

METHODOLOGY FOR MAKING INVESTMENT DECISIONS IN THE SECURITIES MARKET

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Abstract: *This article examines the methods of making investment decisions and their application in practice. The relevance of the study of the methodology for making investment decisions in the securities market (SM) is due to the changes taking place in the structure of the economy of the Republic of Uzbekistan. Currently, research is underway in the world economy in important areas of introducing modern tools for attracting financial resources from the capital market to the corporate sector of the economy, increasing the efficiency of financing, and applying modern methods in the process of making investment decisions.*

Key words: *investment decision, methods, securities, investor, issuer, stock, fundamental analysis, noise theory.*

Introduction.

In the Strategy of Actions for the Further Development of the Republic of Uzbekistan for 2017-2021, priority tasks were identified for "attracting capital, developing the stock market as an alternative source of allocating free resources of enterprises, financial institutions and the population, further developing international economic cooperation, including expanding ties with leading international and foreign financial institutions, the continuation of the implementation of a well-thought-out policy on foreign debts and effective use of loans"[1]. Ensuring the effective implementation of these tasks, a positive solution to such problems as the further development of business in joint-stock companies of the corporate sector of the country in accordance with modern development trends, the elimination of economic and financial "obstacles" associated with the formation of financial resources, the development of strategies and roadmaps for the development of the financial market Uzbekistan for the medium and long term requires the development of scientific proposals and practical recommendations for the implementation of measures aimed at further improving mutual financial relations between the capital market and the corporate sector.

The decision to invest capital in the RCB is made by the investor individually. For this, an investment object is selected, which is the result of processing a large amount of information and requires the investor to have special knowledge and skills in the field of investment in the securities market. But with a large number of financial instruments, information, the complexity of exchange technologies and other factors, it often becomes difficult for an investor to make the right investment decision. In practice, the currently existing approaches and methods of making an investment decision are of a general theoretical nature, in isolation from the practical side of the investment

process in the securities market. Investment decisions are made by people who have not only a reasonable, rational component, but also an emotional, psychological component. The relationship of these existing approaches to methods of making investment decisions can be fully implemented in practice in the securities market.

Literature review

Many domestic and foreign scientists and economists were engaged in the study of the securities market. The most significant contribution to the development of the problems of investors' activity in the securities market was made by foreign scientists: J. Alexander, B. Graham, R. Dodd, C. Dow, J. M. Keynes, A. Miller, F. Modigliani.

G. Markowitz made a great contribution to the development of the methodology for making investment decisions in the securities market, creating the theory of portfolio investment, which was later developed in the works of J. Tobin, W. Sharp, J. Lintner and J. Mossin. VV Chechen deeply researched and developed a new methodological approach to making investment decisions [2].

The theoretical aspects of investment activity in the domestic securities market were studied by I. Butikova, M. Khamidulina, V. Kotova, S. Abdullaev, I. Alimova, Sh. Shokhazamy, O. Azizova and others [3]. But taking into account the change in the order and conditions of the functioning of world securities markets during the transformation of international relations, the theory and methods of making investment decisions in the securities market require further development, which leads to the objective need to study this issue.[14]

Analysis and results

Due to the high variety of financial instruments traded on the RZB, the investor is faced with the problem of making an investment decision

aimed at performing trading operations with certain securities. The main task of the investor, solved in this case, is to identify the most favorable relationship between the profitability and risk of a security, which directly depend on the current and future price of the security. In theory, there are several methodological approaches to making an investment decision. All of them are formulated within the framework of two approaches - rational and irrational.

A rational approach to making an investment decision in the securities market involves making calculations based on the quantitative characteristics of the issuer, comparing the probabilities of making a profit and potential loss when investing in a security, choosing an investment option that has the best quantitative indicators in terms of generating income.

An irrational approach to making an investment decision on the securities market is associated with the investor's subjective assessments of the qualitative and quantitative characteristics of the security. In our opinion, an investor, despite his professional skills, remains a human being and is influenced by emotions. Due to this, most often not rational, but subjective decisions are made, or in other words, irrational decisions from the point of view of the theory of maximum utility and other similar theories.

The existing methods of making an investment decision in the securities market cannot be unambiguously attributed to one of the selected approaches. To one degree or another, all methods use the provisions of both approaches, since people are involved in their implementation. Depending on the degree of use, the following methods of making an investment decision on the RCB can be attributed to a rational approach:

- fundamental analysis;
- technical analysis;
- The theory of the effective market (Efficient Market Hypothesis);
- theory of random walks;
- mathematical methods.

