Staked | Kraken

The State of Staking

Q1 | 2023

$190 BN (-20% Q/Q)

Market Cap of Top 35 PoS Assets

$42 BN (-33% Q/Q)

Value of Staked Assets

$3 BN (-41% Q/Q)

Annualized Staking Rewards

23% (-5% Q/Q)

PoS Share of Total Crypto Market Cap

11.6% (-11% Q/Q)

Average Yield

FTX Implosion Decimates Crypto Markets

The FTX bankruptcy, announced in early November 2022, ravaged the crypto markets. Q3's ETH-merge-driven rebound proved short-lived, as crypto prices fell all the way back to Q4 2020 levels, erasing the past two years of gains. The top 35 PoS assets suffered more downside volatility than Bitcoin and the total crypto market at large. Stablecoins experienced their first quarterly net outflow in the past year, decreasing in value by $11B in Q4.

$BN	Q4 MARKET CAP	Q/Q%	Y/Y%
Top 35 PoS Assets	$ 190	-20%	-74%
Total Crypto Market	$ 829	-15%	-65%
Bitcoin	$ 320	-15%	-64%
Top 4 Stablecoins	$ 133	-8%	---

***Source:** Market capitalizations per CoinGecko on the last day of the quarter (e.g. 09/30/22 or 12/31/22).*

The average staking yield decreased from 13% in Q3 to 11.4% in Q4. This was due to several factors. As a result of lower transaction activity and fewer MEV opportunities, the Ethereum yield decreased from 7.1% in Q3 to 5.2% in Q4. More importantly, for the first time in the past two years, no staking yield exceeded 50%, with Juno offering the highest yield at 36%. This was a function of lower inflation rates, rather than higher stake rates.

Polkadot and Solana were the notable large cap exceptions. Polkadot's stake rate dropped from 51.9% to 44.4%, leading to an increase of the staking yield from 14.8% to 15.6%. Solana's stake rate decreased from 76.9% to 71.4%, resulting in an increase of the staking yield from 5.9% to 6.9%. The average stake rate across the top 35 PoS assets remained largely unchanged at 49.9%.

The carnage in asset prices crushed the value of staked assets and annualized staking rewards. Due to both lower prices and lower yields (as detailed above), both measures experienced excess downside volatility. Quarter over quarter, the value of staked assets was down 33% and staking rewards were off 42%.

$BN	Q4 2022	Q3 2022	Q2 2022	Q1 2022	Q4 2021
Average Staking Yield	11.6%	13.0%	14.6%	15.4%	13.9%
Average Stake Rate	49.9%	50.4%	48.6%	49.3%	43.2%
Staked Assets	$ 42.0	$ 62.9	$ 49.4	$ 170.3	$ 181.1
Annualized Staking Rewards	$ 3.0	$ 5.0	$ 3.9	$ 14.9	$ 14.7

Source: *Staking yield and stake rate data per on-chain block explorers. Market capitalizations per CoinGecko. The staked assets value is calculated by multiplying the market capitalization and stake rate for each protocol on the last day of the quarter (e.g. 09/30/21 or 12/31/21). Annualized staking rewards is calculated by multiplying the market cap, stake rate and staking yield for each protocol on the last day of the quarter.*

Q4 PoS market share of the total crypto market was 23%, largely unchanged from 24% in Q3, but down 26% from the peak of 31% a year ago. Excluding Bitcoin, PoS market share declined to an all-time low of 37%. There was a clear flight to quality amongst PoS assets, as ETH's PoS dominance reached an all-time high of 76%, up significantly from 68% in Q3.

	Q4 2022	Q3 2022	Q2 2022	Q1 2022	Q4 2021
PoS Market Share	23%	24%	22%	30%	31%
ETH PoS Dominance	76%	68%	65%	61%	61%

Source: *Market capitalizations per CoinGecko on the last day of the quarter (e.g. 09/30/22 or 12/31/22).*

The FTX implosion had the most negative effect on Solana, as Alameda desperately liquidated SOL to raise cash. At its nadir, the Solana market cap dropped 70%, or $8.5B, to $3.6B. SOL fell out of the top 10 cryptoassets, dropping all the way to #22. Polygon cracked the top 10 for the first time, replacing SOL at #10. Aptos was a new entrant into both the PoS top 35 and top 100 overall cryptoassets, ending the year with a circulating market cap of $440M. Ethereum gained modest ground on Bitcoin, increasing from 43% to 45% of Bitcoin's value.

