GETTING RICH WITH R, ARBITRAGE AND CRYPTOCURRENCIES ?

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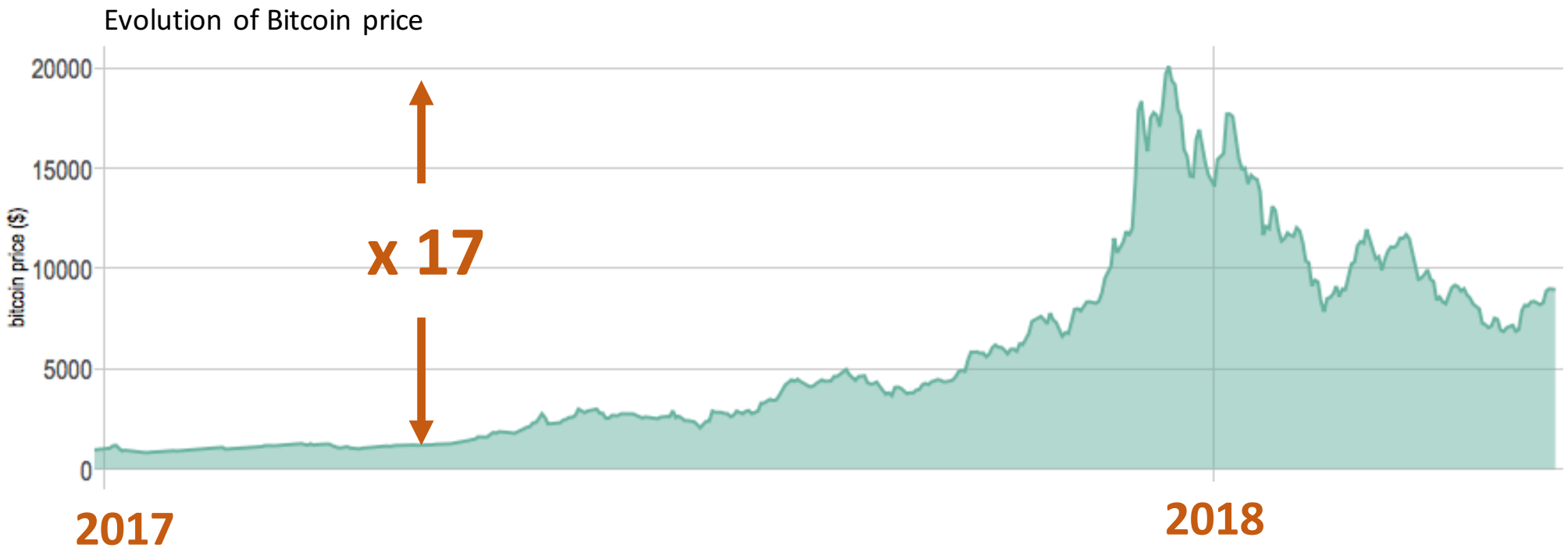
holtzy.github.io/Crypto-Arbitrage/

Crypto Currency <- Digital asset



Several **Currencies** exist:

Bitcoin

Etherum

Bitcoin Cash

Bought and sold on **Exchanges**

Bitstamp

kraken

CEX·IO

coinbase

BITFINEX

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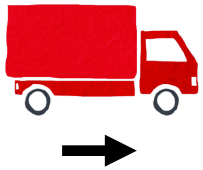
BITFINEX

What is arbitrage ?

What is arbitrage ?

