

web3

Do we need a World Computer?



Roger Wattenhofer

“I think there is a worldwide market for maybe five computers.”

Thomas Watson, 1943

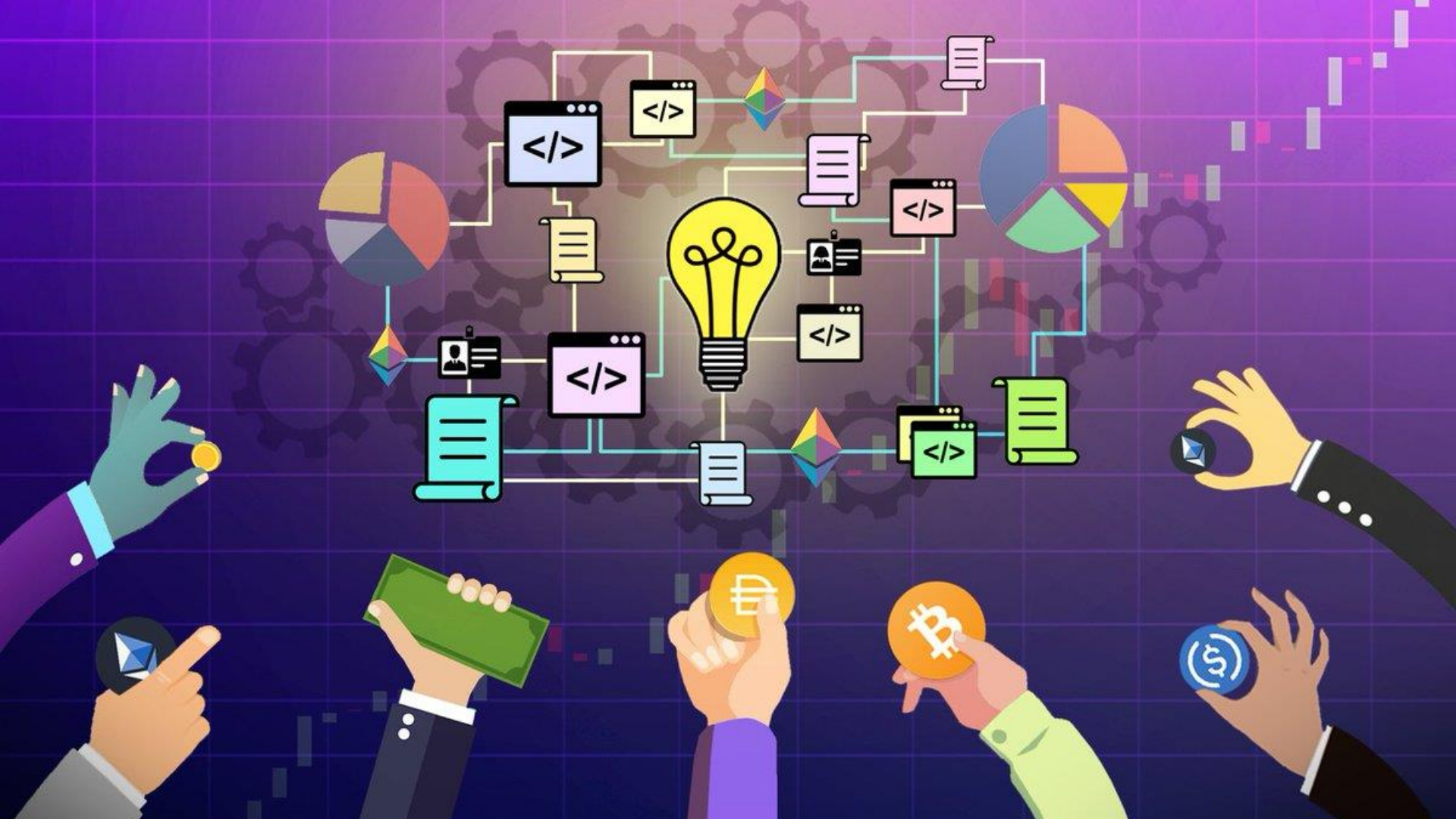


“I think there is a worldwide market for maybe five computers.”

