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INVESTORS' BEHAVIOR AT CAPITAL MARKETS

The paper demonstrates how individuals (investors) make their decisions under the conditions of risk at capital markets. The paper deals with the following question: are the capital market participants rational or do they make their decisions regardless of what rational behaviour would require? In order to find the answer to this question the authors briefly discuss the rational choice theory and its limitations, and they also provide an overview on the prospect theory. They argue that investors are not always rational in decision-making and are characterized by limited rationality, i.e. they behave contrary to the rational choice theory. A distinction between professional and retail investors should also be made. Rational behavior is to be expected, primarily from professional investors among which partiality cannot be tolerated. In contrast, retail investors, without sufficient knowledge and experience to assess the profitability of investments, real and potential risks, often behave in accordance with the prospect theory.

Keywords: *behavioral finance; decision-making; risk and uncertainty; investors; capital market.*
JEL: G02, G14.

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ПОВЕДІНКА ІНВЕСТОРІВ НА ФОНДОВИХ РИНКАХ

У статті показано, як інвестори приймають рішення в умовах ризику на фондових ринках. Центральне питання дослідження: чи діють учасники фондового ринку раціонально? У пошуках відповіді на дане питання розглянуто теорію раціонального вибору, а також теорію перспектив. Доведено, що інвестори далеко не завжди приймають раціональні рішення, їх раціональність здебільшого є обмеженою. При цьому слід розрізняти поведінку приватних та професійних гравців на ринку. Раціональну поведінку слід очікувати в першу чергу від професійних гравців. У приватних же інвесторів не вистачає досвіду та знань для вірного оцінювання потенційних прибутків від активів, потенційних та реальних ризиків на ринку. Саме тому інвестори частіше діють згідно з теорією перспектив.

Ключові слова: *поведінкові фінанси; прийняття рішень; ризик та нестабільність; інвестори; фондовий ринок.*
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ПОВЕДЕНИЕ ИНВЕСТОРОВ НА ФОНДОВЫХ РЫНКАХ

В статье показано, как инвесторы принимают решения в условиях риска на фондовых рынках. Центральный вопрос исследования: действуют ли участники фондового рынка рационально? В поиске ответа на данный вопрос рассмотрены теория рационального выбора, а также теория перспектив. Доказано, что инвесторы далеко не всегда принимают рациональные решения, их рациональность часто является ограниченной. При этом следует различать поведение частных и профессиональных игроков на рынке. Рациональное поведение ожидается в первую очередь от профессиональных инвесторов. У частных же инвесторов не хватает опыта и знаний для правильной оценки потенциальной прибыльности активов, потенциальных и реальных рисков на рынке. Поэтому частные инвесторы чаще действуют согласно теории перспектив.

Ключевые слова: *поведенческие финансы; принятие решений; риск и нестабильность; инвесторы; фондовый рынок.*

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Introduction

Issues addressed in this paper cover the border area between economics and psychology. The underlying assumption is that economics and psychology both deal with human behavior but they approach the subject from different angles. In economics the center of attention is the individual (homo economicus) who behaves rationally and tends to maximize its objective function – maximizing profits in manufacturing and maximizing utility in consumption. Psychology is based on an individual (homo sapiens) who can also manifest irrational behavior besides the rational one. Economic life is full of uncertainties, especially at financial markets. The history of capitalism is mainly the history of financial crises and the "failure" of financial markets. Functioning of financial markets is marked by a lack of information, inadequate and ineffective protection of investors, increasing deregulation and more and more complex financial transactions. Therefore, it is interesting to find out whether participants at financial markets are always rational or not. Can they do a comprehensive analysis of the information they have and do they even have all the necessary information to make a decision are also interesting questions.