1 € →  →  →  → 1.1 €

Exchange A
Price = 1€ / kg

Exchange B
Price = 1.1€ / kg

PART I – Investigating price differences

Harvesting data

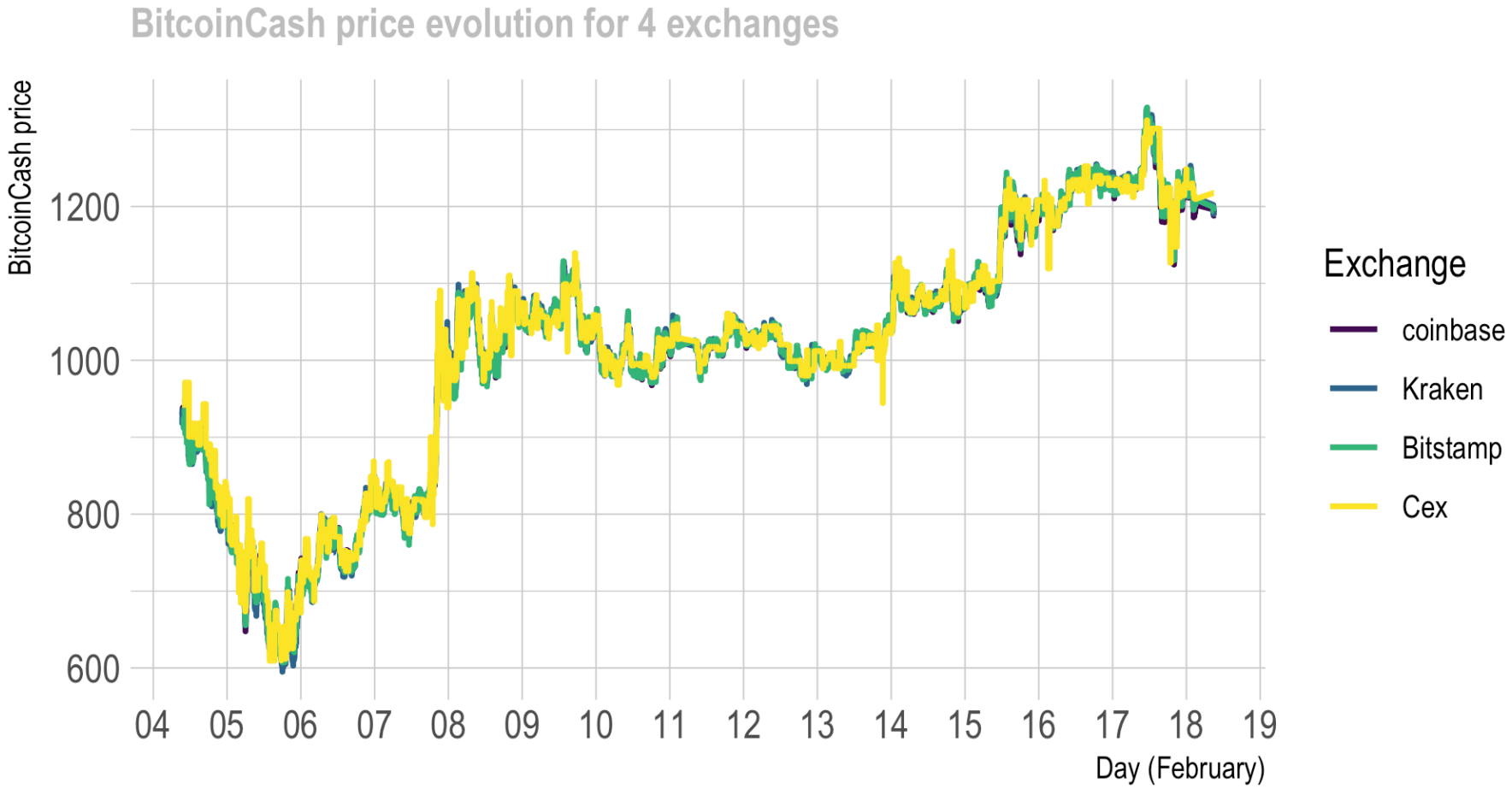
- Use R to get price at time <- t

```
# Recover the information
library(RCurl)
adress <- "https://api.kraken.com/0/public/Ticker?pair=BTCEUR"
ticker <- getURLContent(adress)
```

