

2022 Annual Crypto Industry Report

FULL REPORT



Table of Contents



Founders' Note · · · · · · · · · · · · · · · · · · ·	2	DeFi Analysis ·····	23
Market Landscape - 2022 Spot Market Overview - 2022 Crypto Dominance - 2022 Cryptocurrency Price Returns - 2022 Top 15 Stablecoins Overview - 2022 Total Crypto Market Cap & Bitcoin vs. S&P 500 - 2022 Notable Events Timeline		 2022 DeFi Overview 2022 DeFi vs TradFi Returns 2022 DeFi Multichain Market Share 2022 DeFi Ecosystem Overview 2022 Cross-chain Bridge Liquidity 2022 Highlights for DeFi 	
- 2022 Notable Events Timeline - 2022 Notable Bugs And Exploits - FTX Collapse Bitcoin Analysis - 2022 Bitcoin Price vs. Trading Volume - 2022 Bitcoin Mining Hash Rate - 2022 Bitcoin vs. Major Asset Classes Price Returns	13	Non-Fungible Tokens (NFTs) - 2022 NFT Trading Volume across Top 8 Chains - 2022 NFT Platform Trading Volumes - 2022 NFT Royalties - 2022 Notable NFT Collections - 2022 Highlights for GameFi	31
Ethereum Analysis - 2022 Ethereum Price vs. Trading Volume - 2022 Ethereum Consensus Layer Staking - 2022 Ethereum Burn Rate - Maximal Extractable Value (MEV) - Ethereum Roadmap Following The Merge	17	 Exchanges 2022 Top 10 Cryptocurrency Exchanges 2022 Crypto Spot Trading Volume vs Equities Trading Volume 2022 Top 10 Centralized Exchanges (CEX) 2022 Top 10 Decentralized Exchanges (DEX) 2022 Derivatives Exchanges -Perpetual Swaps Volume 2022 Derivatives Exchanges - Bitcoin Perpetual Swaps Open Interes 2022 Performance of GBTC and \$BITO 	













Founders' Note



Earlier in Q2, we said 2022 was shaping up to be an annus horribilis for the crypto market, but little could we anticipate one final body blow would be struck just before the end of the year by the collapse of FTX and Alameda Research. The debacle rekt millions, and the industry is still reeling from its ripple effects. Just like Terra / Luna in April, we may not see the full extent of the damage until months down the road.

The capitulation sent crypto prices down one final leg, with BTC falling to ~\$16,000 and ETH to ~\$1,200 range. Total crypto market cap closed out the year at \$830B, a 64% drop from the start of the year. Solana, closely associated with FTX, suffered greatly from the fallout, falling by as much as 80% since the collapse. Total Value Locked (TVL) has also dwindled to \$200M.

The decline in crypto prices was matched by a decline in spot trading volumes across all exchanges. By the end of the year, 24H volume had fallen as low as \$25B, a level not seen since early-2019. Volume on NFT marketplaces similarly suffered, falling to \$400M in December compared to \$6B in January. DeFi TVL has similarly cratered, ending the year at \$39B from \$170B at the start of the year.

Ultimately, 2022 is the year we flush out the excesses following two years of bull-run exuberance. While macro conditions certainly turned severe, equally the industry was culpable in creating an unsustainable bubble. "The tourists are gone" has become a frequent refrain at the end of the year, but hopefully, the majority of scammers, grifters, and bad actors have also left altogether.

We also witnessed which projects withstood the test of a bear market, while unsustainable ones fell like a house of cards. As crypto winter set in, the market turned ruthlessly efficient in uncovering any weaknesses; projects with flawed mechanics quickly crumbled, while hacks and exploits took care of the rest.

At risk of sounding glib, we felt it was also important to highlight several high points for the industry. Despite the chilling effects of crypto winter, adoption continues to spread as evidenced by the continued growth in active onchain addresses. Ethereum's successful Merge completes a years-long process to migrate the pre-eminent smart contract platform to Proof-of-Stake. Bluechip DeFi protocols such as Aave, Frax and Synthetix have also seen significant upgrades, unlocking new functionalities and features for users. Meanwhile, NFTs expand across different chains and continue to evolve beyond simple PFPs towards incorporating greater utility.

