

# Crypto Trading

Andreas  
Park



# Three Fallacies for Crypto Markets

# Three Fallacies for Crypto Markets

crypto entities =  
traditional firms

# Three Fallacies for Crypto Markets

crypto entities =  
traditional firms

crypto assets =  
traditional equities

# Three Fallacies for Crypto Markets

crypto entities =  
traditional firms

crypto assets =  
traditional equities

crypto trading =  
traditional trading

# Curious case of a utility token: KIN



# Curious case of a utility token: KIN



# Curious case of a utility token: KIN

- comments: from [Raquel Jackson](#) on Medium
  - "Everything KIK wants to do can be accomplished with fiat currency or a simple payment integration with their app."



Do people understand utility tokens?



Crypto

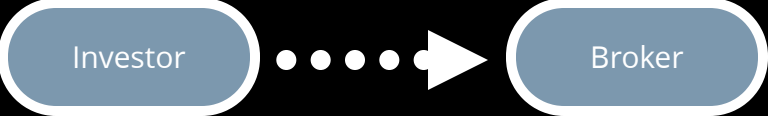
Traditional

Investor

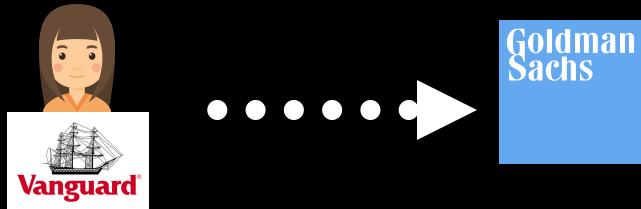
Traditional



Crypto

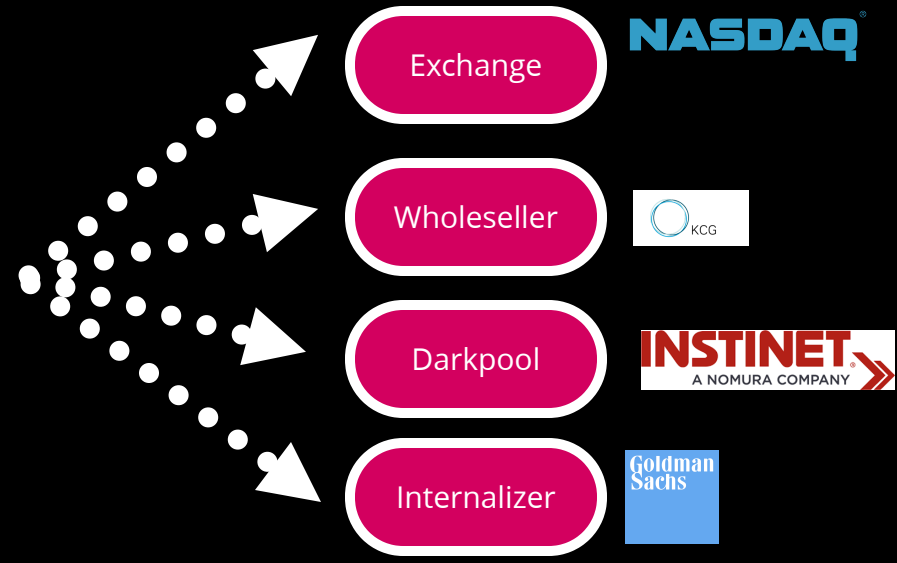


Traditional



Crypto

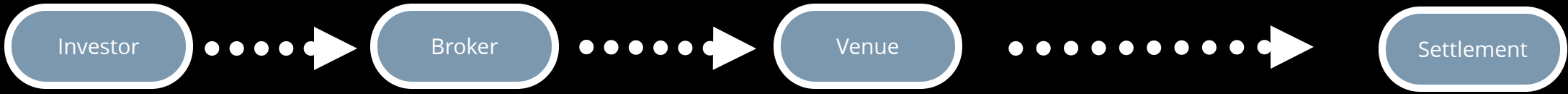
Traditional



Crypto

Traditional

Crypto



Exchange



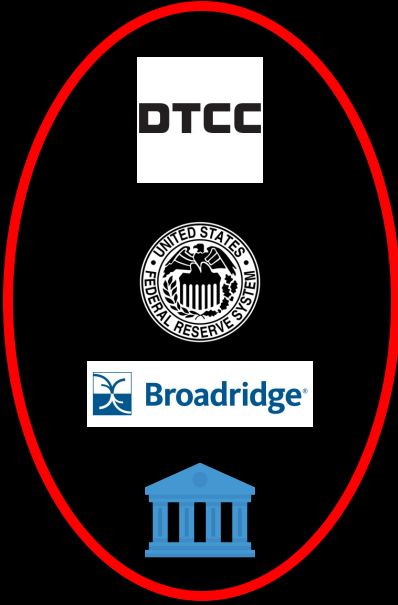
Wholeseller



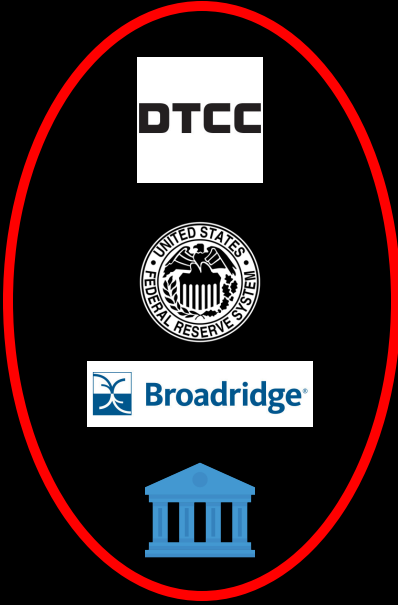
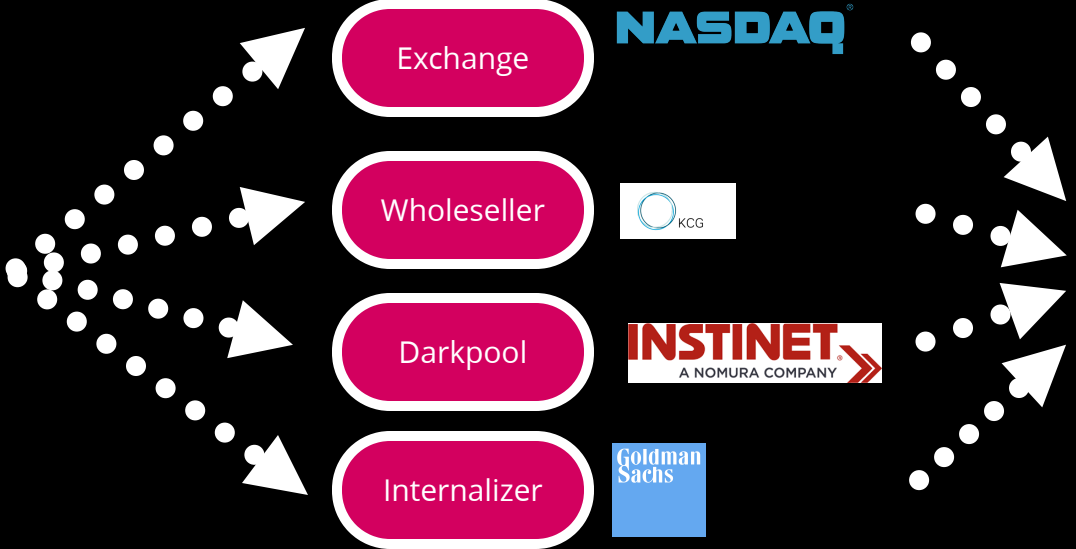
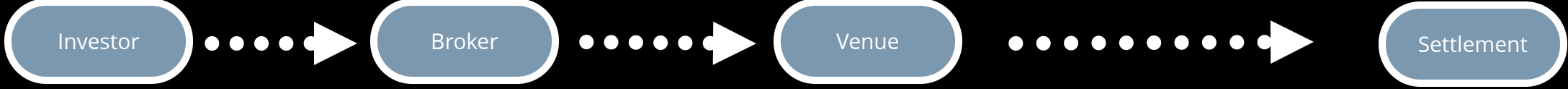
Darkpool



Internalizer



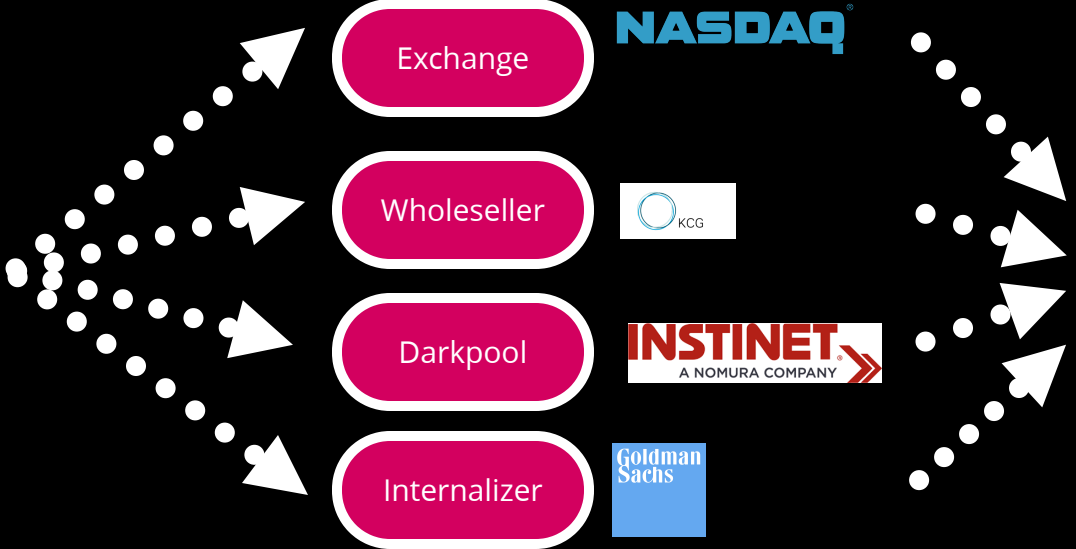
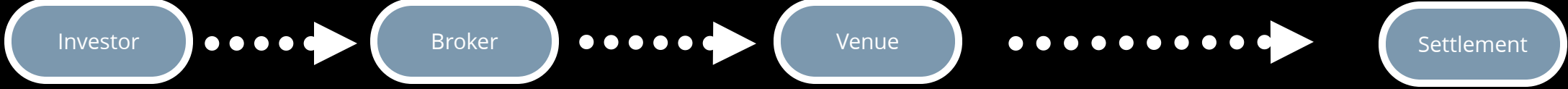
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Exchange



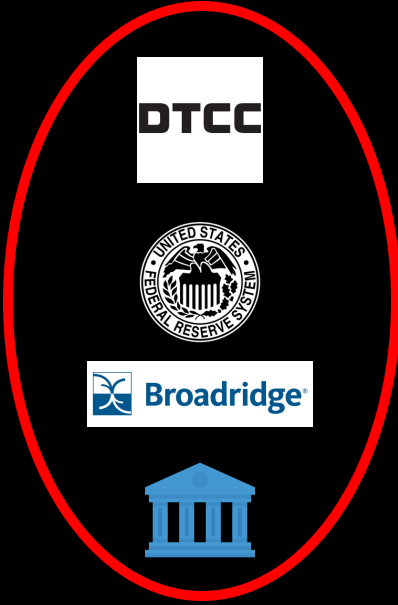
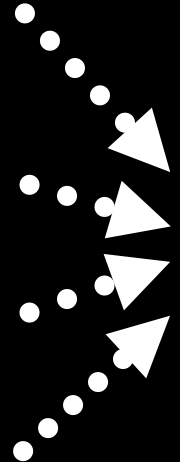
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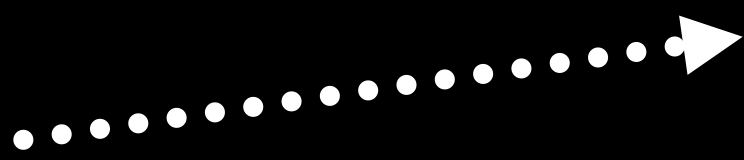
Darkpool



