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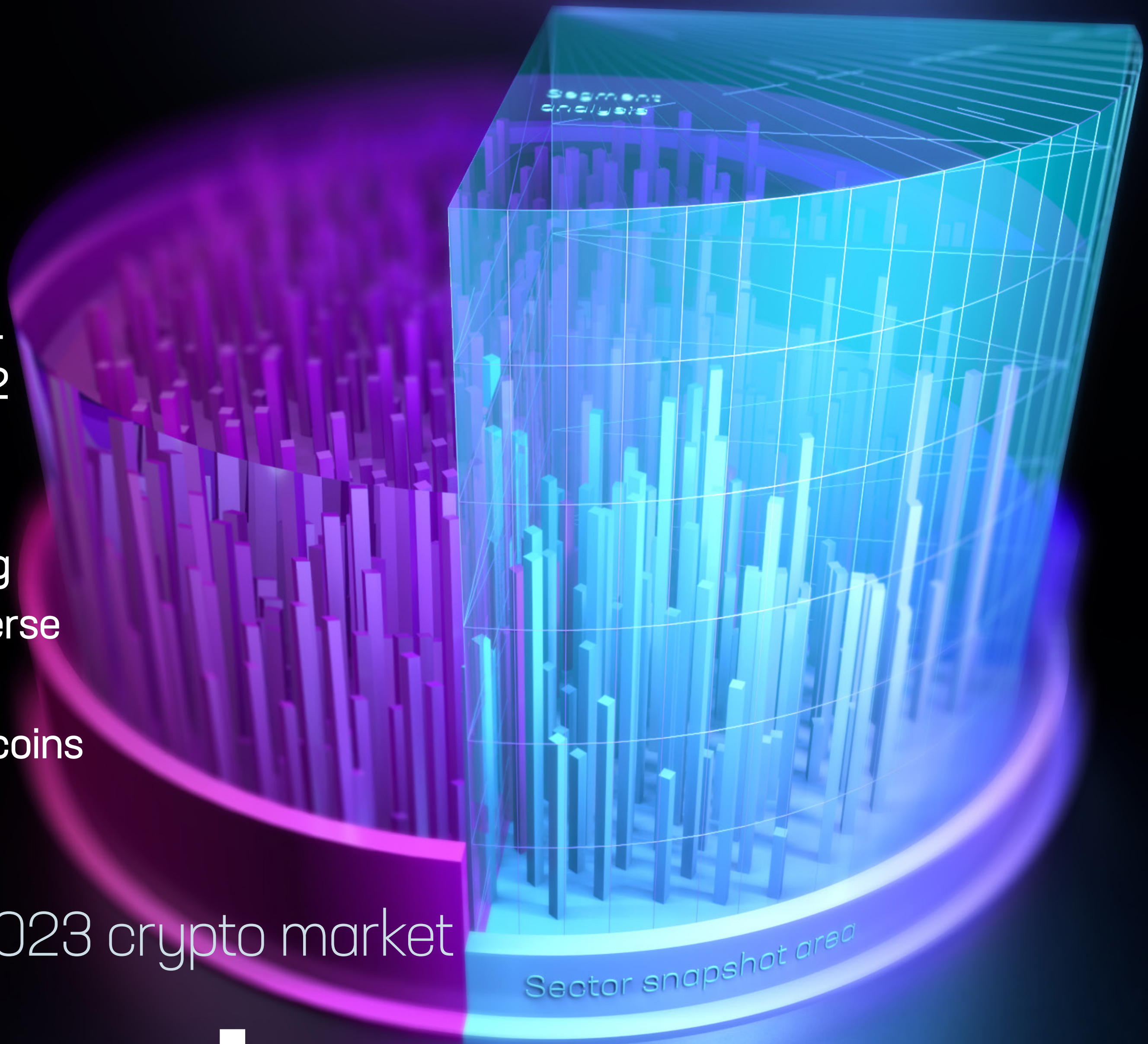


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Q2 2023 crypto market

# Sector snapshot

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# Crypto sector snapshot

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# 1. Crypto market sector highlights

## User growth

- Average daily Bitcoin transactions doubled in Q2, as developer activity accelerated on Bitcoin.
- Average daily users of the decentralised exchange, Uniswap, increased by 50 percent in Q2.
- Total value locked (TVL) in real world asset (RWA) DeFi protocols more than doubled in Q2, although the overall DeFi TVL declined.

