



Enigma Research Update. May 13, 2022

UST Crash & Proposal to Fork Terra, Reset LUNA Supply

- CHAINS: Terra
- TYPE: Layer-1
- CIRCULATING SUPPLY: 6.9 TRILLION
- MAX SUPPLY: Unlimited
- MARKET CAP: \$0.03 MILLION
- TVL: \$597 MILLION

New LUNA, Same Risks

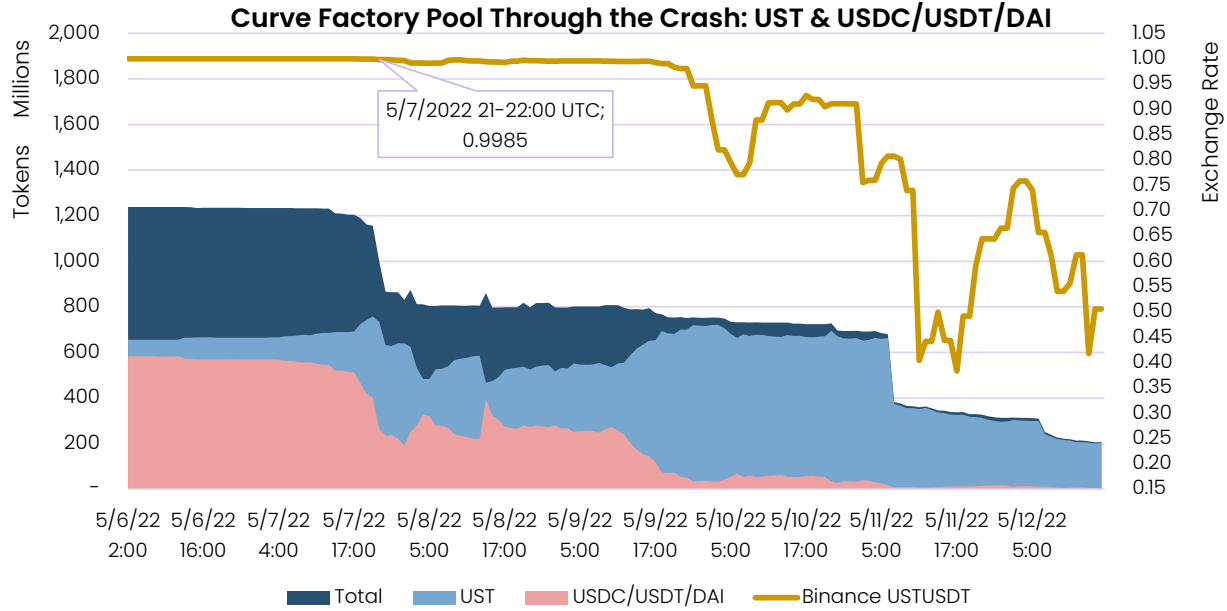
The dust is far from settled after UST crashed this week and took Terra down with it. Though UST was not backed by any assets, the crash destroyed at least \$72B of value from UST and LUNA market capitalization alone. Weeks will pass before participants accurately tally the impact as Terra's collapse drove digital assets down nearly 20%. Understanding both how UST's peg fell and the current options for resolution are critical for any damage assessment and future prevention.

It is difficult to overstate the significance of Terra's implosion. This pivotal moment could determine the course of stablecoin and all digital asset regulation globally. As an algorithmic stablecoin, UST maintained its USD peg by financial incentive rather than collateral value. Its fiercest critics within the digital assets industry deride algorithmic stablecoins as a Ponzi scheme, which any regulator would consider illegal. Whether this characterization leeches into established and collateralized stablecoin projects will highly depend on the care, speed, and transparency with which the Terra community resolve the current failure.

How Terra Tumbled

Centralized and Decentralized Unwinding

A perfect storm set UST off its USD peg on and off chain. The cascade started in the Curve Factory: wormhole v2 UST-3Pool (UST-DAI/USDC/USDT) - the main UST liquidity source on Ethereum. On May 7th, while Terraform Labs withdrew 150M UST for deposit into a new and improved Curve pool, the existing Factory pool was rocked by a series of UST deposits and 3pool withdraws. Within the hour, USTUSDT volume exploded on Binance to pull UST below 0.99 USDT. Both Binance selling and Curve volume continuously pushed USTUSDT lower for two days. By morning of May 11th, the UST price plummeted to \$0.60.



1 Source: Dune Analytics, TradingView

The LUNA Market Module

From May 6th through 13th, the UST-LUNA Market Module failed to burn UST and mint LUNA at the pace necessary to save the \$1 peg. The LUNA Market Module is the virtual AMM that accepts and burns UST to issue newly minted LUNA. Users make Market swaps in the Terra Station wallet. The Market Module’s simplicity left LUNA price vulnerable to manipulation with enough UST burned. To mitigate this risk, Terra developers built a recovery period parameter that delayed the LUNA minting rate as the UST burn rate grew. During normal demand, one burned UST minted \$1 of LUNA, which was the essential rate to encourage arbitrageurs to burn UST when the peg fell below \$1. However, as the UST burn demand grew in a crisis, the AMM LUNA exchange rate took longer to recover, which slowed the UST burn rate to a stop.

The least UST supply was burned on the most crucial period between May 8th and 9th, but users burned UST in a panic on May 10th. With the Market Module nearly frozen, the LUNA/UST spread against the oracle price feed grew by hundreds of LUNA, so the LUNA USD value fell slower on-chain than it did on exchanges. Finally, validators halted the chain to reset the Market Module on May 11th. By May 13th, UST supply was stuck at 11B tokens and validators voted to halt the chain again to deliberate Do Kwon’s proposal to fork Terra and reset the LUNA supply.



