market anomalies, which lead market to the inefficient market.

Behavioral economics began to appear from the time when prospect theory was published by Kahneman and Tversky in 1979, and special after Kahneman received the noble prize for the economy because of prospect theory in 2002. The work of De Bondt and Thaler (1985, 1987) can be seen as a landmark that triggered the expansion of the field. Later, Thaler (1999) went on to argue that research in the area would soon come to an end because financiers would be so convinced by the behavioral findings that they would adopt reasonable assumptions. However, although those working in finance may be more sympathetic to the notion of basing their theories on realistic assumptions than those working in other areas of economics, there is, as yet, little sign that the field is contracting. There are some research which were done by De Bondt et al. (2010), Daniel et al. (2002), Glaser et al. (2004) and Garling et al. (2009) indicate that behavioural finance uses the corpus of work that demonstrates biases in human judgment and decision making to explain investor behaviour and market anomalies.

Subrahmanyam (2010) studied behavioral finance. Charness and Gneezy (2012) had a research about gender differences in risk-taking and they found that women invest less and also women are more risk-averse than men. Zhang and Zheng (2015) studied

about the investment behavioral based on financial decisions and their result of findings show that investors are not always rational as they are assumed in traditional finance.

Chavali and Mohanraj (2016) studied the impact of demographic variables and risk tolerance on investment decisions and they found that gender has an impact on the investment pattern and decision making of respondents.

1.3. Problem Statement

As Nofsinger (2005) indicated: “Investment is a difficult process. It entails gathering information, analyzing and making decisions.” Many factors influence this difficult process and according to these influenceable factors, investors might be faced with different outcomes of their decisions.

There are some main questions that “How individuals make this process? And which factors impact this process?”

The first step to solve a problem is to identify the effective factors on creating the problem. Most of the past researches on gender and investment subject found that females tend to have greater risk aversion when compare to males in investment decisions. But in the more recent studies’ results are mixed.

Many females control the day to day finance of their households, and not all of them have experience to invest their assets. In general, males tend to have more financial knowledge and wealth which mean they are more confident in their investment decisions and more apt to take the risk.

But what is the reason for these all? Which factors impact more on female and male investors' decisions? Is there any relationship between gender differences and any factor of behavioral factors?

The investor’s lifetime financial experiences, the investor’s past financial decisions and the influence of family, friends, and advisers can help us to know about their financial behavior and reduce the obstacles to investment.

Financial advisers must be able to diagnose irrational behaviors and advise their clients accordingly.

1.4. The Importance of Study

Behavioral finance as a new perspective to finance has a great role to market and market participations. Sewell (2007) stated: “Behavioural finance helps explain why

and how markets might be inefficient.” According to this perspective, investors are not rational and their decisions are not always rational, there are some psychological factors and biases can impact on investors’ decision-making process and its outcomes. These factors can be different by different criteria. Socio-demographical variables including age, gender and education show different behaviors of investors. Gender can be one of the effective factors make some differences among investors’ decisions. For example, several studies show that women tend to be perceived as more risk-averse than men when it comes to making investment decisions. So gender stereotypes exist in the investing world, just like everywhere else. Providing more comparative data that reflect on male and females' evolving roles in society, study behavioral finance and determining their behaviors and decisions is important. In the other side, women are key decision-makers and caregivers in their households. Over the past decades, there has been a significant increase in the number of women belonging to top executives teams. According to Bill, Iftekhhar, Jong, Qiang, (2015) corporate decisions made by female executives are significantly different from those made by male executives.

Everyone has to manage his or her personal finance in one way or another. Some people tend to save a lot than spending, some people like to collect information before each purchase, even the way of collecting information is different among people, some people like to follow their good feelings. Private investors are not homogeneous groups, they are individuals with different levels of experience, anxiety, and interest in financial matters.

Women as a part of market participants have a great role in finance and investment. Some past studies show that there are some differences between behavioral finance and investment among males and females investors. Accordingly, understanding and gain knowledge about these differences and female decision making is an important role in increasing market efficiency. Gender differences in finance and investment are expanding research area in behavioral finance. There are several studies that show males and females behave differently in many of their decisions making processes. Ricciardi and Simon (2000) explained that: “Behavioural finance attempts to explain and increase understanding of reasoning patterns of investors, including the emotional processes involved and the degree to which they influence the decision making process.”

According to new financial perspective when investors are under uncertain investment conditions they behave with certain biases. So identifying these biases is important to know the investor's different behaviors to avoid any mistake or error.

1.5. Research's Objects

Some researchers have found that males and females behave, trade and invest differently. Not only there is a difference in their trading patterns but it seems that males tend to trade more than women. Emotions and feeling are working when people make decisions about any matter, the same when they are making financial decisions related their investments. To minimize losses in investments, people have to avoid any kind of these psychological and emotional biases, therefore these biases should be identified, because the first step to avoid them is identifying them.

Behavioral finance is the study of psychology's influence on the behavior of financial participations and the subsequent effects on markets. Therefore identifying behavioral and psychological factors and biases that influence female and males' investment behaviors is the purpose of this research.

How do male and female investors make the process of decision-making? And what is the role of behavioral biases in their investment decisions? In this study, by focusing on these questions, male and females' behavioral finance and influence of effective factors on their behaviors and decisions making are described. And also there are some main research questions that were answered in this study which are mentioned in chapter. The main purpose of this study is to compare male and female stock investors in the case of psychological and behavioral biases impacts on their investment decisions.

CHAPTER II

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. Overview

Finance describes the management, creation, and study of money or finance is the act of providing funds for business activities. All business activities depend on finance field, whether the business is big or small.

The science of individuals' finance management is presented through rational and behavioral finance. The rational finance paradigm covers some theories that define the human being economic decisions, and the key assumption of all these theories is that the activities of all human being are rational and their main target is the maximization of profit. The expected utility theory that shows people tend to maximize their profits, portfolio theory that states investors have to make the decision to choose a combination of investments. To develop this theory Friedman expounded the permanent income theory, after this theory one of the important theories which was expounded in finance field is efficient market theory. In the 1980s the efficient market model began to be challenged and the excess volatility was one of the problems that make efficient market model troubled complete acceptance. In that time behavioral researchers and scholars began to use researches from psychology science to develop behavioral models of finance. They documented a range of decision-making behaviors which were called biases. They shown how these biases can affect in all kind of decision-making, and also have particular implication in relation to money and investment decisions.

This chapter's purpose is to have a review of the theoretical framework of finance field, different perspectives and theories of finance, and the main focus of this chapter is on behavioral finance and behavioral biases impact on individuals' investment decisions.

2.2. Traditional Finance (Standard Finance)

The main idea of traditional finance is rationality of investors. It means that in traditional finance market participants or investors are rational and always make rational decisions and choices.

According to Nofsinger (2005) in the past decades, the field of finance has evolved based on the following two main assumptions:

- Ø People make rational decisions.
- Ø People are unbiased in their predictions about the future.

According to Thaller (1990), traditional finance's main and basic tenet is rational behavior. It means that in this concept an individual is assumed to be rational in making decisions. He described that individuals in traditional finance are assumed to be rational in two ways: (i) the agents' decision-making confirms as an axiom of expected utility theory, (ii) the agents' decision-making does not have bias forecasting.

Nik Muhammad (2009, p.1) described that economic and standard finance theories assume investors behave rational in the subject of buying and selling stocks. And in the subject of expectation about future and also to determine the value of companies and the health of economy they use all available information to make decisions. Therefore, stock prices should reflect fundamental values and only change when there is unexpected news, it means the changes of stock prices depend on positive and negative news that is unexpected and maybe not available for all the investors. Accordingly, economists have concluded that financial markets are stable and efficient, stock prices follow a "random walk" and overall economy tends toward general equilibrium. But over the time, with the intervention of psychology in economics, economists were made to think and study about the role of psychology and behavior factors in the economy and found these factors are influenceable in investors' decisions and cause to have an error in their decisions and behave irrationally in the subject of making decisions. In another side even if information is available for all of the investors, there are different ways to analyze them because the same information can be analyzed differently by different people, and according to the analysis people can make different decisions. Therefore the rationality of investors' thinking and behaviors are rejected, and investors are accepted as human who can be influenced by different factors and follow irrational thinking and behaviors.

Traditional finance consists of several theories. The most important and main theories of traditional finance are Portfolio Theory, Market Efficiency Hypothesis, and Capital Asset Pricing Model. In efficient markets, information is always available for all of the market participants and they can use the same information and make decisions

according to their information, therefore when all of the participants have the same information they make rational decisions according to their information, and they can have a useful component of investment which is called portfolio. Fama who is one of the supporters of efficient market theory (1965) described financial markets explained how these markets are efficient. He explains that investors are rational and make rational decisions according to their information, in other side information is available for all investor. But the reality is that people might have different analyzing the same information, thus they might have a different reaction to the same information, and it can be a reason to get away from rational decisions.

2.3. Behavioral Finance

Behavioral finance argues that people are not rational and they make irrational decisions because psychological and emotional factors influence people's decision-making process.

Nik Muhammad (2009, p.1) indicated that: “ Investors' behavior is a part of academic discipline known as ‘behavioral finance’ which explain how emotions and cognitive errors influence investors and decision-making process.”

In fact, behavioral finance consists of studies that drop the traditional assumptions of expected utility maximization with rational investors in the efficient market.

In behavioral finance people are not rational, they are normal human being and they might make errors in their decisions, thus they can be irrational.

According to Nofsinger (2005, P.1), psychologists have known the traditional finance assumption (rational people and unbiased people in their predictions) are bad assumptions because people often act irrational and make predictable errors in their forecast. He explained that: “The finance field has been slow to accept the possibility that economic decisions could be predictably biased. Early proponents of behavioral finance often were considered heretics”. If investors let the psychological and behavioral biases control them can fail as investors because these biases make them away from the right and rational decisions. Therefore we can state that psychology is one of important matter which needs to be studied more and more in the field of finance and investors’ decision-making process. Because psychological factors influence

investors' decisions and could be reasons for irrational decisions and have errors in predictions.

Many people believe that the 2002 Nobel Prize in Economics awards to psychologist Daniel Kahneman and experimental economist Vernon Smith have vindicated the field.

Nofsinger (2005, p.2) explained the visual illusion as a mistake which is made by the brain. He explains visual illusion by using two horizontal lines, and states: “Which one of the horizontal lines look longer?”

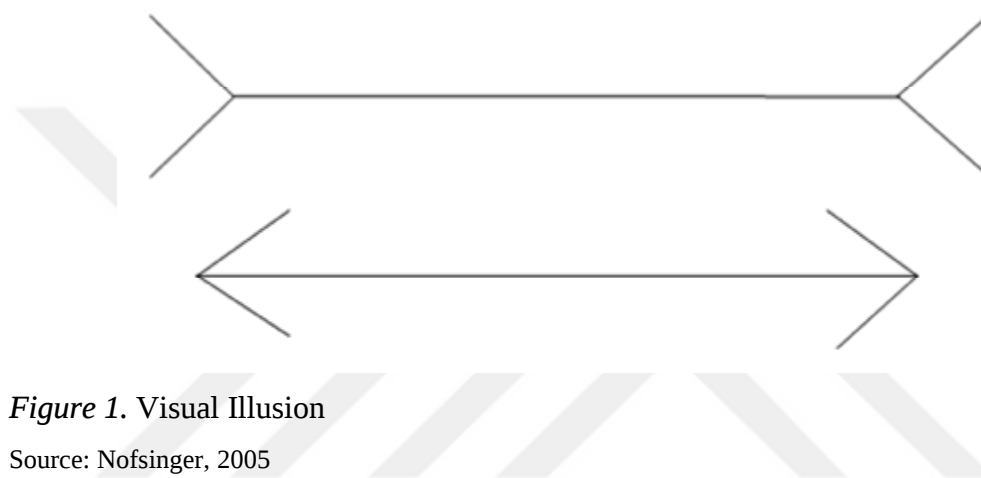


Figure 1. Visual Illusion

Source: Nofsinger, 2005

And he shown how people make mistake. Because both of the lines were the same line but the top bottom line looked like longer than the other one. And he describes that just knowing about illusion does not eliminate it, and knowing about this fact that it is just an allusion and the line are the same in long would help people to avoid a mistake if they had to make any decision is based on the lines. In continues, he describes that the brain does not work like a computer and it frequently process information through shortcuts and emotional filters. So the decisions that are made by people through this process would not be the same decisions that they make without these filters. These filters and shortcuts can be referred to as psychological biases. And the first step to avoid these biases is knowing them. According to his opinion brain processes information through shortcuts and emotional filters, and in this way, it might make mistake in information process. These filters and shortcuts could be psychological biases which identifying and knowing about these biases could help people to avoid them. Therefore, they should be studied and identified.

Ritter (2003) mentioned to cognitive psychology and the limit of arbitrage as the two building blocks of behavioral finance. Cognitive refers to how people think and limit arbitrage when the market is inefficient.

There is a huge psychology literature documenting that people make systematic errors in the way they think and their decision behavior like making decisions easier which in behavioral finance is called heuristics, overconfidence, more attention to recent experience (representativeness), tend to be slow to pick up the changes (conservative), escaping from taking risk (risk averse) and etc. Kahneman (1974) pointed out people exaggerate the element of skill and deny the role of chance in their decision-making process.

Social environment also has a great role in individuals' decisions, for example the first purchase of investors usually is based on their relatives or friends' recommendations and if the first purchase and decision be successful they will follow these recommendations and buy more and more, these following can lead them to the wrong and irrational decisions. Behavioral finance analyses the ways that people make financial decisions, and try to find the factors which influence these decisions in the wrong way. Behavioral finance seeks to understand and predicts systematic financial market implications of psychological decisions process. In addition, it focused on the application of psychological and economic principles for the improvement of financial decision-making.

There are several arguments about the foundation of behavioral finance, and the combination of it is indicated from a different point of view. Ricciardi and Simon (2000, p.2) argued about the foundation of behavioral finance and noted that behavioral finance is a combination of three fields which is, psychology, finance, and sociology.



Figure 2. Foundation of Behavior Finance

As seen from Shiller's work, investors will be less affected by markets fluctuation if they follow models of behavioral finance.

De Bondt (1998) noted the concept of noise traders who prone to judgment and decision-making errors and mistakes and states that behavioral finance models rely on this concept.

Over times, the empirical result has shown the incorporation of psychological factors and economic decision making. This psychology factor can help to explain the irrational behavior.

Faller(2000) addressed behavioral biases as the anomalous condition factors. He argued that it is documented by psychological and decision making scholars that in some circumstances investors do not try to maximize their wealth and also in other circumstances investors make dynamic mental mistakes. He explains that both of these cases are the result of behavioral finance and both of them can result in mispriced securities.

2.4. Traditional Finance versus Behavioral Finance

The main tenet of traditional finance is the rational behavior of market participants, and the main tenet of behavioral finance is the impact of different factors on investment decisions which result make mistakes and errors in decisions and accordingly irrational behavior of investors. Accordingly, we can state that this assumption is rejected in behavioral finance that market participants are always rational.

Finance is divided in a different school of thought from different point of view. It can be divided in two schools of thought which are traditional finance and new finance. According to Haugen (1999), there are three schools of thought in finance: old finance, modern finance, and new finance. This can be one of the classification that attract more attention and be studied more than other. The old finance school focuses on the analysis of financial statement nature of financial claims, modern finance focuses on asset pricing and the assumption of rational economic behavior and rational market participants, under this paradigm, the market is always efficient, and new finance which is called behavioral finance and deals with inefficient markets and in some part is in the opposite of modern finance by rejecting some of the modern finance assumptions.

Currently accepted theories in academic finance refer to as standard, modern or

traditional finance. The foundation of traditional finance is associated with the modern portfolio theory and the efficient market hypothesis.

According to John R. Nofsinger (2005), in traditional finance, this fact that one's personal psychology can be a determinant in making good investment decisions and effects on investors' decisions is dismissed. According to the assumptions of traditional finance, he describes that people act in their own best interests, the finance field has been able to create some powerful tools for investors. For example, traditional finance has created modern portfolio theory to obtain the highest expected return possible for any given level of risk. Or it has created the pricing models like capital asset pricing model, the arbitrage pricing theory and option pricing that can help value securities and provide insights into expected risk and returns. However, psychologists have known for a long time that these are not acceptable assumptions because people often act in a seemingly irrational manner and make predictable errors in their forecasts.