Thomas Watson, 1943



web3



web1 read

web2 read, write

web3 read, write, compute

web1 read

web2 read, write

web3 read, write, *decentralized*

web3

Web 3.0

world
computer

self-sovereign
metaverse
abstractions



Ethereum

semantic
web

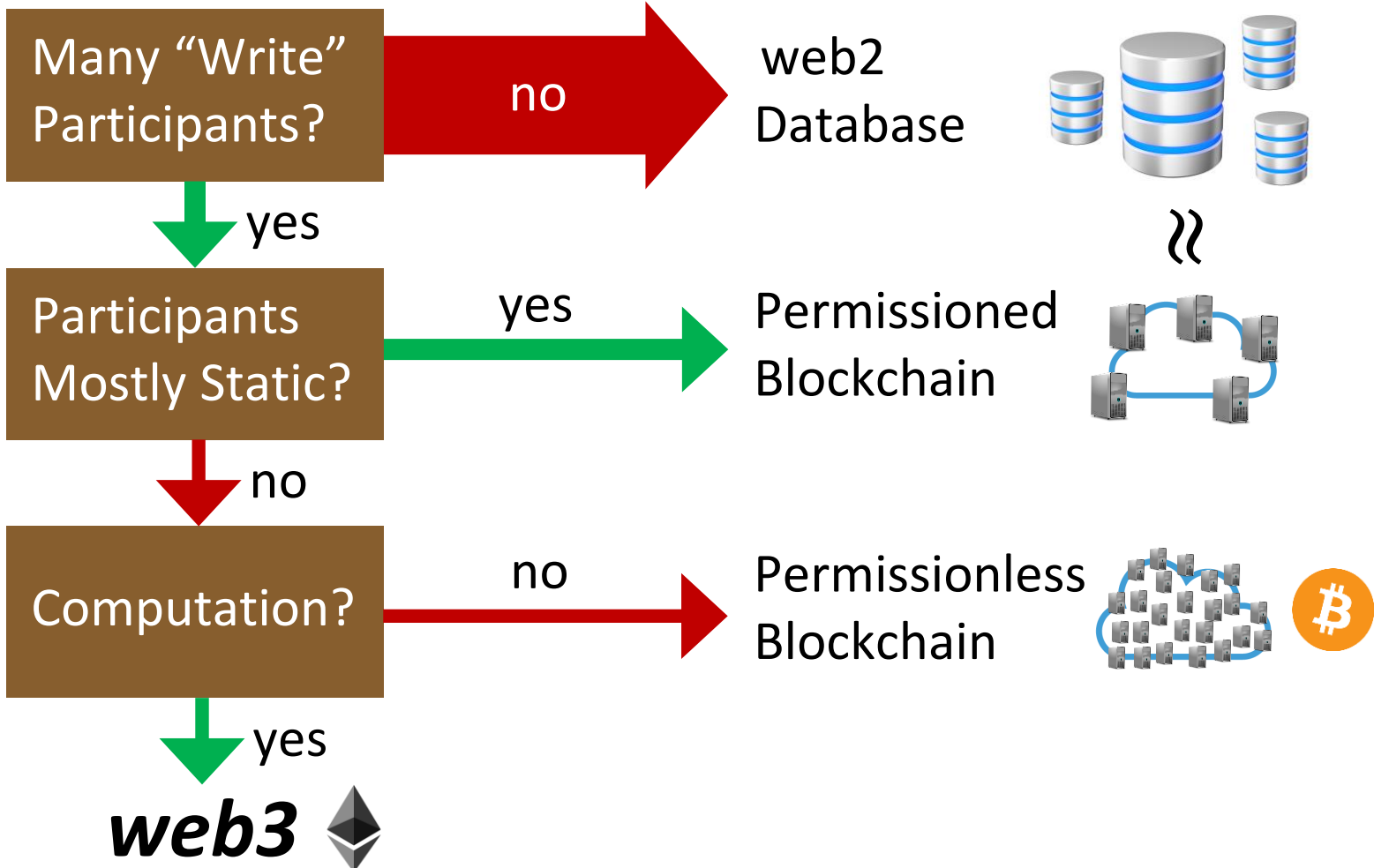


A still from the movie Toy Story showing Woody and Buzz Lightyear. Woody is on the left, looking slightly concerned. Buzz is on the right, wearing his green and white space suit, with his arms raised in a celebratory gesture. The background is a simple room with a door and a window.

BUZZWORDS

BUZZWORDS EVERYWHERE

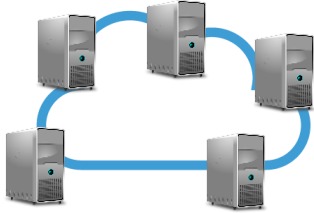
Do you need ***web3***?



Energy Consumption



10x



3,000x



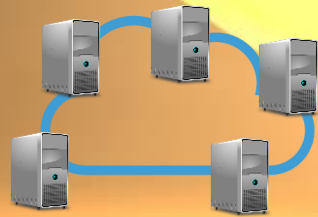
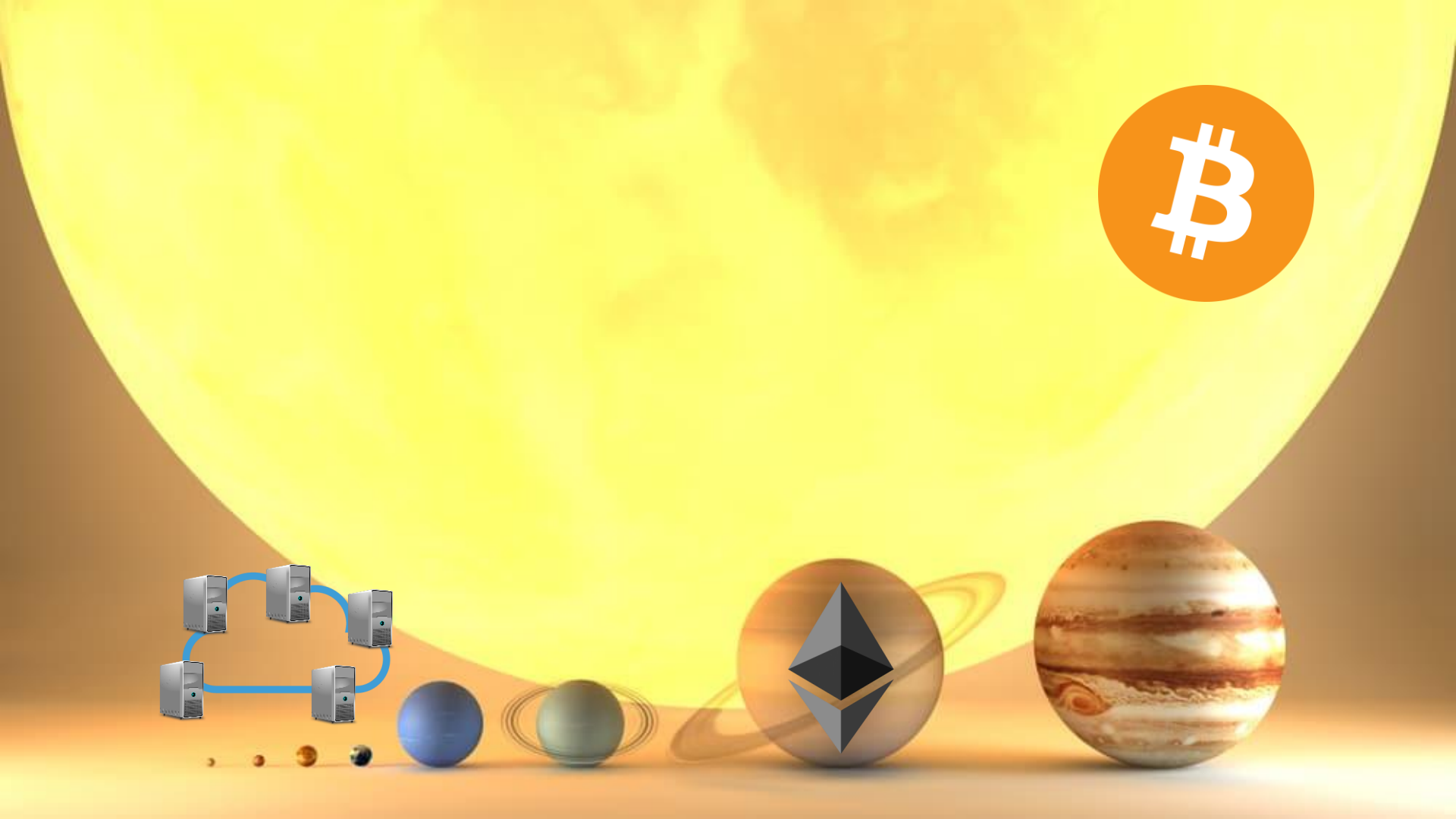
5,000x



security

“security”

proof of work





web2

web3

aws



DFINITY



NYSE

Web 2.0



Data Storage



Browser



Social Networks



Messaging



Video Streaming



Music Streaming



Marketplaces

Web 3.0



Data Storage



Browser



Social Networks



Messaging



Video Streaming



Music Streaming



Marketplaces

Web 2.0



Supply Chain/Logistics



Advertising



Prediction Markets



Home Rental



Digital Payment



Computation



VPN

Web 3.0



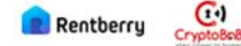
Supply Chain/Logistics



Advertising



Prediction Markets



Home Rental



Digital Payment



Computation



VPN

web3, what is it good for?

Finance, Democracy, ...

Decentralized Finance (DeFi)



THE WALL STREET JOURNAL.

