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Stablecoins in a Tokenized World

Exploring Stability and Costs

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Motivation

Stablecoins are essential for blockchain ecosystems

Fast growth of stablecoins

- Increasing demand for stablecoins & number of stablecoins
- Market cap of stablecoins has risen to over \$ 100 bn in a few years

Crash of stablecoin TerraUSD & recent USDC depeg

- What are stablecoins?
- How stable are stablecoins?
- How do stablecoins relate to CBDCs and Real World Assets (RWA)?
- What might the future hold for stablecoins?



What are Stablecoins?

Various types of stablecoins exist

Moin, Sekniqi, and Sirer (2020):

Peg, collateral, mechanism, and method to receive the reference price information

Klages-Mundt and Minca (2021):

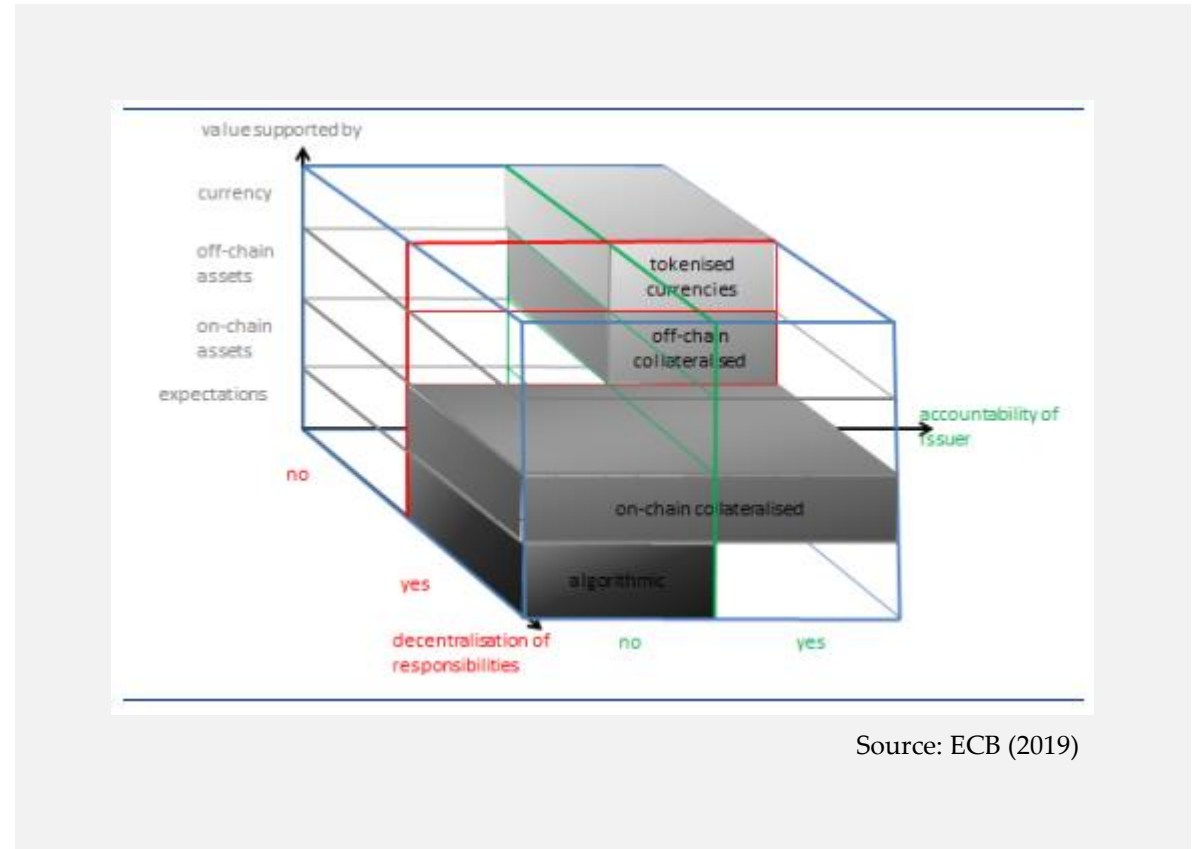
Rebase, Seigniorage Share and Partial-Collateral