Ricciardi and Simon (2000) explained that behavioral finance rejects some assumption of traditional finance and emphasis on sociological and psychological factors affect on the decision-making process and he states that they can be the reasons for irrational decisions. Behavioral finance attempts to explain the reasoning pattern of investors including the emotional process involved and the degree to which they influence the decision-making process of investors.

There are abundant studies that show people are not rational in their decisions, and there are psychological factors that affect people's decision-making process. Behavioral finance is that school of thought in finance field that rejects the rationality of market participants in decision-making and describes the factors which case to irrational decisions.

According to Shiller (1999), people do not think and behave rationally. He stated, according to traditional finance investors are knowledgeable, rational and act smartly in financial markets, and they are not diverted by emotions and feelings, also they have perfect information, but in fact investors are misled by extremes of emotion, subjective thinking and the whims of crowd and it is identified in behavioral finance perspective.

The most important theories of traditional finance are expected utility hypothesis, portfolio theory, life cycle hypothesis, permanent income hypothesis and efficient market hypothesis. The most important and basic theories of behavioral

finance are cognitive theory and prospect theory. The following figure shows two basic paradigms in finance management:

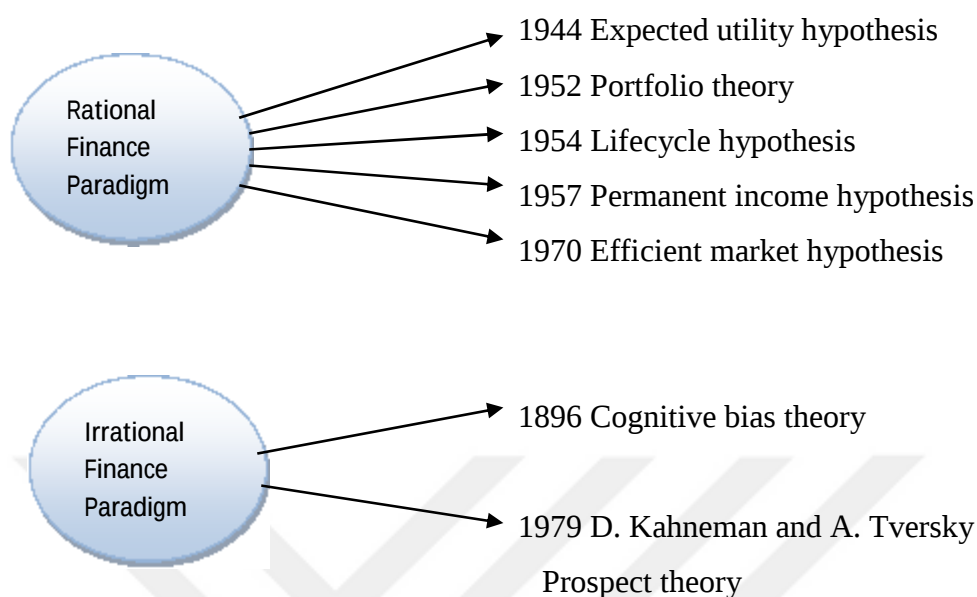


Figure 3. Two basic paradigm in finance management

Source: Jureviciene, Ivanova 2013, p. 54

2.5. Traditional Finance Theories

Traditional finance is formed from several theories like portfolio selection, capital structure, asset pricing, efficient market hypothesis, option pricing and etc...

The most important theories of traditional finance are portfolio theory, efficient market hypothesis, and capital asset pricing model. Here, there is a brief review of these three theories.

2.5.1. Efficiency Market Hypothesis (EMH)

Efficiency Market Theory is one of the biggest supporter bodies of traditional finance. In traditional finance a security's price is equal to its fundamental value because agents are rational and there is no friction, according to efficient market hypothesis actual prices reflect fundamental prices.

Fama (1971) introduced this theory, he classified the random walk of the information into three categories: weak form efficiency, semi-strong efficiency, and strong efficiency. He (1990) stated: “ In modern finance theory market efficiency is not

only determined by the information adjustment acceleration but also how the market fully reflected in all available information". An efficient market is introduced and defined as a market that there are a large number of market participants who are rational and their purpose is profit maximization and in this subject, they compete each other and try to predict the individual securities' future market values. In the other side the current information is available for free to all of these participants, therefore all of participants have the same chance to use the same information. According to this market security price is in its fundamental price and can be changed based on the unexpected news.

The efficient market hypothesis (EMH), has been one of important and most usable paradigm in finance field for over 40 years, on the other side, it has also been the most criticized theories among finance theories. As Fama in 1970 stated, an efficient market is the markets which security prices fully reflect all available information, and according to this hypothesis, real-world financial market are efficient. The theoretical foundation of EMH is based on three arguments: first, investors are rational and value securities rationally, second, in case some investors are irrational, their trades are random and cancel each other without affecting prices, and third, rational arbitrageurs eliminate the influence of irrational investors on market.

2.5.2. Portfolio Theory

As it has been mentioned before one of the most important theories of traditional finance is Portfolio Theory. This theory was stated by Markowitz in 1952. He argued that investors should have a combination of investment to decrease the risk and achieve the expected return. For this, he introduces portfolio theory, which helps investors to have a true and perfect combination of investments. He (1952) stated that: "An investor has to make a decision being in ignorance of which the alternative investment portfolios would give more income."

According to Markowitz, investors should consider to have a combination of investments that offer the highest expected return for a level of risk of in the opposite offers the lowest expected level of risk for a level of return. It can be dependent to the kind of investors in the matter of risk acceptance level. There are three important characteristics of each investment that should be considered by investors. Expected return and the level of risk are the first two parameters, the third parameter is a correlation of investments. According to this theory, an optimal combination of

investment is that one which makes the highest level of possible return for a level of risk or the least possible level of risk for the level of return. Investors are encouraged to make a combination of investments to reduce risk level and increase return.

2.5.3. Capital Asset Price Model

Capital Asset Pricing Model (CAPM) is a model that describes the relationship between systematic risk and expected return on assets. Also, it is used for the pricing of risky securities. The main idea behind CAPM is that investors need to be compensated in two ways; time value of money, and risk. This theory was stated by Willam Sharpe in 1964. Fama and French (2004, p.25) stated that: “The attraction of the CAPM is that it offers powerful and intuitively pleasing predictions about how to measure risk and the relation between expected return and risk.” Also according to them, the empirical record of this model is poor, so they stated that the empirical problems of this model may reflect the failure of theory. According to this model, every investor holds the market portfolio of risky assets in conjunction with a long or short position in the safe asset. In that situation if they want more risk than the market portfolio so they can borrow at the risk-free rate, on the other side if do not want more risk or if they want less risk, they can put some of their money into the market portfolio and put the rest of their money in more safe assets.

2.6. Behavioral Finance Theories

Several theories have been introduced to investigation the irrational behaviors of people in decision-making process. Here, in this research, two major theories in behavioral finance perspective, which are prospect theory and heuristics are described.

2.6.1. Prospect Theory

Prospect theory is with the idea of non-rational investors, who can make irrational decisions based on the influence of wrong factors. According to this theory psychology work when people want to make any decision and accordingly financial decisions because there are some biases that are motivated by psychological factors and can affect in people’s all kind of decisions. This theory shows how biased affect investors’ decision and state that the investors’ many behaviors are results of this theory.

Prospect theory was developed by Daniel Kahneman, a professor at Princeton University, Department of Psychology, and Amos Tversky in 1979 as a psychologically realistic alternative to expected utility theory. Daniel Kahneman being awarded the Nobel Prize for economic by developing this theory. In fact, Tversky and Kahneman showed how people manage risk and uncertainty, by developing this theory.

According to Kahneman (2003), the theory describes when there are several alternatives and people have to make one choice between the alternative, how they make a decision to choose one of them. The theory describes how people frame and value a decision involving uncertainty and therefore they look at choices in terms of potential gains or losses in relation to a specific reference point, which is often the purchase price.

Ricciardi and K. Simon (2000, p.5) described that: “Prospect theory consider preferences as a function of ‘decision weight’ and it assumes that these weights do not always match with probabilities.” They added prospect theory suggests that decision weights tend to overweight small probabilities and underweight moderate and high probabilities.

The most central and main element of the prospect theory is the S-shaped value function which is shown in the figure below:

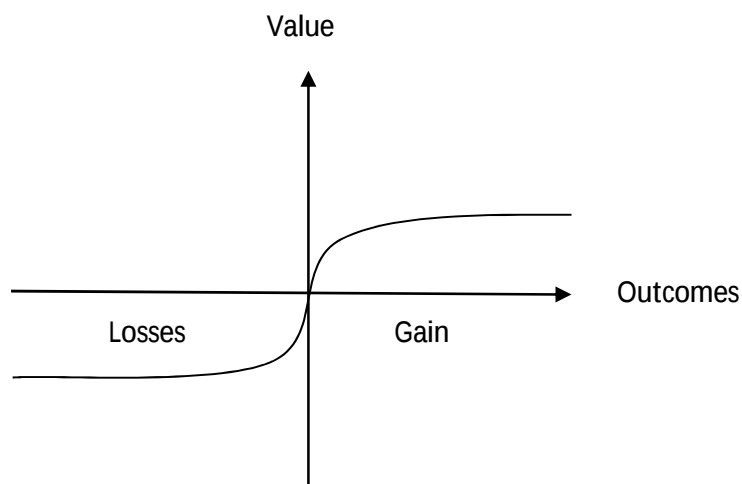


Figure 4. Prospect theory value function

Source: Kahneman and Tversky, 1979

Tversky and Kahnemmn (1981) argued that how framing affects the people’s decisions. Also, Nofsinger (2005) stated that: “This theory describes how people frame and value a decision involving uncertainty.”

He describes the value function in the figure and describes how people feel when they gain and when they lose. He explains that: "The function is concave for gains. Investors feel good when they make a \$500 gains. They feel better when they make a \$1,000 gain. However, they do not feel twice as good when they gain \$1,000 as when they gain \$500." Also, he states that: "An additional aspect of prospect theory is that people segregate each investment in order to track gains and losses and periodically re-examine positions. These separate accounts are referred to as mental accounting."

2.6.2. Heuristic Theory

Tversky and Kahneman (1974) identified the influence of human heuristics on their decision-making process. In fact, they are defined as the rules of thumb. Ritter (2003, p.431) explained that heuristic makes the decision making easy especially in the complex and uncertain environments.

Heuristics are rules of thumb, or mental shortcuts, the human brain uses to quickly solve complex problems. For example, a billiard player does not solve the trigonometric and differential equations needed to determine at what angle and speed to hit the cue ball in order to put another ball in the correct pocket. Rather, a billiard player uses rules of thumb and mental shortcuts that allow him to play the game, even though he may not understand the mathematics. Thus, heuristics are very useful, powerful problem-solving tools(Fuller, 2000, p.10).

2.7. Behavioral Biases Impact the Investors' Decision-Making Process

There are many behavioral biases which impact people decision-making process. There are different categories of these factors that are divided according to different critics. For example, they are divided to macro behavioral finance biases and micro behavioral finance biases, in another point of view they are divided by the source where they come from into cognitive biases and emotional biases, according to other classification there are two groups of biases which are psychological biases and sociological biases. Nofsinger (2005) argued about the sources of biases and mention to the three sources of biases which are, (i) self-deception which occurs because people tend to think they are better than they really are, (ii) heuristic simplification, and (iii) person's mood.

About hundreds of biases are identified until now. Here, in this paper, there is a brief introduction of the most important and influenceable factors. They are overconfident, pride and regret, endowment effect, cognitive dissonance, mental accounting, representativeness and familiarity, anchoring, gamblers' fallacy, availability, herding, over and under reaction, over-optimism, hindsight, self-attribution, the illusion of control, recency, framing, conservatism, and etc...

2.7.1. Overconfident Bias

Overconfident is one of the influenceable factors in people's decisions. Psychologists have determined that overconfidence causes that people overestimate their knowledge and abilities and underestimate risks.

Pompian(1963, p.54) explained that how overconfidence work and how to make an influence on the investors' decisions. He explains that overconfident investors overestimate their abilities and they can be blind to any negative information that might indicate a warning about their decisions. Overconfident investors make more investment and they can trade excessively because they have the believing of possessing special knowledge which others do not have. In the other side, excessive trading behavior has proven to lead to poor return over the time. Also, overconfident investors can suffer poor portfolio performance in the case of they either do not know, do not understand, or do not heed historical investment performance.

Thaler (2005, p.12) argued that people are overconfident in their judgment. This appears in two ways: First, the confidence intervals people assign to their estimate of quantities, and second, people are poorly calibrated when estimating probabilities.

Overconfident is the behavioral phenomenon where investors tend to overestimate their own capabilities and investors perceive themselves as skillful. According to Odean (1998) people rate their capabilities and their prospects higher than those of their peers. Ritter (2003, 431) described how people are overconfidence about their abilities. He explained that overconfidence appears in some ways.

People show overconfidence behavior toward different subjects. For example, people show this behavior in their knowledge level and people who show this, tend to think and behave that they know more than they actually know. Evidence shows that people are overconfident in their financial decisions like any other decisions, and their decision-making process is influenced by this factor.

According to Shefrin (2000), there are two main implications of investor overconfidence. The first is that investors take bad bets because they fail to realize that they are at an informational disadvantage. The second is that they made more investment, which leads to excessive trading volume. Accordingly, overconfidence is a behavioral bias and impactable factors which influence people decision-making process and could change the outcomes of this process and show how people have a better view of themselves than they really are.

2.7.2. Pride And Regret Bias

Pride and regret are the psychological factors that focus on keep the feeling of having a good decision and be away from the feeling of having bad decisions. Avoiding regret and seeking pride impacts people's behavior in making decisions and have a true judgment. They could affect people's decisions result in errors and mistake in making decisions.

Nofsinger(2005, p.22) explained that people avoid actions which can create regret for them and they seek the actions which create pride in them. He explains that regret is an emotional pain that people are faced when they realize that previous decisions turned out to be bad one and pride is the emotional joy that people faced when they realize that a decision turned out well. Also, he described how people may make an error in decisions when they follow pride or regret feelings.

Regret deals with people's emotional reaction to having made an error of judgment which results to have a wrong decision. The main root of this behavior of investors can be this fact that people hate accepting and admit their mistakes and wrong decisions. So, because they hate of accepting their mistake they try to not make any decision which may be a wrong one and they will feel regret for that.

2.7.3. Endowment Bias

Kahneman et al. (1991, p.93) explained that endowment effects indicate that people value what they own more than what they do not own, it means that they demand more money to give up an object that the money which would like to pay for that object to earn it, and this behaviour is due to people's lose aversion behaves.

People often demand much more to sell an object than they would be willing to pay to buy it. This is known as the endowment effect. A closely related behavior is people's tendency to keep what they have been given instead of exchanging it, known as status quo bias (Nofsinger, 2005, p.36)

Pompian(1963, p.143) explained that how endowment bias influence investors' decisions about investments. According to his explanations, this bias causes that investors hold securities that they purchased and already own. They show this behavior for some results, forexample they do not want to incur the transaction costs associated with selling the securities, however, this price can be a very small price.

2.7.4. Cognitive Dissonance Bias

Sometimes people would like to reject or do not attend to any information that shows them a negative image of themselves. Especial when this information takes a place on the opposite side of other information that shows people a positive image of them. People are presented with cognitive dissonance when there some evidence that shows their beliefs or decisions are wrong.

According to Nofsinger, the avoidance of cognitive dissonance can affect the decision-making process in two ways. First, it is possible that people fail to make important decisions and second, the filtering of new information limits the ability to evaluate and monitor our investment decisions. Also, he explains, to reduce cognitive dissonance, the investor's brain filter out or reduce the negative information and fixate on the positive information. So, the result is, investor's memory of past performance is better than the real and actual past performance. It means when people view themselves as good investors, according to that the memory of their past investment performance adapts to consist of their self-image.

Pompian (1963, p.88) explained the effects of this bias on investors' decisions. He explains that cognitive dissonance cases that investors hold losing securities position because they want t to avoid the mental pain of accepting that they made a bad decision. This bias also causes that investors continue to invest to the securities which they own now after it has gone down to confirm an earlier decision to invest in that security without judging the new investment with objectivity and rationality.

2.7.5. Mental Accounting Bias

Mental accounting is an economic concept that established by Thaler in 1980, and one of the impactable factors on people's decisions. According to this bias, people tend to divide their current and future assets into separate portions.

According to Nofsinger (2005) investors tend to place each one of their investments in a separate mental account, each investment will be treated separately. This process can affect their wealth in several ways.