## Performance

- The Layer 1 sector was the best performer in Q2, primarily driven by the outperformance of Bitcoin.
- The Layer 2 sector corrected sharply after its strong Q1 performance, partially due to the SEC naming the leading Layer 2 token, Polygon, a security and a large supply unlock at Optimism.
- The gaming and metaverse sectors underperformed the rest of the market, as user activity remained low.

## Token winners

- Bitcoin Cash increased by +146 percent based on its inclusion among the four listed tokens at the new institutional crypto exchange, EDX, as well as its not having been named a security by the SEC.
- Injective Protocol, a sector-specific chain and orderbook-based DEX, rallied +70 percent following a substantial scalability upgrade.
- Layer 1 protocol RADIX rallied +56 percent in Q2 due to a successful fundraising round and the imminent launch of its DeFi-specific smart contract platform, which aims to protect against hacks using an "asset-oriented smart contract language".

# 2. Crypto market sector news

## Layer 1

- Bitcoin has been outperforming the market due to increased network activity and safe-haven investment flows, which primarily target Bitcoin. The announcement of BlackRock's Bitcoin spot ETF at the end of the quarter exacerbated this outperformance.
- Bitcoin miners earned record transaction fees in Q2, surpassing the total from the previous five quarters combined as Bitcoin's network activity doubled, reaching a record-high daily transaction count. The issuance of tokens on the Bitcoin blockchain using the new BRC-20 token standard experienced exponential growth, with over 37,000 tokens worth USD 1.25 billion in market capitalisation by the end of Q2. Bitcoin's hashrate also reached new all-time highs.
- Ethereum successfully implemented the upgrade to enable Ether (ETH) withdrawals. Despite expectations that withdrawals would lead to selling pressure, new staking deposits have exceeded withdrawals by a large margin. A 1.5-month entry queue has formed due to the daily limit on new validators to ensure network stability. Despite the daily withdrawal limit, there is no exit queue, and the amount of Ether staked has increased by 20 percent since the upgrade went live in April. Ethereum also introduced a new token standard for NFTs (ERC-6551), binding each NFT to a smart contract account. This allows NFTs to develop their identities and hold other assets, making limited and open-edition NFTs truly non-fungible.
- Shared security saw two important launches in the quarter. Cosmos introduced its Replicated Security feature, allowing other protocols to leverage Cosmos's security while rewarding Cosmos tokenholders. Meanwhile, EigenLayer launched on the Ethereum mainnet. The project enables Ethereum validators to secure other protocols.
- Tezos deployed an important upgrade, substantially improving the protocol's scalability. This enables the network to process transactions eight times faster than previously.
- After some of the developers from Facebook's cancelled Diem project launched the Aptos blockchain late last year, a second Diem developer spinoff blockchain, Sui, launched in Q2. Both projects have significant VC backing, and they both target scalability while offering innovations in consensus, smart contract design, system security and performance.
- Application-specific and sector-specific chains have been gaining popularity, in particular to address the scalability limitations of established protocols. Decentralised fan engagement project Chiliz launched its own blockchain in Q2, while decentralised exchanges dYdX and SushiSwap abandoned Ethereum to run on own application or sector-specific chains in the Cosmos ecosystem instead. Ethereum's co-founder Fabian Vogelsteller's sector-specific blockchain LUKSO launched its mainnet in Q2.
- Bitcoin copies and forks Bitcoin Cash and Litecoin recently benefitted from not being on the list of tokens named securities by the SEC, as well as from being listed on the EDX exchange which was recently launched with the backing of major traditional institutions. Bitcoin Cash rose particularly strongly, up by 146 percent in the quarter.
- Solana's crypto-friendly smartphone, Saga, went on sale in Q2. The smartphone was created to aid adoption and includes features to send, receive, trade and store crypto on the device. It also has a secure vault that stores the user's private keys and a custom dApp store that lists crypto applications.

