
News-Driven Peer Co-Movement in Crypto Markets

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NBER-NSF Time Series Conference

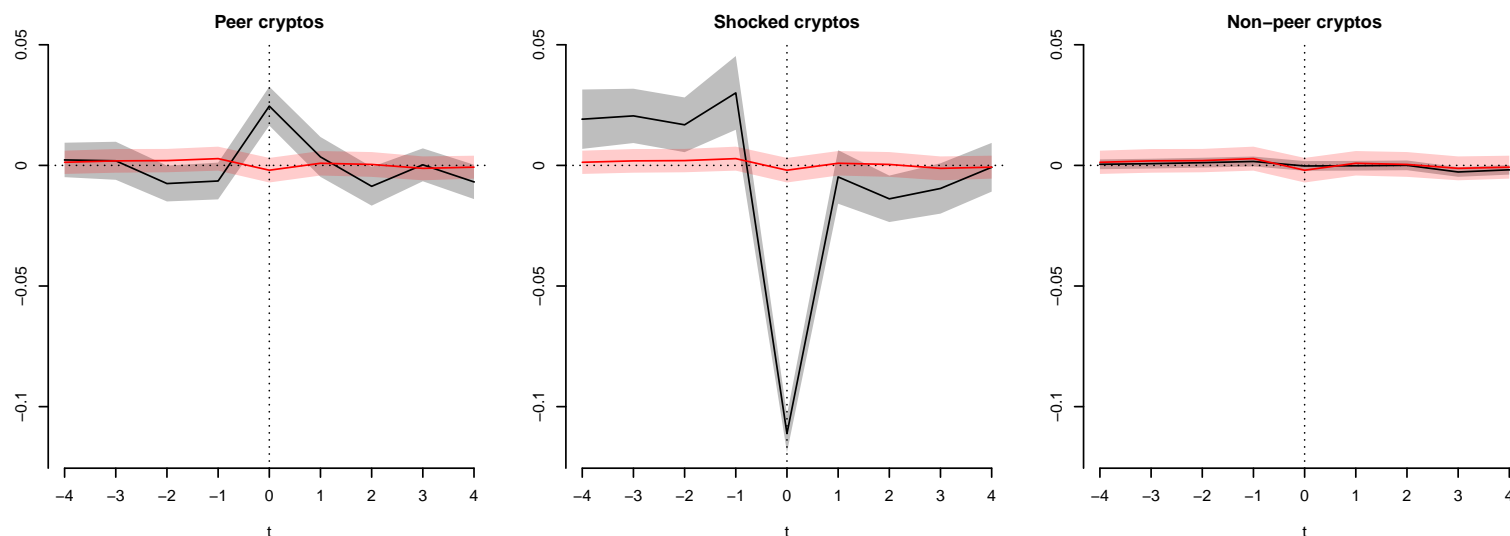
October 2021

Crypto markets

- Cryptocurrencies form a new investment class that has drawn significant investor capital
 - Currently, around 6k cryptos trade on over 380 exchanges
 - Aggregate market cap: \sim \$2 tn
 - Aggregate daily volume: \sim \$150 bn
- Understanding the drivers of crypto co-variation is of key importance for portfolio allocation & risk management
- Existing literature proposes two channels: Common risk factors (Liu et al. (2019)) and correlated demand shocks (Shams (2019))
- We propose a new channel: **Mis-pricing across peers in response to news reporting**

Result 1: Co-movement

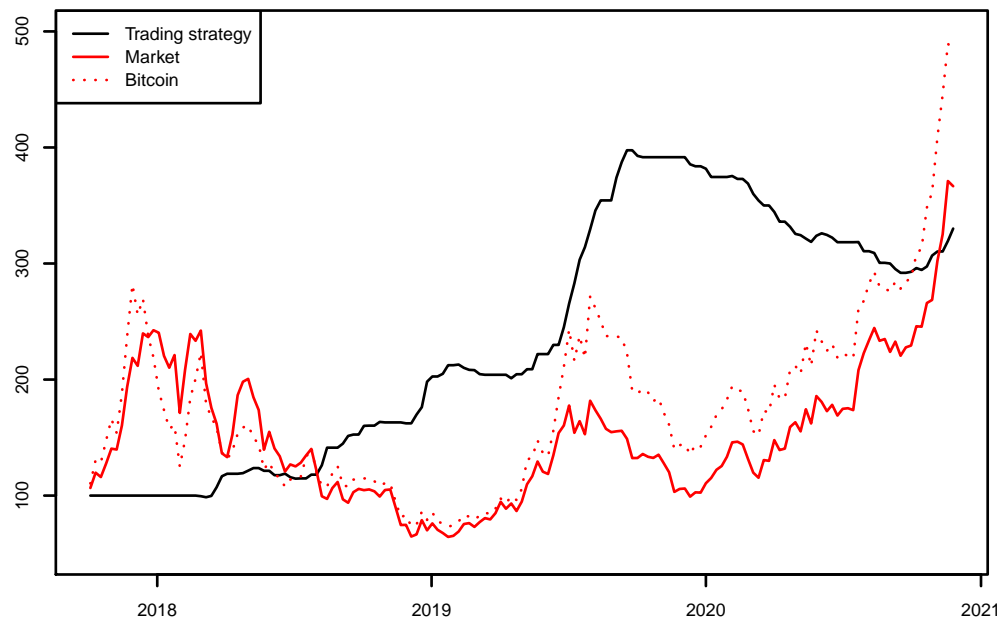
- We find clear and robust evidence that peer cryptos co-move as posited by a **competition effect** (instead of a contagion effect)
- Concentrated among peer cryptos co-mentioned in news and co-listed in common exchanges (extending [Liu et al. \(2019\)](#)) and [Shams \(2019\)](#))



Realized abnormal returns of cryptos that experience large negative abnormal shocks (“Shocked cryptos”), their peers (“Peer cryptos”), all other cryptos (“Non-peer cryptos”), and an average crypto (red line)

Result 2: Predictability

- Trading strategy that bets on reversal of competition effect has annualized $\alpha = 36\%$ and $SR = 2.1$
- Slow information processing channel: investors overreact to news reporting, and it takes them time to recognize and undo this (similar as in [Ahern and Sosyura \(2015\)](#))



Result 3: Peer identification

- We identify crypto peers if they are co-mentioned in online news using an NLP methodology
 - Two cryptos are peers if they are **co-mentioned** in same sentence of an article (as in **Schwenkler and Zheng (2019)**) and a **deep learning model** classifies the sentence as describing a peer relationship (novel contribution)
 - Our experiments confirm that cryptos that are co-mentioned in news tend to be peers
 - More likely to be co-mentioned if cryptos have similar ages, market caps, or betas
- News is a rich resource to identify peers using NLP (complementing **Hoberg and Phillips (2016)**)

Thank you!

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