Superliquid Mechanisms for Decentralized Stablecoins

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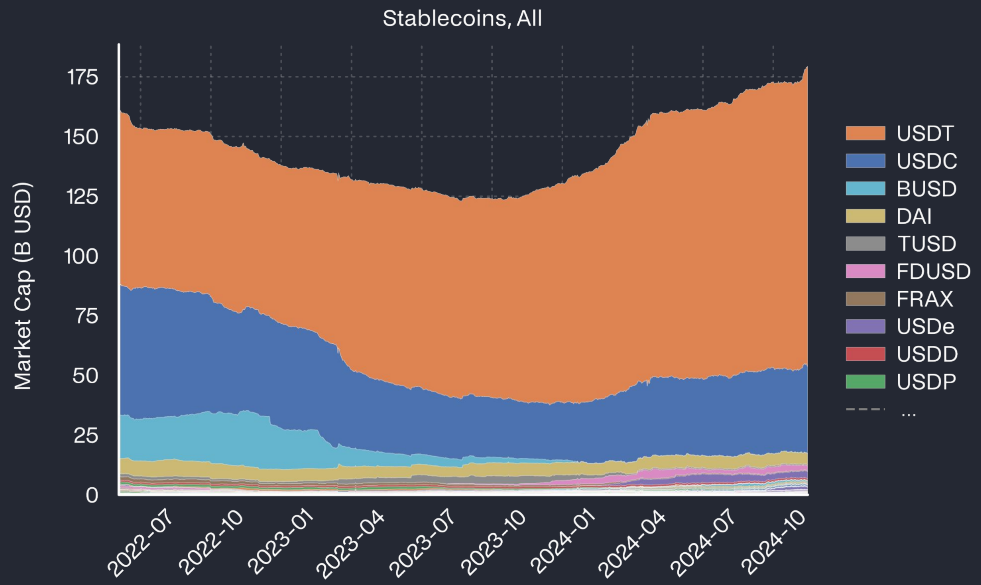
Stablecoin Renaissance, but USDT/USDC dominate

Surge in centralized stablecoins:

- New contenders like Paypal's PYUSD
- Ethena (delta neutral) and RWAs

New maturity in decentralized stablecoins:

- No more Terra, Fei
- New innovative mechanisms like crvUSD, Gyroscope's GYD, and more



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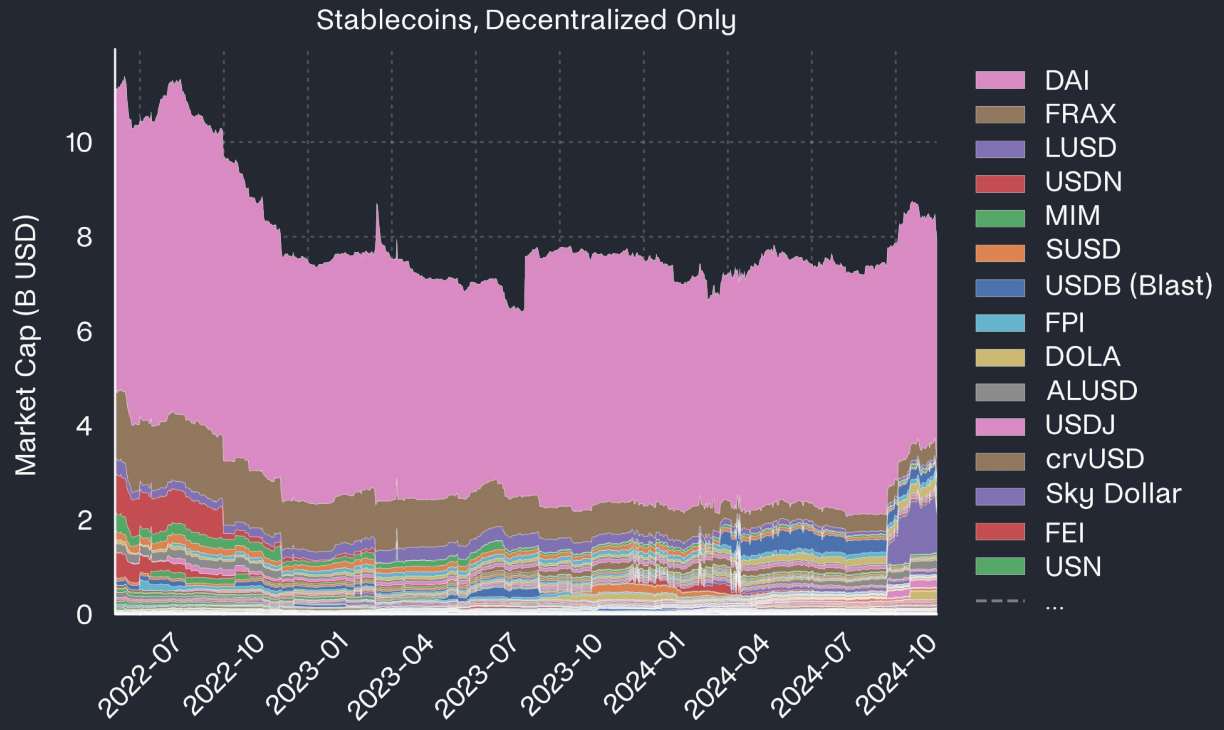
But as a category, decentralized stablecoins haven't grown in over 2 years