## Layer 2

- Scalability protocols continued to capture market share in Q2. After a sharp increase in the total value locked (TVL) in Layer 2 protocols in Q1, the growth continued in Q2, with a 2.5-times increase year-to-date.
- Within the Layer 2 sector, recently launched zero-knowledge (ZK) solutions, such as zkSync Era, rapidly gained market share at the expense of the more popular optimistic scalability solutions. The combined market share of the two dominant Layer 2 projects, Arbitrum and Optimism – which both use optimistic roll-up technology – declined by over 5 percent over the quarter.
- Although Layer 2 sector activity has primarily focused on improving the scalability of Ethereum, Layer 2 solutions are also being launched on other major protocols, such as Cardano and Binance's BNB Chain.
- Bitcoin's scalability solution, the Lightning Network, also achieved record-high usage.
- Coinbase's Layer 2 solution, Base – built in collaboration with Optimism – successfully completed a rigorous six-month security audit as it prepares for its mainnet launch later this year.

## DeFi

- Total value locked in DeFi protocols declined slightly over the quarter as the crypto market lacked momentum, and traded volumes and demand for leverage remained low. However, the number of average monthly DeFi users increased by over 30 percent in Q2 compared to Q1.

- The TVL in decentralised liquid staking protocols continues to grow rapidly. By the end of Q2, TVL exceeded USD 20 billion, surpassing both decentralised lending protocols and DEXs by a substantial margin.
- Building on the success of liquid staking, DeFi protocols such as MakerDAO have started lending against staked tokens. Staked Ether now amounts to almost a quarter of the collateral backing MakerDAO's stablecoin, Dai. Several new protocols, such as Lybra, which lend against staked assets, launched in Q2, and their aggregate TVL exceeded USD 650 million by the end of the quarter.
- The TVL in DeFi protocols tokenising and trading real-world assets (such as tokenised US treasuries) or lending to real-world borrowers, more than doubled during the quarter against the backdrop of a declining total DeFi TVL. Uncollateralised lender, Maple Finance, saw their token rise by almost +60 percent during the quarter, while the DeFi sector dropped -21 percent.
- Regulatory actions against major centralised crypto exchanges led to a rise in the market shares of decentralised exchanges. The DEX to CEX trading volume ratio, which was below 10 percent a year ago, reached an all-time high of 22 percent in Q2, with the leading DEX protocol, Uniswap, being a primary beneficiary.

## Web3

- Although the performance of the Web3 sector is mostly flat year-to-date and down in Q2, the fundamentals of numerous protocols continue to improve. As various use cases develop, several Web3 projects are achieving all-time highs in users and transactions.
- Decentralised data provider Chainlink has been developing multiple foundational layer and infrastructure functionalities for the Web3 sector. Upon launching its crosschain interoperability protocol (CCIP), Chainlink has partnered with SWIFT to trial how traditional financial institutions can integrate with blockchains and execute token transfers. Meanwhile, the beta version of Chainlink Functions went live, aiming to connect smart contracts to existing Web2 APIs and allow access to social media signals, AI computation and messaging services. Chainlink also implemented its market-leading randomness function on Arbitrum, thus reducing the cost and increasing speed for projects in sectors such as gaming to access the service. However, Chainlink's Proof of Reserve service, utilised by stablecoin providers such as Paxos and TrueUSD, has drawn some criticism for partially relying on self-attestation.
- Cosmos is endeavouring to expand its interchain communication protocol (IBC) to accommodate non-Cosmos ecosystem chains, such as Ethereum, and is looking to make the Cosmos token the default currency for all IBC transactions. Concurrently, the Cosmos ecosystem continues its steady growth, with dApps launching Cosmos-based application-specific chains to achieve greater sovereignty and interoperability and to benefit from the newly launched Replicated Security feature.
- Filecoin's storage market continued to grow in Q2, with active deals increasing by +64 percent and revenue from fees denominated in the Filecoin token growing by +91 percent.
- The Graph, a decentralised data query protocol, has also seen strong user growth. It is in the final phase of migrating its settlement layer to Arbitrum, enabling dApps to publish, curate and upgrade open APIs at a significantly lower cost and retrieve data faster.
- Akash, a decentralised cloud network, successfully launched its GPU, Testnet, which now hosts various AI-based applications that leverage a decentralised GPU market. The token rallied by 65 percent in Q2, compared to a -23 percent decline for the Web3 sector.
- Render, a decentralised GPU-based animation and motion graphics service provider, was another notable outperformer in Q2 with a 62 percent rise, driven by expectations of increased applications of the protocol with the release of Apple's AR/VR mixed reality headsets.
- Decentralised Social protocol announced a USD 1 million bounty for building a "decentralised Reddit".