The world is in a difficult place right now, and against such a harrowing backdrop, crypto needs to rediscover its center after suffering significant setbacks in 2022. Crucially, trust and credibility need to be redoubled towards making crypto relevant and usable for users. 2022 will likely be written off as a year to forget, but it should also mark a turning point for the industry. While 2023 may be too soon for a full-blown recovery, trust that the long arc bends towards a decentralized future. Together we persevere and build.





MARKET LANDSCAPE

2022 Spot Market Overview



After a brutal Q2, the crypto market has been trading sideways, in the low \$1 trillion range and below



-64.1%

Total Market Cap Change in 2022

Amid challenging macroeconomic conditions and a slew of bankruptcies and debacles in the crypto industry, **total crypto market cap** ended 2022 at \$829B, which is **64% lower** than at the start of the year.

Q2 was the most brutal period where we saw a huge drawdown, after which the markets have more or less been crabbing since mid-year, with one final leg down following FTX's collapse in November.

Q4 average trading volume sat at ~\$59B, which was a 32.8% decline QoQ. Overall, trading volumes have steadily trended down over the year, averaging ~\$86B.

Some notable mentions include **MATIC** which broke into the Top 10 and **OKB** which jumped QoQ from #21 to #11.

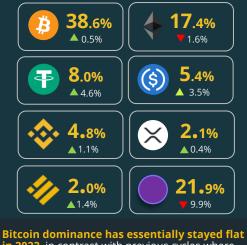
SOL and LUNC were in the Top 10 at the start of 2022 but **dropped by >90%** and fell from #5 to #19, and #9 to #42 respectively.

2022 Crypto Dominance



Top stablecoins USDT, USDC and BUSD expand their dominance as investors seek refuge from bear market





in 2022, in contrast with previous cycles where Bitcoin gained market share during bear markets.

Of the Top 7 cryptocurrencies, only **Ethereum** (-1.6%) saw a slight decline in dominance while USDT and USDC posted strong gains.

'Others' (-10%) unsurprisingly saw the largest decline in market dominance as investors fled for the perceived safety of 'bluechips' or stablecoins.

2022 Cryptocurrencies Price Returns



A year of pain for crypto-investors



Among the top 5 cryptocurrencies, ADA performed the worst both in Q4 (-43%) and FY 2022 (-81%), while overall BNB held up the best (-52%), followed by XRP (-59%) and BTC (-64%).

While major **DeFi** protocols continued building and churning along, the value of their **tokens slid double digit percentages in Q4**, with all of them posting **drawdowns of ~70-80% throughout 2022**.

MKR (-78%), GRT (-92%), and RUNE (-81%) which had been in the Top 5 DeFi tokens in previous quarters have also suffered major losses in 2022.

Exchange tokens have been a mixed bag, with a couple of notably resilient tokens in 2022 – OKB (-10%) and LEO (-4%) – while others like FTX's token FTT has fallen off the board completely for obvious reasons. Crypto.com's token CRO has also taken a massive beating, performing the worst (-90%) amongst the Top 5 as fears around the solvency of centralized exchanges loom.

The P2E sector was the worst impacted, with >90% losses across the board. The exception to the rule was GMT, which had rocketed up by over 2,700% within its first two months of launch before plummeting back down to end the year with a 69% gain.

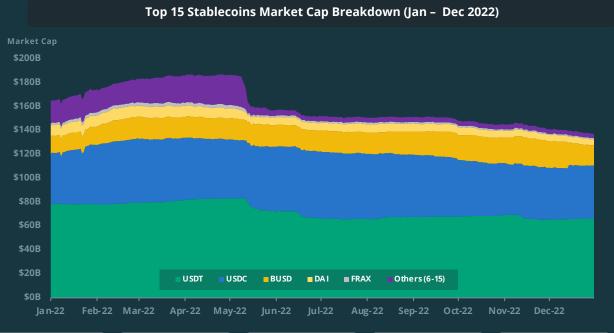
GALA, which had previously been in the Top 5 P2E tokens from Q1-Q3 2022, also **plummeted by 96%**.

ource: CoinGecko CoinG

2022 Top 15 Stablecoins Overview



Stablecoins shed \$27.3 billion despite their increased dominance; meanwhile USDC and BUSD saw gains in market cap



-16.6%

Top 15 Stablecoins Market Cap Change in 2022

Stablecoins were not spared from market outflows in 2022, **shedding a total of \$27.3B or ~17%**. Most of this loss was recorded during the **UST collapse**, and the sector has fared relatively well since then, despite periodic FUD of depeg.