Internalizer



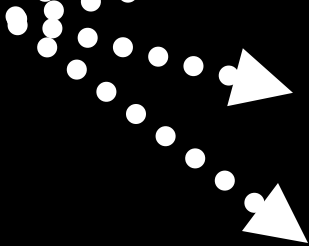
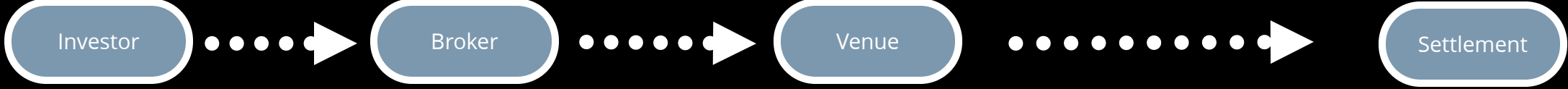
Crypto



Venue



Traditional



Exchange



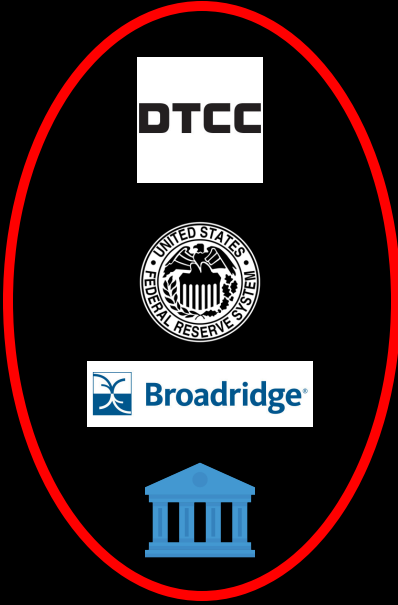
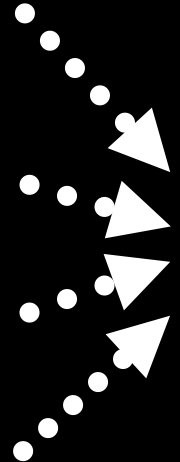
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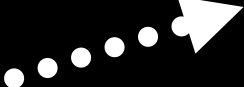
Darkpool



Internalizer



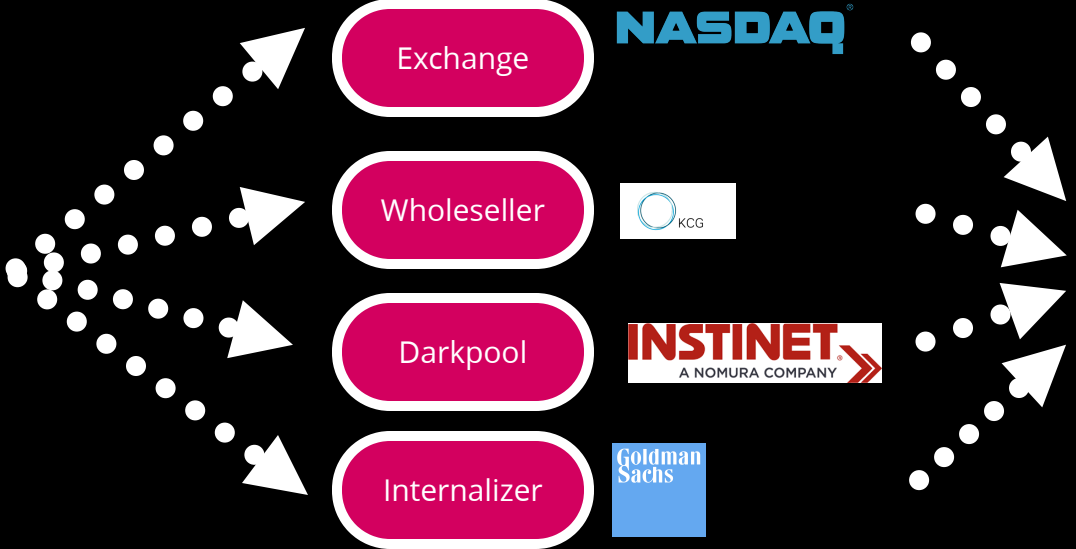
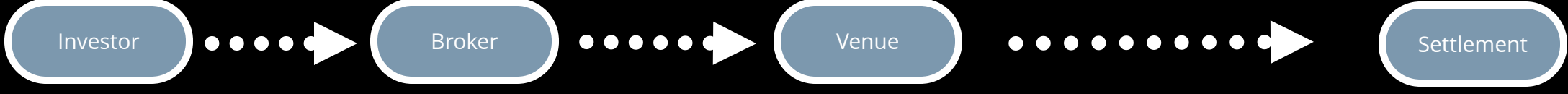
Crypto



POLONIEX



Traditional



Exchange



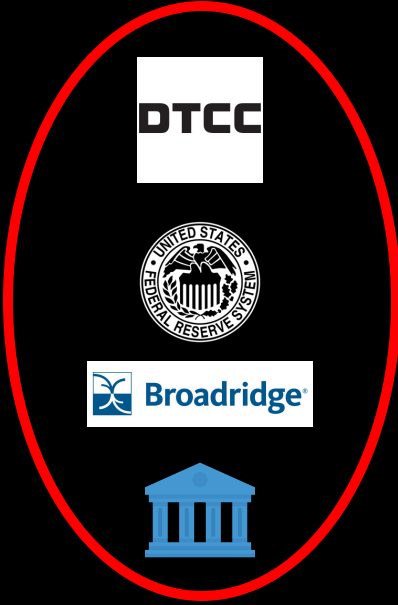
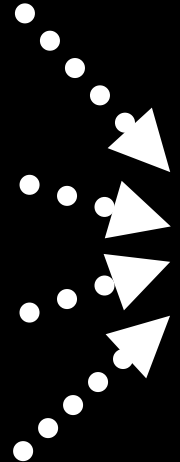
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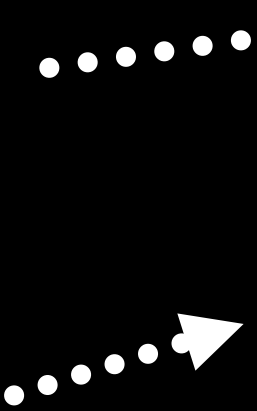
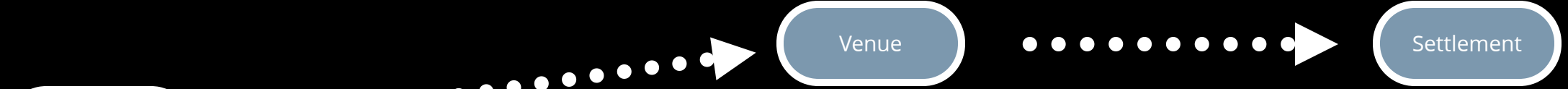
Darkpool



Internalizer



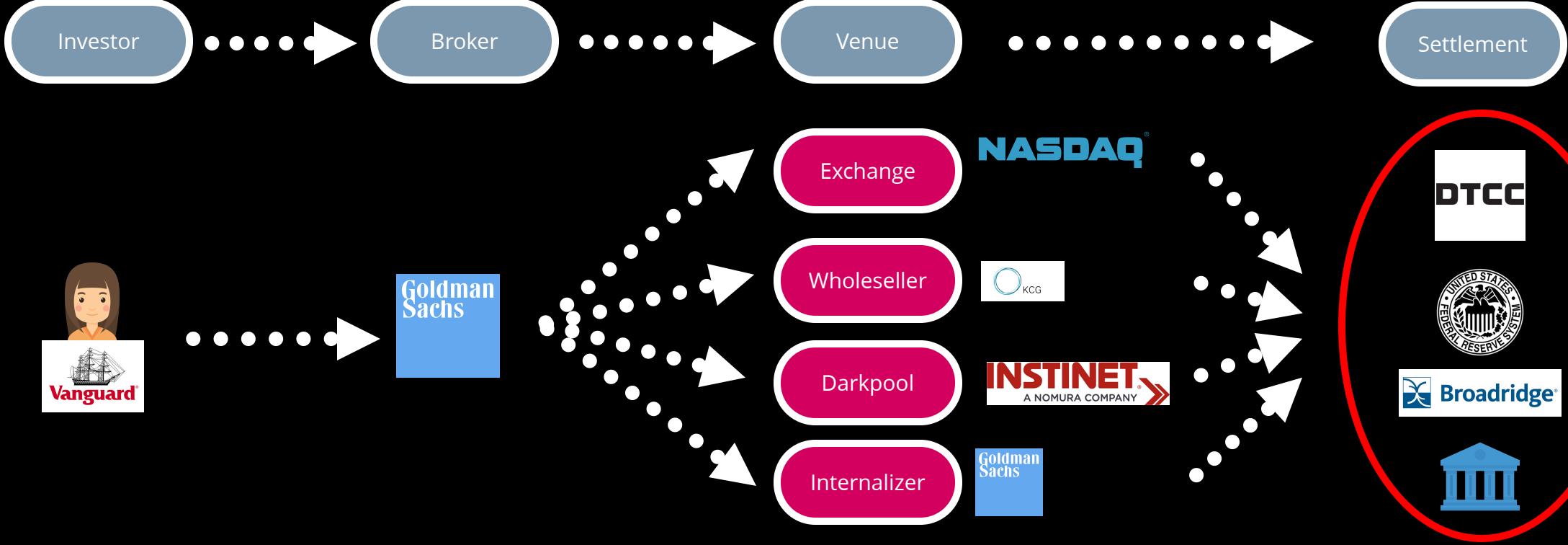
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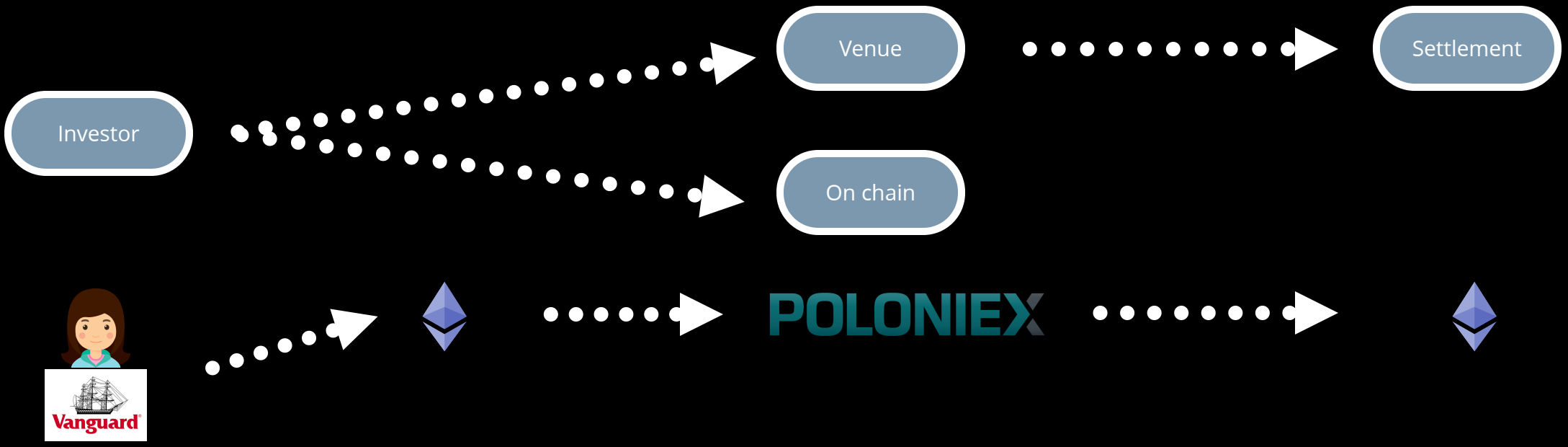
POLONIEX



