

Market Review

JULY 2022

Genesis							

JULY 2022 MONTHLY REVIEW

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Introduction

July brought some welcome respite, following the turmoil during May and June. Sentiment has had time to adjust, enabling market participants to once again focus on longer term prospects beyond the short term liquidity crunch.

As well as delivering some strong price performances, the month also saw notable news on Ethereum's evolution as well as that of some leading DeFi platforms. These, and the cumulative effects of recent price declines, seem to have helped shift the risk aversion that had taken hold of the market mood, with several indicators pointing to a renewed investor willingness to take directional bets on assets beyond BTC.

In the report below, we look more closely at some of the mood indicators and their possible drivers, as well as at some stories that could shape the markets in the coming weeks.

Highlights include:

- → BTC sentiment indicators
- \rightarrow A comparison of the current BTC cycle to that of 2018
- → ETH's changing relationship to BTC
- → An update on the approaching Ethereum Merge
- → Uniswap's upcoming fee switch
- → Lido's potential impact on Ethereum

Nothing in this report is intended to be investment advice—our aim is to update and explain some of the shifting narratives driving crypto markets. We hope you find it useful.

(Note: we use uppercase Bitcoin to denote the network, and lowercase bitcoin or BTC to denote the asset; for Ethereum, we use uppercase to denote the network, and ether or ETH to denote the asset. "Merge" is capitalized when referring to Ethereum's upcoming consensus shift. All \$ are USD unless otherwise specified.)

Price performance for July

The July performance of the top 10 assets ex-stablecoins ranked by market cap:

Asset			Price	Mkt Cap (bn)	1 Month	3 Months	1 Year	1M RV
Bitcoin	BTC	Currencies	\$23,341.67	\$446,298,325,803	19.04%	-38.28%	-44.10%	62.7%
Ethereum	ETH	Layer-1	\$1,696.79	\$203,433,082,402	60.43%	-38.03%	-33.24%	107.8%
Binance Coin	BNB	Layer-1	\$287.36	\$46,919,624,856	32.42%	-24.13%	-14.22%	63.0%
Ripple	XRP	Currencies	\$0.39	\$18,686,873,330	17.58%	-34.14%	-48.40%	60.5%
Cardano	ADA	Layer-1	\$0.52	\$17,474,043,951	13.59%	-31.87%	-61.04%	75.5%
Solana	SOL	Layer-1	\$43.80	\$15,135,249,028	31.48%	-48.65%	20.84%	105.1%
Dogecoin	DOGE	Currencies	\$0.07	\$9,225,640,213	6.32%	-45.46%	-67.30%	67.9%
Polkadot	DOT	Layer-1	\$8.22	\$9,353,641,329	17.98%	-43.56%	-51.38%	85.4%
Polygon	MATIC	Scaling Solution	\$0.93	\$7,433,846,135	97.29%	-10.60%	-14.41%	155.2%
Avalanche	AVAX	Layer-1	\$24.24	\$6,892,000,844	44.10%	-57.57%	79.43%	119.5%

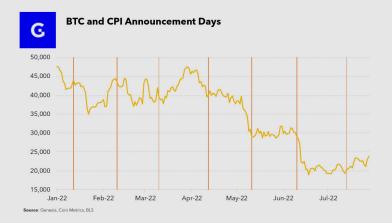
Top 10 crypto assets, ex-stablecoins, ranked by market cap. Price at 31-Jul-22. Source: CoinGecko

Macro

The macro scene provided more than enough drama to keep market watchers glued to their screens over the month.

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The CPI figure for June yet again delivered a negative surprise, coming in at 9.1% year-on-year, vs 8.8% expected and 8.6% for May. The notable feature of this strong miss was the lack of a sharply negative reaction from the crypto markets, unlike the misses delivered in May and June.



Then we had the **July FOMC meeting** which, although it resulted in the well-signaled 75bp rate hike, encouraged markets looking for a sign that the increases would soon taper. Federal Reserve Chairman Jerome Powell confirmed that a slowdown in the pace of increases was likely, which the market read as dovish, resulting in a further easing of rate hike expectations and a jump in crypto prices.

