Introduction to tokenized financial securities

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The blockchain evolution
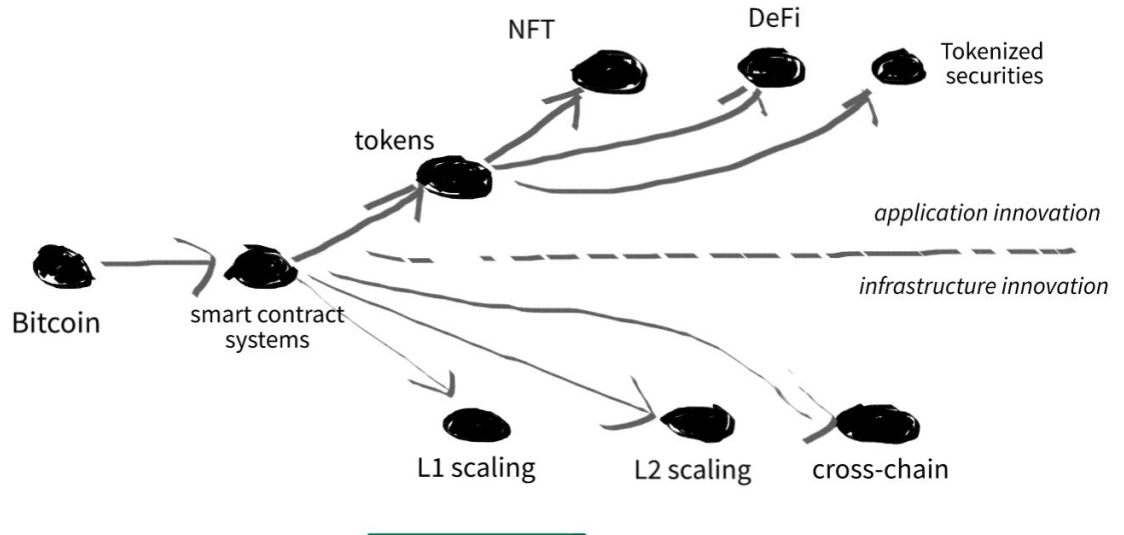
"Genesis" blockchain platform:
Bitcoin

"Genesis" smart contract
platform: Ethereum

Platform evolution:

- L1 Scaling
- L2 Scaling
- multichain

Application evolution:

- NFT
- DEFI
- Tokenized securities

Token basics: What is a token

Basic building blocks for decentralized protocols:

- internal building block
- major "interface" if two protocols want to cooperate

Similar to poker chips, like:

- color
- size
- amount

Blockchain realizes a quasi ownership (with cryptography):

- transferring tokens
- exchanging tokens

Implementation is usually with smart contracts, sometimes with core blockchain functionalities (native tokens)

Basic token types

Fungible token:
-       one token is identical with another one.
-       example use-case: cryptocurrency

Non-fungible token:
-       each token is different
-       example use-case: digital art

Hybrid token:
-       categories of tokens
-       tokens within one category are identical
-       tokens among categories are different
-       example use-case: gaming, role playing

Fungible

Fungible within classes
(semi-fungible)

Non-fungible

Categories of tokens

Try right clicking on a photo and
using "Replace Image" to show
your own photo.

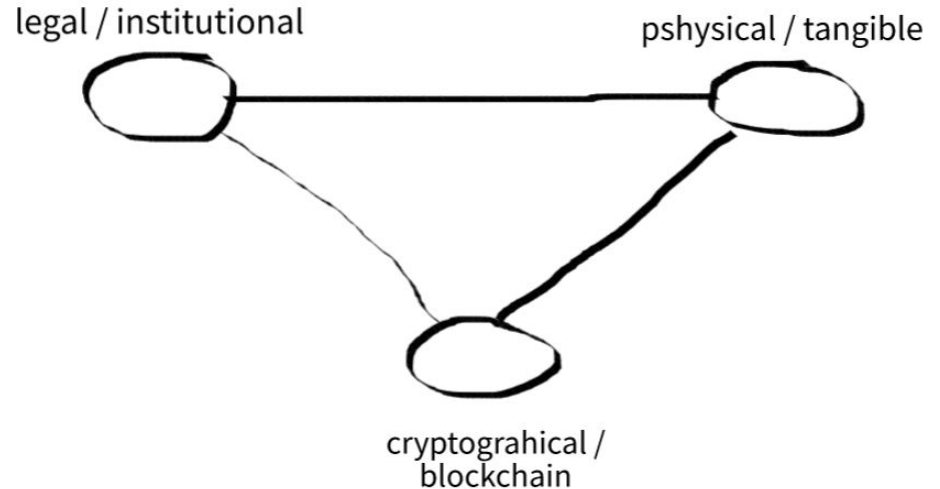# *Asset representations and blockchain*

Physical / tangible assets:

- physical object, ownership
- physical transfer of ownership
- physical settlement

Legal / institutional assets:

- legal ownership
- legal contract
- transaction settlement by the law / legal system

Cryptographic / blockchain tokens:

- cryptography ownership (private key)
- transaction settlement by blockchain
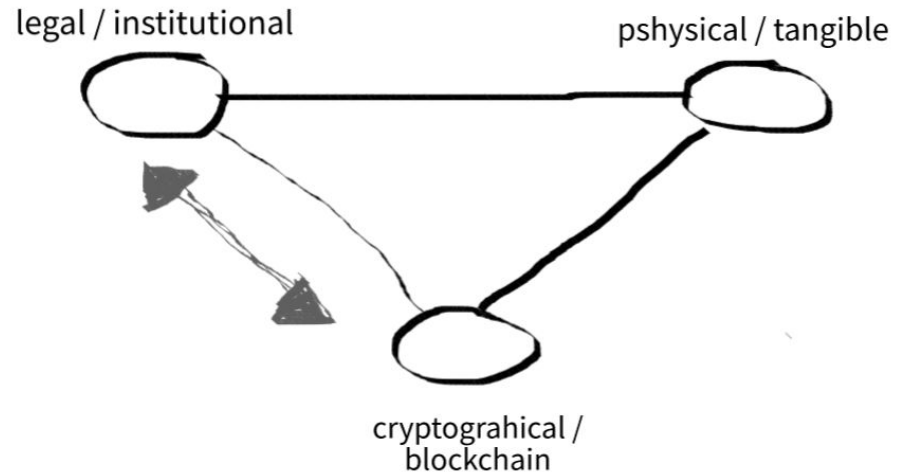
Asset representations and blockchain

Crypto and token regulation:

- security tokens
- tokenized securities
- MiCA regulation
- Luxembourg regulation

- …

Binding legal contract to a token

- legal text, legal prose
- linked to the token
- legally binding digital signatures
- pseudonymisation
- special contractual ledgers (like R3 Corda)

Classical financial securities tokenized

legal / institutional

pshysical / tangible

cryptograhical / blockchain

Tokenized securities (CBDC-s)
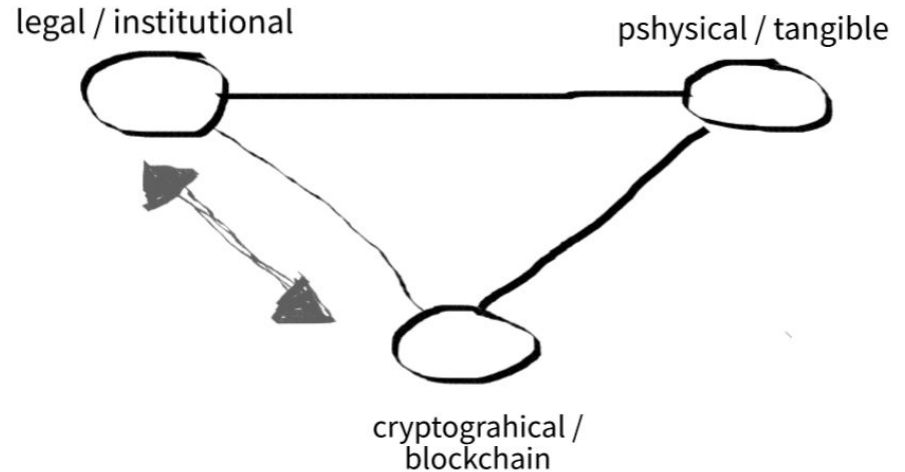
CBDC: tokenized payment / tokenized money

CBDC use-cases
-         retail CBDC
-         wholesale CBDC
-         crossborder use-cases
-         CBDC in web3
-         CBDC in DeFi
-         CBDC in the Metaverse
-         synthetic CBDCs

CBDC technology:
-         message based / classical
-         distributed ledger
-         consortium blockchains
-         public blockchains

Tokenized securities (stocks, bonds)

Tokenized commercial bank money:
- tokenized deposit accounts
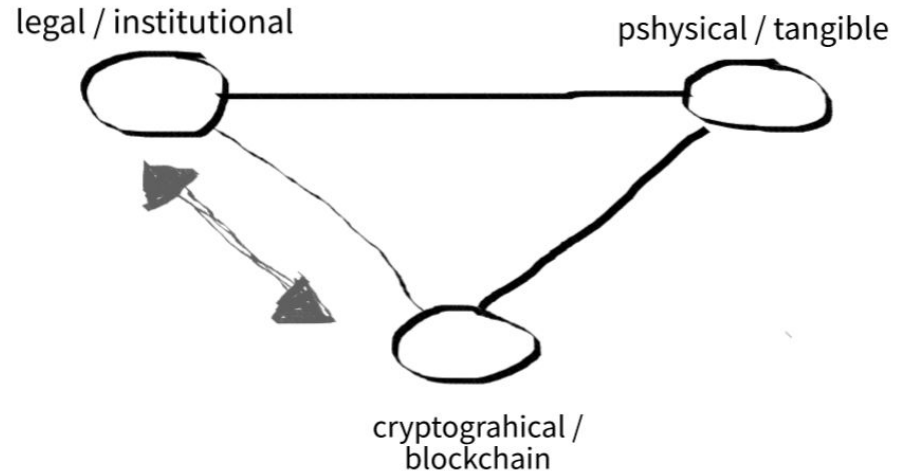- deposit tokens
- J.P. Morgan

Tokenized bond issuance:
- Siemens digital bond issuance.

Tokenized green-bonds:
– BNP Paribas (BNPP), green bond
   tokenization on the Ethereum blockchain.

Tokenized stock issuance:
- Sygnum bank: classic IPO but listing as well
   on the Singapour digital exchange.
- Quadrant Biosciences: tokenized company
   share

legal / institutional   pshysical / tangible

cryptograhical / blockchain

Q&A

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