...why?

Scaling liquidity *at peg* is hard.

Challenge 1: attracting *any* liquidity

New stablecoins have to incentivize liquidity, whereas USDT/USDC get it for free

- Costs 15-30% to attract stablecoin capital
- Borrowing stablecoins can be similarly expensive at 7-15% due to demand for leverage

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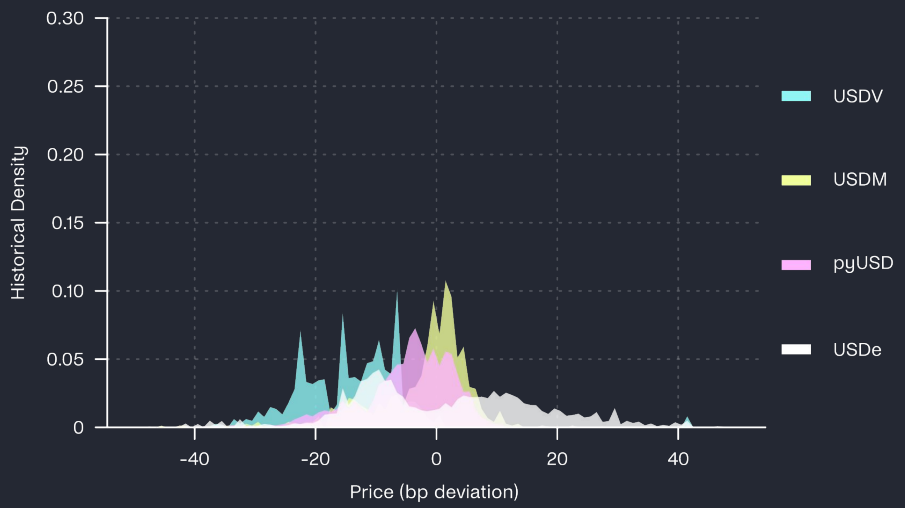
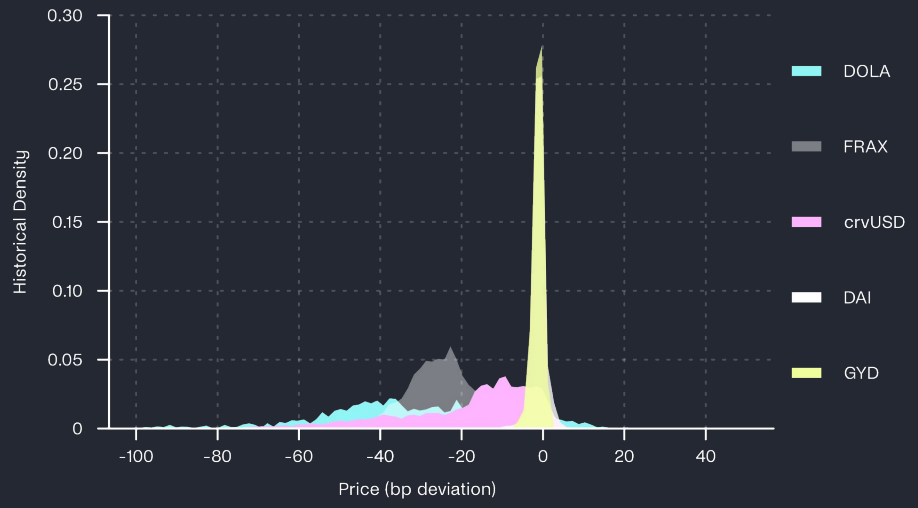
Challenge 2: competing with entrenched (at-peg) liquidity

New centralized stablecoins:



Decentralized stablecoins:



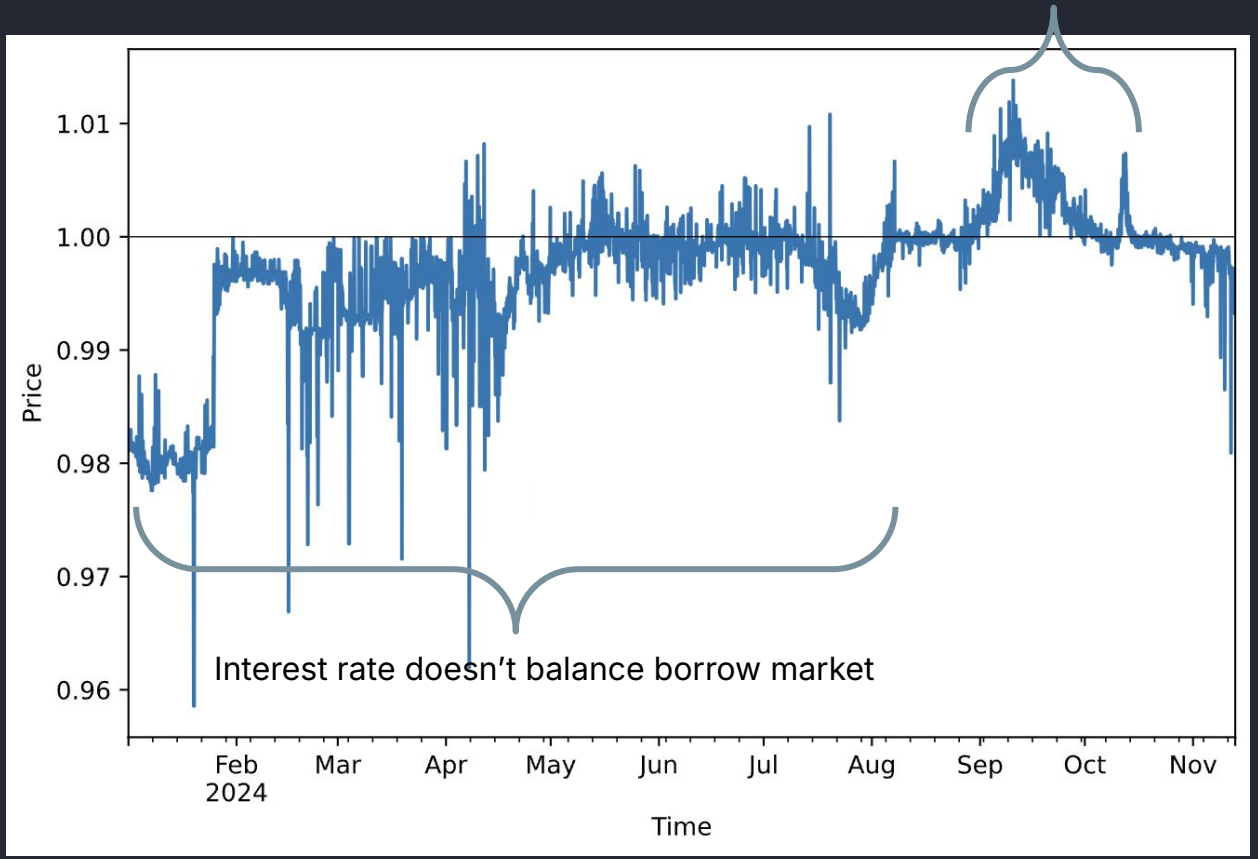
But some optimism: two *decentralized* exceptions!

Challenge 3: it’s just difficult, technically

1. When a stablecoin’s price is expected to move around, it’s harder to get deep liquidity for it
    a. Practical consequence: need to spread liquidity over more prices
2. Frictions:
    a. When mint/redeeming
    b. Fees
    c. Speed of settlement (off-chain or cross-chain can be slow)
    d. Setting the balancing interest rate (for stablecoins issued via borrowing)
        i. Main use case is leverage, which means people *sell* the stablecoin
        ii. To stay on peg, interest rate needs to balance supply and demand
3. Shocks to asset backing, economic risk, smart contract risk, etc

*Note: this is very simple overview, two prior Devcon talks go more into *much* more detail