Another change noted in Powell's statement was the shift in focus from target rates to data-dependent decisions. In other words, the Federal Reserve going forward will rely less on forward guidance for signaling, and more on economic data. Two tests of this were delivered in the last few days of the month. On Thursday 28th, the **US Q2 GDP** data came in much lower than most were expecting. The average prediction from 74 economists <u>surveyed by Bloomberg</u> pointed to a 0.4% growth. The day before the release, Goldman Sachs and JPMorgan both <u>increased</u> <u>their Q2 growth expectations</u> significantly, from 0.6% to 1.0% and from 0.7% to 1.4% respectively, largely on the back of the narrowing trade deficit and the higher-than-expected durable goods orders. While the consumer did turn out to be relatively resilient in the Q2 figures (more on this below), the notable reduction in inventory buildup was behind the bulk of the downward surprise.

And on Friday 29th, the **Personal Consumption Expenditure index**—the Fed's preferred gauge of inflation, in that it measures the cost of all goods consumed by households, whether paid for out-of-pocket or not—showed a year-on-year increase of 6.8%. While in line with expectations, it was notably higher than May's 6.3% increase, and the highest jump since 1981.

Consumption and Housing

Personal consumption increased 1.0% in the Q2 US GDP figures, showing that the consumer still has some residual strength. Other supportive signs include:

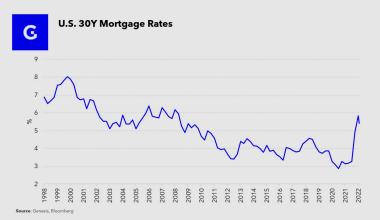
- → The June nonfarm payroll data delivered an increase of 372k vs an expected 265k, with the unemployment rate holding at 3.6%, a five-decade low.
- → Retail sales in June rose 1% vs May, whose revision showed a notably lower drop than originally reported (-0.1% vs -0.3%). Even taking out auto and energy, the June increase was 0.7%.
- → Personal spending for June was 1.1% higher than in May, slightly higher than the 1.0% expected and notably higher than May's month-on-month increase of 0.2%.

However, the momentum seems to be weakening. The Q2 personal consumption increase was notably lower than the 1.8% delivered in Q1, and many other data points suggest lower consumption contributions ahead.

- → Retail inventories grew by 2.0% month-onmonth in June, more than double the expected amount, pointing to a slowdown in store purchases.
- → The Conference Board Consumer Confidence index for June dropped 95.7, its lowest level since February 2021.
- → Real average weekly earnings for June were down -4.4%, an even steeper drop than May's revised -4.0%, as well as a counterpoint to the strong employment argument.

And then there's the housing market, which has been showing signs of weakness against a backdrop of persistently high prices.

- → Mortgage applications declined throughout the month, as mortgage rates corrected slightly after the fastest acceleration in half a century to reach the highest point since 2008.
- → New home sales dropped 8.1% in June, after a 6.3% increase in May.
- → Existing home sales dropped 5.4% in June, notably more than the expected 1.1% drop as well as the 3.4% drop in May.
- → Pending home sales dropped 8.6% in June, vs an expected 1.1% drop.

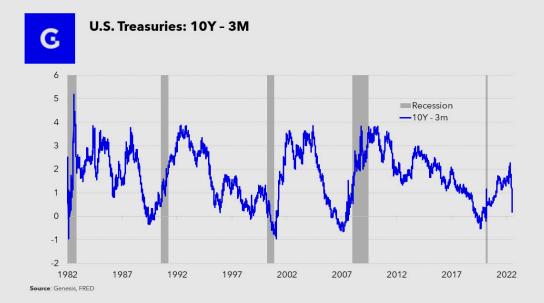


Prices are still sticky, as shown by the FHFA House Price Index which rose 1.4% in June. However, demand weakness is likely to turn this around, which —given that housing accounts for over 30% of the CPI basket—will impact overall price increases and therefore also rate expectations.

