THE ROLE AND PLACE OF BEHAVIORAL FINANCE TO FINANCE LITERATURE

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Abstract

Traditional and modern finance theories have not been able to explain why people did not always make rational decisions. Behavioral finance is a new field of finance, that recently attracting more attention and emerged from the view of human beings who do not always act rationally in their investment decisions. This paper aims to revise the discussion on behavioral finance as well as to outline its contribution to both finance and psychology. Moreover, it presents some principles of behavioral finance such as overconfidence and risk tolerance, and therefore contributes to the empirical studies in behavioral finance by using the SEM as (Structural Equation Modeling) approach.

Keywords: finance, behavioral finance, investment decision.
JEL codes: B26, G40, G41.

РОЛЬ И МЕСТО ТЕОРИИ ПОВЕДЕНЧЕСКИХ ФИНАНСОВ В НАУЧНОЙ ЛИТЕРАТУРЕ

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Аннотация

Традиционные и современные теории финансов не могут объяснить, почему люди не всегда принимают рациональные решения. Поведенческие финансы – это новая область финансов, которая в последнее время привлекает все больше внимания и выходит из поля зрения людей, которые не всегда действуют рационально в своих инвестиционных решениях. Данная работа призвана заново поднять обсуждение теории поведенческих финансов, определить ее вклад в концепцию финансов, а также психологию. Кроме того, представлены некоторые принципы поведенческого финансирования, такие как чрезмерная самоуверенность и терпимость к риску, что способствует активизации эмпирических исследований в области поведенческих финансов с использованием подхода SEM (Моделирование Структурных Уравнений).

Ключевые слова: финансы, поведенческие финансы, инвестиционное решение.

ЖҮРҮМ-ТУРУМДУК КАРЖЫНЫН ИЛИМИЙ БУЛАКТАРДАГЫ РОЛУ ЖАНА ОРДУ

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Кыскача мүнөздөмө

Салттуу жана заманбап каржы теориялары эмне үчүн адамдар дайыма эле рационалдуу чечим чыгара бербестигин түшүндүрө албайт. Жүрүм-турумдук каржылоо - бул акыркы убакта көбүрөөк көңүл буруп, инвестициялык чечимдерди кабыл алууда дайыма рационалдуу иш-аракет кылбаган адамдардын көз жаздымында калган каржынын жаңы чөйрөсү. Бул иш жүрүм-турумдук каржы теориясын талкуулоону кайра көтөрүүгө, анын каржы түшүнүгүнө кошкон салымын, ошондой эле

психологиясын аныктоого багытталган. Мындан тышкары, иш жүрүм-турумдук каржылоонун кээ бир принциптерин, мисалы, ашыкча ишенүү жана тобокелдикке чыдамкайлык менен тааныштырат, ошондуктан (Структуралык теңдеме моделдөө) сыяктуу SEM ыкмасын колдонуу менен жүрүм-турумдук каржылоо боюнча эмпирикалык изилдөөгө өбөлгө түзөт.

Негизги сөздөр: финансы, жүрүм-турумдук финансы, инвестициялык чечим.

1. Introduction

In the book titled "Wealth of nations", published in 1776, Adam Smith wrote that the economic behavior of individuals was motivated by self-interest. However, 17 years earlier, in 1759, he developed the theory of human behavior that claimed that a person did not care about anything except his or her own interests.

In another book "The theory of moral sentiments", Smith argued that behavior was determined by the struggle of two endpoints expressed as "passions" and "impartial spectator". Smith believed that behavior is under the direct control of passions and by looking at their own behavior from the perspective of outsiders people make important decisions [1]. Passions included driving forces such as hunger, sexuality, and emotions: anger, fear and pain. People used to fall into the passions of those people whom they observed as well as the actions of other people they observed; they empathized and morally approved their actions. He concluded that the economic behavior of individuals was based on some psychological foundation that formed the current behavioral economics of human psychology.

In this regard, the main purpose of this paper is to provide the theoretical overview on behavioral finance, the approach that is frequently used in finance literature, and define the most promising directions in the analysis. Based on this review analyzing the theoretical statements and practical evidence in different countries, the auther argues that the investors do not always act rationally in the financial market but are affected by different factors that are underestimated.