The largest stablecoin **USDT** saw a decline in market cap **of 16% or \$12B in absolute terms.** Conversely, **USDC and BUSD each** saw similar growth of ~\$2B each.

Top decentralized stablecoins DAI (-43%) and FRAX (-44%) took similar percentage losses, though DAI's \$4B loss was almost 5 times larger in absolute terms.

Outside the top 5, USDN fell out of the top 15 after depegging in November, with MIMATIC taking its place. USDD, launched in May, now sits at #8, with its market cap hovering around \$700B since June.







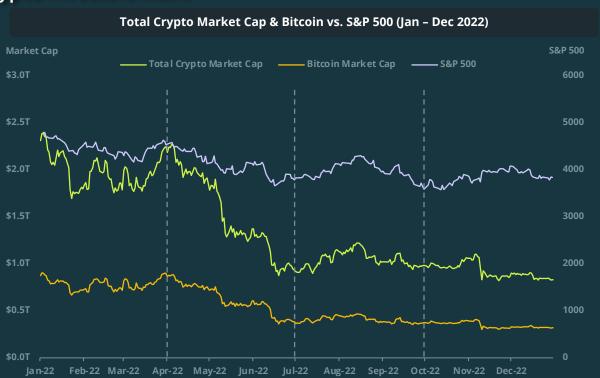




2022 Total Crypto Market Cap & Bitcoin vs. S&P 500



FTX debacle contributed to Q4 decoupling of equities and crypto – but not in the direction crypto investors want



In 2022, total crypto market cap unsurprisingly moved in lockstep with bitcoin, with a correlation of 0.99.

Quarterly correlation between the crypto and tradfi markets also remained high for most of the year, and overall BTC-S&P500 correlation stood at 0.86 in 2022.

However, Q4 correlation strongly turned negative at -0.64. The S&P500 saw some recovery in Q4, while the crypto markets saw a sharp decline following the collapse of FTX and otherwise stayed relatively flat.

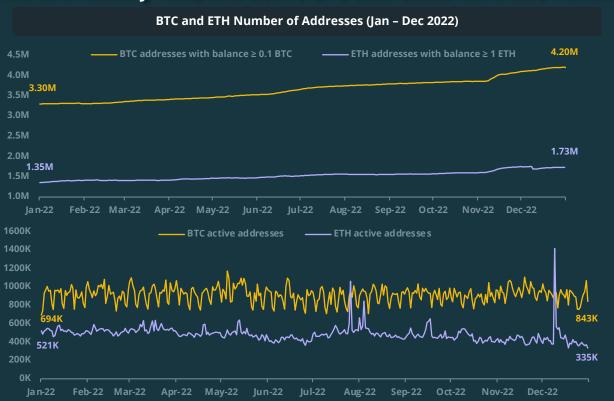
While total crypto market cap performed better than the S&P500 in Q3, the tables turned in Q4 where the S&P500 recovered by 4.4% and total crypto market cap fell by 16%, thanks to FTX.

Overall while both asset classes were directionally similar in 2022, total crypto market cap (-64%) fell threefold more in quantum compared to the S&P500 (-20%). Crypto was also 2.5x more volatile, with an annualized volatility of 62% vs. the S&P500's 24%.

2022 State of Crypto Adoption



Even as the market plummeted, number of BTC and ETH addresses have continued to grow at a healthy rate, and active BTC addresses have also remained largely stable



Even though markets have taken a brutal hit in 2022, addresses with ≥ 0.1 BTC and ≥ 1 ETH have actually steadily climbed throughout the year, a sign of growing adoption despite the bear market.

Active addresses on the Bitcoin network has also remained relatively stable, hovering between 800 – 1000k active addresses daily.