Another key development over the month was the inversion of the yield curve. On July 5, the spread between the 2-year and 10-year Treasuries turned negative, and has stayed there since. Since the 1970s, this has been followed by a recession shortly after.



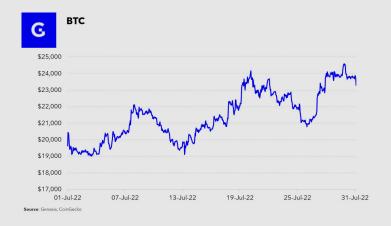
However, many economists—including the Federal Reserve—prefer the 3-month and 10-year spread as a leading indicator, and this is not yet negative. It is heading there, however, and in July reached its lowest point since March 2020.



Bitcoin

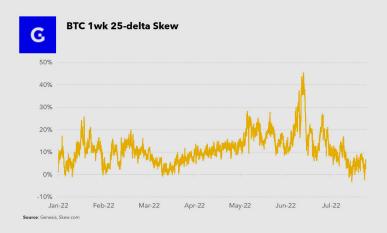
In July, the price of bitcoin increased by 19%, its highest monthly return so far this year, and the first positive monthly return since March.

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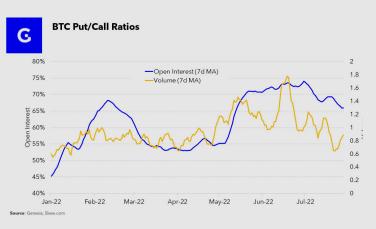


BTC Sentiment: Temperatures Rising?

Could BTC's July performance mean that positive sentiment is returning? Some BTC derivatives indicators suggest that traders seem to be more optimistic than in recent months. BTC's 25D 1-week skew, which reflects the difference in implied volatilities between puts and calls, dipped below -3% for the first time since the beginning of the year, hinting at greater interest in long positioning.

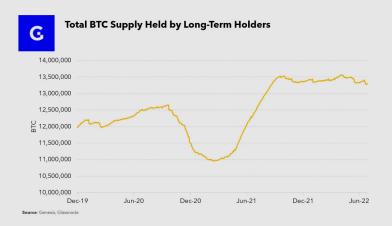


And the put/call ratio in both BTC options open interest and volume trended down over the month (although it is still higher than earlier in the year), suggesting a shift toward upside positioning rather than downside protection.

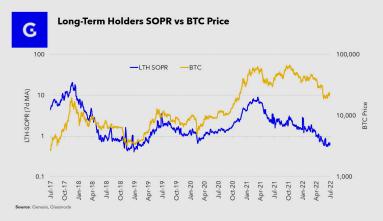


An intriguing on-chain gauge for market sentiment is long-term holder selling activity. Long-term holders are <u>defined by data provider glassnode</u> as addresses that hold on to their BTC for a timeweighted average of five months. Since they are presumed to be more "fundamental" investors than short-term holders (who can be considered traders until they "age in" to the long-term bracket), and as such have a greater level of conviction as to their BTC investment thesis, signs of long-term holder selling can be taken as a significant weakening in overall sentiment.

After a period of strong accumulation between March and November of last year, the amount of BTC held in long-term addresses dropped nearly 2% from an all-time high set in early May.



Even more indicative of sentiment is that the majority of long-term holders that were selling (which is not the same as the majority of long-term holders) were doing so at a loss, judging from the <u>LTH-SOPR</u> (long-term holder spent output profit ratio). This calculates the ratio of the market value of tokens sold from long-term addresses on any given day vs the purchase cost. Any figure below 1 indicates that aggregate selling was at a loss.



Since long-term holders in theory have "stronger hands" than short-term holders (in that they are less likely to be influenced by short-term price movements), their selling at a loss implies a decision to exit at any price. This "capitulation" is often taken to suggest a local market bottom—when weak holders get flushed out, you are left with strong holders who provide a floor. In July, the LTH-SOPR hit its lowest point since February 2019, which in retrospect turned out to be the beginning of the post-2018 bear market rally.

The BTC Cycle: Here Again?

With a 70% drawdown now in the rearview mirror (although please note that we do not mean to state that the local bottom has been reached), let's compare this bitcoin cycle with the last one.