Pompian (1963, p.174) argued about the ways that mental accounting bias influence people's decisions about the investment. According to his argument, this bias can cause investors to irrationally distinguish between returns derived from incomes and those derived from capital appreciation. This bias can cause investors to allocate assets differently when employer stock is involved.

2.7.6. Representativeness Bias

Representativeness bias is one of the influenceable factors in investors' decision. It works when investors make a judgment about the probability of an event that will happen in future, under uncertainty. This concept was proposed by Amos Tversky and Daniel Kahneman in 1970s.

Nofsinger also explained that people make representativeness errors in financial markets. He states: "Investors confuse a good company with a good investment."

Good companies are represented by firms that generate strong earnings, have high sales growth, and have quality management. Good investments are stocks that increase in price more than other stocks. Are the stocks of good companies, good investments? The answer might be no... (Nofsinger, 2005, p.65).

He explains people think that good companies make good investment always, but the fact is good companies do not make good investments always. People generally believe that the past performance of a company is representative of company's future. And according to this belief they ignore any information that does not fit this notion.

Good companies do not perform well forever just like bad companies that do not perform badly forever. And according to his statement, even finance professors may be

influenced by this bias. So people believe that the most recent past representative will happen in future.

Representative bias say that people think the past performance of a firm is the future performance of it so if a company was a successful company in the past time with the correct investment so it will be also successful in the future and with correct investment. Therefore they prefer to do investment in the companies which were successful and had good performance in the past time. In the same way, they think companies with bad performance in the past will repeat their bad performance in the future, so they avoid making an investment in companies with bad performance in past time. But this idea is not true because companies with bad performance in the past could show good performance in the future and also companies with good performance in the past may have bad performance in the future.

2.7.7. Anchoring Bias

Anchoring is one of the cognitive biases that occur in decision-making. This bias shows that people commonly tendency to rely on the first information which is offered to them in their decision making. Also, anchoring behavior describes that sometimes people rely on a specific information or value and adjust another element according to that value. Anchoring concept first was identified by the two psychologists Kahneman and Tversky in 1974.

This concept describes the human tendency to make an estimate and make decisions on a known reference point and then adjust it insufficiently to reach a final conclusion which is relative to this point. For example, if someone has to judge about other one's wealth, the anchor for his/her judgment may probably be his/her wealth level. Pompian (2006, p.75) stated that: "When required to estimate a value with unknown magnitude, people generally begin by envisioning some initial, default number- an 'anchor'- which they then adjust up or down to reflect subsequent information and analysis." He also explains that investors tend to make general market forecasts that are too close to current levels. Fuller (2000) explained that new information might not be processed rationally by the investors.

2.7.8. Gambles' Fallacy Bias

Gambles' fallacy is a mistaken belief that impact people's decisions. According to this belief if something or an event happens more frequently now, it will happen less frequently in the future or if this thing happens less frequently now, it will happen more frequently in the future.

Shefrin (2000, p. 254) explained that gambler's fallacy stems from two sorts of confusion. First, people have a very poor intuition about the behavior of random events. With gambler's fallacy, they expect reversals to occur more frequently than actually happens. The second source of confusion stems from the reliance on representativeness. It is very likely for most of the investors are subject to “gambler’s fallacy”. Some investors can assume that chance is self-correcting. Montier (2003, p. 4) mentions that year on year returns in financial markets are examples of a random process as tossing a coin.

2.7.9. Availability Bias

According to availability bias, people estimate the probability of an outcome or event based on prevalence or the frequency of that event. For example if people be asked to name some investment alternatives, most of the people may name the ones that have more advertisement, however, the others which do not have advertisement have can better performance but people by following this bias may overlook this fact.

Folks (1989) noted that: “In availability bias, a decision maker relies upon the knowledge that is readily available rather than examines other alternative and procedure.”

Availability bias is a mental shortcut that case, some immediate examples be used by people when they are evaluating any specific topic or decision. According to this bias, people tend to do their judgment base on recent information or the most recalled information.

Pompian(1963, p.99) noted the effects of this bias on investment decisions of investors. He explains how investors will choose investments based on information that is available to them and will not try to research to verify that the selected investment is a good one. Also, investors sometimes choose investments based on categorical lists that they have available in their memory. Therefore, other categories will not be easily recalled in their mind and will be ignored. Sometimes, investors choose some

investments which are fitted with the narrow range of their life experiences, such as the industry they work in, the region they live in, and the people they associated with.

2.7.10. Herding Bias

Herding behavior is doing something that others do. Sometimes others' decisions can impact our decisions, as we change our decision based on doing something after knowing that others do not do that. Behave like other is called herd.

Bikhchandani and Sharma (2000, p.3) in their paper explained this bias and stated that an individual can be said to do herd if he would have made an investment without knowing other investors' decisions, but when he find that other investors have decided to do not make that investment, also he does not make that. Alternatively, herds when the knowledge that others are investing in an investment which did not want to make on, from not investing in making the investment.

Hirshleifer et al. (1994) stated that: "Herding means an event where under certain conditions most of the investors only focus on a subset of securities formation, while overlooks other securities with identical exogenous characteristics."

2.7.11. Over and Under-reaction Bias

Research in experimental psychology suggests that overreaction occurs when people assign too much weight to present information or too little weight to the past information, and under reaction occurs when people assign too little weight to the present information and too much weight to the past information, and by doing this they might be unaware of some important information which impacts their decisions and subsequently outcome.

2.7.12. Over-optimism Bias

Over-optimism bias is an important element in the investment decision. The optimism bias is essentially a mistaken belief that our chances of experiencing negative events are lower and our chances of experiencing positive events are higher than those of our peers. This phenomenon was initially described by Weinstein in 1980.

Pompian(1963, p.167) noted that how optimism bias can affect the investors' decisions. He explains that optimism bias can cause that investors overload themselves with company stock because this bias can make them think that other companies are

more likely to experience downturns than their own. This bias causes that investors think they are above average investors, and it all happens because they are optimistic in general. Optimism bias can cause that investors prefer to invest near their geographic region because they may be optimistic about the prospect of their local geographic area.

2.7.13. Hindsight Bias

Hindsight bias also is known as 'knew it all along' is the tendency to see past events as having been more predictable at the time even if the evidence indicates contrary. Hindsight bias can be considered as a kind of memory distortion. Reconstructive nature of memory tends to reflect a common response to surprise, to avoid embarrassing feelings such as guilt or shame when unexpected various outcomes of a bad decision happen.

Roese and Vohs (2012, p. 413) clarified three aspects of hindsight bias as below: Hindsight bias embodies any combination of three aspects which are memory distortion, beliefs about events' objective likelihoods, or subjective beliefs about one's own prediction abilities.

For investors, the hindsight bias is dangerous in two manners. One of them it prevents learning from the past and truly reconstructing minds for future decisions. And the second one is to provide a basis for one of another most dangerous bias, overconfidence which can be thought falsely beliefs about exaggerated trading abilities. According to Pompian(1963, P.202), hindsight-biased investors tend to rewrite their own memories to portray the positive developments begin as they were predictable. Over time, this rationale can inspire excessive risk-taking, because hindsight-biased investors begin to believe that they have superior predictive powers, when, in fact, they do not have this power. Hindsight-biased investors can unduly fault their money manager when funds perform poorly.

2.7.14. Self-attribution Bias

When people pass something successfully they relate it to their talent, but when they fail in something they tend to relate it to the external factors. This behave is called self-attribution. For example, when students pass their exams successfully they relate it to their inherent talent, but when they cannot pass exams they complaining from the teachers. Attribution biases were discussed by Fritz Herider in the 1960s.

Attribution bias or attributional bias is a cognitive bias that refers to the systematic errors made when people evaluate or try to find reasons for their own and others' behaviors. People constantly make attributions regarding the cause of their own and others' behaviors; however, attributions do not always accurately mirror reality. Rather than operating as objective perceivers, people are prone to perceptual errors that lead to biased interpretations of their social world.

As Pompian (1963, P.107) explained, self-attribution investors after a period of successful investing believe that this success is related to their abilities more than other factors which are out of their control. Following this bias lead to taking on too much risk because the investors are too much confidence in their behavior. Also, this bias cause that investors trade too much than is prudent.

2.7.15. Illusion of Control Bias

The illusion of control bias states people think they are able to control a specific event or they can affect that event, but in reality, they can not do this. For example, investors think that they can control the outcomes of their investments. Studies show that investors tend to invest in the company that they think they can control.

Pompian(2006,111) described this bias as a tendency of people that believe that they can control the influences and outcome when they really can not do, he also noted the results of following this bias. The illusion of control bias can lead investors to trade more than is prudent because investors who follow this bias think that they have control over the outcomes of their investments than they actually have.

According to Thompson (1999, p.187), the illusion of control is the tendency of people that causes, people, overestimate their ability to control events.

Thompson (1999, p.187) stated that: "The illusion is more common in familiar situations, and in situations where the person knows the desired outcome." Also according to him (2004, p.116) the illusion of control is demonstrated by three converging lines of evidence: (i)laboratory experiments, (ii) observed behavior in familiar games of chance such as lotteries, and (iii) self-reports of real-world behavior.

2.7.16. Framing Bias

Framing bias notes the tendency of decisions makers to respond to various situations differently based on the context in which a choice is presented. In real life, people usually benefit from some flexibility in determining how to address the problems they face (Pompian, 2006, p.237).

Pompian(1963, p.243) shown that depending on how questions are asked, framing bias can cause investors to communicated responses to question about risk tolerance that is either unduly conservative or unduly aggressive. Also, the optimistic and pessimistic manner in which an investment or asset allocation recommendation is framed can affect people's willingness or lack of willingness to invest. Optimistically worded questions are more likely to garner affirmative responses, and pessimistically worded answer choices are more likely to be selected than pessimistically phrased alternatives. Also framing and loss aversion can work together to explain excessive risk aversion. An investor who has incurred a net loss becomes likelier to choose a riskier investment when a net gainer feels predisposed toward less risky alternatives.

2.7.17. Conservatism Bias

People would like to listen to the information that confirms their preconceptions or their prior information. Sometimes when people are faced with new information which is not according to their prior information they tend to be slow in new information acceptance. Conservatism is a mental process which impacts the investors' investment decisions.

Pompian (2006,119) explained conservatism can be on the opposite side of representativeness. Because according to representativeness bias, people focus and have a more attention about new information than their previous information, but in conservatism bias, people are slow in the acceptance of new information and they have more attention in their previous information. According to this bias people tend to be slow in accepting the changes because these changes might be in the conflict of their information.

Ritter (2003,432) noted people are more likely to be slow at taking action based on new information than rationally they should be. When they face new information they prefer to behave according to old information. One of the reasons that people show

this behavior can be the difficulties of new information process, so people tend to escape from this hard process and keep their previous information.

2.8. Neurofinance

According to Shalini Karla Shahi (2012, p.247), neurofinance is a part of neuroscience that explains how the brain works in decision making process, and how psychological biases influence in decision-making and choices and under what circumstances would it be possible for the human being to make rational decisions. He explains that according to neuroscience human brain is divided into three major parts which are forebrain, mid-brain, and hind-brain. The largest part of the brain is forebrain and consists of the cortex and limbic system. Cortex is associated with higher brain functions such as thought and action and is called the rational part of the brain. The limbic system is involved in the processing of the emotions and stores the memories and is called an emotional brain. He noted that: “The limbic system is the source of primitive motivations and emotions including fear and excitement.”

According to Cohen (2005, p.5), “Emotions are an automatic process associated with strong positive or negative utility”. Sahi (2012, p.247) stated that: “The why and how of financial decision-making behavior called for the study of the human brain, the processor of information, which forms the basis of all decision making”.

2.9. Behavioural Finance Micro versus Behavioral Finance Macro

Behavioral finance perspective can be studied in different levels. These levels are behavioral finance in micro level and behavioral finance in macro level.

Behavioral finance in micro level describes the behavior of individual investors and explain the factors that influence individual investors decisions and reject the rationality of their behaviors and decisions. Behavioral finance macro describes the markets and explains the anomalies in the efficient market.

Each of the two subjects of behavioral finance corresponds to a distinct set of issues within the standard finance versus behavioral finance discussion, with regard to BFMA, the debate asks: are markets efficient, or are they subject to behavioral effects? With regard to BFMI, the debate asks: are individual investors perfectly rational, or can cognitive and emotional errors impact their financial decisions?

2.10. Behavioral Finance and Gender

There are some studies that show some differences in investment behavior of males and females. Females are different in the decision-making process than male or maybe there are different factors which influence the decision-making process. Graham, Stendardi, Myers, and Graham (2002) studied gender differences in investment strategies.

Graham et al. (2002, p.17) stated that: “A study commissioned by a major brokerage firm found that gender is the third most powerful determinant of investment, after age and income.”

According to their study, there is the same information for male and female participants in the market but the information process way is a difference between these two groups. Women may process the same information different from how men process it. Therefore understanding and attention to this matter may help marketing exporters to provide different services to female and male investors.

Charness and Gneezy (2012), researched gender differences in risk-taking. They stated that: “Women make smaller investments in the risk asset than do men, and so appear to be financially more risk-averse.”

Jain and Mandot (2012) studied the impact of demographic factors on investment decision and as a result, they find that demographic factors like gender have no impact on investment decisions of investors. In the other side Kavita Chavali and M. Mohanraj (2016) studied the impact of demographic variable and risk tolerance on investment decisions and they find gender as a demographic variable impacts on investment patterns.

Beckmann and Menkhoff (2008) researched about the gender difference among financial experts and they find that manager women also are more risk averse and less overconfidence than manager men. They stated (p.381), “We find that fund managing women will be women in their profession: they are more risk averse and shy away from competition in the tournament.”

CHAPTER III

RESEARCH METHODOLOGY

3.1. Introduction

The general purpose of this study is to investigate behavioral biases and investors' decision-making process in the case of investment and compare the impact of these biases on male and female investors' investment decisions. Here, in this chapter the research design and details of research which were used to prove the hypothesis is described and some main subjects of study including research design, hypothesis and research questions, data collection and population, measurement, and data analyzing methods take place in this chapter.

3.2. Research Design

According to behavioral finance, investors do not always behave rationally because psychology has a great role in investors' behaviors and their decisions are influenced by several psychological factors that cause irrational decisions of investors. The research tries to identify these factors among male and female investors and influence their decision making and gain knowledge about the factors which make different impacts in females' decision-making process. Till now, several behavioral biases are identified by scholars. These biases are classified into different groups from different points of view. According to one of these classifications, there are two groups of biases, emotional biases, and cognitive biases. This study was designed according to this classification and tries to explain the impacts of these biases in investors' decision-making process. The dependent variables are emotional biases and cognitive biases, and independent variable is gender differences.

