



**Digital**  
**Gold**  
**Institute**

# Real Volume: The Rock Trading Exchange

*A supplement to the Bitwise report presented in March 2019 to SEC*

April 23, 2019

# Introduction

- In the presentation to SEC [1] advocating their ETF, Bitwise investigated the real **liquidity of the Bitcoin market**
- Bitwise analyzed the **81 “top” Bitcoin exchanges** by reported trading volumes
- The **vast majority of reported volume turned out to be fake** and/or non-economic wash trading
- In this document the same analysis criteria have been applied to the trading volume reported by *The Rock Trading* exchange











[1] [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

# Bitwise Original Analysis

Criteria:

1. Buy/sell trades and their size
2. Bid/ask spread
3. Distributions of volumes

Out of 81 exchanges, only **10 exchanges have credible volumes**

 <b>BINANCE</b> \$110M*	 <b>BITFINEX</b> \$38M*	 <b>kraken</b> \$31M*	 <b>Bitstamp</b> \$31M*	 <b>coinbase</b> \$27M*
 <b>bitFlyer</b> \$14M*	 <b>GEMINI</b> \$8M*	 <b>itBit</b> \$6M*	 <b>BITTREX</b> \$5M*	 <b>POLONIEX</b> \$1.4M*

# Digital Gold Institute Supplemental Analysis

Same analysis criteria applied to **The Rock Trading** (TRT):

- The longest running Bitcoin exchange in the world
- Never been hacked
- Based in Italy



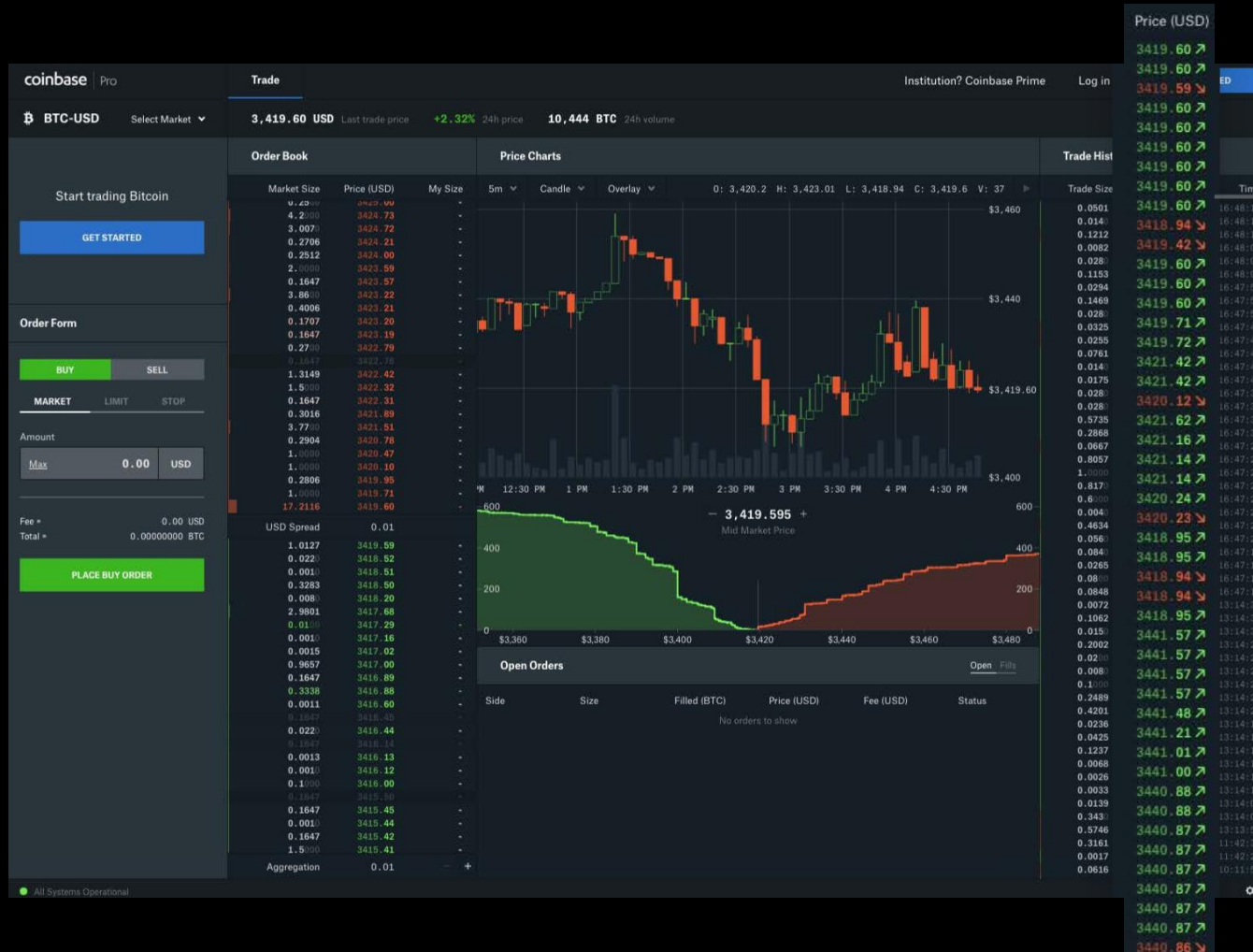
Digital Gold Institute (DGI) analysis shows that TRT reported **trading volume is credible**