G	G BTC - Current Cycle vs 2018 Trough				
		2022 YTD low*	2018 low		
	BTC price	\$19,014	\$3,185		
	Maximum drawdown	-71.8%	-83.6%		
	Days to 70% drawdown	220	194		
	Number of active BTC addresses	932,604	699,161		
	% change in active address during drawdown	-3.69%	-38.47%		
	Number of BTC addresses with > \$100 worth of BTC	12,821,369	4,100,739		
ç	% change in addresses >\$100 BTC during drawdown	-21.87%	-49.98%		
	Supply last active 1+ years ago	64.97%	50.54%		
	% supply in loss	49.72%	59.96%		

The above table highlights how far the BTC market has evolved since the last bear market. Apart from the fact that the most recent local bottom is orders of magnitude higher than that of 2018, there's the network growth that can be seen in the number of active addresses, and the number of addresses with more than \$100 worth of BTC.

It also shows the relative strength of BTC investors now compared to four years ago. After a 70% drawdown from local highs, less than half of BTC is held at a loss, compared to almost 60% in the last cycle. And the percentage of addresses that are "holding firm" is notably higher this time around.

It is worth noting that BTC's decline has not been the fastest so far—the 2018 drop from the December 2017 local high reached the 70% drawdown level in 194 days, vs the 220 days it took BTC to drop 70% from its November 2021 high. On a more discouraging note, the previous two bear markets lingered long after reaching that magnitude of a descent.

Historic BTC Drawdowns - Day 1 to 365

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Nevertheless, as the previous table shows, this bear market is different, with a much broader range of market participants as well as influences. What's more, the market infrastructure in terms of onramps, liquidity and available products presents a different landscape than four years ago, as does the overall education on the space, leading to a higher level of understanding as to BTC's market behavior and potential use cases.

Ethereum

In July, the price of ETH rallied 60%, its strongest monthly performance since January 2021 and its strongest July ever.

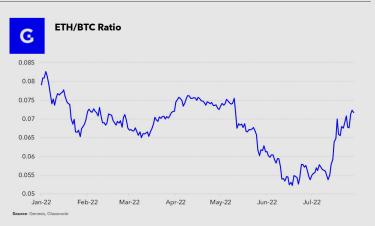
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In part, this rally was driven by improving risk sentiment in the crypto market, as seen in several ETH/BTC ratios, and in greater clarity around the timing of the upcoming transition to proof-ofstake, known as the Merge.

Ethereum Sentiment: Time for a Change?

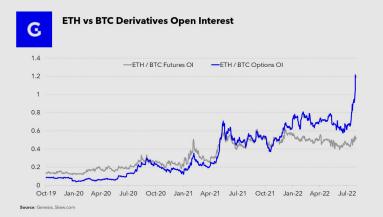
Some clues as to the momentum behind the recent move in ETH can be seen in the ratio of its price relative to that of BTC, which ended the month back up at levels last seen in early May, before the implosion of the Terra network convulsed the market. This rally came after around a month at the lowest levels since April 2021, and suggests that the market is becoming more comfortable with higher risk.



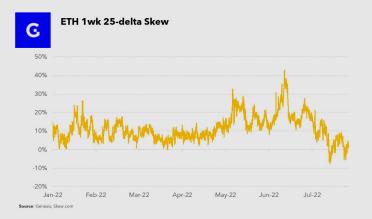
One way to view the risk differential between BTC and ETH is through their relative volatilities. With a few exceptions, ETH's annualized 30d volatility has been higher than that of BTC, implying more risk, and in July the differential reached its highest point since June 2021.



The flurry of interest in ETH can also be seen in the levels of open interest of its derivatives relative to those of BTC, especially when it comes to options. As the chart below shows, the USD amount of open interest in ETH options has shot up relative to that of BTC, a reflection of growing directional positioning as market uncertainty starts to settle and development narratives become clearer.



Looking at the 25D 1-week skew of ETH indicates that the bulk of this surge in open interest is from long positioning rather than downside protection, as the metric dipped below -7% in July, for the first time since the end of 2021.