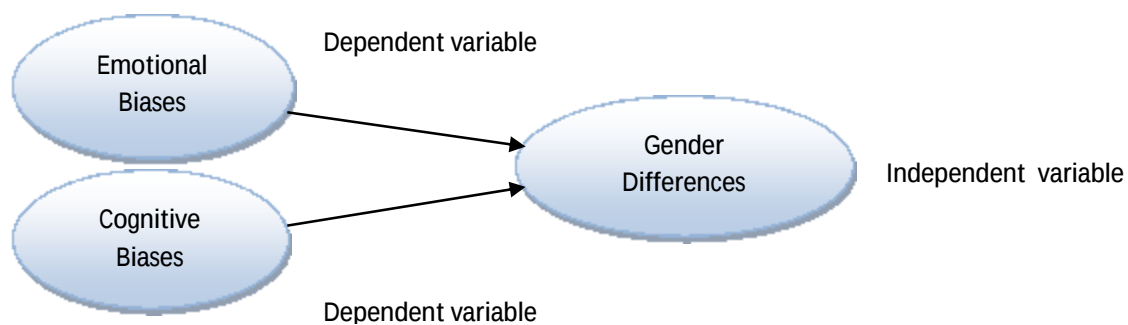


Figure 5. Research's Variables

This study tries to show how these biases affect investment decisions of individual investors, and to achieve this goal, 13 biases from emotional biases and cognitive biases were selected to be studied. The selected biases are as below:

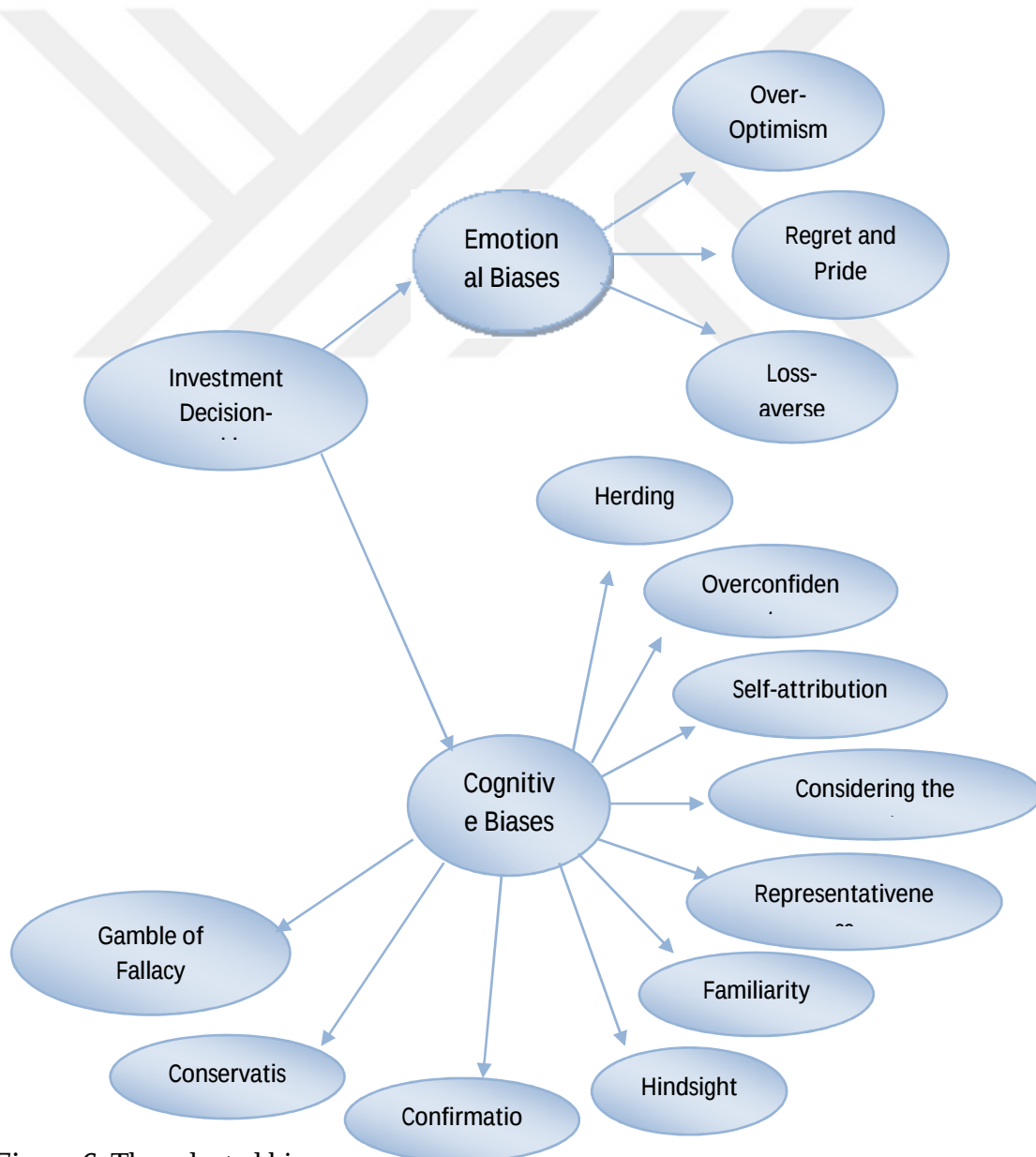


Figure 6. The selected biases

3.3. Hypothesizes and Research's Questions

Behavioral finance tries to understand investors' behavior in the case of investment decisions. The differences between traditional finance and behavioral finance is some assumptions of traditional finance, in the other side traditional finance explains how investors and market should behave however behavioral finance state how investors and markets behave in reality.

Behavioral finance is about understanding how people make decisions, both individually and collectively. By understanding how individuals and markets behave, it may be possible to modify or adapt to these behaviors in order to improve economic outcomes. In other words, the way investors think and feel influences the way they behave when making investment decisions. Some of these behaviors are unconsciously influenced by past experiences and personal beliefs to the extent that even intelligent investors can deviate from logic and reason.

Emotional and cognitive bias work when investors are making a decision about their investments. This study tries to show the effects of these biases in individual investors' decision-making process and outcomes of their decisions, and find the relationship between gender and effects of these biases if there are. The main hypothesizes of study are as below:

H₁: There is a relationship between over-optimism biases and gender in investment decision-making.

H₂: There is a relationship between regret and pride bias and gender in investment decision-making.

H₃: There is a relationship between loss-averse bias and gender in investment decision-making.

H₄: There is a relationship between herding bias and gender in investment decision-making.

H₅: There is a relationship between hindsight bias and gender in investment decision-making.

H₆: There is a relationship between overconfidence bias and gender in investment decision-making.

H₇: There is a relationship between self-attribution bias and gender in investment decision-making.

H₈: There is a relationship between representativeness bias and gender in investment decision-making.

H₉: There is a relationship between conservatism bias and gender in investment decision-making.

H₁₀: There is a relationship between gamble fallacy bias and gender in investment decision-making.

H₁₁: There is a relationship between familiarity bias and gender in investment decision-making.

H₁₂: There is a relationship between considering the past bias and gender in investment decision-making.

H₁₃: There is a relationship between confirmation bias and gender in investment decision-making.

And accordingly the research's questions are as bellow:

Is there any relationship between over-optimism biases and gender in investment decision-making?

Is there any relationship between regret and pride bias and gender in investment decision-making?

Is there any relationship between loss-averse bias and gender in investment decision-making?

Is there any relationship between herding bias and gender in investment decision-making?

Is there any relationship between hindsight bias and gender in investment decision-making?

Is there any relationship between overconfidence bias and gender in investment decision-making?

Is there any relationship between self-attribution bias and gender in investment decision-making?

Is there any relationship between representativeness bias and gender in investment decision-making?

Is there any relationship between conservatism bias and gender in investment decision-making?

Is there any relationship between gamble fallacy bias and gender in investment decision-making?

Is there any relationship between familiarity bias and gender in investment decision-making?

Is there any relationship between considering the past bias and gender in investment decision-making?

Is there any relationship between confirmation bias and gender in investment decision-making?

3.4. Data Collection and Population

Two kinds of data which are primary data and secondary source data were used in this study. The secondary data were collected from different resources like books, articles, thesises, that articles had a great role in collected secondary data. Primary data were collected from female individuals investors by questionnaire.

Population of this research was individual investors in stock market in Adana province, because of large population and difficulties of collecting data from all of the population, Cochran formula was used to determine sample size, according to this formula sample size should be at least equal to 384, where confident level is 95%, z-value for confident level of 95% is 1.96, P is the proportion of the population which has the attribute in question and is equal to 0.5. Questionnaires collected from 431 individual investors by internet and distribution, about 19 questionnaires were invalid and data were collected from 412 questionnaires and were analyzed by SPSS program.

3.5. Measurement and Questionnaires

Emotional biases and cognitive biases are the main part of this study. The first part of the questionnaire, there were demographic questions, and the second part there were questions to measure financial biases. These biases were assessed by 28 items which were five-likert questions. Emotional biases were measured by three dimensions which were over-optimism, loss averse, and regret and pride. Over-optimism bias was measured by 2 items, loss averse bias was measured by 4 items, pride and regret bias was measured by 3 items. And cognitive biases were measured by 10 dimensions which were herding, hindsight, overconfidence, self-attribution, representativeness, conservatism, gamble fallacy, familiarity, considering the past, and confirmation. Herding bias was measured by 2 items, hindsight bias was measured by 1 item, overconfidence bias was measured by 3 items, self-attribution bias was measured by 2

items, representativeness bias was measured by 2 items, conservatism bias was measured by 4 items, gamble fallacy bias was measured by 1 item, familiarity bias was measured by 2 items, considering the past was measured by 1 item, and confirmation bias was measured by 1 item. Participants were asked to read each statement and choose the suitable option from the five available options(strongly agree, agree, undecided, disagree, and strongly disagree) according to their participation in each statement.



CHAPTER IV

DATA ANALYSIS AND IMPLICATION

4.1. Introduction

The purpose of this study is investigating the behavioral biases impact on individuals' decision-making and the relationship between gender differences and behavioral biases in Turkey. Here, in this chapter, the findings of the research are analyzed. Collected data were analyzed by Statistical Package for Social Scientist (SPSS). The primary data which were collected by questionnaire divided into three section which were demographical and personal information, investors' financial profile, and behavioral biases. Descriptive statistics were used to analyzed demographical and personal information and financial profile information, and independence t-test was used to test the hypothesizes.

4.2. Demographical and Personal Information

The demographical and personal information about respondents were included 15 questions about the respondents' gender, age, marital status, education level, job status, the income type, residence place, the number of family member, the number of employee in family, average monthly income, family's average monthly income, monthly saving amount, home's investment decisions maker, and economic status. There are tables that show the statistic data about demographic and personal information. The table contains frequency, percent, valid percent and cumulative percent.

4.2.1. Gender of Respondents

The distribution of respondents by gender is shown in table 1. The table shows that 66.7% (270) of respondents are male and 33.3%(135) of them are female.

Table 1.

Gender of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	270	66,7	66,7	66,7
	Female	135	33,3	33,3	100,0
	Total	405	100,0	100,0	

4.2.2. Age of Respondents

To measure the age of respondents age groups were classified into 6 groups which are shown in table 2. The table shows that the valid responses to this question are 100%(405). From 405 respondents 3.7%(15) of them are 22 and below years old, 28.1%(114) are between 23 and 32 years old, 32.3%(131) are between 33 and 42, 19.0%(77) are between 43 and 52, 11.6%(47) are between 53 and 62, 5.2%(21) are 63 and more than 63 years old. The biggest percent(32.3%) of respondents belong to the 33-42 years old group.

Table 2.

Age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	22 and below	15	3,7	3,7	3,7
	23-32	114	28,1	28,1	31,9
	33-42	131	32,3	32,3	64,2
	43-52	77	19,0	19,0	83,2
	53-62	47	11,6	11,6	94,8
	63 and more	21	5,2	5,2	100,0
Total		405	100,0	100,0	

4.2.3. Marital Status

The marital status of respondents is shown in table 3. As is shown in the table, the valid responses to this question are 100%(405). From 405 respondents 55.8%(226) of them are married and 44.2%(179) of them are single.

Table 3.

Marital Status of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	226	55,8	55,8	55,8
	Single	179	44,2	44,2	100,0
	Total	405	100,0	100,0	

4.2.4. Respondents' Education Level

There were four options to determine the education level which are shown in table 4. The table shows the valid responses are 100%(405). As the table shows 45.9%(186) of respondents' education level is high school and under, 43.5%(176) of them have bachelor, 8.1%(33) have master degree and 2.5%(10) have Ph.D. degree.

Table 4.

Respondents' Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highschool and bellow	186	45,9	45,9	45,9
	Bachelor	176	43,5	43,5	89,4
	Master	33	8,1	8,1	97,5
	Ph.D	10	2,5	2,5	100,0
	Total	405	100,0	100,0	

4.2.5. Respondents' Job Groups

The job groups of respondents are shown in table 5. There is a 9-option question to determine job groups and is shown in table 4.5. As table shows, the valid are 100%(405). From 405 respondents 12.3%(50) of them are state officer, 42.5%(172) are private sector employee, 4.7%(19) are worker, 27.9%(113) have own business, 7.4%(30) are retired, 0.5%(2) are farmer, 2.5%(10) are housewife, 1.2%(5) are jobless and 1.0%(4) of them belong to other job groups.

Table 5.

Respondents' Job Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	State officere	50	12,3	12,3	12,3
	Private sector employee	172	42,5	42,5	54,8
	Worker	19	4,7	4,7	59,5
	Own business	113	27,9	27,9	87,4
	Retired	30	7,4	7,4	94,8
	Farmer	2	,5	,5	95,3
	Housewife	10	2,5	2,5	97,8
	Jobless	5	1,2	1,2	99,0
	Other	4	1,0	1,0	100,0
	Total	405	100,0	100,0	

4.2.6. Respondents' Type of Income

The respondents' income type is shown in table 6. The table shows valid responses to this question are 100%(405). From 405 respondents, 81.2%(329) of them have a regular income, 16.5%(67) of them have irregular income whereas 2.2%(9) of them do not have income.

Table 6.

Respondents' Type of Income

		Frequenc y	Percent	Valid Percent	Cumulative Percent
Valid	I have regular income	329	81,2	81,2	81,2
	I have irregular income	67	16,5	16,5	97,8
	I do not have income	9	2,2	2,2	100,0
	Total	405	100,0	100,0	

4.2.7. The Average of Monthly Income

The average of respondents' monthly income is shown in table 7. As it is shown in the table, the valid responses are 100%(405). From 405 respondents the average of monthly income for 3.5%(14) of them is between 0 and 1500, for 37.3%(151) of them

is between 1501 and 3000, for 24.9%(101) of them is between 3001 and 4500, for 16.8%(68) of them is between 4501 and 6000, and for 17.5%(71) of them is 6001 and more.

Table 7.

The Average of Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-1500	14	3,5	3,5	3,5
	1501-3000	151	37,3	37,3	40,7
	3001-4500	101	24,9	24,9	65,7
	4501-6000	68	16,8	16,8	82,5
	6001 and more	71	17,5	17,5	100,0
	Total	405	100,0	100,0	

4.2.8. The Average of Family Monthly Income

The respondents' average monthly income of the family is shown in table 8. The table shows valid responses are 100%(405). From 410 respondents the average of family monthly income for 4.9%(20) of them is between 1 and 1500, for 18.3%(74) of them is between 1501 and 3000, for 25.7%(104) of them is 3001 and 4500, for 24.4%(99) of them is between 4501 and 6000, for 8.4%(34) of them is between 6001 and 7500, for 5.4%(22) of them is between 7501 and 9000, for 12.8%(52) of them is between 9001 and 10501, and for 4.9%(20) of them is 10501 and more.

Table 8.

The Average of Family Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-1500	20	4,9	4,9	4,9
	1501-3000	74	18,3	18,3	23,2
	3001-4500	104	25,7	25,7	48,9
	4501-6000	99	24,4	24,4	73,3
	6001-7500	34	8,4	8,4	81,7
	7501-9000	22	5,4	5,4	87,2
	9001-10500	52	12,8	12,8	100,0
	10501 and more	20	4,9	4,9	4,9
	Total	405	100,0	100,0	

4.2.9. Respondents' Saving Amount

The respondents saving amount is shown in table 9. As the table shows 62.7%(254) of respondents are able to save money and 37.3%(151) of respondents are not able to save money. The valid responses for the saving amount are 100%(254). From 254 respondents the saving amount of the respondents who are able to save money for 4.7%(12) of them is between 1 and 250, for 22.4%(57) of them is between 251 and 500, for 19.3%(49) of them is between 501 and 750, for 18.9%(48) of them is between 751 and 1000, and for 34.6%(88) of them is 1001 and more.

Table 9.

Respondents' Saving Amount

Saving			Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Valid	1-250	12	4,7	4,7	4,7
		251-500	57	22,4	22,4	27,2
		501-750	49	19,3	19,3	46,5
		751-1000	48	18,9	18,9	65,4
		1001 and more	88	34,6	34,6	100,0
		Total	254	100,0	100,0	
No	Missing	System	151	100,0		

4.2.10. Economic Status of Respondents

The economic status of respondents is shown in table 10. As the table shows the valid responses are 100%(405). From 405 respondents, the economic status for 23.7%(96) is not satisfactory, for 40.0%(162) is not satisfactory, not unsatisfactory, for 36.3%(147) of them is satisfactory.

Table 10.

