

Competing for legitimacy: A typology of virtual currencies

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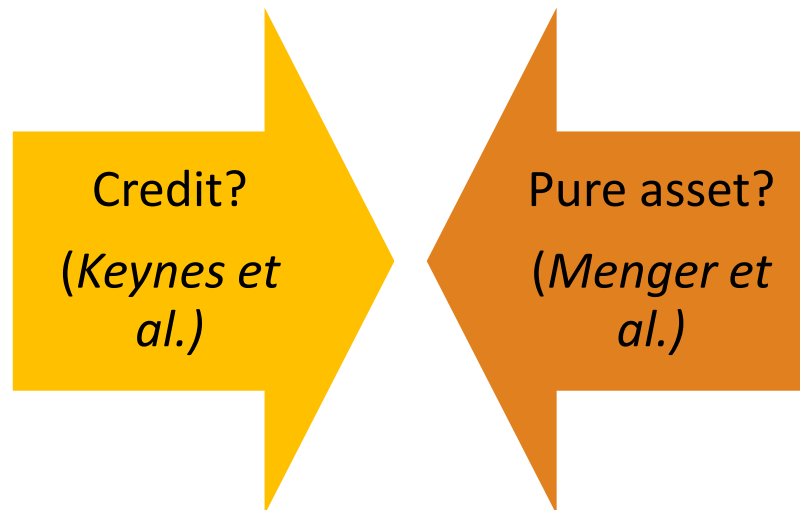
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Introduction: Analytical foundations

- Various types of digital currencies (virtual/crypto currencies and e-money).
How to classify them?
- Two big normative debates in monetary theory:

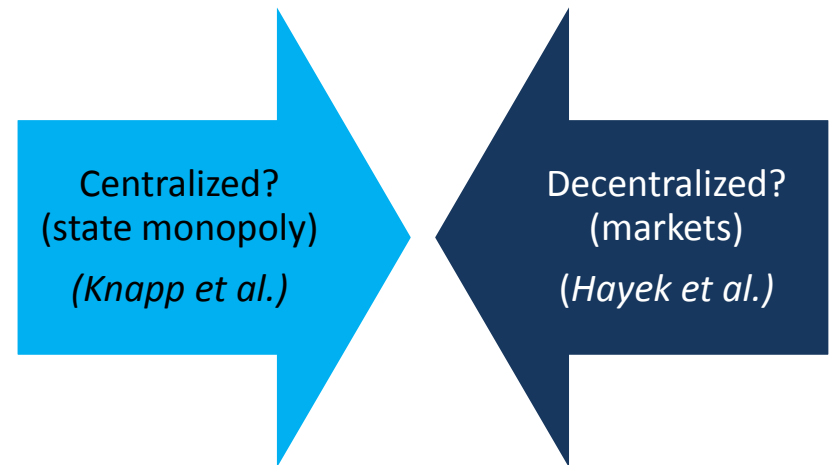
„Nature“ of money:

Money is...



Legitimate issuer/ governance:

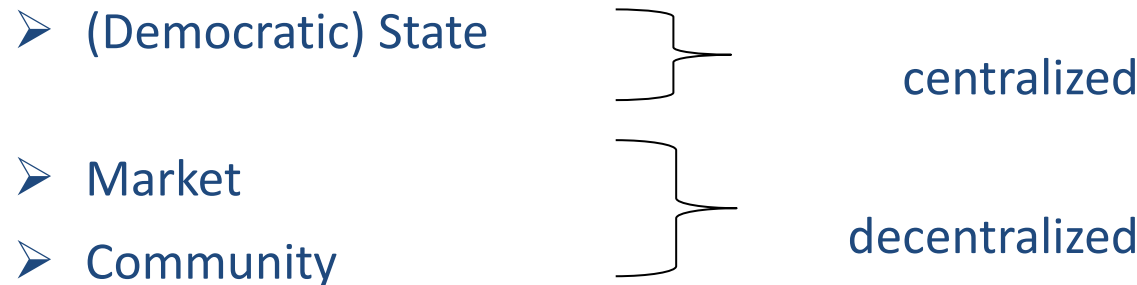
The governance of money is best...