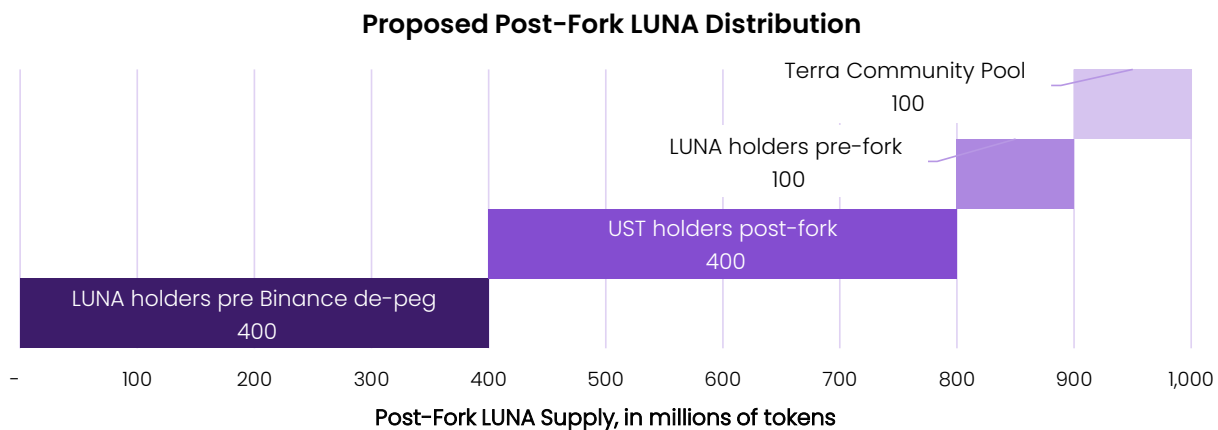
UST & LUNA Supply								
Date	Token Supply, B		Supply Change/D		Market Cap, USD B		Mkt Cap Change/D	
	UST	LUNA	UST	LUNA	UST	LUNA	UST	LUNA
5/6/22	18.7	0.7	0.3%	-0.1%	\$18.73	\$56.1		
5/7/22	18.8	0.7	0.2%	-0.1%	\$18.76	\$49.6	0.1%	-11.6%
5/8/22	18.7	0.7	-0.3%	0.1%	\$18.61	\$46.1	-0.8%	-7.1%
5/9/22	18.6	0.7	-0.7%	0.4%	\$18.38	\$24.6	-1.2%	-46.6%
5/10/22	17.4	0.8	-6.5%	6.4%	\$15.24	\$13.1	-17.1%	-46.7%
5/11/22	13.2	2.6	-23.9%	234.9%	\$8.37	\$2.8	-45.0%	-78.8%
5/12/22	11.4	204.2	-14.1%	7764.7%	\$6.39	\$0.1	-23.7%	-97.9%
5/13/22	11.3	6,907.4	-0.7%	3283.1%	\$2.77	\$0.3	-56.6%	365.6%

2. Source: Terra Analytics: Terra.SmartStake.io

Terra Ecosystem Revival Plan: Path Forward or Bridge Too Far?

A week of chaotic attempts to save either token left Kwon, TFL, and the Terra community no choice but to reset. Immediately after the second halt Kwon proposed a hard fork and new LUNA on the Terra governance forum. The proposal would abandon existing LUNA and UST, both nearly worthless. The forked blockchain would resume at the block coincident with “last \$1 tick before the depeg on Binance,” according to the proposal. New LUNA would be distributed to Terra wallets:

- 400M (40%) to “LUNA holders before the depegging event;”
- 400M (40%) to “UST holders pro-rata at the time of the new network upgrade;”
- 100M (10%) to “Luna holders at the final moment of the chain halt,” and;
- 100M (10%) to “the Community Pool to fund future development.”



3. Source: Terra Ecosystem Revival Plan. dokwon. Governance & Proposals. 5/13/2022. Agora.Terra.Money.



Authored by Enigma, Distributed in cooperation with the Makor Group

The proposed distribution seeks to provide LUNA and UST holders with stake in the new Terra network. Kwon claimed these users are the most likely to continue developing the blockchain's ecosystem and should be repaid for their loss as much as possible. The proposal balances cash payment for losses and stake in the new network. With six days to deliberate, governance participants must work through many considerations before moving forward.

Just the Beginning

While the next steps are critical to regain user trust, the most important considerations exist outside the Terra community. Amidst the meltdown, US legislators heard testimony on risks to legislating Bitcoin derivatives markets. The US Treasury published a report on stablecoins while Secretary Janet Yellen used Terra as an example of stablecoin risks to the financial system. The digital asset industry has never experienced the current scrutiny, which will grow in direct proportion to Terra's total impact.

Many observers used the UST crash to announce the death of algorithmic stablecoins, likely far too early. Kwon and other Terra supporters acknowledged that a focus on growth and leverage broke UST rather than a fundamental design flaw. Kwon's Twitter account noted any path forward would include collateralization of another stable asset. While un-collateralized or purely algorithmic stablecoins exist on a regulatory frontier, collateralized assets inhabit a regulatory minefield. Fortunately, among other projects, MakerDAO expertly navigated this space and is as an example of a stable and resilient stablecoin protocol. Stablecoins are essential digital primitives but will remain the industry's lightning rod if projects like Terra push them beyond their limitations.



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