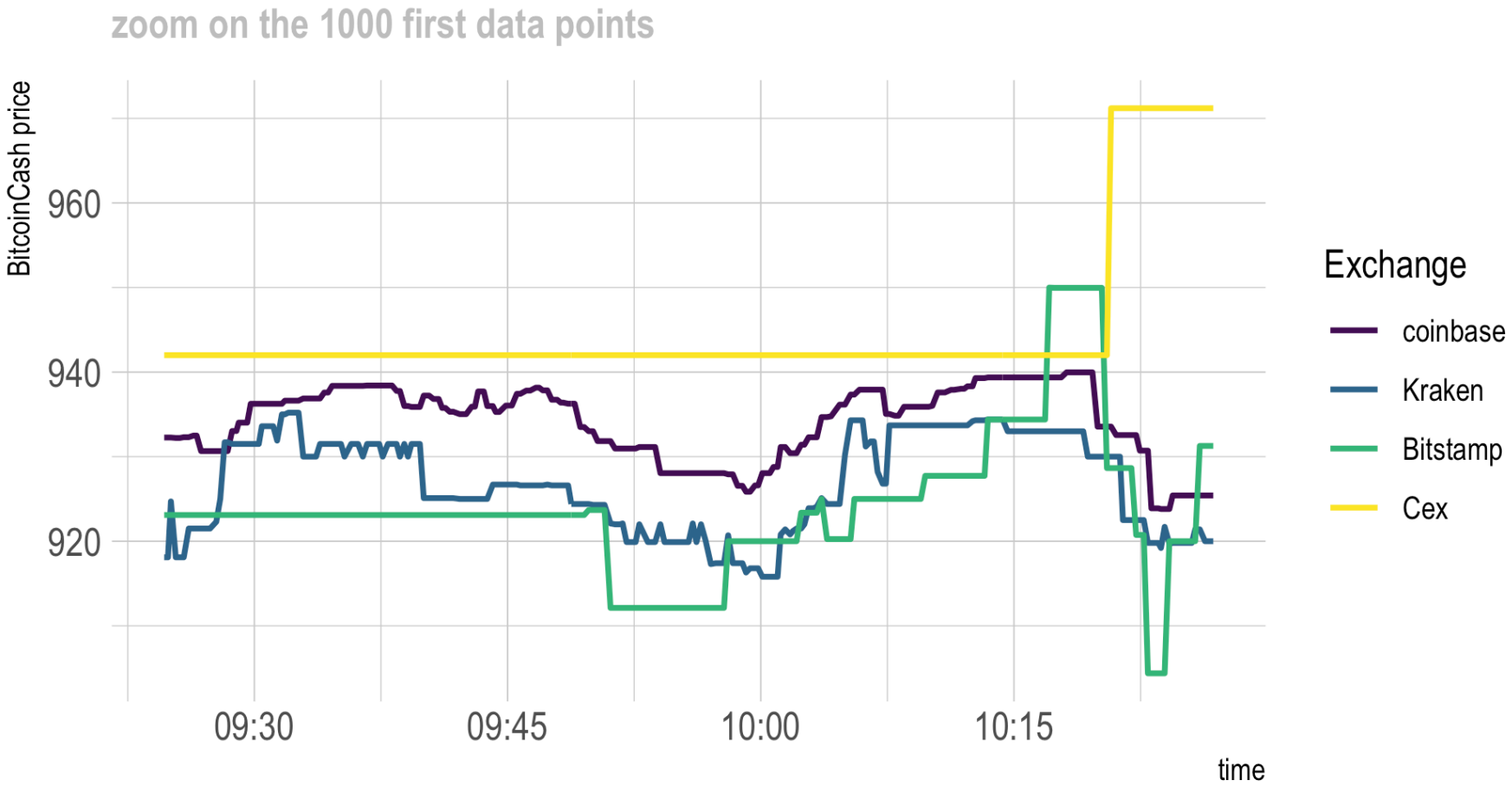
- Do it for **5 exchanges**, **5 currencies**, every 4 seconds, for **2 weeks**