Economic Status of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Not satisfactory	96	23,7	23,7	23,7
Nighter satisfactory nor not	162	40,0	40,0	63,7
Satisfactory	147	36,3	36,3	100,0
Total	405	100,0	100,0	

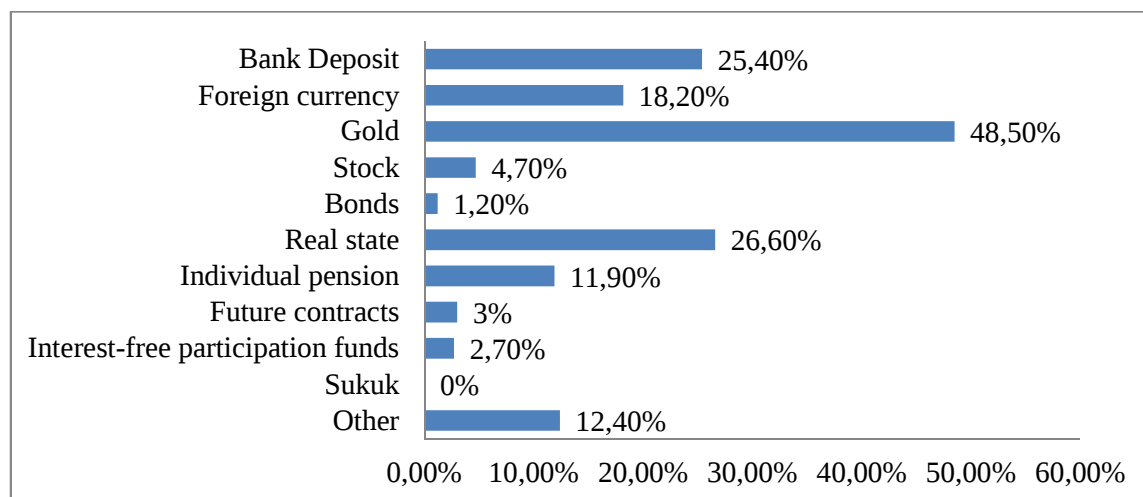
4.3. Respondents' Financial Profiles

The information about respondents' financial profiles was collected by 11 questions.

4.3.1. The Preferences of Investment Assets

The investment assets are preferred by respondents is shown in chart 1. According to findings are shown in the chart, the most preferred investment instrument is gold with 48,50% preferencement percent, real estate with 26,6%, bank deposit with 25,40%, foreign currency with 18,20%, other option with 12,40%, individual pension with 11,90%, stock with 4,70%, future contracts with 3%, interest-free participation funds 2,70% bonds with 1,20% and sukuk with 0% were respondents' investment asset prefers.

Chart 1.

Respondents' Investment Assets Prefers

4.3.2. The Financial Assets With the Highest Return in Long Time Periods

The financial assets with the highest return in long time periods are shown in table 11. Respondents were asked about what asset normally gives the highest return when it is considered that an investment has been made for a long period of time (eg 10 to 20 years). The table shows the valid responses are 94.6%(383) and the missed responses are 5.4%(22). Out of 383 respondents 7.6%(29) of them have selected Bank deposit, 2.9%(11) have selected bonds, 9.9%(38) have selected stock, 52.0%(199) have selected real estate, 23.2%(89) have selected gold, 2.9%(11) have selected the option “I do not know”, and 1.6%(6) have selected the “other” option.

Table 11.

The Financial Assets With the Highest Return in Long Time Periods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bank deposit	29	7,2	7,6	7,6
	Bonds	11	2,7	2,9	10,4
	Stock	38	9,4	9,9	20,4
	Real state	199	49,1	52,0	72,3
	Gold	89	22,0	23,2	95,6
	I do not know	11	2,7	2,9	98,4
	Other	6	1,5	1,6	100,0
	Total	383	94,6	100,0	
Missing	System	22	5,4		
	Total	405	100,0		

4.3.3. Respondents Financial and Investment Knowledge

Table 12 shows that how respondents' descrip of themselves as investors. The table shows that the valid responses are 100%(405). As the table shows from of 405 respondents, 6.4%(26) of them are finance or banking professional, 15.8%(64) of them are individual investors receiving professional help, and 77.8%(315) of them are individual investors without receiving professional help.

Table 12.

Respondents Financial and Investment Knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Finance or banking professional	26	6,4	6,4	6,4
	Individual investor receiving professional help	64	15,8	15,8	22,2
	Individual investor without receiving professional help	315	77,8	77,8	100,0
	Total	405	100,0	100,0	

4.3.4. The Respondents' Portfolio Size

The portfolio size of respondents is shown in table 13. The table shows the valid responses to the question “Do you create a portfolio from your investments? (Do you invest in more than one investment tools)” are 100%(405). From 405 respondents, 37.5%(152) of them make a portfolio and 62.5%(253) of them do not make a portfolio. Out of 152 respondents that make portfolio 59.9%(91) of them have portfolio contain 2 assets, 27.0%(41) of them have portfolio contains 3 assets, 5.3%(8) of them have portfolio contains 4 assets, and 7.9%(12) of them have portfolio contains 5 and more assets.

Table 13.

The Respondents' Portfolio Size

Portfolio			Frequency	Percent	Valid Percent	Cumulative Percent
Yes	Valid	2	91	59,9	59,9	59,9
		3	41	27,0	27,0	86,8
		4	8	5,3	5,3	92,1
		5 and more	12	7,9	7,9	100,0
		Total	152	100,0	100,0	
No	Missing	System	253	100,0		

4.3.5. Following the Profit/Loss Situation in Investments

Table 14 shows that how often the respondents follow their profit and loss situation in their investment. As table shows, the valid responses are 100%(405). From 405 respondents, 3.7%(15) of them do not follow the profit and loss situation, 62.0%(251) of them follow daily, 21.0%(85) of them follow weekly, 11.47%(103) of them follow monthly, and 1.7%(7) of them follow yearly.

Table 14.

Following the Profit/Loss Situation in Investments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I do not follow	15	3,7	3,7	3,7
	Daily	251	62,0	62,0	65,7
	Weekly	85	21,0	21,0	86,7
	Monthly	47	11,6	11,6	98,3
	Yearly	7	1,7	1,7	100,0
	Total	405	100,0	100,0	

4.3.6. Following the Financial Market Development

Table 15 shows how often the respondents follow the financial market' development. The table shows the valid responses are 100%(405),. From 405 response, 3.7%(15) of them do not follow the financial market development, 66.9%(271) of them follow daily, 22.5%(91) of them follow weekly, 6.4%(26) follow monthly, and 0.5%(2) follows the development of financial market yearly.

Table 15.

Following the Financial Market Development

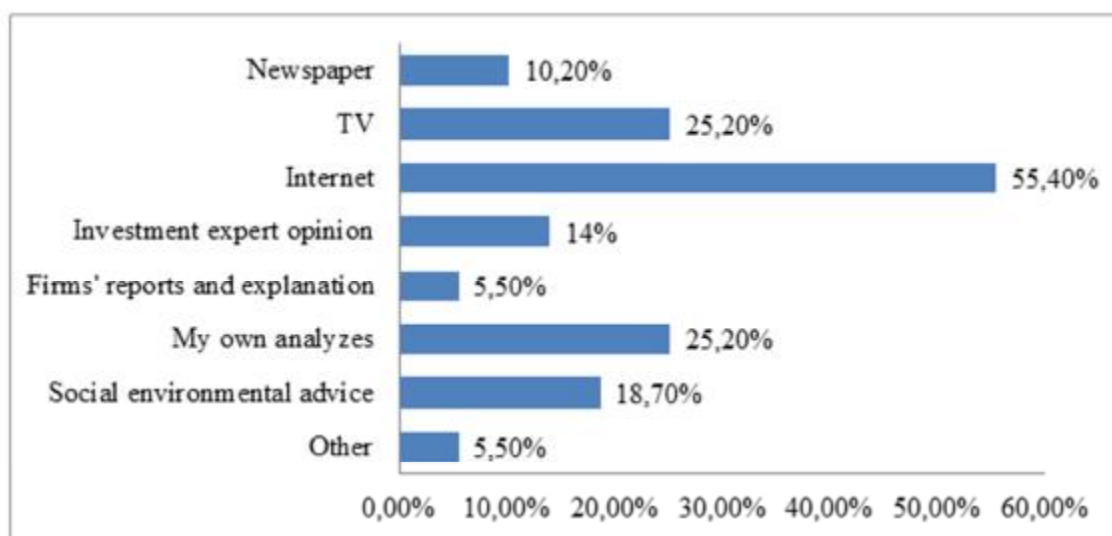
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I do not follow	15	3,7	3,7	3,7
	Daily	271	66,9	66,9	70,6
	Weekly	91	22,5	22,5	93,1
	Monthly	26	6,4	6,4	99,5
	Yearly	2	,5	,5	100,0
	Total	405	100,0	100,0	

4.3.7. Information Resources

The information resources that respondents use when they want to make investment decisions is shown in chart 2. As the chart shows the percentage of using newspaper among respondents is 10,20%, TV is 25,20%, internet is 55,40%, investment expert opinion is 14%, company's reports and explanation is 5,4%, their own analyses is 25, 20%, social environment advances is 18,70% and other resources is 5,50%.

Chart 2.

Information Resources



4.3.8. Respondents' Expectation of Making a New Investment Decision

Respondents' most basic expectation when making a new investment decision is shown in table 4.20. The table shows the valid responses are 97,3%(401) and the missed responses are 2,7%(11). From 401 respondents, 33,7%(135) of them indicated to high return as the biggest expectations in investments, whereas 16,7%(67) of them indicated capital maintenance, 40,4%(162) of them indicated to perpetual annuity, 3,2%(13) of them indicated to reduction of portfolio risk, and 6,0%(24) indicated to "other" option.

4.3.9. The Most Important Factor for High Return in Investment

Table 16 shows the options that are required for the high return on investments. As the table shows the valid responses are 100%(405). From 405 respondents, 11.6%(47) of them indicated to information as the most important factor to receive high return on investments, 25.2%(102) of them indicated to experience, 31.6%(128) of them

indicated risk-taking, 28.4%(115) of them select walk on eggshells (act cautiously) option, and 3.2%(13) of them indicate to chance.

Table 16.

The Most Important Factor for High Return in Investment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Information	47	11,6	11,6	11,6
	Experience	102	25,2	25,2	36,8
	Risk taking	128	31,6	31,6	68,4
	Act cautiously	115	28,4	28,4	96,8
	Chance	13	3,2	3,2	100,0
Total		405	100,0	100,0	

4.3.10. Respondents' Comparison of Themselves with Other Investors

Table 17 shows that how respondents find themselves in investment decisions than other investors. As the table shows the valid responses are 100%(405). From 405 respondents 15.8%(64) of them asserted they are better than average, 77.5%(314) of them asserted they are at average level, 3.2%(13) of them asserted they are worse than average, and 3.5%(14) of them did not have any idea.

Table 17.

Respondents' Comparison of Themselves with Other Investors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I am better than average	64	15,8	15,8	15,8
	Average level	314	77,5	77,5	93,3
	I am worse than average	13	3,2	3,2	96,5
	No idea	14	3,5	3,5	100,0
	Total	405	100,0	100,0	

4.4. Behavioral Finance Factors Influence Investment Decisions

Behavioral finance factors influence individual investment decisions were divided into two groups which were emotional biases and cognitive biases. Emotional

biases were measured by 3 dimensions and the cognitive biases were measured by 10 dimensions. Each dimension was measured by one or more 5likert questions and respondents were asked to indicate the degree of their agreement to the statements.

Table 18.

Behavioral Finance Factors Influence Investment Decisions

Behavioral Finance	Mesurement	Question
Emotional Biases	Over-optimism	Q25,Q26
	Regret and Pride	Q16,Q22,Q23
	Loss Aversion	Q4,Q5,Q6, Q17
Cognitive Biases	Herding	Q7,Q13
	Hindsight	Q2
	Overconfidence	Q8,Q15,Q18
	Self-attribution	Q1,Q28
	Representativeness	Q3,Q9
	Conservatism	Q10,Q19,Q20,Q21
	Gamble Fallacy	Q11
	Familiarity	Q12,Q14
	Considering the Past	Q24
	Confirmation	Q27

4.4.1. Emotional Biases

Emotional biases are the biases come from individuals emotion and feeling sources and influence their investments decisions. Three dimensions of emotional biases were selected to measure, which are over-optimism bias, regret and pride bias, and loss averse bias. This dimensions were measured by 9 five-likert questions.

4.4.1.1. Over-Optimism Bias

Over-optimism bias influence individual investors' decisions in several ways. Two statements were designed to measures over-optimism influences on decisions. Respondents were asked to indicate the degree of their agreement to the statements. The first statement was “I think the economic growth that will take place in the local and international markets in the coming period will be positive.” As it is shown in table 19 the valid responses to this question are 100%(405). From 405 respondents, 13.6%(55) of them strongly agreed, 40.2%(163) agreed, 30.9%(125) were undecided, 12.1%(49) disagreed, and 13.2%(13) strongly disagreed. As is shown about 53.8%(218) of

respondents agree to the statement whereas 30.9%(125) were undecided, 15.3%(62) disagreed.

Table 19.

Over-Optimism 1: I think the economic growth that will take place in the local and international markets in the coming period will be positive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	55	13,6	13,6	13,6
	Agree	163	40,2	40,2	53,8
	Undecided	125	30,9	30,9	84,7
	Disagree	49	12,1	12,1	96,8
	Strongly disagree	13	3,2	3,2	100,0
	Total	405	100,0	100,0	

The second statement of over-optimism was “I have a strong expectation that my financial investment instruments will gain in the next period”. As is shown in table 20 the valid responses are 100%(405) . From 405 respondents 24.2%(98) of them strongly agreed, 44.7%(181) agreed, 19.8%(80) were undecided, 7.4%(30) disagreed, and 4.0%(16) of them strongly disagreed. The data show that 68.9%(279) of respondents agreed and 19.8%(80) of them were undecided when 11.4%(46) of them disagreed.

Table 20.

Over-optimism 2: I have a strong expectation that my financial investment instruments will gain in the next period

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	98	24,2	24,2	24,2
	Agree	181	44,7	44,7	68,9
	Undecided	80	19,8	19,8	88,6
	Disagree	30	7,4	7,4	96,0
	Strongly disagree	16	4,0	4,0	100,0
	Total	405	100,0	100,0	

4.4.1.2. Regret and Pride Bias

Three statements were selected to measure regret and pride bias. The first statement was “In investing subject, not losing value is more important than its gain/return.” Table 21 shows that the valid responses are 100%(405). From 405 responds 41.5%(168) of them strongly agreed to the statement, 34.3%(139) agreed, 11.9%(48) were undecided, 10.4%(42) disagreed, and 2,0%(8) strongly disagreed. Data show about 75.8%(307) agreed when 12.4%(50) disagreed.

Table 21.

Regret and Pride 1: In investing subject, not losing value is more important than its gain/return.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	168	41,5	41,5	41,5
	Agree	139	34,3	34,3	75,8
	Undecided	48	11,9	11,9	87,7
	Disagree	42	10,4	10,4	98,0
	Strongly disagree	8	2,0	2,0	100,0
Total		405	100,0	100,0	

The second statement of regret and pride bias was “If I have losse from investment instruments, I sell that instrument as soon as possible.” Table 22 shows the valid responses are 99.8%(404) and the missed responses are 0.2%(1). From 404respondents 12.1%(49) of them strongly agreed, 24.8%(100) agreed, 17.3%(70) were undecided, 30.9%(125) disagreed, and 14.8%(60) strongly disagreed. Data show about 36.9%(149) of respondents agreed and about 45.8%(185) disagreed

Table 22.

Regret and Pride 2: If I have lossed from my investment instrument, I sell that instrument as soon as possible.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	49	12,1	12,1	12,1
	Agree	100	24,7	24,8	36,9
	Undecided	70	17,3	17,3	54,2
	Disagree	125	30,9	30,9	85,1
	Strongly disagree	60	14,8	14,9	100,0
	Total	404	99,8	100,0	
Missing	System	1	,2		
Total		405	100,0		

And the third statement about regret and pride bias was “When I realize the market is going down, I completely deduct/sell the investment instruments.” Table 23 shows the valid responses are 100%(405). From 405 respondents, 11,6%(47) of them strongly agreed, 23,0%(93) agreed, 18,0%(73) were undecided, 28,4%(115) disagreed, and 19,0%(77) strongly disagreed. Data show about 34,6%(140) of respondents agreed when 47,4%(192) of them disagreed.

Table 23.

Regret and Pride: When I realize the market is going down, I completely deduct/sell the investment tool.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	47	11,6	11,6	11,6
	Agree	93	23,0	23,0	34,6
	Undecided	73	18,0	18,0	52,6
	Disagree	115	28,4	28,4	81,0
	Strongly disagree	77	19,0	19,0	100,0
	Total	405	100,0	100,0	

4.4.1.3. Loss Averse Bias

The loss averse bias was measured by 4 statements. The first statement was “If I have a portfolio of two financial instruments, A and B, I would sell a B product that lost 15% instead of A, which earn 15% of those instruments with the same cost when I needed immediate cash.” Table 24 shows the valid responses are 100%(405). From 405 respondents 16.3%(66) of them strongly agreed, 28.9%(117) agreed, 26.2%(106) were undecided, 16.5%(67) disagreed, and 12.1%(49) strongly disagreed. Data show 45.2%(183) of respondents disagreed when 28.6%(116) of them agreed.

