



CoinGecko

2023

Annual Crypto Industry Report

FULL REPORT

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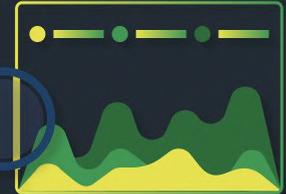
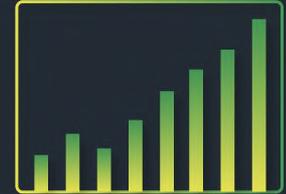
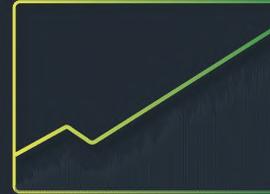
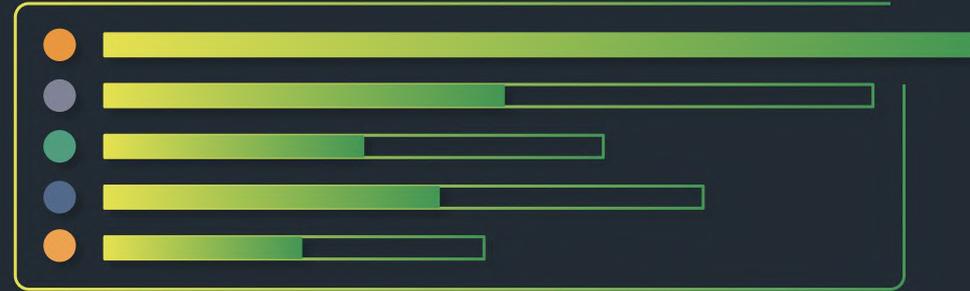


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Founders' Note

The summary for 2023 Q4 could just be “anticipation over ETFs sends crypto market into frenzy”, as market sentiment turned more bullish with every new report that we’re getting closer to having US spot Bitcoin ETFs approved. In Q4 alone, the total crypto market cap rose by 55% from \$1.1T to \$1.6T, with the price of Bitcoin catapulting from \$27k to \$42k. Across the entire 2023, the total crypto market cap has more than doubled from \$832B at the beginning of the year, led by Bitcoin’s (2.6x) meteoric resurgence. After the drama and doldrums of 2022, it’s safe to say 2023 has been a strong year of recovery for the industry.

A lookback at the notable events of the year showed crypto’s many tussles with law enforcement. There were plenty of lawsuits, arrests, convictions, settlements and bankruptcy proceedings in 2023, bookended by Binance’s \$4.3B settlement with the US authorities in November. Nonetheless with most of these cases resolved or close to it, hopefully we can finally turn the page on the sins of the last cycle...

... because there’s plenty to be excited about within crypto these days as new exciting developments come to the fore! Projects have been building throughout the bear market, and are now showcasing the fruits of their labors. The Ethereum and EVM ecosystem saw an explosion of Layer 2s looking to scale the world computer. While we started with just optimistic or zero-knowledge based rollups, new technical innovations have introduced further possibilities such as modularization and parallelization, giving greater choice to users and developers. While the infrastructure continues to progress, the focus now shifts to building out dApps that can onboard the next wave of users to crypto.

After largely being written off post-FTX collapse, the Solana ecosystem has risen from the ashes in 2023 to mount a strong challenge against EVM dominance. Upgrades have improved the stability of the base network, and its projects are now showcasing the advantages of a highly performant monolithic chain with cheap fees. Long-term users are also being rewarded with airdrops from ecosystem projects, drawing in even more attention and activity. Solana has a lot of momentum going into 2024, and it’ll be interesting to see how the teams channel it to building a sustainable ecosystem and community.

We cycle back to Bitcoin because other than the ETF story, it’s been hard to ignore the creation of Incriptions, first pioneered by Ordinals, but have now proliferated into a bunch of different technical standards for issuing fungible tokens and NFTs. While we have not seen much utility from these projects yet, this new innovation has definitely made the Bitcoin blockchain a richer ecosystem (and also enriching miners in the process). Incriptions have also reignited the conversation around scaling Bitcoin, with drivechains and richer Layer 2s now being actively discussed.

Unfortunately not everything was a bed of roses. The NFT market took a massive hit this year, suffering in terms of both floor price and trading volumes. Many so-called blue chip collections failed to hang on to their valuations, and have had to pivot or drastically scale back their ambitions. With positivity returning to crypto, hopefully this will spur more activity that expands the possibilities of use cases built on NFTs.

On the CoinGecko end, we remain laser-focused on delivering our goals across our main product lines - CoinGecko, GeckoTerminal, and API. 2024 is looking bullish thus far, and we can’t wait to share more of what we have been working on in the near future. Onwards and upwards!



Bobby Ong
COO

TM Lee
CEO

MARKET LANDSCAPE

2023 Spot Market Overview

Total crypto market cap more than doubled in 2023 from \$829B to \$1.72T, with 70% of the gains coming in Q4



+108.1%
Total Market Cap Change in 2023

Total crypto market cap has climbed by **108% (+\$869B)** in 2023, despite earlier expectations of challenging macroeconomic conditions. **In 2023 Q4 alone, total crypto market cap increased by +54.3%, or \$607B** in absolute terms.

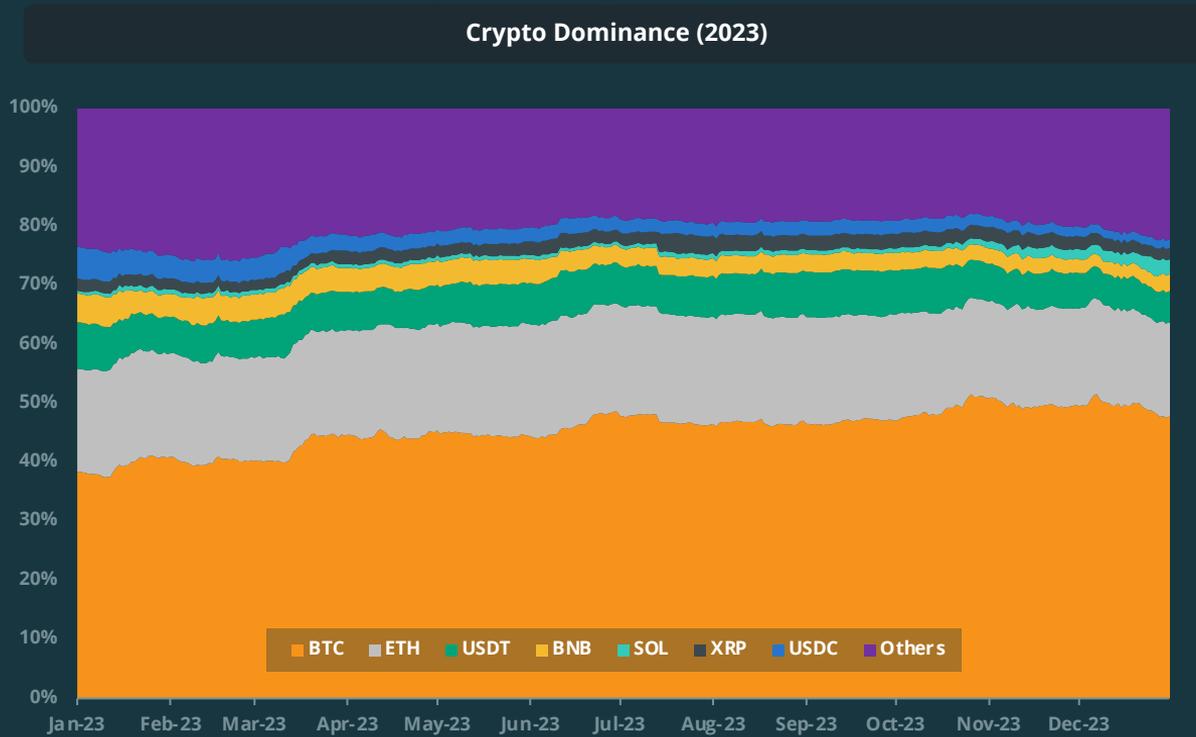
Average trading volume in Q4 stood at **\$75.1B, a 91.9% QoQ increase**. However, overall **trading volume for 2023 sat at \$58.9B, a -31.6% decrease compared to 2022**.

Notable moves within the Top 30 cryptos in 2023 Q4 include **SOL which climbed from #7 to #5** (from #18 as at end-2022) and **AVAX from #22 to #9**.

ICP reentered the Top 30 at #16 after falling out in Q3, while **new entrants of 2023 include NEAR (#23), OP (#26), and INJ (#30)** replacing HBAR, BUSD, XMR, and TUSD.

2023 Crypto Dominance

Bitcoin dominance spiked by 9.2% in 2023 to 47.8%, while stablecoins USDT and USDC lost the most market share amongst the top 7 cryptos



 47.8% ▲ 9.2%	 15.9% ▼ 1.5%
 5.3% ▼ 2.7%	 2.8% ▼ 2.0%
 2.5% ▲ 2.1%	 2.0% ▼ 0.2%
 1.4% ▼ 4.0%	 22.2% ▲ 0.3%

Bitcoin dominance has soared in 2023, climbing from 38.6% to 47.8% as it grabbed the attention of investors, with other majors (except Solana) suffering as a result.

Against a growing crypto market, the **drop in USDT (-2.7%) and USDC (-4.0%) dominance** signals also the inflow of fiat currency into the market.

Aside from Bitcoin, **Solana also saw a notable increase in dominance from 0.4% to 2.5%** in 2023, surpassing XRP and USDC at #5 and #6 respectively.

2023 Cryptocurrencies Price Returns

Cryptocurrencies saw green across the board in 2023 as the BTC rally lifted the collective crypto market - SOL, INJ, LEO, and IMX were the standout performers in their respective categories

	2023 FY	2023 Q4	2023 Q3
Top 5 Cryptocurrencies			
BTC	155%	57%	-12%
ETH	91%	36%	-14%
BNB	27%	45%	-11%
SOL	917%	374%	13%
XRP	80%	19%	9%
Top 5 DeFi Tokens			
LINK	168%	83%	30%
UNI	40%	62%	-15%
INJ	2717%	366%	-4%
LDO	177%	56%	-17%
GRT	231%	105%	-15%
Top 5 Exchange Tokens			
BNB	27%	45%	-11%
OKB	10%	8%	-7%
LEO	111%	28%	-9%
CRO	77%	94%	-10%
KCS	59%	124%	-30%
Top 5 Play-To-Earn Tokens			
IMX	454%	261%	-21%
SAND	55%	91%	-26%
AXS	46%	93%	-23%
MANA	74%	68%	-20%
GALA	82%	113%	-42%

Among the top 5 cryptocurrencies, **SOL was the top performer in Q4 with a 374% gain, ending 2023 overall with a 10x price increase.** BTC followed as the far second with a 155% gain in 2023, outperforming ETH (+91%), XRP (+80%), and BNB (+27%).

Within the top 10 by market cap, AVAX also outperformed BTC with a 254% gain in 2023.

INJ stole the show in 2023 with a 28x move, breaking it into the top 5 DeFi cryptos for the first time.

This is followed by GRT (+231%), LDO (+177%), LINK (+168%), and UNI (+40%), making DeFi a comparatively stronger category as only UNI had underperformed BTC by 2023-end.

Outside the top 5, RUNE (+300%) and MKR (+230%) also recorded significant gains in 2023.

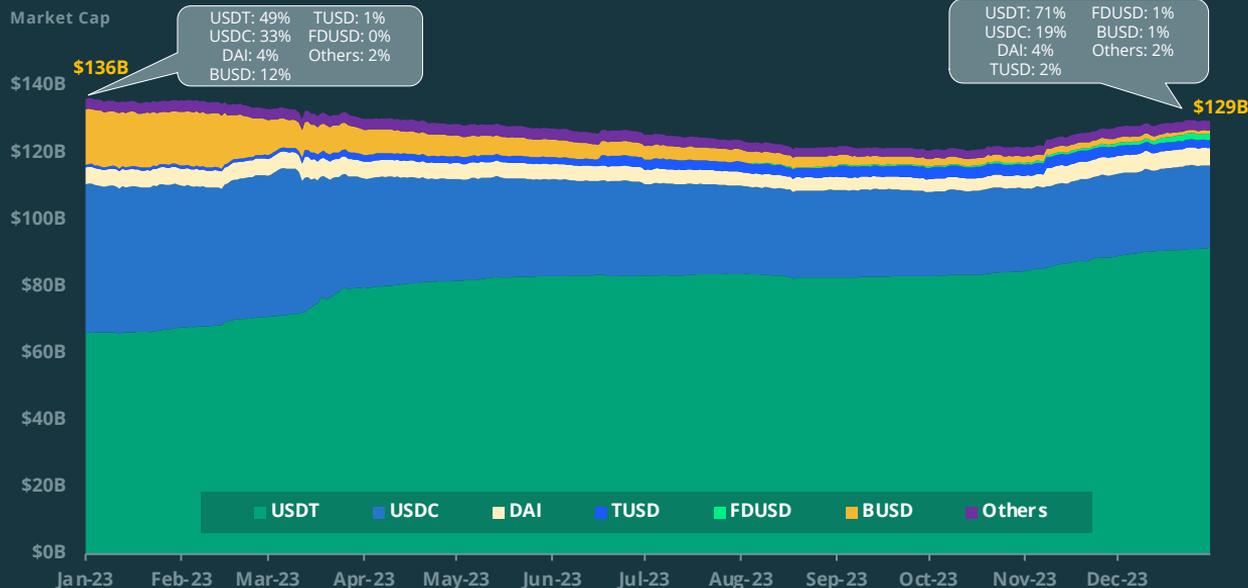
All top 5 exchange tokens – BNB (+27%), OKB (+10%), LEO (+111%), CRO (+77%), and KCS (+59%) – **saw positive returns in 2023**, but **none managed to outperform BTC.** WOO at #9 by CEX token market cap saw returns of +230%, outperforming both BTC and the top 5 CEX tokens.

4 out of the top 5 P2E tokens – SAND (+55%), AXS (+46%), MANA (+74%), and GALA (+82%) – **also underperformed BTC**, except for **IMX which posted a 454% gain** in 2023. Outside the top 5, notable climbers include WEMIX, RON, and BEAM which posted returns of +594%, +601%, and +256% respectively.

2023 Top 15 Stablecoins Overview

USDT solidifies its position as the top stablecoin with its dominance climbing from 49% to 71% in 2023

Top 15 Stablecoins Market Cap Breakdown (2023)



-5.6%

Top 15 Stablecoins Market Cap Change YoY

Top 15 stablecoins market cap declined by 11.3% by end-Q3, before climbing 7.1% in Q4 to end 2023 with a 5% decline overall.

With the phase-out of BUSD almost complete, FDUSD has now broken into the top 5 stablecoins. TUSD and FDUSD saw similar absolute gains at \$1.5B and \$1.8B respectively, while DAI stayed relatively flat in 2023.

Outside of BUSD, USDC saw the largest loss with a 45% decline or \$20B in absolute terms, suffering from a loss of confidence since its temporary depeg during the US banking crisis in 2023 March. USDT was the main beneficiary of this, gaining \$25.5B (+38.5%) in market cap and a whopping 22% in market share in 2023.

Outside the top 5, LST-backed stablecoins mkUSD and eUSD entered the top 15, while GUSD and crvUSD fell out.