- Get about **800,000 data points**

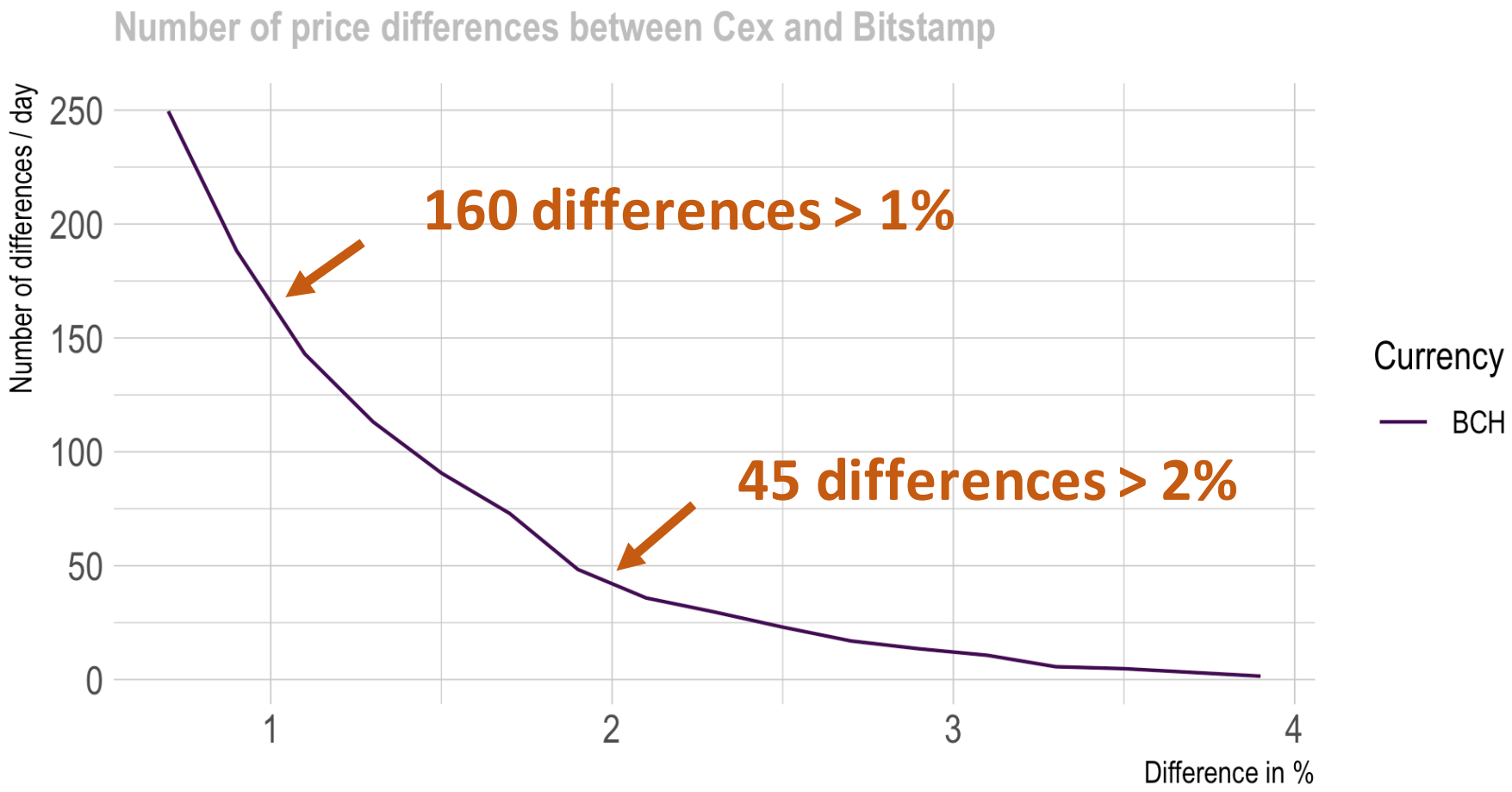
Prices are highly correlated among exchanges