# Bitwise Original Analysis

*81 Top Exchanges by Reported Trading Volumes*

# 1. Bitwise Analysis on Trades Credible Exchange: Coinbase Pro



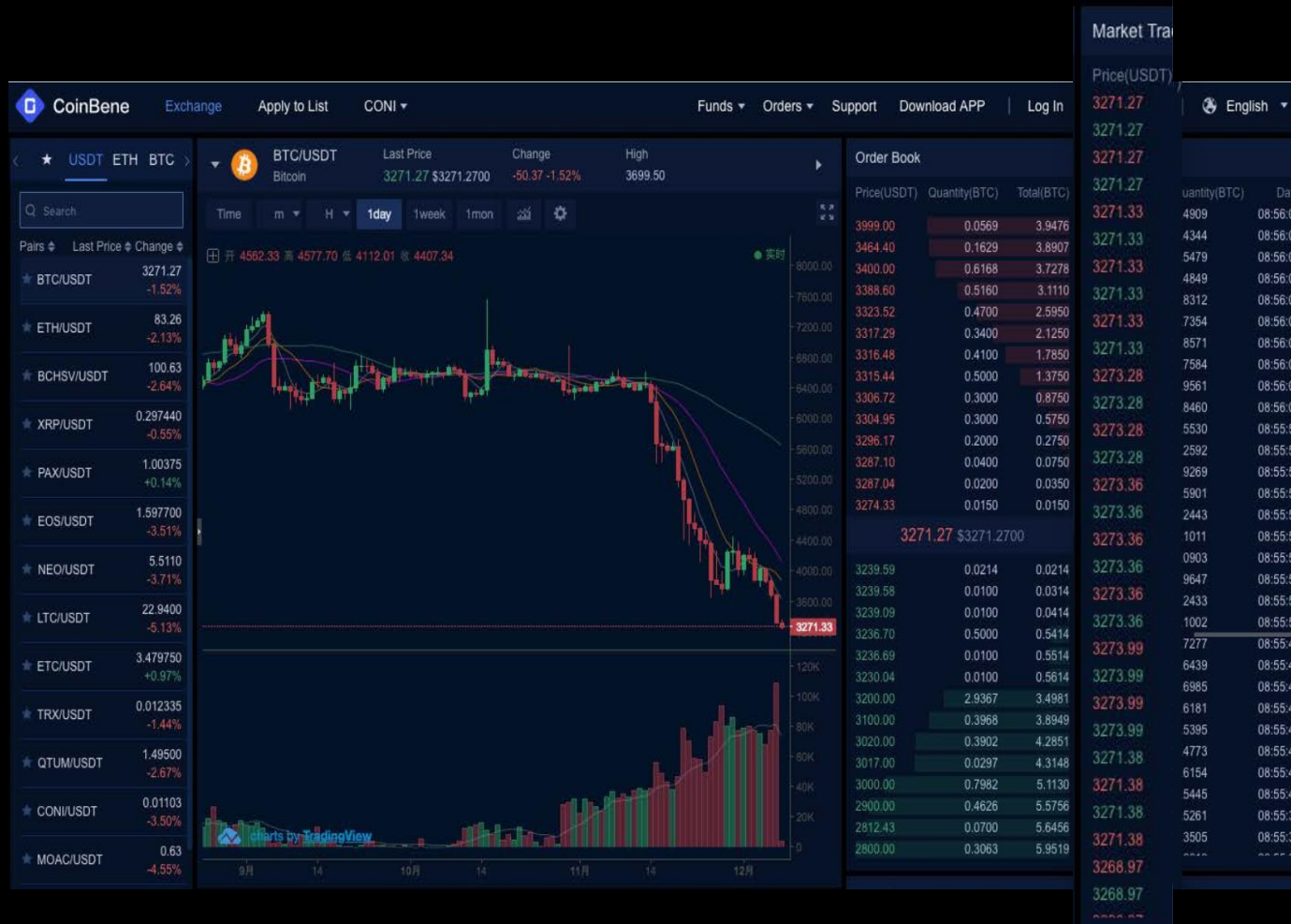
**Trades:** green represents buy orders, red represents sell orders

An **unequal and streaky mix** of red and green trades is evident

This is the behavior of a **credible exchange**

Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

# 1. Bitwise Analysis on Trades Suspicious Exchange: CoinBene



**Trades:** green represents buy orders, red represents sell orders

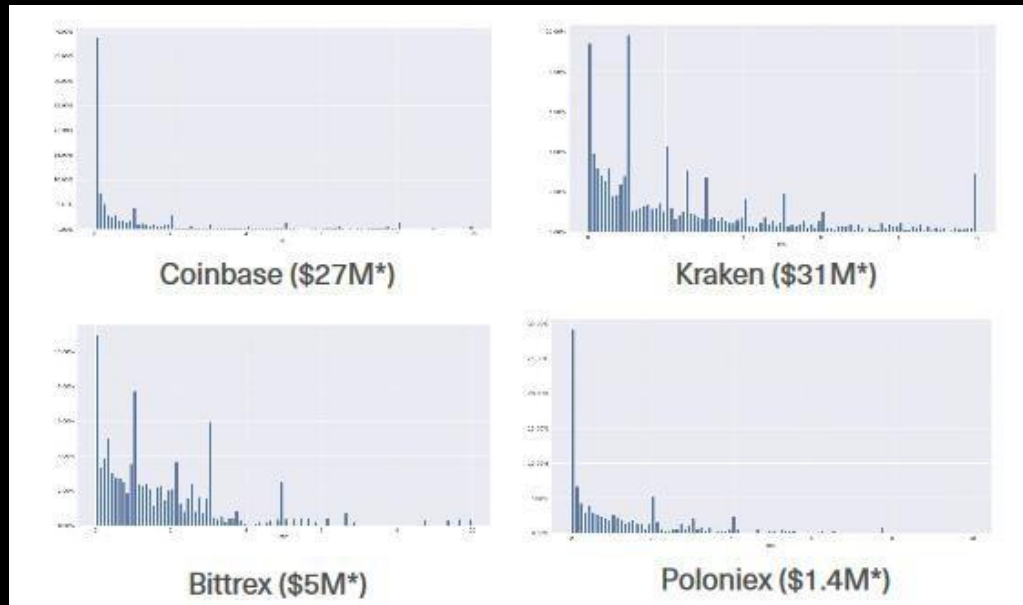
A **perfectly alternating pattern** of red and green trades is evident

This is the behavior of a **suspicious exchange**

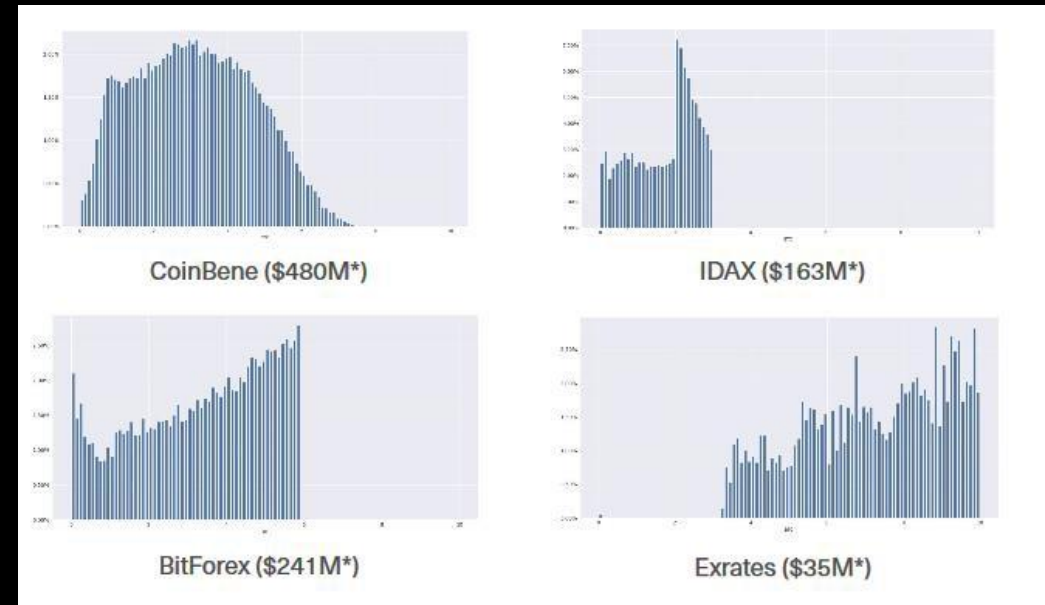
Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