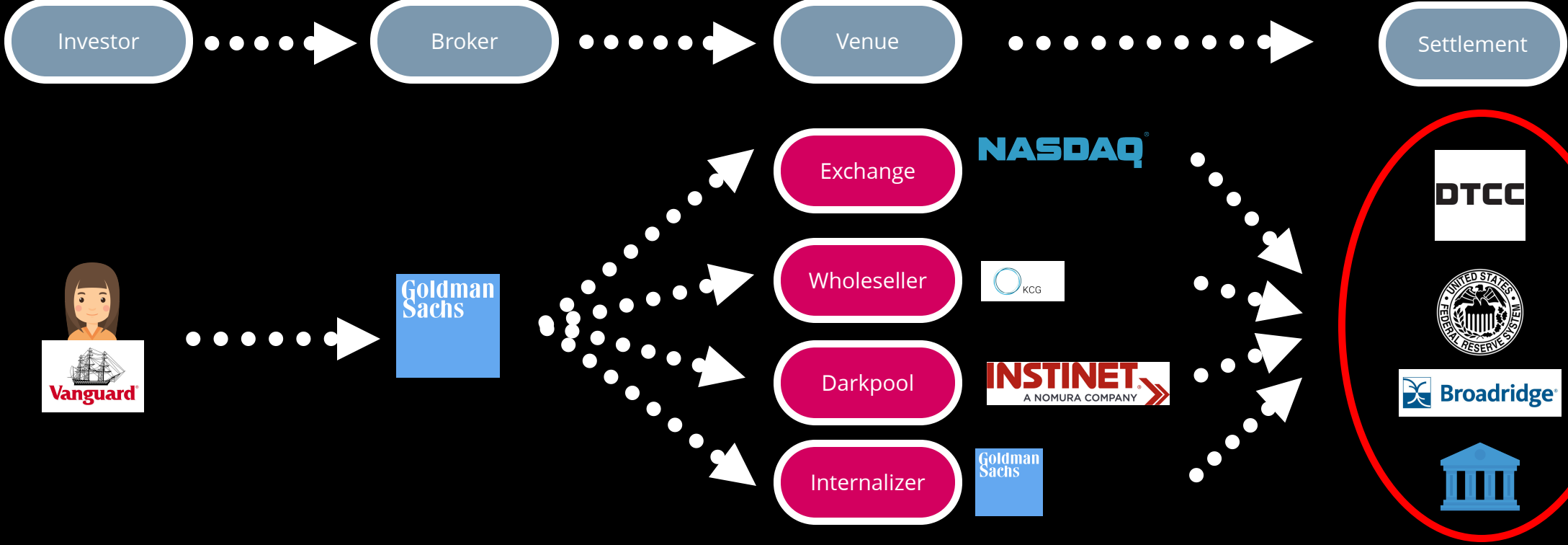
Traditional



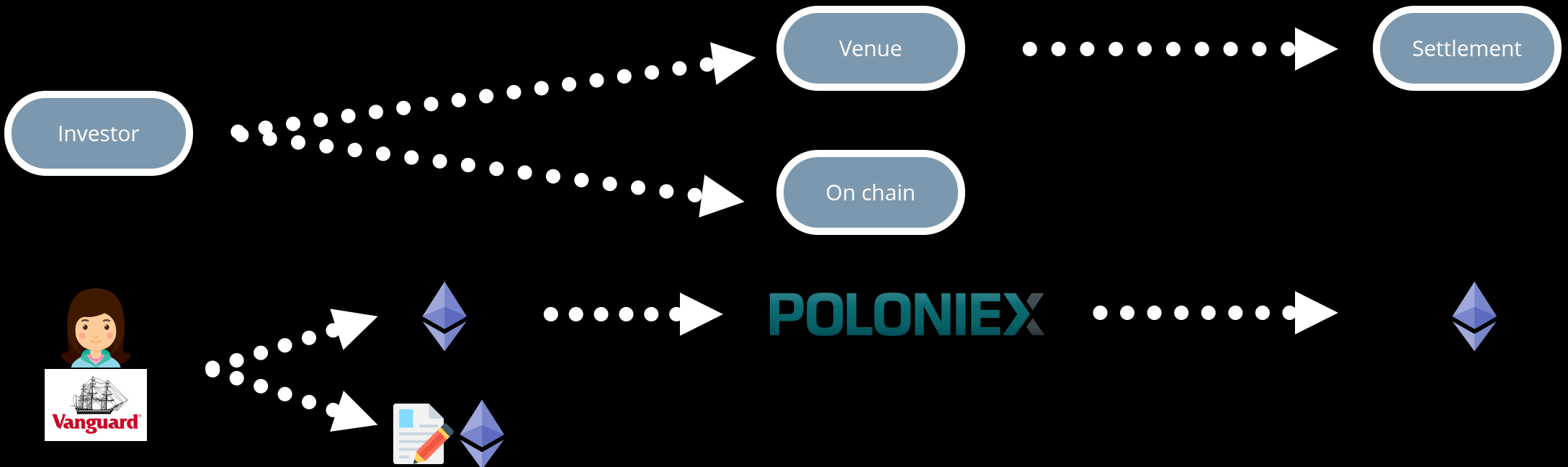
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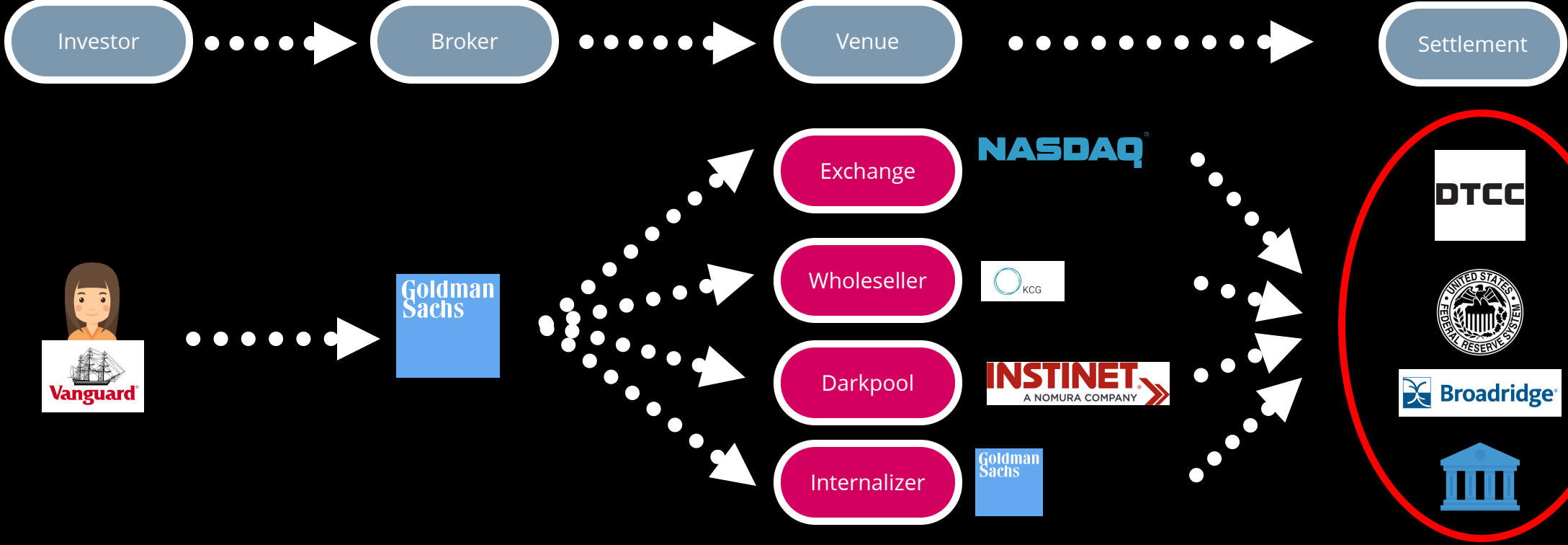
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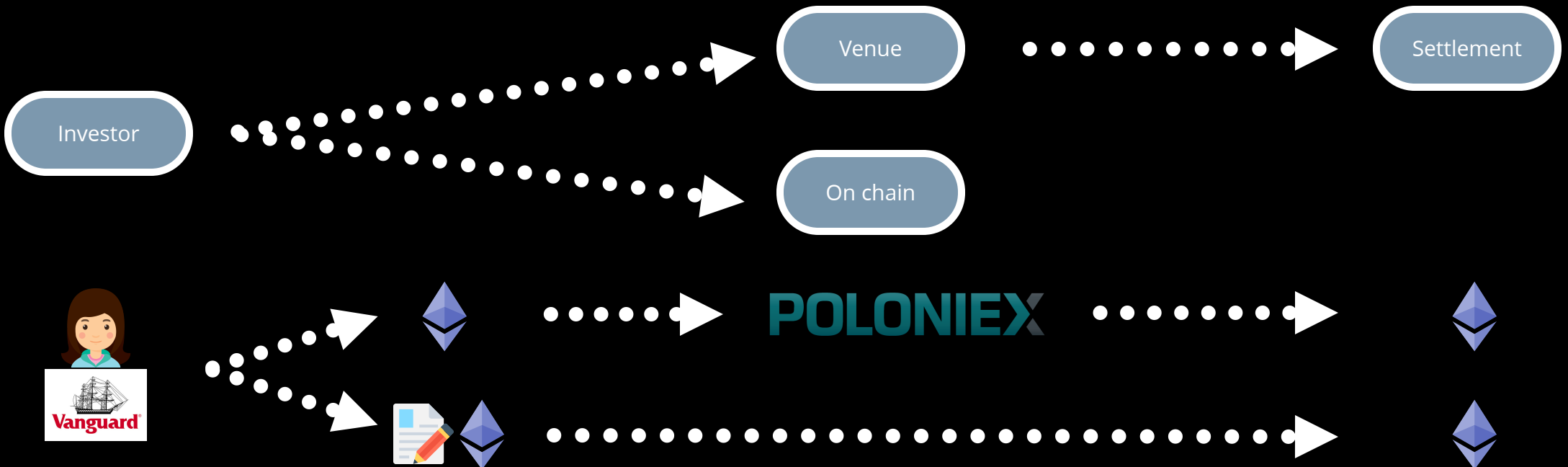
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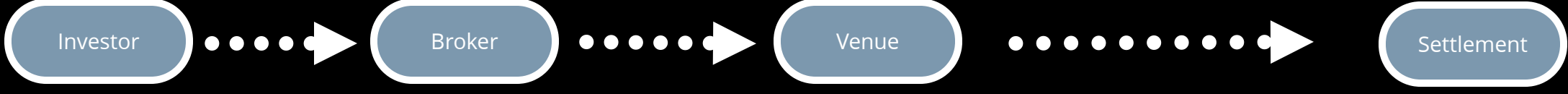
Traditional



Crypto



Traditional



Exchange



Wholeseller



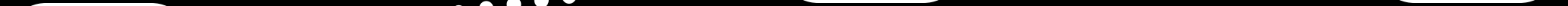
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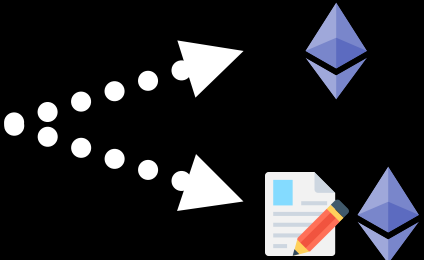
Internalizer



Crypto



On chain



# Concerns

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arbitrage requires capital  
commitment => expensive

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decentralized: totally  
anonymous => easy price  
manipulation (e.g. wash trades)



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commitment => expensive

decentralized: totally  
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manipulation (e.g. wash trades)

exchanges = brokers? =>  
single point of failure

# Spirit of Blockchain: Fully decentralized

EtherDelta
BNT
Chat
Help
Tokens
Smart Contract
English
Ox4e3996eaa... 0.010 ETH
EtherDelta (No Private Key)

### BALANCE

Deposit	Withdraw	Transfer
Token	Wallet	EtherDelta
BNT	0.000	0.000
ETH	0.010	0.000

Make sure BNT is the token you actually want to trade. Multiple tokens can share the same name.