The theory of efficient market claims that prices for financial assets are in balance and that they reflect the expectations of investors based on available information. This is why in the long run a higher return rate which would be above the average return rate cannot be achieved (Soskic, Zivkovic, 2007). Although the mentioned theory is seen as the theory of rational expectations, at the financial market there are deviations from it. For example, the disclosure of unexpected information and investor's excessive reaction to such information lead to unstable prices of financial assets. There are other deviations as well. Small company stocks in the long run generate higher returns than large company stocks (small-firm effect), higher stock prices in the period between December and January (January effect) etc. (Soskic, Zivkovic, 2007). Based on efficient market hypothesis information that affects financial assets pricing are available to participants at financial markets at minimum cost. Contrary to this hypothesis there is a belief that financial market is known for its assymetric information (Rose, Marquis, 2011). This means that participants at stock market for evaluation of financial assets use all available information that can affect the price. Behaving in accordance with that information brings the possibility of making income (profit). Opposite behaviour, i.e. ignoring relevant information that can affect the price of a financial asset, can be costly to participants of stock exchange transactions (investors), this is why they tend to be rational when formulating their expectations (Ritter, Silber, Udell, 2004). However, the effect of psychological features of an individual in forming their expectations should not be excluded. Authors further on address the issue of how some psychological conditions affect the formation of investors' expectations and their choice. To answer this question it is necessary to start from the rational choice theory (neoclassical theory) and the prospect theory.

2. Rational choice theory and prospect theory

Rational choice theory assumes that an individual is always rational, always chooses the alternative (the prospect) which brings maximum benefits. A rational individual defines a problem, sets clear goals and forms a set of alternatives based on which the goals can be reached (Radovanovic, 2012). Rational behavior implies that an individual will, before making a decision, always appreciate the information avail-

able, but will also change the behavior if information, according to which the decision is made, changes. An individual evaluates usefulness according to personal criteria such as desire, taste, moral views, wealth etc., based on which individual preferences are made (Pavlicic, 1997). A rational individual will choose a certain alternative based exactly on those individual preferences. However, it should be noted that these preferences may depend on the way the alternatives one is supposed to choose from are formulated and on the reference point based on which alternatives are valued (Pavlicic, 1997). Preferences do not always need to be precisely formulated (Pavlicic, 1997).

Research has shown that deviations from the rational choice theory are great and cannot be ignored. These deviations can also be characterized as system deviations and therefore cannot be equated with an error (Pavlicic, 1997). Criticism of the rational choice theory is usually based on the fact that individuals have limited capacity on one hand and on the other, make decisions under the conditions of uncertainty and risk. Related to this, it is interesting to point out the Herbert Simon concept which speaks of limited rationality.

Limited rationality relates to limited knowledge, lack of information and complex environment in which decisions are made. In fact, mistakes investors make in choosing different alternatives and different investments in financial assets can, on one side, be explained by their limited cognitive abilities to include and process all relevant information (Pavlicic, 1997), and, on the other side, by the fact that decision (choice) is made under very complex circumstances which are typical of financial market, i.e. stock exchange. Therefore, the problem is the use of knowledge "which is not entirely given to anyone". Yet, it is not just the knowledge that is limited, it is the ability of computation as well (Simon, 1959). In other words, human reasoning also has its limits, i.e. restrictions and therefore such reasoning is the product of limited rationality. People are often biased and not rational in decision-making. Let us add that limited rationality comes from the market as well. Although the market does have an informative function it cannot be said that it is ideal for distributing information which results in having a lack of information. Individual's mental (intellectual) limitations in processing available information and little time that an individual has for making the right decision, along with all this, are enough to explain why Herbert Simon believes that satisfaction is what stands opposite to maximization. This means that the alternative which will be chosen is the one which is satisfactory from the aspect of individual's personal preferences.

The prospect theory, in its essence, is based on psychological effects. The theory was developed by Daniel Kahneman and Amos Tversky in 1979 (Kahneman, Tversky, 1979). It was later upgraded and therefore known as the cumulative prospect theory. In 2002, Daniel Kahneman won the Nobel Prize in economics for developing this theory[3]. This theory was developed by analyzing people's reactions and choices in situations with certain realization probability concerning financial outcomes. However, this theory may also be applied to those situations in which one should choose, or make a decision by choosing between options that do not refer to financial outcomes, e.g. natural disasters, medical treatment etc. (Levy, 1992).

[3] Tversky, unfortunately, died in 1996 before receiving this great award.

Kahneman challenged the assumption of rational decision-making. He practically proved that an individual was not capable of performing a comprehensive analysis of a complex problem he or she was facing if the future was known to be uncertain. The fact is that a person can be prone to risk, but at the same time also has risk aversion. Some authors show that the tendency to risk and risk aversion depend on the degree of the probability of outcomes and on the way alternatives are formulated[4].