# 1. Bitwise Analysis on Trades Size Distribution

## Credible Exchange



## Suspicious Exchange

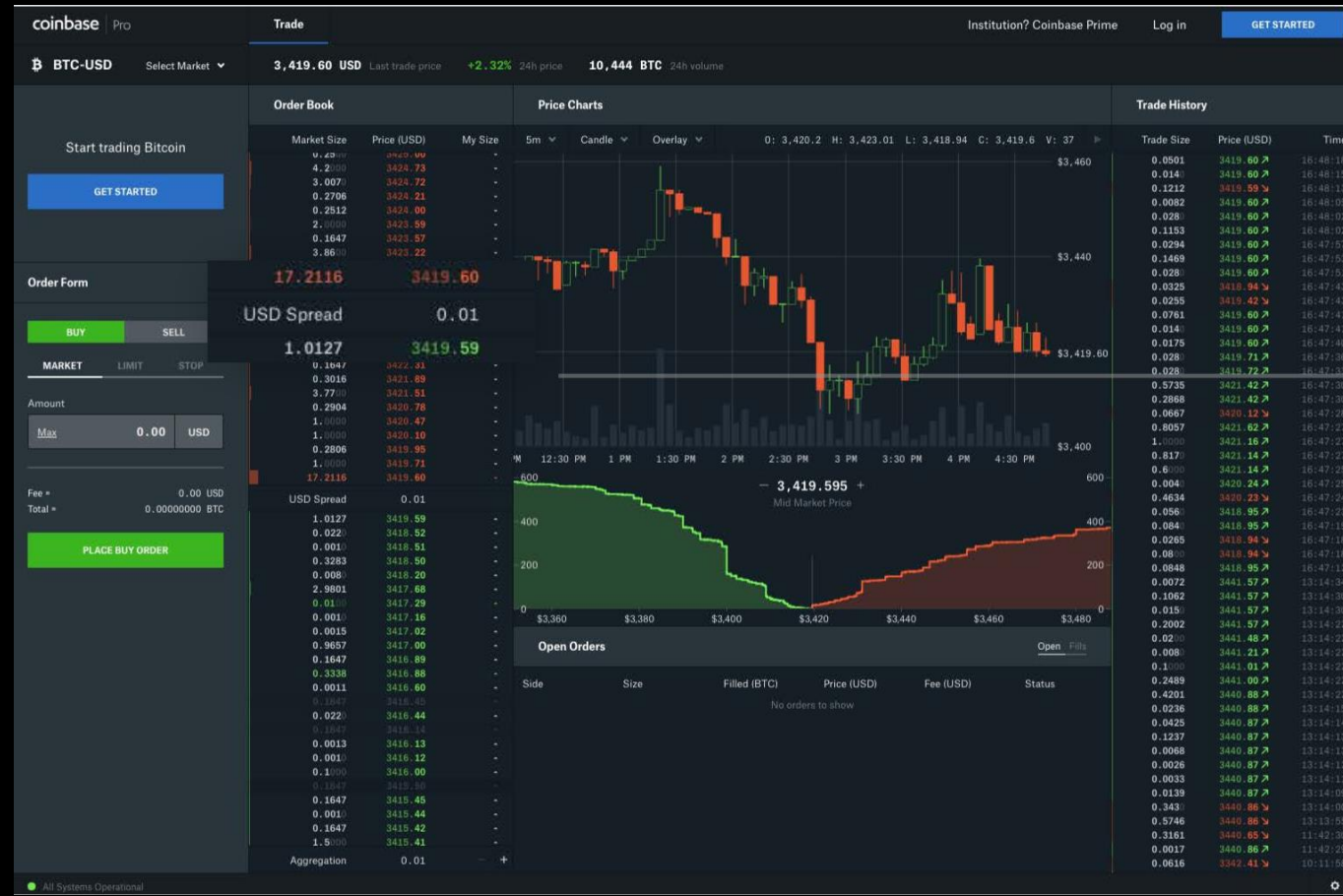


*"These histograms show the percentage of volume that is captured within each trade size bucket (0-0.1 BTC, 0.1-0.2 BTC, etc.). [On credible exchanges] they reveal consistent, intuitive patterns: percentage weight in each bucket declines as trade size increases, and there are noticeable peaks at whole bitcoin sizes (1, 2, 3, etc.). X-axis is from 0 to 10 BTC"*

Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

## 2. Bitwise Analysis on Bid/Ask Spread Credible Exchange: Coinbase Pro

**Bid/Ask Spread:** \$0.01



*"At the time this screenshot was taken, bitcoin was trading at \$3,419. That means bitcoin was trading at a 0.0003% spread, making it amongst the tightest quoted spread of any financial instrument in the world."*

This is the behavior of a **credible exchange**

Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

## 2. Bitwise Analysis on Bid/Ask Spread Suspicious Exchange: CoinBene

**Bid/Ask Spread:** \$34.74



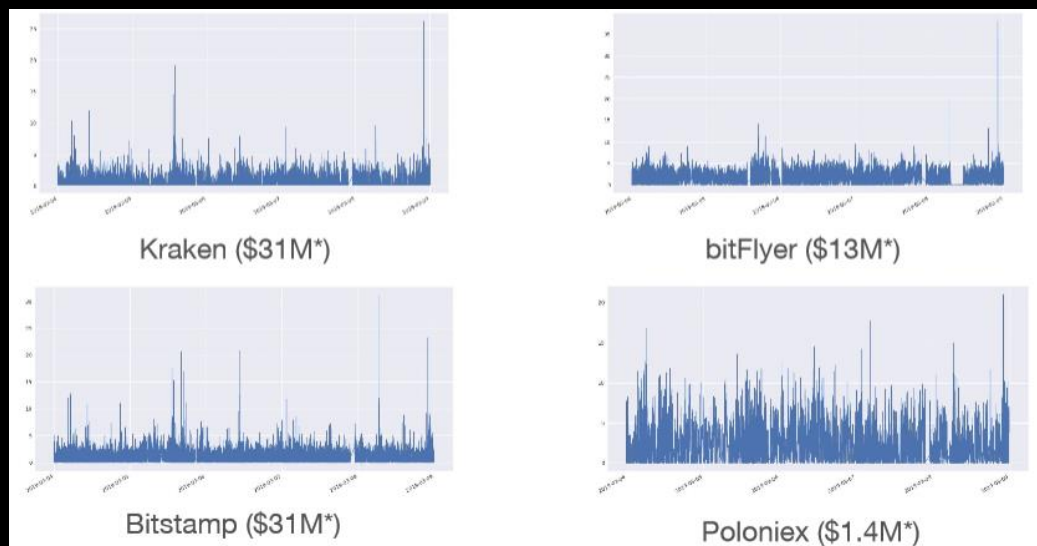
At the time this screenshot was taken, the spread was 3400x larger than the Coinbase one, even if the declared volume of CoinBene was 18x larger

