

# Digital Currencies and the Common Good: Models and Coopetition

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“The Future of Payments: Implications for Central Banking”

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# OUTLINE

Share a few thoughts about

- I. Broad technological evolution (Fintech)
- II. Private money and cryptocurrencies
- III. Central bank digital currencies

# I. TECHNOLOGICAL EVOLUTION

Using a wide brush:

Fintech = “integration of technology into financial service offerings”

- *Borrowers*: can access new sources of funds (lending-based and equity-based crowdfunding)
- *Consumers*: can access new vehicles for savings and insurance
- Alternative payment systems, fraud detection mechanisms, chatbots...

Standard (though disruptive) technological change or paradigm shift?

My view:

- Standard technological change
- Economic fundamentals apply

## (1) *Any new technology comes with*

- *Social benefits*
  - cost reduction/service improvement [mortgage issuance, DL technology]
  - entry of new players disrupting incumbents' position [new approaches. E.g. building on big data and/or new information about the customer: Ant Financial in lending, monitoring programs in auto-insurance]
  - possible elimination of intermediaries [broker-dealers, real-estate agents, credit-card networks]
- *Social costs: Often linked to a bypass of existing regulations*
  - risk selection in health insurance
  - crowdlending platforms with insufficient equity
- *Job creation and destruction.*

## (2) Investor trust

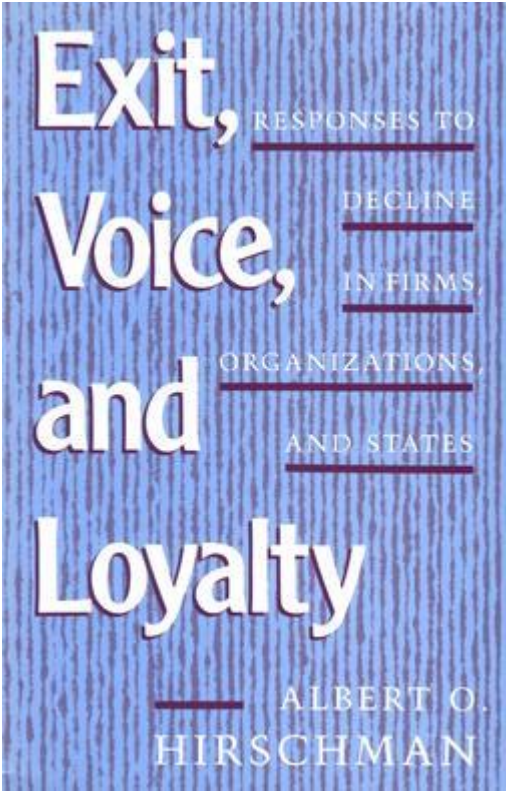
Asymmetric information is the essence of financial frictions and intermediation. Fintech can affect it, but fundamentals remain.

Institutions deal with asymmetric information [prior to, or after funding]

- 1. Screening
- 2. Contracts (covenants, governance)
- 3. Exit: passive investors
- 4. Voice in governance: active investors

⇒ limits to disintermediation

Keeping management on its toes



## Active investors monitor; so do regulators:

### *Securities and markets authorities*

- *At issuing stage*: investor protection against misrepresentation and conflicts of interests. In *secondary markets*: Prevention of frontrunning, fraud, insider trading...

### *Prudential regulators*

- Financial institutions: surveillance of borrower liquidity & solvency

We cannot presume that informational asymmetries and intermediaries will disappear with new technologies!

## II. PRIVATE MONEY AND CRYPTOCURRENCIES

*Contours of digital payments still in the making.* Many variants

- Thousands of crypto-currencies
- Private money (Libra/Novi; more generally big Tech companies: “Techpay”)
- Central Bank digital currencies (again many variants)

## What's in it for the players? (1)

### *Demand side (users)*

- Low transaction costs: low fees & low collateral for cross-border payments; or microcontributions & micropayments
- Escape from dysfunctional monetary system [Venezuela...]
- Less palatable aims [money laundering, crime, tax evasion; vague libertarian ethos]

### *Supply side (entrepreneurs)*

- Direct profit: seignorage (new coins), merchant fees...
- Ancillary benefits (private sponsors): consumer lock-in, data collection...