The prospect theory is one of behavioral theories. Other behavioral theories besides this one are: the cumulative prospect theory, the regret theory, the anticipated utility theory etc. Although it was thought that the prospect theory excluded rational choice, both theories can be applied in practice. The prospect theory could be applied to explain the behaviour of customers with no experience. In our case those would be retail investors. On the other hand, behavior of investors with great experience and knowledge, i.e. behavior of professional investors, can be explained by the rational choice theory. It is clear that individuals without knowledge and experience usually make mistakes, but over time they can get enough experience and knowledge and they can transform into those whose behavior can be considered as the one consistent with the neoclassical theory of rational choice (List, 2004).

The prospect theory consists of two phases – the editing phase and the evaluation phase (Kahneman, Tversky, 1979). Both phases are very important but there are opinions that the second phase is more developed than the first one (Levy, 1992).The first phase refers to the preliminary analysis of options among which an individual has to choose. This phase has several steps: coding, combination, segregation, cancellation, simplification and detection of dominance (Kahneman, Tversky, 1979). The final choice is made at the second phase.

3. Retail and professional investors

Retail investors are natural persons and legal persons that do not have sufficient knowledge, experience and expertise for making independent investment decisions and evaluating real and potential risks and do not meet the requirements set for professional investors. Contrary to retail investors, professional investors are those who have sufficient knowledge, experience and expertise for independent decision-making on investments and evaluation of real and potential risks (Labudovic Stankovic, 2012).

The behavior of retail and professional investors can be different, i.e. retail investors can behave in a way that is not consistent with the rational choice theory, while professional investors have to make their decisions based on information available, their comprehensive analysis (within the limits of what is possible), precisely because investing is the activity they are registered for. However, such behavior of professional investors doesn't guarantee they will make optimal decisions.

Retail investors can behave irrationally, according to their character but professional investors could not afford such a luxury. They should not make hasty decisions. They are called professional since investing is their main activity, as said above. Besides, they have sufficient knowledge and experience to assess profitability of investments, that is, to assess real and potential risks. These, however, are not the characteristics of retail investors.

[4] A problem situation can, for examle, be different depending on the way it is formulated, which can affect the individual's choice (Milicevic, Pavlicic, Kostic, 2007).

4. Behavior of investors at stock markets

We have previously stated that preferences can be changed and are not always precisely defined, but can be gradually developed through decision-making. Keynes stated that future was uncertain which could also refer to the situation at a stock market, i.e. capital market. Since there are many factors which affect the pricing of financial assets it is reasonable to expect that investors' preferences will be changing. This uncertainty which the stock market is characterized by is exactly what leads to changed preferences. That is why it can be said that investors' expectations are unstable and changeable due to uncertainty at stock markets. This can be the result of having insufficient information for the purpose of deciding on the factors which affect assets pricing. Therefore, under such circumstances in which uncertainty is present, an individual investor is as rational as the information they hold allow them to be. How rational they are also depends on their intelligence. Everything outside this framework is a matter of luck, conjecture, estimation of other investors and the like.

Even though investors should, above all, be rational, there are many reasons why they are not. These may include: lack of information; insufficient knowledge and experience; inability to process all available information; limited reasoning; observing a problem in isolation to other problems; trusting other people's estimations which is not always realistic and viable (mass psychology); lack of time for making a decision; overestimating or underestimating certain information; bias; overconfidence; optimism; greed and avarice; even fear of further decline in asset prices, which are in their portfolio, so they hurry to sell such assets and avoid greater losses. Therefore, investors may be characterized by some physical and psychological (mental) limitations. This, of course, primarily relates to retail investors.

Decision-making is tied to a particular mental state of a person, i.e. to certain desires (preferences), goals and beliefs that lead to particular decision-making. Rational choice should be the best choice according to the appointed goals and preferences. Despite all the efforts to reach a completely rational decision, investor's expectations may be different from what market has to offer in accordance with economic laws. For example, a retail investor was expecting a decline in stock prices of company A but instead the prices rose due to the takeover of company A by company B. The investor was not aware of the takeover process when making the decision to sell shares.

Guided by the rational choice theory investors should have a flexible mind which will help them adapt to changed circumstances and new unexpected information (Macrae, Bodenhausen, 2000), which is, often, not possible because investors are after all just people. They do not behave in accordance with laws of mathematics, i.e. they are not always calculating and rational. In that sense, stock market reports can cause certain behavior or certain sentiments of investors that are not always rational. Pessimism arises when the stock market report refers to mass sales of shares and decline in their prices, and optimism appears when shares are being massively bought and their prices are rising.