## Gaming

- Axie Infinity launched its Origins card game, which is accessible to Apple users in Latin America and Asia, while Immutable Games also released a new trading card game.
- Ubisoft unveiled its first blockchain-based game, Champions Tactics, which features a player-vs-player (PvP) tactical role-playing game (RPG) experience.
- Marbloex, a blockchain subsidiary of Netmarble Corp., partnered with the NEAR protocol to integrate crypto services such as a crypto wallet, DEX, token staking and an NFT marketplace into its games.
- A new play-to-earn (P2E) RPG game, Swords of Blood, is set to launch on the Polygon blockchain, aiming to replicate successful traditional gaming playstyles to improve immersive experiences.
- Avalanche launched its Arcad3 programme to assist traditional companies enter the blockchain gaming sector and to support the development of fully on-chain games.
- Alien Worlds has remained the most popular blockchain-based game in terms of daily active users.

# Metaverse

- Decentraland hosted Metaverse Beauty Week, featuring major beauty and consumer brands such as Neutrogena, Lush, Flannels and Clementine.
- The luxury brand Rimova launched its first digital exhibition in the Metaverse, while Nestle Breakfast Cereal introduced its MetaClub in Decentraland.
- Binance's NFT marketplace launched its Sandbox NFT staking programme to incentivise user participation and partnered with the artist, The Weeknd, for an interactive Metaverse tour experience.

# CeFi

- Despite regulatory pressure in the US, the centralised finance sector (dominated by the Binance token) outperformed other sectors, except for Layer 1, in Q2.
- The SEC's lawsuit against Binance led to a sharp decline in its market share, from a high of 57 percent to 42 percent. However, Binance's launchpad remains highly successful, having attracted USD 3.2 billion worth of BNB tokens staked to participate in Sui's recent token launch.
- With the announcement of preliminary talks to relaunch the FTX exchange, the FTX token rallied strongly – albeit from a very low base.

# Stablecoins

- Stablecoin traded volumes declined sharply in Q2, partly in line with diminishing crypto market liquidity and partly due to ongoing concerns and attacks surrounding stablecoins.
- Stablecoin market capitalisation, however, dipped only slightly in Q2.
- Market shares in the stablecoin sector shifted significantly following the US banking crisis and regulatory actions against certain stablecoins.
- Despite the overall decrease in the sector's capitalisation, the leading stablecoin, Tether, has grown, its market capitalisation reaching an all-time high and claiming two-thirds of the market.
- Tether's growth occurred at the expense of USD Coin, which previously rivalled Tether for the top spot but has lost 40 percent of its capitalisation this year, and Binance USD, which has been targeted by US regulators. The latter has lost three-quarters of its market capitalisation year-to-date.
- Tether briefly depegged recently due to a "trading imbalance" in the largest stablecoin trading pool.
- Another beneficiary of the issues plaguing major stablecoins has been TrueUSD, backed by Binance after regulators sanctioned Binance USD. However, recent rumours about the integrity of its reserves also led to a brief loss of its dollar peg.
- Several leading DeFi projects are launching overcollateralised stablecoins. Decentralised lender, Aave, announced the imminent launch of its overcollateralised GHO stablecoin on the Ethereum mainnet, and decentralised exchange, Curve, launched crvUSD.
- Traditional financial institutions have also been launching stablecoins. Société Générale created a euro stablecoin on Ethereum, while Japan's largest bank, Mitsubishi UFG, announced plans for its own bank-backed stablecoins on multiple public blockchains.
- MakerDAO's Dai stablecoin significantly reduced its USD Coin backing since the onset of the US banking crisis in March. Other stablecoins backing Dai accounted for almost 75 percent of Dai's collateral at the time, and this has since been reduced to 25 percent. Real-world assets (RWA) are now Dai's largest source of collateral, the majority of which are short-term US treasury bonds. Dai's RWA collateral has grown exponentially since the end of last year, with growth accelerating further in Q2.
- Cardano's recently launched Djed stablecoin has been trading at a premium of up to +13.6 percent as the arbitrage mechanisms broke down.