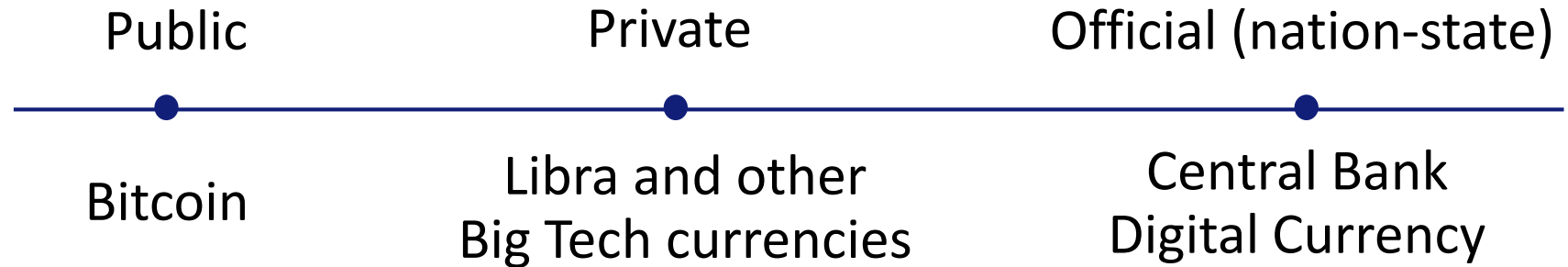


## What's in it for the players? (2)

### *Private sector innovation*

- Cost efficiency, better consumer experience
- Europe slow at creating an integrated public payment system  
[SEPA for back-end, but front-end schemes for citizens?], world even slower
- Coeuré: “Libra has been a “wake up call” for central banks”

# The ongoing/upcoming currency war (1)



What for? To create a

- store of value [need not be safe, except if wants to enjoy safe-asset premium]
- medium of exchange, unit of account

Competition in the payment space

- trust [stability of monetary base, swap lines/LOLR]
- important network effects [currency for transacting, credit and invoicing]

Don't want fragmentation [lose network benefits; not optimal currency area]

## The ongoing/upcoming currency war (2)

### Bubbles

Asset price = fundamental (dividends, coupons, rent...)  
+ bubble

Pure bubble = no fundamental (no intrinsic value )

- fiat currency (small fundamental: legal tender/ taxes)
- gold (small fundamental: industrial usage)
- real estate (large fundamental, but often bubble)
- stocks (large fundamental, but often bubble)

Bubble may collapse, more generally is volatile


For cryptocurrencies to be used as means of payment, not only as stores of value/ speculative instrument, have to be transaction-friendly

Should allow real-time settlement and meet 2 challenges:

- *Price stability*: bubble  $\Rightarrow$  can be highly volatile  $\Rightarrow$  rationale for stable coins
- *Platform aspects: attractiveness for ordinary transactions?*
  - Bitcoin: transaction fees+ deposit (entry) and withdrawal (exit) fees for fiat currencies...
  - ...while cardholders receive cash-back bonuses (up to 2% on Visa signature preferred card) when using the card  
[similar for platform tokens vs. CBDC: price-discount-at-merchant programs to make tokens attractive]