\$91.7B

+\$25.5B (+38.5%)



\$24.5B

-\$20.0B (-45.0%)



\$5.2B

+\$0.2B (+3.3%)



\$2.3B

+\$1.5B (+204.8%)

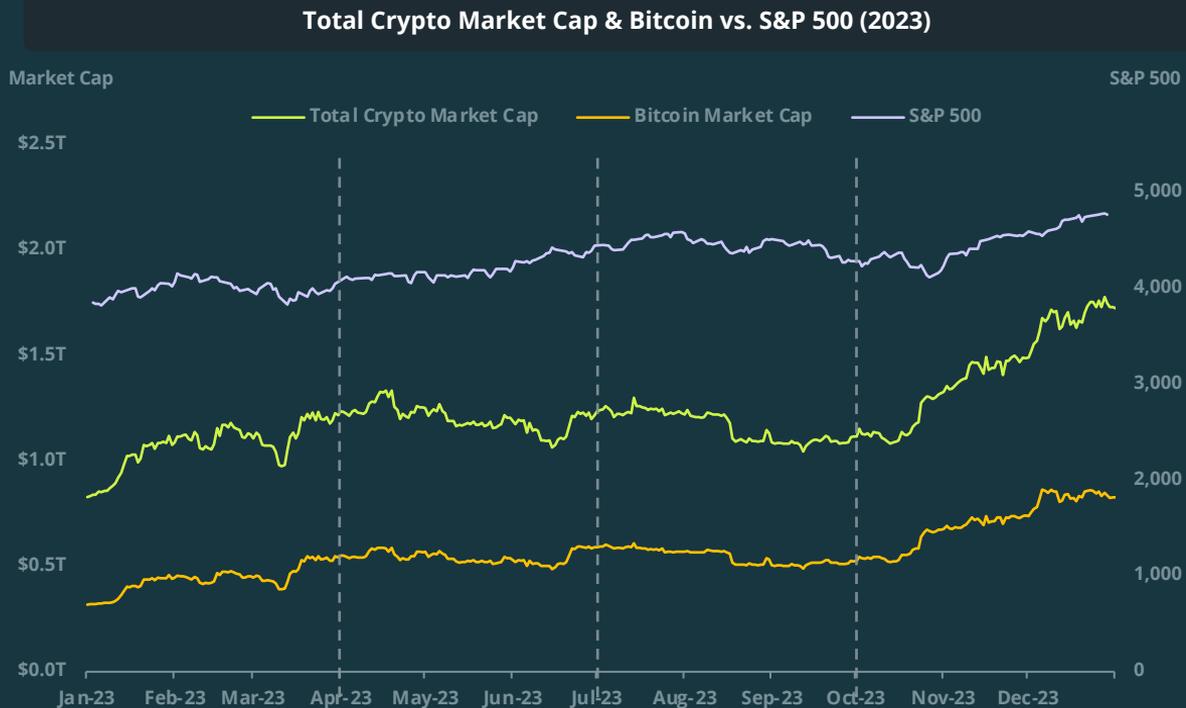


\$1.8B

+\$1.8B (+590.3%)

2023 Total Crypto Market Cap & Bitcoin vs. S&P 500

Despite correlation between total crypto market cap and S&P500 turning moderately negative in Q2, overall correlation in 2023 between the two remained moderately high at 0.65



Bitcoin continues to be the bellwether of the crypto market, with a **0.97 correlation with total crypto market cap**.

While both the crypto markets and S&P500 rallied in 2023, **total crypto market cap however was only moderate to strongly correlated to the S&P500 in 2023 at 0.65**. This figure rose to 0.86 in 2023 Q4.

Interestingly with Bitcoin being driven by ETF news, **its price has become highly correlated (0.74) to the S&P500**. In 2023 Q4, correlation between the two climbed to 0.81.

Total crypto market cap had an annualized volatility of 38.6%, 2.4x more than the S&P500 at 15.9%.

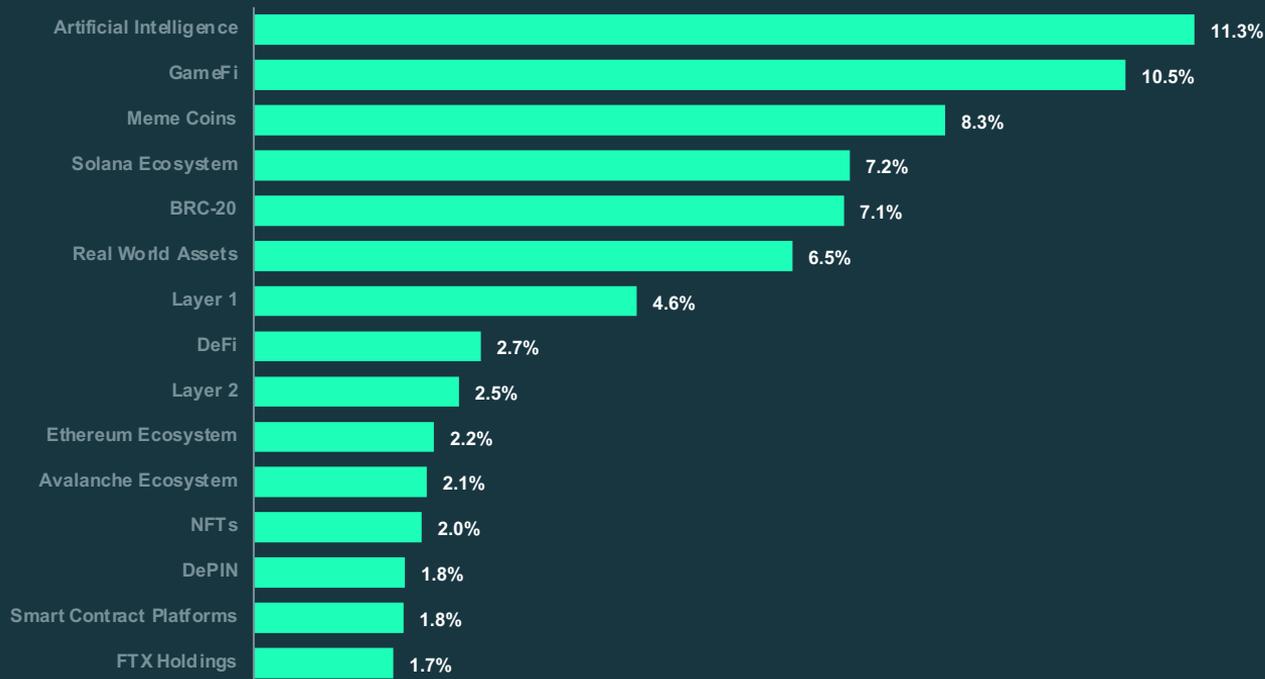
Total crypto market cap climbed 108.1%, 4.6x more than the S&P500 which climbed 23.7%.

Bitcoin was slightly more volatile than overall crypto market, with an annualized volatility of 43.2%. It saw gains of 155%, 6.5x more than the S&P500.

2023 Trending Categories

AI, GameFi & Meme Coins Top Crypto Narratives' Interest in 2023

Market Share of CoinGecko Categories Web Traffic 2023



72.3%

Top 15 Narratives Share of Overall CoinGecko Categories Web Traffic in 2023

Artificial Intelligence (AI), GameFi and meme coins were the most popular narratives in 2023, capturing one third of investor interest.

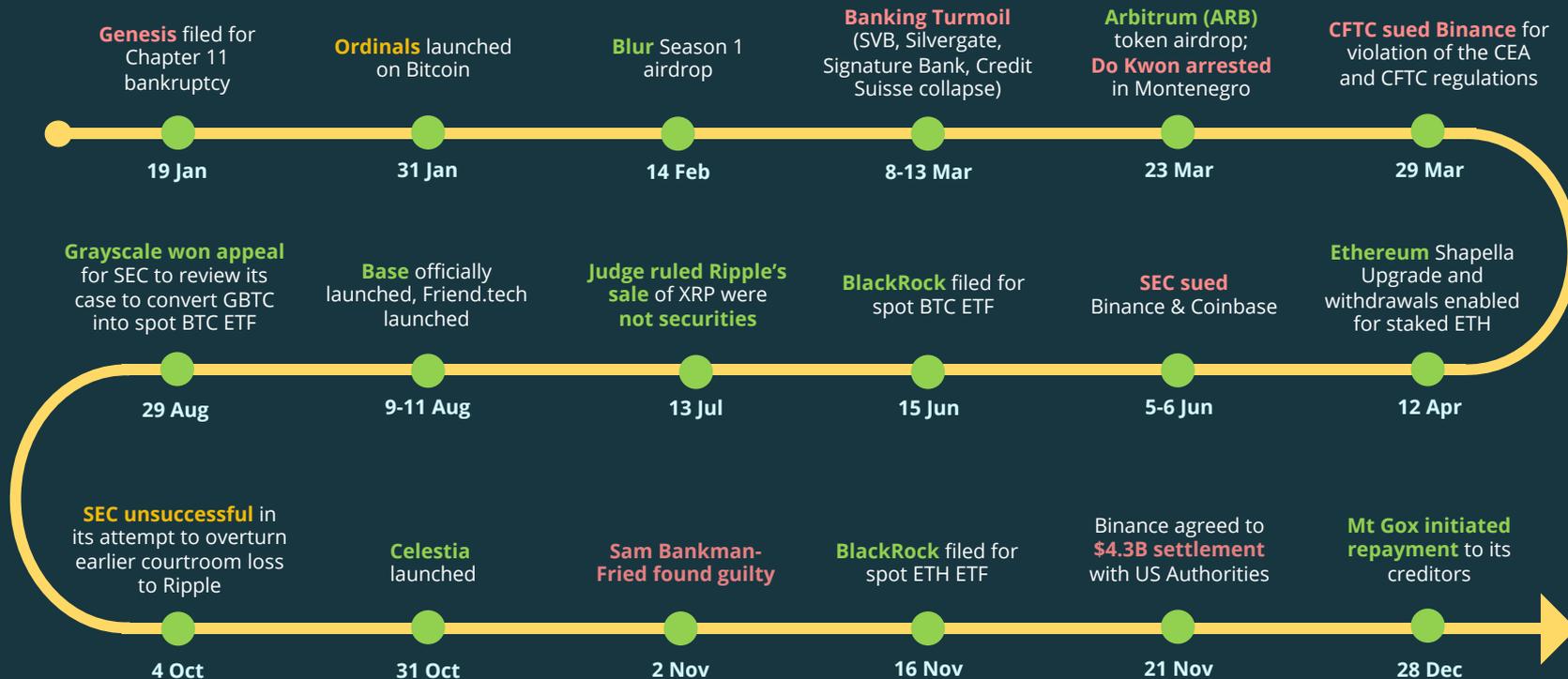
The Solana ecosystem, BRC-20 tokens and real world assets (RWA) also gained significant attention, capturing more than 5% of the crypto narratives interest each this year.

4 out of the 49 blockchain ecosystems, made it into the top 15 crypto narratives in 2023.

Each of these ecosystems had very strong narratives. In 2023, we have Solana's rise from the dead, the introduction of BRC-20s, the Ethereum Shanghai Upgrade in April, and the Avalanche ecosystem having a revival similar to Solana.

2023 Notable Events Timeline

2023 saw a banking crisis and regulatory scrutiny from the SEC early in the year, followed by several wins for the industry – BlackRock’s filing for BTC ETF, Ripple & Grayscale Victory



2023 Notable Bugs and Exploits

\$2.0B was lost to at least 463 exploits in 2023, with 66% of the total stolen funds coming from the top 6 hacks



The **largest exploit in 2023** was the **Multichain bridge hack**, with **\$231M** lost in **July 2023**.

Other large exploits include **Euler Finance** (\$196M), **Mixin Network** (\$142M), **Poloniex** (\$123M), **BonqDAO** (\$120M), and **Atomic Wallet** (\$115M).

Thankfully, \$177M from the Euler Finance Hack has since been returned.

According to TRM Labs, **North Korean-linked groups account for 30.6%**, or at least \$600M of the stolen cryptocurrencies in 2023. This figure, though significant, represents a decrease from the \$850M in crypto stolen in 2022.

Another exploit which caused a huge scare was the **Ledger exploit** in December, which injected malicious code into dApps that were using Ledger Connect Kit. Fortunately, the exploit was quickly spotted, and a resolution was implemented quickly after.



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10,000+
COINS

850+
EXCHANGES

3,000+
NFTs

10B+
CALLS PER MONTH

50
ENDPOINTS

10 Years
HISTORICAL DATA

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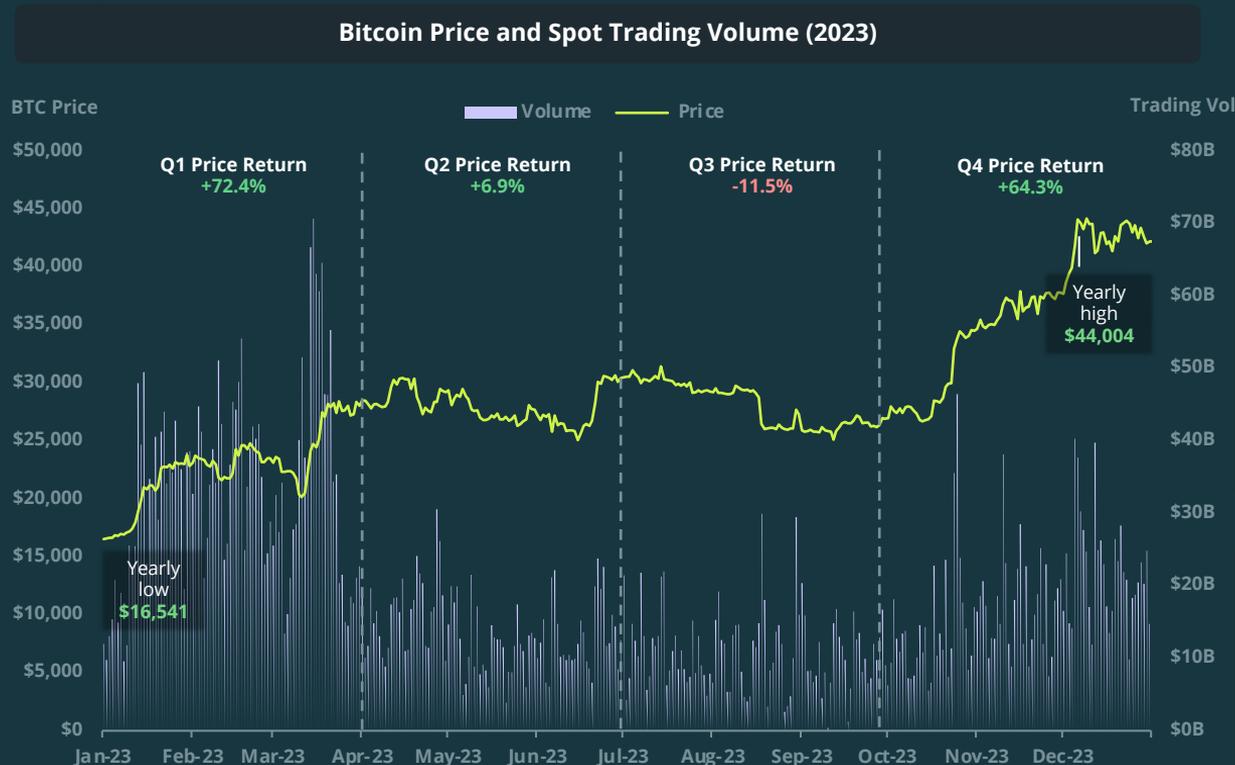
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BITCOIN ANALYSIS

2023 Bitcoin Price vs. Trading Volume

Aside from a market cool off in Q3, BTC saw gains throughout 2023 to end the year with a +155% gain



+155.2%
BTC Price Return in 2023

BTC has climbed significantly by 155% in 2023.

BTC saw a strong first leg up in Q1, then had another spike up in late Q2 as a slew of spot BTC ETF applications were filed.

The market then cooled off in Q3, before rallying strongly in Q4 on the back of anticipation for spot bitcoin ETF approvals, and expected interest rate cuts by the Fed.