2. Literature review
2.1. Historical background

The first works that laid the foundation for the development of behavioral finance were published in the late 1950s and early 1960s of the twentieth century. The first work in the field was written by Herbert A. Simon and titled "The Behavioral Model of Rational Choice" [2]. It was one of the first works that introduced the theoretical basics of efficient market and rationality of investor. The work attracted increased attention, partly due to the fact that the memory of the Great Depression was still fresh in the USA, and many experts were interested in getting new knowledge regarding financial markets.

Another publication was the book of Paul Samuelson who addressed mainly the investments in risk and uncertainty (Risk and uncertainty: a fallacy of large numbers) [3]. It was for the first time when mathematical calculations were used to prove a financial thesis. This work was the one that inspired other specialists and caused more interest in developing the field of financial behavior. The work was psychological that became popular in attracting investments as well as implementing other financial tasks such as cash flows.

In the late 1960s, professions related to financial risks turned to be the object of psychological studies. In 1969, the Journal of Applied Psychology published Slovich's work titled "Analysing the expert judge: a study of a stockbroker's decision process" that demonstrated how brokers' decision-making analysis affected financial markets [4]. Then the results of his research were published in the paper "Psychological study of human judgment: implications for investment decision making" of the Journal of Finance [5]. Since that time many more different studies on the interaction of psychology and finance were published.

2.2. Behavioral finance and scholars

In 1973 and 1978, two of the most famous and quoted papers on behavioral finance were written by Amos Tversky and Daniel Kahneman. They were dedicated to the study of investor's decision-making under the conditions of uncertainty (Judgement under uncertainty: heuristics and biases [6],

prospect theory: an analysis of decision under risk) [7]. Behavioral finance and research in this area became an alternative to the classical theory that was elaborated as the field empirically replacing the science of fundamental or classic financial thought.

In 1981, Yale University researcher Shiller published a paper that was also seen to be the milestones of behavioral finance [8]. Using statistical data, Shiller rejected the well-known postulate that the shared price is equal to the present value of dividends. Scientists came to this conclusion by analyzing the relatively stable value of dividends along with high volatility in the markets, and consequently, a high degree of fluctuation of market prices. Equally controversial was another paper of Schiller "Stock prices and social dynamics", which argued that fashion has an important effect on financial markets [9]. Shiller's work caused multiple empirical studies that documented different types of anomalies in financial markets, as well as in the financial behavior of investors and companies.

In 1985 Werner de Bondt and Richard Tayler published the paper "Does stock market overreact?" [10]. The paper demonstrated how cognitive errors and deviations of investors caused the wrong value of shares on the New York Stock Exchange.

In 1984, the Behavioral Finance Section was established as part of the American Financial Association, and in 1985, the University of Chicago with the reputation of a global center for academic finance sponsored the first conference on behavioral finance. In the late 1980s, the National Bureau of Economic Research in the United States established a working group.

The 1990s were marked by an increasing number of works on various subjects related to behavioral finance. Hundreds of new theoretical and empirical papers were published. In 1999, one of the leading behavioral scientists, Andre Schleifer, the Professor of Economics at Harvard University, received the Clark medal of the American Economic Association for research in inefficient financial markets, and in 2002, Daniel Kahneman, the Professor of Psychology at Princeton University, received the Nobel prize in Economics for developing the theory of behavior in risk conditions.

2.3. What is Prospect Theory?

The Prospect Theory was first introduced in 1979 and was based on the idea that people did not always make rational decisions. The theory suggested the existence of psychological factors based on prejudice affected people's preferences under the conditions of uncertainty. Prospect theory considered preferences to be a function of people's decision criteria, and assumed that did not always yield a result that matched the expected value calculated by probabilities. In other words, according to expectation theory, individuals had a tendency to see small-probability situations as large, and to see medium and high-probability outcomes as low [11]. The idea that personality traits had an effect on investors' investment behavior was later developed to create financial behavior personality traits. Other studies focused on explaining the relationship between some of these dimensions and investment behavior in the market.

Although many factors that affected the investment behavior of individuals were taken into consideration in the paper, it attempted to focus on the most obvious psychological factors and behavior patterns. Recently created dimensions in the literature are risk tolerance, overconfidence, social influence and self-monitoring. Within the scope of this study, we will focus on overconfidence and risk tolerance.

3. Basic factors of investment decision
3.1. Overconfidence

Overconfidence means that investors are very confident in their abilities and do not value others' opinions. In addition, overconfident investors do not react to the new information or react excessively. They have unrealistic beliefs about the earnings of their investments. There are studies that show the results such as the excessive trust, which does not differentiate between male and female investors. Investors who trade with such impulses have increasing trading volume in the markets, make wrong investment decisions and wrong choices regarding risk [12].

