Executive Summary

Problem and Research Question

The main objective is to test the influence of different portfolio rebalancing-intervals on key figures like performance and cost. Hereby, a buy and hold strategy serves as the benchmark. The aim is to find evidence for the hypothesis, that the rebalancing-frequency inversly influences performance and cost.

Methodology

In order to test the hypothesis, a baseline portfolio-strategy is chosen that will be used to simulate the results. The data used for these simulations are the daily closing prices of the different Cryptocurrencies in the portfolios. A total of five portfolios are created to run the simulations. The time-frame for testing is three months. After, a backtesting is conducted for the first portfolio using the data of 3.5 years in order to cross-check with the results from the short-term simulations. To test the viability of the simulated results, a comparison is drawn against the results attained from the trading logs of a real-life trading Bot, which has a time-frame of two months.

The performance measures that will be compared are asset accumulation resulting from the rebalancing strategy as well as the transaction costs resulting from rebalancing. The rebalancing intervals used for the simulation are daily, all three days, and once a week, while the rebalancing interval of the trading Bot is 15 minutes.

Conclusion

Support for the hypothesis, that the lower the rebalancing-interval, the higher the transaction costs, can be found. However, support for the hypothesis, that the lower the rebalancing-interval, the higher the return, is not as uniform, but can be proven to a certain degree.