Case study: GHO



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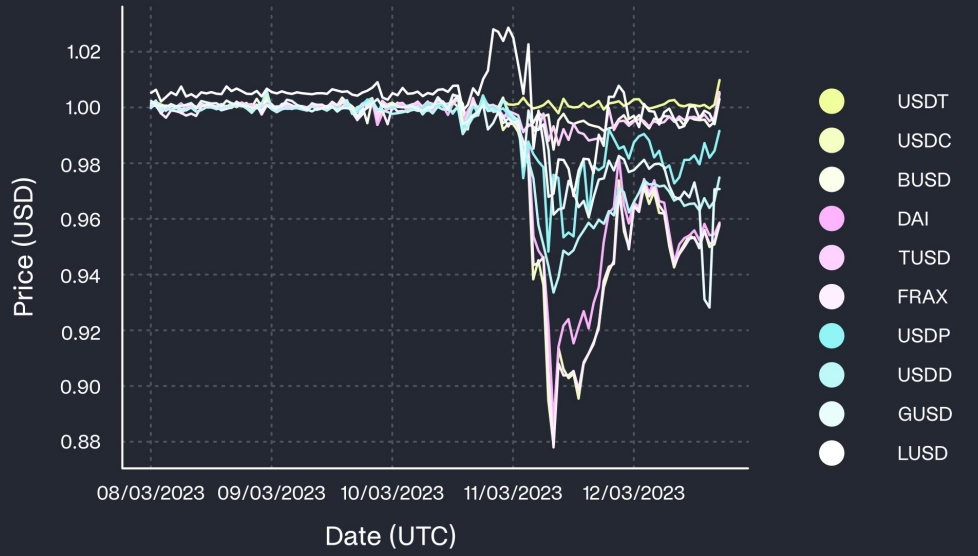
Why care about decentralized stablecoins anyway?

Fundamentals: risks of centralization

- Mitigate with stablecoin diversity, decentralized collateral, onchain risk management

Practically: USDC depeg



This talk:

How do we make *decentralized* stablecoins superliquid?

I. Current state-of-the-art, including what *doesn't* work
II. The next state-of-the-art: a better way to solve this

I. Current state-of-the-art

Primary markets

Minting/redeeming onchain

Primary markets: lower friction when atomic onchain

- Can arb with flash loans vs take inventory
- Why GYD, DAI actually achieve tighter pricing at 1 than even pyUSD

Use mint/redeem to *segment* the pricing region:

- Let primary market handle pricing extremities
- Concentrate secondary markets on region between mint and redeem pricing

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Caution: primary market risks

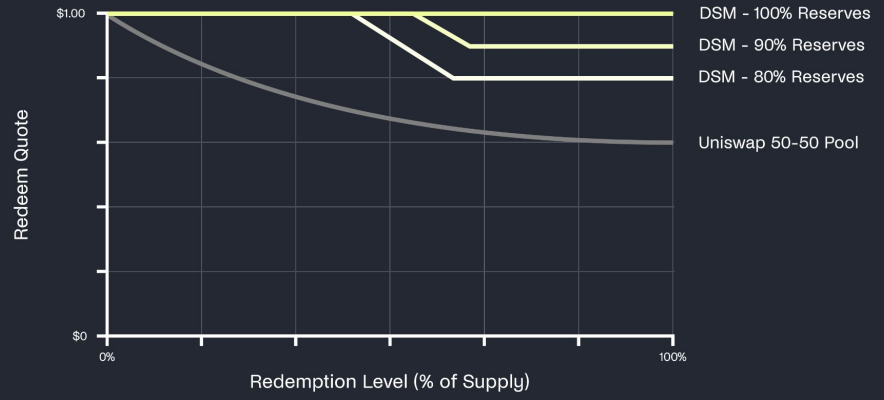
Primary market builds a protocol balance sheet, which needs good risk management

Example where this didn't work out well:

- DAI depegged with USDC in SVB crisis because it was simple wrapping of USDC

Design primary market in a smarter way: GYD

- Automate pricing and management of protocol exposures
- Talk from last Devcon on this topic



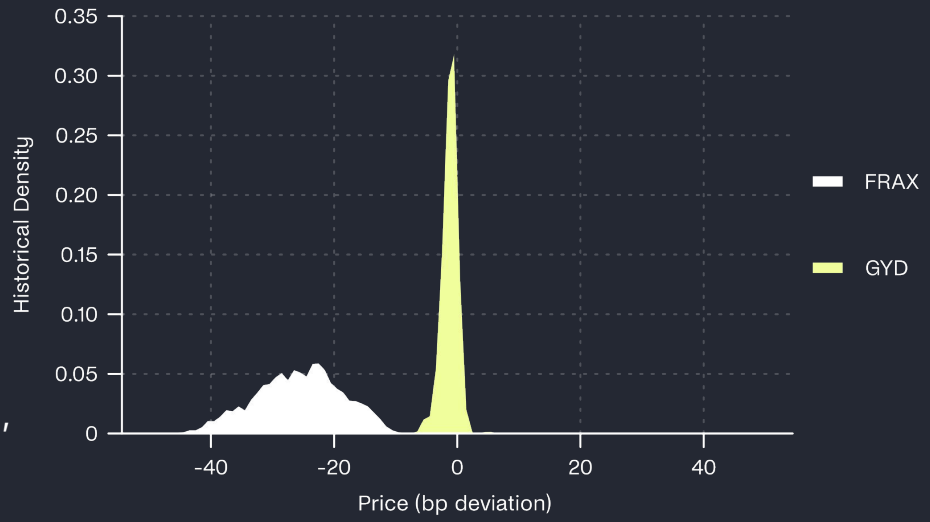
AMOs and POL: another form of mint/redeem