Share prices at a stock market are conditioned by economic and non-economic factors. Economic factors that predominantly determine the growth of share prices at a market are the company profit growth and dividend growth. Stock and bond markets react differently to economic indicators. Bond prices decline when there is good

news in the economy due to inflation expectations, anticipated stringent measures of a central bank while share prices rise because the predominant expectations refer to growth of future dividends. Therefore, prices of shares and bonds move in different directions when good news is unexpectedly announced, except the situation in which good news refers to inflation (lower inflation rate). That is when prices of both shares and bonds rise (Ritter, Silber, Udell, 2004). Prices of securities at a capital market are not affected only by economic parameters but also by events that cannot be predicted such as political upheaval, social unrest, recession, psychological expectations of stock market participants.

According to the rational choice theory, rational behavior of investors at the stock market would mean their preferences are stable despite possible (and very realistic) minor changes of alternatives among which they have to choose. However, we have mentioned that investors sometimes do not behave in accordance with the rational choice theory. Their mental state can affect their investment decisions. Stock market movements show that emotions can lead to unfavorable investment decisions and cause great losses. On the other hand, investor's psychological state can lead to good investment decisions even though such decisions mean higher risks. In any case the attitude to risk is determined by personal traits of an investor. In other words, each type of behavior that the investor shows and every decision that the investor makes can be psychologically explained (Warneryd, 2001).

It is interesting to note that research shows that people' are more affected by the loss of a certain amount of money than they are pleased by gaining the same amount (Pavlicic, 1997). Based on the fact that reactions to losses are far more extreme than reactions to gains, people who developed the prospect theory named such state risk aversion. Kahneman and Tversky's attitude that people do not remain neutral when it comes to probability changes in making investment decisions. People overestimate the probabilities of unlikely events and underestimate the probability of moderately and highly probable events (Pavlicic, 1997).

The effects of investor sentiments are especially visible at bull markets and bear markets (Warneryd, 2001). Prices rise suddenly at the bull market and this expresses investors' optimism. Investors purchase because they believe that share prices will rise. This purchasing is what makes share prices grow. Purchase made by one or more investors causes chain purchase by other investors and the wave of optimism transfers to the next round. Such behavior may become contagious and can cause unfavorable economic effects. Such movement is known in literature as "random walk". Share prices are unpredictable, their movement is erratic, they react to unexpected information. The same way the market experiences sudden growth it can also experience a sudden fall. The fall of share prices at the bear market can be caused by the behavior of those investors who expect the fall of prices. Pessimism, same as optimism, can spread as a chain reaction through a growing number of individuals and transform into panic leading to market crash. This trend has been more or less intensely present at the stock market since 1929 when the market value fell by 85% during just a few hours (Samuelson, Nordhaus, 1995). Therefore, investor sentiment at a stock market can destabilize the market and lead to personal bankruptcy[5]. This sentiment could

[5] It is interesting to mention that Irvin Fisher, a famous economist, became rich before the Great Depression in 1929, but his great knowledge in investments was not enough to save him from bankruptcy (Warneryd, 2001).

either be a short-term emotional state of an investor (temporary), or an emotional state that lasts longer (Bagozzi, Gopinath, Nyer, 1999).

Spreading rumors and scheming[6] that aim to change prices at a stock exchange against the market law are significant factors that affect prices and investor behavior. Rumors are unconfirmed information distributed via mass media which influence the creation of beliefs. Financial analysts are those who especially influence investors' beliefs. In October 2001, just before the bankruptcy of "Enron", 16 out of 17 leading analysts at the stock market advised that "Enron" shares should be purchased which lead to great losses. "Enron" went bankrupt in December that year (Kirchmaier, Grant, 2006). The stock exchange market is suitable for spreading rumors because it is some kind of a supply and demand game. It is characterized by great uncertainty. Participants of stock exchange transactions should choose how to behave depending on whether information are just rumors, i.e. information aiming to cause confusion among participants, or are real and true information. If a certain company finds oil in the Gulf of Alaska, the information will be transmitted by media. The news will cause many rumors. According to estimates, investors that buy shares of this company within thirty seconds from the moment of the release, will make profit (Samuelson, Nordhaus, 1995).

