

Guglielmo Maria Caporale, Alex Plastun

Price overreactions in the cryptocurrency market

Abstract

The purpose of this paper is to examine price overreactions in the case of the following cryptocurrencies: bitcoin, litecoin, ripple and dash.

A number of parametric (t-test, ANOVA, regression analysis with dummy variables) and non-parametric (Mann–Whitney U-test) tests confirm the presence of price patterns after overreactions: the next day price changes in both directions are bigger than after “normal” days. A trading robot approach is then used to establish whether these statistical anomalies can be exploited to generate profits.

The results suggest that a strategy based on counter-movements after overreactions is not profitable, whilst one based on inertia appears to be profitable but produces outcomes not statistically different from the random ones. Therefore, the overreactions detected in the cryptocurrency market do not give rise to exploitable profit opportunities (possibly because of transaction costs) and cannot be seen as evidence against the efficient market hypothesis (EMH).

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Keywords: cryptocurrency, price overreactions