Blockchain (BlCh)

Stablecoins

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22.10.2023

Stablecoins

- “Stablecoins are cryptocurrencies where the price is designed to be pegged to a reference asset.” [link]
- Collaterization: how to back the stablecoin
  - Asset: fiat money (USD, EUR)
  - Exchange-traded commodities (Gold)
  - Crypto-Collateralized
    - Crypto asset backed stablecoins
    - Algorithmic stablecoins (probably don’t work)
- Reasons for stablecoins
  - Cryptocurrencies have high volatility
  - Payment in “real world” still with fiat
- Examples [link]

1	Tether (USDT)	+53	+0.01%	+0.02%	$1.00008	+0.01%	+0.08%	+0.75%	$68.43b
2	USD Coin (USDC)	+51	-0.00%	+0.03%	$0.99997	-0.01%	-2.32%	-10.73%	$44.34b
3	Binance USD (BUSD)	+26	+0.01%	+0.05%	$1.00008	+0.01%	-1.83%	+3.46%	$21.38b
4	Dai (DAI)	+33	+0.01%	-0.09%	$1.00007	-0.21%	-4.65%	-5.52%	$6.02b
5	Frax (FRAX)	+11	-0.03%	-0.27%	$0.99972	-0.01%	+0.06%	-4.29%	$1.36b
6	Pax Dollar (USDP)		-0.15%	+0.20%	$0.99853	-0.09%	-0.61%	-7.20%	$896.93m
7	TrueUSD (TUSD)	+3	+0.02%	-0.08%	$1.00017	+0.73%	-2.57%	-18.37%	$875.05m
8	USDD (USDD)		0%	-0.13%	$1.00002	+0.62%	-4.06%	+5.60%	$763.92m
9	TerraClassicUSD (USTC)	+11	-95.81%	-97.20%	$0.04191	-9.99%	+43.81%	+28.55%	$411.16m
10	Gemini Dollar (GUSD)		0%	-0.25%	$1.00000	-0.07%	+1.27%	+8.55%	$330.31m

Stablecoins

- Asset-backed: CeFi
  - Coinbase, Binance, etc. need to buy fiat assets
  - Example:
    - Current supply: 50 USDT, collateral 50 USD
    - User buys 20 USDT for 20 USD

      → stablecoin issuer mints 20 USDT, has now 70 USD in collateral, 70 USDT in circulation
    - User sells 30 USDT → stablecoin issuer destroys 30 USDT, transfers 30 USD
    - Problem if assets not liquid → bank-run, not enough liquidity

- Cryto-backed: DeFi
  - MakerDAO, based on other stablecoins
  - If other currencies used → need over-collaterization
    - Problem: Supply 50 DAI, collateral 1 ETH (1 ETH=50 DAI)
    - User buys 25 DAI for 0.5 ETH (collateral 1.5 ETH)
    - Price drops of ETH to 1 ETH = 10 DAI
    - User sells 15 DAI, gets 1.5 ETH (collateral 0 ETH, but 60 DAI in circulation)
  - DAI collaterization ratio: 134% [link]

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Stablecoins

- Lending crypto assets (partially DAI)
  - E.g., minimum collateralization of ETH is 170% [link]
  - To borrow 100 DAI, you need to provide 170 USD worth of ETH and pay interest
  - Real world example, housing market: if you want to buy a house worth 1mio CHF, you would need to provide a collateral of 1.7mio CHF, and pay interest
- Why would anyone do that?
  - Access a USD stablecoin without sellin ETH
  - Yield farming platforms offer higher returns for USD stablecoins than for ETH
- If value of ETH falls below 170, contract will sell the collateral [link] in a vault [link]
  - Vault owner can also close vault (typical) [link]
  - (liquidation) collateral is put up for auction to cover the outstanding Dai + Liquidation Penalty
  - Outstanding Dai bought in auction will be destroyed, bidder gets collateral (for the bidding price), vault owner gets the rest.
  - "From May 8th to May 12th, the Maker Protocol experienced 90 liquidation auctions." [link]
- PSM: DAI ~wrapped USDC? [link]

Stablecoins

- Algorithmic stablecoins
  - Seignorage-Style Stablecoin [link]
  - TerraUSD – failed, cannot work [link]
  - Two currencies, a stable and a volatile
  - If demand is higher for stable coin, stable coins are minted, volatile coin can be bought back and destroyed.
  - If demand is lower, then volatile coin needs to be minted and sold to buy the stable coin. Stable coin is then destroyed.
    - In the TerraUSD case, the volatile coin was massively minted, but could not buy back the stable coin
- Mix of both: “Frax is the first stablecoin implementation to use the partial-collateral protocol that provides a two-token architecture” [link]
- Terra Luna crash [link] [link]
  - Started on 07.05.2022, ~$2b UST was unstaked
  - Sell-offs sent down the price of UST from $1 to $0.91
  - Panic, more people sold UST, more Lunas were created, Lunas crashed in price as well
  - UST at $0.35
  - Crypto exchanges delist Luna and UST