Zhao, Li, and Yuan (2021):

Custodial and non-custodial stablecoins

Kahya, Krishnamachari, and Yun (2021):

Degree of centralization; fiat, asset-backed or fiat equivalent stable digital currencies, crypto-collateralized and algorithmic stablecoins



Source: ECB (2019)

Stablecoin Matrix

Collateral is the most important factor for the stability of stablecoins

Stablecoin matrix

	Centralized	Decentralized
Exogenous	Tether, USDC	Dai
Endogenous	Terra	Synthetix

Source: Hafner, Pereira, Dieth, Beccuti (2023)

Note: Same logic applies to fiat (and CBDCs)

First dimension: Collateral value

- Exogenous: External source (e.g., gold that is held in reserve)
- Endogenous: Internal source (i.e., from a crypto asset that is part of the same ecosystem such as Terra)

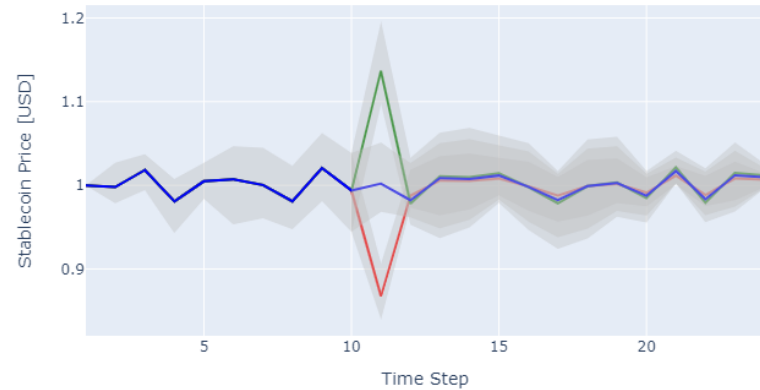
Second dimension: Collateral management

- Central entity/mechanism manages pooled collateral and decides when to expand and contract supply
- Individuals manage their own collateral decentrally and mint and burn stablecoins to adjust supply

Stability of Stablecoins

Danger of death spiral & danger of bank run

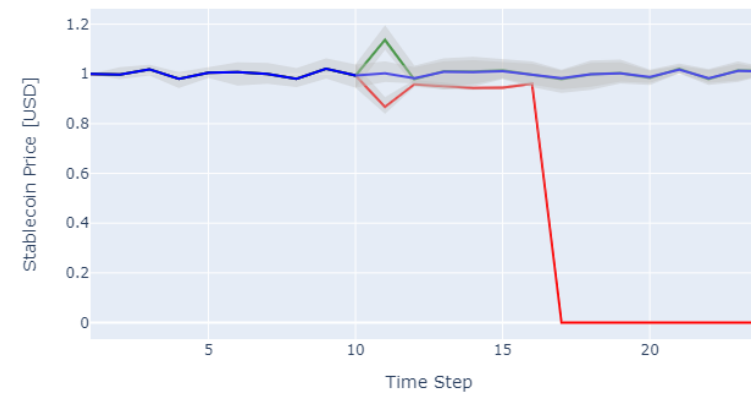
Tether-like stablecoin (exogenous & centralized)



USD Coin Price Chart (USDC)



Terra-like stablecoin (endogenous & centralized)