### VOLUME

Token	Daily	Bid	Offer
0ED	0		
10MT	0		
10MTI	0		
1BIT	0		
1KT	0		
1LIFE	0		
1ST	0		
1WO	0		
7YPE	0		
ABS	0		
ABSOLD	0		
ACC	0		
ACE	0		
ADST	0		
ADT	0		
ADU	0		
ADUOLD	0		
ADX	0		
AE	0		
AFST	0		
AGO	0		
AI	0		
AION	0		
AIR	0		
AIRA	0		
ALCO	0		
ALIEF	0		
ALIS	0		

### ORDER BOOK

BNT/ETH	BNT	ETH
0.110000000	7.000	0.770
0.100000000	30.000	3.000
0.100000000	2.000	0.200
0.099000000	100.000	9.900
0.062000000	100.000	6.200
0.050000000	15.000	0.750
0.032100000	48.000	1.541
0.017844193	7.792	0.139
0.014273355	8.094	0.116
0.011420284	1.904	0.022
0.009880000	1007.000	9.949
0.009800000	28.790	0.282
0.008700000	980.000	8.526

### NEW ORDER

Buy	Sell
BNT	Amount to buy
BNT/ETH	Price
ETH	Total
Expires	10000

Buy

### PRICE CHART

Price: 0.009, 0.008, 0.007, 0.006, 0.005

Nov 30 Dec 02 Dec 04 Dec 06 Dec 08 Dec 10 Dec 12

### TRADES

BNT/ETH	BNT	ETH
0.007900000	6.400	0.051
0.005701000	2.359	0.013
0.007900000	13.142	0.104
0.001112222	0.010	0.000
0.000511000	99.691	0.051
0.005900000	0.680	0.004
0.005900000	6.181	0.036
0.008700000	3.438	0.030
0.007770000	19.889	0.155
0.005680010	58.833	0.334
0.005550000	49.352	0.274
0.007000000	0.006	0.000
20.000000000	0.006	0.110
0.007777000	38.516	0.300
0.007777000	12.820	0.100
0.006220000	0.800	0.005
0.006220000	4.985	0.031
0.007089000	4.000	0.028
0.006200010	4.985	0.031
0.007690000	10.000	0.077
0.007100000	3.050	0.022
0.007100000	92.950	0.660
0.006800000	29.200	0.199
0.006000000	150.440	0.903
0.006000000	52.214	0.319
0.007100000	3.000	0.021
0.005850010	49.845	0.292
0.007990000	0.125	0.001
0.007990000	5.000	0.040
0.008000000	2.000	0.016
0.005850010	0.000	0.000
0.005850010	2.970	0.017
0.006737000	7.000	0.047

### MY TRANSACTIONS

Important Trades Orders Funds

**Notices**

The only official URL for EtherDelta is <https://etherdelta.com>. Bookmark it once and use the bookmark. Do not send your tokens directly to the smart contract, or they will be lost and unrecoverable. Use the Deposit form (upper left) to send the proper deposit transaction.

**Disclaimer**

The only official representatives in the chat room are ETHERDELTAZACK\_TWITTER, ETHERDELTAPE1\_TWITTER, ETHERDELTAPE2\_TWITTER, ETHERDELTAPE3\_TWITTER, ETHERDELTAPE4\_TWITTER, and ETHERDELTAUX\_TWITTER.

EtherDelta is a decentralized trading platform that lets you trade Ether and Ethereum-based tokens directly with other users. You are responsible for your own account, funds, and private keys. You are responsible for your own trading decisions, and the details and mechanics of the tokens you trade. EtherDelta is not responsible for your decisions, actions, or losses that result from using EtherDelta. EtherDelta makes no guarantee about the tokens that you trade using EtherDelta. EtherDelta does not hold your funds and does not offer refunds. While the information contained on EtherDelta is periodically updated, no guarantee is given that the information provided on EtherDelta is correct, complete, or up-to-date. By using EtherDelta, you acknowledge this and agree to these terms.

### UPDATES

EtherDelta @EtherDelta

We are continuing to work on a resolution for the ongoing API issues. We apologize for the service interruption and appreciate your continued patience.

Feb 15, 2018

EtherDelta @EtherDelta

EtherDelta users, we have received your emails, and are aware of the ongoing issues with the API and are working on a solution. We apologize for the inconvenience and will be back online soon. We appreciate your patience and support.

新年快乐!  
JUN

# Spirit of Blockchain: Fully decentralized

The screenshot displays the EtherDelta trading platform interface. A modal window titled "Contract Source Code </>" is open, showing Solidity code for a "SafeMath" contract. The code includes functions for safe multiplication, subtraction, and assertion. A pink callout bubble with the text "... 300 lines of code ..." is overlaid on the code. The background shows the trading interface with tabs for BALANCE, ORDER BOOK, PRICE CHART, and TRADES. The BALANCE tab is active, showing deposit and withdrawal options for BNT and ETH. The ORDER BOOK and PRICE CHART tabs are also visible. The TRADES tab shows a list of trades for BNT/ETH, BNT, and ETH. The interface includes a chat window at the bottom right with a message from @EtherDelta dated Feb 15, 2018, regarding API issues. The top navigation bar includes options for Chat, Help, Tokens, Smart Contract, and Language. The user's account information, including the address 0x4e3996eae... and a balance of 0.010 ETH, is displayed in the top right corner.

```
Contract Source Code </>
1 pragma solidity ^0.4.9;
2
3 contract SafeMath {
4     function safeMul(uint a, uint b) internal returns (uint) {
5         uint c = a * b;
6         assert(a == 0 || c / a == b);
7         return c;
8     }
9
10    function safeSub(uint a, uint b) internal returns (uint) {
11        assert(b <= a);
12        return a - b;
13    }
14
15    function safeDiv(uint a, uint b) internal returns (uint) {
16        assert(b > 0);
17        return a / b;
18    }
19 }
20
21 function assert(bool assertion) internal {
    if (!assertion) {
        revert(1);
    }
}
```

... 300 lines of code ...

Make sure BNT is the token you actually want to trade. Multiple tokens can have the same name.

Token	Daily	Bid
0ED	0	
10MT	0	
10MTI	0	
1BIT	0	
1KT	0	
1LIFE	0	
1ST	0	
1WO	0	
7YPE	0	
ABS	0	
ABSOLD	0	
ACC	0	
ACE	0	
ADST	0	
ADT	0	
ADU	0	
ADUOLD	0	
ADX	0	
AE	0	
AFST	0	
AGO	0	
AI	0	
AION	0	
AIR	0	
AIRA	0	
ALCO	0	
ALIEF	0	
ALIS	0	

Feb 15, 2018

acknowledge this and agree to these terms.