This is the behavior of a **suspicious exchange**

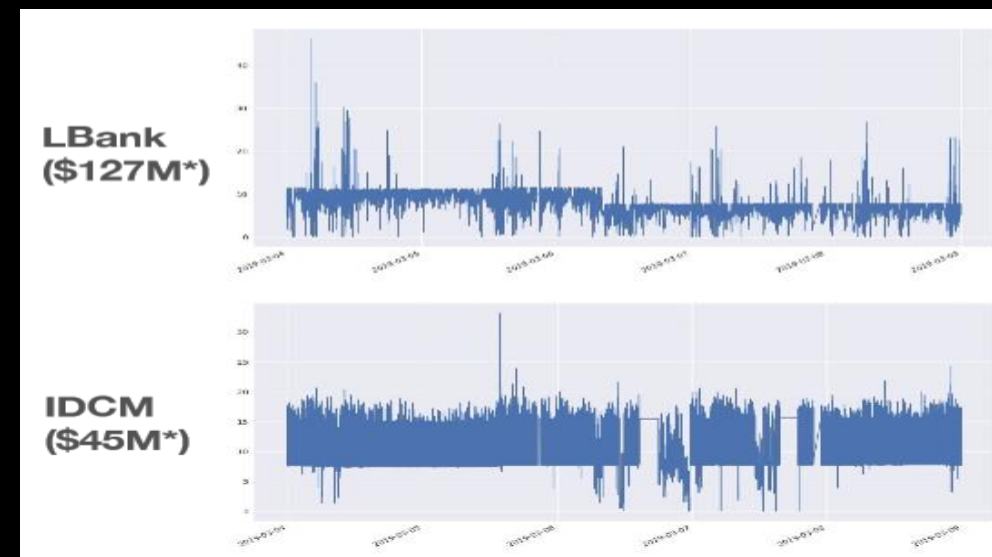
Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

## 2. Bitwise Analysis on Bid/Ask Spread Pattern

### Credible Exchange



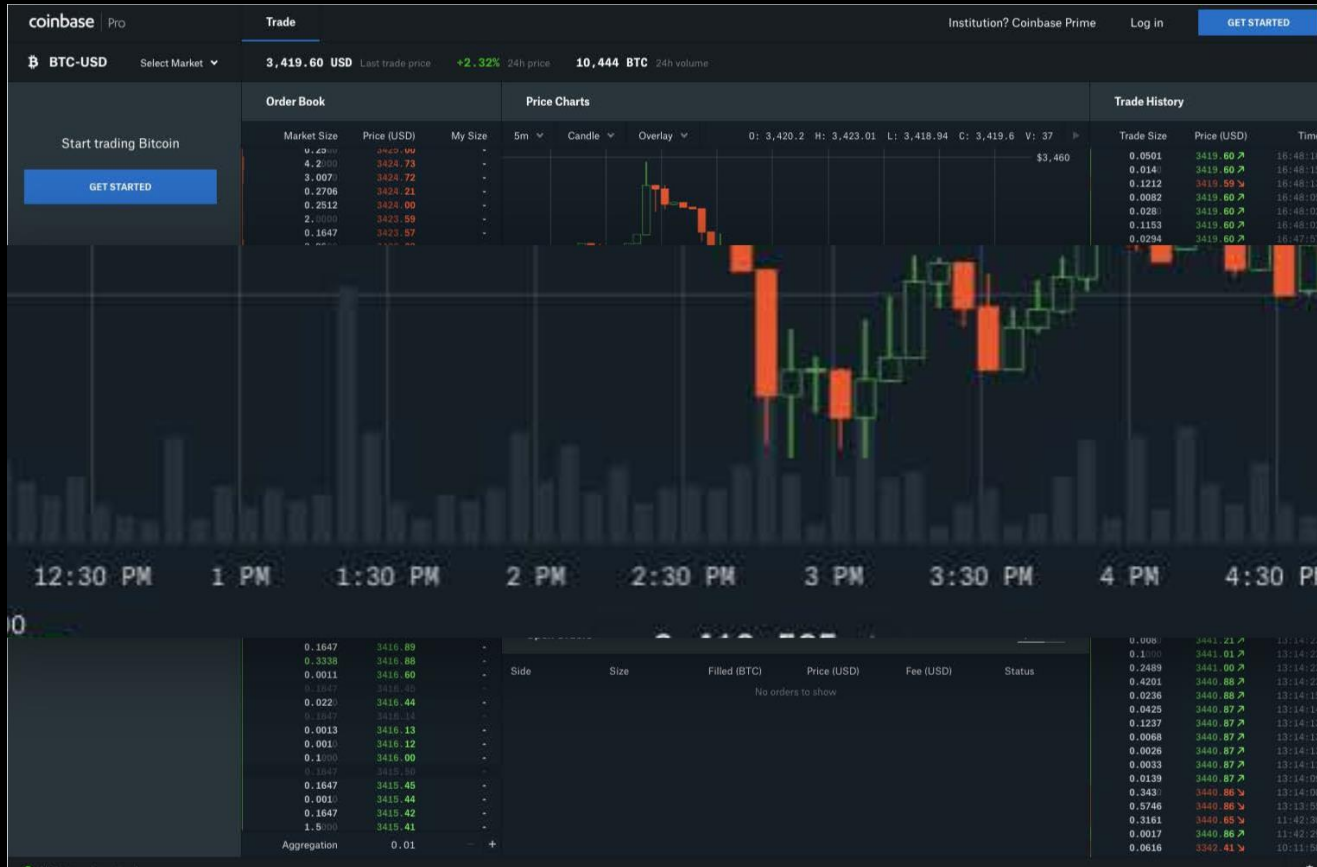
### Suspicious Exchange



*"Spreads on well-known exchanges show a consistent pattern, anchoring on zero with random variability, and then spiking periodically to reflect momentary surge in volatility and change of the order book"*

Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

### 3. Bitwise Analysis on Volume Credible Exchange: Coinbase Pro



**Volume** distribution: each grey candle represents the amount traded in 5 minutes

*"Notice that the size of these candles changes over time: Some 5-minute periods have more volume than others, as you would expect."*

This is the behavior of a **credible exchange**

Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)