The Merge: Two Dress Rehearsals Down, One to Go

Much of the sentiment change has to do with growing attention on the upcoming Ethereum Merge, when it transitions from a consensus based on proof-of-work to one based on proof-ofstake. On July 6, Ethereum's testnet Sepolia successfully merged with its Beacon Chain, marking the completion of the second "dress rehearsal" for the network's transition to proof-ofstake (after testnet Ropsten went through the process in early June). This now ushers in preparations for the third and final test which will be the merge of the Goerli testnet, expected in early August. Sepolia's merge was smoother than that of Ropsten in terms of predictability (it is a lighter and more stable network), and Goerli is expected to be smoother still. Unlike Sepolia, Goerli runs on proof-of-authority, which allows for proof-of-stake testing without the need to lock up considerable amounts of tokens – it uses "identity" for staking rather than monetary value. According to developers on the <u>Sepolia merge livestream</u>, its different structure should allow the timing to be even more accurately targeted.

Once Goerli's merge is out of the way, developers will monitor all testnets for signs of any bugs while focusing attention on getting ready for the final sprint. If all goes smoothly, we could see investor interest around the mainnet Merge continue to intensify, especially as greater clarity around the timing emerges. According to notes from a developer call that took place in the middle of the month, lead Ethereum core developer Tim Beiko has mentioned the week of September 19 as a tentative target date, which – although likely to change as September approaches – seems to be boosting conviction that the merge is near.

Scaling: Rollups in play

Successful steps toward the Ethereum transition was not the only significant technological breakthrough to impact the ecosystem during the month of July. Several layer-2 platforms focusing on a relatively new type of consensus announced upcoming launches that indicate much faster progress on a user experience challenge than has been widely expected.

- → <u>Matter Labs</u>, the company behind the zeroknowledge rollup zkSync, announced that it plans to launch zkSync 2.0 on Ethereum's mainnet in Q4. Its testnet has been operative since February.
- → <u>Scroll</u> announced the release of the pre-Alpha version of zkEVM network.

→ <u>Polygon</u> announced that a Polygon zkEVM testnet is expected to go live this summer, with mainnet launch following in early 2023.

Some background: A layer-2 rollup batches user transactions together ("rolling" them up) before proving their validity on the Ethereum protocol, thus reducing the per-transaction cost. There are two main types: optimistic (such as those used by Arbitrum and Optimism) and zero-knowledge (zk) rollups.

Zk rollups are generally acknowledged to have superior data compression and a more resilient verification than other types, but are technically much more challenging. Using them has so far been relatively slow and costly, requiring different coding languages and relying on complex scripts for compatibility. Thus, this method has so far been limited to simple use cases such as token transfers, with more complex transactions expected by many to be months if not years away.

A key area of research has been to make zk proofs compatible with the Ethereum Virtual Machine (EVM) that processes all smart contract code. This would notably broaden the potential developer base (as familiarity with additional languages would no longer be a prerequisite), and would most likely trigger a wave of app migration to zk rollup layer-2s, improving the user experience by making transactions faster and cheaper. It could also escalate smart contract innovation by improving on optimistic rollups' data retrievability and settlement finality.

The July zk rollup announcements are significant steps forward, and the fact that they have emerged just as progress toward Ethereum's transition to proof-of-stake seems to be gathering steam is a strong reminder of the solid building going on in spite of the market's recent dramatic moves. What's more, they represent much more than incremental improvement. Zk rollup EVM compatibility (zkEVM) has long been regarded as a key pillar in Ethereum scalability, in that it lays the foundations for new ways of processing transactions, that themselves could give rise to new types of transactions and new ways to generate value.

For now, the assets that stand to benefit from zkEVM development are Polygon's MATIC and, of course, ETH. We have already looked at ETH's strong 60% July performance; MATIC returned over 97% during the month.

