Price Momentum in The Cryptocurrency Market

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Abstract

This work examines the profitability of price momentum in the cryptocurrency market based on the implementation of cross-sectional and time-series momentum strategies. In order to complement previous studies, a broader set of cryptocurrencies is included as well as multiple combinations of look-back and holding periods are examined within the range from 1 day to 28 days. A skipping period between the look-back and holding period yielded slightly better results in most cases, however these findings are not robust across all combinations of the strategies examined, namely those with a short loock-back period. In line with findings of previous studies, cross-sectional momentum outperformed time-series momentum on average. The best strategy of buying the "winner" and selling the "loser" portfolio for cross-sectional as well as time-series momentum in terms of significant returns were those with a look-back period of 14 or 21 days. Indications of reversal could be found for strategies with very short look-back periods of only one day or two days, especially for the strategy which additionally involved a one day skipping period and a holding period of one day. However, these indications of reversal were, in contrast to previous studies, not showing statistical significance.

Executive Summary

Cryptocurrencies have been present in the media for a while due to their interesting and new concept as well as their profitability. However, research in finance literature about these young assets is still rare. Especially market anomalies such as the price momentum are still underreported with regard to the cryptocurrency market. Moreover, to this date, research has focused mainly on few big cryptocurrencies when examining the profitability of trading strategies. This work provides an analysis of price momentum profitability and presence in the cryptocurrency market, focusing on cross-sectional and time-series momentum strategies. A broad set of 139 cryptoassets are examined, of which a number of 133 are effectively included into the portfolio building at least once over the observation period. Additionally, multiple look-back and holding periods are examined. The findings indicate that price momentum is profitable even when trading a big set of cryptocurrencies and was present in both the form of time-series as well as cross-sectional momentum. The best results could be achieved with longer look-back periods, while short lags indicate reversal as found by previous studies, however not significant. Time-series momentum underperformed compared to the cross-sectional momentum, which is in line previous findings, while implementing a skipping period led to better results on average for both strategies. Possible explanations for these findings are barriers such as liquidity and a fractioned exchange market as well the fact that typical investors in the cryptocurrency market are retail investors, thus arbitrage opportunities might be left unexploited.