Overconfidence is the reason of investors' certainty in their own opinion and underestimation of other factors. Overconfident investors reduce their expected utility by trading too much, they hold unrealistic ideas about how high their turnovers will be and how accurately they can be estimated. That is why they spend much more money and time on investment information. They have unrealistic beliefs about how high their return will be and how precisely it can be predicted. In markets where overconfident investors are low, information that should be high in statistics and high in value in the market has been shown to be good for forecasting, dominating and reflecting on the market [13; 14].

Although psychological research made Lundeberg et al. in the work "Highly confident but wrong: gender differences and similarities in confidence judgments" states that both women and men can be overly confident, they generally argue that it is more common in men [15]. While both men and women reduce their profits from trading, men reduce their profits by 1%, and they trade 45% more actively than women [16].

3.2. Risk Tolerance

Risk Tolerance is defined as "the marginal amount of uncertainty that people are ready to accept in their financial decisions" where financial risk tolerance is encountered in nearly each part of economic and social life [17]. According to Cordell, risk tolerance is versatile. Trend is a feature of attitude, capacity, and knowledge. Attitude and capacity are the most important of those [18].

Grable and Lytton developed the financial risk tolerance scale, which is widely used by financial consultants and researchers [19]. This scale is used to assess the level of risk that individuals are willing to take in their financial decisions. In this regard, people with high scale scores (high score means more willingness) are associated with high capital ownership who prefer risky investment tools.

It has been found in many studies that demographic features affect risk tolerance. In addition, the relationship was found between the level of risk tolerance and the frequency of making investments [20].

4. SEM (structural equation modeling) in behavioral finance literature

Structural equation modeling (SEM) is a family of statistical techniques that allow the researcher to hypothesize and test the relationships between variables. In SEM, the researcher expresses causal relationships by placing arrows between variables to show the effect of one variable on another. The model showing the established relationships that are tested with the observed data.

Markets are growing fast and complex. Many traders involve in it use only intuition to make investment decisions that can cause many losses and errors [21]. To see influence of stocks, many papers are researching in behavioral biases and heuristics. There are a lot of researches on behavioral finance literature that use SEM structural equation modeling analysis.

Dawn Iacobucci suggested that structural equation modeling is a significant instrument for marketing researchers [22]. The technique can be described as a normal expansion of factor analysis and regression. The measurement part of the structural equations model is basically approving factor analysis, and as a regression influences the structural part of the model. However, it has a much more flexible structure than the category of theoretical models that can be tested. SEM can be easily used by academicians and practitioners in any field of industry. For more information, see [23; 24; 25; 26].

As a simple example of the SEM model, we can show the model established by Kafayat in his work "Interrelationship of biases: effect investment decisions ultimately) [27].
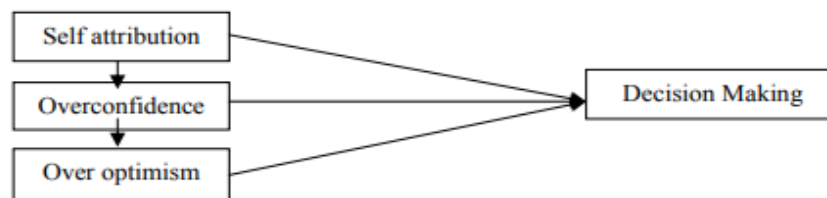
Figure 1. Conceptual SEM model
Source: conceptual model of (Kafayat, 2014, p.93).

The purpose of this study is to empirically determine the three personality dimensions that are thought to have an impact on an investor's rational decision-making process. The direct effects of these dimensions are indicated by long lines in the model. Apart from this, the effect of the dimensions on the dependent variable through the effect of each other, which is not possible in regression models, is represented by short arrows. For example, the effects of 'self-attribution on overconfidence' and 'overconfidence on over-optimism' are included in the model. In this way, the relationship between variables is a problem in traditional models, for example, factor analysis and dependent dimensions are attempted to be combined that strengthens the analysis in these models.

In work "Exploring market overreaction, investors' sentiments and investment decisions in an emerging stock market", the authors attempt to measure heuristics and overconfidence, and their effect on decision-making of Pakistan Stock Exchange trading investors [28]. The primary and secondary data, then three methods of analysis were used for this study. They are Stata, SPSS and SmartPLC. Finally, the research shows that Pakistan investors are affected by behavioral biases and heuristics.