Table 24.

Loss Averse1: If I have a portfolio of two financial instruments, A and B, I would sell a B product that lost 15% instead of A, which earn 15% of those instruments with the same cost when I needed immediate cash.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	66	16,3	16,3	16,3
	Agree	117	28,9	28,9	45,2
	Undecided	106	26,2	26,2	71,4
	Disagree	67	16,5	16,5	87,9
	Strongly disagree	49	12,1	12,1	100,0
	Total	405	100,0	100,0	

The second statement of loss averse bias was “I prefer low risk / low return investment instruments more than high risk / high return investment instruments.”

Table 25 shows the valid responses are 100%(405). From 405 respondents 35.1%(142) of them strongly agreed, 25.2%(102) agreed, 11.6%(47) were undecided, 21.7%(88) disagreed, and 6.4%(26) strongly disagreed. Data show 60.2%(244) of respondents agreed when 28.1%(114) of them disagreed.

Table 25.

Loss Aversion 2: I prefer low risk / low return investment instruments more than high risk / high return investment instruments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	142	35,1	35,1	35,1
	Agree	102	25,2	25,2	60,2
	Undecided	47	11,6	11,6	71,9
	Disagree	88	21,7	21,7	93,6
	Strongly disagree	26	6,4	6,4	100,0
	Total	405	100,0	100,0	

The third statements about loss averse was “Low risk is the most fundamental factor I consider when I choose an investment instrument.” Table 26 shows the valid responses are 100%(405). As is shown in the table from 405 respondents 39.0%(158) of them strongly agreed, 17.3%(70) agreed, 11.4%(46) were undecided, 26.7%(108) disagreed, and 5.7%(23) strongly disagreed. Data show about 56.3%(228) of respondents agreed and about 32.4%(131) of them disagreed.

Table 26.

Loss Aversion 3: Low risk is the most fundamental factor I consider when I choose an investment instrument.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	158	39,0	39,0	39,0
	Agree	70	17,3	17,3	56,3
	Undecided	46	11,4	11,4	67,7
	Disagree	108	26,7	26,7	94,3
	Strongly disagree	23	5,7	5,7	100,0
	Total	405	100,0	100,0	

And the fourth statement about loss averse was “The sadness I feel in my investments when I lose is more effective than the joy I feel when I win.” Table 27 shows the valid responded are 100%(405). The table shows from 405 respondents

21.5%(87) of them strongly agreed, 25.2%(102) agreed, 14.8%(60) were undecided, 18.5%(75) disagreed, and 20.0%(81) strongly disagreed. Data show about 46.7%(189) of respondent agreed to the statement when 38.5%(156) of them disagreed.

Table 27.

Loss Aversion 4: The sadness I feel in my investments when I lose is more effective than the joy I feel when I win.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	87	21,5	21,5	21,5
	Agree	102	25,2	25,2	46,7
	Undecided	60	14,8	14,8	61,5
	Disagree	75	18,5	18,5	80,0
	Strongly disagree	81	20,0	20,0	100,0
	Total	405	100,0	100,0	

4.4.2. Cognitive Biases

There are several cognitive biases that influence decision- making process. Here, in this study 10 factors of cognitive biases were selected to study thier impacts on individuals' decision-making.

4.4.2.1. Herding Bias

Herding bias is the behavior of following other. Individual investors show this behavior when they make an investment decision by following other investors' investment decision. To measure herding bias 2 statements were selected. The first statement was "The investment decisions of people I communicate with, are influential on my investment decisions." Table 28 shows the valid responses are 100%(405). From 405 respondents about 24.0%(97) of them strongly agreed to the statement, 42.5%(172) agreed, 19.3%(78) were undecided, 10.9%(44) disagreed, and 3.5%(14) disagreed. Data show about 66.4%(269) of respondents agreed when 14.4%(58) of them disagreed.

Table 28.

Herding1: The investment decisions of people I communicate with, are influential on my investment decisions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	97	24,0	24,0	24,0
	Agree	172	42,5	42,5	66,4
	Undecided	78	19,3	19,3	85,7
	Disagree	44	10,9	10,9	96,5
	Strongly disagree	14	3,5	3,5	100,0
	Total	405	100,0	100,0	

The second statement about herding was “The preferences of other investors in the market are important to me and I follow them in my investment decisions.” According to table 29, the valid responses are 100%(405). From 405 respondents about 24.7%(100) of them strongly agreed, 44,7%(181) agreed, 13.3%(54) were undecided, 11.1%(45) disagreed, and 6.2%(25) strongly disagreed. Data show that about 69.4%(281) of respondents agreed when 17.3%(70) of them disagreed.

Table 29.

Herding 2: The preferences of other investors in the market are important to me and I follow them in my investment decisions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	100	24,7	24,7	24,7
	Agree	181	44,7	44,7	69,4
	Undecided	54	13,3	13,3	82,7
	Disagree	45	11,1	11,1	93,8
	Strongly disagree	25	6,2	6,2	100,0
	Total	405	100,0	100,0	

4.4.2.2. Hindsight Bias

Hindsight bias was measured by one question. The statement about hindsight bias was “I have this belief that I have known the performance of the financial

investment instrument's of past period, before that period.” As table 30 shows the valid responses are 100%(405). Table shows from 405 respondents about 34.3%(139) of them strongly agreed to the statement, 50.6%(205) agreed, 12.1%(49) were undecided, 2.2%(9) disagreed, and 0.7%(3) strongly disagreed. Data show that about 84.9%(344) of respondents agreed when 2.9%(12) of them disagreed.

Table 30.

Hindsight: I have this belief that I have known the performance of the financial investment instrument's of past period, before that period.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	139	34,3	34,3	34,3
	Agree	205	50,6	50,6	84,9
	Undecided	49	12,1	12,1	97,0
	Disagree	9	2,2	2,2	99,3
	Strongly disagree	3	,7	,7	100,0
	Total	405	100,0	100,0	

4.4.2.3. Overconfidence Bias

Overconfidence bias was measured by 3 questions. The first item was “I think my information is more valuable than the information of other investors during the finance investments.” Table 31 shows the valid responses are 100%(405). From 405 respondents about 10.9%(44) of them strongly agreed, 31.1%(126) agreed, 20.2%(82) were undecided, 30.6%(124) disagreed, and 7.2%(29) strongly disagreed. Data show that about 42.0%(170) of respondents agreed when 37.8%(153) of them disagreed.

Table 31.

Overconfidence 1: I think that my information is more valuable than the information of other investors during the finance investments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	44	10,9	10,9	10,9
	Agree	126	31,1	31,1	42,0
	Undecided	82	20,2	20,2	62,2
	Disagree	124	30,6	30,6	92,8
	Strongly disagree	29	7,2	7,2	100,0
	Total	405	100,0	100,0	

The second statement about overconfidence was “I am completely self-reliant in making right decisions about my financial investment instruments.” As table 32 shows the valid responses are 100%(405). From 405 respondents about 36.3%(147) of them strongly agreed, 46.2%(187) agreed, 11.9%(48) were undecided, 5.4%(22) disagreed, and 0.2%(1) strongly disagreed. Data show about 82.5%(334) of respondents agreed when 5.6%(23) of them disagreed.

Table 32.

Overconfidence 2: I am completely self-reliant in making right decisions about my financial investment instruments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	147	36,3	36,3	36,3
	Agree	187	46,2	46,2	82,5
	Undecided	48	11,9	11,9	94,3
	Disagree	22	5,4	5,4	99,8
	Strongly disagree	1	,2	,2	100,0
	Total	405	100,0	100,0	

The third question about overconfidence was “In investment decisions, I trust my experiences more than new information.” Table 33 shows that valid responses are 100%(405). Table shows from 405 respondents 37.0%(150) of them strongly agreed, 41.0%(166) agreed, 13.1%(53) were undecided, 8.1%(33) disagreed, and 0.7%(3)

strongly disagreed. Data show about 78.0%(316) of respondents agreed when 8.8%(36) of them disagreed.

Table 33.

Overconfidence 3: In investment decisions, I trust my experiences more than new information.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	150	37,0	37,0	37,0
	Agree	166	41,0	41,0	78,0
	Undecided	53	13,1	13,1	91,1
	Disagree	33	8,1	8,1	99,3
	Strongly disagree	3	,7	,7	100,0
	Total	405	100,0	100,0	

4.4.2.4. Self-attribution Bias

Two questions were designed to measure self-attribution bias. The first statement was “My financial instruments' lost is related to bad luck or other external factors.” Table 34 shows that valid responses are 100%(405). From 405 respondents about 16.0%(65) of them strongly agreed, 29.4%(119) agreed, 11.6%(47) were undecided, 31.4%(127) disagreed, and 11.6%(47) strongly disagreed. Data show about 45,4%(184) of them agreed when 43.0%(174) of them disagreed.

Table 34.

Self-attribution 1: My financial instruments' lost is related to bad luck or other external factors.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	65	16,0	16,0	16,0
	Agree	119	29,4	29,4	45,4
	Undecided	47	11,6	11,6	57,0
	Disagree	127	31,4	31,4	88,4
	Strongly disagree	47	11,6	11,6	100,0
	Total	405	100,0	100,0	

The second statement about self-attribution was “If my investment decisions are successful, I relate this result to my competences and abilities.” Table 35 shows that valid responses are 100%(405). From 405 respondents about 29.9%(121) of them strongly agreed, 53.6%(217) agreed, 10.1%(41) were undecided, 5.7%(23) disagreed, and 0.7%(3) strongly disagreed. Data show about 83.5%(338) of respondents agreed when 6.4%(26) of them disagreed.

Table 35.

Self-attribution 2: If my investment decisions are successful, I relate this result to my competences and abilities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	121	29,9	29,9	29,9
	Agree	217	53,6	53,6	83,5
	Undecided	41	10,1	10,1	93,6
	Disagree	23	5,7	5,7	99,3
	Strongly disagree	3	,7	,7	100,0
	Total	405	100,0	100,0	

4.4.2.5. Representativeness Bias

Two questions were designed to measure representativeness bias. The first one was “I Keep positive performance or positive information about a investment instrument in my mind and use it when I want to make a decision about my next investment.” Table 36 shows valid responses are 100%(405). From 405 respondents about 57.8%(234) of them strongly agreed, 38.8%(157) agreed, 2.2%(9) were undecided, 1.2%(5) disagreed, and 0.0%(0) strongly disagreed. Data show about 96.5%(391) of respondents agreed when 1.2%(5) of them disagreed.

Table 36.

Representativeness 1: I Keep positive performance or positive information about a investment instrument in my mind and use it when I want to make a decision about my next investment.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	234	57,8	57,8	57,8
	Agree	157	38,8	38,8	96,5
	Undecided	9	2,2	2,2	98,8
	Disagree	5	1,2	1,2	100,0
	Strongly disagree	0	0,0	0,0	100,0
	Total	405	100,0	100,0	

The second item about representativeness was “The stocks of big and well-known companies are good and they always have a high return.” Table 37 shows that valid responses are 100%(405). Table shows from 405 respondents about 30.9%(125) of them strongly agreed, 41.7%(169) agreed, 18.8%(76) were undecided, 7.4%(30) disagreed, and 1.2%(5) strongly disagreed. Data show about 72.6%(245) of respondents agreed when 8.6%(35) of them disagreed.

Table 37.

Representativeness 2: The stocks of big and well-known companies are good and they always have a high return.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	125	30,9	30,9	30,9
	Agree	169	41,7	41,7	72,6
	Undecided	76	18,8	18,8	91,4
	Disagree	30	7,4	7,4	98,8
	Strongly disagree	5	1,2	1,2	100,0
	Total	405	100,0	100,0	

4.4.2.6. Conservatism Bias

To measure the conservatism bias 4 items were designed. The first item was “The new information about an investment instrument does not affect my investment decision.” Table 38 shows that valid responses are 100%(405). The table shows from 405 respondents about 11.1%(45) of them strongly agreed, 21.2%(86) agreed, 19.0%(77) were undecided, 40.7%%(165) disagreed, and 7.9%(32) strongly disagreed. Data show about 32.3%(131) of respondents agreed when 48.6%(197) of them disagreed.

Table 38.

Conservatism 1: The new information about an investment instrument does not affect my investment decision.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	45	11,1	11,1	11,1
	Agree	86	21,2	21,2	32,3
	Undecided	77	19,0	19,0	51,4
	Disagree	165	40,7	40,7	92,1
	Strongly disagree	32	7,9	7,9	100,0
	Total	405	100,0	100,0	

The second statement about conservatism was “I do not change my investment instrument, even if there are instruments with more gain or return.” Table 39 shows that valid responses are 100%(405). The table shows from 405 respondents about 22.7%(92) of them strongly agreed, 29.6%(120) agreed, 19%(77) were undecided, 21.2%(86) disagreed, and 7.4%(30) strongly disagreed. Data show about 52.3%(212) of respondents agreed when 28.6%(116) of them disagreed.

Table 39.

Conservatism 2: I do not change my investment instrument, even if there are instruments with more gain or return.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	92	22,7	22,7	22,7
	Agree	120	29,6	29,6	52,3
	Undecided	77	19,0	19,0	71,4
	Disagree	86	21,2	21,2	92,6
	Strongly disagree	30	7,4	7,4	100,0
	Total	405	100,0	100,0	

The third statement about conservatism was “I will not change my mind about the investment instrument that I believe it will win, even if it begins to lose.” Table 40 shows that valid responses are 100%(405). The table shows from 405 respondents about 16.0%(65) of them strongly agreed, 29.6%(120) agreed, 29.6%(120) were undecided, 20.7%(84) disagreed, and 4.0%(16) strongly disagreed. Data show about 45.7%(185) of respondents agreed when 24.7%(100) of them disagreed.

Table 40.

Conservatism 3: I will not change my mind about the investment instrument that I believe it will win, even if it begins to lose.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	65	16,0	16,0	16,0
	Agree	120	29,6	29,6	45,7
	Undecided	120	29,6	29,6	75,3
	Disagree	84	20,7	20,7	96,0
	Strongly disagree	16	4,0	4,0	100,0
	Total	405	100,0	100,0	

The fourth statement about conservatism was “The winning investment instrument in the past, that is losing in present, will win again in future” Table 41 shows that valid responses are 99.8%(404) and the missed responses are 0.2%(1). The table shows from 404 respondents about 8.2%(33) of them strongly agreed, 24.5%(99)

agreed, 59.7%(241) were undecided, 5.7%(23) disagreed, and 2.0%(9) strongly disagreed. Data show about 32.7%(99) of respondents agreed when 7.7%(31) of them disagreed.

Table 41.

Conservatism 4: The winning investment instrument in the past, that is losing in present, will win again in future.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	33	8,1	8,2	8,2
	Agree	99	24,4	24,5	32,7
	Undecided	241	59,5	59,7	92,3
	Disagree	23	5,7	5,7	98,0
	Strongly disagree	8	2,0	2,0	100,0
	Total	404	99,8	100,0	
Missing	System	1	,2		
	Total	405	100,0		

4.4.2.7. Gambles Fallacy Bias

One question was designed to measure the gamble fallacy bias. The statement was “If a financial instrument win for several periods regularly, it will lose soon, and if it loses several periods regularly, it will soon win.” Table 42 shows that valid responses are 100%(405). The table shows from 405 respondents about 7.2%(29) of them strongly agreed, 23.5%(95) agreed, 54.3%(220) were undecided, 12.3%(50) disagreed, and 2.7%(11) strongly disagreed. Data shows about 30.6%(124) of respondents agreed when 15%(61) of them disagreed.

Table 42.

Gamble fallacy: If a financial instrument win for several periods regularly, it will lose soon, and if it loses several periods regularly, it will soon win.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	7,2	7,2	7,2
	Agree	95	23,5	23,5	30,6
	Undecided	220	54,3	54,3	84,9
	Disagree	50	12,3	12,3	97,3
	Strongly disagree	11	2,7	2,7	100,0
	Total	405	100,0	100,0	

4.4.2.8. Familiarity Bias

Two questions were designed to measure the familiarity bias. The first statement was “When I am undecided between two investment instruments , I select the one that I have more information about” Table 43 shows that valid responses are 100%(405). The table shows from 405 respondents about 152.8%(214) of them strongly agreed, 41.0%(166) agreed, 3.5%(14) were undecided, 1.7%(7) disagreed, and 1.0%(4) strongly disagreed. Data shows about 93.8%(380) of respondents agreed when 2.7%(11) of them disagreed.