## Stable coins

**Backing/reserve** [sufficient liquidity coverage & capital adequacy]

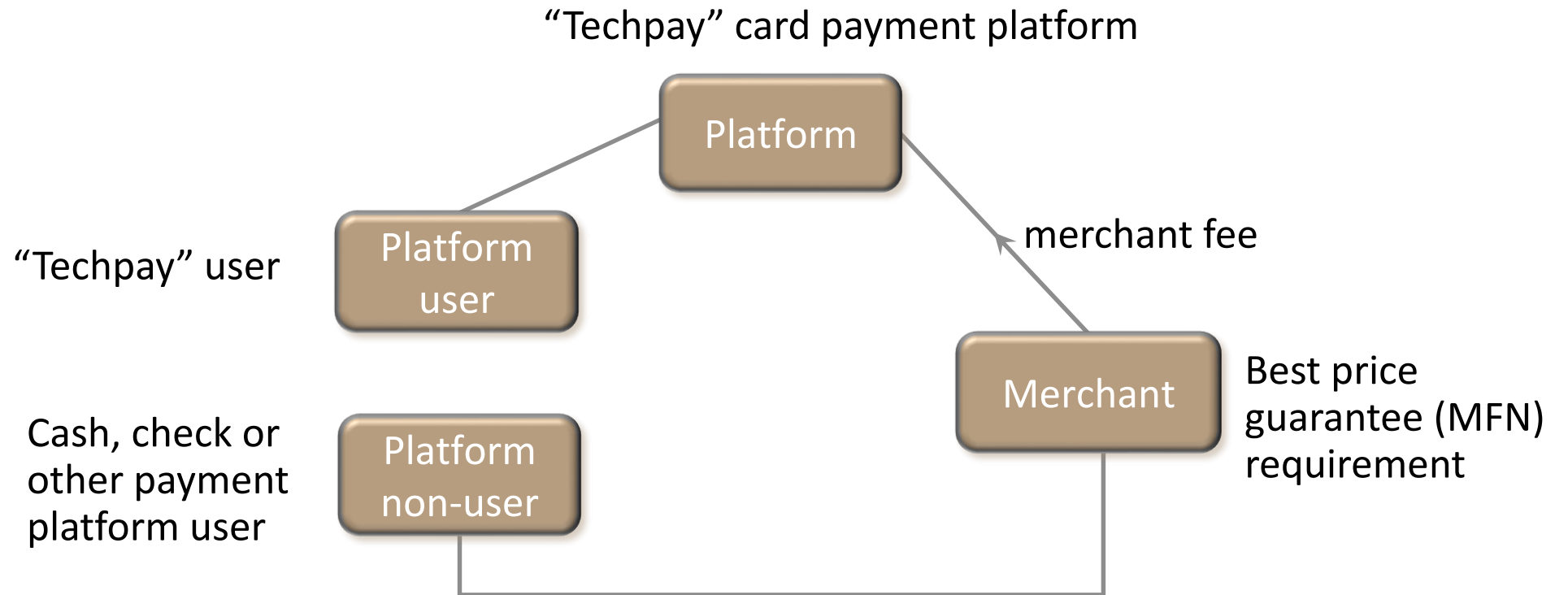
- What collateral [fiat currency, bank deposits, over-collateralization in crypto-currency...]?  Securities/ETFs
- Must be segregated and prudentially supervised
- Who supervises the reserve fund when GSC?
- Who acts as lender of last resort in case of run?

## The case of Tether

[one of largest cryptocurrencies in market cap, main provider of liquidity in cryptomarkets, most traded currency against Bitcoin] “\$-reserves match Tether tokens 1-for 1”. But

- Tether reserves lightly audited and not even by an accounting firm
- Assets may include “from time to time” loans to affiliated companies
- Minting policy opaque [and highly correlated with price of Bitcoins ⇒ highly volatile]

# Best price guarantees (MFNs) and excessive merchant fees



**MFN (most favored nation clause) allows platform to tax non-users!**

[Practice used by platforms more generally: Booking, Amazon etc]

# STRUCTURAL REMEDIES

## Prohibition of various forms of MFNs

[Either outright prohibition: France and Italy.

Or only narrow ones are allowed: merchant can charge less on another platform, but not for direct sales ← showrooming argument below]

- **Booking.com** [Germany and Sweden]
- **Amazon** [Amazon abandoned MFN clause in UK, Germany and US]
- **Tomorrow: personal assistants (Alexa, Google home)** [doctors, car drivers, etc will have to pay a fee for referral]

**Payment cards: no-surcharge rule** [US 2013 settlement with Visa/MasterCard while state law may prohibit surcharging; same with 2007 EU Payment Services Directive; Canada settlement of class action lawsuit; many other jurisdictions]

## TWO PROBLEMS WITH STRUCTURAL REMEDIES

### There exist rationales for MFNs

- *Showrooming*: Expropriation of platform's investment (low search costs): consumer switches to seller's website [traditional justification of retail price maintenance]
- *Surcharging*: Expropriation of consumer's investment (high search costs) through surcharging. [Canada: maximum surcharge]

### How effective are those remedies anyway?

- “Voluntary” adoption of MFN, by fear of being down-listed
- Preferred partner programs (PPPs) created by OTAs: MFN quid-pro-quo for top listing the seller. Legal because PPPs are optional!



## ALTERNATIVE INTERVENTIONS?

3 elasticities and 3 associated externalities:

- (1) Consumer side: chooses the platform [consumer chooses platform that is expensive for merchant: Amex, Booking.com...]
- (2) Platform side: existence of platform in the first place [platform must exist and therefore earn a sufficient compensation if it creates value]
- (3) Merchant side: acceptance of platform [may not choose what consumer likes best]

**“Must-take cards”** [Merchant may not be able turn down expensive modes of payment/  
high-merchant-fee platforms anyway => ignore (3)]

Consumers may not come to shop [Rochet-Tirole RJE 2002]; platform’s  
unique-customers may not be reachable otherwise [broader 2sm  
literature]; merchant may lose high-margin sales [Gomes-Tirole QJE 2018]

