

## APPLICATION OF BLOCKCHAIN TECHNOLOGY FOR INVESTMENT PORTFOLIO DIVERSIFICATION

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**Abstract.** *The expansion of digital assets, decentralised finance, and smart contracts creates new opportunities for diversifying investment portfolios of both institutional and individual investors. The paper examines current trends in the digitalisation of the investment process and identifies potential areas for applying blockchain technology in diversifying investment portfolios. These areas include the expansion of investment asset ranges through blockchain-based cryptocurrencies, the use of smart contracts for automated and transparent asset allocation, and the enhancement of investment portfolio risk management processes through the application of blockchain technology and blockchain analytics.*

**Keywords:** *investment portfolio, diversification, blockchain, blockchain analytics, cryptocurrencies, risk management.*

The profound transformations of contemporary financial markets driven by digitalisation, financial innovations, and increasing instability in the global economy represent significant challenges for investing in financial assets. Blockchain, as a foundational infrastructure technology, creates new classes of assets and financial instruments that have the potential to transform traditional approaches to investment portfolio formation and management. Blockchain-based solutions enable new models of access to global capital markets, reduce transaction costs, and enhance the transparency of investment operations, which is particularly important in the context of portfolio risk management.

The purpose of this article is to substantiate current trends in the digitalisation of the investment process and to identify potential directions for applying blockchain technology in the diversification of investment portfolios.

In a period of active digitalisation of financial markets, individual investors gain access to a variety of innovative approaches that allow for the effective diversification of investment portfolios. Among these approaches, the author highlights investment in cryptocurrencies, the use of robo-advisors, modern portfolio management strategies, geographical and sectoral diversification, alternative investments, and the integration of artificial intelligence.

From the perspective of investment feasibility, the author considers the use of cryptocurrencies with high market capitalisation and established ecosystems to be the most justified. This primarily refers to Bitcoin, which, due to its limited supply and dominant market position, is often regarded as a “digital gold” analogue and a store of value within the cryptocurrency segment. Particular attention is also given to Ethereum as a foundational platform for smart contracts, decentralised finance, and tokenised assets.

The use of cryptocurrencies, robo-advisors, and AI-based analytics makes investment diversification more accessible and comprehensive, allowing portfolios to be optimised to achieve financial stability and long-term growth. Blockchain analytics establishes a new level

of informational support for investment portfolio risk management by combining the transparency of blockchain with quantitative analysis and forecasting methods. Its application facilitates a shift from retrospective risk assessment to a proactive, data-driven approach, which is especially relevant in conditions of high dynamism and uncertainty in modern financial markets.

Overall, the author views blockchain technology as a factor in shaping a new paradigm of investment portfolio risk management, where the emphasis shifts from post-factum control to preventive and automated management. The combination of transparency, programmability, and operational speed not only reduces specific types of risks but also enhances the overall resilience of portfolios in the context of increasing complexity and globalisation of financial markets.

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