### 3. Bitwise Analysis on Volume Suspicious Exchange: CHAOEX

**Volume** distribution: each of these bars reflects one hour's volume



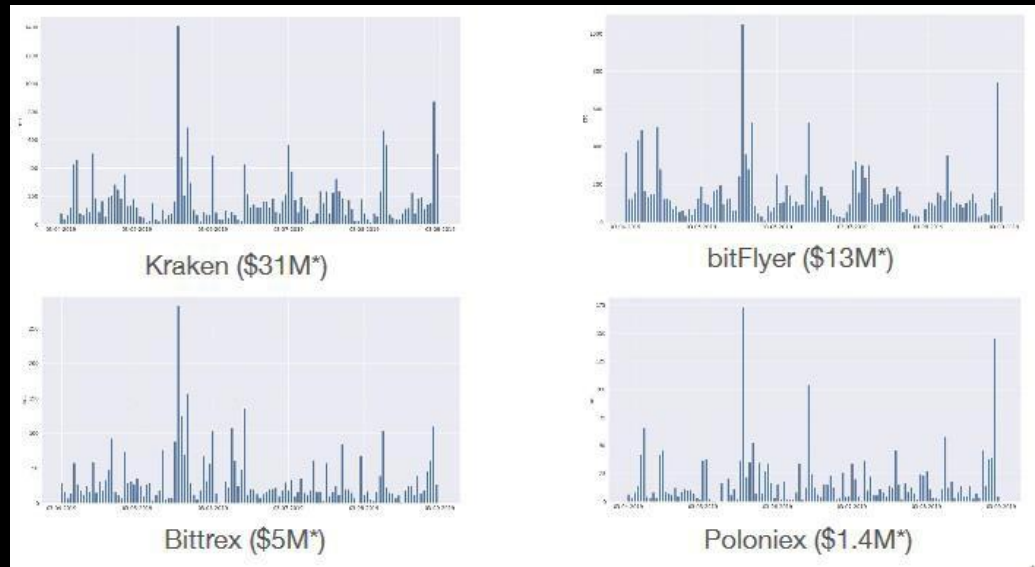
*"It is highly unlikely that real trading volume would remain this consistent every hour of the day for nearly three consecutive days."*

This is the behavior of a **suspicious exchange**

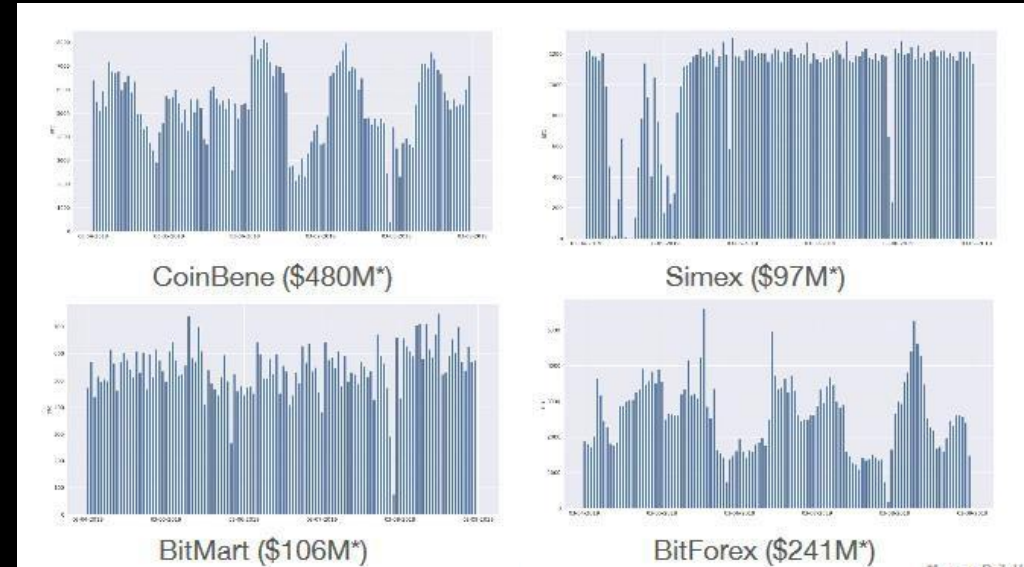
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# 3. Bitwise Analysis on Volume Pattern and Spikes

## Credible Exchange



## Suspicious Exchange



*"In a globally integrated market like bitcoin, you would expect exchange volume to rise and fall at the same time across all exchanges. It does for well-known exchanges. Notably, volume spikes align at literally the same hour for each of the exchanges below."*

Source: [www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf](http://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf)



# DGI Supplemental Analysis

*The Rock Trading*



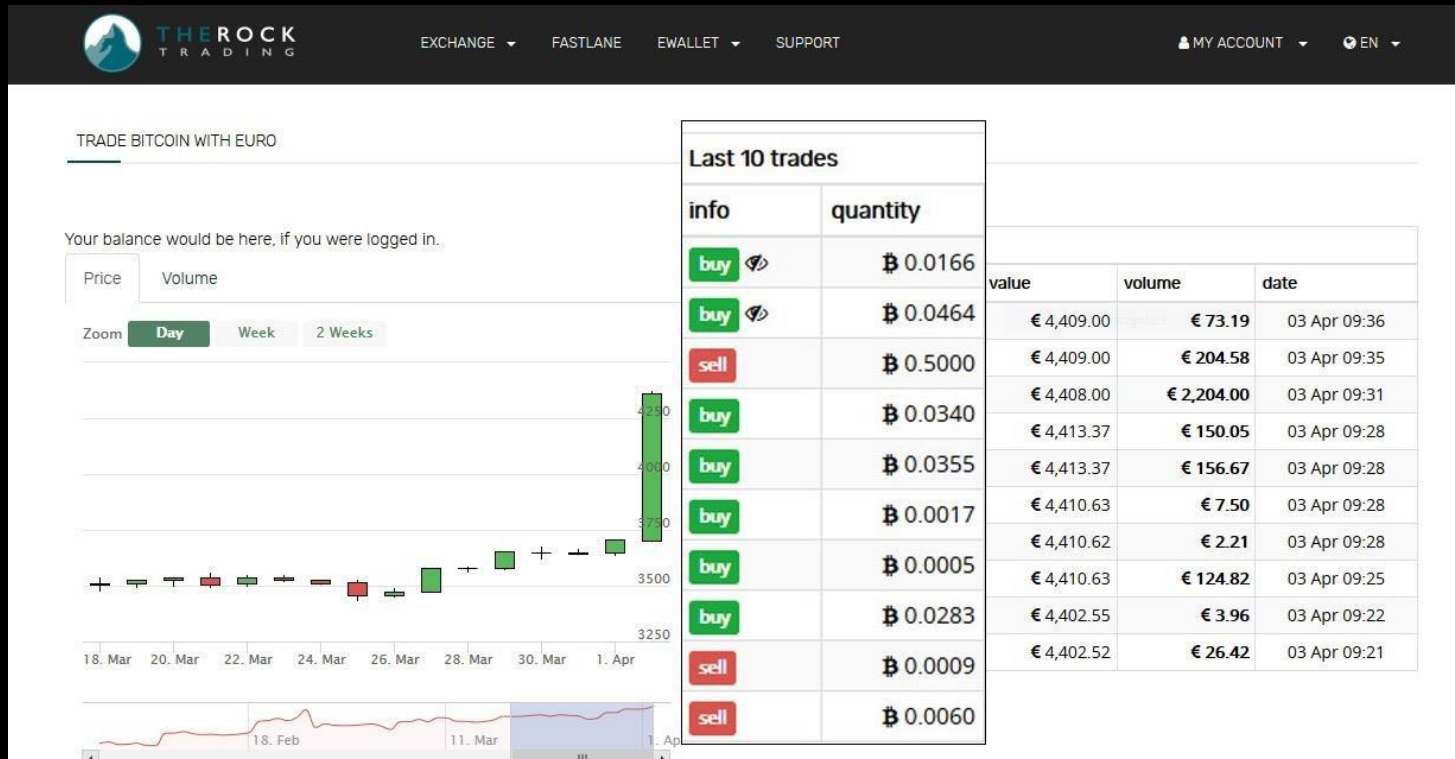
# DGI Analysis on The Rock Trading



Same criteria:

1. Buy/sell trades and their size
2. Bid/ask spread
3. Distributions of volumes

# 1. Trades



**Trades:** green represents buy orders, red represents sell orders

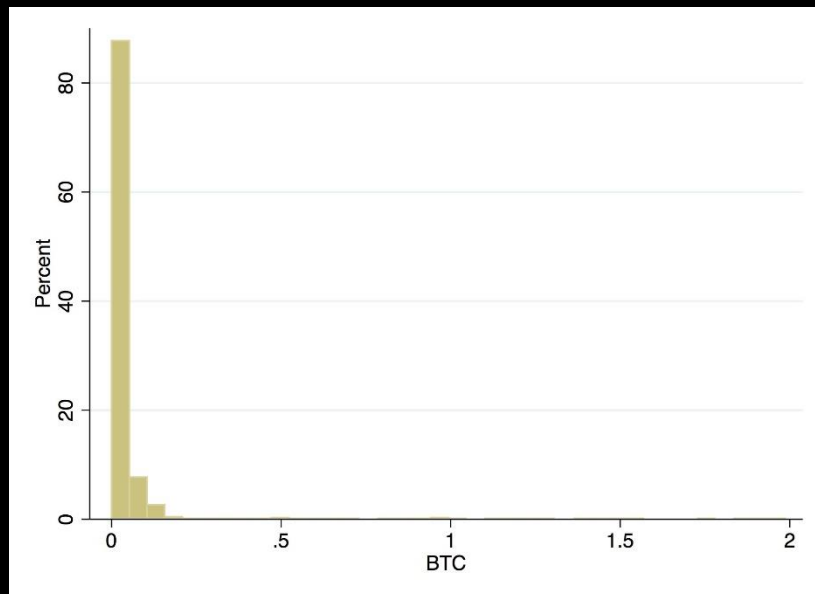
An **unequal and streaky mix** of red and green trades is evident; in this case buy order are more than sell order. This is a **clear natural pattern**

This is the behavior of a **credible exchange**

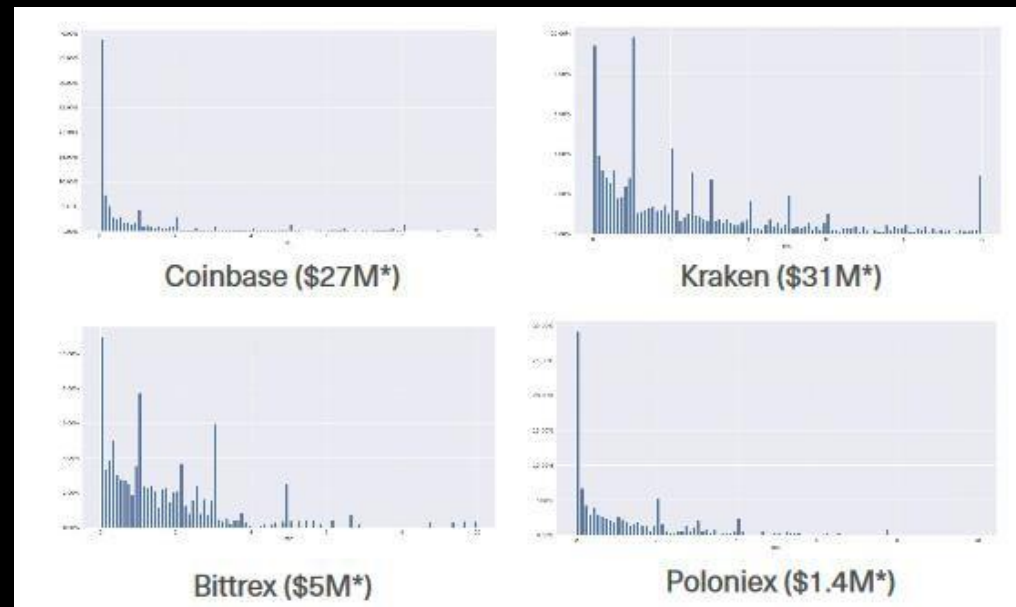
# 1. Trades: Size Distribution (1/2)



The Rock Trading



Credible Exchange

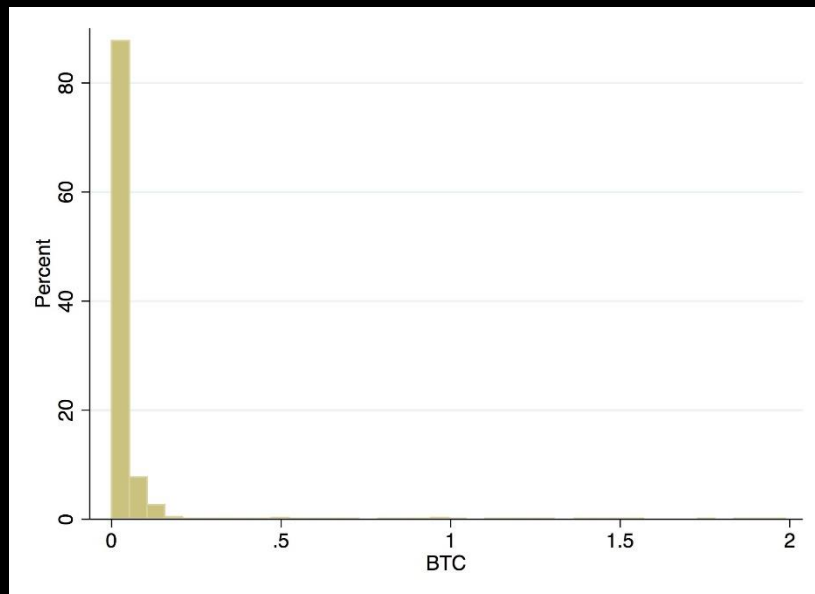


*The trade size distributions for The Rock Trading is **similar** to the distributions of other **credible exchanges***