Money requires legitimacy

Legitimacy has input and output dimension:

- **Input legitimacy** = Reference to collective will formation. Governance mechanisms able to claim input legitimacy:



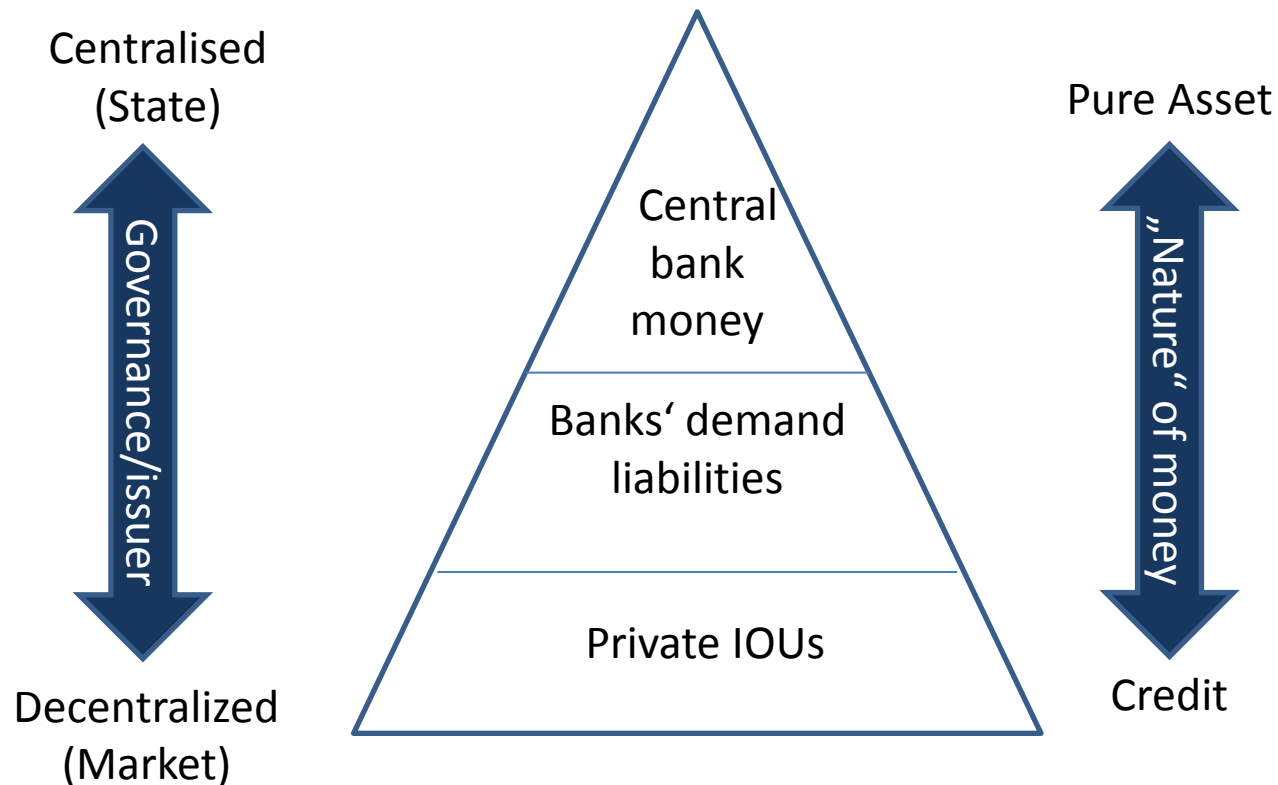
- **Output legitimacy** = Performance, effectivity in achieving goals.

Output criteria for monetary governance:

- General acceptance of the currency (as unit of account, means of payment, most liquid store of value)
- (short-term) stability of value
- Financial stability
- Contribution to macroeconomic goals (e.g. growth, ec. development)

Current monetary system: Hybrid

Hierarchical hybrid system consisting of state and market elements. On top: Unit of account and currency issued by the central bank. Formally a claim on the central bank, but substantially a pure asset under flexible fx systems. Private entities (ie banks) issue means of payments (claims on CB issued money at par), governed by markets and regulation/supervision.



Legitimacy of Status Quo?

- System relies on multiple governance mechanisms and sources of input legitimacy (market, state), but input legitimacy more indirect than e.g. governments.
- Output legitimacy: System has shown flexibility required for management of trade-offs and reaction to changing economic circumstances (crisis management).
- But: Financial crisis, its management and unconventional monetary policies have shattered legitimacy perceptions among some members of the public.
- Beyond technical innovation, this context is an important driver of the rise of digital currencies.
- Can digital currencies offer improved legitimacy?