Table 43.

Familiarity 1: When I am undecided between two investment instruments, I select the one that I have more information about.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	214	52,8	52,8	52,8
	Agree	166	41,0	41,0	93,8
	Undecided	14	3,5	3,5	97,3
	Disagree	7	1,7	1,7	99,0
	Strongly disagree	4	1,0	1,0	100,0
	Total	405	100,0	100,0	

The second statement was “I invest in the stocks of the companies where I reside.” Table 44 shows that valid responses are 100%(405). The table shows from 405 respondents about 15.8%(64) of them strongly agreed, 16.5%(67) agreed, 29.4%(119) were undecided, 20.2%(82) disagreed, and 18.0%(73) strongly disagreed. Data show about 32.3%(131) of respondents agreed when 38.2%(155) of them disagreed.

Table 44.

Familiarity 2: I invest in the stocks of the companies where I reside.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	64	15,8	15,8	15,8
	Agree	67	16,5	16,5	32,3
	Undecided	119	29,4	29,4	61,7
	Disagree	82	20,2	20,2	82,0
	Strongly disagree	73	18,0	18,0	100,0
	Total	405	100,0	100,0	

4.4.2.9. Considering the Past Bias

One question was designed to measure the considering the past. The statement was “I am willing to take more risk when I get easy gains in investments.” Table 45 shows that valid responses are 100%(405). The table shows from 405 respondents about 16.0%(65) of them strongly agreed, 36.8%(149) agreed, 16.0%(65) were undecided, 17.0%(69) disagreed, and 14.1%(57) strongly disagreed. Data shows about 52.8%(214) of respondents agreed when 31.1%(126) of them disagreed.

Table 45.

Considering the Past: I am willing to take more risk when I get easy gains in investments.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	65	16,0	16,0	16,0
	Agree	149	36,8	36,8	52,8
	Undecided	65	16,0	16,0	68,9
	Disagree	69	17,0	17,0	85,9
	Strongly disagree	57	14,1	14,1	100,0
	Total	405	100,0	100,0	

4.4.2.10. Confirmation Bias

One question was designed to measure the confirmation bias. The statement was “A remarkable performance of a investment instrument will have an effect on my decision process when I want to invest again in the same type of investment instrument” Table 46 shows that valid responses are 100%(405). The table shows from 405 respondents about 29.4%(119) of them strongly agreed, 54.8%(222) agreed, 14.6%(59) were undecided, 1.0%(4) disagreed, and 0.2%(1) strongly disagreed. Data show about 84.2%(341) of respondents agreed when 1.3%(5) of them disagreed.

Table 46.

Confirmation Bias: A remarkable performance of a investment instrument will have an effect on my decision process when I want to invest again in the same type of investment instrument.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	119	29,4	29,4	29,4
	Agree	222	54,8	54,8	84,2
	Undecided	59	14,6	14,6	98,8
	Disagree	4	1,0	1,0	99,8
	Strongly disagree	1	,2	,2	100,0
	Total	405	100,0	100,0	

CHAPTER V

THE TESTS OF HYPOTHESES

5.1. Introduction

The main purpose of this chapter is testing the hypotheses and answer to research's questions. First, the reliability test was done to select the suitable test according to data. The result of reliability test was $\alpha=0,764$ ($\alpha>0,7$), therefore data were parametric. Independence T-Test was used to test the hypotheses.

5.2. Tests of Hypotheses

There are 13 hypotheses that each hypothesis is about the relationship between gender each factor of behavioral factors. All tests were done at 95% level of confidence and 0,05 Alpha value.

H₁: There is a relationship between gender and over-optimism bias in investment decision-making.

Independence T-Test was used to test the hypotheses. Table 47 shows the result of t-test at the 95% confidence level and 0,05 Alpha value for gender and over-optimism Bias. As the table shows Sig.=0.510, therefore there is not a significant difference in variances, therefore $t=1.172$, $d=405$, and $p=0,242$. The p-value shows there is no significant difference between two groups. Therefore, there is no relationship between gender and over-optimism bias and H₁ was rejected.

Table 47.

Independent Samples Test for Gender and Over-optimism Bias

Over-optimism	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,436	,510	1,172	403	,242	,11111	,09483	- ,07532	,29754
Equal variances not assumed			1,202	287,071	,230	,11111	,09245	- ,07085	,29307

H₂: There is a relationship between gender and over regret and pride bias in investment decision-making.

Table 48 shows the result of independence t-test for gender and regret and pride bias. As the table shows Sig.=0,151, therefore, there is not a significant difference in variances, t=3.640, d=403, and p=0,000 that shows there is a significant difference between male and female. P-value shows that there is a relationship between gender and regret and pride in investment decision-making and accordingly H₂ is accepted.

Table 48.

Independent Samples Test For Gender And Regret and Pride Bias

Regret and Pride	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2,074	,151	3,640	403	,000	,34753	,09548	,15983	,53523
Equal variances not assumed			3,744	289,281	,000	,34753	,09281	,16486	,53020

H₃: There is a relationship between gender and loss averse bias in investment decision-making.

Table 49 shows the result independence t-test for gender nad loss averse bias. As the table shows Sig.=0,862, therefore there is not a significant difference in variances therefore, $t=2,182$, $d=403$, and $p=0,030$. According to p-value, there is a significant difference between two groups, and loss-averse bias does not influence both group equally. P-value=0,030 shows that there is a relationship between gender and loss averse and accordingly H₃ is accepted.

Table 49.

Independent Samples Test For Gender and Loss Averse

Loss-averse	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,030	,862	2,182	403	,030	,21574	,09886	,02139	,41009
Equal variances not assumed			2,150	257,774	,032	,21574	,10034	,01815	,41334

H₄: There is a relationship between gender and herding bias in investment decision-making.

Table 50 shows the result of independence t-test for gender and herding bias. As the table shows Sig.=030,, therefore there is a significant difference in variances, therefore $t=2.762$, $d=316.232$, and $p=0.006$ These values show there is a significant difference between male and female investots, and male and female investors are not influenced by herding bias equally. P-value is 0,006 and shows there is a relationship between gender and herding bias and accordingly H₄ is accepted.

Table 50.

Independent Samples Test For Gender And Herding Bias

Herding	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	4,721	,030	2,596	403	,010	,24815	,09557	,06026	,43603
Equal variances not assumed			2,762	316,232	,006	,24815	,08985	,07136	,42493

H₅: There is a relationship between gender and hindsight bias in investment decision-making.

Table 51 shows the result of independence t-tests for gender and hindsight bias. As the table shows Sig.=0,154 therefore there is not a significant difference in variances, therefore t=-0.136, d=403, and p= 0.892. According to these values, there is no significant difference between two groups. P is 0,892 and shows that there is no relationship between gender and hindsight bias and accordingly H₅ is rejected.

Table 51.

Independent Samples Test For Gender and Hindsight

Hindsight	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2,044	,154	-,136	403	,892	-,01111	,08155	- ,17142	,14920
Equal variances not assumed			-,134	257,746	,893	-,01111	,08277	- ,17410	,15188

H₆: There is a relationship between gender and overconfidence bias in investment decision-making.

Table 52 shows the result of independence t-test for gender and overconfidence bias. As the table shows Sig.=0,189, therefore there is not a significant difference in variances and $t=-2.588$, $d=403$, and $p=0,010$, that shows there is a significant difference between males and females. P-value shows there is relationship between gender and overconfidence bias and accordingly H₆ is accepted.

Table 52.

Independent Samples Test for Gender and Overconfidence Bias

Overconfidence	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1,727	,189	-2,588	403	,010	-,18272	,07060	-	-,04392
Equal variances not assumed			-2,487	241,623	,014	-,18272	,07347	-	-,03800

H₇: There is a relationship between gender and self-attribution bias in investment decision-making.

Table 53 shows the result of independence t-test for gender and self-attribution bias. As the table shows Sig.=0,164, therefore there is not a significant difference in variances, $t=0.901$, $d=403$, and $p=0,368$ that shows there is no any significant difference between two groups. P-value shows that there is not a relationship between gender and self-attribution and accordingly H₇ is rejected.

Table 53.

Independent Samples Test For Gender And Self-attribution

Self-attribution	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1,943	,164	,901	403	,368	,07963	,08840	- ,09416	,25342
Equal variances not assumed			,872	245,842	,384	,07963	,09137	- ,10034	,25960

H₈: There is a relationship between gender and representativeness bias in investment decision-making.

Table 54 shows the result of independence t-test for gender and representativeness bias. As the table shows Sig.=0.487 and accordingly there is not a significant difference in variances, $t = -0.262$, $df = 403$ and $p = 0.793$ and indicate that there is no significant difference between two groups. P-value shows that there is no relationship between gender and representativeness and accordingly H₈ is rejected.

Table 54.

Independent Samples Test For Gender And Representativeness

Representativeness	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,484	,487	-,262	403	,793	-,01667	,06359	- ,14168	,10835
Equal variances not assumed			-,260	262,502	,795	-,01667	,06410	- ,14288	,10955

H₉: There is a relationship between gender and conservatism bias in investment decision-making.

Table 55 shows the result of independence t-test for gender and conservatism bias. As the table shows Sig.=0.005, therefore, there is a significant difference in variances, accordingly $t=-0.475$, $d=221.142$ and $p=0.636$ and shows there is no a significant difference between two groups. P-value shows there is no relationship between gender and conservatism and accordingly H₉ is rejected.

Table 55.

Independent Samples Test For Gender And Conservatism

Conservatism	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Equal variances assumed	8,051	,005	,512	403	,609	,03735	,07299	-	,18083
			,475	221,142	,636	,03735	,07870	-	,19245
Equal variances not assumed								,11775	

H₁₀: There is a relationship between gender and Gamble fallacy bias in investment decision-making.

Table 56 shows the result of independence t-test for gender and gamble fallacy bias. As the table shows Sig.=0.535 and there is not a significant difference in variances, therefore $t=0.740$, $d=403$, and $p=0.455$ and shows there is a no significant difference between two groups. P-value is 0,455 that shows there is no relationship between gender and gamble fallacy and accordingly H₁₀ is rejected.

Table 56.

Independent Samples Test For Gender And Gamble Fallacy

Gamblefallacy	Levene's Test		t-test for Equality of Means						
	for Equality		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence	
	F	Sig.						Interval of the Difference	
Equal variances assumed	,386	,535	,748	403	,455	,06667	,08917	- ,10863	,24197
Equal variances not assumed			,779	299,016	,437	,06667	,08562	- ,10182	,23516

H₁₁: There is a relationship between gender and Familiarity bias in investment decision-making.

Table 57 shows the result of independence t-test for gender and familiriaty bias. As the table shows Sig.=0.562 that indicates there is not a significant difference in variances, therefore t=-0.718, d=403, and p=0,473 and indicates there no difference between two groups. P-value is 0,473 and shows there is no relationship between gender and familiarity and accordingly H₁₁ is rejected.

Table 57.

Independent Samples Test for Gender and Familiriaty Bias

Familiarity	Levene's Test		t-test for Equality of Means						
	for Equality		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence	
	F	Sig.						Interval of the Difference	
Equal variances assumed	,338	,562	-,718	403	,473	-,05556	,07738	- ,20768	,09657
Equal variances not assumed			-,700	250,799	,485	-,05556	,07937	- ,21187	,10076

H₁₂: There is a relationship between gender and considering the past bias in investment decision-making.

Table 58 shows the result of independence t-test for gender and considering the past bias. As the table shows Sig.=0.977, therefore, there is not a significant difference in variances and $t=2.281$, $d=403$, and $p=0,023$ and shows there is a significant difference between two groups. P-value is 0,023 and shows that there is a relationship between gender and considering the past and accordingly H₁₂ is accepted.

Table 58.

Independent Samples Test For Gender And Considering the Past

Consider the Past	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	,001	,977	2,281	403	,023	,31111	,13637	,04302	,57920
Equal variances not assumed			2,269	264,147	,024	,31111	,13714	,04109	,58114

H₁₃: There is a relationship between gender and confirmation bias in investment decision-making.

Table 59 shows the result of independence t-test for gender and confirmation bias. As the table shows Sig.=0.154 shows there is not a significant difference in variances, therefore $t=-0.956$, $d=403$, and $p=0.340$ that indicate there is no significant difference between two groups. P-value=0.340 that shows there is no relationship between gender and confirmation and accordingly H₁₃ is rejected.

CHAPTER VI

CONCLUSION AND RECOMMENDATIONS

6.1. Introduction

The purpose of this chapter is to summarize the results of study and make conclusion according to the collected data. Also, there are some recommendation and suggestion that take place in this chapter.

6.2. Summary of Findings

The questionnaire was designed to collect primary data from the 412 individuals as a representative of the whole population which was individual investors in Turkey. The collected data was analyzed by SPSS and according to these analyzed some of the key findings of the study are as follow:

- ü Data was parametric and the division was normal according to the value of $\alpha(\alpha=0,764)$.
- ü About 53,9% of respondents were male and 46,1% were female, and most of the respondents (291) resided in Adana city. About 49,5% of respondents were between 23 and 32 years old, and about 55,1% of them have a bachelor degree, the biggest group of job groups was private sectors employee that was about 26,2% of respondents. In the subject of income, about 68,4% of them stated that have a regular income, and the income of 36,3% of them was between 1501 and 3000. 51,2% of respondents had saving amount, and in the subject of economic status about 31,3% of them stated their economic status not satisfactory and not unsatisfactory. Gold was the most preferred investment tool among respondents. About 46,6% of respondents were individual investors without receiving professional help, only 26,94% of respondents made portfolio however 73,06% of them did not make a portfolio. Most of the respondents do not follow the profit/loss situation in their investment and also do not follow financial market developments. Internet was most favourable and useable information resource for respondents. And perpetual annuity was the biggest expectation of making a new investment, the most important factor for high return was experience.

- ü Respondents are influenced by biases and all of the biases have some impacts on respondents' decisions about investments.
- ü The results of hypothesized tests show the acceptness of second hypothesis (There is a relationship between gender and over regret and pride bias) with the p-value of 0,044, third hypothesis (There is a relationship between gender and loss-averse bias) with the p-value of 0,035, fourth hypothesis (There is a relationship between gender and herding bias) with p-value of 0,045, seventh hypothesis (There is a relationship between gender and self-attribution bias) with the p-value of 0,016, and the twelfth hypothesis (There is a relationship between gender and considering the past bias) with the p-value of 0,027. The results show the rejectness of first hypothesis (There is a relationship between gender and over-optimism bias) with the p-value of 0,548, the fifth hypothesis (There is a relationship between gender and hindsight bias) with the p-value of 0,112, sixth hypothesis (There is a relationship between gender and overconfidence bias) with the p-value of 0,931, the eighth hypothesis (There is a relationship between gender and representativeness bias) with p-value of 0,735, the ninth hypothesis (There is a relationship between gender and conservatism bias) with the p-value of 0,134, the tenth hypothesis (There is a relationship between gender and gamble fallacy bias) with the p-value of 0,401, the eleventh hypothesis (There is a relationship between gender and familiarity bias) with the p-value of 0,593, and the thirteenth hypothesis (There is a relationship between gender and confirmation bias) with p-value of 0,599. Therefore there is relationship between gender and five biases which are loss averse, regret and pride, herding, self-attribution, and considering the past.

6.3. Conclusion

Behavioral finance is the study of psychological and behavioral factors in decision-making process. There are several factors that recognized as influenceable factors on individuals decisions. In this study, 13 factors were selected to be studied. According to the collected data and as they were analyzed the result shows these factors are influenceable in individuals decisions and also on individuals investment decisions. Therefore emotions and psychology have a great role in individuals decisions and

sometimes these factors make them away from rational decisions, as was claimed in standard finance.

As the data have shown in the fifth chapter, 13 hypothesis were tested. Hypothesizes testing result shows that there is a relationship between gender and regret and pride bias, gender and loss-averse bias, gender and herding bias, gender and self-attribution bias, and gender and considering the past bias. In other hand data shows there is no relationship between gender and over-optimism bias, gender and hindsight bias, gender and overconfidence bias, gender and representativeness bias, gender and conservatism bias, gender and gamble fallacy bias, gender and familiarity bias, and gender and confirmation bias.

Two hypothesizes from emotional bias was accepted which show there is a relationship between gender and regret and pride bias and loss averse bias that shows the emotional biases' influence is not equal to the male and female investors in decision making. And 3 hypothesizes from cognitive biases were accepted that shows there is a relationship between gender and herding bias, self-attribution bias and considering the past bias. Therefore some of the psychological factors do not influence equally in both groups.