Assets Flow Into Self-Custody, Re-Emphasizing Importance of Non-Custodial Staking

> As we have highlighted in previous issues of State of Staking, not all yield is created equal. Q4 saw numerous high profile centralized entities face troubles that forced investors to re-evaluate their custody and yield generating strategy.

In the case of CeFi lending activities (e.g. Celsius and Genesis), investors trusted opaque sources of advertised yield and often inter-related, daisy chained counter-parties. While CeFi lending headline yields may at times be higher than staking yields, the risks are far greater, making the risk-adjusted yields materially lower. In contrast to CeFi lending activities, staking offers:

- **Sustainable yield economics:** Inflation built into the protocol, transparently enshrined in code.
- **No counterparty risk:** Non-custodial staking allows investors to earn yield while retaining complete control of their assets.
- **Limited downside risk:** Slashing penalties are typically small (i.e. 1% - 5%) and can be minimized by working with a reputable provider.

One notable trend in Q4 was the increasing number of investors who prioritized self-custody. Q4 saw record fund outflows from exchanges into self-custody. In the week following the collapse of FTX, investors pulled more than $2B worth of ETH from exchanges, representing the largest weekly net outflows in history. As more users self-custody their assets, non-custodial staking becomes an appealing option for yield seekers.

Alternatively, investors who passed on the heavier technical lift associated with self-custodying assets are managing on-exchange activities in a more intentional way – staking or trading as opposed to passively leaving assets under the control of a centralized exchange while earning nothing.

On inspection, whether pursuing a more involved self-custody solution or leaving assets on-exchange, staking has a clear place in a prudent yield strategy. The best course of action will depend on one's goals, risk tolerance and technical know-how.

What to Expect with ETH's Shanghai Unlock

The Shanghai unlock is scheduled for March 2023, when withdrawals will be enabled. This section highlights the changes this will create to help holders of ETH determine whether they want to stake, and when.

- **$50B+ in potential inbound staking demand:** Staking activity is likely to increase dramatically post-Shanghai. Many potential stakers have remained on the sidelines due to the uncertainty around withdrawals.

  Other PoS chains see 50%-75% of their total supply staked. ETH is currently at 11.5%. This implies an incremental $57-$95 billion of ETH (38% - 63% of the supply) in potential staking demand.

- **Demand will probably exceed supply:** This range of demand would quickly overwhelm the the amount of stake that can be activated. Only 900 new validators (28.8k ETH) can be created every day, so $95 billion in new demand would take 2,753 days (over seven years!) to fulfill.

  Such unmet demand would enter the "activation queue," the waiting list of ETH committed to stake but not yet participating in consensus. ETH in the activation queue does not earn rewards, so in the above scenario, earlier stakers will earn a higher total yield.

- **What will happen to yields?** If there's a huge influx of new demand, this will drive down yields, making it less attractive to stake. It will be interesting to see the stake rate and staking yield ETH reaches 12 months post withdrawals.

- **Does liquid staking provide a solution?** Currently 33% of staked ETH is staked with Lido, Rocket Pool and other liquid staking solutions. Liquid ETH currently trades at a discount to ETH but it may see demand rise if there is a lengthy activation queue. Kraken and Staked are participants in the Liquid Collective, a liquid staking solution for institutional investors set to launch in February 2023.

The Rise of Liquid Staking Derivatives

> Liquid staking derivatives (LSDs) offer a way for investors to access the returns of staked cryptocurrencies while remaining liquid, and have the benefit of being able to be used as collateral in DeFi. LSDs allow users to deposit ETH into a custom staking contract and generate a tokenized derivative in return. This tokenized derivative can be used in a similar manner to ETH, but also allows staking yield accrual.

As liquid staking becomes more popular for generating yield, it is likely to surpass traditional staking methods. Currently, liquid staking accounts for 44% of all ETH staked, but this could grow to 60% post-Shanghai. As such, more than six ETH-based LSDs have come to market, and more are expected to emerge. Previously, the main advantage of using LSDs was the ability to trade in and out of positions while withdrawals were not possible for those using traditional staking methods. Post-Shanghai, those positions will be available for withdrawal, so the primary benefit of LSDs will be capital efficiency.