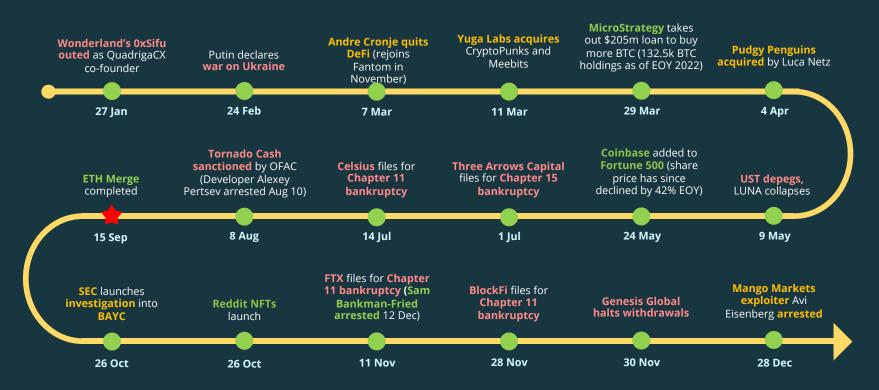
This is in contrast to Ethereum where daily active addresses have been on a downtrend throughout the year, from ~500k active daily addresses to ~400k by the end of 2022.

The spikes in active addresses coincided with major price movements, e.g. pre-Merge pump in end-July / early-August.

2022 Notable Events Timeline



A year of ups and downs (but mostly downs)



2022 Notable Bugs and Exploits



\$2.8B was lost to at least 180 exploits in 2022, with 65% of stolen funds coming from just 5 bridge hacks



The largest-ever exploit occurred in 2022, with the Ronin Bridge hack taking the title with a \$624M loss in March.

Other large exploits include BNB Bridge (\$585M), Wormhole Bridge (\$326M), Nomad Bridge (\$190M), Beanstalk (\$181M), Wintermute (\$162M), Mango Markets (\$115M), and Harmony Bridge (\$100M).

Bridges made up 4 out of the 5 largest exploits.

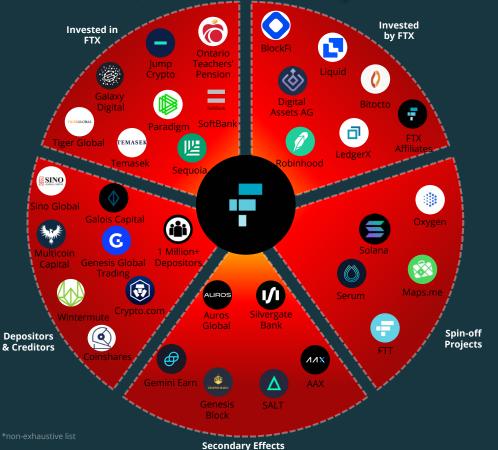
Another exploit which caused a stir was the **Solana Slope wallet vulnerability** discovered in August, which saw ~5m of funds stolen from >8k addresses.

Secret Network also uncovered a serious vulnerability in November, whereby no funds were at risk but privacy of all past transactions on the network prior to the patch has potentially been compromised.

FTX Collapse



The FTX contagion impacted over 1 million estimated depositors, creditors and investors; more dominoes likely to fall in the coming months



1M+

Estimated no. of depositors affected by FTX's collapse

CoinDesk published an article which alleged that majority of Alameda's assets were in FTT tokens issued by FTX. Shortly after, CZ announced his intention to dump Binance's FTT token stake. This led to a bank run which resulted in FTX halting withdrawals, and subsequently filed for Chapter 11 bankruptcy.

It has since been revealed that Alameda had been insolvent post-Terra / Luna crash, and user funds from FTX were used to prop up the failed trading firm.

Badly hit entities:

- BlockFi: The lending platform had \$355 million on FTX, and a further \$671 million lent to Alameda
- **Genesis Global Trading: \$175 million inaccessible** deposits on FTX. Currently unable to serve redemptions from its lending product.
- Silvergate Bank: \$8 billion was withdrawn by depositors in the aftermath of FTX's collapse. The bank has since laid off 40% of its workforce.

While many companies have already fallen in the immediate aftermath, it is likely that many more are expected to follow suit throughout 2023.



BITCOIN ANALYSIS

2022 Bitcoin Price vs. Trading Volume



BTC closed the year in the red at \$16,604, being pretty much on a downward trend since starting the year at \$46,319



-64.2%

BTC Price Return in 2022

BTC stumbled its way through 2022, falling -64.2% to \$16,604 by the end of the year.

Since June, it has **stayed below the 200 weekly moving average (WMA)** except for a spike in July. In the previous bear cycle of 2018 - 2020, BTC had manage to remain above this indicator.

In Q4, BTC hit a quarterly high of **\$21,282** but tumbled to a yearly low of **\$15,742** amid the FTX fallout.

