

Direct Evidence of Bitcoin Wash Trading

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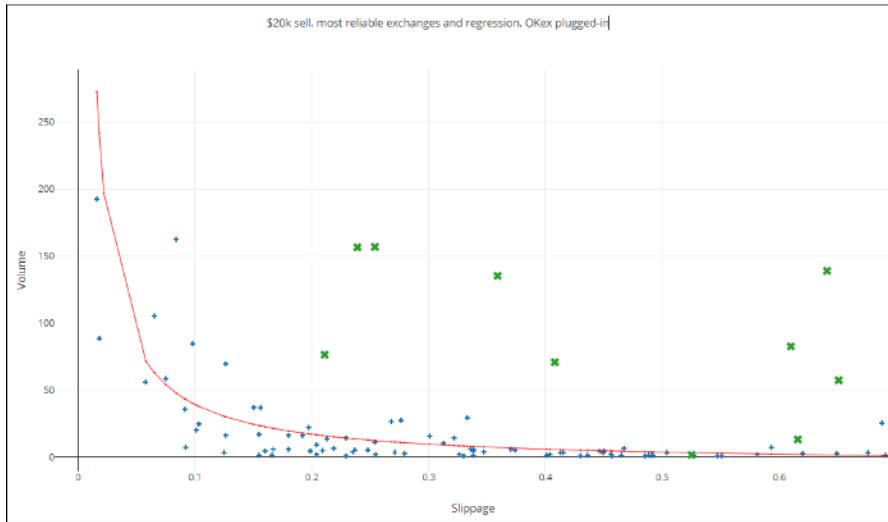
NBER Summer Institute

July 2021

Suspicions of wash trading on crypto exchanges

Wash trading: A type of market manipulation

- same trader clear one's own standing limit orders \Rightarrow fake volume
- banned in most regulated asset markets, but not for Bitcoin



Slippage analysis from Sylvain Ribes' 2018 order execution [experiments](#)