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新年快乐!  
JUN

# Spirit of Blockchain: Fully decentralized

The screenshot displays the EtherDelta trading platform interface. A modal window titled "Contract Source Code </>" is open, showing Solidity code for a "SafeMath" contract. The code includes a pragma statement, a contract definition, and a "safeMul" function with an internal assertion. The background shows the trading interface with tabs for BALANCE, ORDER BOOK, PRICE CHART, and TRADES. A table of trading volumes is visible at the bottom left, and a tweet from EtherDelta is shown at the bottom right.

```
Contract Source Code </>
1 pragma solidity ^0.4.9;
2
3 contract SafeMath {
4     function safeMul(uint a, uint b) internal returns (uint) {
5         uint c = a * b;
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0ED	0	
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7YPE	0	
ABS	0	
ABSOLD	0	
ACC	0	
ACE	0	
ADST	0	
ADT	0	
ADU	0	
ADUOLD	0	
ADX	0	
AE	0	
AFST	0	
AGO	0	
AI	0	
AION	0	
AIR	0	
AIRA	0	
ALCO	0	
ALIEF	0	
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work on a resolution for the  
We apologize for the service  
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Feb 15, 2018

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EtherDelta users, we have received your emails, and are aware of the ongoing issues with the API and are working on a solution. We apologize for the inconvenience and will be back online soon. We appreciate your patience and support.

新年快乐!  
JUN

standard trading rules  
practically impossible to  
enforce

# Spirit of Blockchain: Fully decentralized



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## Press Release

# SEC Charges EtherDelta Founder With Operating an Unregistered Exchange

**FOR IMMEDIATE RELEASE**

**2018-258**

*Washington D.C., Nov. 8, 2018* — The Securities and Exchange Commission today announced settled charges against Zachary Coburn, the founder of EtherDelta, a digital "token" trading

Crypto exchanges are a security risk