The increased risk in stock exchange transactions may be caused by the behavior of those participants who are prone to risk such as: agioteurs, speculators and joeurs. Those motivated by the desire to earn more, especially the ones who do not take responsibility for fulfilling obligations determined in the concluded contract, increase the risk. In such cases the party affected by price changes is obligated to pay the difference in price to the counterparty (Jovanovic, 2009). In order to protect themselves from risks, i.e. in order to reduce it, those motivated by fear of loss conclude term contracts.

5. Psychological expectations of investors on the margin

Grouping investors by psychological and financial criteria is done for the sake of predicting their future behavior and the stability of the entire financial market. Economic analyses are based mainly on 3 types of investors: cunning (rational), hasty (irrational) and passive (Kelly, 1997). Target audience for the capital market, especially stock exchange, is the group of investors who increase income because they become rational by increasing their income and are able to obtain reliable information on a market and get involved in investment decision-making. Investor on margin is a specific psychological profile of the investor at the capital market. This term will further be explained.

Investors who trade their own securities or borrowed securities have different psychological expectations. Investors at the financial market take two kinds of risks: risk of return on invested capital and risk of income collection brought by invested capital. Investing in stocks brings income in the form of dividends or capital gain. Capital gain can be the result of buying shares at a lower price and holding them for a short while, since their prices are expected to rise, and then selling those shares at higher prices. Investors here are trading their own securities. However, there is a specific group of investors that invests in shares by borrowing money for a purchase. This

[6] Scheming may take the form of massive and organized conclusion of fictituos stock contracts (Jovanovic, 2009).

is the so-called "buying on margin". The investor decides on the sale that includes selling securities that the investor does not possess and issues an order to the broker to buy shares. The investors' interest is based on speculative expectations since they apply the principle of "selling at a higher price for the purpose of buying at a lower price later". Capital gain is the result of trading borrowed shares based on the difference between the price for the sold (borrowed) security and the one for which the same security will later be bought to close the transaction cycle (Fabozzi, Modigliani, 2003).

Frequent buying on margin performed by brokers on investors' orders caused turbulence at stock market. Brokerage firms go bankrupt because of high brokerage commissions on loans. Rich individual investors who took these financial steps became poor practically overnight. Investors can have great profit if capital gains arising from trade with borrowed securities by the principle of selling them for higher to buy at a lower price. However, if investors' behavior becomes reckless, losses can be great as well. Reckless behavior is the result of psychological characteristics of individual investors. Investors borrow money in order to buy shares because they expect share prices to rise. Their act of buying those shares is really what makes their price rise. The purchase made buy one investor causes a chain reaction, other investors start buying and the speculative mania is transferred to the next round. Most of these purchases are on margin which means that investors do not have all the money they need but borrow money, investing the shares as collateral for the purchase. This also implies large brokerage commissions on loans. Investors expect that a great price growth will cover these expenses. At a certain point they realize that due to buying on margin they cannot cover the expenses. Now the market starts to fall rapidly just as it was once rapidly growing. This is how the story about individual investors who are active but reckless could end. One minute they are rich and the next they are nothing but poor.

For the purpose of minimizing any kind of abuse, buying on margin is specified by regulations, certain attempts are made to define buying on margin by law and to limit the purchase of borrowed securities. In order to prevent abuses, brokers take an active part in maintaining the margin account and they have the obligation to notify investors that they have to pay the minimum amount for borrowed securities. At the world stock markets the role of the investor on margin is played by very powerful professional investors.

6. Psychological profile of investors in Serbia

The structure of the capital market in Serbia is determined by the character of saving and investment processes. With individual investors still as the dominant ones and a growing number of professional investors, broker-dealers markets make the prevailing market structure. Reasons for this lie in the fact that dealer markets carry a higher concentration of risk while broker markets tend to ensure stable prices through orders of clients interacting with each other. Serbia has a specific financial mentality and a specific psychological profile of investors developed as a result of the transition process, corporatization and privatization of state enterprises as well as the result of insufficient financial education. A large number of individual investors could be categorized as "financially confused" as mentioned in British empirical research. Those are the citizens with low income and not enough education but with shares in priva-

tization. Since they lack sufficient knowledge in the field of economy and finance and lack money as well, they have a problem with liquidity. They do not see their shares as assets that would bring income over time, but as something they should dispose quickly and turn into cash. Investing money is something they are not familiar with because they need to deal with survival issues.