## CAPPING THE MERCHANT FEE CHARGED BY PLATFORM

Pigovian approach: create proper price signal

(1) Focus on *consumer choice* => cap merchant fee at merchant's convenience benefit of using platform [Rochet-Tirole's JEEA 2011 "tourist test", adopted for payment cards in EU]

(2) Focus on *platform entry* => cap merchant fee at merchant convenience benefit + consumer information benefit [Gomes-Mantovani 2020; platform enlarges consumer "consideration set"]

## 6 public policy challenges to private money

### *(1) “Less palatable aims” vs. privacy*

Money laundering and terrorism financing are not only questions: Users must not be able to evade VAT/sales tax, income tax, inheritance tax (lack of a central intermediary in a DLT system)...

- Will online verification of identities with government document/digital identity suffice (Libra 2.0)?
- Surveillance (autocratic regimes) vs. compliance w. rule of law

### *(2) Loss of seignorage*

- wasted (proof-of-work mining of Bitcoins: energy + specialized equipment. Analogy: high-frequency trading)
- privatized (ICOs)

## 6 public policy challenges (cont.)

*(3) Competition policy issues* [dominance in the payment space due to network effects, MFNs even if CBDC legal tender on platform; reinforces data barriers to entry if no open banking]

*Global Stable Coins:*

*(4) Challenges for financial stability*

- Impediment to capital controls/facilitation of runs on domestic bank or currency

*(5) Challenges for counter-cyclical monetary policy*

- Ability to control interest rates [Benigno-Schilling-Uhlig 2020. Farhi-Tirole AER 2012: (quasi-)fiscal bailouts of banks do not suffice to provide adequate liquidity in crisis; must alter interest rates.]

## 6 public policy challenges (cont.)

### *(6) Prudential supervision*

Users' exposition to hacking, forking, burst of bubble, insufficient backing for stable coins

*Will state be held liable for a bailout if consumers, SMEs or other financial intermediaries are hurt?* Good reason why payment systems and central clearing counterparties are highly regulated!

*Farhi-Tirole (REStud 2020) on architecture of financial system:*

- State insurance services (LOLR & DI) go hand in hand with regulation
- Rationale for ringfencing regulated institutions from shadow banks.

## 6 public policy challenges (cont.)

### *Broader question of what to do with shadow banking*

- Tougher supervision of regulated banks => migration of savings and supply of credit to shadow banks
- Platforms can create money (extend loans), and more generally become shadow banks [China: Alipay (Alibaba) and Weixin-Pay (Tencent) de facto are banks- receive people's salaries, pay outgoings.]

Shadow banks are fine if well-capitalized. But how do we know that?

Possibility of bank bailout by public funds

- if shadow bank serves fragile/politically sensitive clients [SMEs; savers perceiving money market fund as quasi-deposits]
- if regulated banks are exposed to shadow bank ["AIG syndrom"].

# III. CENTRAL BANK DIGITAL CURRENCY (CBDC)

[Preliminary thoughts, a bit out of my comfort zone!]

Why can't the CB establish a platform, reducing risk of bypass and loss of control over currency?

## Comparative advantage

- + state decides what is legal tender, what currency taxes and public transfers are paid in; has incumbency advantage (for the moment!)
- fewer instruments than private money [yesterday: Brunnermeier, Halaburda]; probably less innovative than private sector => need for coopetition.

## **Coopetition: enable private-sector innovation in payments (point-of-sale, P2P and online)**

[*People's Bank of China*: “New digital currency is not meant to replace deposits held in bank accounts and balances held by payment apps such as Alipay and WeChat”].

*7CBs and BIS (October 9, 2020)*: First of 3 key principles: “Coexistence with cash and other types of money in a flexible and innovative payment system”]

### **Access to central bank digital currency?**

[schematic: not 0/1, many variants]

- intermediate access: DC wallets linked to demand deposits (variant: mimic physical cash)
- broad access to households and non-banks (wholesale and retail depositors).



## Intermediate access: retail DC wallets akin to demand deposits

- Empowering depositors and bank or third-party payment providers
- Wallet could be managed by bank or third-party provider
- De facto part of insured deposits; hence, treated as such
  - payment for service provided by the state, which enables safe asset
  - maximum per depositor (consolidated: ID + DC wallet)
- Data ownership?

[If account-based rather than token, transactions generate valuable data- to provide credit, to monitor tastes and trends.

