

Abstract

This thesis investigates diversification benefits of Bitcoin and Ethereum. Technological innovation that made them possible, is interesting but for investors hard to grasp. The more important question is whether they should buy the digital currency or avoid it. We analyze Bitcoin and Ethereum from point of view of an investor within compatible with mean-variance (and non-mean-variance respectively) framework. Both cryptoassets are alternately added to base portfolio consisting of global indices representing American, European and Asian markets. Statistically rigorous tests suggest that Bitcoin yields added value to investors with utility function consistent with mean-variance setting. Same holds for investors with preferences described by exponential and power utility function. Ethereum shows similar results with exception of exponential utility. Performance benefits of both assets are preserved in the out-of-sample setting as size of test window reaches 28 weeks and increases. In the case of shorter test window, base assets show similar or slightly superior performance. Optimal allocation in out-of-sample framework is found by direct utility maximization with gradient based method.

Keywords

Bitcoin, Ethereum, digital currency, investment portfolio, diversification