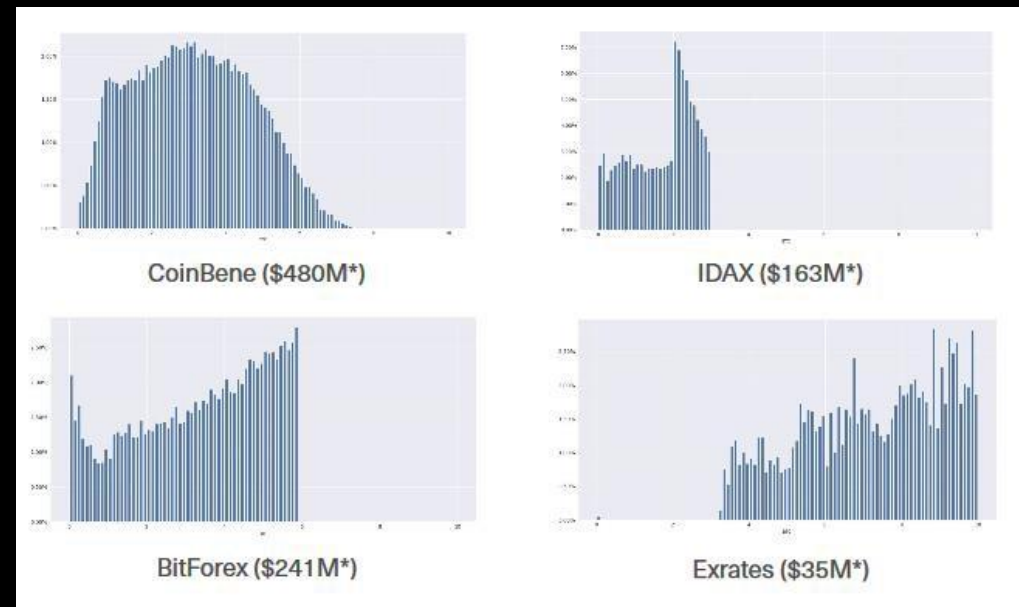
# 1. Trades: Size Distribution (2/2)



The Rock Trading

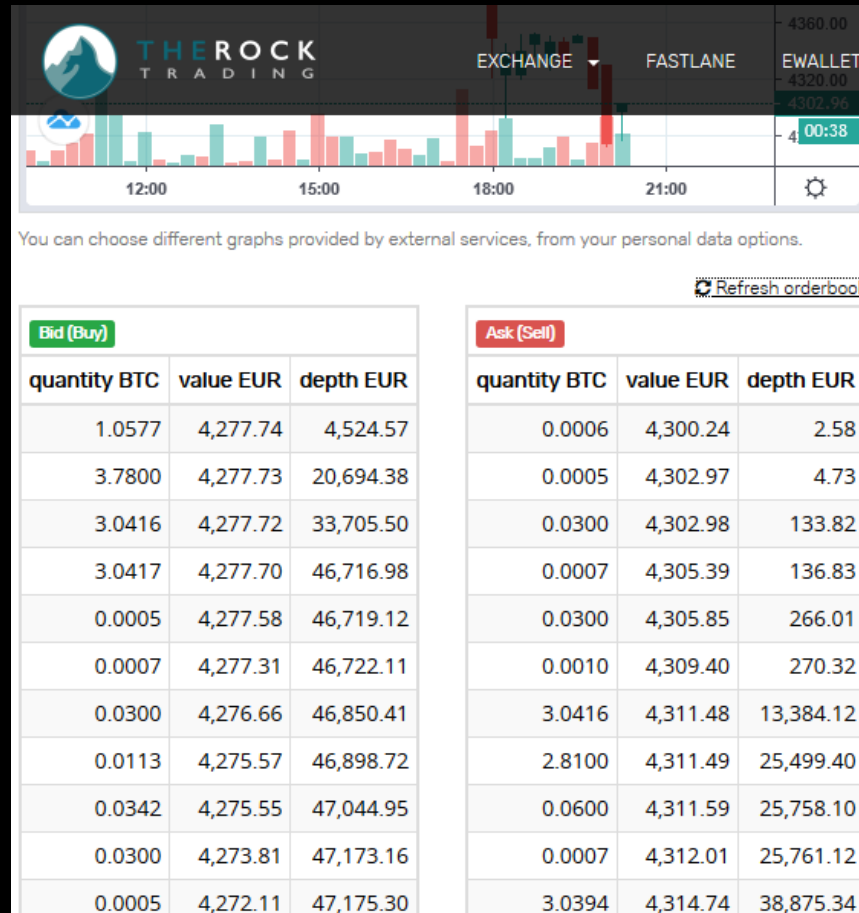


Suspicious Exchange



*The trade size distributions for The Rock Trading is **different** from the distributions of **suspicious exchanges***

## 2. Bid/Ask Spread



**Spread:** €22,5 (\$28,5)

The Rock Trading declared a trading volume of \$980.000: 25 time less than Coinbase and 489 time less than CoinBene.

This gap explain why the spread is much higher than the Coinbase one.

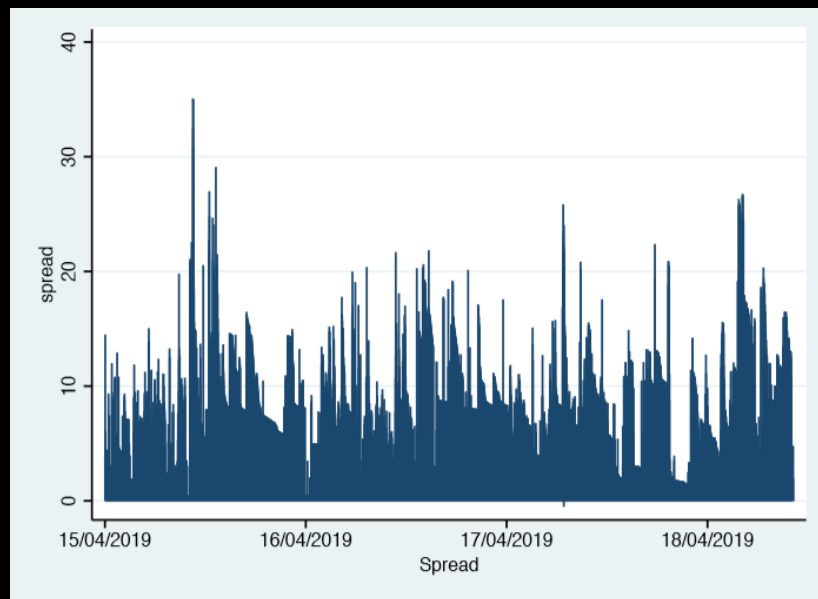
Spread is still smaller than the CoinBene one, an exchange that stated a trading volume 342 time bigger

This is the behavior of a **credible exchange**

## 2. Bid/Ask Spread: Pattern (1/2)



The Rock Trading



Credible Exchange

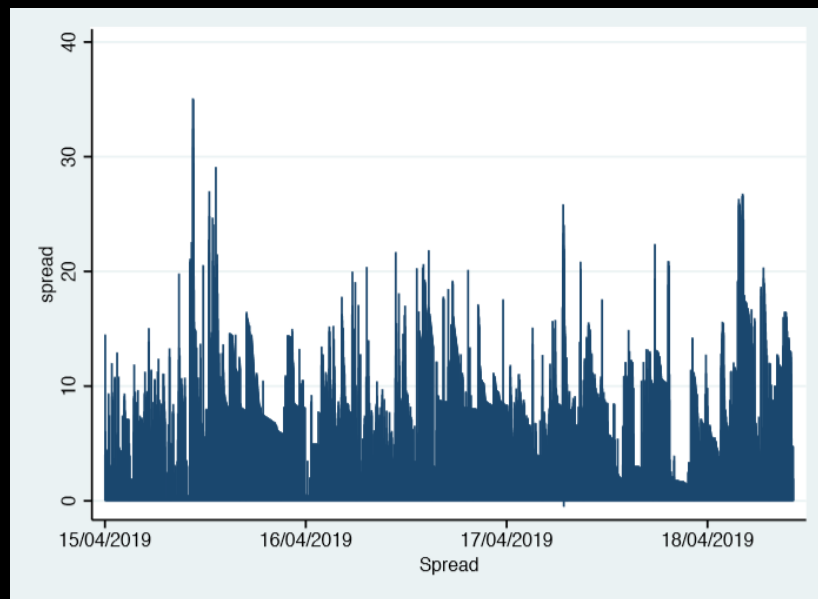


*Despite comparing different days  
the spread pattern for The Rock Trading is  
**similar** to the pattern of other **credible exchanges***