The irrational approach includes the following methods, which differ in the structure of information and the procedure for obtaining the final results:

- the theory of perspectives of Kahneman and Tversky;
- Black's noise theory;
- Soros' theory of reflexivity.

Fundamental analysis was the main method of making investment decisions in the emerging securities market. In a structured and systematic form, fundamental analysis as a scientific theory was presented by B.Graham and D.Dodd in the book "Analysis of Securities" in 1934. According to the authors, fundamental analysis is reduced to the study of "financial performance, income and dividend policy of the company, as well as the state of the surrounding economy [4]". This work greatly influenced the behavior of investors at the time. All

the famous student of fundamental analysis and a practitioner who has achieved high results in the stock market can be considered billionaire W. Buffett. In the financial markets, he was based on the data of fundamental analysis, which he modified for the modern conditions of the development of the securities market. The changes affected the idea that the basis for changes in stock quotes is the future cash flows of the issuing company, therefore, in order to predict the value of its shares, it is first of all necessary to predict the future change in future cash flows.

Lawrence Gitman and Michael Jonck mean fundamental analysis as an in-depth study of a company's financial position and performance. However, the presented definition does not reflect an important feature, which is that the purpose of the analysis is to predict the future change in the price of a security on the stock market, and not in the real sector of the economy.

W.Sharp, G. Alexander and D.Bailey in their book "Investments" understand by fundamental analysis the determination of the true value of a financial asset equal to the present value of all cash flows that the owner of the asset hopes to receive in the future [5].

In our opinion, as a rule, the subject of fundamental analysis is the financial indicators characterizing the state of the state economy, the industry in which the company operates, and the financial and economic indicators of the issuer itself, then the results obtained are compared with the value of the financial instrument on the stock market and an investment decision is made. For this reason, there are a number of disadvantages of fundamental analysis, the main of which are the following:

- economic categories such as supply and demand on the stock market are not taken into account when conducting fundamental analysis, thereby missing the main moment of the formation of the price of a financial instrument on the securities market;
- the results of the issuer's work in the real sector of the economy are not always reflected in the value of a security due to the impact of various specific factors on the pricing mechanism in financial markets, and therefore, investment decisions made on the basis of fundamental analysis in the securities market may be inaccurate and erroneous;
- carrying out a qualitative fundamental analysis requires the availability of open and reliable information about the issuing company, the industry and the state, which in practice is not always possible;
- carrying out fundamental analysis requires deep economic knowledge and the presence of high analytical skills in the person performing it, thus its prevalence among private investors is very limited.

Despite all the shortcomings, fundamental analysis is used by a fairly large number of investors when making an investment decision on the securities market.[12]

Technical analysis is an alternative to fundamental analysis. Technical analysis is a decision-making method based on the analysis of the price chart of a financial instrument. This approach is based on statistical rather than economic analysis, which is its main difference from fundamental analysis. The price chart is one of the few absolutely objective indicators of the functioning of the securities market: data on exchange prices come to the trader's disposal in real trading mode and practically cannot be distorted.[13]

The emergence of technical analysis began at the beginning of the 20th century in the United States of America. Researcher Charles Dow formed the basic principles and directions of technical analysis in the 1890s. Later, the main provisions were further developed due to the ideas of W. Gann, R. Elliott and some other researchers, who are also often referred to as the founders of technical analysis [6]. Much of the credit for Elliott is the development of the theory of market wave movement. Its essence boils down to the fact that trading participants have similar psychological expectations that determine the future price movement. On their basis, Elliott determined the average number of waves that occur when the market moves along a trend. But this theory has not received widespread acceptance due to the complexity of identifying waves, especially corrective ones, and without them it is impossible to correctly determine the potential for changing the main waves. Gann's theory is to determine the relationships and interdependencies between three elements: market fluctuations (patterns), time period and market prices. The balance between these three elements creates the best opportunities for opening trade transactions in the securities market. Despite the good financial opportunities that can be obtained using Gann's theory in practice, it has not received much distribution due to the many factors that must be taken into account when implementing it.[15]

The general systematization of various principles and methods of technical analysis into a unified theory with a common philosophy and axioms was carried out much later, in the 70s, by John Murphy and Robert Prichter. In his most famous work "Technical analysis of futures markets: theory and practice" J. Murphy gives the following definition of technical analysis - it is the study of market dynamics in order to predict the future direction of price movement, focused on making investment decisions. Applicable to the securities market, the term "dynamics" of the market includes two main sources of information at the disposal of a technical analyst, namely the price and volume of trades [7]. George Lane, Wells Wilder, Lewis Borsellino, Larry Williams, Bill Williams have significantly expanded the set of technical indicators. They developed technical analysis as an independent direction for analyzing the future value of a financial instrument, based on the use of mathematically calculated technical indicators. Rules were developed that imply the creation of a rigid algorithm for

opening and closing trading positions based on specific indicator signals.

