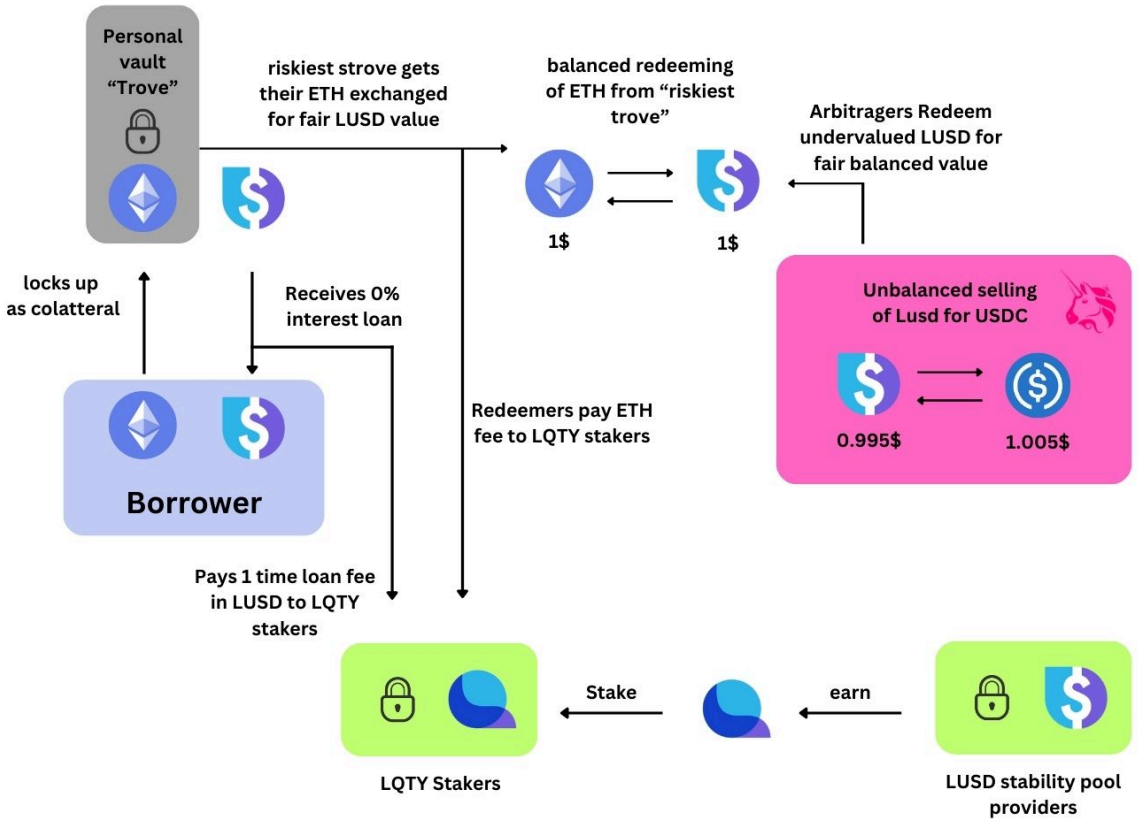


TLDR

An unidentified entity is generously contributing Ethereum to LQTY stakers. This is achieved by overcompensating for USDC on DEXs, paving the way for arbitrage bots to lucratively exchange undervalued LUSD for its genuine worth via the LQTY protocol. All references are provided below.

Full disclosure, I don't post often on Reddit at all, or really even browse Reddit. I really want to share my findings and also discuss them, please forgive me if I use the wrong format or something.

Losers:

- The individual who consistently overcompensates for USDC. Their underlying motives remain a mystery.
- Owners of high-risk troves: Their ETH gets swapped for LUSD. While this doesn't lead to a financial loss, it reduces their exposure to ETH—a potential downside if they're bullish on ETH's future value.

Winners:

- Arbitrage redeemers and bots.
- LQTY stakers, with an impressive APR of 28%.

Conclusion

The value of LQTY is poised for an uptick as long as redemptions continue. This trend can be tracked on Dune Analytics https://dune.com/queries/32674/65737. Focus on the grey line labelled "ETH paid". An upward trajectory indicates redemptions, which in turn means redemption fees, driving LQTY's value and value extraction upwards.