"95% of cryptocurrency exchange volumes are fake." – Bitwise 2019

Cited in SEC's numerous rejections against bitcoin ETF proposals

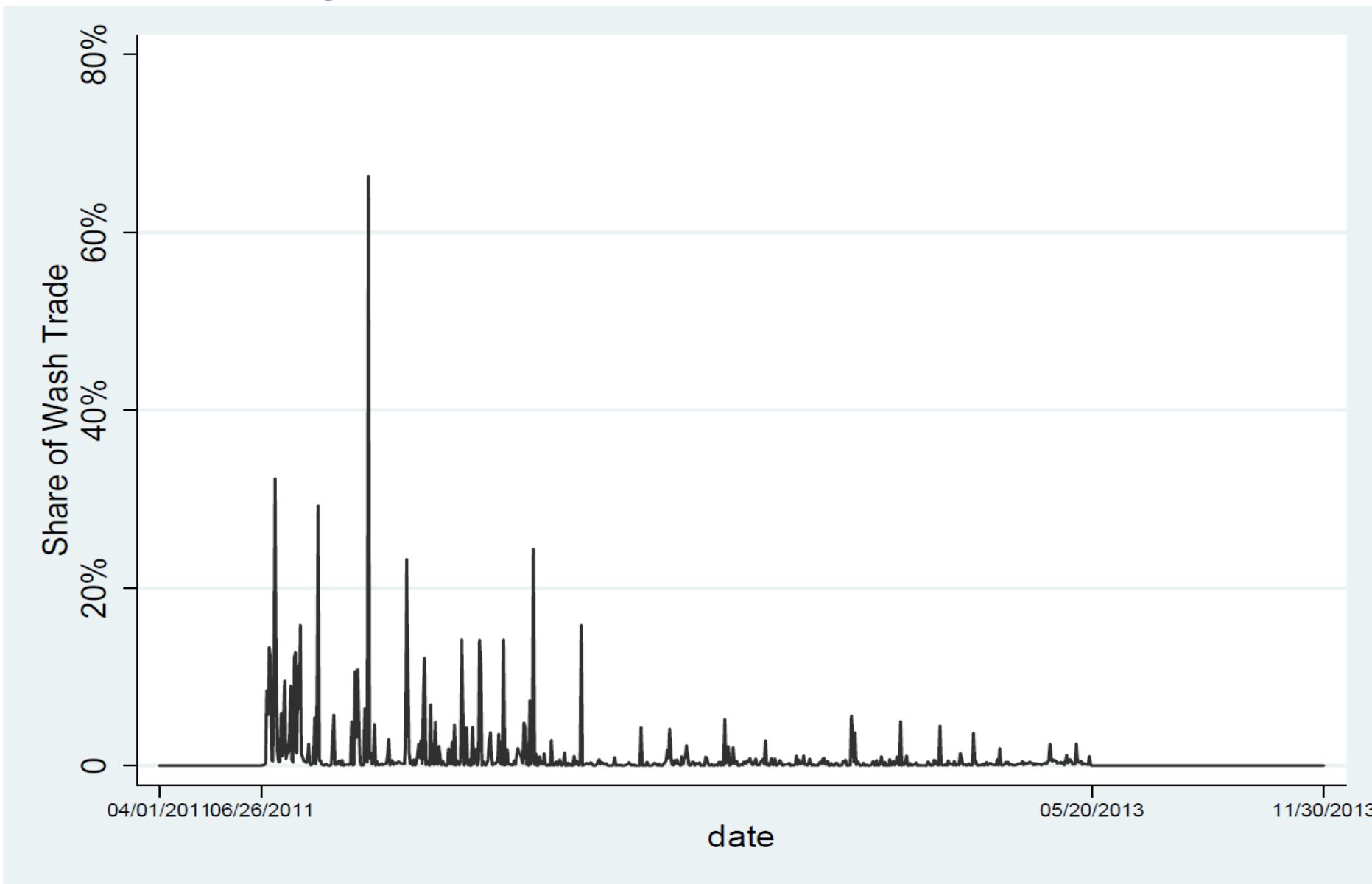
Unanswered questions

- But...direct evidence? Yes, with trader level data leaked from Mt.Gox

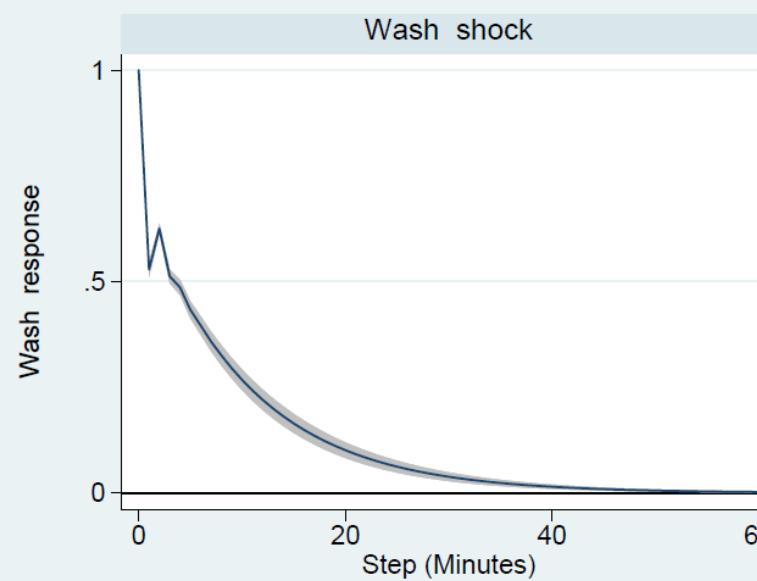
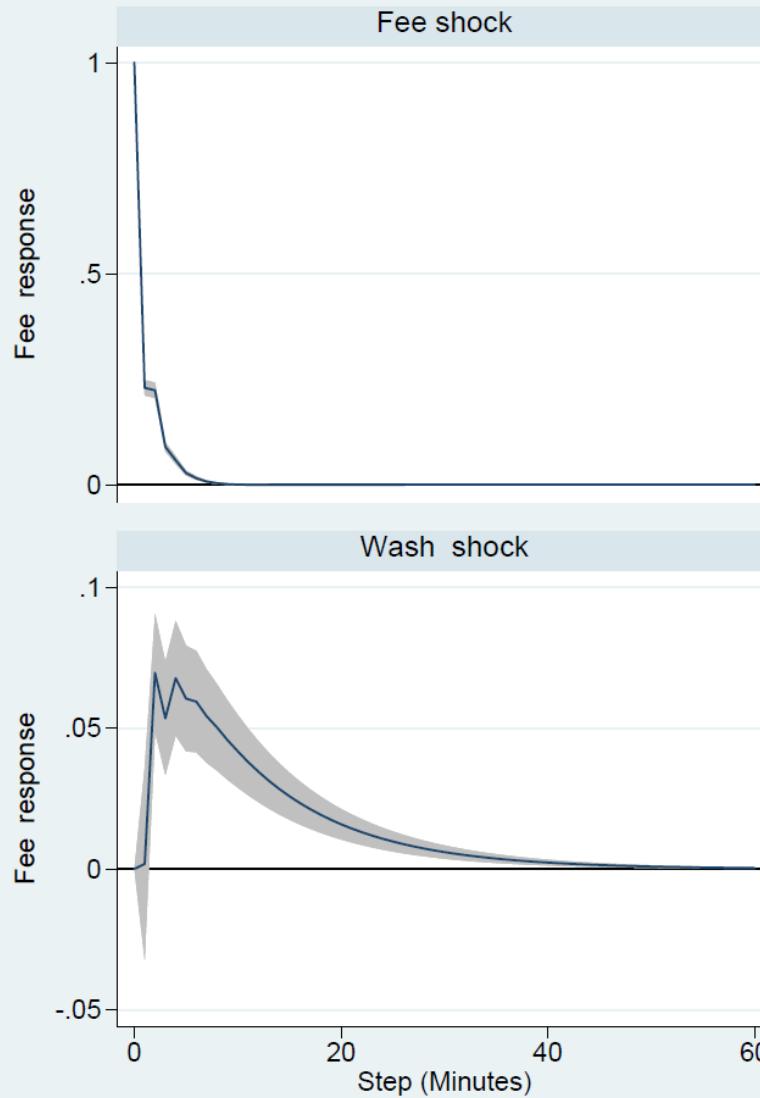
Though useful, recent indirect inferences cannot answer:

- **When** do wash trading of bitcoin happen?
 - is wash trading a recent phenomenon or an “original sin”?
As early as June 2011, when Mt.Gox recovered from a hack
- **Who** commits washing trading?
 - specifically, are exchange insiders involved? Yes!
- **Why** wash trade?
 - to inflate apparent trading volumes? Yes!
- **What** are the market impacts of wash trades? Higher fee revenues
- **How** accurate are indirect inferences? Mostly reasonable

Wash trading share in daily volume



Impulse response function



Vector autoregression (VAR) between:

- log wash trading volume (BTC)
- log fee revenues (BTC) collected from non-wash transactions