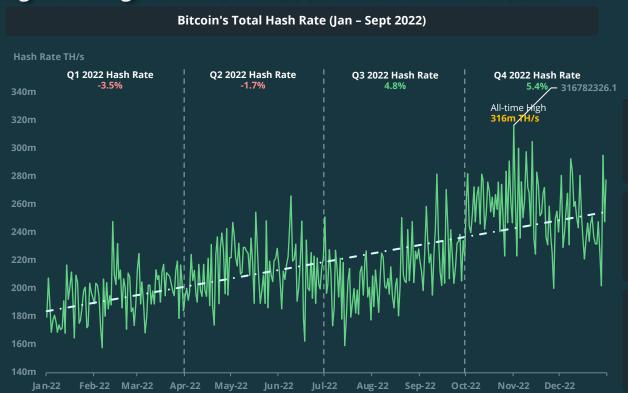
Some noteworthy events in 2022:

- Increase in Lightning Network adoption in terms of number of channels and capacity (>5,000 BTC / ~\$85M by end-2022).
- Taro Alpha version launched, allowing Bitcoin developers to create assets on the blockchain via Lightning Network

2022 Bitcoin Mining Hash Rate



Bitcoin's hash rate edged upwards despite bear market, though a dip in November may be signs of things to come in 2023 as miners run into trouble



54.5%

Bitcoin's hash rate increase in 2022

Even with the bearish sentiment in the crypto market throughout 2022, Bitcoin's total hash rate increased 54.5% in the year. It even hit an ATH on 1 November of 316.8m TH/s

In Q4 of 2022, Bitcoin's total hash rate continued to **edge upwards**, though it did see a slump in November before making a mild recovery in December.

Hash rate increased by 5.4% in Q4.

Close to the end of the year we saw troubles with BTC miners, particularly some over-leveraged players staring at bankruptcy. Major player Core Scientific declared bankruptcy, then had to secure a loan to continue operations, while Argo narrowly avoided the same fate.

2022 Bitcoin vs. Major Asset Classes Price Returns



Major assets performed poorly across the board, except Crude Oil and the US Dollar; BTC was the worst performing asset with a 64.2% drop



	Q4 2022 Return	2022 Return	
втс	-13%	-64%	
S&P 500	<u>6%</u>	-20%	
NASDAQ	-2%	-34%	
CRUDE OIL	₫%	6%	
GOLD	7%	-1%	
TLT (Treasury Bonds)	4%	-32%	
DXY (US Dollar Index)	-7 %	8%	
YEN	9%	<u>-1</u> 3%	
GBP	<u>6%</u>	<u>-1</u> 1%	
EUR	8%	<u>-</u> 6%	
CNY	2/%	<u>-</u> 9%	
SGD	7%	0%	

Bitcoin was one of the worst performing assets in 2022, ending the year with a **-64.2% decline**. However, majority of other asset classes also ended 2022 in the red.

The US Dollar index (DXY) outperformed all asset classes with the Fed raising rates throughout 2022, though it also returned most of its gains in Q4.

Crude oil saw significant gains at the start of the year due to demand increases from lifting of Covid-19 lockdowns, coinciding with a massive supply shortage stemming from the War in Ukraine. However, it has returned most of its gains, ending the year only +6%.



ETHEREUM ANALYSIS

2022 Ethereum Price vs. Trading Volume



Despite a pre-Merge run up in Q3, ETH failed to retake the levels at the start of 2022, closing the year in the \$1,200 range



-67.5% ETH Price Return in 2022

ETH closed 2022 at \$1,199, representing a -67.5% decline in the year.

It hit a high of \$3,835 in January and a low of \$995 in late June. ETH has hovered below the 200 WMA since June, though it managed to breakout briefly in August prior to the Merge.

In Q4, ETH consolidated in October, and broke away on a rally at the start of November. However, this was cut short with the fallout from FTX causing it to tumble to a low of \$1.095.