Protocol deposits ‘pre-minted’ stablecoins into liquidity pools

- Equivalent to mint/redeem following the AMM price curve

How does it affect liquidity at peg? Comes down to mechanism design

- GYD: bootstrap liquidity at peg
- Cases where it doesn’t work as well: Fei (bad design), Frax (miscalibrated?)



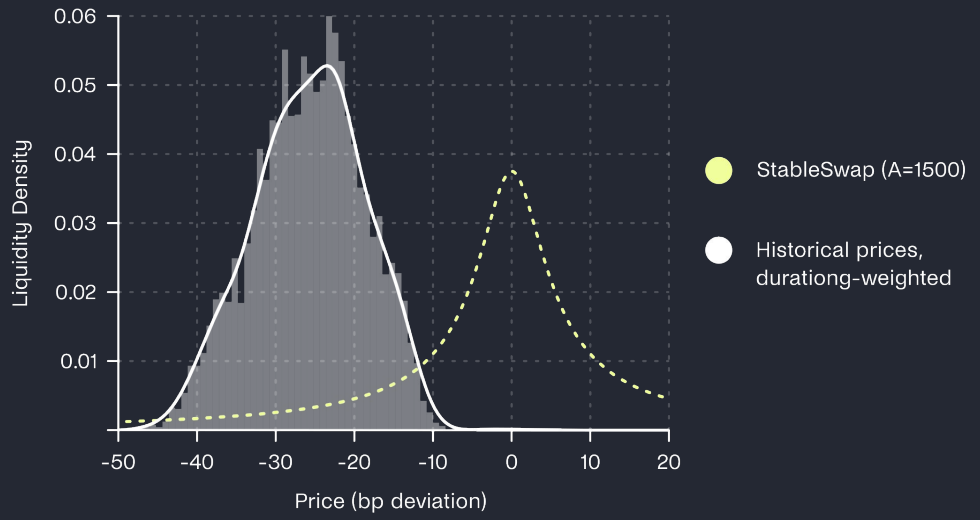
Case study: FRAX AMOs

FRAX AMOs inject pre-minted FRAX into Curve pools

- FRAX tends to trade below peg

Pools aren't optimized for this pricing

- e.g., liquidity density focused at 1:1, and much less liquidity at -20bp



Secondary markets

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Squeezing the most capital efficiency out of secondary markets

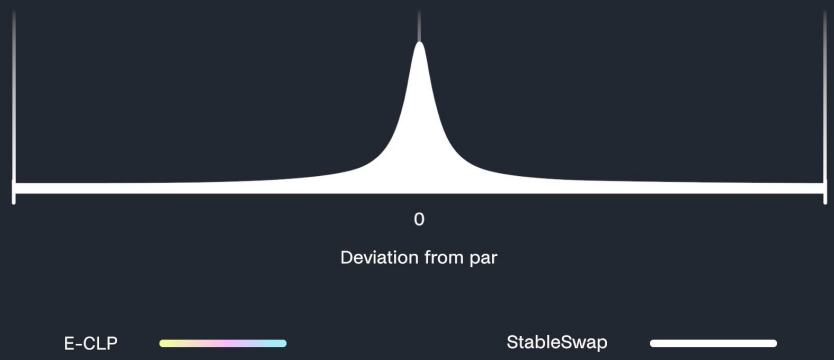
Optimize *liquidity density*

- Large efficiency gains to cut off prices you don't need to support
- Concentrate asymmetrically