There are regular and abstinential savers at the financial market of Serbia (Todorovic, 2011). Those are all the individuals who make patient, long-term savings but also have aversion to risk. They keep money in banks or invest in real estate. Among individual investors there could be found those without their own capital. Those who make capital through loans and are included to the financial market without sufficient knowledge.

Finally, individual investors with high income and sufficient knowledge in the field of investment are also present at Serbian financial market. They are ready to take higher risks because their total income allows them to. They own many securities. They invest in shares, fixed-income securities and real estate. They are often majority owners of certain companies.

7. Conclusion

Even though economics does deal with human behavior it can not be completely explained without the help of psychology. Economics and psychology together could answer the question how people behave in situations in which uncertainty and risk are present. The underlying assumption in economics is that people are rational, while psychology starts from the assumption that people are irrational. Economics points to the way people should behave, but psychology shows the way people really behave.

Being familiar with "financial" mentality of investors is important for the functioning of capital markets. Theoretical analyses and empirical research show that despite complex mathematical-economic models that include all economic parameters it is not possible to predict security prices movements at capital market and that these markets are irrational. The only thing that is certain at a capital market is the fact that prices do fluctuate so that rational behavior in such case is the favorable pattern. Prudent or cunning investors have rational expectations, they use all available information on security prices, interest rates, money supply and include them in their investment decisions. Yet, reality is rather different. Investors are often hasty, have irrational expectation influenced by emotions, various sentiments, unverified information. They make wrong investment decisions due to lack of self-control. Capital market is moved by those who are prone to risk and very experienced. Business deals they make can be attractive to those investors without sufficient knowledge and experience and are, due to that, exposed to great losses.

References:

Bagozzi, R.P., Gopinath, M., Nyer, P.U. (1999). The role of emotions in marketing. Journal of the Academy of Marketing Science, 27(2): 184–206.

Fabozzi, F.J., Modigliani, F. (2003). Capital Markets: Institutions and Instruments, Prentice Hall. New York.

Jovanovic, N. (2009). Berzansko pravo, Pravni fakultet Univerziteta u Beogradu. Beograd.

Kahneman, D., Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk, Econometrica, 47(2): 263–292.

Kelly, M. (1997). Do noise traders influence stock prices? Journal of Money, Credit, and Banking, 29(3): 351–363.

Kirchmaier, G.O., Grant, J. (2006). Corporate Governance in the US and Europe; Where Are We Now, Palgrave Macmillan.

Labudovic Stankovic, J. (2012). Finansijska trzista Evrope – pregled i analiza, Pravni fakultet Univerziteta u Kragujevcu. Kragujevac.

Levy, J.S. (1992). An Introduction to Prospect Theory. Political Psychology, 13(2): 171–186.

List, J.A. (2004). Neoclassical theory versus Prospect theory: evidence from the marketplace. Econometrica, 72(2): 615–625.

Macrae, N.C., Bodenhausen, G.V. (2000). Social cognition: Thinking categorically about others. Annual Review of Psychology, 51: 93–120.

Milicevic, A., Pavlicic, D., Kostic, A. (2007). Odlucivanje u uslovima rizika i teorija izgleda. Psihologija, 40(1): 147–164.

Pavlicic, D. (1997). Individualne preferencije i racionalni izbor. Psihologija, 30(1–2): 49–76.

Radovanovic, B. (2012). Individualno odlucivanje, grupno odlucivanje i deliberacija. Filozofija i drustvo, 23(2): 147–167.

Ritter, L.S., Silber, W.L., Udell, G.F. (2004). Principles of Money, Banking and Financial Markets. Prentice Hall.

Rose, P.S., Marquis, M.H. (2011). Finansijske institucije i trzista, McGraw-Hill, Irwin, Udruzenje banaka Srbije. Beograd.

Samuelson, A.P., Nordhaus, D.W. (1995). Economics, McGraw-Hill Inc. USA.

Simon, H. (1959). Theories of Decision-making in Economics and Behavioral Science. The American Economic Review, 49(3): 253–283.

Soskic, D., Zivkovic, B. (2007). Finansijska trzista i institucije, Centar za izdavacku delatnost Ekonomskog fakulteta u Beogradu. Beograd.

Todorovic, N. (2011). Individualni investitori na finansijskom trzistu. Pravo i privreda, 48(4–6): 590–600.

Warneryd, K.E. (2001). Stock-Market Psychology, How People Value and Trade Stocks, Edward Elgar Publishing.Cheltenham. Northampton.

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