But a few differences exist



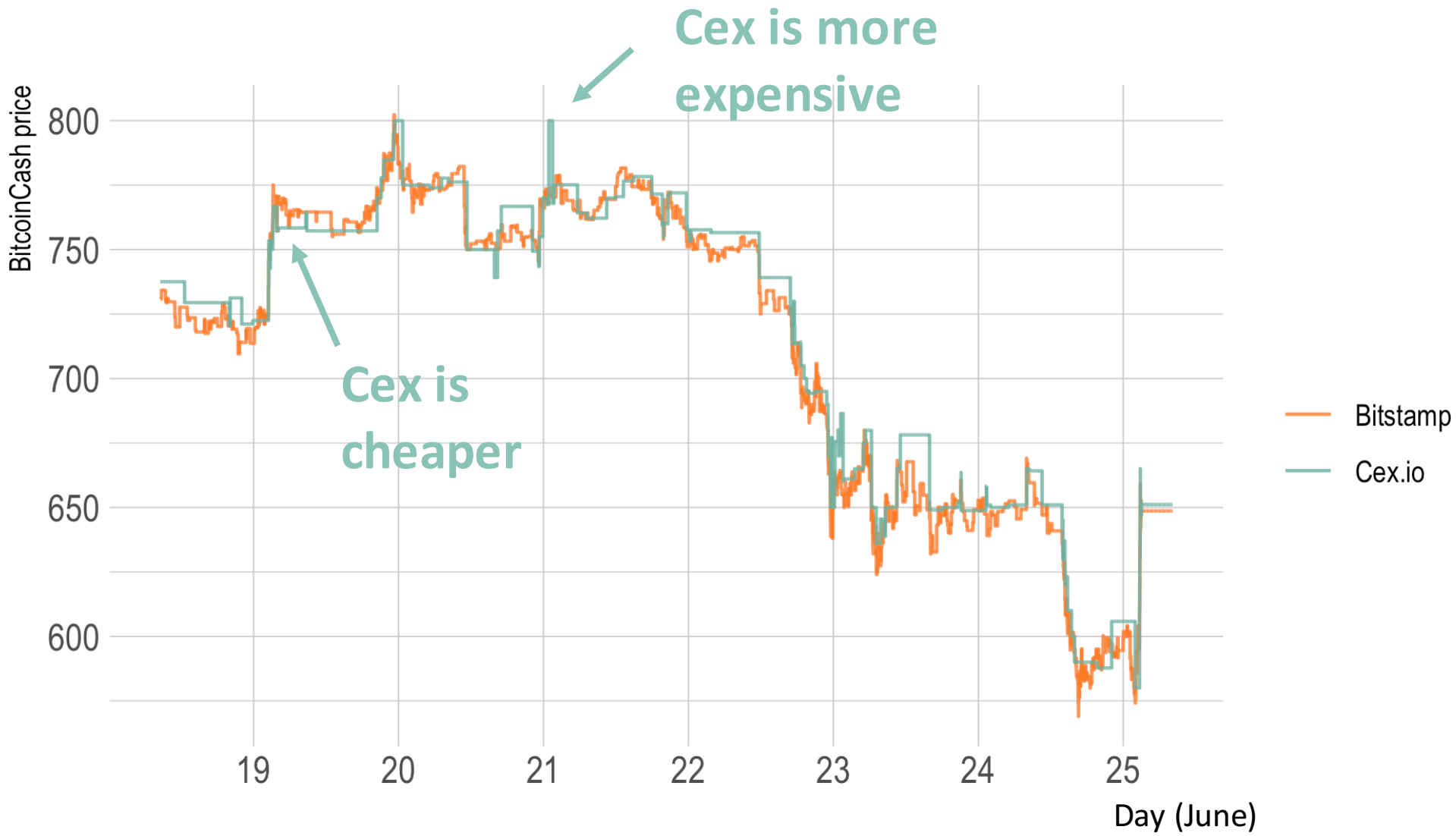
How many differences ?