GameStop Mania Is Focus of Federal Probes Into Possible Manipulation

Justice Department has subpoenaed information from Robinhood Markets, others



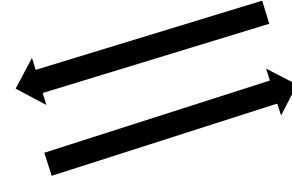












*Decentralized Exchange
Smart Contract*











20



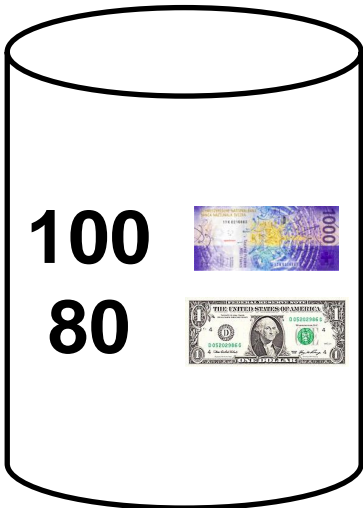
100

80



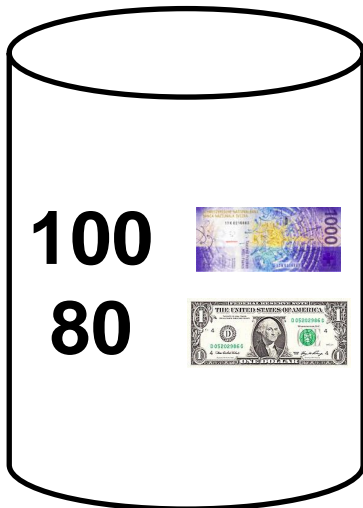


20





20

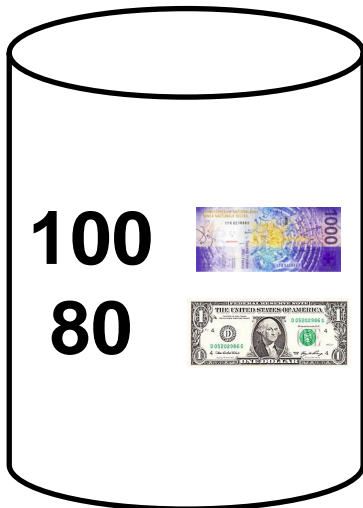




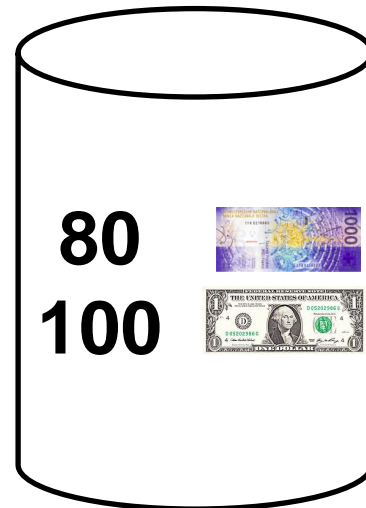
20



20



$$80 \times 100 = 8000$$

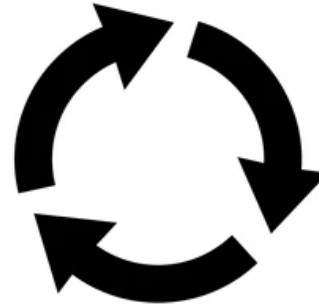


Cyclic Arbitrage





800 USD
1000 CHF

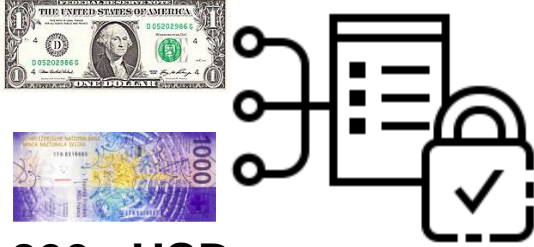


90000 CNY
10000 CHF

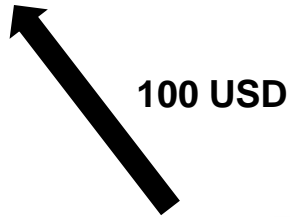


100000 CNY
13000 USD

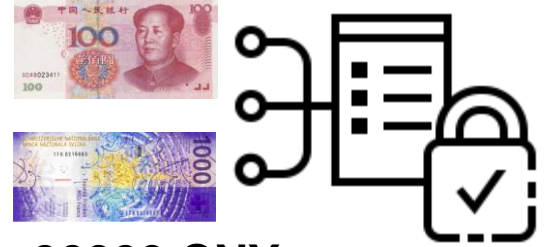




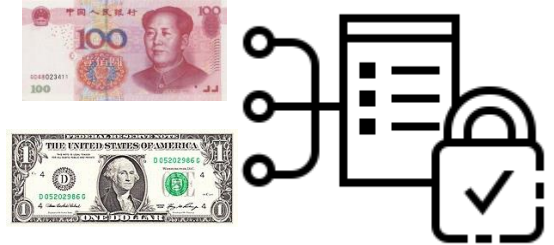
800 USD
1000 CHF



100 USD



90000 CNY
10000 CHF



100000 CNY
13000 USD



900 USD
889 CHF



111 CHF



90000 CNY
10000 CHF



100000 CNY
13000 USD





900 USD
889 CHF



89011 CNY
10111 CHF



989 CNY



100000 CNY
13000 USD





900 USD
889 CHF



89011 CNY
10111 CHF

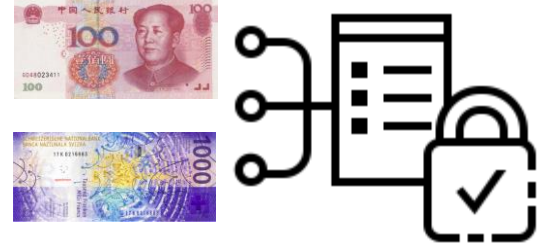
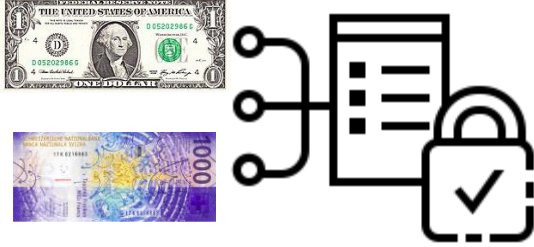