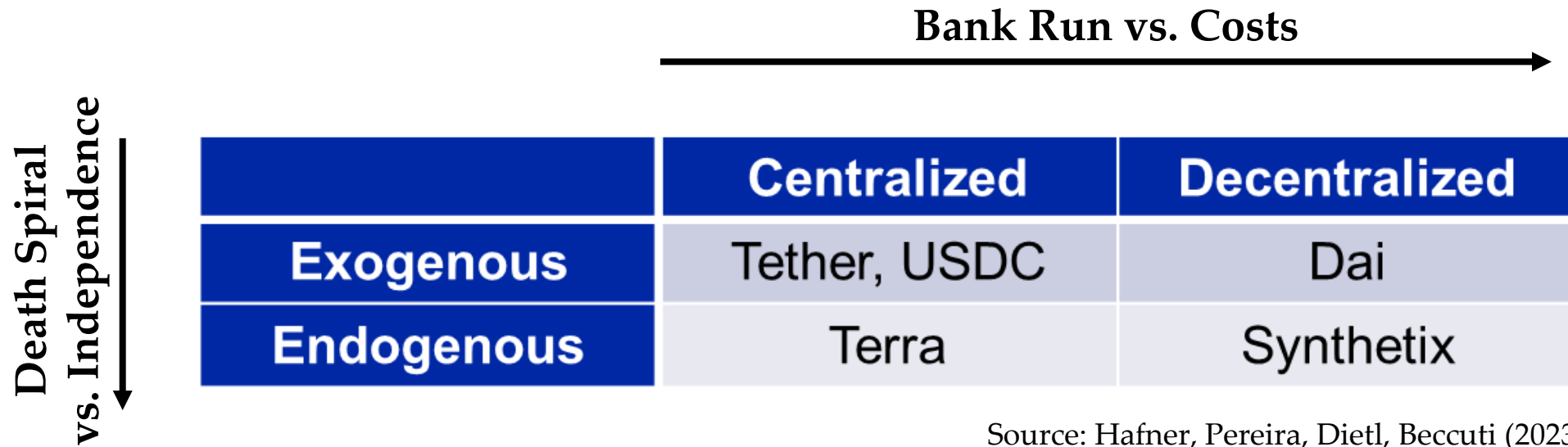


TerraClassicUSD Price Chart (USTC)



Trade-offs between Stability, Independence and Costs

Stability and independence come at a cost



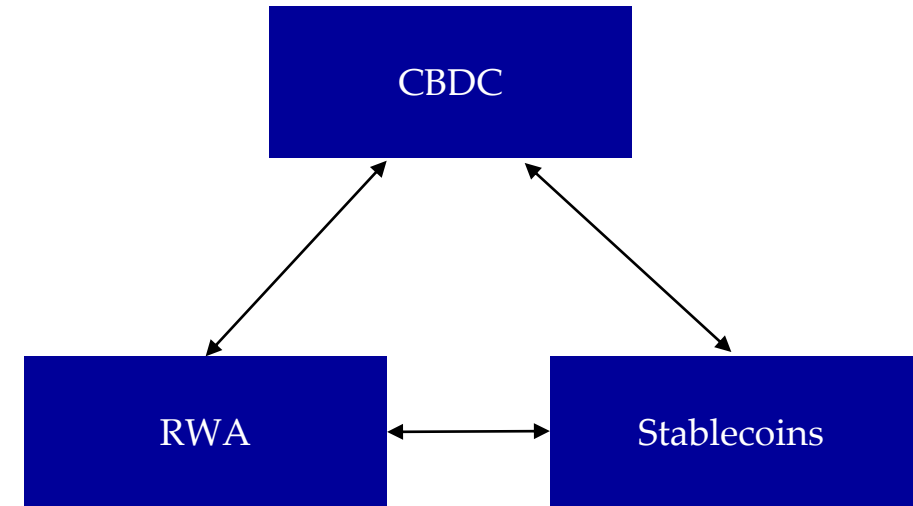
Source: Hafner, Pereira, Dietl, Beccuti (2023)

Stablecoins in a Tokenized World

Interaction between stablecoins, Real World Assets and CBDC

Interactions

- Real World Assets require stablecoins for payment of dividends/coupons etc.
- Stablecoins (centralized) and CBDC are in some competition with each other
- Real World Assets increase liquidity and decrease the need for cash / CBDC



The future of stablecoins in a tokenized world

- CBDC or derivatives on public blockchains
- Stablecoins with some interest payments (Real World Asset baskets)

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Thank you for your attention!

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