



SHORT-TERM FORECASTING OF STOCK PRICES IN THE CAPITAL MARKET

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Abstract. *Ensuring transparency of joint-stock companies for investors largely depends on the dynamics of stock prices in the capital market. Along with economic and statistical analysis of stock price movements, evaluating shares based on fundamental and technical analysis remains a relevant research task. This study focuses on the practical application of widely used technical analysis methods to examine stock price fluctuations of joint-stock companies in the capital market. Various analytical tools—such as moving averages, trend lines, support and resistance levels, and oscillators including the Relative Strength Index (RSI)—are employed to assess price behavior, momentum, and volatility.*

Keywords: *Stock market, joint-stock companies, stock price forecasting, technical analysis, moving averages, Relative Strength Index (RSI), Elliott Wave Theory, dividend policy, investor transparency, Uzbekistan capital market*

The most important factor in ensuring transparency of joint-stock companies for investors is the change in the value (price) of shares in the stock market. For this, in addition to the economic and statistical analysis of changes in share prices, their assessment based on fundamental and technical analysis can also be considered one of the relevant issues. For this, it is advisable to consider the technical analysis of changes in the share price of the analyzed joint-stock companies in the stock market using methods available in practice. The use of various methods in studying the share price of joint-stock companies in the stock market is of great importance for investors. These tools include moving averages, a technical indicator calculated by adding the closing prices of a stock or other security over a given period of time and dividing the total by the number of trading days involved, trend lines, support and resistance levels, and oscillators, such as the relative strength index (RSI), that measure the speed and volatility of price action.

However, technical analysis has limitations because it relies solely on historical price data and does not take into account fundamental factors that can affect the value of an asset. It is based on the assumption that market participants are self-predicting, which may not always be true. In addition, interpreting and analyzing charts and indicators requires skill and experience.

The main problem with Elliott Wave Theory is that, despite its technical nature, it is subject to subjective analysis. This means that two practitioners can look at the same price chart and calculate different waves. So, if you plan to use this analysis method, it is very



important to decide in advance which method of generating the number of waves to use. Fortunately, there is software for this purpose, and you should choose the one that is most convenient.

We know that the sharp fluctuations in the share price of the Uzbek Republic Commodity Exchange JSC directly depend on the value of the dividend paid per share. Therefore, it is important that the dividend policy of the enterprise is properly organized based on the management decision.

The company's dividend policy also depends on the number of shares sold on the secondary market. If we look at the number of shares sold on the secondary market of "Kizilqumsement" JSC, the highest figure was 83,668 in the last weeks of November 2024. The lowest figure was 7 on February 8. If the constant change in the sale (purchase) price of shares in the secondary market is important for investors in determining the future of the company, then this will certainly be related to the dividend policy.

Based on the obtained analysis, the following conclusions were drawn by forecasting the price of shares of joint-stock companies:

- When forecasting the direction of further movement of share prices using Legendre polynomial functions according to the Bernoulli random movement method, it is advisable to draw the abscissa axis through the highest and lowest price points of the coordinate axis during the analyzed period;

- Taking the change in share prices by days (at least 5 days) using Legendre polynomial functions increases the forecast accuracy;

- Traders increase the opportunity to sell (buy) shares of a joint-stock company on the secondary market through the developed forecasts.

Conclusions and suggestions. Based on the obtained analysis, the following conclusions were drawn regarding the situations that arise due to changes in share prices in joint-stock companies on the secondary market.

The Bernoulli random movement method creates the opportunity for investors of a joint-stock company to observe the graph of share price movements.

According to the Bernoulli random motion method, the amplitude of the fluctuation of the share price of the "Uzbekistan Republican Commodity and Raw Materials Exchange" JSC was observed to change over a certain period of time through the Legendre polynomial functions.

The possibility of accurately assessing the limit of sale (purchase) of the shares of the "Uzbekistan Republican Commodity and Raw Materials Exchange" JSC in the secondary market was developed.

It was proved that accurate assessment of the price change of the shares of the "Uzbekistan Republican Commodity and Raw Materials Exchange" JSC in the secondary market through the Legendre polynomial functions further increases the possibility of attracting investors.



A daily forecast of the price change of the shares of the “Uzbekistan Republican Commodity and Raw Materials Exchange” JSC in the secondary market was developed using the rules of the Bernoulli random motion method using the Legendre polynomial functions.

The justification was given that the change in the price of shares of the "Uzbekiston Republic Commodity Exchange" Joint Stock Company on the secondary market is directly related to the dividend policy pursued by the board of directors of the enterprise.

List of used literature.

1. Ince, H., & Trafalis, T. B. (2008). Short term forecasting with support vector machines and application to stock price prediction. *International Journal of General Systems*, 37(6), 677-687.

2. Khamdamov, S. J. (2024). Energy Sector Development and its Contribution to Uzbekistan's Economic Expansion. *American Journal of Corporate Management*, 1(2), 1-6.

3. Kumar, S., & Ningombam, D. (2018, December). Short-term forecasting of stock prices using long short term memory. In *2018 International conference on information technology (ICIT)* (pp. 182-186). IEEE.

4. Khamdamov, S. J. (2024). The Effect of Labor Market Reforms on Economic Growth in Uzbekistan. *American Journal of Corporate Management*, 1(2), 7-12.

5. Kakhramonova, U., & Usmanov, A. (2024). GREEN ECONOMY AS A DRIVER OF SUSTAINABLE ECONOMIC GROWTH IN UZBEKISTAN. *Страховой рынок Узбекистана*, 1(8), 64-66.

6. Saidmakhmudovich, U. A., Khamdamov, S. J., & Eshonovich, S. A. (2023). PROBLEMS OF ENSURING SUSTAINABLE DEVELOPMENT GOALS IN UZBEKISTAN. *British Journal of Global Ecology and Sustainable Development*, 16, 106-110.

7. Jakhon, K. S. (2021). Analysis of factors of intensive economic growth in Uzbekistan. *JournalNX*, 7(12), 310-315.

8. Khamdamov, S. J., & Usmanov, A. (2022). New methodological recommendations for economic growth. *Архив научных исследований*, 2(1).

9. Kasimov, A.,... & Usmanov, C. (2023, December). Organizational and economic modeling of the system of interregional industrial cooperation as a control object. In *Proceedings of the 7th International Conference on Future Networks and Distributed Systems* (pp. 333-343).

10. Muftaydinova, S. K., ... & Abdullayev, S. I. (2022, December). Expression of the tyrosine kinase receptor (EPHA1) in the eutopic and ectopic endometrium of patients with deep infiltrative endometriosis use of modern digital technologies. In *Proceedings of the 6th International Conference on Future Networks & Distributed Systems* (pp. 416-421).



11. Atsalakis, G. S., & Valavanis, K. P. (2009). Forecasting stock market short-term trends using a neuro-fuzzy based methodology. *Expert systems with Applications*, 36(7), 10696-10707.

12. Ahmar, A. S., & Del Val, E. B. (2020). SutteARIMA: Short-term forecasting method, a case: Covid-19 and stock market in Spain. *Science of the Total Environment*, 729, 138883.