127.3 USD

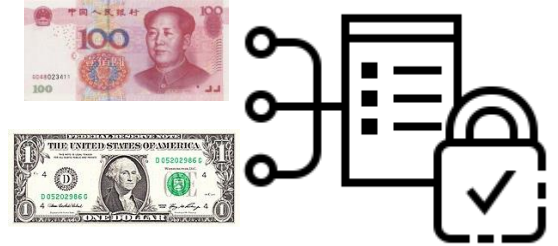


100989 CNY
12782.7 USD





27.3 USD



Atomic



Input USD

Output USD



Sell USD



Buy CHF



Sell CHF



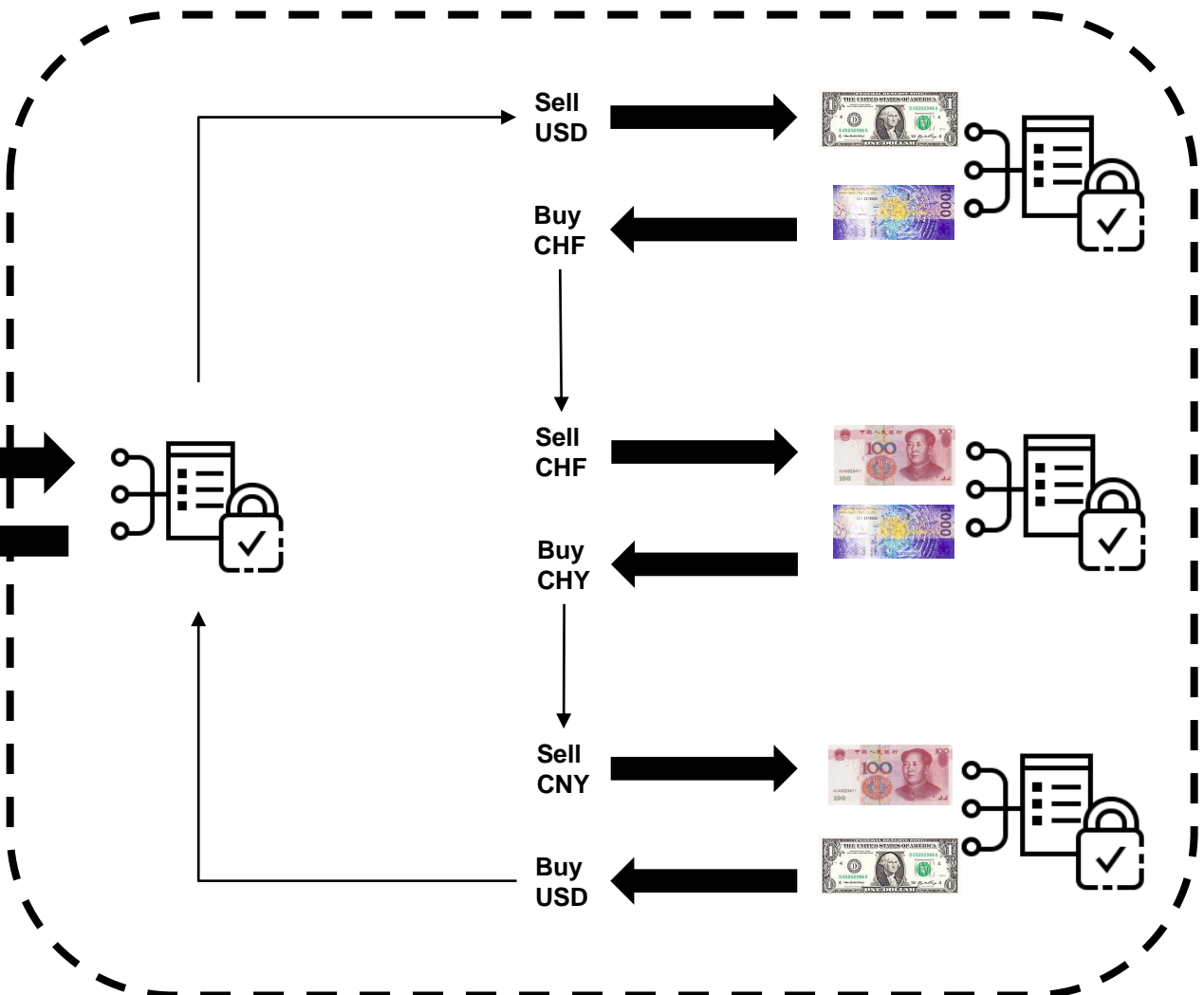
Buy CHY



Sell CNY



Buy USD



Atomic