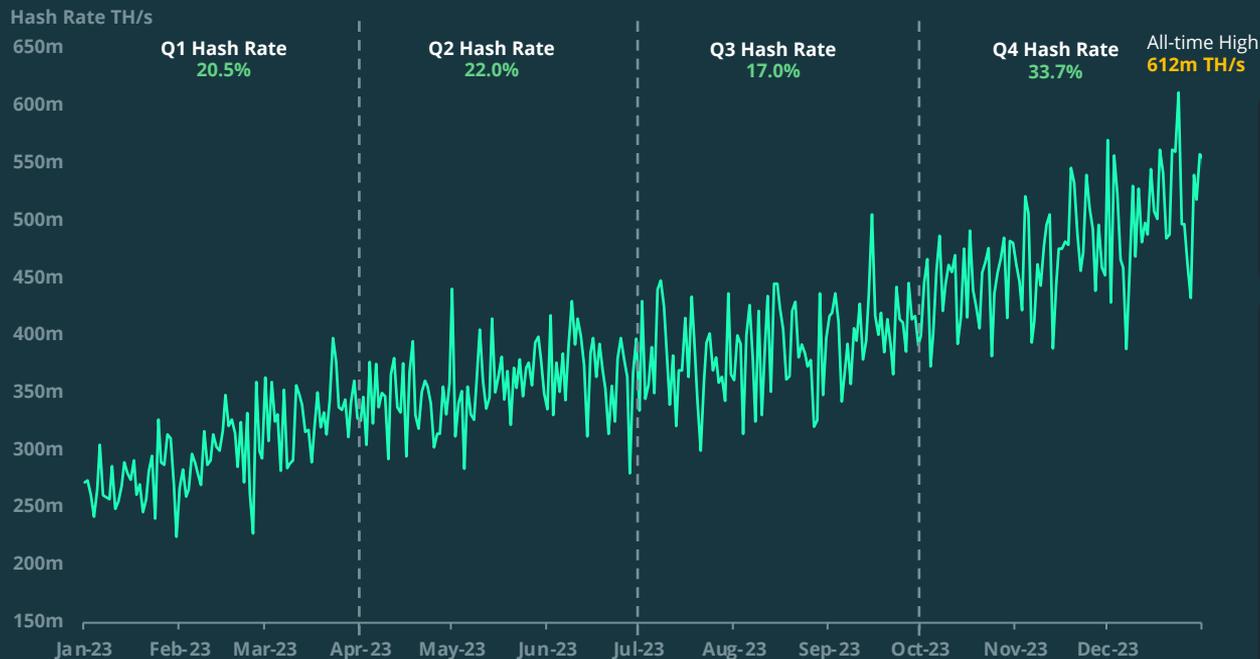
Average trading volume saw a drop off around end-Q1, gradually declining from Q2-Q3 **before picking up slightly in Q4 to \$18.0B (+64.3% QoQ).**

As many BTC holders continued to cling on to their coins, volume remained relatively low in Q4 despite the significant price spike due to limited supply on the markets.

2023 Bitcoin Mining Hash Rate

Bitcoin mining hash rate continues to chart new all-time-highs, growing by 105% in 2023, as mining stocks recorded major returns

Bitcoin's Total Hash Rate (2023)



+104.9%

Bitcoin's hash rate increase in 2023

Bitcoin mining hash rate continues to chart new all-time-highs, growing by over 2x in 2023. The latest ATH was recorded on Dec 24 at 612m TH/s.

The last time hash rate has experienced a down quarter was in 2022 Q2.

2023 Q4 has seen another wave of expansions by mining companies:

- Marathon Digital agreed to buy 2 new bitcoin-mining sites in Texas and Nebraska for \$178.6M
- Bit Origin secures \$6.74M investment to build new mining facility in Wyoming
- Riot, Cipher, and Hive purchase 66.6K, 37K, and 7K ASICs respectively.

Public listed mining stocks – Cipher Mining (CIFR), Marathon Digital (MARA), CleanSpark (CLSK), and Riot Platforms (RIOT) also recorded significant returns in 2023 of 615%, 556%, 425%, and 343% respectively.

2023 Bitcoin vs. Major Asset Classes Price Returns

Despite a rising interest rate environment, bitcoin outperformed major asset classes with a 155% gain, while the NASDAQ (+42%) and S&P500 (+24%) also posted strong returns in 2023



	2023 FY Return	2023 Q4 Return
BTC	155%	57%
S&P 500	24%	11%
NASDAQ	42%	14%
CRUDE OIL	-11%	-21%
GOLD	13%	11%
TLT (Treasury Bonds)	-3%	13%
DXY (US Dollar Index)	-2%	-5%
GBP	5%	4%
JPY	-7%	6%
CNY	-3%	3%
EUR	3%	4%
SGD	2%	4%

In stark contrast to 2022 where it was the worst performing asset with a 64% decline, **BTC far outperformed all other asset classes in 2023 with a 155% gain.**

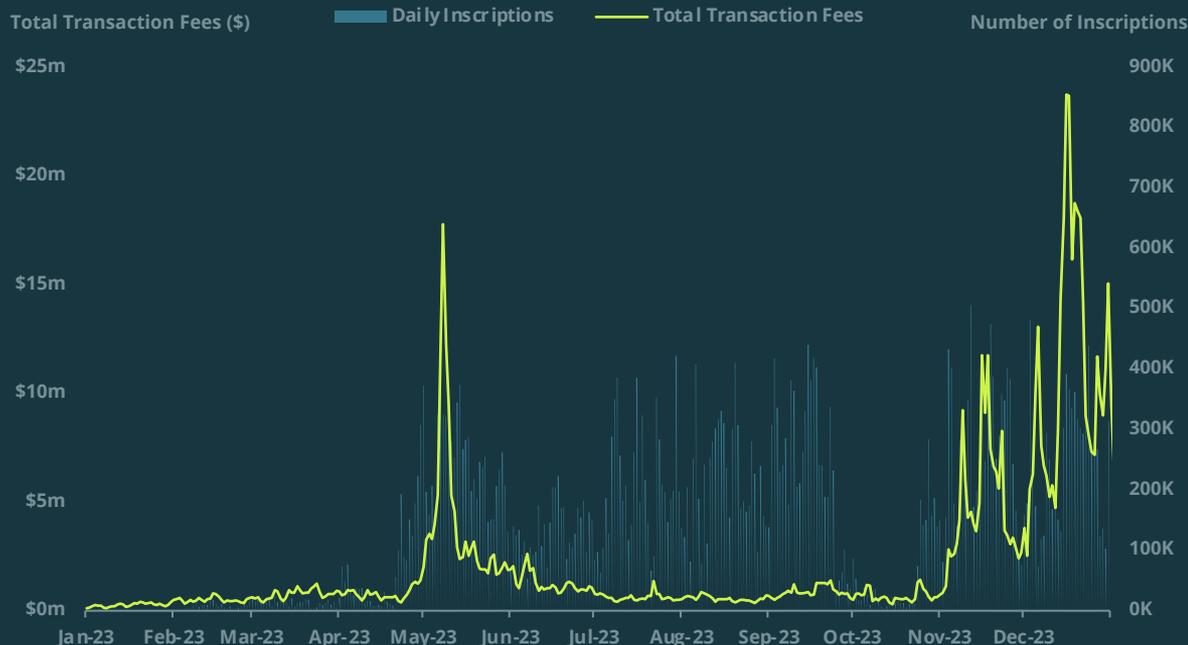
The **NASDAQ (+42%)** and **S&P500 (+24%)** also recorded strong years, both closing 2023 at their highest levels since 2022 January. **Gold (+13%)** also recorded relatively sizable gains.

Crude oil (-11%) posted its first y-o-y decline since 2020 prompted by fears of oversupply from production outside OPEC, though there could now be potential supply disruptions from ongoing geopolitical turmoil in the Middle East.

Inscriptions

Inscriptions, introduced by Ordinals in 2023 January, has led to a frenzy of NFTs and memecoins on BTC, leading to a boon for miners by propelling transaction fees skywards

Bitcoin Total Transaction Fees & Daily Inscriptions (2023)



23.7M

Highest Daily Total Transaction Fees Paid to Bitcoin Miners on December 17, 2023

Inscriptions are arbitrary data (e.g. text, images) written onto a satoshi, the smallest unit of bitcoin. It was first introduced by the Ordinals protocol launched by developer Casey Rodarmor on Jan 21, and enabled the creation of NFTs and semi-fungible tokens (notably BRC-20 tokens) on the bitcoin network. **By end-2023, cumulative inscriptions on Bitcoin reached 52.8M.**

The latest surge in inscriptions minting on the Bitcoin network **has driven daily total transaction fees up to an all-time-high of \$23.7M** on December 17, 2023.

Despite daily inscriptions remaining elevated after the mid-May spike up until late September, total transaction fees paid to miners were actually quite low. This could be due to low secondary trading activity of inscriptions during this period of time, a sign **that inscription trading activity is what drives fees rather than minting activity.**

When inscription trading took off again in November, total transaction fees followed suit.

ETHEREUM ANALYSIS

2023 Ethereum Price vs. Trading Volume

Price of ETH rose by +36.4% in 2023 Q4, ending the year in the green with gains of +90.5%



+90.5%
ETH Price Return in 2023

ETH closed 2023 at **\$2,294**, representing a **90.5% increase** in the year.

In 2023, ETH started Q1 with a rally but consolidated for the most part in Q2 and Q3. In Q4, ETH broke away on a rally at the start of November and hit a **yearly high of \$2,376** in December.

Trading volumes picked up significantly in Q4, for a daily average of \$14.4B, up from \$7.2B in Q3.

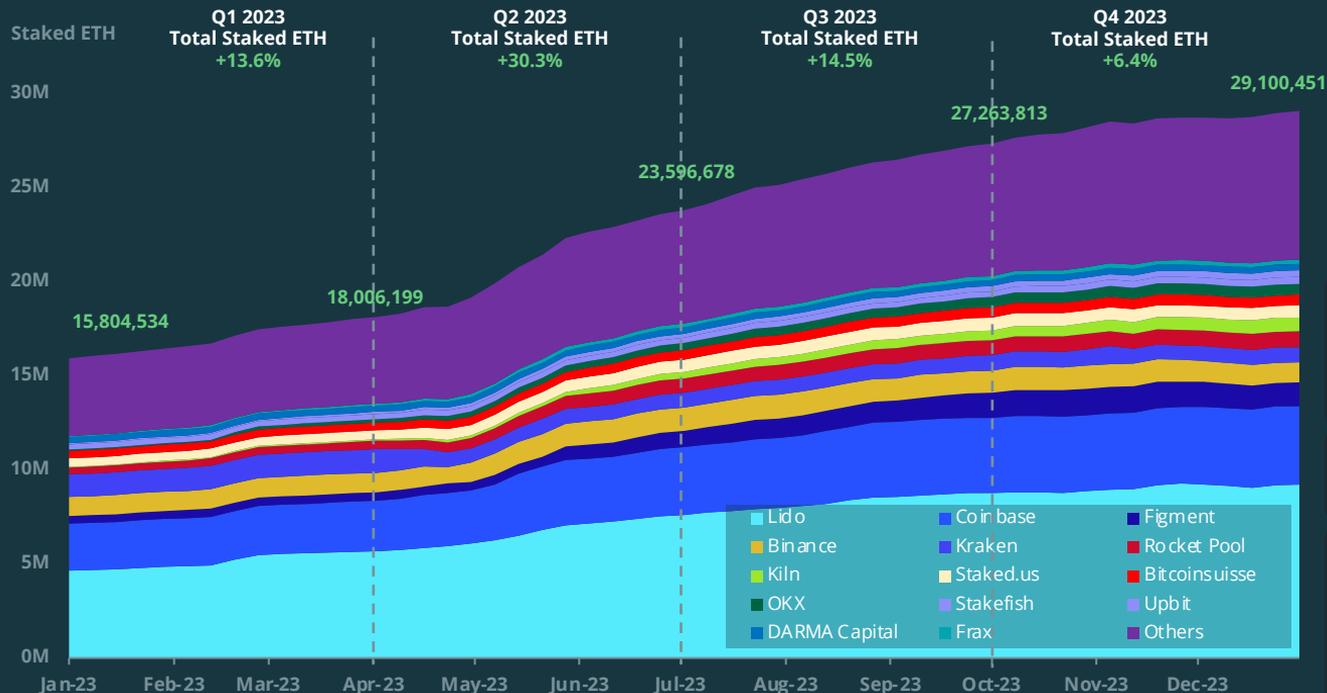
With the BTC ETF approved by the SEC, attention may switch to ETH which has spot ETFs pending approval.

Ethereum also has the Dencun upgrade that will implement **EIP-4844** scheduled for first half of 2024. Known as Proto-Danksharding, it is expected to reduce gas fees, and boost network efficiency.

2023 Ethereum Consensus Layer Staking

ETH staking grew +6.4% in 2023 Q4 to hit 29.1 mil, but experienced its slowest quarter as the Celsius bankruptcy estate began unstaking its ETH holdings

Total Staked ETH in Validators (2023)



Total staked ETH hit 29.1 mil by the end of 2023. Staked ETH increased by 82.5% in 2023. However, growth in Q4 has slowed to +6.4%. This is the lowest QoQ growth in 2023, with 1.7 mil ETH added.

Lido's dominance seems to have found a ceiling at the ~30% mark, where it has hovered around since the start of 2023.

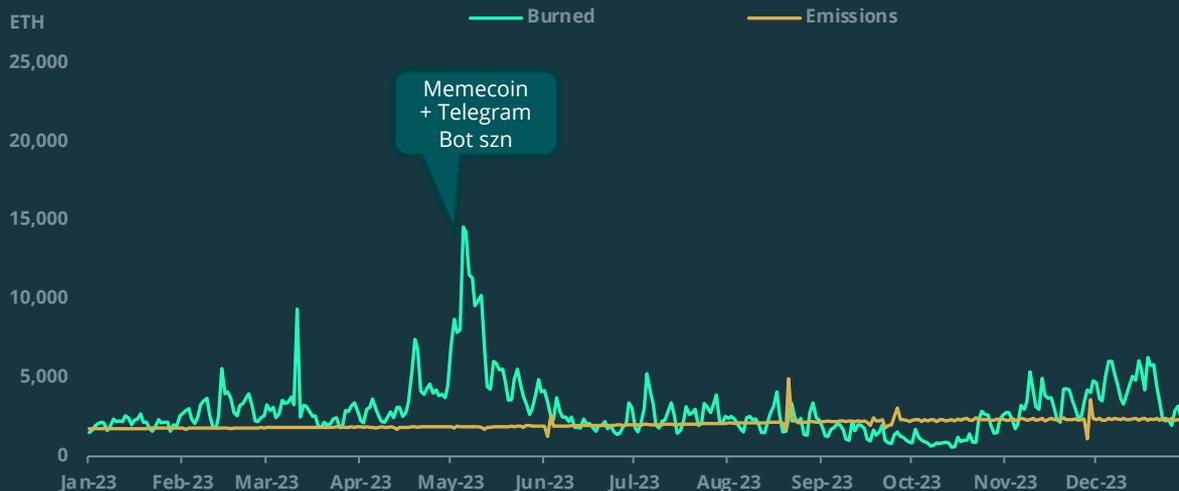
ETH's Shapella upgrade was completed in April, and deposits have far outpaced withdrawals thus far.

However, the Celsius bankruptcy estate has begun to unstake its ETH holdings, which may result in a drop in staked ETH.

2023 Ethereum Burn Rate

ETH posted its first deflationary year, burning 1.09M ETH; The Ethereum network removed 342K ETH from circulation

ETH Burn vs. Emission Rate (2023)



1.09M

ETH Burned in 2023

2023 saw over **1.09M ETH burned**, while **0.75M were emitted**. This was an average of 91k ETH burned a month. In 2022, this figure was an average 123K ETH burned / month. **In total 342K ETH was taken out of circulation in 2023.**

ETH was once again deflationary in 2023 Q4, after trending inflationary in Q3. In Q4, 270k ETH were burned and 216K ETH emitted, a net burn of 54K.

The largest one-day burn in Q4 occurred on December 18, where **6,303 ETH** was burned.