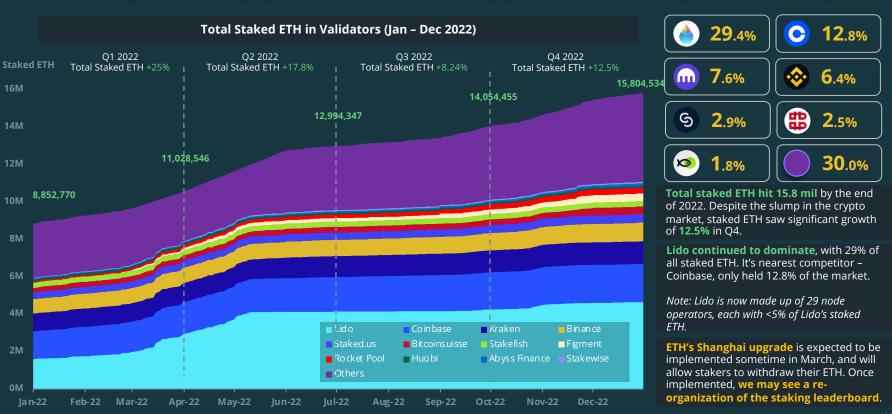
ETH price then **recovered slightly** in late November, and since then, it has been constantly testing the key resistance level of \$1,350.

22 Annual Crypto Industry Report

2022 Ethereum Consensus Layer Staking



Ether staking sees steady growth to 15.8 million by year-end, driven by Ethereum upgrades



2022 Ethereum Burn Rate



ETH is still mildly inflationary, but net emission rate has slowed significantly since the Merge



1.48M

ETH Burned in 2022

2022 saw over **1.48 million ETH burned**, while **3.98 million were emitted**. This was an average of 123k ETH burned a month. In 2021, this figure was an average 263k ETH burned / month.

After the Merge, ETH emissions declined sharply from an average of 14.6k ETH /day to 1.7k ETH /day. ETH burns overtook emissions during brief periods, but overall ETH emissions still outpaced burns.

The largest one-day burn occurred on 1 May, where over **70,000 ETH** was burned due to Yuga Lab's Otherside land sale.

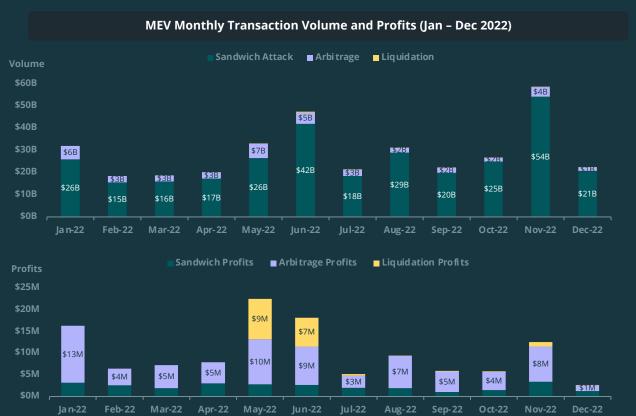
Similar to 2021, NFT transactions were the main burner of ETH.

NFT marketplace OpenSea took the top spot with **119k ETH** burned in 2022.

Maximal Extractable Value (MEV)



Even as transaction volumes nosedived in 2022, MEV bots are still raking in the profits



~\$120M
Profits Generated by MEV

Profits Generated by MEV Transactions in 2022

Although ETH has continued to trend downwards for most of 2022, MEV transaction volume has remained stable throughout most of the year, except during times of distress such as June and November.

Sandwich attacks made up the majority of MEV transactions, contributing between 80-90% of MEV volume. However, these transactions account for only 23% of total profits captured by MEV bots.

Even though liquidations accounted for just 0.13% of MEV volume in 2022, these transactions were the most profitable. On average, liquidation transactions were the most profitable, netting ~107% returns, compared to arbitrages (106%) and sandwich attacks (27%).

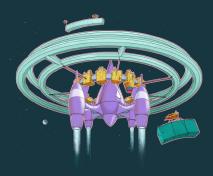
Yet, arbitrageurs generated the most profits in 2022 at \$75M.