Input USD

Output USD



Sell USD



Buy CHF



Sell CHF



Buy CHY

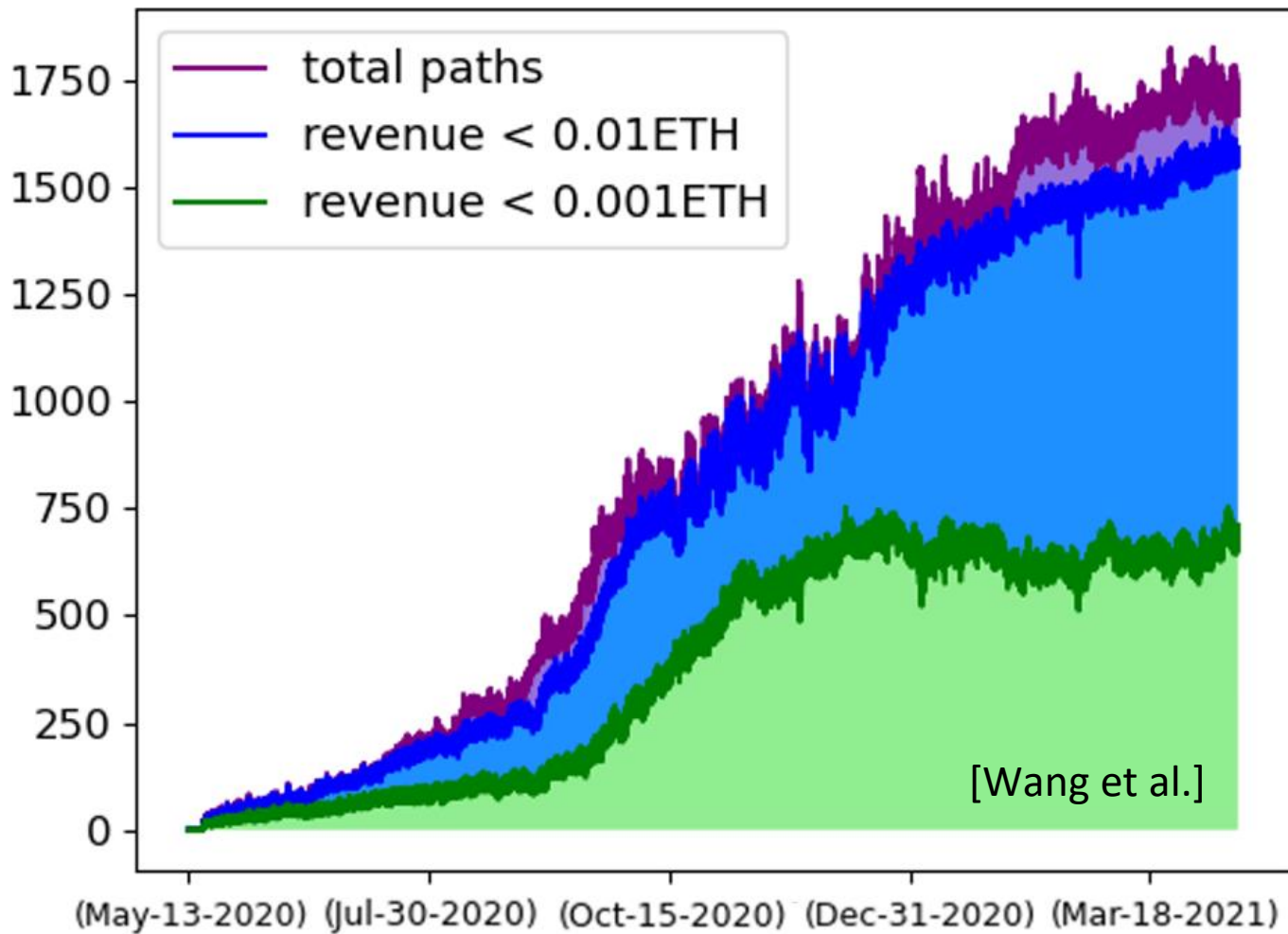


Sell CNY



Buy USD

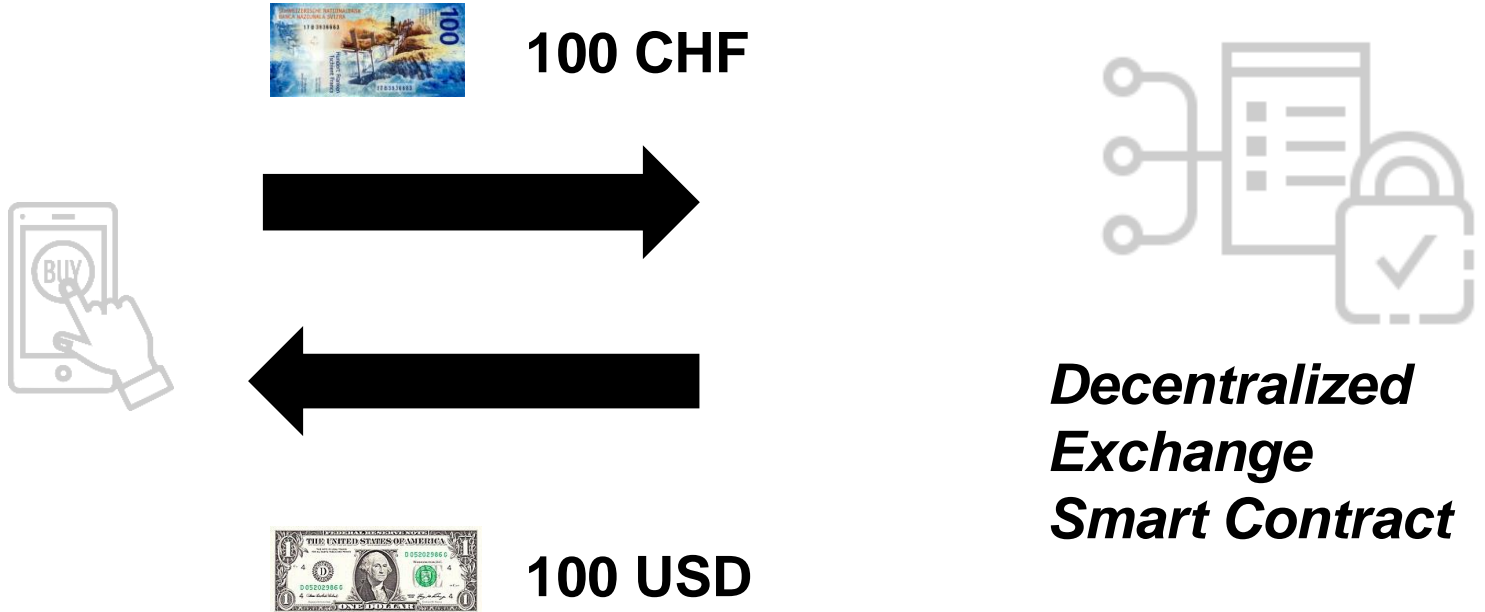




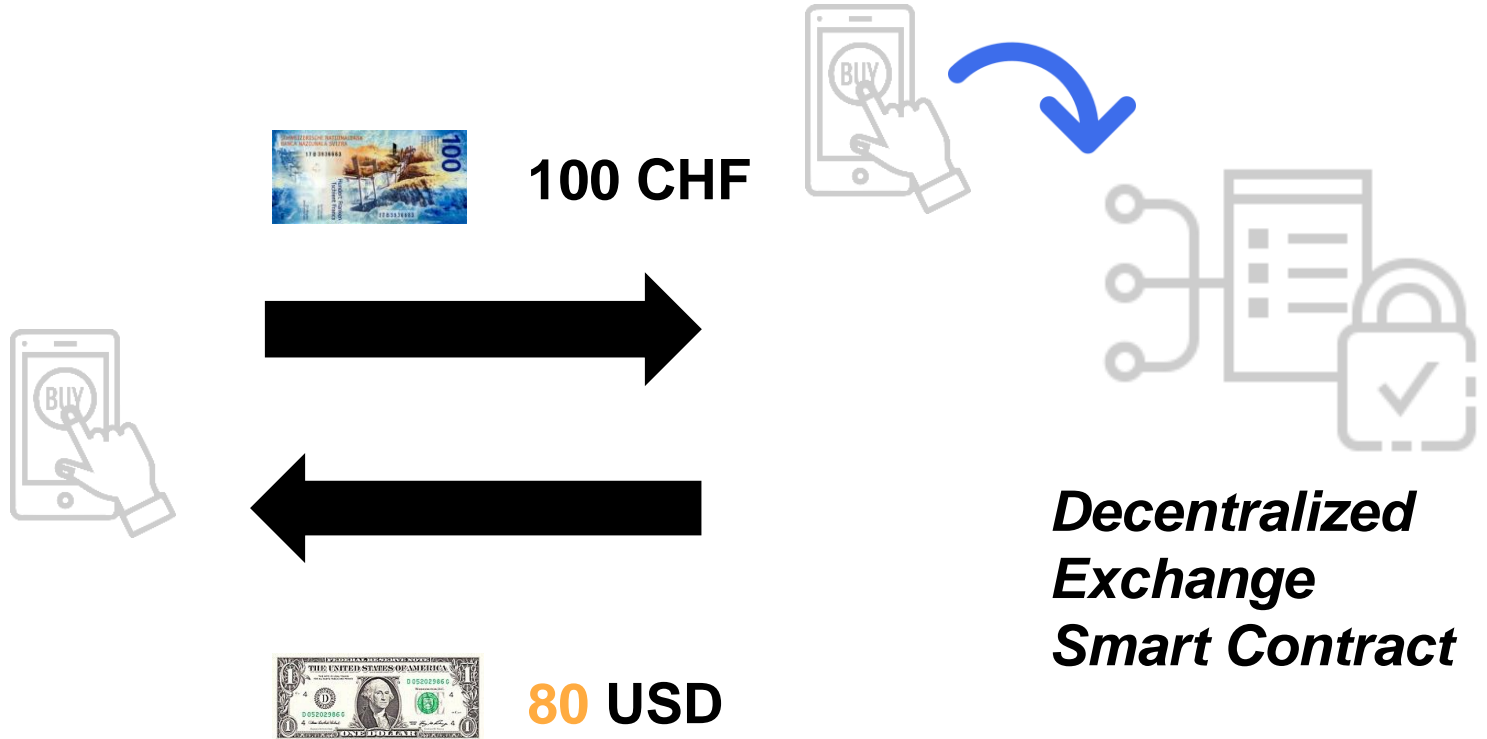
Sandwich Attacks