# Crypto exchanges are a security risk

A screenshot of an advertisement for Mt.Gox, a Bitcoin exchange. The ad features the Mt.Gox logo at the top left, followed by the headline "Trade with confidence on the world's largest Bitcoin exchange!". Below the headline is a paragraph of text: "Mt.Gox is the world's most established Bitcoin exchange. You can quickly and securely trade bitcoins with other people around the world with your local currency!". At the bottom left of the ad is a green button with the text "SIGN UP NOW". The background of the ad is light blue with decorative circular patterns on the right side.

**MT.GOX**

**Trade with confidence on the world's largest Bitcoin exchange!**

Mt.Gox is the world's most established Bitcoin exchange. You can quickly and securely trade bitcoins with other people around the world with your local currency!

**SIGN UP NOW**

# Crypto exchanges are a security risk



An advertisement for MTGOX, a Bitcoin exchange. The ad features the MTGOX logo at the top left. The main text reads: "with confidence on the largest Bitcoin exchange!". Below this, it says: "world's most established Bitcoin exchange. You can buy and securely trade bitcoins with other people around the world with your local currency!". At the bottom, there is a green button with the text "SIGN UP NOW". The background of the ad is light blue with decorative circular patterns on the right side.



# Crypto exchanges are a security risk



**BITFINEX** 



**120,000 BITCOINS STOLEN IN  
BITFINEX HACK**

August 2016

# Crypto exchanges are a security risk



with confidence  
largest Bitcoin  
world's most established E  
trade bitcoin  
for local currency



**BITFINEX** 

**120,000 BITCOINS STOLEN IN BITFINEX HACK**

August 2016

# Crypto exchanges are a security risk



FINANCE • CRYPTOCURRENCY

## How to Steal \$500 Million in Cryptocurrency

f t in e

You May Like

[Pics] Crying Man Forced Throw Package In Airport

**BITFINEX** 

# 120,000 BITCOINS STOLEN

# BITFINEX HACK

August

**Bittrex to Delist Bitcoin Gold by Mid-September, Following \$18 Million Hack of BTG in May**

9031 Total views 348 Total shares Listen to article 2:38