In our opinion, despite its widespread use, technical analysis does not give a clear answer to the questions: in what direction will the price of a security move, what strength this movement will be and how long it will last. In general, technical analysis is currently considered one of the main methods of making investment decisions in the securities market. But in practice, the merits of technical analysis are undoubted in predicting only the probabilities of future price changes, and not in its actual movement. Therefore, relying solely on technical analysis when making an investment decision is impractical and unsafe for capital.[15]

The Efficient Market Hypothesis is one of the theories about the securities market that explains the relationship between new information and price. The first ideas underlying it were expressed in 1900 by Louis de Bachelier in his work *The Theory of Speculations*. It stated that market prices reflect the opinion of traders about the current value of a financial instrument, and if there was new information not known to the market, the price would immediately reflect it. From this statement, we can conclude that the price reflects all known information on the market, and the chances of bidders to "outplay" the market are zero.[17]

This theory was further developed and modernized in the 60s of the last century in the works of the famous American economist Eugene Fama, Doctor of Philosophy. He suggested that in the stock market, where many knowledgeable and experienced investors participate, the value of financial instruments will reflect all the information available in the market. The basic principle of an efficient market is a rational investor who prefers trading in securities that give the maximum return for a given level of risk. Eugene Fama in his theory criticized fundamental and technical analysis, and explained the discrepancy in the value of securities through the developed model of strong, semi-strong and weak efficiency of the securities market [8]. In fact, investors tend to buy financial instruments if they think they are paying less than their real value (long positions), or, conversely, they are getting more value (short positions). In addition, the hypothesis that investors know absolutely all the information about the financial instrument they have chosen is untenable. In practice, the investor has only a superficial knowledge of the real state of affairs in the securities market and, when making an investment decision, relies on his intuition, the opinion of analysts, forecasts of investment houses and much more. The theory of the efficient market did not receive wide practical application, since it did not answer the question about the future change in the value of a security, did not offer any decisions on their selection and did not give the investor any ways to make an investment decision in the securities market.

The theory of random walks arose as a result of the work and statistical analysis of big data of market prices of exchange instruments, on the basis of which it was concluded that their change does not obey any economic laws, and therefore is a random change. Based on this statement, Paul Samuelson in 1965 in his work "Proof of random change in rational expectation of prices" [9] concluded that in a market where there is perfect competition, prices should change in accordance with a random walk model. Samuelson believed that the fair, true value of a security is a purely theoretical concept, but in practice, the existing price at a particular point in time fully reflects the actual value of a security. In a sense, this theory holds true, especially if the price of a financial instrument is in a sideways trend. This theory has a certain similarity with the theory of the efficient market, provided that the securities market belongs to the weak or semi-strong form of efficiency. Prices do not reflect all information available on the market and can be arbitrarily changed within a certain range under the influence of new information.[16]

Methods and models of mathematical modeling in the securities market have been developing since the middle of the 20th century, when computers appeared capable of performing complex mathematical calculations. In many ways, the content of the methods and models of mathematical modeling comes down to determining the factors that affect the market value of a security, determining the degree of such influence and, on this basis, modeling options for the future value of a security. Over the period of development of just over 50 years, many methods and models of mathematical modeling of changes in stock quotes have been developed. The main ones include the following:

- polynomial time series models;
- method of exponential average;
- moving average order models;
- models of series containing a seasonal component;
- multivariate forecasting models;
- theory of fuzzy sets;
- neural network forecasting of economic indicators.

The inapplicability of mathematical modeling models in the securities market is largely due to the fact that in modern conditions of world integration of the economy, the high dependence of the behavior of stock markets on many factors, any mathematical model and theory suffers complete failure and nonviability. Since it is impossible to take into account all the factors and calculate the degree of their influence on the future behavior of a particular security. Because of this, the use of methods and models of economic and mathematical modeling has not become widespread. In particular, they got their life embodiment in algorithmic trading systems, but otherwise they are viable only on a theoretical level.

An irrational approach to making an investment decision in the securities market is based

on the postulate that trading participants most often make irrational decisions, rather than rational ones from the point of view of economic benefits and benefits. Consider the main views and theories of the irrational approach.