Uniswap was the main burner of ETH in 2023, **burning 155K ETH**. Memecoin szn in Q2 helped fuel this burn.

Previously in 2022, and 2021, NFT marketplace OpenSea dominated the burn leaderboard, but have since fallen off alongside the decline of NFTs.

Top 6 Burn Leaderboard of 2023



1 **Uniswap**
155k ETH



2 **ETH Transfers**
67k ETH



3 **USDT**
48k ETH



4 **Arbitrum**
25k ETH



5 **Metamask**
21k ETH



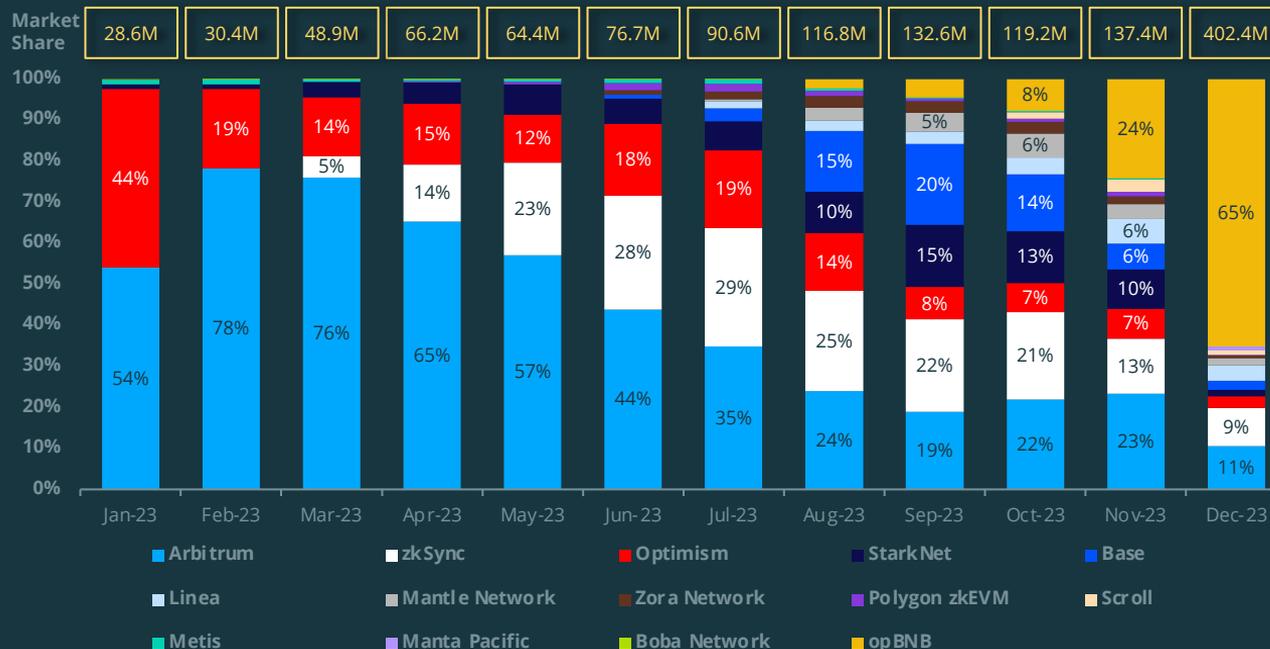
6 **zkSync**
18k ETH

2023 Layer 2 Adoption

Layer 2 networks saw over 1.31B transactions in 2023; Arbitrum executed more than a third of all transactions on Ethereum L2s, and almost the same amount of transactions as mainnet

Total Transactions on Layer 2's (2023)

Total Trading Volume (\$ Million)



1.31B
Transactions on L2's in 2023

Over **1.31B Layer 2 (L2) transactions** were carried out in 2023. 375.3M were carried out on Arbitrum, accounting for **28.6% of all L2 transactions**. Excluding opBNB, Arbitrum accounted for more than a third (37.5%) of all transactions on Ethereum Layer 2s in 2023.

Arbitrum executed almost the **same amount of transactions** with Ethereum mainnet in 2023, which executed 383.1M transactions.

Transactions on L2's **increased 93.8% QoQ**, with 659.0M in Q4 compared to 340.0M in Q3.

The large increase can be attributed to opBNB which had the most transactions in Q4, with **304.8M (47.6%)**. The majority of these transactions were due to a surge of inscriptions. In December alone, the network recorded several days with more than 20M transactions.

Source: [Etherscan](#), [Blockscout](#)

SOLANA ANALYSIS

2023 Solana Price vs. Trading Volume

Solana rose from the ashes, recording a meteoric Q4 price increase of 374% to close out the year at \$101.33, ending the year with a 10x gain

Solana Price and Spot Trading Volume (2023)



+917.3%

SOL Price Return in 2023

SOL climbed from \$10.0 to \$101.33 in 2023, marking a 917.3% increase.

SOL had its first leg up in January, climbing >2x before crabbing until mid-October. It then saw an aggressive rally up to \$121.45 before slightly correcting at year end.

Daily trading volume in Q1 averaged at ~\$827M, then dropped to hover around ~\$400M in Q2 and Q3 before seeing a spike to \$2B in Q4 (+379% QoQ).

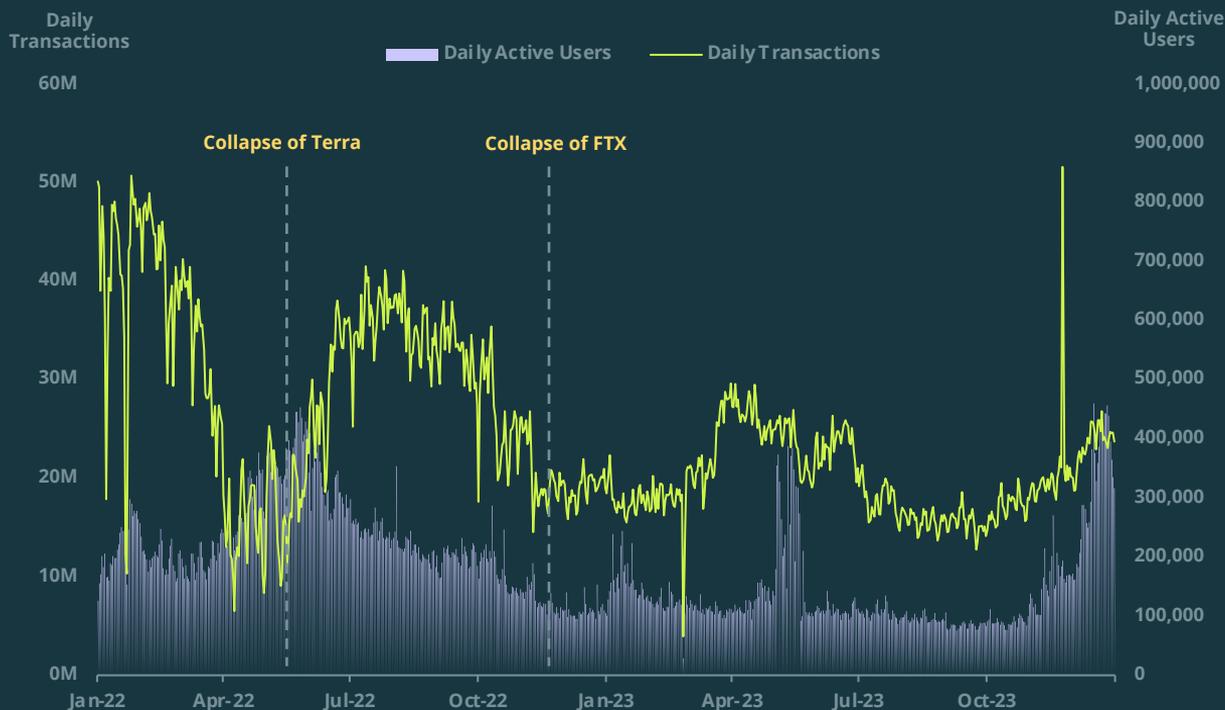
Solana has seen a resurgence in bullish narratives which acted as tailwinds for its token, such as OPOS (“Only Possible on Solana”), its revival and resilience after the FTX implosion, and the proliferation of popular memecoins on its ecosystem.

The Solana network has also undergone several technical upgrades, and has not seen a major outage since February 2023.

2023 Growth in Solana Onchain Metrics

Rebounding after a tumultuous 2022, the Solana network achieved new highs in user activity as average daily transactions grew by 563% in 2023

Solana Daily Transactions and Daily Active Users (2022 - 2023)



87.1M

Highest Daily Transaction
Count in 2023

Although the price of SOL **continued to plummet in 2022** after the all-time high run to \$260 in 2021, **daily users have continued to climb** throughout the first half of 2022 due to the Solana NFT season, peaking at 453K users in May 2022. With the Terra collapse occurring shortly after, daily users began to fall steadily, while daily transactions increased from ~20M in 2022 May to ~40M in 2023 July.

By the end of 2022, the collapse of FTX has resulted in number of active Solana users **to fall by 76.7%** from its peak in May to 106K users at the end of December 2022.

The network saw a slight resurgence in 2023 H1 with the migration of Helium and their partnership with Mastercard, as daily transactions **spiked by 40% from 20M at the end of March to 28M** one week later. Following SOL's recent run-up in Q4, users have returned to the ecosystem, hitting a peak of 456K users in December 2023.

2023 Solana Highlights

The return of Solana is rooted in its blazing fast performance, cheap fees, dApps with great UI, alongside the potent combination of airdrop and memecoins

#OPOS (Only Possible on Solana)



The original promise of Solana was **incredible performance at a very cheap cost** for users. While some of the first Solana dApps (notably Serum) showed off what the chain was capable of even back in 2020, the chain was always marred by outages.

Over the course of the bear market, upgrades introduced to the chain has **stabilized it significantly**, with no incident reported since February 2023.

At the start of 2023 the community began rallying around #OPOS, looking to truly **take advantage and showcase Solana's** combination of superior performance and cheap fees. Use cases around micropayments, DeFi, DePIN, mass-NFT minting, games started to be featured more, and #OPOS has become a rallying cry for Solana projects.

Great UI and Easy-to-Use dApps



An underrated advantage of Solana is how **easy it is to onramp and use**, compared to other newer chains. SOL is already broadly listed and supported across centralized exchanges, and has wallets with great UX such as Phantom and Backpack.

Being a monolithic chain **saves users the effort and cost of bridging** across different roll-ups. This results in no liquidity fragmentation, and also minimizes the complexity and risk of having to trust bridges. However if you need to use a bridge, Portal / Wormhole provides a more than ample solution.

Solana dApps also have **great UI and are easy to use** in general, with fast performance and cheap fees makes interacting with the chain and dApps an almost seamless experience.

Airdrops, Memecoins and NFTs

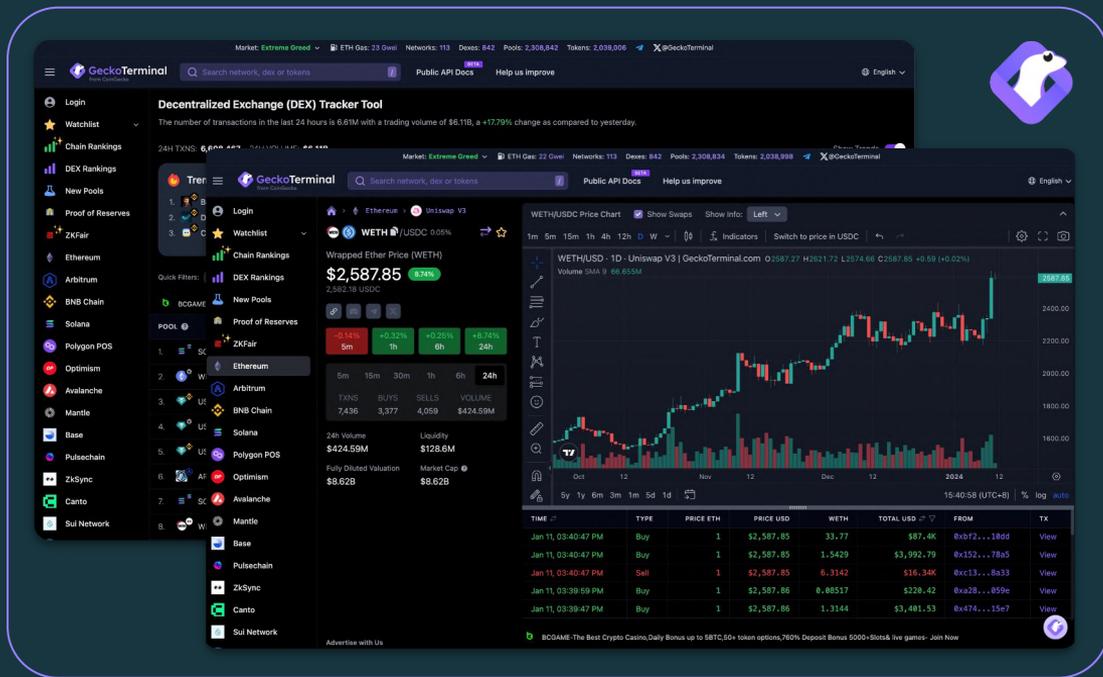


Airdrops typically occur on newer chains looking to incentivize bridging and usage. However recent Solana airdrops have come from projects that have been stalwarts of the ecosystem. These airdrops are **generous rewards for users who have stuck with the ecosystem** through out its darkest period. It also resulted in airdrop farmers descending on the chain to hunt the next airdrop.

Another solid indicator of interest are memecoins, and Solana has no shortage of these too. **BONK** sparked a fair share of excitement when it launched back in 2022 December, but it has scaled truly new heights by end-2023. Solana projects / tokens have also launched in all the **trending narratives** of 2023 such as AI, DePIN, and RWA, letting degens speculate to their heart's content.

Finally, the **revival of Solana NFTs** in price and volume also signaled rising levels of degeneracy as speculators move further out the risk curve.

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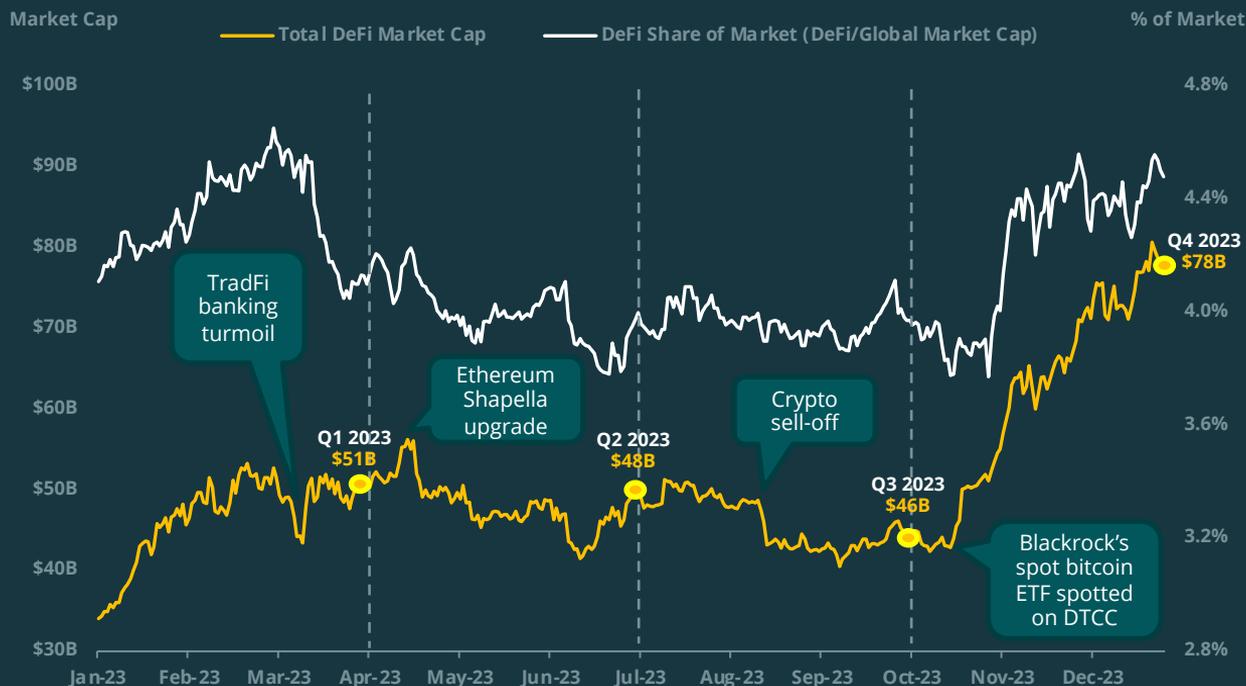
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DEFI ANALYSIS

2023 DeFi Overview

While the DeFi market cap largely stayed around \$50B for the first three quarters after its initial rise in 2023 Q1, the sector saw a significant boost in Q4 as market sentiment turned bullish

Total DeFi Market Cap and DeFi Share of Overall Market (2023)



+128.8%

Increase in DeFi Market Cap compared to January 1, 2023

Kicking off 2023 with a market cap of just \$34B, DeFi has proven itself to be unwavering, ending the year with an **additional \$44B added to its market cap.**

Gains in DeFi's total market cap has outpaced the overall crypto market cap, growing by 128.8% compared to 109.9%.