# Crypto exchanges are a security risk



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largest Bitcoin  
world's most established  
trade bitcoin  
for local currency

FINANCE • CRYPTOCURRENCY

## How to Steal \$500 Million in Cryptocurrency

f t in e

BITCOIN

### Cryptocurrency exchange Bitfinex briefly halts trading after cyberattack

May Like

- Cryptocurrency exchange Bitfinex paused trading Tuesday morning after a cyberattack on the platform.
- "The previous outage was caused by issues with one of our infrastructure providers," the company said. "While the platform was recovering, the attack caused extreme load on the servers."
- Bitcoin fell about 7 percent following the news, hitting a low of \$7,373.47.

June 2018 | Updated 1:58 PM ET Tue, 5 June 2018

**BITFINEX**

# 120,000 BITCOINS STOLEN

## BITFINEX HACK

August

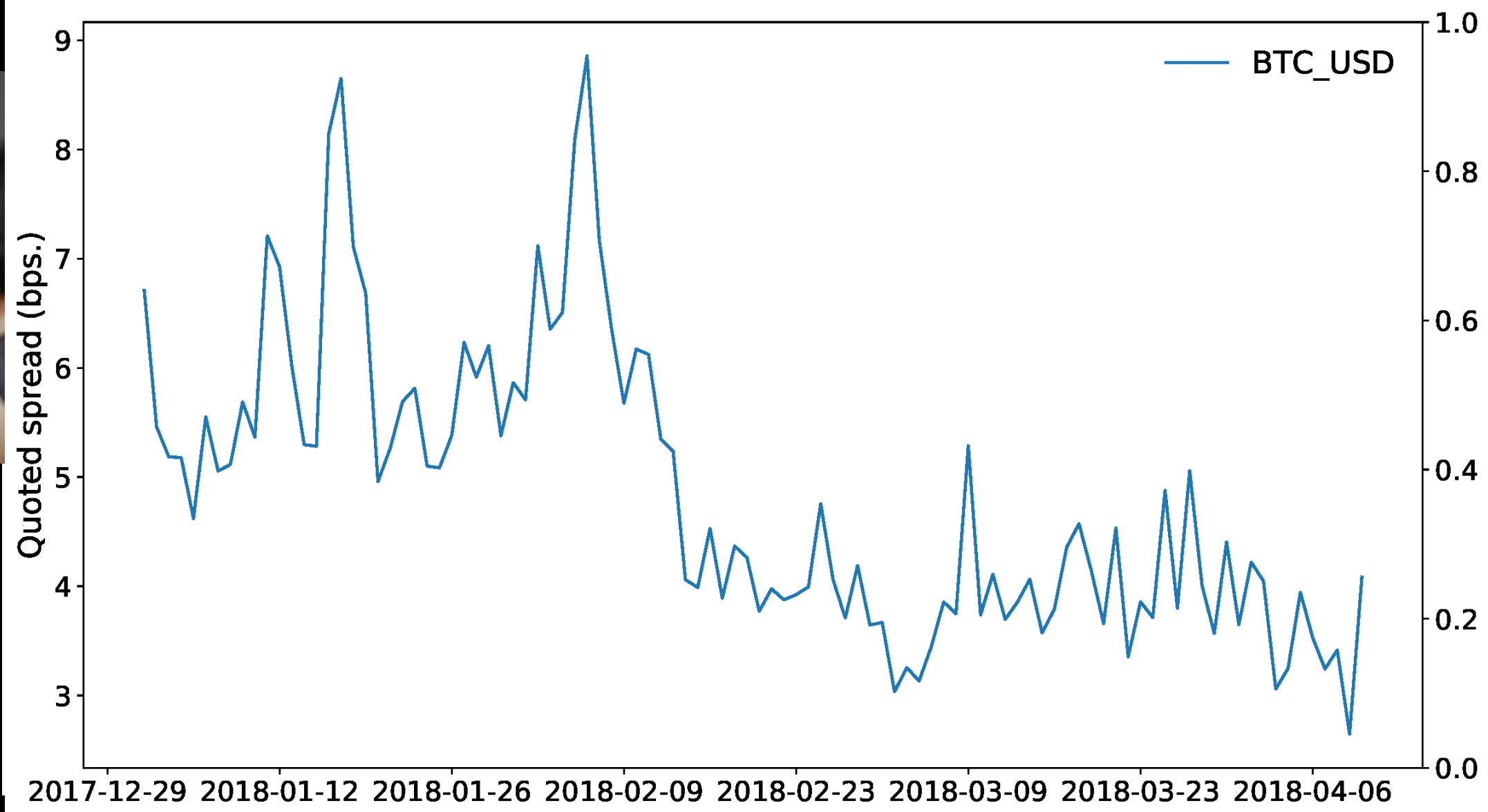
- Share icon
- Like icon
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- Comment icon
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## Bittrex to Delist Bitcoin Gold by Mid-September, Following \$18 Million Hack of BTG in May

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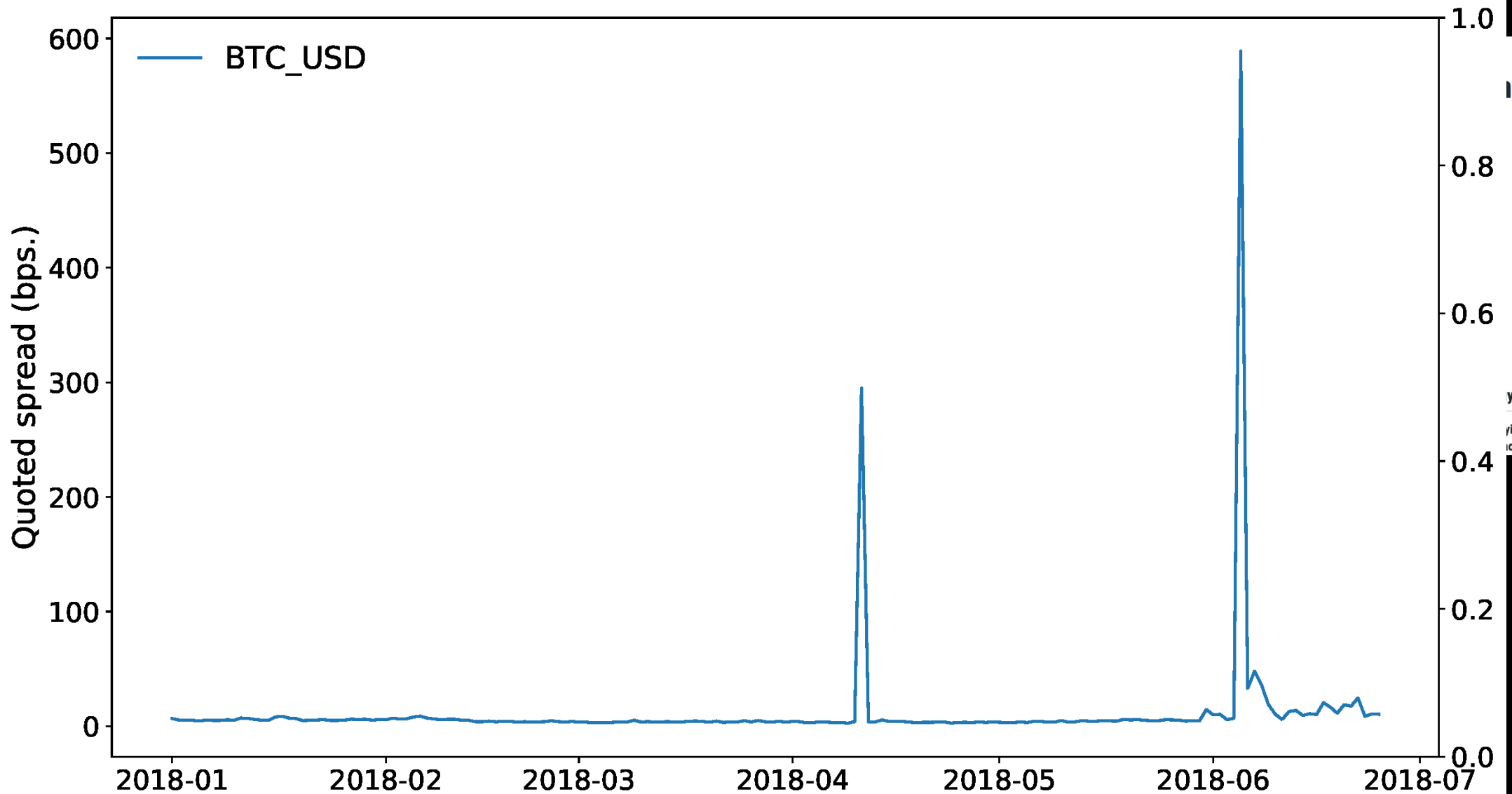


# Crypto exchanges are a security risk



icy  
y Like  
ying Man Forced  
ckage In Airport

# Crypto exchanges are a security risk



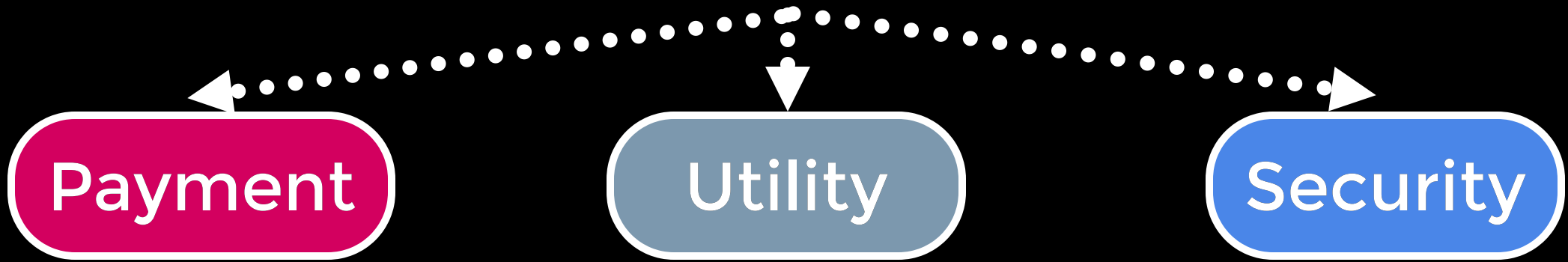
# A taxonomy of coins vs tokens

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Payment

Utility

Security





# A taxonomy of coins vs tokens

Payment

Utility

Security

Coin

- native to a blockchain for payment
- examples: Bitcoin, Bitcoin Cash, Ether, Lumens, Cardano

# A taxonomy of coins vs tokens

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Utility

Security

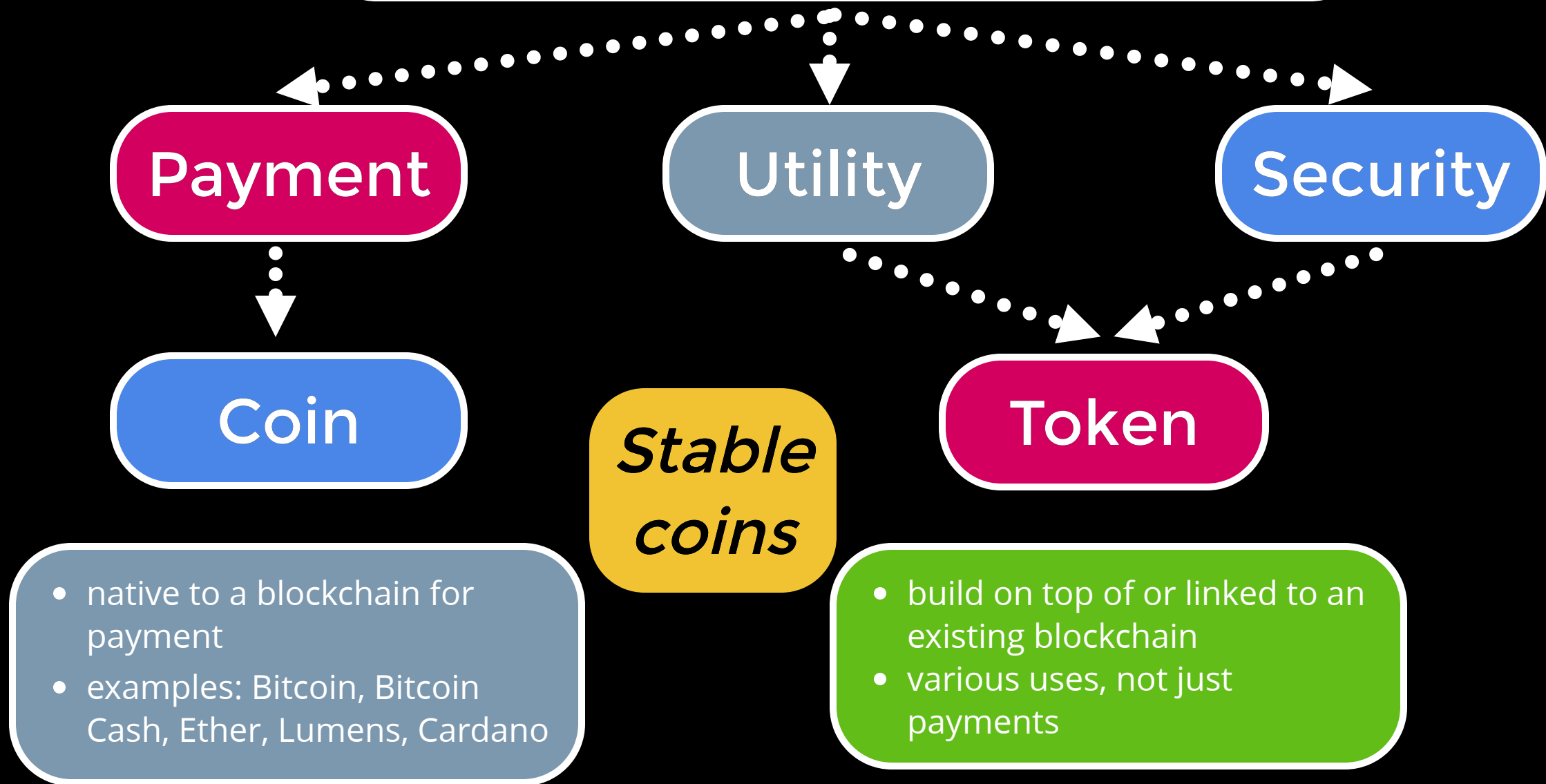
Coin

Token

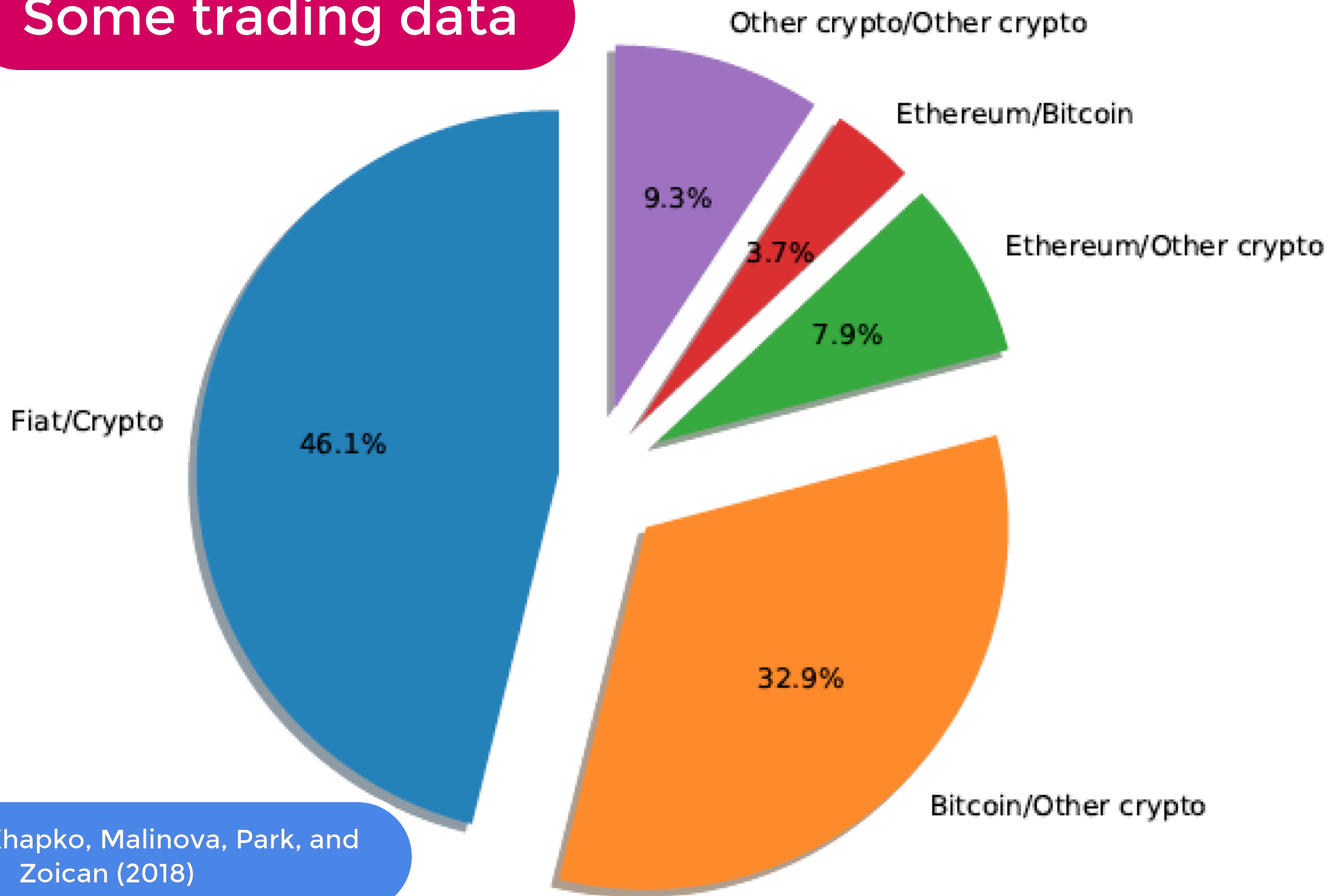
- native to a blockchain for payment
- examples: Bitcoin, Bitcoin Cash, Ether, Lumens, Cardano

- build on top of or linked to an existing blockchain
- various uses, not just payments