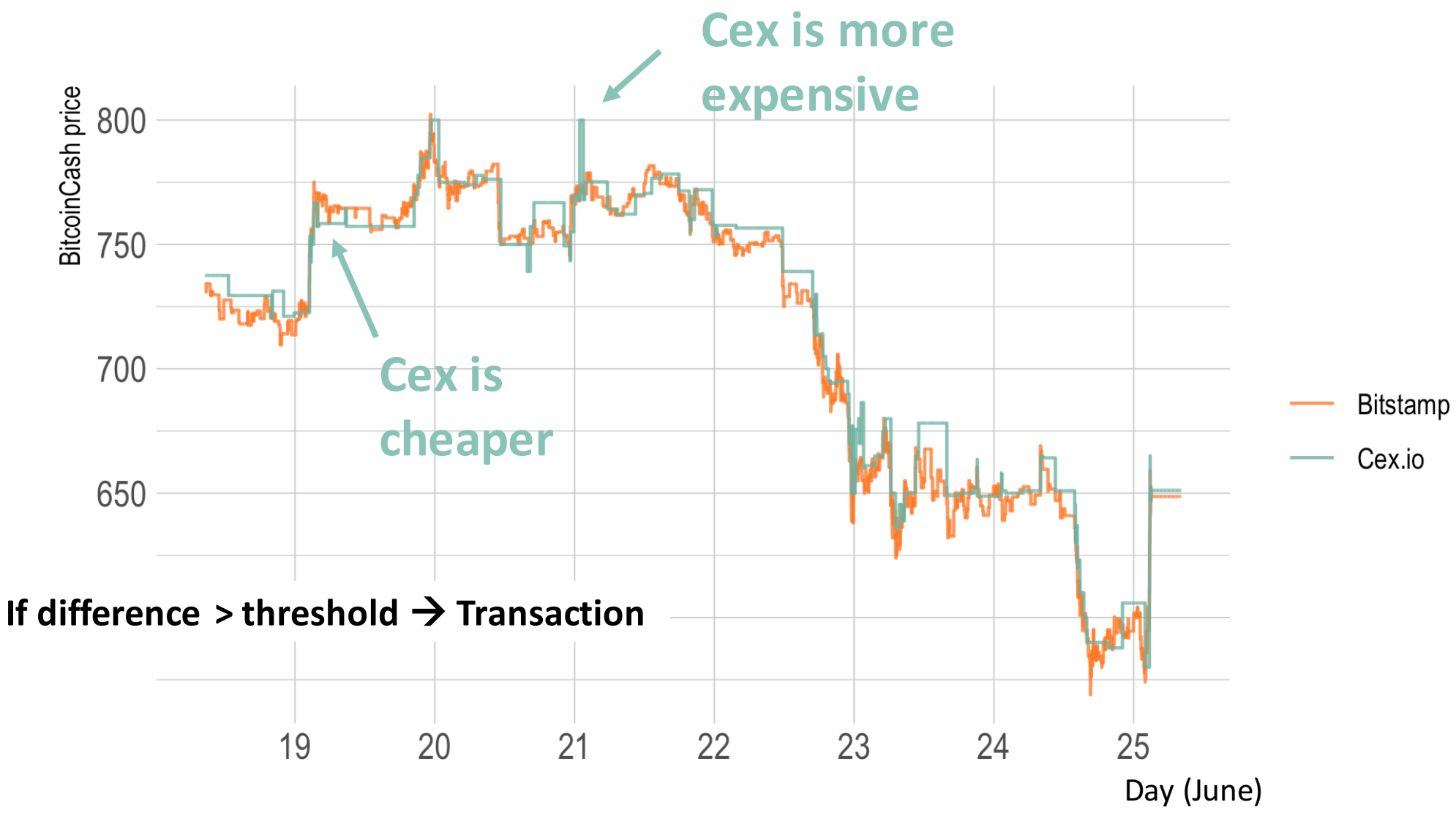


Running an arbitrage bot – for real