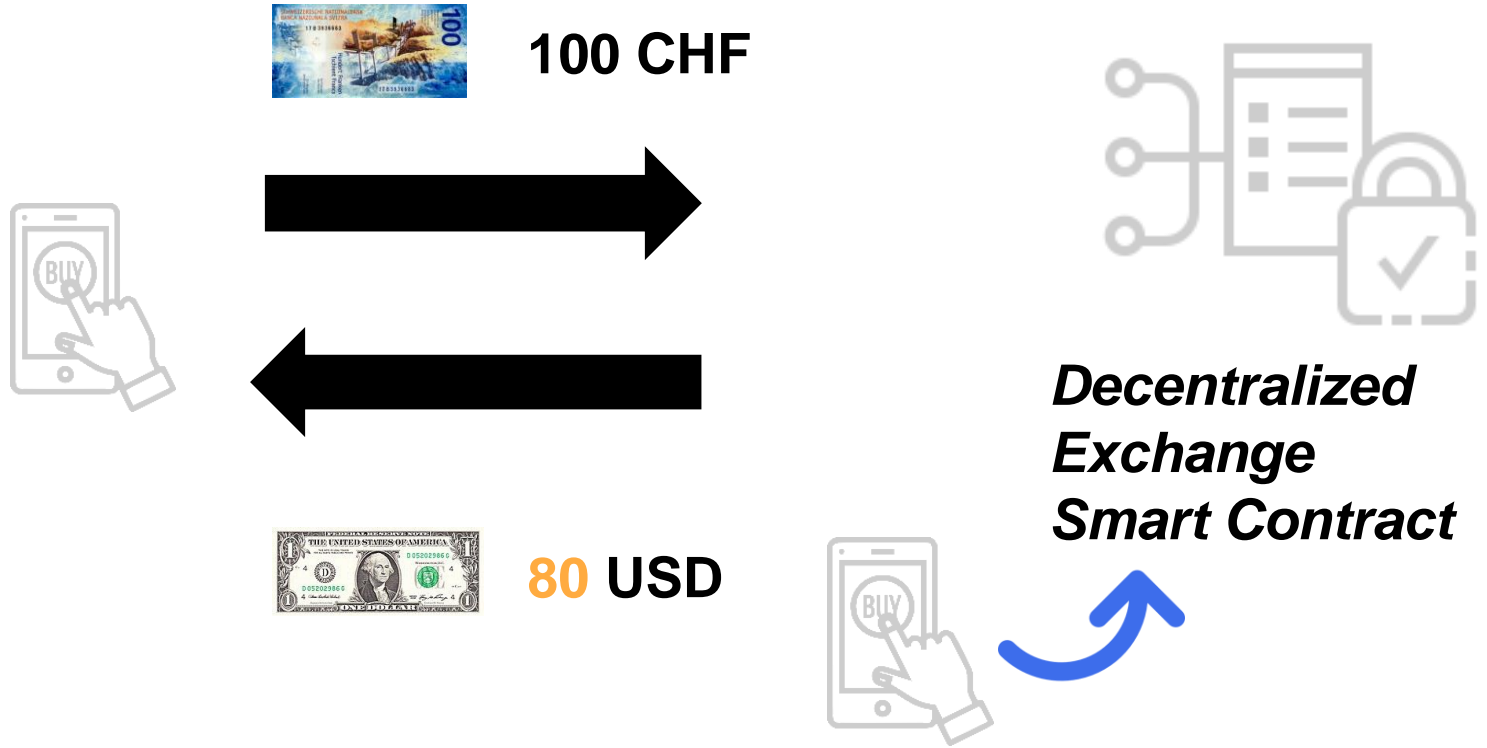
Sandwich Attack Mechanism



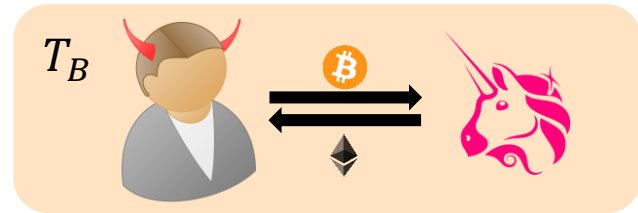
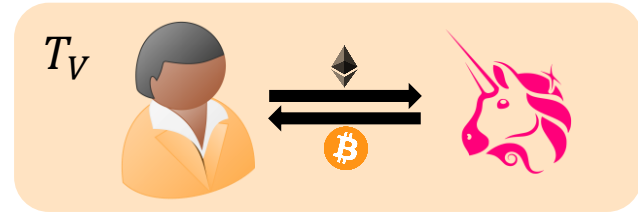
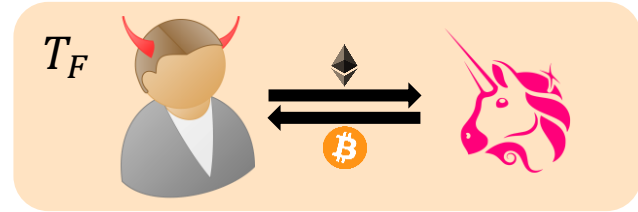
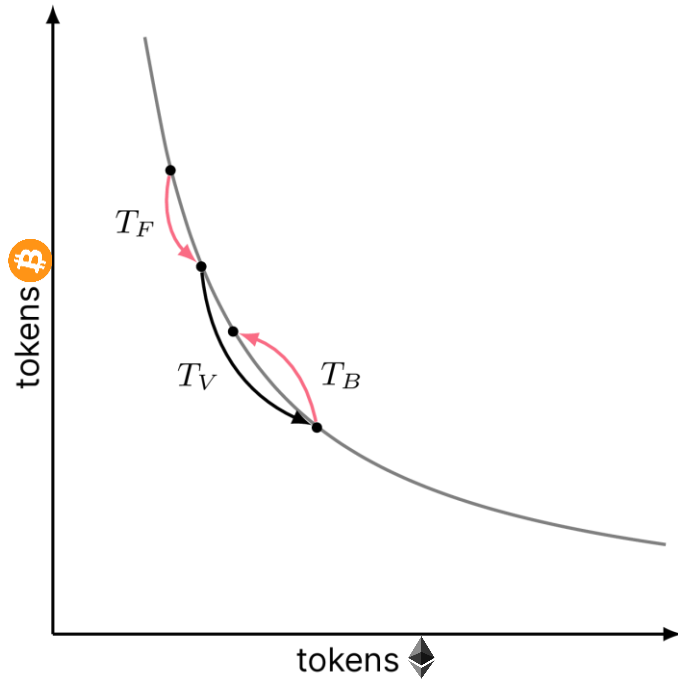
Sandwich Attack Mechanism