# A taxonomy of coins vs tokens



## Some trading data



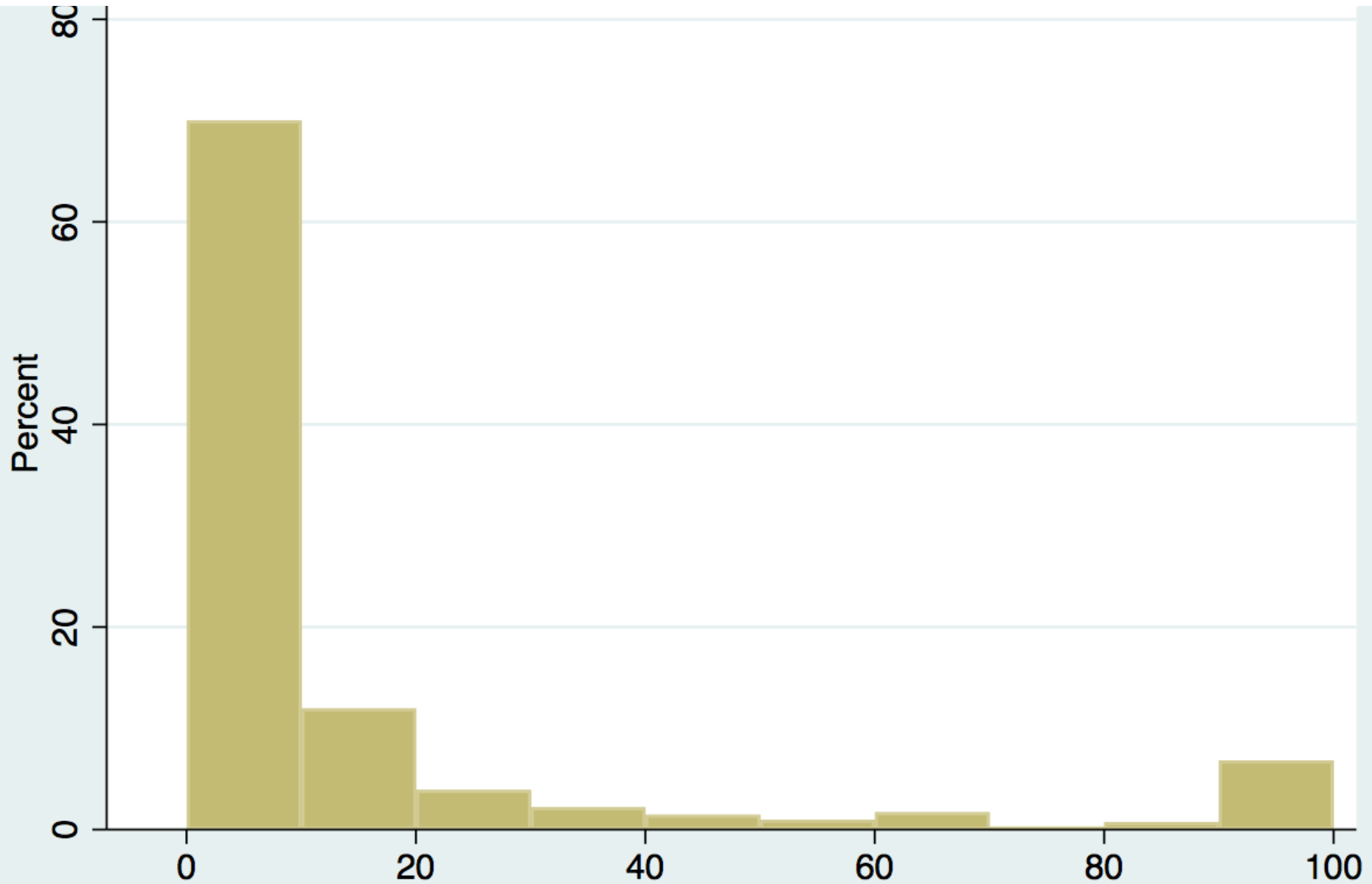
based on Khapko, Malinova, Park, and  
Zoican (2018)

Crypto-to-crypto market share by USD trading volume

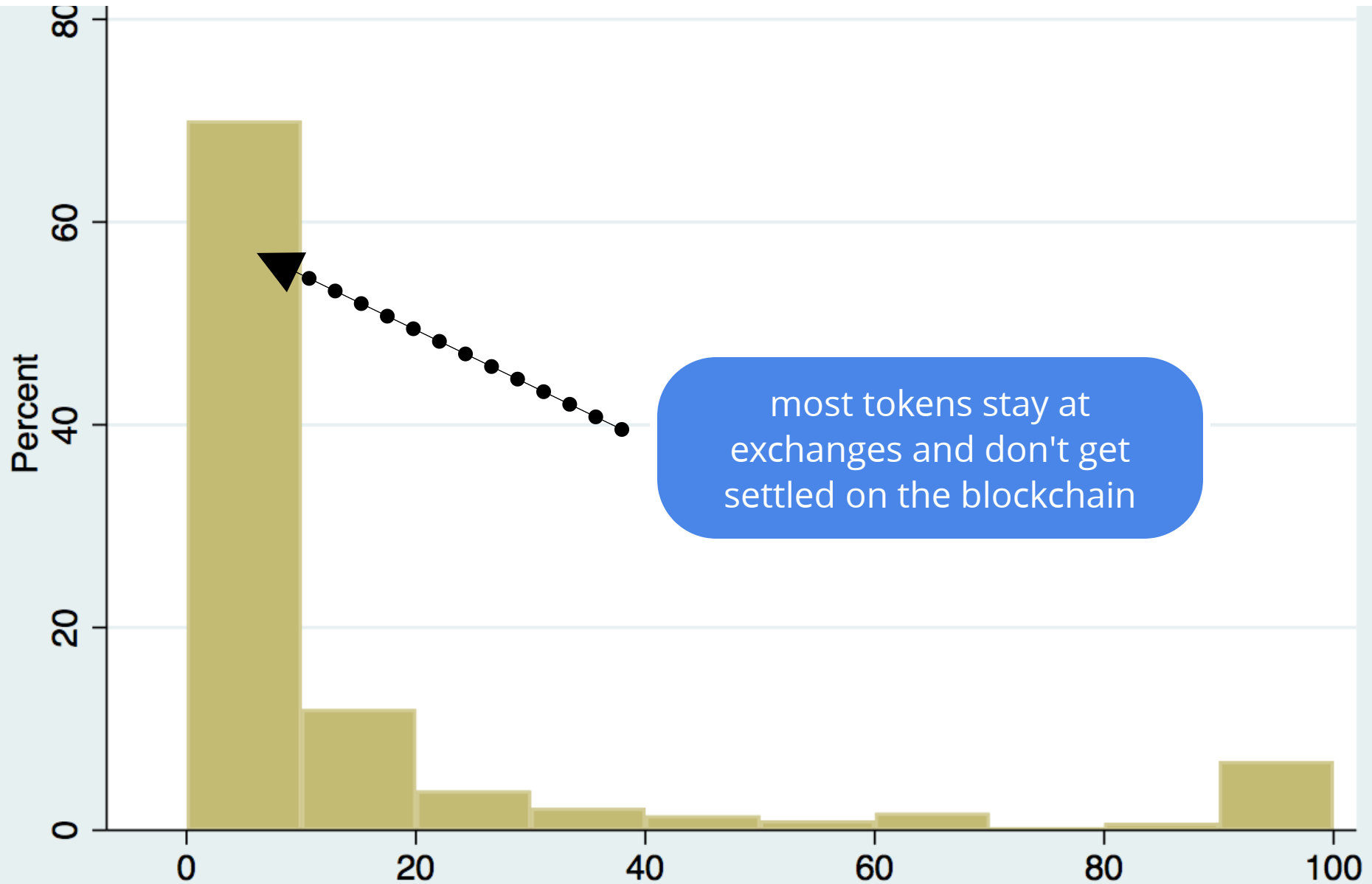


Where does trading take place?

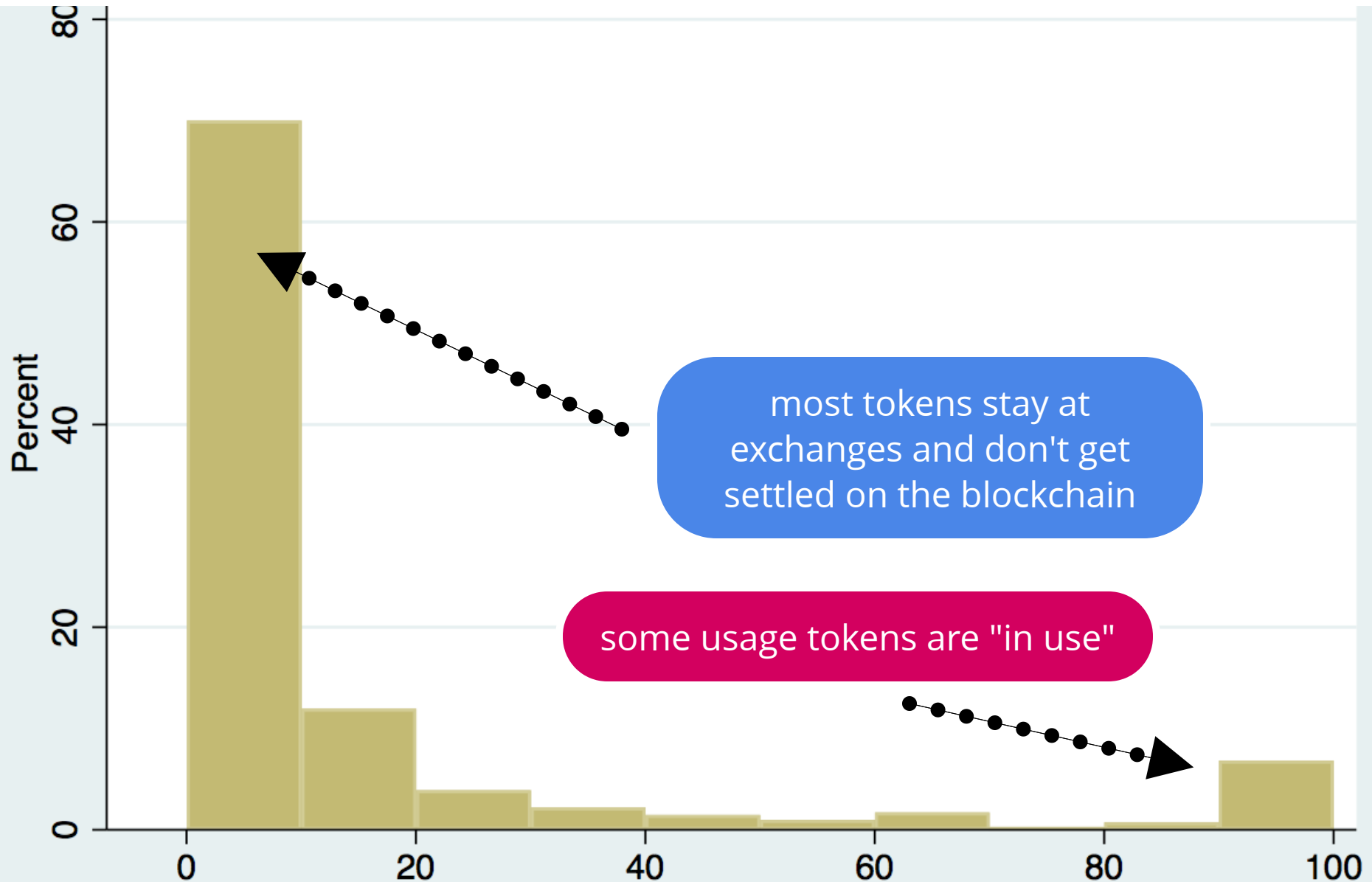
# Distribution of changes in beneficiary ownership



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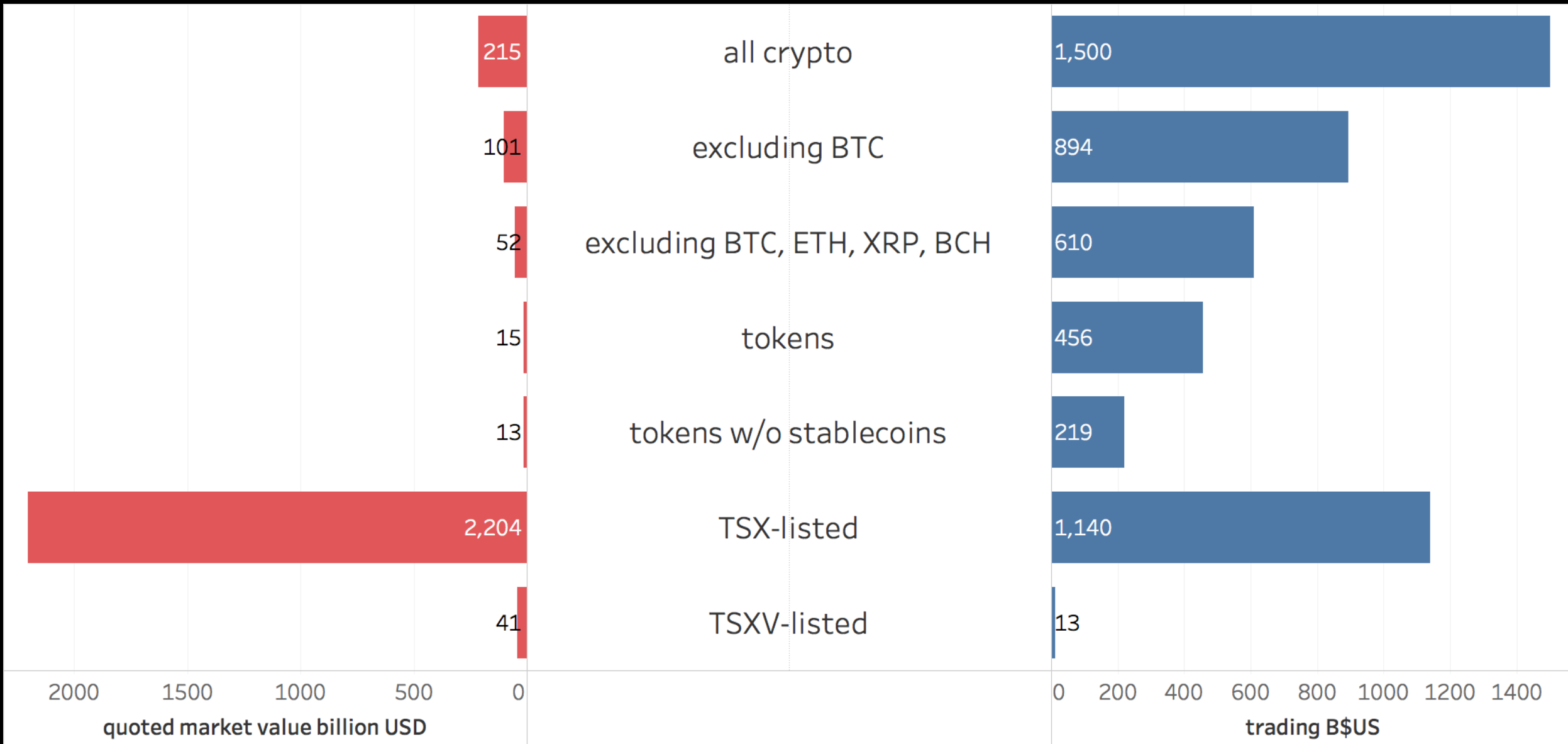


# Distribution of changes in beneficiary ownership





# Compare Market Value vs Trading Crypto to TSX



Sum of quoted market value billion USD, sum of zero and sum of trading B\$US for each Type Of Security.

Transactions  
costs

Broker  
Level

Transactions  
costs

Sell 200,000 Island NASDAQ Shares @ \$5 Remove Liquidity

Broker  
Level

## Transactions costs

## Broker Level

Sell 200,000 Island NASDAQ Shares @ \$5 Remove Liquidity

IB 200,000 Shares:	\$700	
Island NASDAQ Fee (variable rates):	600	
Clearing Fee:	40	
Transaction Fee (0.0000130 * Value of Sale):	13.00	13.00
FINRA Fee (0.00056 * Commission):	0.39	
NYSE Pass-Through Fee (0.000175 * Commission):	0.12	
FINRA Trading Activity Fee:	5.95	5.95
Total Fees:	\$1,359.46	\$1,018.95

Source: Interactive Brokers

## Transactions costs

## Broker Level

+

account

+

wire/in-out

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## Broker Level



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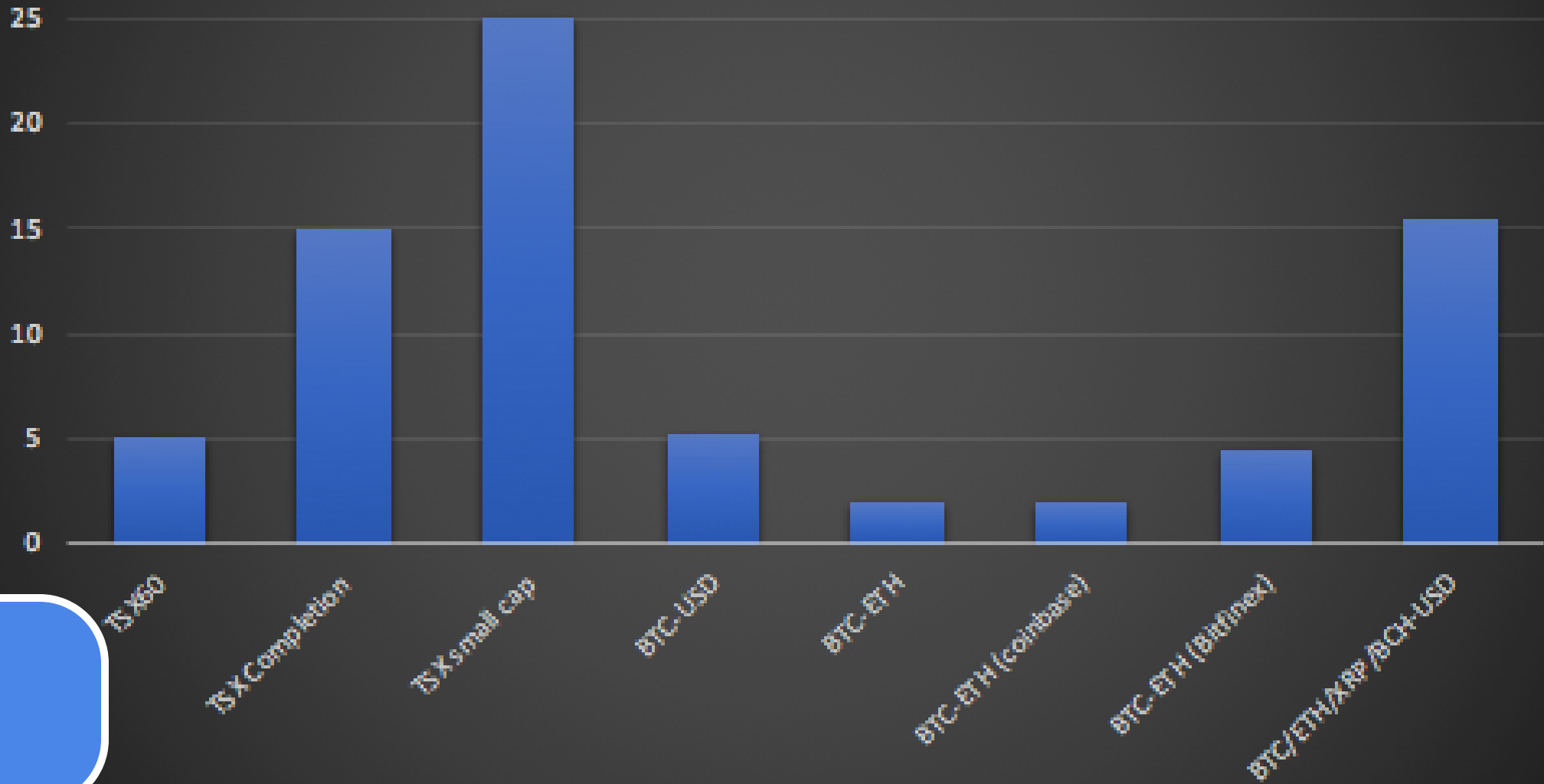
crypto exchange fees for \$1,000,000 market order

- 25 bps = 2,500 trading fee
- in/out fee 0.1% - 3%
- mining fee (\$0.25)

Source: Interactive Brokers

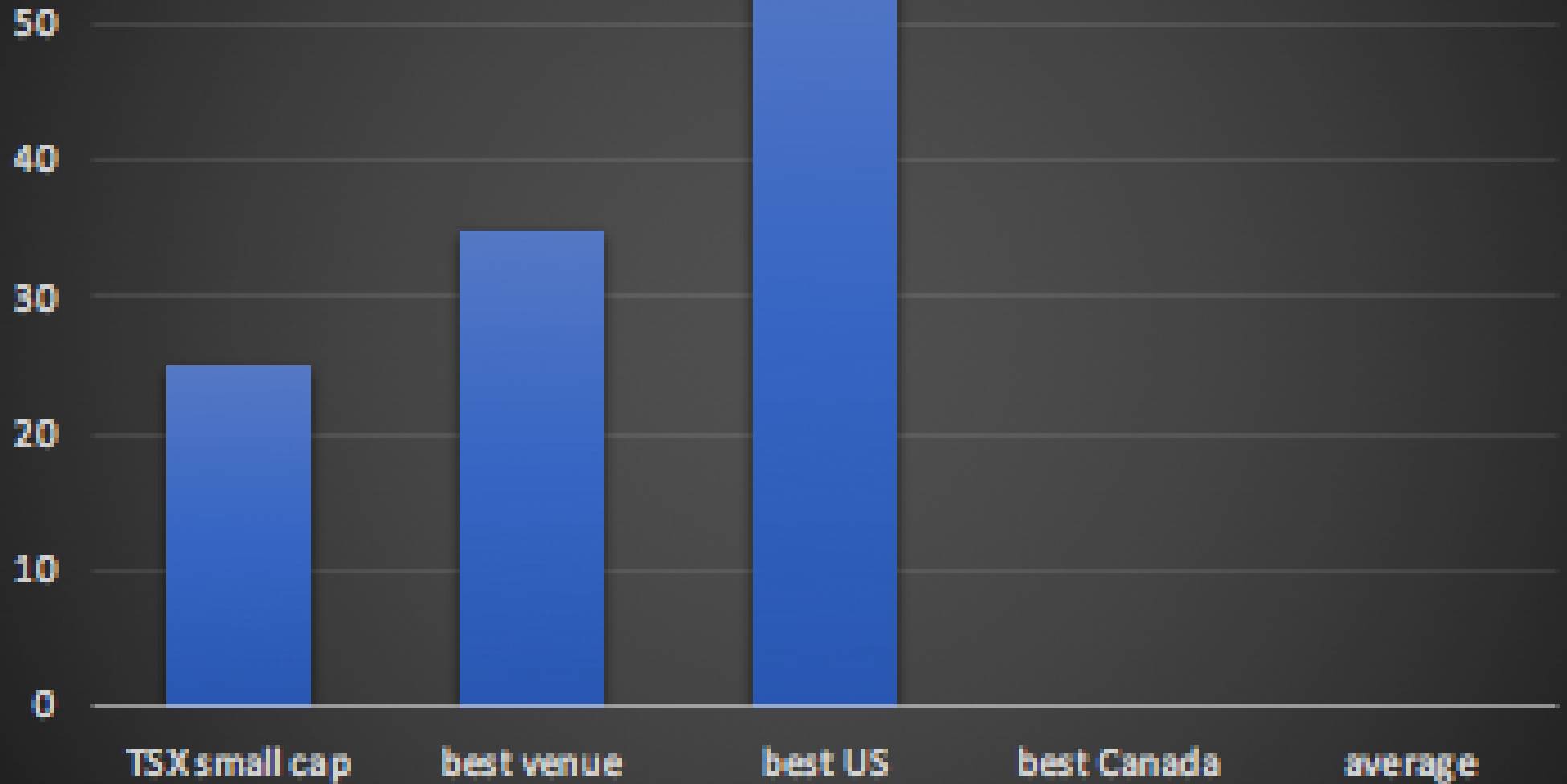
# Transactions costs

## quoted bid-ask spreads in BPS



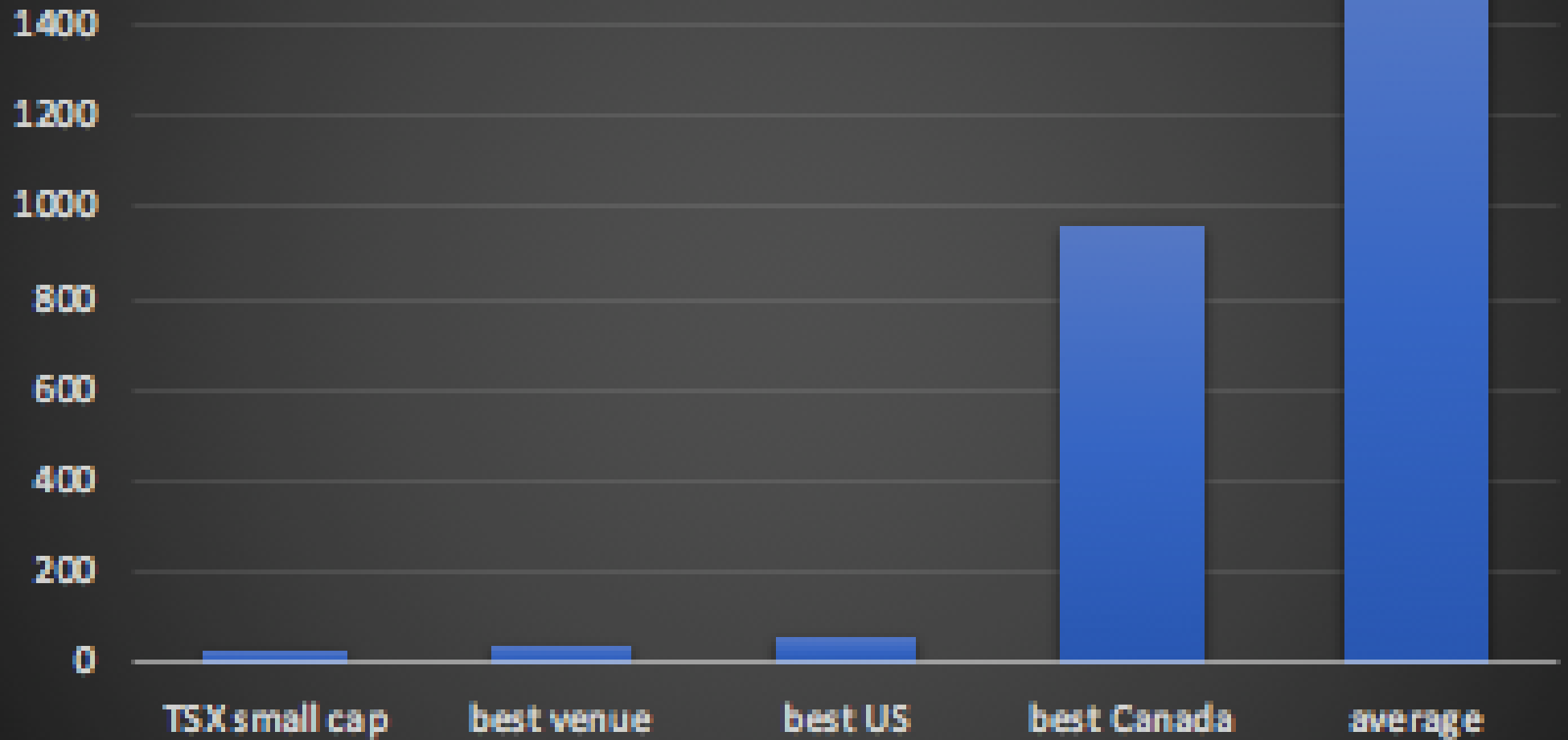
# Bid-ask spreads

# Transactions costs TOKENs





# Transactions costs TOKENS



# Summary: Crypto Trading

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very active market

trading rules? => info(price)

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decentralized trading possible and happening