# 2. Sector trends and drivers

## Layer 1

- Bitcoin typically leads the recovery after bear markets, with its dominance rising in the early stages of bull markets. This trend is currently exacerbated by project specific drivers for Bitcoin, including the revival of developer activity, concerns about global macro stability, and BlackRock's Bitcoin ETF filing.
- The underperformance of the rest of the Layer 1 sector versus Bitcoin has been worsened by the SEC naming a long list of tokens as securities in various court filings. However, the recent ruling in XRP's favour in a similar case could provide the catalyst to reverse some of this underperformance.
- Ether remains deflationary, and its supply/demand balance is further improved by robust-staking demand. As Ethereum implements its Surge scalability upgrade, this may provide a catalyst for this increasingly undervalued asset.
- The EigenLayer and Replicated Security solutions can be transformative for the Layer 1 sector, as protocols may converge on a small number of blockchains to provide the security layer.
- Meanwhile sector-specific and application-specific chains are gaining popularity to address scalability bottlenecks and tailored needs, and provide applications with greater sovereignty and flexibility.

## Layer 2

- Although Layer 2 solutions continue to flourish and capture greater market share, the performance of the sector has not reflected these growth trends. This discrepancy is partly due to regulatory concerns with the SEC naming certain key Layer 2 tokens as securities and partially due to an exaggerated correction after the strong Q1 performance of the sector.
- Zero-knowledge is still significantly behind optimistic Layer 2 solutions but is rapidly gaining market share.
- Development efforts are focused on combining the strengths of optimistic and zero-knowledge solutions.

## DeFi

- The DeFi sector is geared to benefit from a crypto bull market as trading volumes rise and demand for leverage increases.
- Another trend driving growth in the sector is the increase in issuance and trading of tokenised real world assets, as higher fiat yields attract crypto-native investors.
- Decentralised staking continues to benefit from a long Ethereum staking queue and persistent regulatory pressure on centralised staking offerings.
- Development is ongoing to create DeFi protocols that do not need to rely on external price feeds.

## Web3

- Continual innovation in the Web3 foundational layer and infrastructure space by projects, such as Chainlink or Cosmos, has the potential to enable Web3 use cases to achieve critical mass.
- As bridge hacks remain an issue, innovation is centred on solutions to prevent crosschain bridges from getting hacked.
- Many Web3 protocols continue to exhibit high user growth, and projects with a link to AI or virtual reality remain in the spotlight.

## Gaming

- On-chain gaming activity remains subdued, although it still accounts for over a third of all on-chain transactions.
- Gaming developers continue to explore new in-game mechanics to elevate user experience and gameplay, and improve the quality of the graphics.
- In-game item trading by traditional games could potentially drive sector growth as developers explore integrating traditional gaming protocols with NFTs.

## Metaverse

- Although user activity remains low, venture capital continues to flow into metaverse-related initiatives.
- Major fashion brands and corporations continue to enter the metaverse, establishing exclusive clubs and digital fashion exhibitions.
- Ongoing collaborations with AI and gaming developers target experimentation with new use cases and developing higher-quality experiences.
- Some metaverse-based games seek to counteract the high costs of building worlds by incentivising users and developers to contribute to world-building.

## CeFi

- Regulatory pressure in the US poses ongoing challenges for the CeFi sector. This has also impacted the overall liquidity in the crypto market.
- Conversely, Singapore and Hong Kong are leading the way in establishing crypto-friendly regulations, offering opportunities for compliant CeFi entities.

## Stablecoins

- Stablecoins continue to face headwinds as hostile regulatory actions, issues with onshore bank accounts, rumours or large imbalanced trading flows attempt, and often succeed, in unseating large capitalisation dollar stablecoins. As stablecoins may be viewed by central banks as competition to their intended CBDCs, the sector may continue to face turmoil.
- Nonetheless, experimentation to create more stable structures continues. The launch of overcollateralised stablecoins, such as Cardano's Djed, Aave's GHO and Curve's crvUSD, can be attributed to regulatory restrictions on purely algorithmic stablecoins while also addressing concerns regarding the opacity of centralised stablecoin providers and their reliance on banks.
- Regulatory and institutional focus on stablecoins is increasing, with several traditional financial institutions launching their own stablecoins.