“ETH paid” Line goes up = redeems = redeem fees = LQTY go up

Long Version

LUSD is a stablecoin derived from the Liquity protocol. This system permits its users to take out loans at 0% interest with a one-time fee, using ETH as collateral. Personally, I view it as one of the most secure stablecoins available, even surpassing DAI in safety. The foundation of the LUSD protocol is robust. Any attempt to undermine the LUSD stablecoin is futile. This is attributed to the fact that all Ethereum held in troves can be directly exchanged for LUSD at a fixed 1 LUSD to 1$ ETH rate. To shield borrowers from unwarranted redemptions, a fee is levied. The redemption mechanism in the Liquity protocol is a strategic move to maintain the LUSD peg. If LUSD's value dips significantly below the mark, it becomes viable to exchange it for ETH. However, as long as LUSD maintains a value of $1, such exchanges aren't lucrative. I've visualized this mechanism in a graphic, drawing information from their official documentation and on-chain data from Dune.

Here's an intriguing observation: there's a consistent trend of redemptions. A glance at the Uniswap liquidity pool for LUSD-USDC reveals an imbalance, with a surplus of LUSD. My inference is that there's a persistent trend of LUSD being offloaded into the pool at rates below $1, making redemption an attractive proposition. Bots, with their rapid execution, are likely capitalizing on this. This arbitrage not only benefits these bots but also rewards LQTY stakers since all redemptions contribute fees to them. Consequently, the APR has seen a jump from a modest 3% to an impressive 28%, and it continues to climb.

Is there a hidden catch? Kind of, but not really. Let me explain. LQTY tokens are minted over time to those who supply LUSD to the stability pool. The cap for this minting process is set at

32 million, with an overall limit of 100 million tokens. (The remaining tokens are sourced differently; details are available in the tokenomics section I've referenced.) This minting process, akin to BTC and several other tokens, isn't consistent. It experienced a surge in inflation initially but has now stabilized to around 3% annually. This rate should be juxtaposed with the 28% APR, suggesting a net potential profit of 25% APR for dedicated stakers. While LQTY's price might appear stagnant, its market cap tells a different story. Despite its early inflationary phase, its market cap has shown resilience and growth. It's essential to remember that price alone can be misleading; consistent compounding would be indicative of your profit trajectory.

Another factor contributing to the elevated APR is LQTY's depreciated price. In a bearish market phase, leveraging ETH loans, even if interest-free, loses its allure. The potential for ETH's value to plummet, risking a 10% devaluation of your trove or mere exposure to ETH's fluctuations, becomes a deterrent.

It's worth noting that similar redemption patterns were evident earlier, as seen in the "Total Gains from Staking" chart around November 30, 2021. This preceded a remarkable 300% ascent in LQTY's price within a short span. While past patterns don't assure future outcomes, the current scenario appears promising.

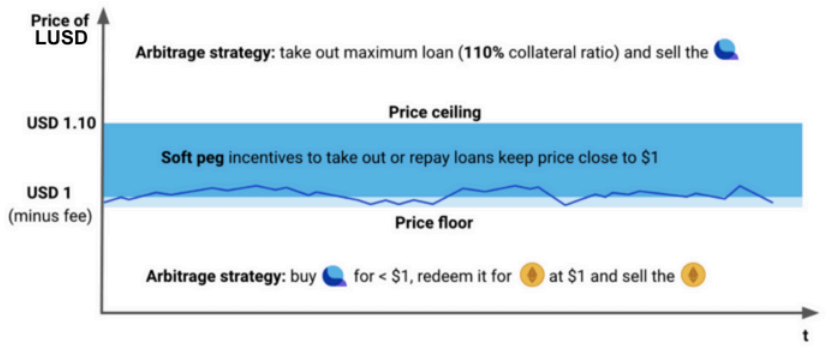
As a final side note liquidations of troves also cause the Ethereum to be given to stakers by burning stability pool LUSD at fair ratios. Liquidations happen when the value of the locked Ethereum drops below 110% of the borrowed LUSD. This is currently not really happening however, as Ethereum is not declining in value and the redeeming is making the risky troves less risky by exchanging their Ethereum for LUSD, so this is not really relevant atm. Thats why i didn’t put it in the graphic

The final question we are still left with: ”Why is someone effectively donating money?” My hypotheses include:

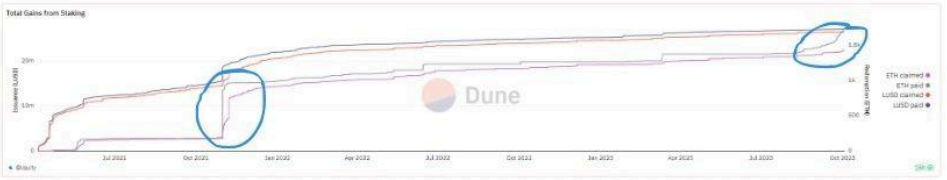
- A flawed algorithm might be conducting stablecoin transactions, inadvertently overpaying for USDC.
- An individual might be targeting the LUSD stablecoin, hoping to exploit perceived vulnerabilities. In reality, they're merely compensating LQTY stakers and redeemers and causing minor disruptions for high-risk trove holders.
- Users of the Liquity protocol have decided it’s time to leverage up on Ethereum. They store Ethereum as collateral, and use their LUSD to buy more ethereum. They then also store this Ethereum as collateral. This is similar to using a leverage contract, apart from the fact that you don’t pay any funding rate, but only a one time fee. This is a superior way of leverage, assuming you plan to hold for a long time

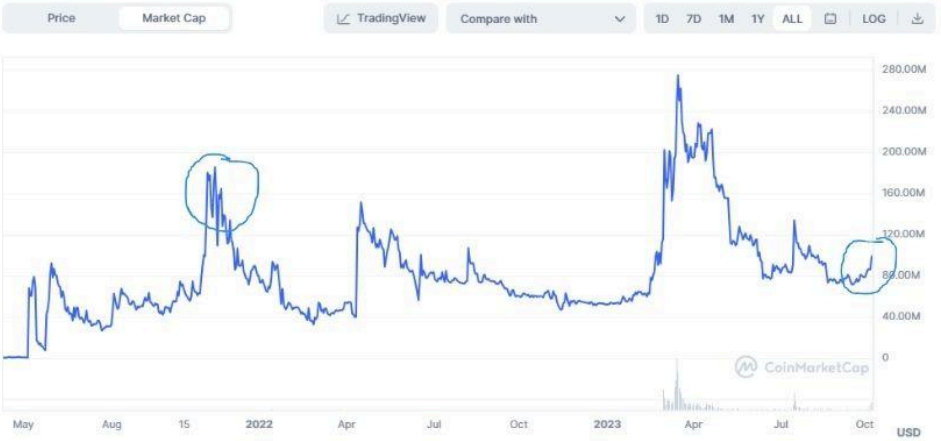
Their motivations might elude us, but their contributions are undeniably substantial.
In any scenario, this entity is consistently at a financial loss. Full disclaimer I've invested a significant chunk of my crypto assets in LQTY and am actively staking. I'm extremely bullish about LQTY's future price trajectory, especially with indicators suggesting a potential end to the bearish phase. Interest-free LQTY loans are regaining their appeal, and the unexpected

APR boosts from this mysterious benefactor only enhance the value this token currently provides.

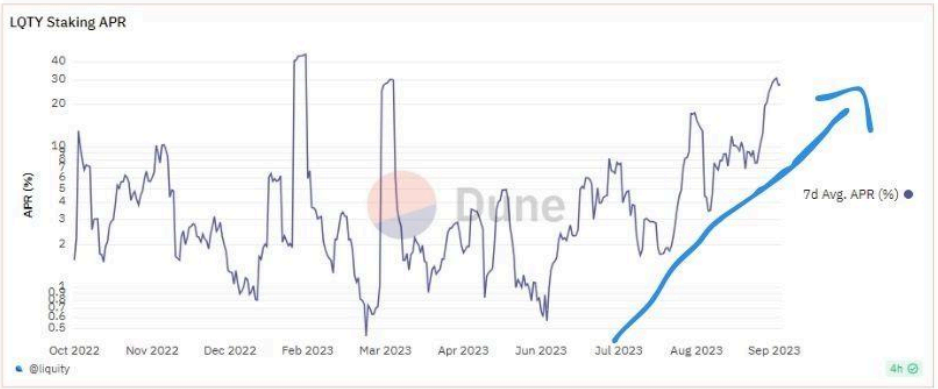


Note that the increases in ETH Paid precede the sharp rise in price. this is likely due to very high APR attracting DEFI optimization entities