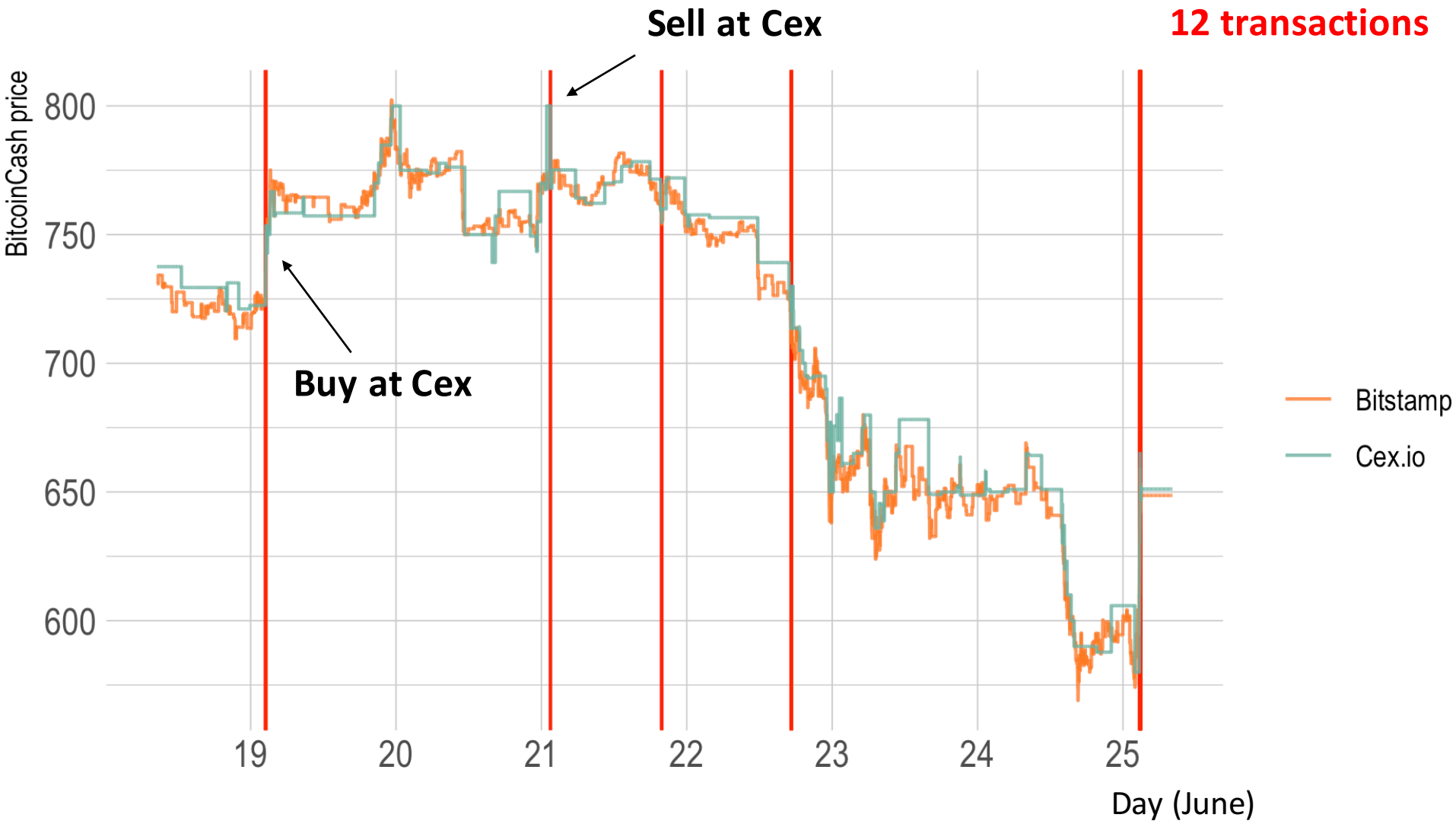
Bitcoin cash | Bitstamp vs Cex | 7 days | 400 euros invested