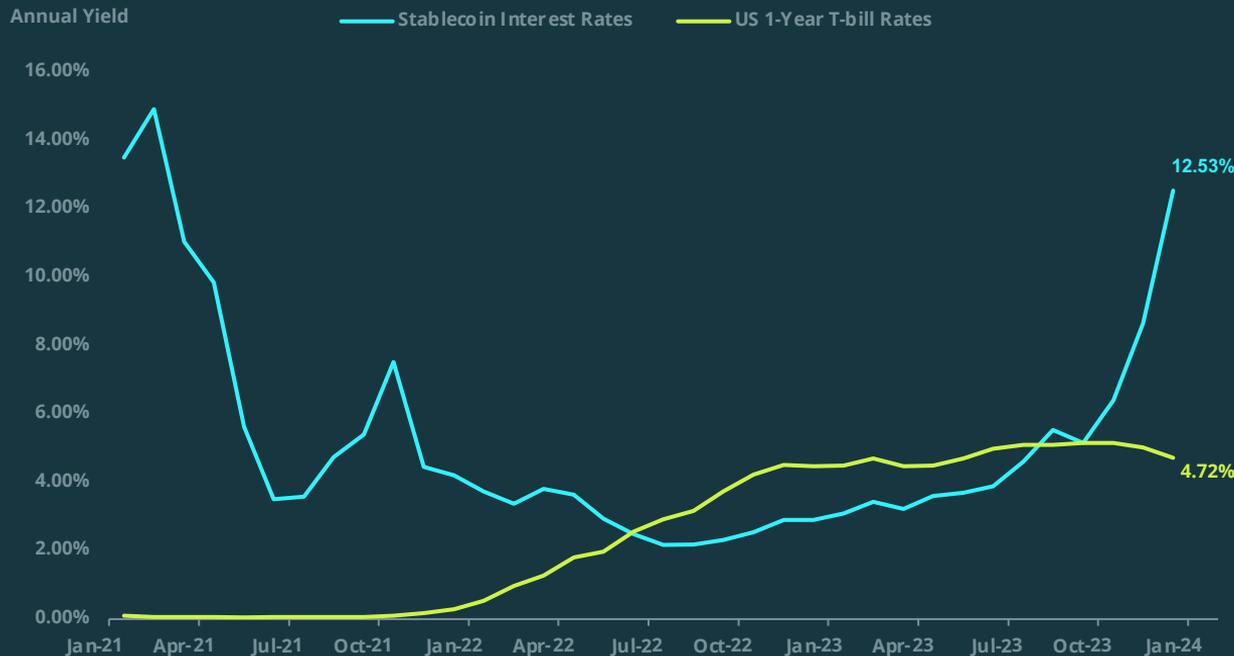
DeFi **market cap has stayed between \$40B - \$50B** despite the sell-off in August. However, the possibility of a spot Bitcoin ETF approval has pushed DeFi's market cap higher alongside the overall market to new yearly highs in Q4, **surging from \$46B at the end of Q3 to \$78B** at the end of 2023.

The Q4 run-up in market cap **has increased DeFi's dominance to 4.5%**, after staying largely below 4.0% in Q2 and Q3 of the year.

2023 DeFi vs TradFi Returns

Interest rates for Stablecoins in DeFi have surged back to levels last seen in 2021, as the appetite for leverage returns once more

Stablecoin Interest Rates VS US 1-Year Treasury Bill Rates (2021 – 2023)



+7.81%

Spread between Stablecoin Interest Rates vs US 1-Year T-bill Rates on January 1, 2024

Although DeFi yields cratered from 13.49% in January 2021 to 4.21% in 2021 December, **T-bill rates were still close to zero**

The Fed started hiking rates throughout 2022 to combat inflation, while the crypto market cratered, causing demand for leverage to dry up. This pushed **T-bill rates higher than DeFi borrowing rates**. By the end of 2022, T-bills were yielding 4.72% compared to 2.89% from lending stablecoins.

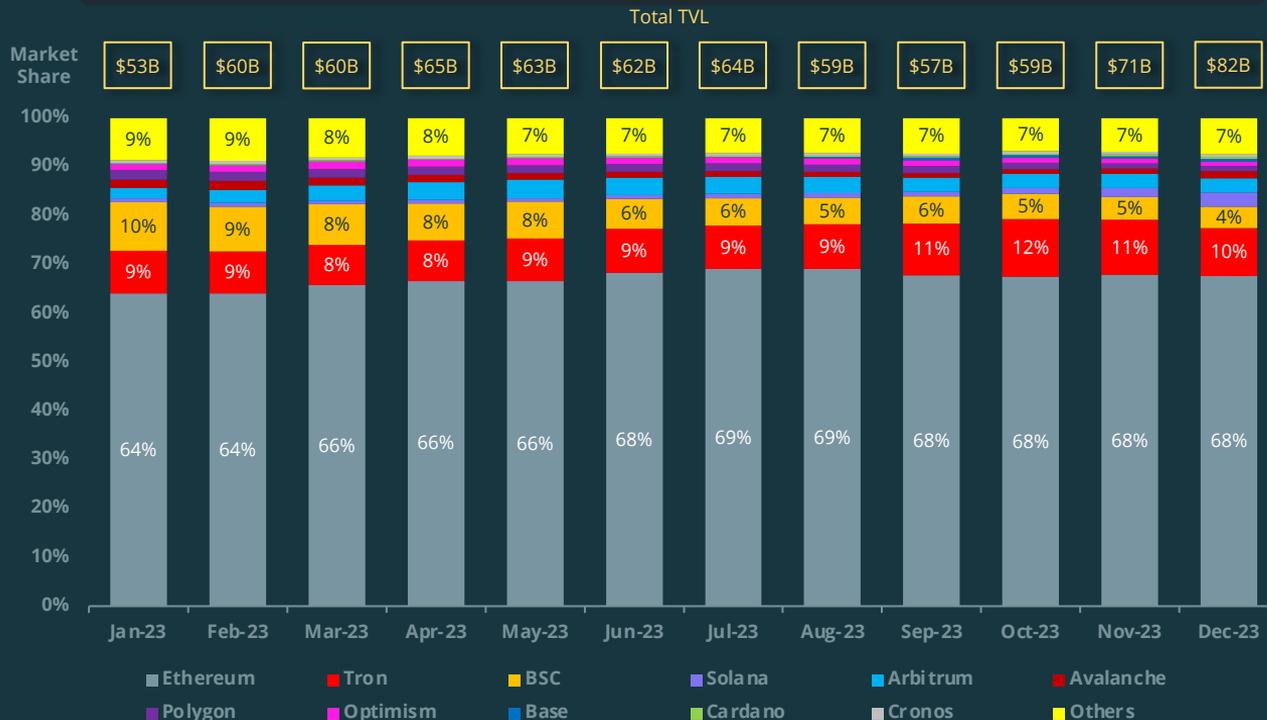
While DeFi yields have crept up steadily throughout 2023 H1, **rising speculation of US spot Bitcoin ETF approvals** in the final quarter of the year saw massive increase in risk appetites and demand for leverage. Stablecoin borrowing rates **more than doubled** from 5.15% in 2023 Q3 to 12.53% in 2023 Q4.

Source: Adapted from [@tt tyler's Interest Rate Dashboard, YCharts](#).
 *Stablecoin interest rates include borrowing rates for USDC, USDT and Dai on Aave and Compound.

2023 DeFi Multichain Market Share

Ethereum now controls a larger share of DeFi TVL with 68% dominance, while Tron is now the second largest chain by TVL in 2023, outpacing BNB Smart Chain

Multi-chain Total Value Locked (TVL) Breakdown (2023)



+55.6%
Increase in Multichain DeFi TVL since January 1, 2023

Although multichain TVL in DeFi saw fluctuations up to 2023 Q3, the sector witnessed **significant inflows of \$25B in 2023 Q4**, resulting in an overall 55.6% rise in TVL by the end of the year. Ethereum has continued to solidify its dominance, **increasing its market share from 64% in 2023 January to 68%** at in 2023 December.

Coming into 2023 as close rivals, Tron is now well ahead of BNB Smart Chain, **controlling 10% market share**. Since the start of the year, TVL on Tron has **surged by 74.8%** with the launch of stUSDT, while TVL on BSC has **dropped by 31%** by the end of 2023.

The Solana ecosystem has seen a major revival in 2023, **growing its TVL by 441.1%** from \$447M in 2023 January to \$2.4B in 2023 December. The price appreciation of the network token (SOL) along with the potential of future airdrops have pushed more users into bridging over.

Source: [Defillama](https://defillama.com)

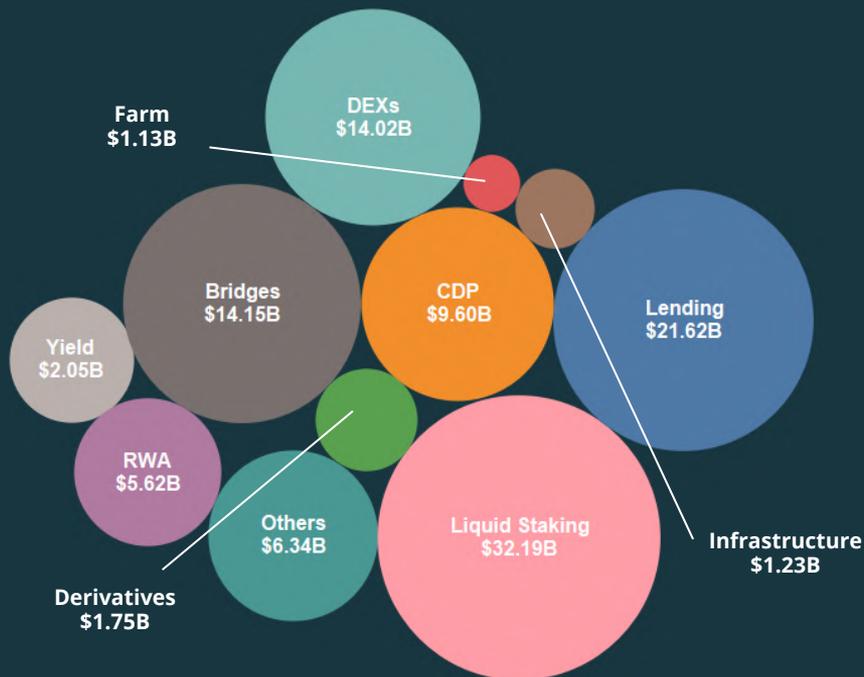
*Monthly TVL is calculated by taking the average TVL on daily basis for each month.

** RWAs and redemptions are not included in multi-chain TVL

2023 DeFi Ecosystem Overview

Liquid staking consolidates its place at the top of DeFi protocols in Q4, while lending and bridging protocols also saw significant gains in their share of TVL

Total Value Locked of Each DeFi Category (Q4 2023)



TVL Share	Segment	QoQ % Change
	Overall TVL	46.8%
▲ 29.3%	Liquid Staking	61.3%
▲ 19.7%	Lending	53.2%
▲ 12.9%	Bridges	60.5%
▼ 12.8%	DEXs	21.1%
▼ 8.8%	CDP	20.8%
▲ 5.8%	Others	58.1%
▼ 5.1%	RWA	0.9%
▲ 1.9%	Yield	67.4%
▼ 1.6%	Derivatives	38.4%
▲ 1.1%	Infrastructure	431.8%
▲ 1.0%	Farm	7476.6%

Despite the completion of the Ethereum Shapella upgrade, **the liquid staking sector** has continued to grow tremendously throughout 2023, capping of the year with a **61.3% increase in TVL** from \$20B to \$32.2B over the 2023 Q4.

Real World Assets (RWAs) saw a smaller TVL increase of 0.9%, **lowering their TVL share from 7.4% in 2023 Q3 to 5.1% in 2023 Q4** as the crypto space shifted to other trends. However, the sector has had a commendable 2023 with its total TVL growing **by 640% from \$760M to \$5.62B** at the end of 2023.

Despite making up just 1% of the overall DeFi sector, TVL on yield farms have **risen by over 74x**, highlighting the return of crypto users who have **regained their willingness to generate returns** on their holdings, in light of improving market conditions.

2023 Cross-chain Bridge Liquidity

Liquidity has rebounded across most cross-chain platforms, led by a 211% TVL increase on the Portal bridge as users flock back to Solana

Top 12 Bridges with Highest Liquidity (as of Jan 1, 2024)

Bridges	2023 Q4	2023 Q3	QoQ % Change
WBTC 	\$6.7B	\$4.4B	▲ 52.8%
JustCryptos 	\$4.8B	\$3.1B	▲ 55.1%
Portal 	\$1.0B	\$322M	▲ 211.0%
hBTC 	\$425M	\$242M	▲ 75.7%
Stargate 	\$330M	\$389M	▼ 15.3%
Multichain 	\$177M	\$115M	▲ 54.0%
Axelar 	\$168M	\$96M	▲ 75.5%
Synapse 	\$114M	\$110M	▲ 3.3%
Across 	\$104M	\$56M	▲ 85.2%
Celer cBridge 	\$98M	\$88M	▲ 11.7%
Poly Network 	\$97M	\$85M	▲ 13.6%
Hop Protocol 	\$60M	\$59M	▲ 1.0%

\$14.0B

(+74.4%)

Total Cross-chain Bridge Liquidity
as of January 1, 2024

Although WBTC has once again shown impressive growth of 52.8% from \$4.4B in 2023 Q3 to \$6.7B in 2023 Q4, much of this is due to **Bitcoin's 56.5% price increase** over the past quarter, indicating that the bridge still saw a slight outflow in terms of assets. This is likely, given that the **rise of Inscriptions-based** tokens may have shifted some liquidity back to the Bitcoin network.

The revival of the Solana ecosystem has resulted in massive inflows through the Portal bridge, pushing it into the top 3 with a **211% increase in TVL from \$322M in 2023 September to \$1B** by the end of 2023.

On the other hand, Stargate has **lost 15.3% of its TVL** over the past quarter, as uncertainty around the launch date of LayerZero's ZRO, along with a thriving market environment for deploying capital, could be driving airdrop farmers away to greener pastures.

With the **resurgence of L2s and the Cosmos ecosystem** in 2023 Q4, bridges specializing in the former (Across) and the latter (Axelar) have experienced significant inflows. Climbing through the ranks of the top 12 bridges, Across' bridging protocol for L2s has **nearly doubled its TVL** from \$56M in 2023 Q3 to \$104M in 2023 Q4.