Stack yield sources together

- E.g., rehypothecate AMM assets to lending market

E-CLP liquidity density



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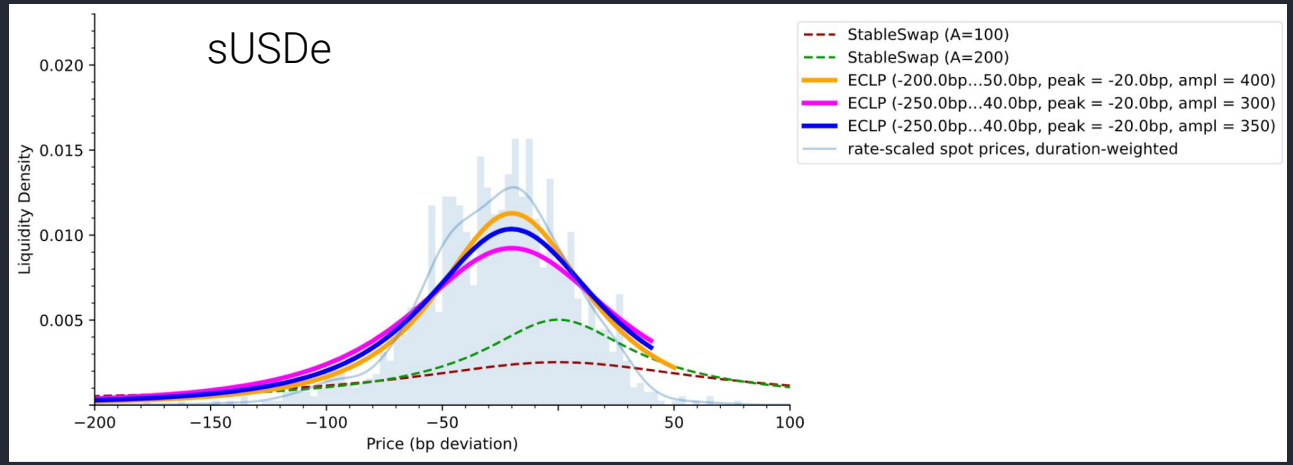
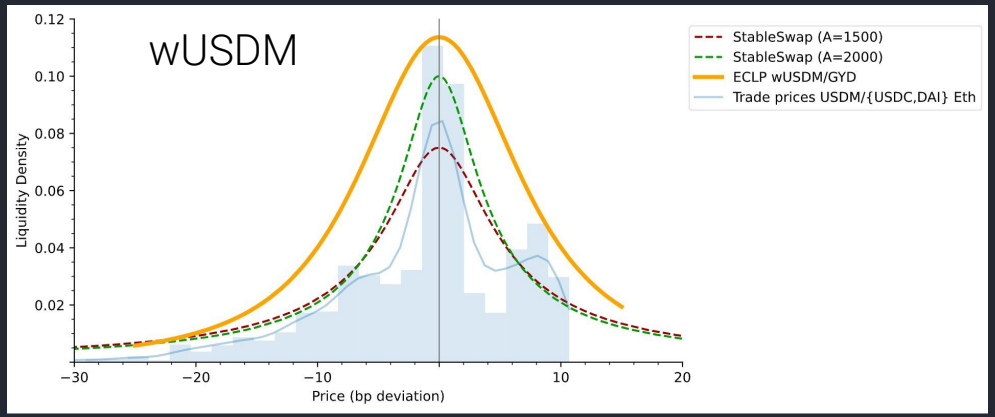
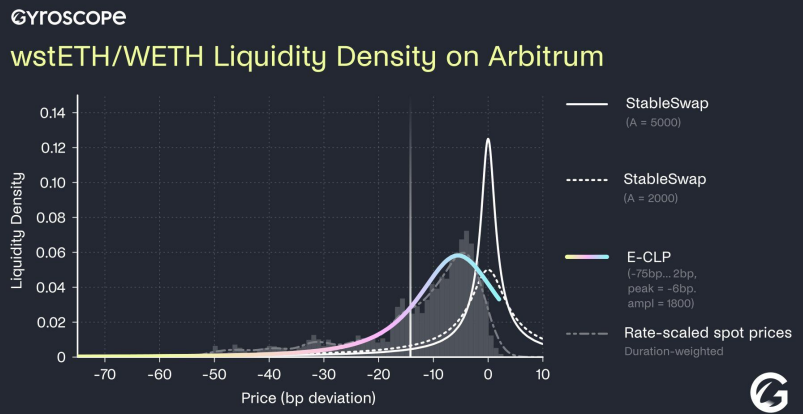
Examples