BitcoinCash price
800
750
700
650
600
19
20
21
22
23
24
25
Day (June)
Bitstamp
Cex.io

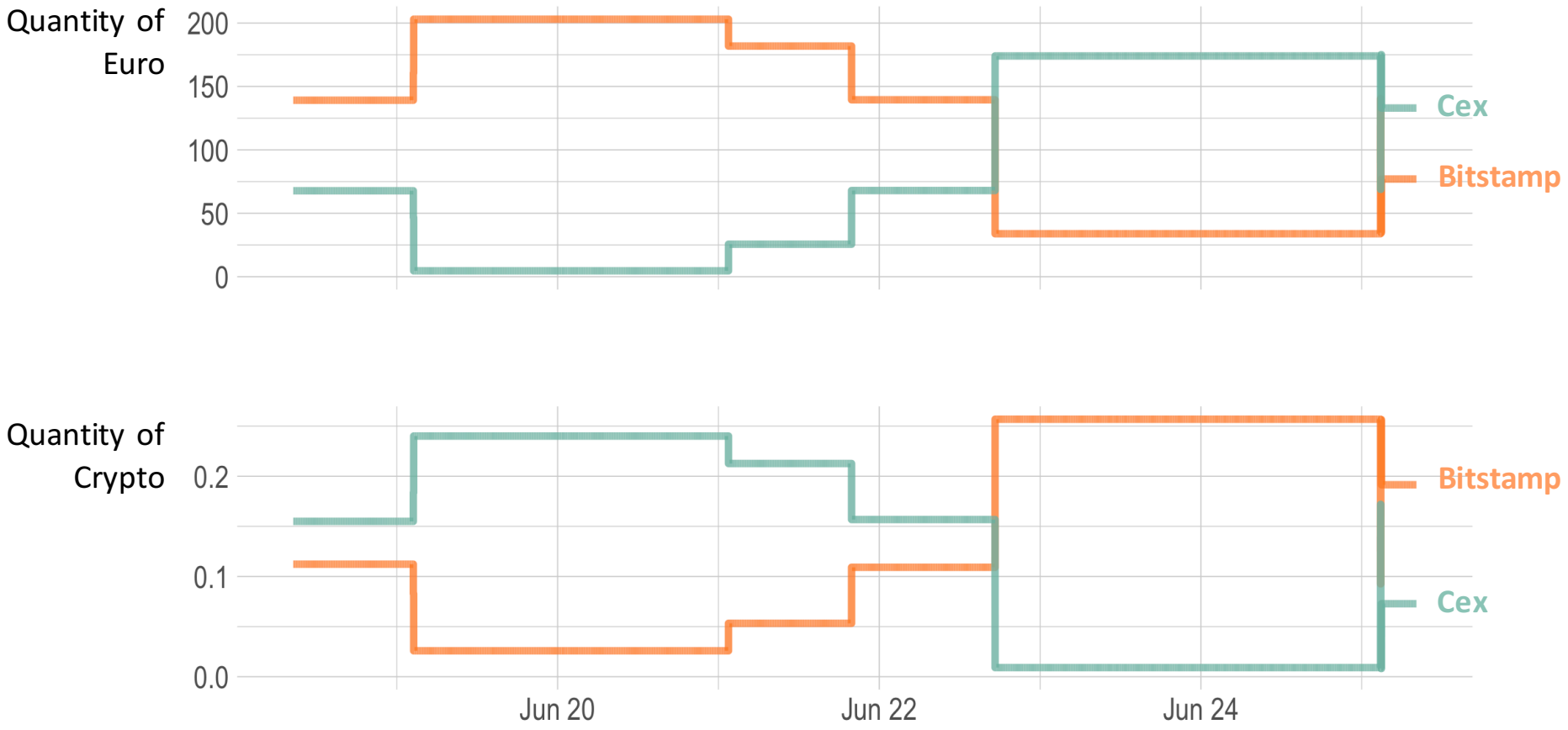

Cex is more expensive
Cex is cheaper
BitcoinCash price
800
750
700
650
600
19
20
21
22
23
24
25
Day (June)
Bitstamp
Cex.io



If difference > threshold → Transaction

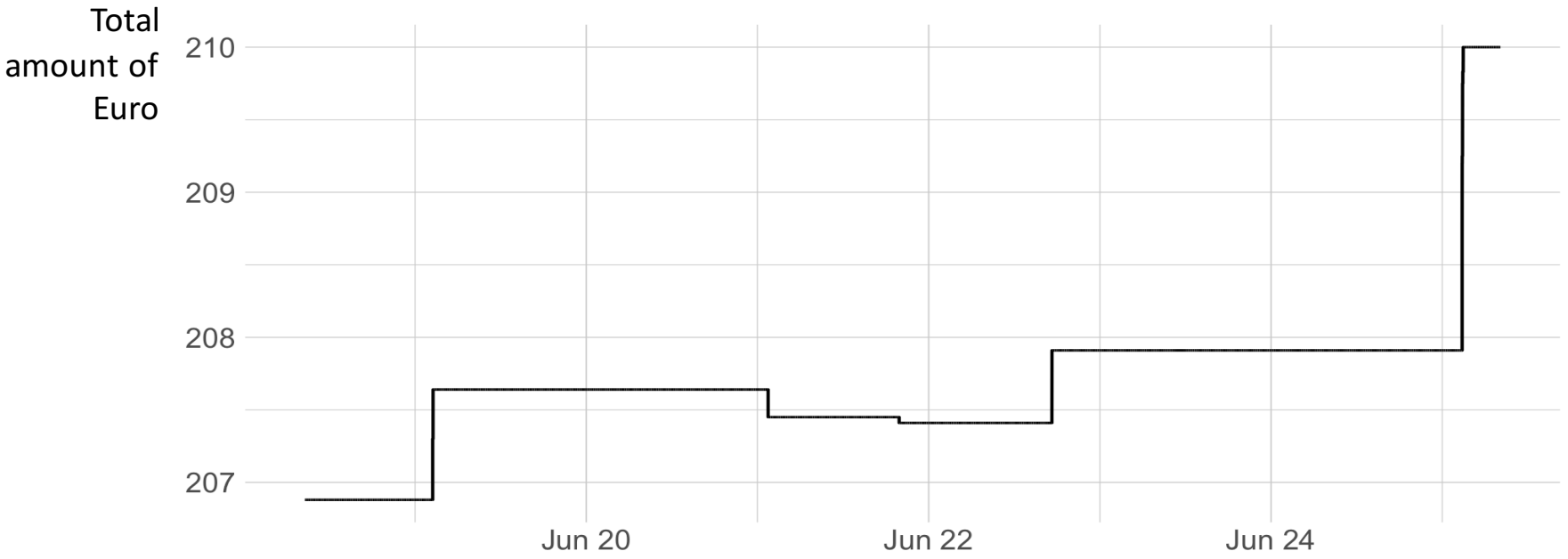

Sell at Cex
12 transactions
Buy at Cex
BitcoinCash price
800
750
700
650
600
19
20
21
22
23
24
25
Day (June)
Bitstamp
Cex.io

Evolution of Euro / Crypto accounts



Benefit

1.21 Euros | 0.3% of initial investment | 0.04% a day | 15% a year



Take Home

- Arbitrage = hard: fees + few differences + many other bots
- Getting even worse
- R makes the job simple!
- Functions available if you want to give it a try

Read more

github.com/holtzy/Talk

holtzy.github.io/Crypto-Arbitrage/

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