2023 Highlights for DeFi

As price action continues to stagnate in 2023, DeFi is moving back to core fundamentals, focusing on improving scalability and user experience

The Evolution of Real Yield



In 2021, food yield farms, which sometimes promised up to millions in APY, have proven to be unsustainable in the long run, with excessive emissions of governance tokens with no inherent value. As such, many projects are now placing greater emphasis on **'real yield'**, generating sustainable returns in the form of established cryptocurrencies, such as ETH or stablecoins.

While **decentralized perpetual protocols** such as GMX paved the way for real yield protocols in 2022, their popularity has been succeeded by **LSDs and LSDFi** protocols in 2023, which generate real returns through network staking. With real-world interest rates reaching new highs this year, **Real World Assets (RWAs)** also became popular as an alternative method to access TradFi returns. Not to be left out, **GambleFi** platforms such as Rollbit, also offer real yields to liquidity providers who act as the 'house', earning a cut of the platform's earnings.

A Chain for Every dApp



Although general purpose Layer-1s have become the experimental playground for innovations in DeFi and NFTs, developers are building blockchains with specialized architecture are required to promote further adoption of DeFi, capable of handling a high amount of transactions quickly, at a fraction of the cost. The launch of **DeFi-focused networks** such as Sei and Injective offer a smoother and faster experience for users through native matching engines and decentralized orderbooks.

However, dApps don't all have to be built on specific networks, when they can operate as their own **app-chain**. With dYdX completing its migration from Ethereum into the standalone Cosmos-based dYdX Chain, more protocols have since transitioned into deploying their own app-chains or **rollapps**, which leverage the security of underlying L1s/L2s. This process is further simplified through **Rollup-as-a-Service (RaaS)** providers such as Dymension, Caldera and Conduit.

Reinventing DEXs



In 2023 June, Uniswap announced the **v4 upgrade** of its platform, introducing 'hooks' that allow users to add customized actions that trigger based on actions within the liquidity pool, such as dynamic fees and on-chain limit orders, with all pools running under a single smart contract. But that's not all, as **UniswapX**, an intent-based swapping protocol, was also released a month later, offering better prices, gas-free cross-chain trades, and MEV protection.

In a nutshell, **intents** allow users to sign specific parameters for transactions and outsource them to solvers to be executed in the most efficient manner. First popularized by CowSwap, the resurgence of **intent-based architecture** has become a trending topic in 2023. While intents are now used for on-chain trade routing and cross-chain transfers/swaps, projects such as Anoma, Essential and dappOS are currently building general purpose intent-based architecture, extending their use case beyond just DEXs and bridges.

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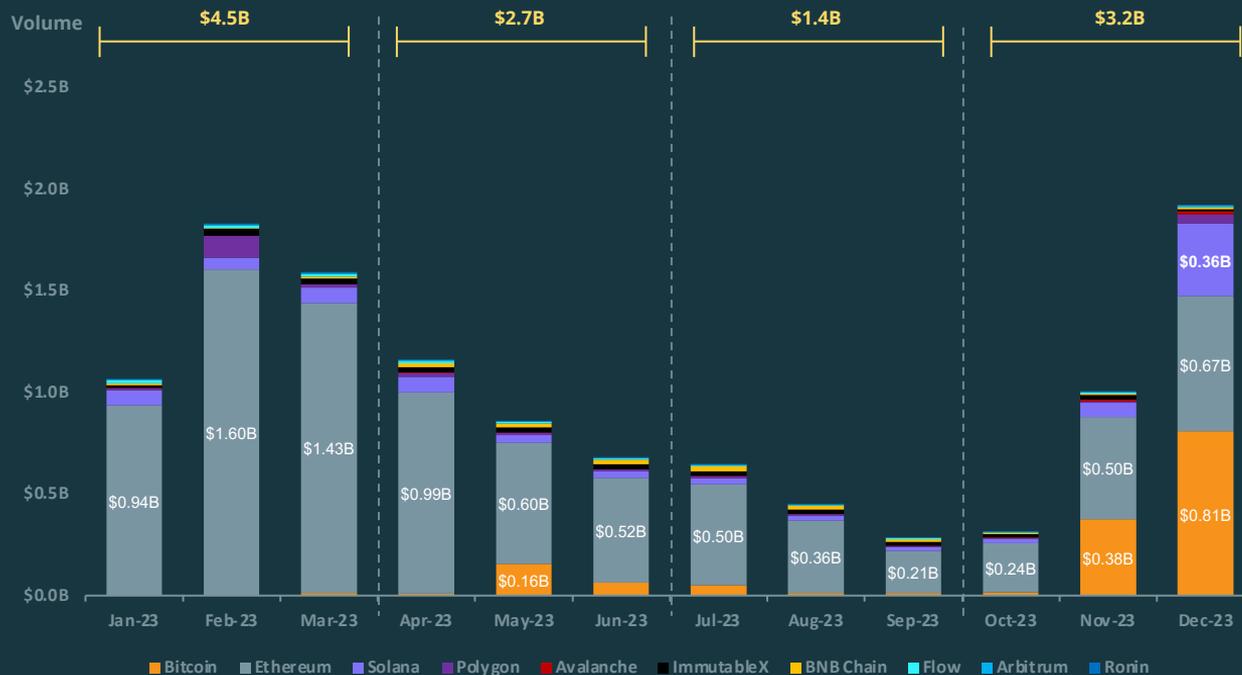


NON-FUNGIBLE TOKENS (NFTs)

2023 NFT Trading Volume across Top 10 Chains

NFT market showed signs of life in early 2023, but dropped off precipitously in Q2 and Q3, before rebounding in Q4

Top 10 Chains for NFT Trading Volume (2023)



+79.9%
Increase in Trading Volume from January 2023

NFT trading volume across the top 10 chains amounted to \$11.8 billion in 2023. However, this figure is still less than half of the NFT trading volume in 2022, which reached \$26.3 billion across the top 8 chains.

Ethereum-based NFTs continue to be the main NFT chain in 2023, capturing 72.3% of trading volume. However compared to its dominance of over 90% in 2022, it has clearly **lost market share to Bitcoin and Solana.**

Bitcoin surpassed Ethereum in NFT trading volume in December, with \$808M in trading volume. This can be attributed to the introduction of Ordinals earlier this year, which regained popularity in November.

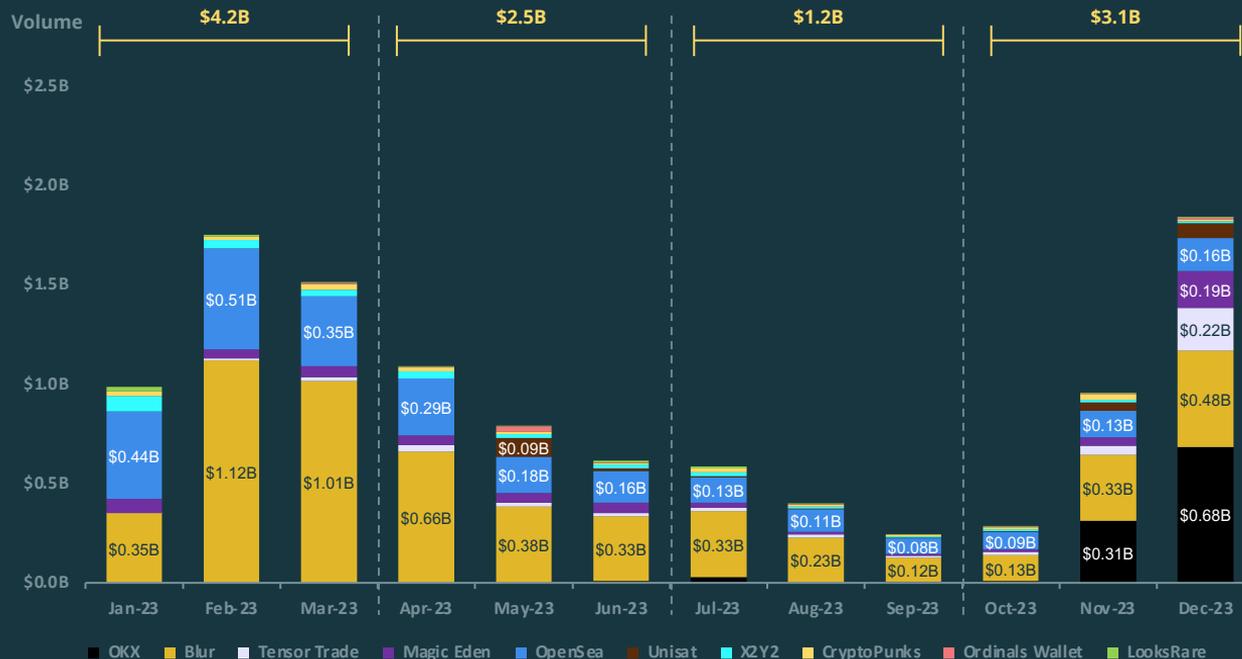
Solana made an impressive comeback in 2023, with trading volumes increasing by 4 times, from \$73M in January to \$359M in December 2023. Mad Lads and Tensorians were the most popular collections.

Source: [Dune Analytics \(@hildobby, @domo, @ilemi\)](#) & [Cryptoslam](#)
*Wash trading filters are applied for Ethereum, Polygon, Arbitrum
**Cardano has been excluded due to irregular trading behaviour

2023 NFT Platform Trading Volume

While Blur has been dominant for most of 2023, the introduction of Bitcoin Ordinals and Solana's comeback has allowed many new NFT marketplaces to capture market share

Top 10 NFT Marketplaces (Jan – Dec 2023)



Blur is the **leading NFT marketplace in 2023, capturing 49.6% of trading volume.** Blur **dethroned OpenSea** as the top NFT marketplace in Q1. The marketplace enabling traders to opt-out of paying royalties, as well as launching a lucrative airdrop campaign, while OpenSea stood firm on their stance to enforce royalties.

However, Blur has also since **progressively lost market share**, in line with the decline in NFT trading volume on Ethereum in 2023.

OKX has established itself as the leading Bitcoin Ordinals marketplace, and recorded the **most trading volume amongst all NFT marketplaces in December.** This can be attributed to **increased excitement surrounding Ordinals** after Binance announced its listing of \$ORDI.

Magic Eden, Unisat and Ordinals Wallet are the other main Ordinals marketplaces.

Tensor Trade, dubbed the 'Blur of Solana', rose in ranks to become the **third largest NFT marketplace in December 2023** on the back of the Solana NFT comeback, capturing 11.7% of NFT trading volume.

Source: [Dune Analytics \(@hildobby, @domo, @ilemi\)](#)

*OpenSea volumes include Ethereum, Polygon & Arbitrum; MagicEden volumes include Solana, Bitcoin and Polygon

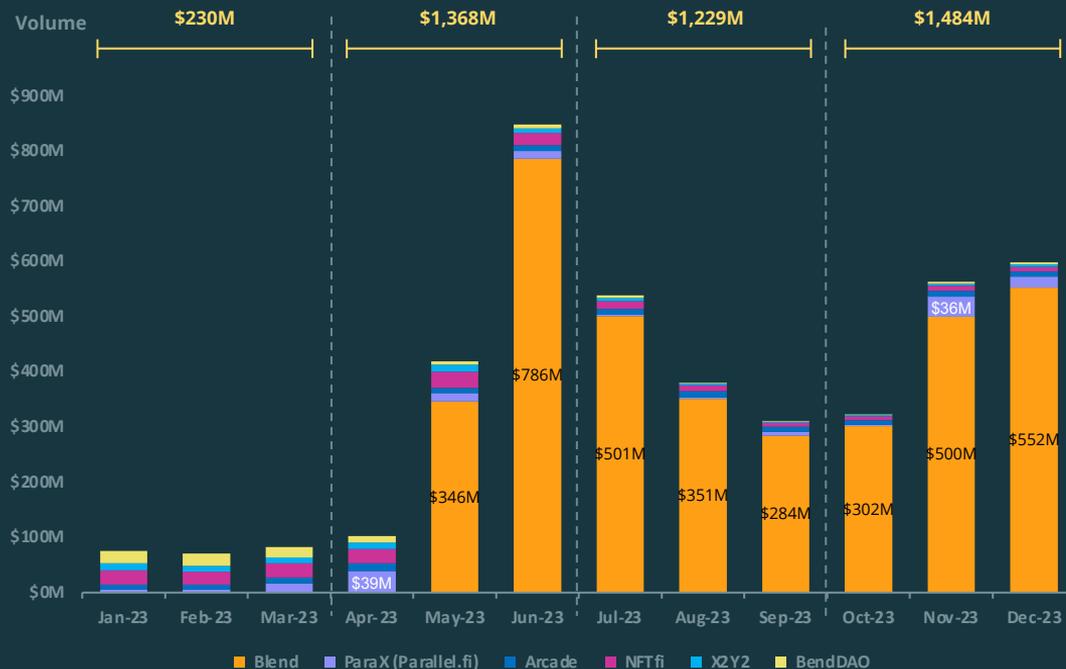
**Trading Volume is credited to the aggregator (Blur, OpenSeaPro) if the trade was aggregated

***ImmutableX marketplaces are excluded due to difficulty in obtaining data

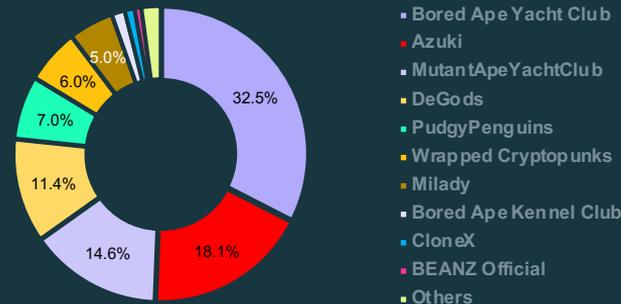
2023 NFT Lending

NFT lending surged with the introduction of Blend in 2023, but still only plays a small role within the overall NFT market

Top 6 NFT Lending Platform Loan Volume (Jan - Dec 2023)



Loan Origination Volume on Blend (by Collection)



Top 6 NFT lending platforms **recorded a total of \$1.5B in loan volume in 2023 Q4**, representing a 20.8% increase QoQ.

Blend maintained its position as the leading NFT lending platform, capturing \$552M or 92.3% of NFT lending volume in December 2023.

Bored Apes and Azukis made up 50.6% of all loans on Blend thus far, equating to \$1.8B in borrowed funds. Loan origination from **Pudgy Penguins increased by 211.2% QoQ**, from \$81M in Q3 to \$252M in Q4. This could be due to traders looking to make leveraged bets on Pudgys in anticipation for a price surge, where the price increase is higher than the interest on loan.

2023 Highlights for NFT

A challenging year for NFTs resulted in drastic changes within the sector such as the removal of creator royalties, and challenging sub-collection launches for so called “blue chip” projects

Royalty Wars – To Enforce Or Not?



The "Royalty Wars" came to the fore in the early part of 2023, as marketplaces such as Blur and OpenSea fought to become the dominant NFT marketplace.

Launched in October 2022, Blur allowed traders to pay optional royalties, enabling traders to speculate on NFTs without feeling the pinch of royalty fees. It also temporarily eradicated royalties, before transitioning to a 0.5% royalty model later on.

OpenSea responded by introducing an operator filter registry to allow creators to blacklist marketplaces which did not enforce royalties, but faced setbacks when a loophole was discovered by Blur in January, leading them to eventually give in and revert to optional royalties in February. In the midst of this, many other NFT marketplaces also initially took the stance to protecting creator income, but later also reverted to optional royalties.

This caused effective royalty rates to continue to trend down, ranging from 0% to 1% in 2023.

A Year of Ups for Some and Downs for Others



Pudgy Penguins Comeback – A flightless bird at the beginning of the year, Pudgy Penguins returned to the spotlight under the renewed leadership of Luca Netz by pivoting towards physical toys.