Digital currency variants: A typology

	Money as pure asset	Money as credit
Decentralized governance	Bitcoin	Classic Ripple Pay
Centralized governance	Central bank-issued digital currency monopoly	Central bank reserves on distributed ledger

Digital currency variants: Discussion

- **Bitcoin:** Market based electronic payment network entailing pure assets with separate unit of account, no issuer, decentralized governance.
Input legitimacy appeal to market and privacy enthusiasts, but severe output legitimacy issues (no stability&general acceptance, risks for individual etc.)
- **Classic Ripple Pay:** A network built on trust-based credit relationships among friends, combined with a separate unit of account.
Input legitimacy: making economic relationships more humane or commercializing personal relationships? Output legitimacy: Failure to achieve scale due to risks for individuals asked to act like banks.
- **Central bank issued digital currency monopoly** (~Chicago Plan, 100% reserve banking): State monopoly on money as pure asset, private creation of means of payment prohibited.
Input legitimacy requires huge shift towards public support for state, otherwise output legitimacy (general acceptance of currency, stability) threatened.
- **Blockchain-based administration of banks' reserve accounts at central bank:** No change in monetary status quo.
Limited potential legitimacy improvements through possible cost savings and broadening of governance.

Digital currencies and legitimacy: Conclusions

- Digital currencies based on mono-governance (State-only, market-only...) can be expected to suffer from limited input (general preference for plurality of governance mechanisms) and output legitimacy (decentralized solutions: info and transaction costs; centralized solutions: credibility issues due to conflicts of interest)
- Adding digital currency features in prevailing system may to some extent enrich legitimacy, e.g.:
 - Private digital currencies (e.g. Bitcoin, Ripple) for market niches and special customer segments;
 - Introducing Permissioned Decentralized Ledger Technology in Central Banks, governed by Central Bank and commercial banks.
 - Possible effects:
 - Improvements of legitimacy through ...
 - ... cost savings
 - ... introducing checks and balances by broadening governance
 - Deterioration of legitimacy through ...
 - ... public perception of an insiders' club, exclusion of general public
 - ... increased operational dependence of central bank on commercial banks

Background Slides

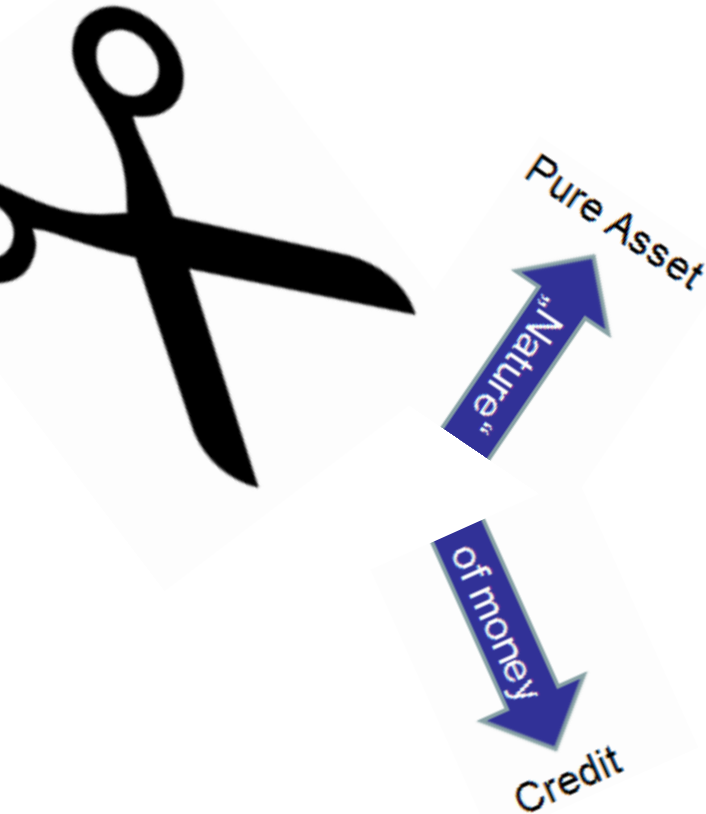
The risks of „pure“ solutions:

Completely centralized vs. decentralized governance



- **Centralization** (*Central bank digital currency monopoly*):
 - Democratic Input legitimacy may rise, but shortcutting state identities of biggest creditor, debtor and guarantee entity can undermine output legitimacy (value of money, fin. stability, ultimately general acceptance of currency).
- **Decentralization, currency pluralism** (*Bitcoin; Ripple*):
 - Unit of account like language: Network effects (Utility rises with number of participants). Small competing networks: Transaction costs, exchange rate uncertainty.
 - Currencies cannot escape competitive and hierarchical relationship, the promise of currency autonomy is elusory.

The risks of „pure“ solutions: Money as credit vs. pure asset



- Money as pure asset (*Central bank issued digital currency monopoly; Bitcoin*):
 - Questionable value when issuance decoupled from credit.
- Money as credit (*Classic Ripple Pay*):
 - Output legitimacy threatened when disciplining of debtors insufficient.