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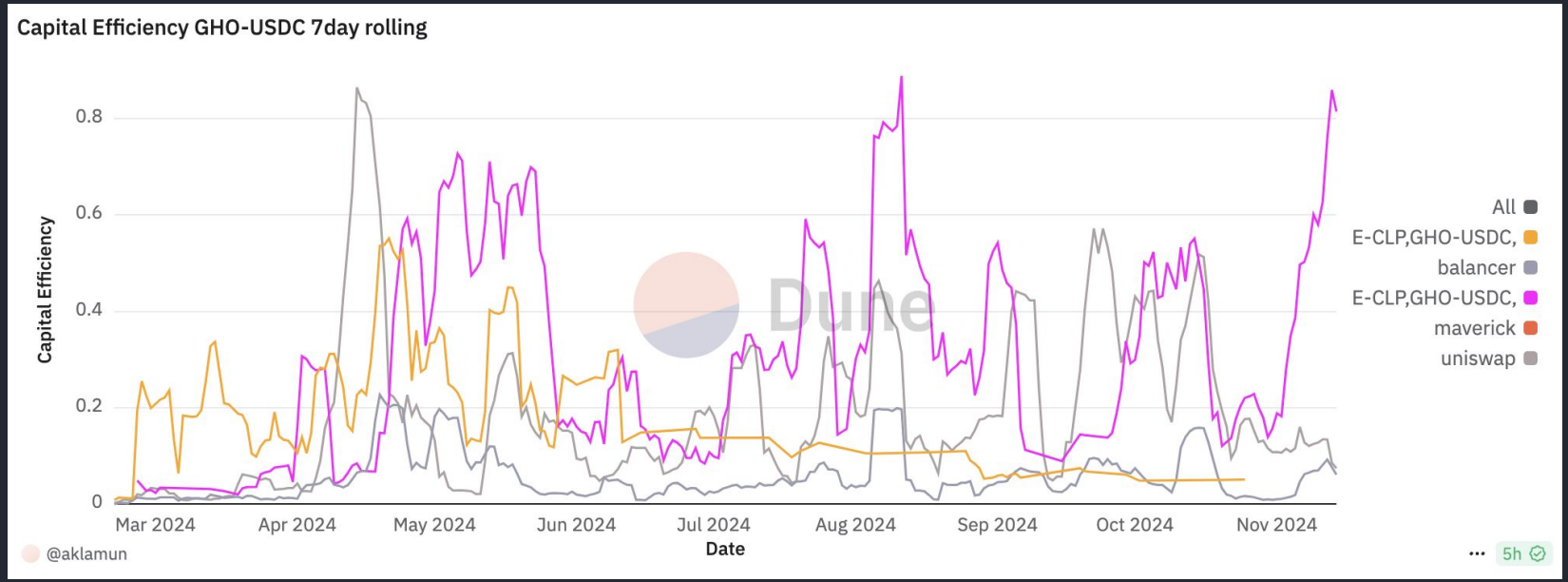

II. A new way way to solve decentralized stablecoin liquidity

Unique ability of decentralized stablecoins: can issue in new ways that wouldn't be possible with centralized stablecoins

→ *idea*: build on this flexibility in a new way

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Announcing Gyroscope v2: Duplex yield

Idle assets (BTC, LRTs, etc)

- Earn new *Duplex yield* (on top of other yields)

Asset issuance protocols

- Cheap, scalable liquidity for their assets
- Unlock new revenue: ‘rent’ their existing liquidity

Stablecoin users shielded from risks through *Duplex collateralization*

Gyroscope v2: Duplex yield

Intuition: most efficient way to market make is often to *borrow* assets vs hold inventory

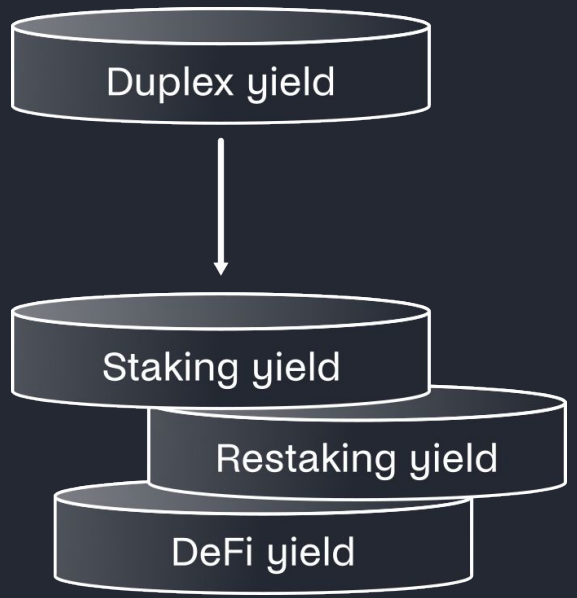
- Duplex yield comes from a more efficient way of market making stablecoins
- Secured swap line: create a swap line between stables and *insure* it with collateral
- Lower cost: BTC hurdle rates (3-5%) < stablecoin hurdle rates (15-30%), can stack on top of other yields

Idea: streamline 'borrowing' that is restricted to codified market making

- Stablecoins issued in borrow markets: must balance leverage market to keep peg → prices out a lot of non-leverage use cases
- Idea: 'price discriminate' between leverage market and other markets
- Decentralized stablecoin can do this at uniquely low cost if it doesn't affect peg