Azuki Fumbles – In June 2023, Azuki released a second collection called Elementals. Unfortunately, this new collection looked very similar to the original collection, leading to backlash from the community and many long term holders to exit the project.

DeGods Migrates from Solana to Ethereum – A gamble that did not pay off. Solana's comeback in 2023 revived interest in its ecosystem and NFTs, but the former Solana NFT project missed the boat.

Mad Lads Ascend – This PFP collection, created by Armani Ferrante who also founded Solana Backpack, has established itself as one of the blue-chips on Solana, benefiting from numerous airdrops and partnerships as the Solana ecosystem makes a comeback.

NFTFi



NFTfi attempts to solve for two of the main challenges of NFTs, namely price discovery and liquidity. While it initially started with NFT lending protocols, the space has continued to innovate and now houses NFT perpetuals as well.

NFT lending received a significant jolt of interest in 2023 with the launch of Blend in May 2023. This catapulted the NFT lending market by 309.5%, from \$102M in April to \$418M in May 2023. While it has seen growth, there are still significant limitations in terms of the collections that are able to participate in these activities.

Similar in concept to DeFi token perpetuals, NFT perpetuals offered by protocols such as NFTPerp and NFEX are perpetual contracts that track the floor price of NFT collections. This allows traders to speculate on the value of specific NFT collections, without actually having to own the NFT itself. Proponents claim these contracts allow for better price discovery for NFT collections.

2023 Highlights for GameFi

The GameFi space is still full of activity in 2023, as existing projects continue to develop new games and infrastructure to support the next generation of gamers.

It's Just Honest Work ... Or Not?



While yield farming has become one of the more popular activities for DeFi users, it seems that the same is true for GameFi enthusiasts, as farming or mining games continue to dominate the blockchain gaming space, with games such as Pixels and Farmers World racking up **over 175K daily active players combined**.

Akin to a gamified form of yield farming, farming or mining game allow players to use NFTs to mine or farm resources for a specific duration. Players will then have to use their resources efficiently to increase their mining output and token rewards.

However, farming games have very simple gameplay and requires little input from actual human players, creating an environment **where bots thrive**. With users able to create and control thousands of bots, this can dilute token rewards for real players and discourage new ones from entering the game. As such, this genre's developers will need to go the extra mile to effectively combat these practices.

Gaming Chains & Gasless Chains



At the end of the last Play-to-Earn wave, Ronin was a very new network that had become the home of Axie Infinity. Fast forward to 2023, Ronin has grown into a robust ecosystem of games, with titles such as Zoids Wild Arena and Pixels migrating over. The resurgence of the Ronin network has caused the **price of RON to surge by 7x** from \$0.26 at the start of 2023 to \$1.85 at the end of 2023.

With the rising popularity of **networks catering specifically to blockchain games**, DAOs such as Merit Circle and Ancient8 have also launched their own gaming chains, Beam and the Ancient8 Chain. Although the Ancient8 Chain is still on the testnet, Beam is currently lives on Avalanche as a subnet.

While these gaming chains require their native token or ETH to perform transactions, 2023 has shown that **gasless blockchains** such as Skale and Wax continue to attract plenty of crypto gamers. Gamers make up 88% of all users on these two blockchains, with over 100K players on each respective network.

Open For Testing



During the 2021 GameFi Wave, developers raised heavy investments on the promise of delivering AAA-quality blockchain games with modern gameplay and sustainable tokenomics. While some communities were still waiting for these promises to be delivered in 2023, a handful of these projects are **now playable and are close to completion**.

We've seen titles such as Parallel and Big Time being opened to wider audiences, and achieving some success at that, as reflected by the price action of their respective tokens. From their initial launch at \$0.13 in October 2023, **Big Time's BIGTIME token has increased by 269% to \$0.44** at the end of last year, while Parallel's PRIME token has risen by 150%.

Meanwhile, teams that have delivered in the past are now looking to capture lightning twice. The creators of STEPN, the key driver behind the Move-to-Earn hype in early 2022, are looking to release their latest title, Gas Hero, with an emphasis on **better token sinks and conservative emissions**.

EXCHANGES

2023 Top Cryptocurrency Exchanges Trading Volume

Trading volume rose +53.1% in 2023 Q4 to \$10.3T, marking its first QoQ increase

Top Cryptocurrency Exchanges Trading Volume (2023)

Total Trading Volume (\$ Trillion)



+53.1%
Top Crypto Exchanges
Trading Volume Increase In
2023 Q4

Crypto closed out 2023 with total trading volume **increasing 53.1% from Q3 to Q4**, the first QoQ increase for the year.

Trading volume **climbed sharply in December to \$4.3T**, with market sentiment swinging bullish in anticipation of BTC ETFs.

The ratio of CEX : DEX spot trading volume hovered around 91.5% in Q4, similar to Q3.

Meanwhile, CEX : DEX derivatives trading volume ratio dropped to 97.3% from 98.5%.

Overall in 2023, CEX : DEX spot ratio stood at 91.4% while CEX : DEX derivatives ratio was 98.1%.

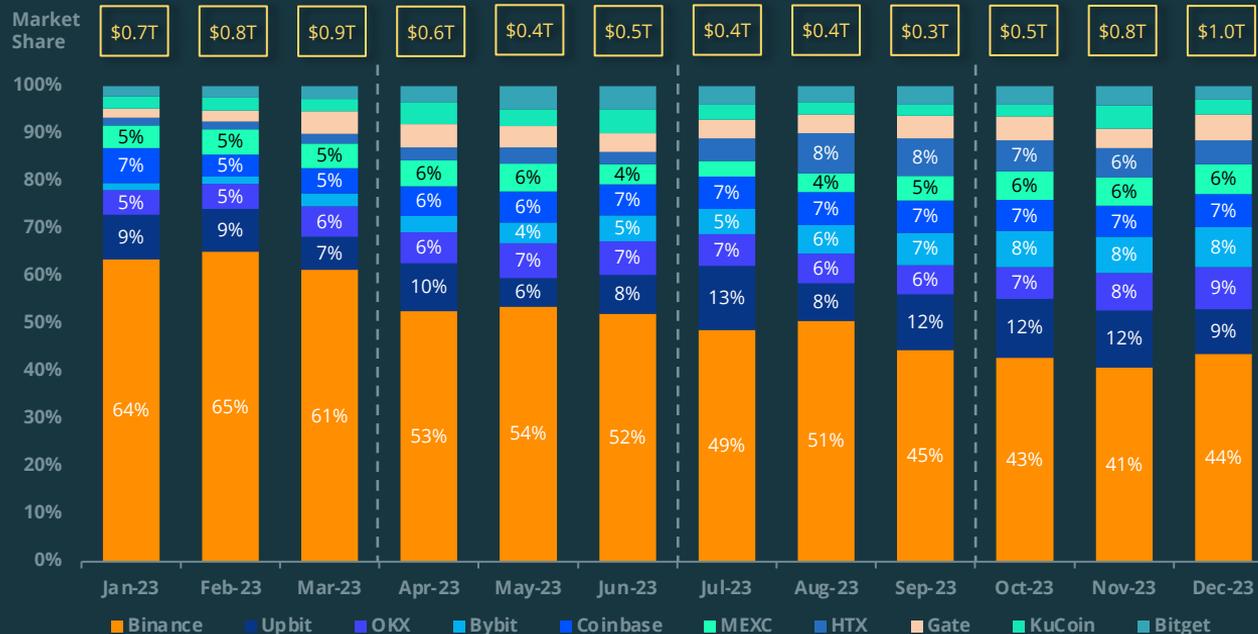
CEX's dominated the year despite the fall of FTX last year, and FUD surrounding Binance throughout 2023.

2023 Top 10 Spot Centralized Exchanges (CEX) Trading Volume

Binance's dominance over the Top 10 Spot CEXes dropped to a yearly low of 41% in November, but managed to remain on top in 2023 Q4

Top 10 Spot CEX Trading Volume Breakdown (2023)

Total Trading Volume (\$ Trillion)



+98.1%
Top 10 Spot CEX Total Trading Volume Increase in 2023 Q4

Top 10 CEXes recorded **\$2.20T in spot trading volume** in 2023 Q4, after trading below \$2T for two consecutive quarters. This represents a **+98.1% increase QoQ**.

Binance remained the dominant spot CEX, but has continued to lose market share through out 2023. Its **market share fell to a yearly low of 41%** in November, coinciding with its settlement with the US authorities for \$4.3B and CZ's resignation.

All Top 10 CEXes grew in Q4, with MEXC growing the most at 203.7% (\$90.4B). This was followed by Bybit, which grew 162.1% (\$107.5B,) and KuCoin with 161.2% (\$49.2B).

KuCoin regained its spot in the Top 10 in Q4 after losing it in Q3, edging out Kraken.

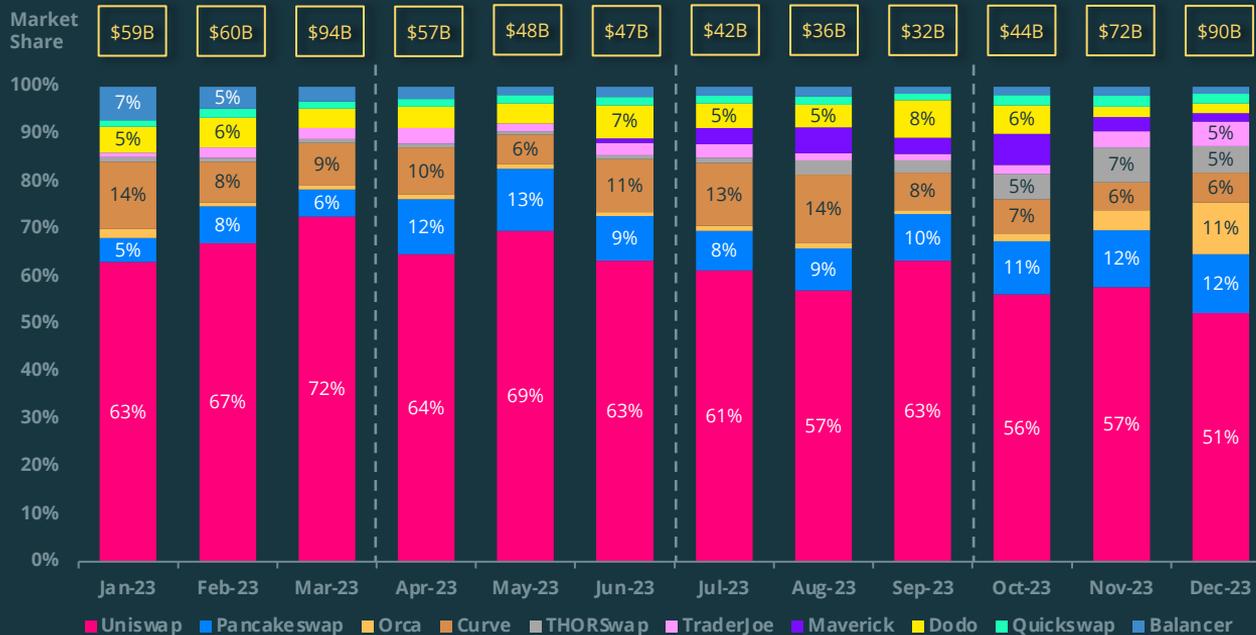
In total, Top 10 CEXes recorded \$7.2T in trading volume in 2023 compared to \$9.4T in 2022, a **-23.4% YoY decline**.

2023 Top 10 Spot Decentralized Exchanges (DEX) Trading Volume

Top 10 Spot DEXes trading volume increased +87.1% in 2023 Q4, with Orca and THORSwap leading the charge

Top 10 DEX Trading Volume Breakdown (2023)

Total Trading Volume (\$ Billion)



+87.1%
Top 10 Spot DEXes Total Trading Volume Increase in 2023 Q4

Top 10 DEXes recorded a total of **\$205.3B** in spot trading volume in 2023 Q4, representing an 87.1% increase QoQ.

Orca was the biggest gainer amongst the DEXes in Q4, rising **1,079.0%** (\$12.2B), and now ranks third with a 11% market share.

This sharp rise in trading volume can be attributed to the uptick in interest in Solana.

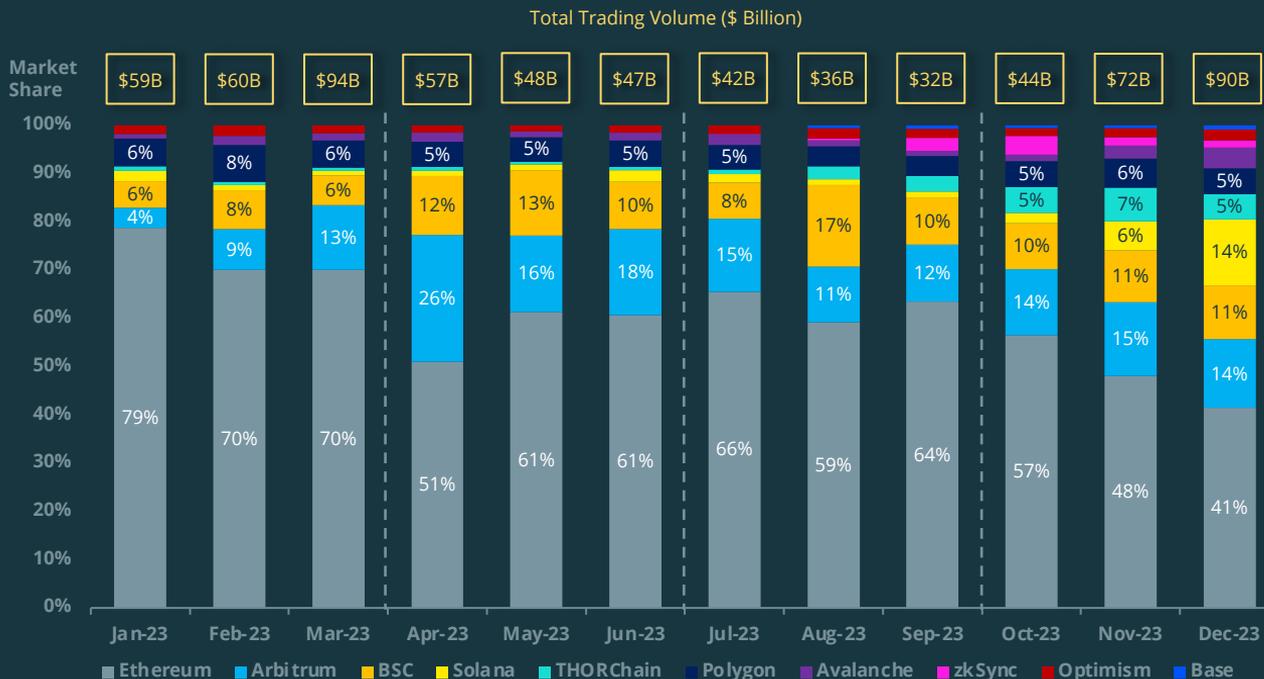
THORSwap, a cross-chain DEX, also saw a surge in trading volume to end Q4 with \$12.5B. This is an increase of 422.4% (\$10.1B) QoQ.

Safeguards have since been implemented in order to stem illicit transactions on the platform.

2023 Spot DEX Trading Volume Breakdown by Chain

Ethereum's share of trading volume dropped to a low of 41% in December, but remains ahead of the competition as Arbitrum showed steady growth, while Solana surged at the end of 2023

Spot DEX Trading Volume Breakdown by Chain (2023)



Ethereum captured **\$99.3B of DEX trading volume in 2023 Q4**. This is an **increase of +38.3% from 2023 Q3**, where it had \$71.8B in trading volume.

Despite the increase in trading volume in Q4, its dominance has dropped below 50% for the first time in 2023 in November and December, edging the year at a low of 41% as other chains caught up.

While BSC remained #3 in Q4 overall, it was overtaken in December by Solana. This is the second instance BSC has dropped in rank, after being overtaken by Arbitrum in Q1.

Arbitrum too is being challenged by Solana. Both chains ended December with almost equal 14% market share.