However, it is still early. In the end, developers are likely to choose to focus on the networks with the greatest programming efficiency and community access, and users will gravitate to the networks with the most appealing apps. Not all zk rollup layers will "win", and it is as yet unclear whether Ethereum's eventual scaling solution will act as competition. Nevertheless, it is encouraging to witness the definitive progress from untested theories to working prototypes, and to know that, even in difficult markets, new technological frontiers are being crossed.

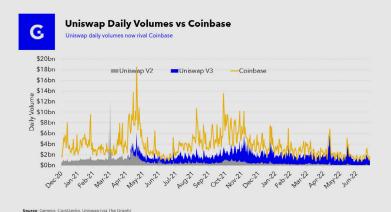
Uniswap: Explore-Exploit

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Uniswap's UNI token was one of the top performers among both DeFi tokens in July, with a price increase of over 70%, driven in part by growing interest in a potential "fee switch".



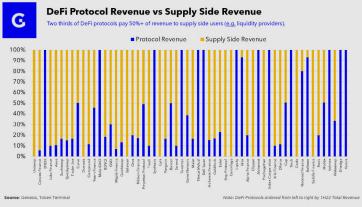
Uniswap is the crypto ecosystem's largest decentralized exchange (DEX) by market cap, according to data from <u>Messari</u>. Now approaching four years old and in its third code iteration, the DEX has seen its daily in-app trading volume grow to \$2 billion, approximately in line with Coinbase despite the listed centralized exchange having an six-year head start.



Uniswap's liquidity pools currently charge 0.05%, 0.3%, or 1% in trading fees (depending on the pool), with all revenue accruing to the liquidity providers in line with their contribution. Despite generating over \$500 million in <u>revenue</u> over the first half of 2022, the protocol does not currently accrue any earnings from trading activity.

Embedded in the code of Uniswap V2 (which went live in May 2020) and also in that of Uniswap V3 (which went live a year later) is a "fee switch" which would route a predefined share of fees to the protocol treasury, at the expense of liquidity providers. This type of revenue generation for token holders is not an uncommon practice – for instance, SushiSwap's pools earn 0.05% fees on all trades for tokenholders who stake their tokens as xSushi.

The degree of profit sharing between DeFi protocols and supply-side users (such as liquidity providers for DEXs and depositors in lending protocols) varies between projects. Based on a sample of 60 protocols with nonzero revenues, 17% accrue no protocol revenue and 21% pay nothing to supply-side users. On the other side of the spectrum, two thirds pay over half of their revenue to supply-side users.



While Uniswap V2's fee switch is a blunt on/off button across all liquidity pools, the Uniswap V3 fee switch can be set on a per pool basis. Some <u>have suggested</u> that the new fee system be tested on a subset of pools, to gauge the reaction of liquidity providers. The level of fees is also up for discussion, with a 10% fee share being the smallest portion that the code allows for. Uniswap is currently gauging community sentiment with a "temperature check" vote in which holders of the UNI token can indicate their preference. This reflected <u>approximately 100%</u> support, although the implementation details have yet to be discussed.

There are some tradeoffs to activating the fee switch for Uniswap:

1) It might open the protocol up to a fork (a carbon copy of the code but without the fees) that could drain the more mercenary liquidity providers.

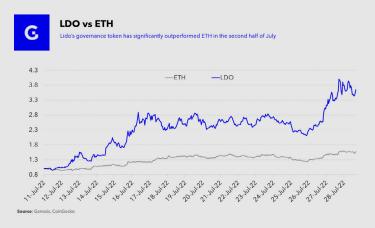
2) It could also lead to more regulatory scrutiny, as earnings accruing to tokenholders might make the SEC more likely to deem UNI a security.

3) However, fees could open up a new investor base, as cash flow generation would facilitate the use of traditional valuation techniques to build an investment case.

A common dilemma in life is the explore-exploit tradeoff - the extent to which one maximizes short-term reward vs making short-term sacrifices in order to increase long-term rewards. Uniswap's fundamental growth to date has been one of the success stories of DeFi, in part because of the liquidity provider incentives. But in the long run, a potential new set of rewards for UNI holders could boost the overall value of the network. The optimal timing of this move from explore to exploit depends on many factors - those looking to maximize tokenholder value must weigh up the earnings potential with the opportunity cost of switching it on earlier (in the form of future liquidity, and thus potentially future volume, that moves elsewhere due to the lower revenue). This could prove a watershed moment, given Uniswap's central role in DeFi.

