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Lead-Lag relationship between Bitcoin and Ethereum: Evidence from hourly and daily data

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Abstract

This paper investigates lead-lag relationship between heavyweight cryptocurrencies Bitcoin and Ethereum. Traditional studies of information flow between markets preponderate on cash vs. futures, whereby researchers are interested in the stabilizing impact of futures on spot markets. While interest in the same relationship in the nascent cryptocurrency sphere is emerging, little is known regarding price leadership between these assets. In this paper, we employ a battery of statistical tests-VECM, Granger Causality, ARMA, ARDL and Wavelet Coherence-to identify price leadership between the two crypto heavyweights Bitcoin and Ethereum. Based on one year hourly and daily data from August 2017 through to September 2018, our tests yield varied results but largely suggest bi-directional causality between the two assets. Moreover, the results indicate that intraday crypto traders can barely exploit Bitcoin-Ethereum hourly or daily price discovery process to their advantage.

Keywords

Author Keywords: Cryptocurrency; Bitcoin; Ethereum; Lead-lag relationship; Wavelet coherence

KeyWords Plus: INDEX FUTURES MARKETS; STOCK INDEX; PRICE DISCOVERY; OPTIONS MARKETS; SPOT-INDEX; DYNAMICS; RETURN; CRYPTOCURRENCIES; INEFFICIENCY; CASH

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