Kahneman and Tversky's perspective theory has revolutionized the minds of many people working in financial markets. In 1979, the work of D. Kahneman and A. Tversky was published "Prospect Theory: Analysis of Decision Making in Risk [10]", in which the authors presented the results of a large number of experiments in which participants were asked to choose from a variety of alternatives. The result of the experiments was the conclusion that most people are unable to rationally determine either the level of potential income, or the risk, or the probabilities of their occurrence. The developed theory of prospects formed the basis for the development of the theory of behavioral finance. Kahneman and Tversky, put forward the assumption that the price of a financial instrument in the financial market is a set of opinions and expectations of market participants. The very concept of fair value cannot be such as long as at least one irrational participant remains in the market, who forms his views on the basis of various information and has its individual interpretation. Thus, in order to predict the future change in the value of an exchange-traded asset, it is necessary to be aware of the beliefs and expectations of most participants in the securities market, but do not forget that they are constantly changing. Summing up, we can conclude that the emotional and psychological state of participants in the securities market has a very high impact on the process of making an investment decision, and understanding this influence gives an investment advantage over other market participants. In our opinion, the theory of prospects, although it forms an adequate and correct understanding of the market situation, but investors cannot determine either a security for making investments, or the points of opening and closing a position, or calculating the volumes of a potential transaction, thus it is only a generalized philosophical theory of acceptance investment decision in the securities market.

Black's noise theory arose as a continuation of the theory of the irrational approach to trading certain groups of investors. For the first time the term "noise trade" appeared in the work of F. Black in 1986. The main idea was that in the securities market, certain investors, when making an investment decision, do not use real information, but rumors, assumptions, opinions, that is, "noise", and Black called such trading "noise trading" [11]. He believed that real markets cannot be efficient in terms of the formation of the fair value of a financial instrument, due to the presence of a huge amount of "noise" on them.

Thus, the presence of irrational investors who use "noise" in their trading creates an opportunity for rational investors to make money in the markets. However, with a large number of irrational investors, there may be a strong deviation of market prices from

their fair value, this behavior is irrational, but sometimes it takes place in the market. Based on the foregoing, we can conclude that the price of a financial instrument can change not only under the influence of objective factors, news, etc., but also under the influence of "noise" irrational investors. This theory combines the features of both approaches to making an investment decision in the securities market, but is only abstractly theoretical in nature, which seriously complicates its application in practice.

Soros's theory of reflexivity became the next stage in the development of the theory of the irrational behavior of participants in the securities market or behavioral finance. Its author, George Soros in 1987 published the book "Alchemy of Finance" in which he described in detail and made an attempt to prove the correctness of his theory. Its main concept is that there are irrational investors on the market who, by their actions, directly affect not only the change in the value of financial instruments, but also the formation of the real future. Such a situation is possible when investors make an investment decision ahead of real changes in the market. Thus, by their actions, they construct a new reality, and provided that there are enough irrational investors to be able to resist rational ones, a reality that should not exist is nevertheless created. Further, rational investors, observing the created new real picture in the market, change their ideas about it, thereby maintaining its existence [12].

The reflexivity theory made it possible to answer the question of why irrational investors can be economically more efficient than rational ones. The bottom line is that in the market there is a two-way relationship between decisions taken at the current time and the consequences that arise in the future. In other words, all the expectations of investors have already been incorporated into the future movement of prices, and it is precisely by them that they are conditioned. An important aspect of the theory of reflexivity is the assumption that supply and demand curves cannot be in equilibrium, since they include the investment preferences of market participants, depending on events that are determined by the expectations of these participants. Reflexivity theory refuted the classical economic theory of market equilibrium and became a breakthrough in explaining the current and future value of securities.

Conclusions

Summarizing the above, we can conclude that there are two approaches to making an investment decision, rational and irrational, including specific methods. Summing up the methodology for making investment decisions, rational approaches to making an investment decision are largely based on a static picture of the market, while irrational approaches regard it as dynamic.

It is not easy to make a correct and effective investment decision in the securities market based on both absolutely static data and an absolutely dynamic state of the market. Since every investment decision should be based on objective economic data, but at the same time, it is necessary to take into account the mood of other participants in the securities market, who are subject to constant changes.

At the present state of the Securities Market, three methods can be distinguished as most effective from the point of view of their use for a private investor - this is technical analysis, but only in terms of graphical presentation of data and technical indicators; fundamental analysis as an economic and informational basis for the development of the issuer itself and the theory of reflexivity, combining a practical approach to the market and its correct generalized perception from the point of view of the subjective needs of a private investor.

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