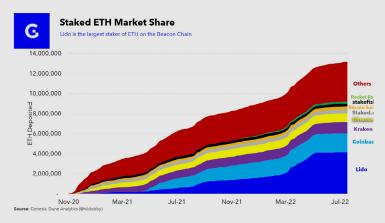
Ethereum Staking: The House of Lido

A hint that the Ethereum Merge was not yet fully priced in has been the recent performance of Lido's governance token LDO, up over 3x into the end of July.



The core team at Lido have stated that their motivation for starting the project was to prevent centralized exchanges from winning the staking market and launched its liquid staking derivative, stETH, to help democratize ETH staking. Running an Ethereum validator is not a simple activity-as well as the requisite technical expertise and hardware, it also requires locking up 32 ETH on the Beacon Chain, with an uncertain unlock date. Several exchanges that offered centralized staking solutions, some with linked tokens to enhance liquidity, were initially the dominant players after the Beacon Chain was established. Lido offered a decentralized alternative by enabling anyone to use a smart contract to effectively lock up any amount of ETH on the Beacon Chain and receive stETH in exchange, which could then be transferred out of the app for use in a wide range of DeFi applications.

One concern amongst the Ethereum community was that the majority of staked ETH would be controlled by exchanges, exposing a point of failure for the network. However, as Lido grew into a major player in ETH staking, concern has begun to shift to the centralization risk posed by Lido itself—now the largest single depositor of ETH on the Beacon Chain, the protocol has almost become a victim of its own success.



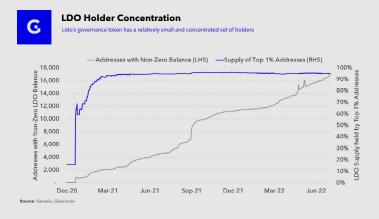
Liquid staking displays many characteristics of a natural monopoly. Ethereum only allows activation of new validators at a rate of four per epoch (every 6 minutes). And new stakers are strongly incentivized to deposit with the largest player given the network effects and economies of scale that come with a higher total value locked (TVL), including:

- \rightarrow a more diversified set of validators,
- → better security,
- → higher liquidity,
- → more interoperability across DeFi.

It is possible that Lido will become even more entrenched after Ethereum's Merge, as the expected increase in validators' rewards will lead to faster compounding of its leadership position.

Lido's dominance is a risk for Ethereum which, in equilibrium, should reduce the value of the network. This creates a potential dilemma for stETH holders, who are inherently long ETH but could see a greater risk to the Ethereum ecosystem and therefore ETH's value if Lido pursues its own interest of gaining even more market share. This problem is growing as Lido has been developing its presence across multiple chains (including Solana, Moonriver, and the blockchain formerly known as Terra), reducing its dependence on the long term success of Ethereum. Holders of Lido's token LDO revealed their preference to not hinder the protocol's growth in a recent <u>vote</u> which proposed measures to limit its dominance of the staking market. 99% of the participation (representing 80 million LDO, roughly 25% of circulating supply) voted no.

Concerns over incentive alignment of LDO holders with the broader Ethereum community is heightened by the fact that Lido's governance token is owned by a relatively small number of holders—the total number of addresses holding LDO is only 16.8k, a small holder base when compared to other blue chip protocols such as Uniswap (315k+), Aave (118k+), and MakerDAO (86k+). That the top 100 LDO tokenholders control 93% of supply is cause for concern, given the potential systemic importance of Lido to the broader ecosystem.



There are other proposals to reduce the decisionmaking capabilities of LDO on-chain governance as well as announced upgrades by competitors such as Rocket Pool (including staking-as-aservice for institutional custodians) in a bid to win market share. However, without a dramatic change in direction and the Merge approaching, it is looking increasingly possible that the battle for the soul of Ethereum could be waged in LDO governance forums in the near future.

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