# 3. Crypto market sector data

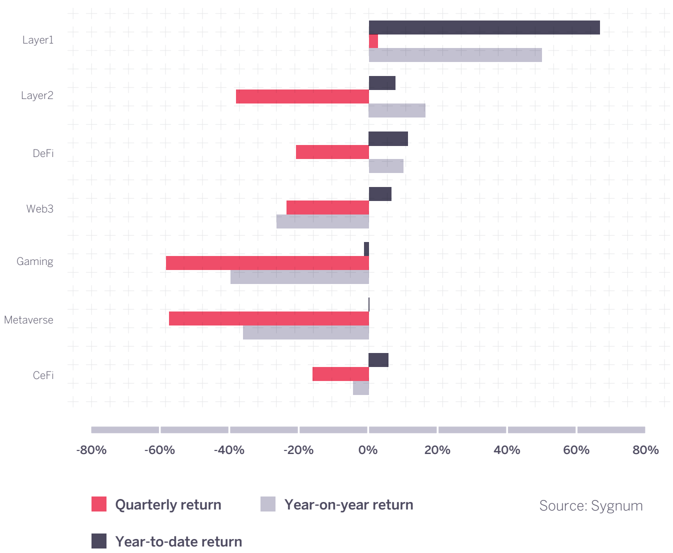
Sector concentration increased for Layer 1 and $ stablecoins, primarily due to Bitcoin and Tether's rising dominance while the Layer 2 and DeFi sectors have become less concentrated.

Traded volumes and volatility declined across all sectors, with volatility now approximating half of its three-year average for most sectors.

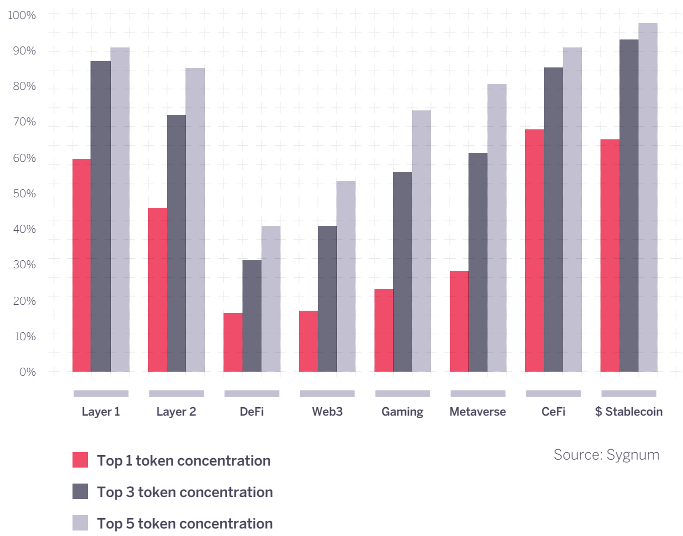
The Layer 1 sector increased its overall share of the crypto market, largely due to Bitcoin's rising dominance.

In Q2, the dispersion of sector returns declined, as the market was largely driven by macro developments.