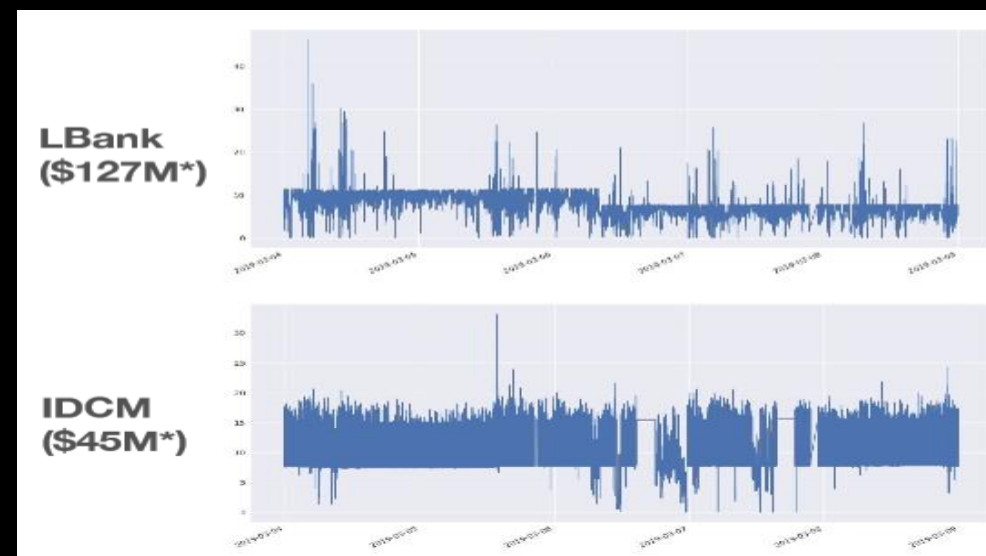
## 2. Bid/Ask Spread: Pattern (2/2)



The Rock Trading



Suspicious Exchange



*Despite comparing different days  
the spread pattern for The Rock Trading is  
**different** from the pattern of **suspicious exchanges***

# 3. Volume



**Volume** distribution: each of these bars reflects one hour's volume

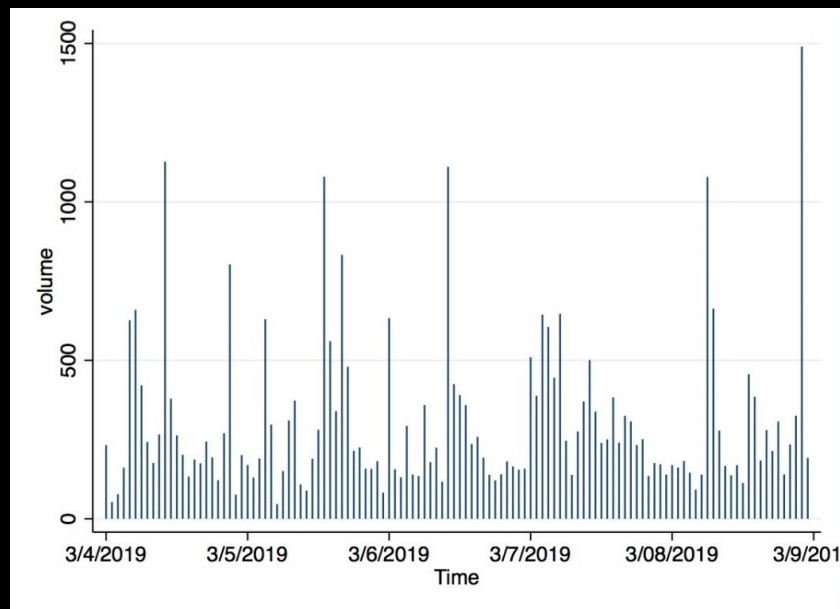
Volumes follow a natural pattern: some hours have more volume than others and volumes are not consistent for consecutive days

This is the behavior of a **credible exchange**

### 3. Volume: Pattern and Spikes (1/2)



The Rock Trading



Credible Exchange

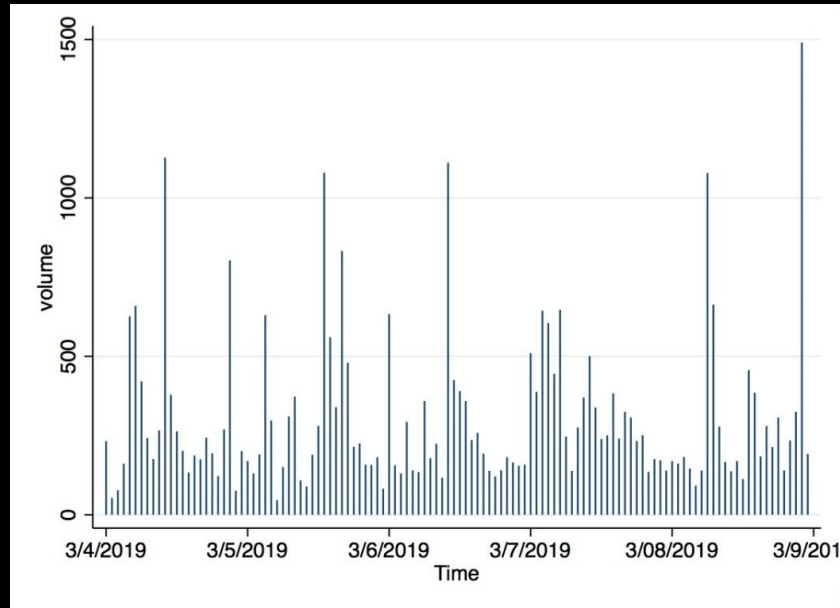


*The volume pattern and spikes for The Rock Trading are **similar** to pattern and spikes of other **credible exchanges***

### 3. Volume: Pattern and Spikes (2/2)



**The Rock Trading**



**Suspicious Exchange**



*The volume pattern and spikes for The Rock Trading are **different** from pattern and spikes of **suspicious exchanges***

# Conclusions



- According to the Bitwise criteria, The Rock Trading reported **trading volumes are credible**
- The Italian exchange limited operations characterize it as a regional market
- Honest reporting of trading volume is a **trust badge** for the longest running Bitcoin exchange in the world



# Digital Gold Institute

*Scarcity in the Digital Realm*



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