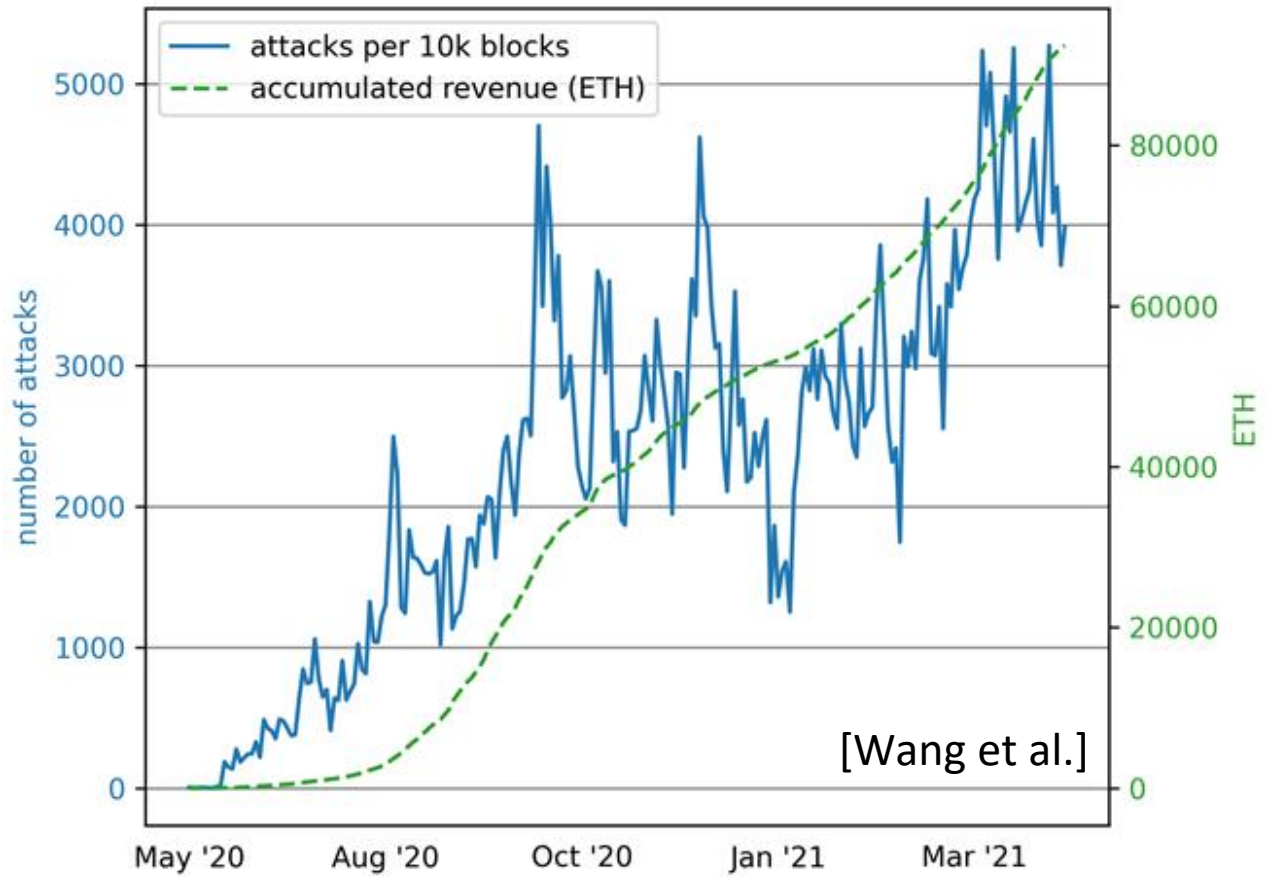
Sandwich Attack Mechanism



Sandwich Attack Mechanism

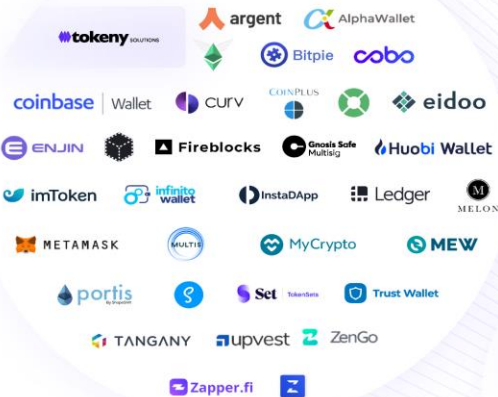


Sandwich Attack Measurements



Decentralized Finance (DeFi) Ecosystem

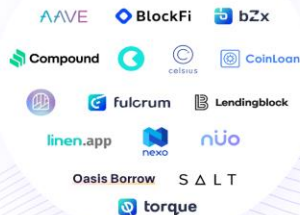
Wallet & Asset Management



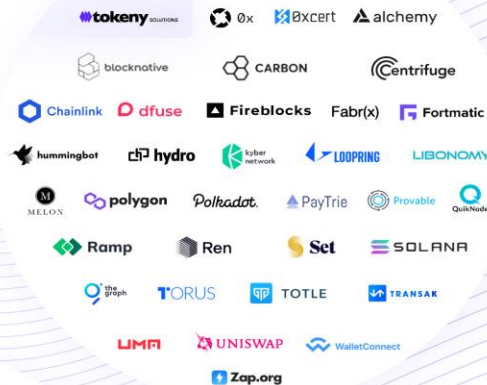
Prediction Markets



Lending



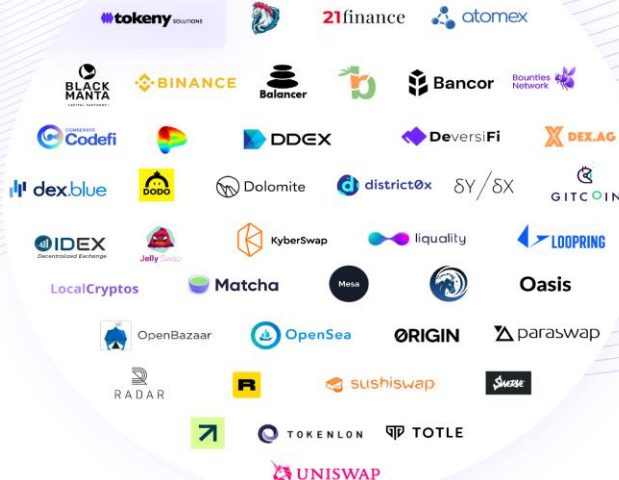
Infrastructure



Assets Tokenization



Marketplaces & Liquidity



Stablecoins



Compliance & Identity



Payments



web3 for democracy



Roger Wattenhofer



What's Wrong with Voting?