In work "Determination of factors affecting individual investor behaviours: a study on bankers" [29], surveys were made and analyzed with the help of SPSS and Analysis of Moment Structure (AMOS) programs. The research was done on bank employees working in different offices of Turkish banks in Turkey. The survey was conducted to identify individuals' profile and their preferences.

In one of the Greece Ph.D. studies on behavioral finance, the research analyzes the effects on individuals and professional investors [30]. The aim of the study was to see investor's irrational acts. The psychological biases are affected by mood, social influence, risk tolerance and overconfidence. The simultaneous model of Dimitrious study includes factor analysis, regression analysis, structural equation modelling and cluster analysis. We can see SEM overall model that was used in the study below.
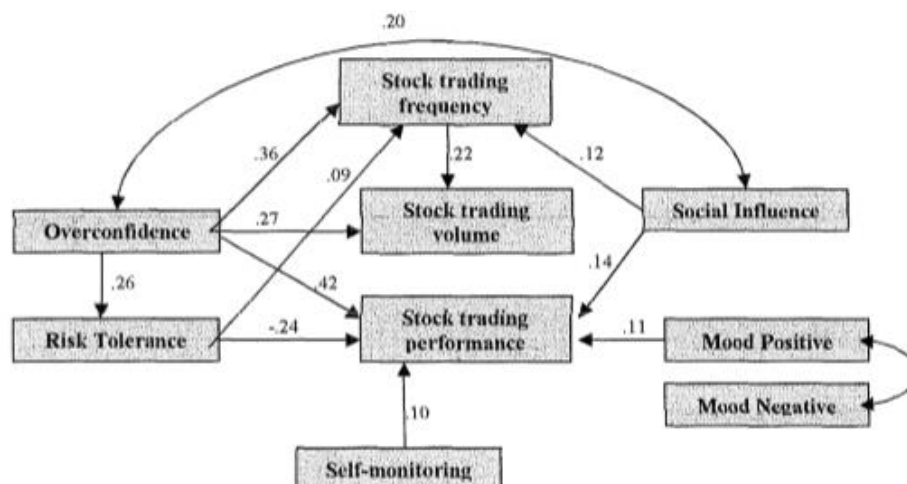

Figure 2. Basic model
Source: conceptual model of (Kourtidis et al. 2011, p.142).

The research confirmed that psychological traits, biases and mood affected investors' trading frequency, volume and performance.

Another paper about Indian long-term and short-term retail investors showed the investment decisions made and behavioral biases [31]. There was the analysis of the ways based on SEM in which the investment decisions were made and proposed behavioral biases were investigated. The purpose of this study was to find out what long-term and short-term stock investors shared different behavioral characteristics. The structural model was used to compare investor traits and examine how the investment decision was made, the behavioral biases related to them, and relative differences in behavioral biases such as herding, representative heuristics, social contagion, overconfidence, risk aversion, cognitive dissonance and disposition effect. The analytical results used by the structural path model were closely associated with the sample data implying the role of behavioral biases in investment decision-making by individuals.

5. Conclusion and recommendations

It is difficult to state that financial markets are operating effectively. The main reason for their ineffectiviness is that the investment decisions and market development are seriously affected by the psychological conditions of investors and their perceptions.

This paper presented the field of behavioral finance and its contribution to the finance literature including those factors that mostly affect the behaviour of investors such as risk tolerance and overconfidence. Investors' past experiences and decisions made under the influence of the environmental conditions in which they live mostly shape the market.

Based on the overview made above it is possible to see that many of the research papers analyzed the behavior of investors in financial markets by means of methods such as SPSS, Lisrel, Amos, SmartPLC. In some papers, the statistical analysis was used as one of the complex methodology, for example SPSS and Amos.

There are some papers in Turkish language literature like Kiyilar and Acar [32], and other research works on behavioral finance that used SPSS analysis [33; 34]. However, not many of them use structural equation modeling or path modeling for research purposes except some that were demonstrated above and conducted by Islamoglu et al. with the use of both SPSS and AMOS programs [35].

As we can see, there are not so many publications in behavioral finance literature that used AMOS or path modeling in Turkey and other countries. But, it can be a good contribution to finance research to publish a paper that is using SEM analysis model which enrolls three variables such as overconfidence, risk tolerance and mood. This approach can also provide more instruments for analysis of economic activity.

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