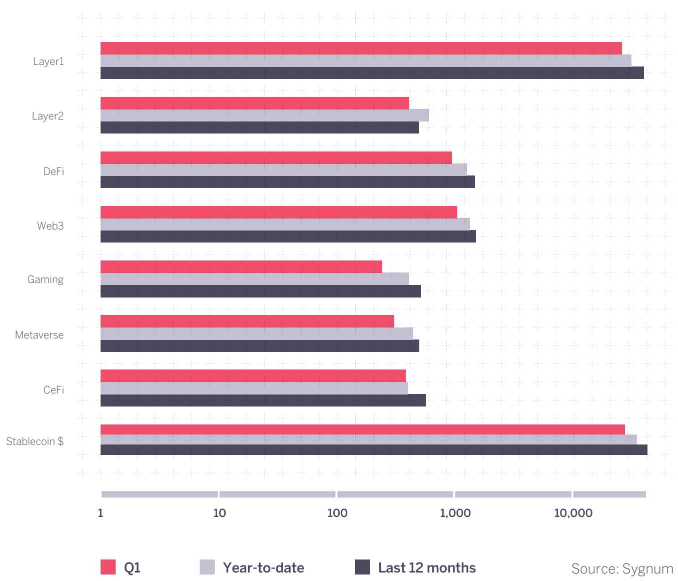
## SECTOR PERFORMANCE



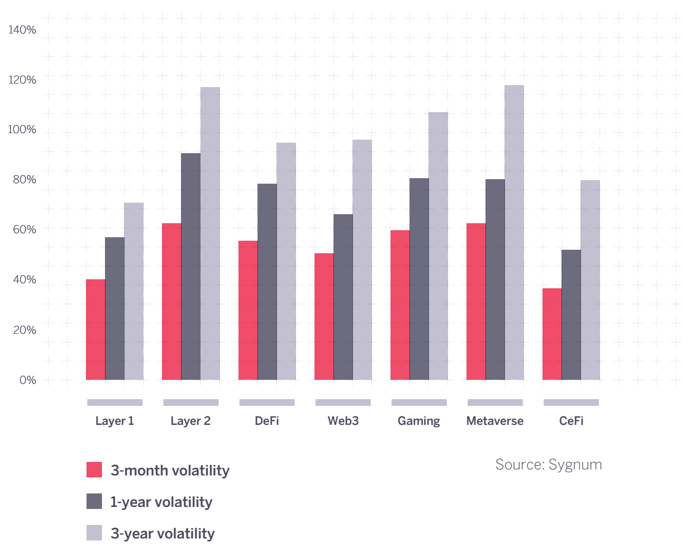

## DOMINANCE OF LARGEST TOKENS



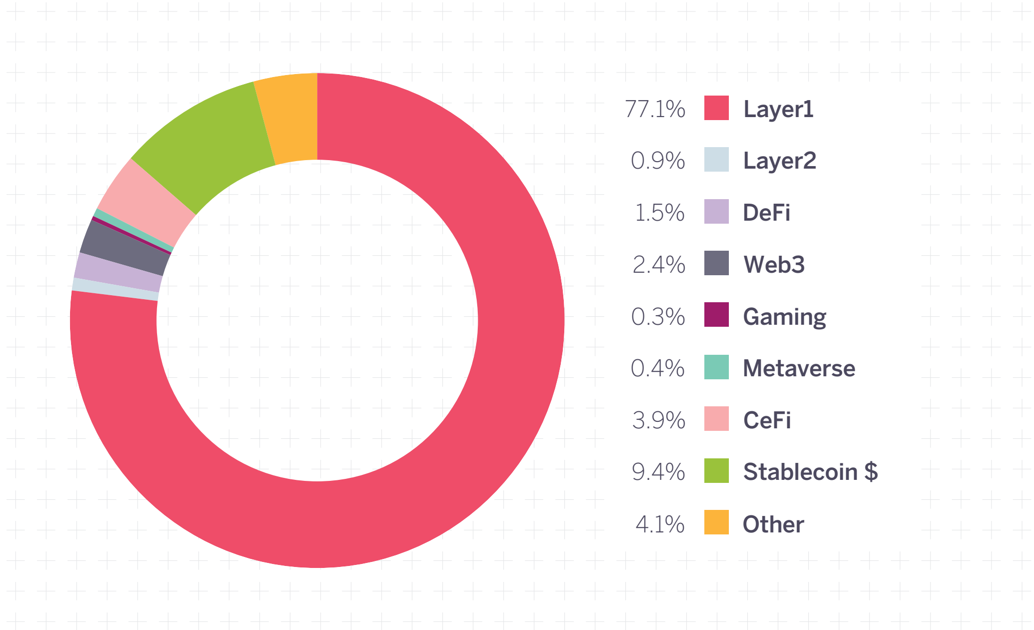

## AVERAGE DAILY TRADED VOLUME, $M, AGGREGATED




## SECTOR VOLATILITY

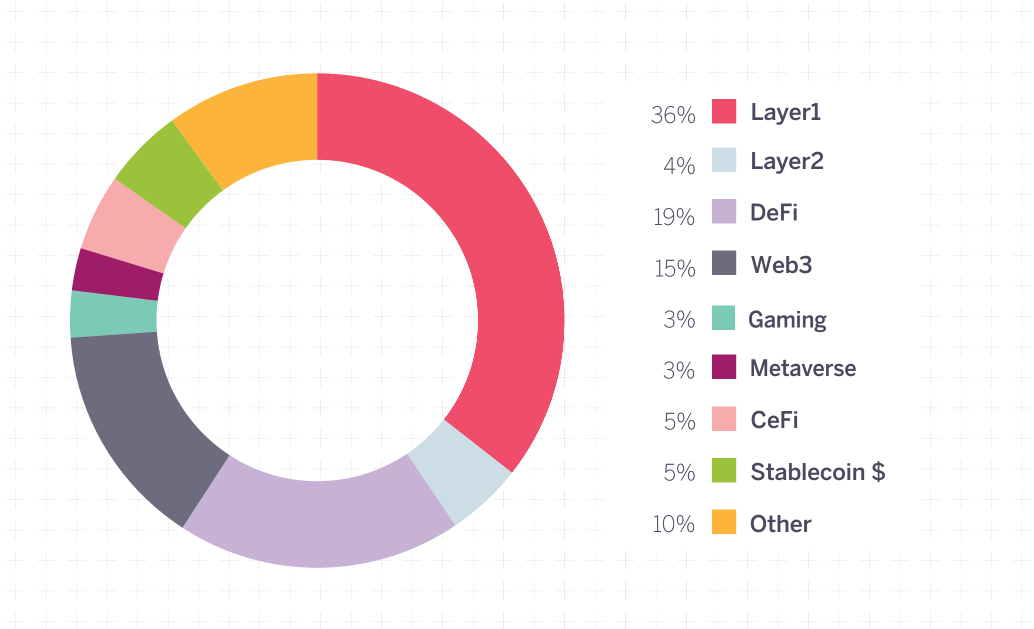


BREAKDOWN BY MARKET CAPITALISATION




Source: Sygnum

BREAKDOWN BY NUMBER OF TOKENS




Source: Sygnum

# 4. Index rebalancing updates

## New constituents added to sector indices at quarterly rebalancing

Inclusion rule: A token is included if its three-month average market capitalisation is at least 0.01 percent of the total crypto market capitalisation.

| Layer 1 |
|---|
| Cryptonex |
| Spark |
| FantasyGold |
| ABBC Coin |
| Axelar |
| Core |

| Layer 2 |
|---|
| Arbitrum |
| Ronin |
| Cartesi |

| DeFi |
|---|
| Gains Network |
| Trader Joe |
| inSure |

| Web3 |
|---|
| Spark |
| tomiNet |
| ABBC Coin |
| SPACE ID |
| Axelar |

| CeFi |
|---|
| Cryptonex |
| CoinFLEX |

| $ Stablecoin |
|---|
| Edgecoin |

## Constituents dropped from sector indices at quarterly rebalancing

Exclusion rule: A token is excluded if its three-month average market capitalisation falls below 0.01 percent of the total crypto market capitalisation or if a traded price for the token is no longer available.