Ethereum Roadmap Following The Merge



After the Merge, Shanghai and Cancun upgrades are up next in 1H2023 which will enable staked ETH withdrawals and kickstart the scaling journey

Post-Merge Roadmap



The Merge

15 Sep 2022

The Merge Phase 2

After migration to PoS, continued efforts to improve the consensus algorithm

The Surge

Ethereum's scalability will be greatly improved by sharding, boosting TPS from 15-40 to 100,000

The Scourge

Efforts towards censorship resistance in including transactions, as well as avoiding centralization and other protocol risks arising from MEV

The Verge

Storage is optimized through Verkle Trees, making validation more scalable, faster and easier to set-up, allowing more validators to join in

The Purge

Excess historical date to be purged to reduce network congestion and hard drive space requirements for validators

The Splurge

Miscellaneous updates and upgrades, "the fun stuff"

★ Ethereum 2025

- Staked ETH withdrawals to be included in Shanghai upgrade targeted for March 2023
- Implementation of EIP-4844 (Protodanksharding) in Cancun upgrade which immediately follows Shanghai, targeted for May / June 2023
- Added in November as a response to Tornado Cash sanctions and subsequent discussion on OFAC compliant validators as well as protocol-level censorship
- Also includes in-protocol PBS (proposer / builder separation)

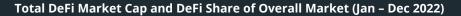


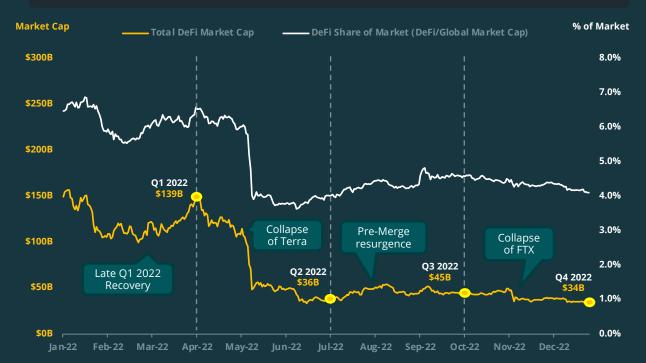
DEFI ANALYSIS

2022 DeFi Overview



2022 proved to be a challenging year for DeFi, with the collapse of Terra and the insolvency of FTX sending shockwaves throughout the ecosystem





-77.3%

Decrease in DeFi Market Cap compared to 1st January 2022

While the total DeFi market cap **remained resilient** throughout the first quarter, it all went downhill after the **collapse of Terra**, **wiping out billions** from the ecosystem.

Since then, DeFi has shown **little signs of recovery**, as **market cap remained stagnant** for the remainder of 2022.

While there was a slight resurgence in ETH and DeFi token prices leading up to The Merge in Q3, it was a small blip compared to levels earlier in the year.

Worst still, the total DeFi market cap plunged by a further 24.4% to \$34B after FTX's collapse in Q4.

While DeFi made up 6.5% of the global crypto market cap at the start of 2022, that figure has shrunk considerably to 4.1%.

2022 DeFi vs TradFi Returns



DeFi yield farming returns have cratered in 2022 as Fed rate hikes boost T-bill yields





-78.6%

Decrease in DeFi stablecoin yields since 1st January 2021

During the start of the crypto run-up in late 2020, borrowing rates for stablecoins on DeFi lending protocols skyrocketed, reaching as high as 15% in February 2021. At the same time, yields on US government bonds were averaging close to zero, which pushed more users into DeFi for higher returns.

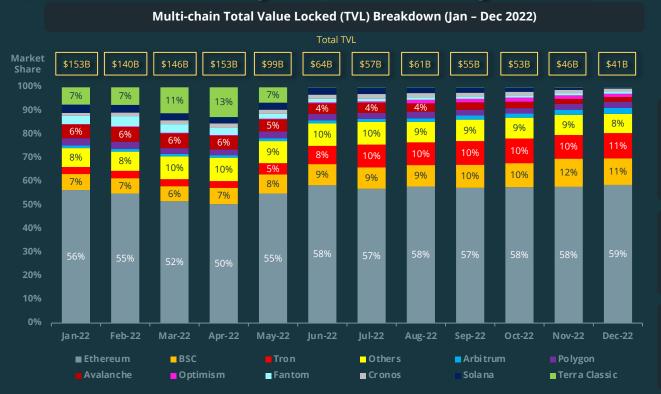
However, the tables have since turned and DeFi yields have plummeted, before stabilizing in the 2nd half of 2022. Borrow rates for stablecoins sit at just 2.89% per annum in December.

As the Fed introduced multiple rate hikes in their fight against inflation, **T-bill rates** steadily rose in 2022, ultimately surpassing DeFi lending returns in June. As of 1st January 2023, 1-Year US Treasury Bills were yielding 4.47% returns per annum, sitting higher than DeFi yields.