Gyroscope v2 enables this to be tokenized into new yield layer

The future yield stack



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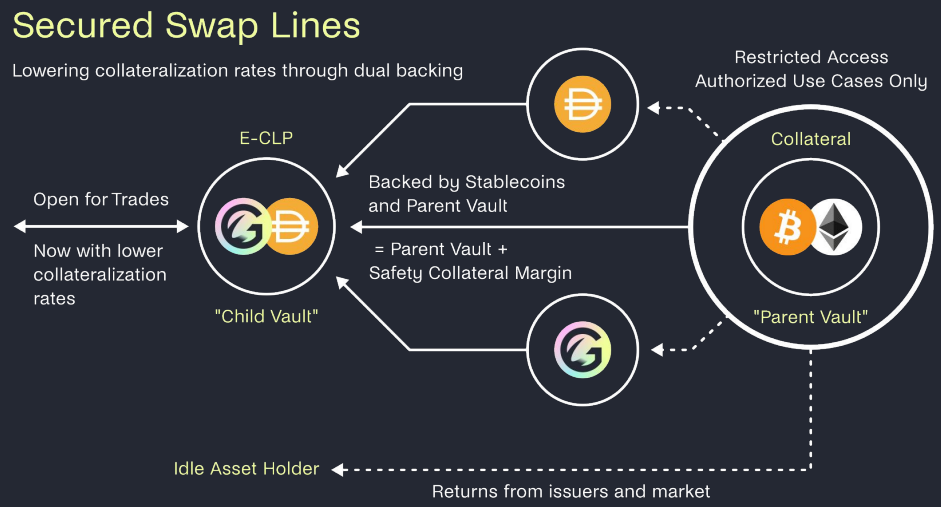
How a secured swap line works

1. Idle asset (e.g., BTC) locked
2. Stablecoin issuers (A) and (B) jointly issue against vault into AMM
    a. A and B also set interest rates (possibly 0)
    b. Or B borrowed elsewhere
3. A/B available for secondary market exchange
4. Idle asset earns return from market and issuers
5. Market making losses are insured with collateral
    a. Enforced by liquidations



Some properties:

- Issuers don't need to trust each others' assets or trust market makers
- High capital efficiency possible (s.t. risk parameters): up to $20 of liquidity for $1 of TVL
- Can also apply to non-stable pairs, cross-chain liquidity, etc

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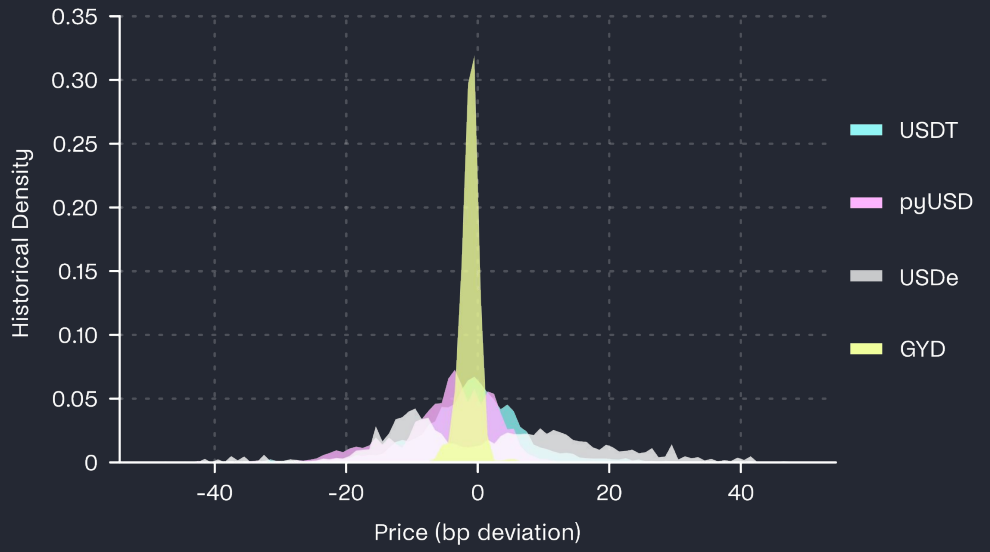
Superliquid Mechanisms for Decentralized Stablecoins

Takeaways:

- Primary market mechanism design: onchain mint/redeem and POL/AMOs
- Design secondary markets for the prices that matter most, let mint/redeem handle extremities
    - Asymmetric concentrated liquidity
- Gyro v2: new primitive that makes it *uniquely cheap* to scale decentralized stablecoin liquidity



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Thank you!
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