Simply lending ETH on Aave yields 1.8% today. More complex transactions, such as providing liquidity as an LP in an automated market maker such as Uniswap, can currently yield as much as 3.6%. Assuming staking rewards average 7%, a performance improvement of 25% - 50% is very enticing for investors that are looking to put their ETH to use.

To date, institutional adoption of LSDs has been constrained by regulatory concerns. Decentralized solutions such as Lido do not adhere to the strict legal standards of AML, as the identities of participants are unknown. To address these issues, institutional-grade LSDs that implement KYC and AML processes, as well as professional-grade risk management and validators, will play a key role. Liquid Collective, of which Staked is a member, is one example of such a solution. With withdrawals soon to be available, institutional participation in LSDs is likely to increase significantly.

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Top 35 Staking Chains by Market Cap

PROJECT	TICKER	MARKET CAP	YIELD	STAKE RATE
Ethereum	ETH	144,611,517,916	5.2%	13.1%
Cardano	ADA	8,607,991,178	3.8%	55.0%
Polygon	MATIC	6,824,071,645	5.0%	34.9%
Polkadot	DOT	5,133,550,359	15.6%	44.4%
TRON	TRON	5,007,557,568	4.1%	45.6%
Solana	SOL	3,630,516,626	6.9%	71.4%
Avalanche	AVAX	3,389,683,622	8.6%	62.4%
Cosmos	ATOM	2,740,643,784	20.5%	62.6%
Algorand	ALGO	1,204,006,821	8.0%	24.8%
NEAR	NEAR	1,076,579,756	10.1%	48.5%
Elrond	EGLD	792,134,143	8.7%	60.1%
Flow	FLOW	680,044,283	9.9%	50.1%
Tezos	XTZ	663,920,364	5.8%	76.9%
Fantom	FTM	505,291,322	6.2%	50.0%
Dash	DASH	463,676,418	5.8%	41.9%
Aptos	APT	440,973,710	6.9%	82.5%
The Graph	GRT	409,491,030	9.6%	30.9%
Thorchain	RUNE	384,844,659	8.5%	54.0%
Osmosis	ROSE	351,788,078	24.0%	41.3%
Radix	XRD	349,315,171	9.4%	26.2%
Mina	MINA	347,093,989	22.0%	88.9%
Stacks	STX	292,208,069	8.1%	28.9%
Decred	DCR	269,934,881	7.4%	65.6%
Celo	CELO	233,098,899	6.0%	61.1%
Kusama	KSM	219,595,774	12.7%	49.9%

Appendix 2/2

Top 35 Staking Chains by Market Cap

PROJECT	TICKER	MARKET CAP	YIELD	STAKE RATE
Kava	KAVA	217,335,187	20.9%	26.9%
Helium	HNT	214,843,114	8.3%	38.6%
Oasis	ROSE	170,734,213	8.2%	55.5%
ICON	ICON	130,774,676	11.6%	40.0%
Harmony	ONE	120,177,688	8.4%	49.1%
Livepeer	LPT	119,562,847	15.2%	50.0%
Audius	AUDIO	117,055,708	22.8%	24.7%
Secret	SCRT	115,158,413	24.6%	59.7%
Skale	SKL	80,502,444	10.3%	64.2%
Juno	JUNO	76,238,482	35.7%	66.2%
Total		189,991,912,837		
Average		5,428,340,367	11.6%	49.9%
Median		384,844,659	8.6%	50.0%

About Staked

Staked is the leading non-custodial staking service provider. Staked offers staking services for 45+ proof-of-stake blockchains with billions of delegated assets. The leading investors, exchanges and wallets trust Staked to reliably and securely deliver the optimal staking rewards. Kraken acquired Staked in December 2021.

For more information about Staked, please visit: http://staked.us

To schedule time with a Staked representative, please contact sales@staked.us

**Staking on certain blockchains entails slashing risk, which can result in loss of staked tokens. Investing in crypto assets is high risk and not suitable for every consumer. The value of crypto assets may go down or up. As many crypto products and markets are unregulated, you may not be protected by government compensation and/or regulatory protection schemes. You should be prepared to lose all your money if things go wrong.*