Note the Logarithmic scale, this line goes from 3% to 28% as of right now



Recently Redeemed Troves

Timestamp	Owner	Collateral (ETH)	Debt (LUSD)	ETH Price (USD)	Collateral Ratio	Redeemed ETH	Redeemed LUSD	LUSD Price at the Time
2023-10-03 16:38	0x5a1d3d13dc6042c850e18ad3b872d621356f3699	9.0000	8,247.75	1,644.96	179.50%	4.8924	8,047.75	$0.9935
2023-10-03 16:38	0x98e8e444beffbd47de518c589165d9d849f74b27	2.2036	2,019.14	1,644.96	179.52%	1.1059	1,819.14	$0.9935
2023-10-03 16:38	0xed7e5307f1c2ca861d65b3e7db016ffae1587323	36.0841	33,058.74	1,644.96	179.55%	19.9754	32,858.74	$0.9935
2023-10-03 16:38	0x4592b9b6e1731c3d052f5dc1904c4b7f31433eac	14.0000	12,825.72	1,644.96	179.56%	7.6754	12,625.72	$0.9935
2023-10-03 16:38	0xbf735c8d32d75654a6d7f447ebfd39f7164d8107	177.4921	162,547.93	1,644.96	179.62%	27.1427	44,648.64	$0.9935
2023-10-03 16:30	0x4bb65ef956922efeea10b897ac184994bb0ce632	162.6275	149,040.71	1,644.96	179.49%	60.7918	100,000.00	$0.9937
2023-10-03 16:25	0xdd30f887faa3c1b76bb2f04d50e200160cdfbfa6	89.5500	82,124.05	1,644.96	179.37%	49.8031	81,924.05	$0.9937

Calculations

To further show the profitability or redeeming at undervalued LUSD prices, let us calculate the profit of redeeming.. The formula for this is as follows

$$\text{net Profit} = x\left(1 - f_{Borrow} - 0.005 - R_{LUSD}\right) - 2f_{gas}$$

x = amount of LUSD bought and redeemed

f_{Borrow} = The current borrowing rate, viewable on any Liquity borrowing platform, aslo know as BaseRate

R_{LUSD} = LUSD price Ratio. aka the ratio of the LUSD price and the real value of 1$

f_{gas} = Ethereum gas fee

Note that the amount made by LQTY stakers who are gaining fees is even higher than the redeemer profits

To know if you can currently make a profitable redeem trade, you can use the following function. Here we assume you're trading with a large amount of capital +$100,000, and gas fees aren't very high.

Profitable redeem condition, assuming gas fees are negligible

$$R_{LUSD} < 1 - f_{Borrow} - 0.005$$

Explanation of Calculations

First we look at what makes a profitable redeem possible in the first place, an undervalued LUSD compared to its 1$ value. You can view pools in DEX's to view this ratio.

LUSD price Ratio

$$R_{LUSD} = \frac{USDC}{LUSD}$$

Ratio can be found in DEX pools, like uniswap etc. let's assume a relatively low ratio for this example

$R_{LUSD} = 0.98$

Then we can calculate how much we have to pay for a set amount of LUSD

Cost of x LUSD

$xR_{LUSD} + f_{gas}$

example for 10,000 LUSD, assuming gas fees are around 5$

$10,000 * 0.98 + 5 = 9805\$$

We now have 10000 LUSD and only paid 9805$ in this example. Now let's see how much we will get if we redeem this 10000 LUSD using the Liquity protocol.

Total ETH dollar value gained from redeeming

$$x\left(1-f_{Borrow}-0.005\right)-f_{gas}$$

example for relatively low borrowing rate of 0.6%

$$10,000\left(1-0.006-0.005\right)-5=9885\$$$

the profits would then be

$$9885\$-9805\$=80\$$$

Fees going to LQTY stakers

$$x*\left(f_{Borrow}+0.005\right)$$

using the example values

$$10{,}000*\left(0.006+0.005\right)=110\$$$

Sources

The on-chain data from Liquity protocol
https://dune.com/liquity/liquity

The specific graph representing the amount of ETH that is being redeemed
https://dune.com/queries/32674/65737

Information of how the protocol works
https://docs.liquity.org/

The biggest liquidity Dapp for borrowing/staking etc.
https://liquity.app/#/

LQTY genesis allocation
https://medium.com/liquity/liquity-launch-details-4537c5ffa9ea

Uniswap pool of LUSD-USDC displaying unbalance
https://info.uniswap.org/#/pools/0x4e0924d3a751be199c426d52fb1f2337fa96f736

A wallet I found doing consistent redeems, around $100,000 worth every time
https://etherscan.io/address/0x38abab9766e0b27d2912718a884292b8e7eb2803

Others are copying LUSD
https://docs.gravitaprotocol.com/gravita-docs/