| Layer 1 |
|---|
| Horizen |
| Everscale |
| Lisk |
| Locus Chain |
| Secret |
| Syscoin |
| MediBloc |
| Nano |
| Energy Web |
| Chromia |

| Layer 2 |
|---|
| MetisDAO |

| DeFi |
|---|
| Nexus Mutual |
| Anyswap |
| APENFT |
| VVS Finance |
| Kyber Network |
| Ribbon Finance |

| Web3 |
|---|
| Chain |
| Horizen |
| iExec |
| Everscale |
| Synapse |
| Braintrust |
| API3 |
| MediBloc |
| OriginTrail |

| Gaming |
|---|
| BinaryX |
| GensoKishi Metaverse |
| Smooth Love Potion |
| PlayDapp |
| Merit Circle |

| CeFi |
|---|
| Celsius |
| Voyager |

| $ Stablecoin |
|---|
| Fei USD |
| Neutrino Index |

### Change in index universe

- The index universe captures 97.7 percent of the total market capitalisation (unchanged from the last quarter).
- The index universe includes 222 tokens vs. 243 during the previous quarterly rebalancing.

### Corporate actions

- LINK: rebranded as Finschia, ticker change from LN to FNSA.

### Data issues

- TNC IT Solutions: Data continuity problems.

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