Cost



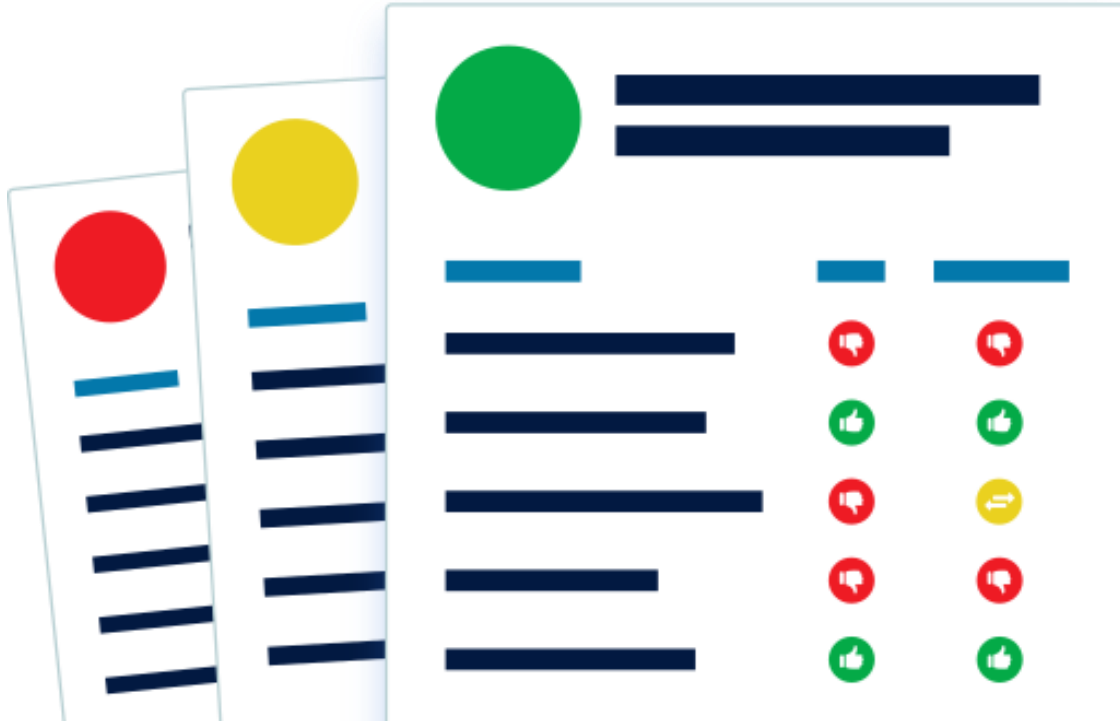
Verifiability

Neue Zürcher Zeitung


Rund 26 Prozent der Zürcher Wahlzettel waren nicht gültig

Die Anzahl an ungültig eingelegten Wahlzetteln war auch bei den diesjährigen Erneuerungswahlen erstaunlich hoch. Der Grund dafür liegt aber nicht nur bei den Wählerinnen und Wählern.

Election Help



Democracy Beyond Yes or No

 Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

5

Stimmzettel für die Volksabstimmung vom 11. März 2025

Wie viel sollen die SRG-Gebühren pro Jahr kosten?	Antwort 42.-
--	------------------------

Anonymity with Identity Swapping



Main Open Problem: Mass Vote Buying



BLOCKCHAIN GOVERNANCE




BAG verliert Verfahren: Nun soll es die Verträge mit den Impfstoffherstellern publik machen

Der Solothurner Anwalt Rémy Wyssmann erzielt in einer juristischen Auseinandersetzung mit dem BAG einen Erfolg: Geht es nach dem eidgenössischen Öffentlichkeitsbeamten, soll das Bundesamt sämtliche Impfstoff-Verträge öffentlich machen. Noch offen ist, ob das Amt die Empfehlung anficht.

Chiara Stäheli, Maja Briner

20.01.2022, 05.00 Uhr

 Merken


 Drucken

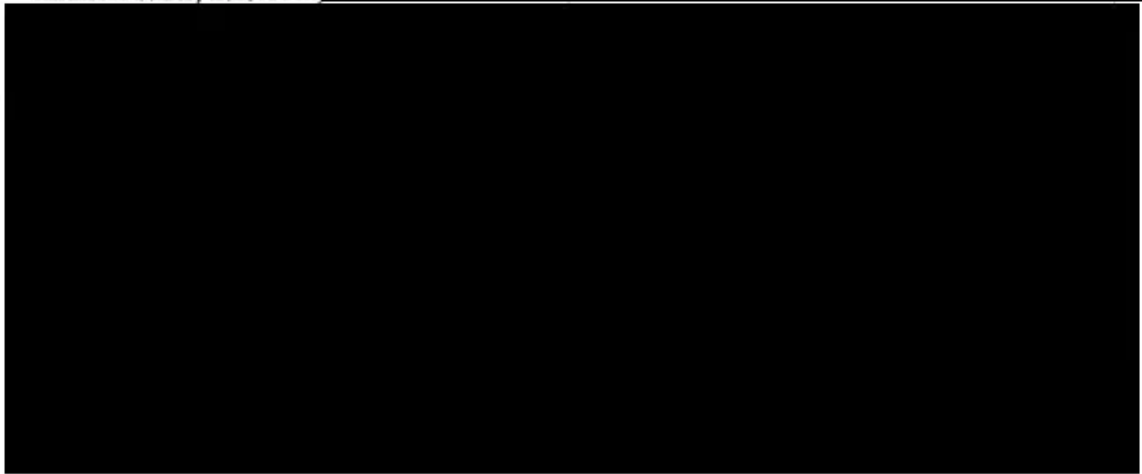
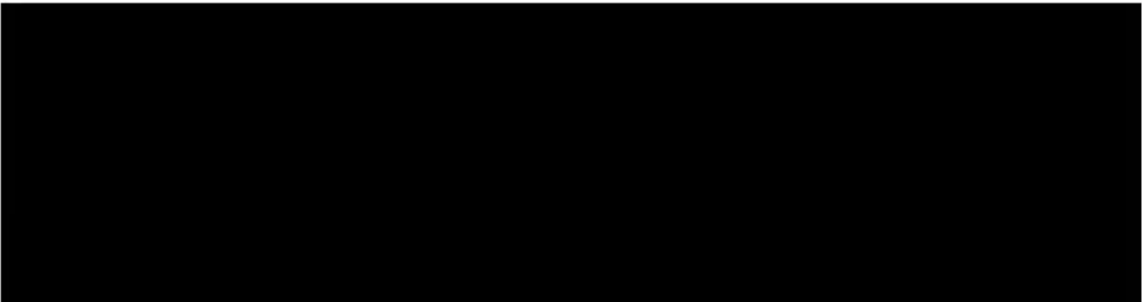
 Teilen

Confidential

Appendix A

Full Liability & Indemnity Provision for the Definitive Agreement

Indemnification by Government. Government hereby agrees to indemnify, defend and hold harmless Pfizer, BioNTech 

Find Swiss Open Government data

[Learn more about opendata.swiss](#)

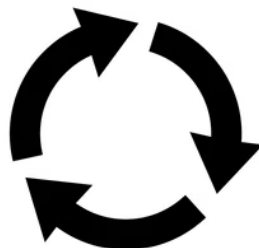
7,709
Datasets

Search datasets...

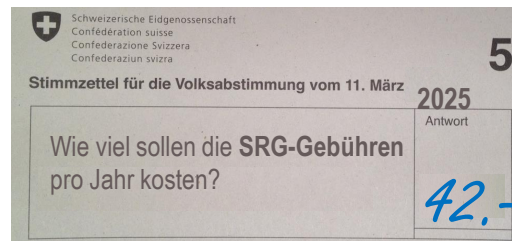


[Access the data catalogue using the API](#)

Summary



web3



Questions? Remarks?



Roger Wattenhofer