



University
of Basel

Center for
Innovative Finance



Bitcoin, Blockchain and Cryptoassets

CBDC and Stablecoins

Prof. Dr. Fabian Schär
University of Basel

Release Ver.: (Local Release)

Version Hash: (None)

Version Date: (None)

License: Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International



CBDC Background

Established model of central banks as issuer of physical cash and lender of last resort.

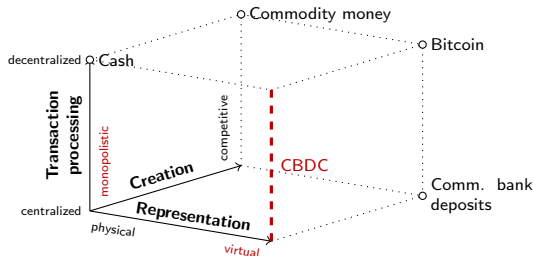
But: General public can only hold legal tender in the form of cash.
No access to Central Bank ledger. This may change.

Important Factors:

- **Drop in physical cash use** and growing importance of digital payment systems as essential infrastructure.
- **Emergence of new payment solutions** from private sector, with large actors outside the banking industry.
- **Ongoing debate on mandate** of central banks around money issuance and payment infrastructure provision.

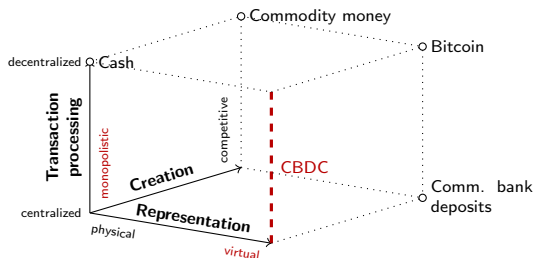
CBDC Overview

CBDC as any **digital form of money issued by a central bank.**



CBDC Overview

CBDC as any **digital form of money issued by a central bank.**



Selected CBDC design dimensions:

- Centralized vs. decentralized
- Retail vs. wholesale
- Token-/Object- vs. Account-based

CBDC Status and Arguments

- Research in the area of e-money/e-cash since the 1990s.
- Various pilots since 2014.
E.g., Dinero Electronico, eKrona, project Jasper, digital yuan.
- Becoming increasingly more important with a large variety of pilots all around the world: ↗ Infopage: cbdctracker.org

CBDC Status and Arguments

- Research in the area of e-money/e-cash since the 1990s.
- Various pilots since 2014.
E.g., Dinero Electronico, eKrona, project Jasper, digital yuan.
- Becoming increasingly more important with a large variety of pilots all around the world: ↗ Infopage: cbdctracker.org

Proponents



- Enhanced transmission of monetary policy
- Mitigation of incentivisation issues in the banking sector
- Potential in counteracting money-laundering

Critics



- Undesired structural disintermediation of banks
- Unknown effects on financial stability
- Privacy concerns and severe centralization risks

Stablecoins Overview

A privately issued cryptoasset that is **pegged to another asset** (usually a FIAT currency) with the goal to decrease price volatility and create a Blockchain-based medium of exchange.

Stablecoins Overview

A privately issued cryptoasset that is **pegged to another asset** (usually a FIAT currency) with the goal to decrease price volatility and create a Blockchain-based medium of exchange.

Three main categories:

- Off-chain collateralized
 - Examples: *USDT*, *TUSD*, *USDC*
 - Risks: counterparty risk, regulatory risk.

Stablecoins Overview

A privately issued cryptoasset that is **pegged to another asset** (usually a FIAT currency) with the goal to decrease price volatility and create a Blockchain-based medium of exchange.

Three main categories:

- Off-chain collateralized
 - Examples: *USDT, TUSD, USDC*
 - Risks: counterparty risk, regulatory risk.
- On-chain collateralized
 - Examples: *DAI, sUSD*
 - Risks: liquidation risk, smart contract risk, oracle risk.

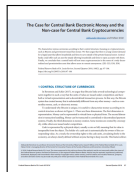
Stablecoins Overview

A privately issued cryptoasset that is **pegged to another asset** (usually a FIAT currency) with the goal to decrease price volatility and create a Blockchain-based medium of exchange.

Three main categories:

- Off-chain collateralized
 - Examples: *USDT, TUSD, USDC*
 - Risks: counterparty risk, regulatory risk.
- On-chain collateralized
 - Examples: *DAI, sUSD*
 - Risks: liquidation risk, smart contract risk, oracle risk.
- Algorithmic stablecoin
 - Examples: ...
 - Risks: Flawed economics.

References and Recommended Reading



The Case for Central Bank Electronic Money and the Non-case for Central Bank Cryptocurrencies Aleksander Berentsen and Fabian Schär

🔗 Online version