Cryptocurrency Portfolio Rebalancing: A Comparative Analysis of Time-Based and Threshold-Based Rebalancing Strategies

Sutta Sornmayura [a], Nichanan Sakolvieng [b], Kaimook Numgaroonaroonroj [c]

[abc] Assumption University, Samutprakarn, Thailand

ABSTRACT

The rise of cryptocurrencies as an asset class has attracted the attention of investors and portfolio managers alike (Baur & Hendershott, 2018; Chuen, Guo, & Wang, 2017). One of the key challenges in managing a cryptocurrency portfolio is the high volatility and uncertainty of the market. To address these challenges, rebalancing, which involves adjusting the weights of assets in a portfolio to align with a predetermined asset allocation, is applied to maintain a diversified portfolio and manage the risks of digital assets (Bakry, Rashid, Al-Mohamad, & El-Kanj, 2021). For any traditional assets, a rebalancing strategy is widely recognized as a technique to mitigate the impact of market volatility and improve the risk-return trade-off of the portfolio (Gervais, Koutmos, & Udell, 2015; Tsai, 2001). It is considered an effective method of achieving returns maximization and risk minimization objectives as it helps reduce the impact of market volatility and keep the portfolio aligned with the investor's risk tolerance and investment goals. However, there is still limited empirical research on its impact on cryptocurrency portfolio performance. Given this gap in the literature, the study aims to shed useful light on the effects of different rebalancing strategies on cryptocurrency portfolio management.

Keywords: Cryptocurrency, Mean-Variance Optimization, Portfolio Management, Rebalancing Strategies, Risk-Adjusted Returns