



OST

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Blockchain (BlCh)

Stablecoins

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Stablecoins

- “Stablecoins are cryptocurrencies where the price is designed to be pegged to a reference asset.” [\[link\]](#)
- Collateralization: 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
- Crypto-backed: DeFi
 - MakerDAO, based on other stablecoins
 - If other currencies used → need over-collateralization
 - 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 collateralization ratio: 134% [[link](#)]

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