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Bitcoin for energy commodities before and after the December 2013 crash: diversifier, hedge or safe haven?

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role of Bitcoin, we highlight the dissimilarity in the dynamic correlations between the extreme downward and extreme upward movements.

KEYWORDS: Cryptocurrency Bitcoin crash commodities energy commodities diversifier hedge safe haven

JEL CLASSIFICATION: C1 G1 Q4

Highlights

- We uncover the time-varying diversification ability of Bitcoin
- Bitcoin is a strong hedge and safe haven for energy commodities, but not for non-energy commodities.
- The price crash of 2013 affects the relation between Bitcoin and energy commodities
- Dynamic correlations between the extreme downward and upward movements are dissimilar

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Notes



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hereby raising the computer power needed to attempt to gain control of Bitcoins transactions on the network.

⁴ Computer cooling firm Allied Control estimates the power consumption per Bitcoin transaction to be equivalent to around 1.6 times the daily usage of electricity of an average US household. Thus, a Bitcoin transaction requires 5,000 times more energy than, for instance, a VISA transaction.

⁵ We thank the referee for mentioning this important point.

⁶ Several studies so far find very weak relation between Bitcoin and conventional assets (e.g. Baur, Lee, and Hong [2015](#)), suggesting that Bitcoin is a useful diversifier.

⁷ For further discussion of Bitcoin price determinants, readers can refer to Kristoufek ([2015](#)) and Ciaian, Rajcaniova, and Kancs ([2016](#)).

⁸ This is confirmed also empirically by Hayes ([2016](#)), who estimates that at the time of his calculation, the marginal cost of mining one Bitcoin was \$415, whereas the Bitcoin price was \$420.

⁹ For a detailed explanation on the ADCC model and its estimation, the reader can refer to Cappiello, Engle, and Sheppard ([2006](#)).

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