Solana was the largest gainer in Q4, rising a whopping 985.5% QoQ. Its share of trading volume has increased from 6% to 14%

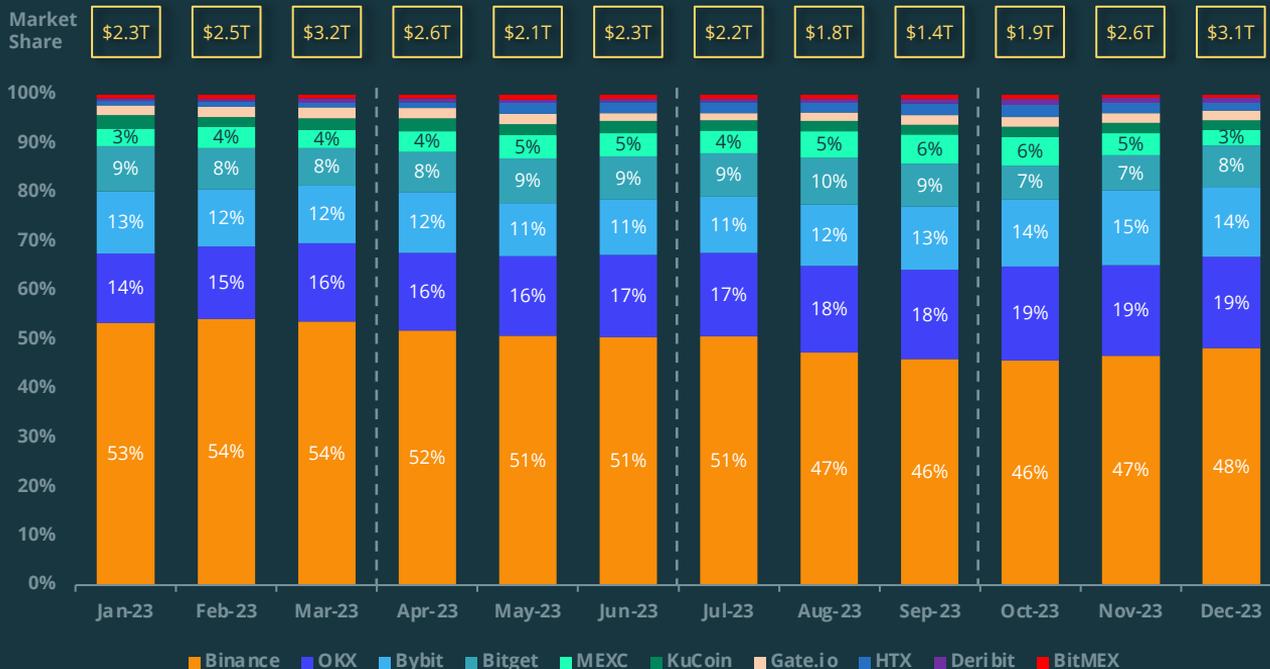
THORChain was the second largest gainer, with its trading volume increasing 422.4% in Q4. The two chains now rank #3 and #5 respectively in December 2023.

2023 Top 10 Centralized Perpetual Exchanges Trading Volume

Total trading volume on perpetual CEXes more than doubled in 2023 compared to 2022, a clear sign of market recovery, though it still lags volumes in 2021

Top 10 Centralized Perpetual Exchanges Trading Volume (2023)

Total Trading Volume (\$ Trillion)



+42.1%

Top 10 Centralized Perpetual Exchanges Trading Volume Increase in 2023 Q4

Volumes on Top 10 Perpetual CEXes experienced a **strong recovery** from \$5.4T in Q3 to \$7.6T in Q4. It was the second most active quarter in 2023, behind Q1.

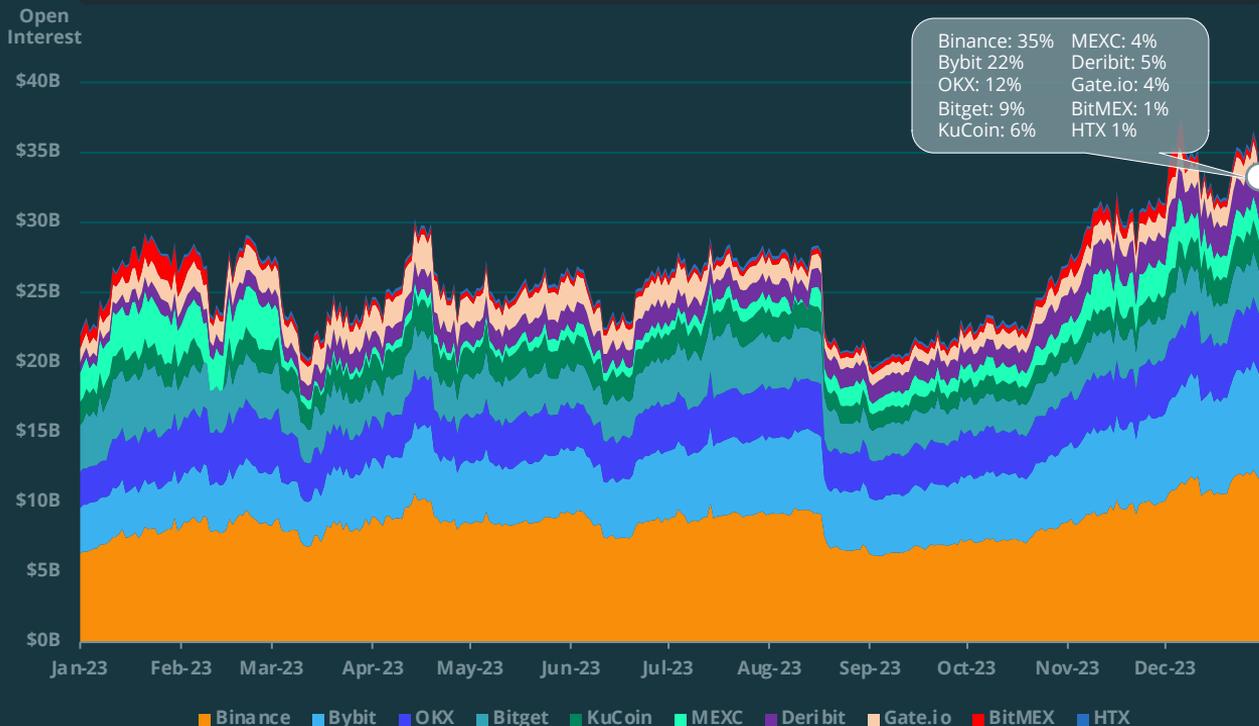
Similar to the spot CEX market, **Binance has managed to hang on to its market share** despite news of its DoJ settlement, and remain the largest perpetual CEX. OKX and Bybit also solidified their position at #2 and #3 respectively.

In contrast with the spot CEX market, total trading volume on Top 10 Perpetual CEXes was \$28T in 2023, **more than double the total volume in 2022** of \$11T, a clear sign of recovery of the perpetuals market. However **it still lags 2021** bull market volumes, where Binance alone recorded \$24T in perpetuals volume.

2023 Top 10 Centralized Perpetual Exchanges Open Interest

Total Open Interest have now surged to above \$30B, its highest point in the past two years; Share of OI has consolidated to the Top 3 exchanges Binance, Bybit and OKX

Top 10 Centralized Perpetual Exchanges Open Interest (2023)



+48.4%

Top 10 Centralized Perpetual Exchanges OI Increase from Oct 1, 2023 to Dec 31, 2023

Similar to trading volume, open interest (OI) on Top 10 Perpetual CEXes also saw a surge in Q4, rising to its highest point of the year at \$36.7B on December 5. Total OI closed out the year at \$32.9B, a level also **higher than any point in 2022**.

Majority of OI amongst Top 10 Perpetual CEXes are now **concentrated between the Top 3 exchanges** Binance, Bybit, and OKX, with ~70% share of OI at the end of 2023 compared to ~55% at the start of the year.

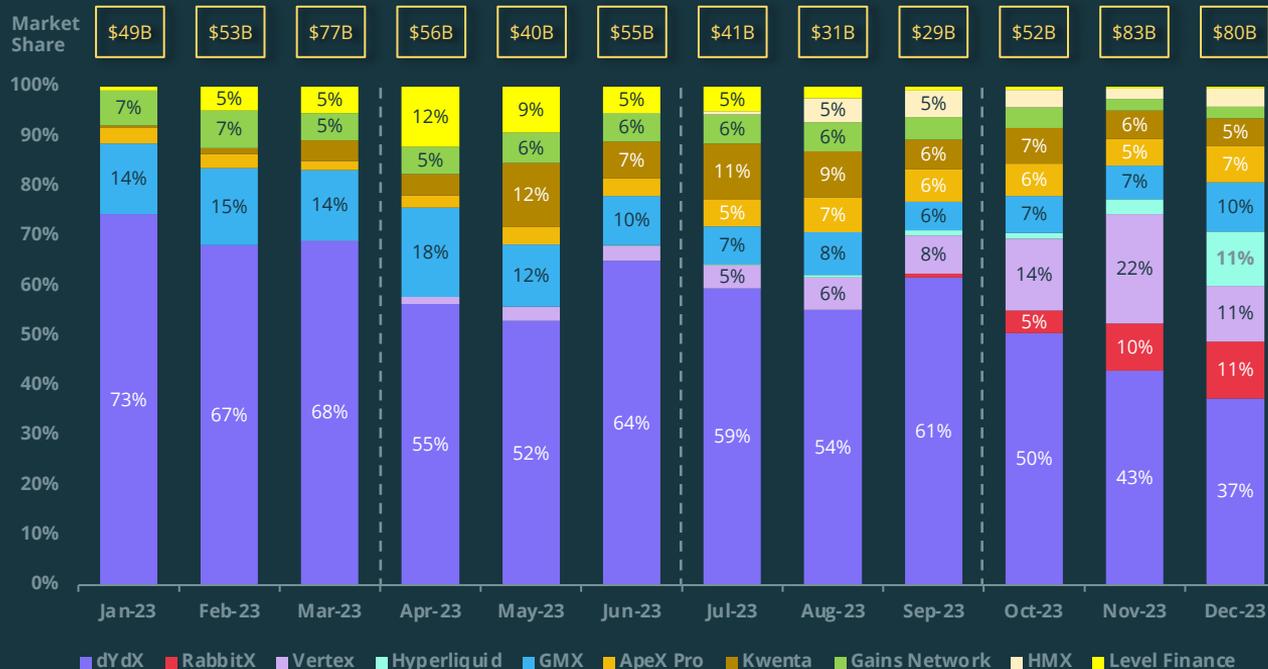
Strong interest in the US BTC Spot ETF have also caused **a surge in OI for BTC Futures Contracts** on TradFi Derivatives Exchange **CME**, leading the OI of BTC perpetual contracts on all Perpetual CEXes in Q4.

2023 Top 10 Decentralized Perpetual Protocols Trading Volume

While dYdX remain dominant, it is now facing significant competition from an array of new challengers in the decentralized perpetuals market which is fast expanding in Q4

Top 10 Decentralized Perpetual Protocols Trading Volume (2023)

Total Trading Volume (\$ Billion)



+47.4%
Top 10 Decentralized Perpetual Protocols Trading Volume Increase in 2023 Q4

Similar to Perpetual CEXes, Perpetual Protocols also saw a **strong recovery** in volume, reaching \$215B in Q4 compared to \$102B in Q3.

While **Kwenta had a strong showing in Q2**, the second half of the year saw the emergence of new contenders **Vertex, Hyperliquid, RabbitX and ApeX Pro**.

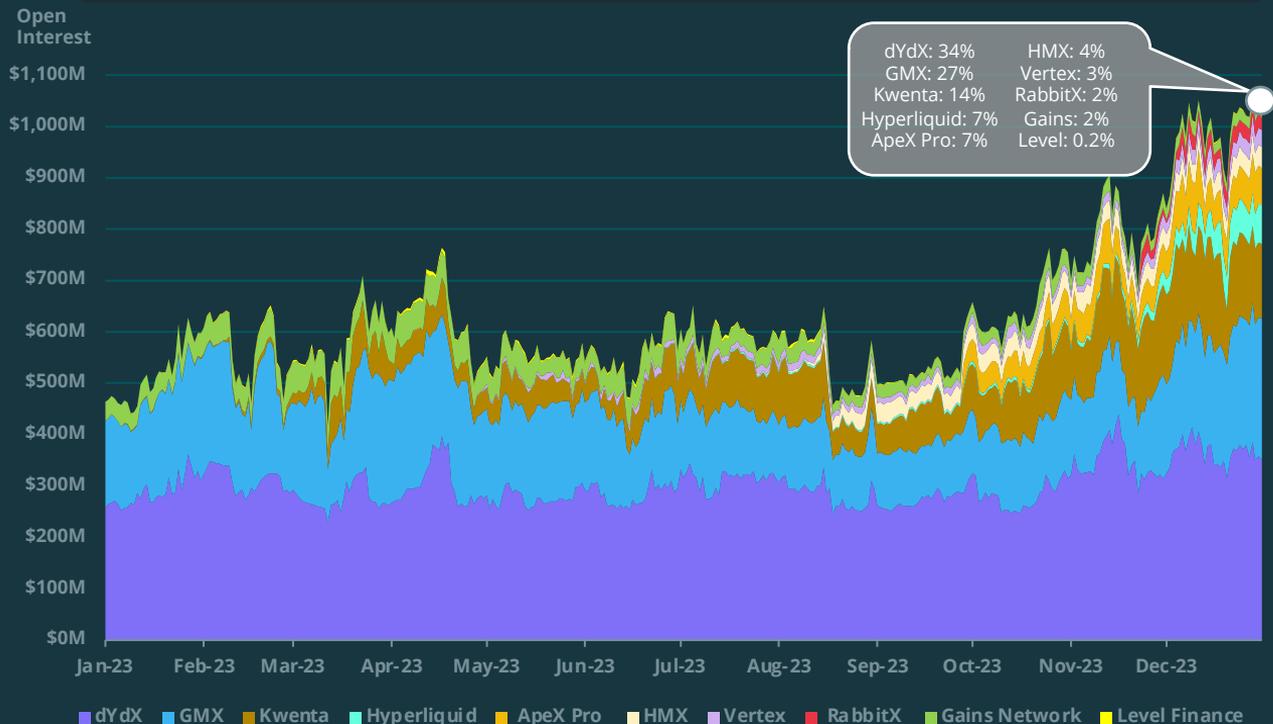
While **dYdX has retained its leading position** in 2023 even after its migration to the Cosmos ecosystem at end-October, its market share has shrunk significantly from 73% in January to 37% in December due to intense competition. However this is more an **“expansion of the pie”** phenomenon.

GMX also reported a rebound in volumes in Q4 due to its participation in the Arbitrum STIP program.

2023 Top 10 Decentralized Perpetual Protocols Open Interest

OI on decentralized perpetual protocols more than doubled in 2023 to reach above \$1B, helped by the entrance of new contenders to the market and bullish market sentiment

Top 10 Decentralized Perpetual Protocols Open Interest (2023)



+57.4%

Top 10 Decentralized Perpetual Protocols OI Increase from Oct 1, 2023 to Dec 31, 2023

Similar to Perpetual CEXes, OI on Top 10 Perpetual Protocols also saw an increase to \$1.04B by the end of the year, representing a **+41.5% increase QoQ**, and a **+123% increase for the year**.

However this is still **below historical levels**. Even back in 2022 April, dYdX alone recorded \$1B in OI.

Kwenta has seen steady increase in its share of OI through out the entire year, ending the year with 14% share of OI. Other challengers (Hyperliquid, ApeX Pro, HMX, Vertex, RabbitX) have much less share of OI, despite garnering a larger share of volumes.

Despite a year where its total OI was stable around \$300M, dYdX's lead in share of OI has declined from 56% at the start of the year to 34% by the end.



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