In the other side data show a great percent of respondents do not follow the loss/profit of their investments and also the financial markets developments, it can be on of the reasons that people are influenced more by psychological factors because be informed and having more information maybe keep them away from the impact of these biases.

6.4. Suggestions and Recommendations

Behavioral finance is a new perspective in finance and needs to be studied more and more. According to Nofsinger(2005) knowing the behavioral and psychological factors influence people decisions and cause to irrational decisions can help them to avoid these factors and make more rational decisions. Therefore people need to know more and more about these factors. There should be more research on behavioral finance. In the other hand people must be informed about the biases that affect their decisions. Also, maybe there is a relationship between following the news and information and these biases that should be studied more in future, because following new make them more informed and can make them away from possible errors which

recoupe from emotional and cognitive factors. Investors should understand the differences between impact which come from these biases and the realities to reduce errors and make more rational decisions.

6.5. The Limitations of Study

This research faced to some limitations to be completed. Large and uncertain population was one of the biggest limitations. To make the research more reliable, needed to have a sample with 384 individual investments, completing this amount of sample and collecting data from 384 individuals was a great difficulty that needed to more time. The research population was all individuals all over Turkey, but because of limited due the financial constraints and time, it was done by internet and distribution. In the case of resources behavioural finance as a new perspective in finance face to shortage in resources, therefore collecting secondary data was another limitation.

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APPENDIX

Appendix 1. English Questionnaire

Questionnaire Form

Dear participant;

The questionnaire you will fill out is designed to investigate the individuals' financial decisions in behavioural finance perspective in the case of gender difference. The obtained data from this survey will be used in the master thesis. Your participation is very important for completing this academic research.

Thank you in advance for your participation.

- 1-Gender: Male(☐) Female(☐)
- 2-Age: 22 and below(☐) 23-32(☐) 33-42(☐) 43-52(☐) 53-62(☐) 63 and more(☐)
- 3-Marital status: Married(☐) Single(☐)
- 4-Education status: High school and below(☐) Bachelor (☐) Master(☐) PHD(☐)
- 5-Job: State officer(☐) Private sector employee(☐) Worker(☐) Own business(☐)
Retired(☐) Farmer(☐) Housewife(☐) Unemployed(☐) Other(☐)
- 6-Do you have regular income?
- Yes, I have regular income(☐) No,I have irregular income(☐) I do not have income(☐)
- 7- The average of your monthly income:
- 0-1500(☐) 1501-3000(☐) 3001-4500(☐) 4501-6000(☐) 6000 and more(☐)
- 8-The average of monthly income in your family:
- 1-1500(☐) 1501-3000(☐) 3001-4500(☐) 4501-6000(☐) 6001-7500(☐)
7501-9000(☐) 9001-10500(☐) 10501 and more(☐)
- 9-Do you save money? Yes(☐) No(☐)
- 10-If your answer is "Yes" to above question, how much is your monthly saving?
- 1-250(☐) 251-500(☐) 501-750(☐) 751-1000(☐) 1001 and more(☐)
- 11- How do you evaluate your economic situation?
- Not satisfactory(☐) Not satisfactory, not unsatisfactory(☐) Satisfactory(☐)
- 12-Which of the following investment types do you prefer beside stock? You can have several choices.

Bank Deposit() Foreign currency() Gold() Bonds() Real estate() Individual pension() Future contracts() Other()

13-Which asset normally gives the highest return when it is considered that an investment has been made for a long period of time (eg 10 to 20 years)?

Bank deposit() Bonds() Stock() Real state() Gold() Other()
I do not know()

14-Which of following phrases describe you most accurately as an investor?

Finance or banking professional()

Individual investor receiving professional help()

An individual investor without receiving professional help()

15-Do you make portfolio from your investments? (Do you invest in more than one investment tools). Yes() No()

26-If your answer is “Yes” to above question, how many kinds of investment assets your portfolio contain?

2() 3() 4() 5 and more()

27-How often do you follow the profit/loss situation in your investments?

I do not follow() Daily() Weekly() Monthly() Yearly()

28-How often do you follow the developments in the financial markets?

I do not follow() Daily() Weekly() Monthly() Yearly()

29- Which information resource or resources do you use when you want to make investment?

Newspaper() TV() Internet() Investment expert opinion() Firms' reports and explanation() My own analyzes() Social environmental advice() Other()

20- What is your most important expectation when making a new investment decision?

High return() Capital maintenance() Perpetual annuity() Reduction of portfolio risk () Other ()

21- What is the most important factor of the basic factors required for high return in investment?

Information() Experience() Risk-Taking() Walk on eggshells(Act cautiously)() Chance()

22-How do you find yourself in your investment decision success than other investors?

I am better than average () Average level() I am worse than average() No idea()

Second Section

Please read the following statements carefully and indicate on the scale which begins with "Strongly agree" and finish with "Strongly disagree". Rate each item on the scale shown to indicate your level of agreement.

NO		Strongly agree	agree	undecided	disagree	Strongly disagree
1	My investment instruments' lost is related to bad luck or other external factors.					
2	I have this belief that I have known the performance of the financial investment instrument's of past period, before that period.					
3	I Keep positive performance or positive information about a financial investment instrument in my memory and use it when I want to make a decision about my next investment.					
4	If I have a portfolio of two financial instruments, A and B, I would sell a B product that lost 15% instead of A, which earn 15% of those instrument with the same cost, when I needed immediate cash.					
5	I prefer low risk / low return investment instruments more than high risk / high return investment instruments.					
6	Low risk is the most fundamental factor I consider when I choose an investment instrument.					
7	The investment decisions of people I communicate with are influential in my investment decisions.					
8	I think that my information is more valuable than the information of other investors during the finance investments.					
9	The stocks of big and well-known companies are good and they always have a high return.					
10	The new information about an investment instrument does not affect my investment decision.					
11	If a financial tool earns for several periods regularly, it will lose soon, and if it loses several periods regularly, it will soon gain.					
12	When I am undecided between two financial investment instruments, I choose the one that I					

- have more information about.
- 13 The preferences of other investors in the market are important to me and I follow them in my investment decisions.
 - 14 I invest in the stocks of the companies where I reside.
 - 15 I am completely self-reliant in making right decisions about my financial investments.
 - 16 In investing subject, not losing value is more important than its gain/return.
 - 17 The sadness I feel in my investments when I lose is more effective than the joy I feel when I win.
 - 18 In investment decisions, I trust my experiences more than new information.
 - 19 I do not change my investment instruments, even if there are instruments with more profit or return.
 - 20 I will not change my mind about the investment instruments that I believe it will win, even if it begins to lose.
 - 21 The winning investment instrument in the past, that is losing in present, will win again in future.
 - 22 If I lose by my investment instrument, I sell that tool as soon as possible.
 - 23 When I realize that the market is going down, I completely deduct/sell the investment instruments.
 - 24 I am willing to take more risk when I get easy gains in investments.
 - 25 I think that the economic growth that will take place in the local and international markets in the coming period will be positive.
 - 26 I have a strong expectation that my financial investments will gain in the next period.
 - 27 A remarkable performance of a investment instrument will have an effect on my decision process when I want to invest again in the same type of investment instrument.
 - 28 If my investment decisions are successful, I relate this result to my competences and abilities.

Appendix 2. Turkish Questionnaire

Anket Formu

Değerli katılımcı;

Dolduracağınız anket çalışması, bireysel finansal kararların davranışsal finans açısından incelemesi üzere düzenlenmiştir. Elde edilen veriler ve vereceğiniz yanıtlar sadece yüksek lisans tezinde kullanılacaktır. Katılımınızın bu akademik araştırmanın tamamlaması için çok önemli olduğunu arz ederim.

Katkılarınız için şimdiden teşekkür ederim.

- 1-Cinsiyetiniz: Erkek() Kadın()
- 2- Yaşınız: 22 ve altı() 23-32() 33-42() 43-52() 53-62() 63 ve üzeri()
- 3-Medeni durumunuz: Evli() Bekar()
- 4-Eğitim durumunuz: Lise ve Altı() Lisans() Yüksek lisans() Doktora ve üzeri()
- 5-Meslek grubunuz: Devlet memuru() Özel sektör çalışanı() İşçi()
Kendi işi() Emekli() Çiftçi() Ev hanımı() İşsiz () Diğer()
- 6- Düzenli geliriniz var mı?
Düzenli gelirim var() Düzensiz gelirim var() Hiç gelirim yok()
- 7-Aylık geliriniz(TL): 0- 1500() 1501- 3000() 3001-4500() 4501-6000()
6001 ve üstü()
- 8- Hanede toplam gelir (TL): 1-1500() 1501-3000() 3001-4500()
4501-6000() 6001- 7500() 7501- 9000() 9001 ve üzeri()
- 9- Tasarruf edebiliyor musunuz? Evet() Hayır()
- 10-Cevabınız “Evet” ise aylık ortalama tasarruf tutarınız ne kadardır?
1-250() 251-500() 501-750() 751-1000() 1001 ve üzeri()
- 11-Ailenizdaki maddi durumunu nasıl değerlendiriyorsunuz?
Tatmin edici değil() Ne tatmin edici ne de değil() Tatmin edici()
- 12- Aşağıdaki yatırım türlerden hisse senedi dışında hangi türünü tercih ediyorsunuz?
Birden fazla işaretleyebilirsiniz.
Banka Mevduatı () Döviz() Altın() Tahvil, bono() Gayrimenkul ()
Bireysel emeklilik() Vadeli işlem sözleşmeleri() Diğer (.....)

13-Uzun bir süre(örneğin 10 veya 20 yıl) yatırım yapıldığı düşünüldüğünde, normal olarak hangi varlık en yüksek getiriye sağlar?

Banka mevduatı() Tavl() Hisse senedi() Gayrimenkul ()
Altın () Diğer() Bilmiyorum()

14- Bunların hangisi sizi bir yatırımcı olarak en doğru şekilde tanımlıyor?

Finans veya bankacılık profesyoneli()

Profesyonel yardım alan bireysel yatırımcı()

Profesyonel yardım almayan bireysel yatırımcı()

15-Yatırımlarınızdan portföy oluşturun musunuz? (Birden fazla yatırım aracına yatırım yapıyor musunuz) Evet() Hayır()

26- Cevabınız “Evet” ise portföyünüz kaç çeşit yatırım araçlarından olmaktadır?

2() 3() 4() 5 ve üzeri()

27-Yatırımlarınızdeki kar/zarar durumunu hangi sıklıkla izliyorsunuz?

İzlemiyorum() Her gün () Haftalık() Aylık() Yıllık()

28- Finans piyasalarındaki gelişmeleri hangi sıklıkla izliyorsunuz?

İzlemiyorum() Her gün() Haftalık() Aylık() Yıllık()

29-Yatırım yaparken, hangi bilgi kaynağını veya kaynaklarını kullanıyorsunuz?

Gazete() TV() İnternet() Yatırım uzman görüşü() Firma rapor ve açıklamaları() Kendi analizlerim() Sosyal çevre tavsiyesi() Diğer()

20-Yeni bir yatırım kararı verirken en temel beklentiniz nedir?

Yüksek getiri () Sermayeyi koruma () Devamlı gelir () Portföy riskini azaltma() Diğer ()

21- Yatırımda yüksek kazanç sağlamak için gerekli temel faktörlerden en önemli faktör nedir?

Bilgi() Tecrübe() Risk alabilme() Temkinli davranabilme() Şans()

22-Yatırım kararlarınızdaki başarınız konusunda kendiniz diğer yatırımcılara göre nasıl bulursunuz?

Ortalamadan daha iyiyim() Ortalama düzeydeyim () Ortalamadan daha kötüyüm() Fikrim yok()

İkinci Bölüm

Lütfen aşağıda yer alan ifadeleri dikkatça okuyunuz ve bu ifadelere hangi ölçüde katıldığınıza ilişkin görüşünüz “ kesinlikle katılıyorum” dan başlayan ve “kesinlikle katılmıyorum” ile biten ölçek üzerinde belirtiniz.

No		Kesinlikle katılıyorum	katılıyorum	kararsızım	katılmıyorum	Kesinlikle katılmıyorum
1	Finansal yatırım araçlarımın kaybettirmesi kötü şans veya diğer dışsal faktörlerler ilgilidir.					
2	Bir finansal yatırım aracını bir dönemdeki performansı sonrasında, genelde önceden olacakları bildiğim yönünde bir kanıya sahip olurum.					
3	Bir finansal yatırım aracına ait olumlu performansları veya olumlu bilgileri hafızamda tutar ve sonraki yatırımlarımda karar verirken kullanırım.					
4	A ve B olmak üzere iki finansal araçtan bir portföyüm varsa, acil nakit ihtiyacım olması halinde, maliyetleri aynı olan bu araçlardan 15% kazandıran A ürünü yerine 15% kaybettiren B ürününü satarım.					
5	Riski düşük/getirisi düşük yatırım araçlarını, riski yüksek/ getirisi yüksek yatırım araçlarına göre daha çok tercih ederim.					
6	Yatırım aracı seçerken düşük risk dikkate aldığım en temel faktördür.					
7	Yakın iletişim kurduğum insanların yatırım kararları benim yatırım kararlarım üzerinde etkilidir.					
8	Finansal yatırım aşamasında benim bilgilerimin, diğer yatırımcıların bilgilerine göre daha değerli olduğunu düşünürüm.					
9	Büyük ve tanınmış şirketlerin hisse senetleri iyidir ve getirisi hep yüksektir.					
10	Bir yatırım aracına ilişkin edindiğim yeni bilgiler yatırım kararımı etkilenmez.					
11	Bir finansal aracı birkaç dönem ard arda kazandırıyorsa yakın zamanda kaybettirir, birkaç dönem ard arda kaybettiriyorsa yakın zamanda kazandırır.					
12	İki finansal yatırım aracı arasında kararsız kaldığım zamanda daha fazla bilgi sahibi olduğum finansal yatırım aracını seçerim.					
13	Piyasadaki diğer yatırımcıların tercihleri benim					

No		Kesinlikle katlıyorum	katlıyorum	kararsızım	katılmıyorum	Kesinlikle katılmıyorum
14	için önemlidir ve çoğunluğu kararlarını izlerim. İkamet ettiğim yerde bulunan şirketlerin hisse senetlerine yatırım yaparım.					
15	Finansal yatırımlarım konusunda doğru ve sağlıklı kararlar aldığım konusunda kendime güvenim tamdır.					
16	Kazanç sağlamaktan çok birikimlerimin değer kaybetmemesi önemlidir.					
17	Yatırımlarımda kaybettiğimde hissettiğim üzüntü, kazandığımda hissettiğim sevinçten daha etkilidir.					
18	Yatırım konusunda yeni bilgilerden daha çok tecrübelerime güvenirim.					
19	Daha fazla kazanç getirenler olsa da yatırım araçlarımı değiştirmem.					
20	Kazandıracağına inandığım bir yatırım aracı kaybettirmeye başlasa dahi fikrimi değiştirmem.					
21	Geçmişte kazandıran ancak şimdi zarar ettiren bir araç gelecekte tekrar kazandıracaktır.					
22	Yatırım aracımdan zarar ediyorsam, zararımı karşılar karşılamaz satırım.					
23	Piyasanın düşüşe geçtiğini anladığımda yatırım aracımı elimden çıkarırım.					
24	Yatırımlarımda kolay bir şekilde kazanç elde ettiğimde daha çok risk almaya istekli olurum.					
25	Gelecek dönemde yerel ve uluslararası piyasalarda meydana gelecek ekonomik gelişmelerin pozitif yönlü olacağını düşünüyorum.					
26	Finansal yatırımlarımın gelecek dönemde kazandıracağına olan beklentim güçlüdür.					
27	Bir finansal yatırım aracına ait aklımda kalan dikkat çekici bir performans, aynı tür finansal yatırım aracına tekrar yatırım yapmak istediğimde kararım üzerinde etkili olur.					
28	Yatırım kararlarım başarıyla sonuçlandıysa bu sonucu yeteneklerimle ilişkilendiriyorum.					

CURRICULUM VITAE

She was born on 03.12.1987 in Herat city of Afghanistan. She started her education in Iran and finished her high school in Mehri High School in Herat. She stated her education in Economics and Business Administration in Herat University in 2010 and graduated from Economics in 2013. In 2014 she came to Turkey as a Master student and after passing Turkish language course in 2015 she started her study in Business Administration department of University of Cukurova.

