

HIGH-FREQUENCY TRADING

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High-frequency trading is HFT in short. Algorithmic trading is a type of trading where powerful computers are utilized in order to carry out many transactions at very high speeds. HFT companies use advanced algorithms to examine the markets and place trades in milliseconds or microseconds, often by capitalizing on marginal price differences or market inefficiencies.

HFT has many advantages. Its main benefit is the creation of efficient market conditions due to liquidity. Market-making companies constantly indicate the purchase and sale prices of securities. This ensures a constant influx of bids, which makes it easier for other bidders to buy or sell shares, reducing the risk of illiquidity. For example, during periods of high volatility, HFT companies provide liquidity and thus stabilize markets, narrowing the gap between supply and demand.

HFT, on the other hand, is a mechanism for narrowing the spreads between expenses and income from trading securities, which represent the difference between the price at which a buyer is willing to purchase a security and the price at which a seller is willing to sell it. Reducing the spread leads to lower trading costs for all market participants, including retail investors and institutional traders.

In addition, HFT also increases trading speed, which in turn reduces arbitrage opportunities and corrects price differences across different markets or trading platforms. The efficiency gained through automation and rapid turnover not only eliminates human intervention, thereby reducing the company's operating costs, but also minimizes trading fees, allowing investors to incur lower costs [1].

However, such a system has many disadvantages. HFT is criticized for the fact that it can destabilize the market. The main reason for the aggravation of market fluctuations is the speed and number of transactions, which leads to unexpected and serious consequences for the mar-

ket. For example, during the flash crash of 2010, the Dow Jones index dropped by almost 1,000 points in a matter of minutes, and HFT was partly the reason for it [1].

Although HFT itself is not intended to gain an unfair advantage, some companies have been caught using unethical trading methods in order to expand their competitive advantages. In particular, spoofing is one of those manipulation strategies in which traders place large buy or sell orders that they do not intend to execute in order to create false supply or demand that will affect prices. Such algorithms are complex and sophisticated, and they are mostly proprietary to companies, making them difficult for regulators and the market itself to understand. Such opacity can have hidden consequences, for example, in the form of algorithmic errors or uncontrolled algorithms that make the market too volatile. At the same time, lack of transparency may cause difficulties in identifying manipulative practices such as substitution. In addition, the infrastructure required for HFT, such as data centers and high-speed networks, consumes significant amounts of energy and damages the environment.

More attention needs to be paid to HFT regulation. Most regulations are aimed at regulating HFT in traditional markets in the form of assets based on blockchain technologies. The decentralized and 24/7 nature of cryptocurrency markets presents unique opportunities for HFT strategies, allowing for continuous trading and arbitrage across exchanges. The lack of regulation in these markets can lead to aggressive trading strategies that may introduce systemic risks.

In conclusion, I would like to say that HFT is a double-edged sword in modern financial markets. While it offers significant advantages in terms of liquidity and efficiency, it also comes with risks related to volatility and market manipulation. A balanced regulatory approach is necessary to take advantage of HFT while maintaining market integrity and fairness. Future research should focus on the changing landscape of HFT, especially in the context of new technologies and regulatory frameworks.

References

1. High-Frequency Trading (HFT): What It Is, How It Works, and Example // Investopedia. – URL: <https://www.investopedia.com/terms/h/high-frequency-trading.asp> (date of access: 13.03.2025).