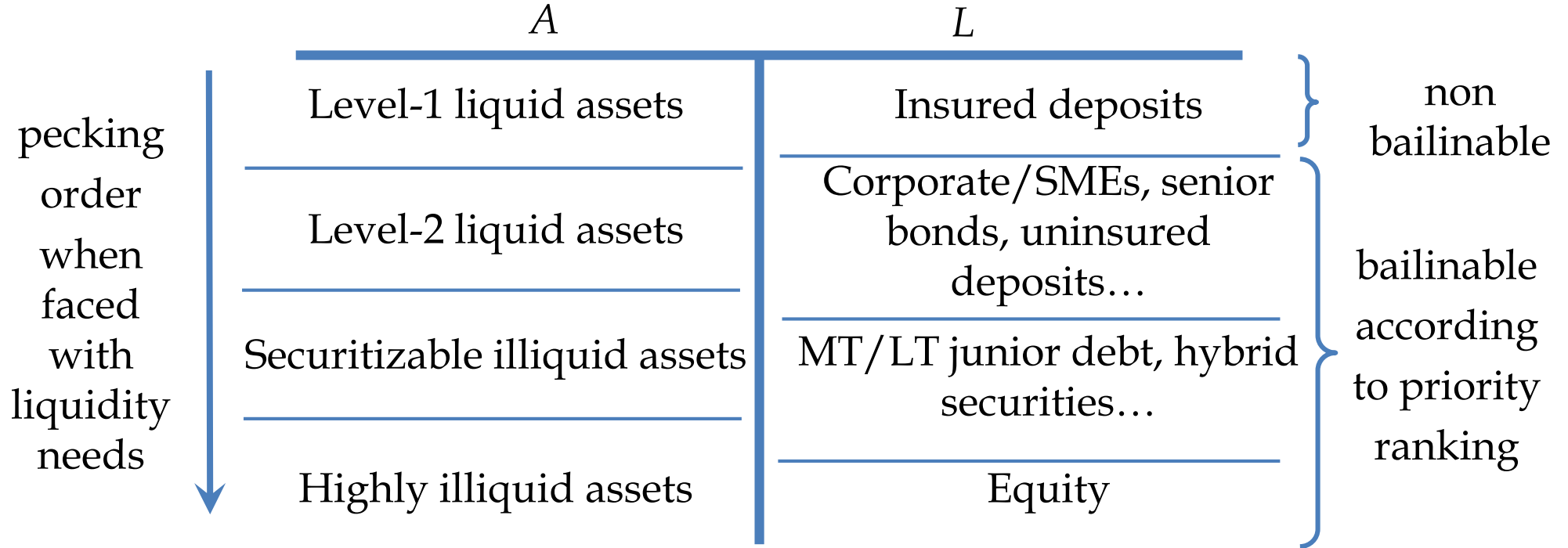
Who would be given access? User-centric vs. financial institution-centric?]

- **Privacy?** [Multi-tier system?]

# Broad access? Can commercial banks be bypassed?

*Not all deposits are meant to be*

- *safe* (protected from bailinability)
- *short term* (demandable)



## CBDC's impact on banks' ability to grant credit

Banks take demand deposits and lend long

- *Riskless nature of deposits* is provided by state as part of a quid-pro-quo (counterparts = regulation, deposit insurance premium)
- *Transformation*
  - Deposits are matched with loans (narrow banking suboptimal)
  - Government does not have the expertise to grant loans (and may engage in favoritism or be lenient with insolvent borrowers).

- Wonderful new opportunities
- Let's not forget fundamentals: informational asymmetries and delegated monitoring, two-sidedness of payment systems, rationale for central and traditional banking, architecture of financial system, etc.
- Those who do not remember history (theory) are condemned to repeat (rediscover) it.



## To belabor the point: *Management kept on its toes by*

### Exit

- *equity side*: speculative sale of shares, failed equity issuance
- *debt side*: absence of commercial paper rollover

### Voice

- *equity side*: VCs, block shareholders and boards of directors
- *debt side*: relationship lending

### *Large investors' stake and reputation in collecting information*

- bring certification and thereby passive investors [limited partners & small shareholders on equity side, depositors on debt side]
- demand compensation for that.



## Asset-backed means of payment

- Securities (e.g. S&P 500 index ...)
  - will become divisible and easily transferred
  - but even if liquid in the **micro** sense (low bid-ask-spread), not liquid in the **macro** sense (safe store of value)
- Permissionless and private/permissioned cryptocurrencies
  - liquid in **macro** sense if credible reserves