2022 DeFi Multichain Market Share



Ethereum maintains control over close to 60% of multi-chain TVL, with Binance Smart Chain and Tron increasing their TVL share throughout 2022



-73.2%

Decrease in Multi-chain DeFi TVL since 1st January 2022

While Ethereum lost some of its market share in Q1 due to the surging popularity of altchains, it has regained and even increased its dominance towards the end of the year, controlling 59% of multi-chain TVL.

However in absolute terms, TVL on Ethereum has shrunk massively by 72.4% to \$23.7B.

BSC and Tron are now neck-and-neck in the runner-up race, as the latter saw a big boost in TVL in Q2, following the launch of its USDD algo-stablecoin. However, capital has slowly begun to flow out of the Tron ecosystem as incentives slow down.

While popular EVM-based networks and L2s such as Polygon, Arbitrum and Fantom still have decent traction, most other altchains are still far behind. 149 other networks, including Aptos, Harmony and Canto, make up just 8% of all TVL.

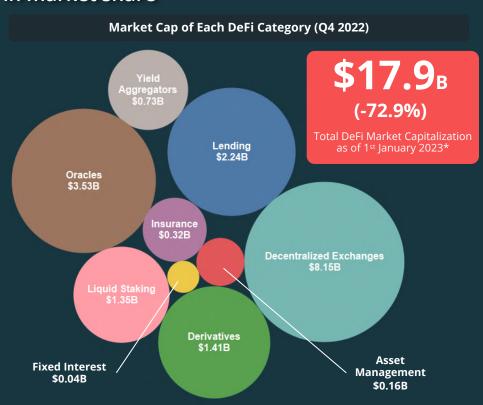
^{*}Monthly TVL is calculated by taking the average TVL on daily basis for each month.

^{*}After the collapse of Terra in May 2022, the original Terra network was renamed as Terra Classic.

2022 DeFi Ecosystem Overview



DeFi tokens market cap plummeted 72.9% and saw derivatives surpass yield aggregators in market share



Market Share	Sector	YoY % Change	
	DeFi Tokens Market Cap	-72.9%	
45.4%	DEXs	-75.1%	
▲ 19.7%	Oracles	-68.5%	
7 12.5%	Lending	-80.5%	
▲ 7.9%	Derivatives	-65.0%	
▲ 7.5%	Liquid Staking	-25.9%	
y 4.1%	Yield Aggregators	-85.3%	
▲ 1.8%	Insurance	-76.4%	
▼ 0.9%	Asset Management	-45.5%	
▼ 0.2%	Fixed Interest	-73.2%	

Compared to 2021, DeFi tokens market cap **shrank by ~73%**, with various governance and utility tokens **losing over \$48B in value**. The liquid staking sector **saw the smallest decrease of 25.9%**, which is probably due to **the Merge narrative** playing out in the second half of the year, which somewhat stemmed the bleeding.

DeFi protocols took an even bigger hit compared to the rest of the market, thanks to earlier inflated valuations, and withdrawals of capital. **Lending protocols and yield aggregators** were the worst-performing sectors of the year, **dropping by 80.5% and 85.3% respectively**. Protocols such as Convex Finance and Alchemix suffered price drops of up to 95%.

Over the past year, derivatives have surpassed yield aggregators in market share, thanks to a surge in popularity for decentralized perpetuals platforms such as GMX and Gains Network.

2022 Cross-chain Bridge Liquidity



Liquidity on cross-chain bridges continue to plunge after a year full of exploits and fallouts

Ton 42 Duidean with Highart	Linuidity (no of 4st)	2022
Top 12 Bridges with Highest	Liquidity (as of 1)	allual y 2023)

. op := =::ages :::::::g::es =:qa:ais, (as e : : ja::aa; j ====),				
Bridges	Q4 2022	Q3 2022	QoQ % Change	
WBTC	\$3.0B	\$4.8B	7 37.5%	
JustCryptos	\$2.0B	\$2.3B	7 13.0%	
Multichain	\$1.3B	\$1.8B	7 27.8%	
Stargate	\$385M	\$489M	7 21.3%	
Poly Network	\$289M	\$309M	7 6.5%	
Portal	\$242M	\$437M	7 44.6%	
hвтс	\$213M	\$238M	7 10.5%	
Orbit Bridge	\$173M	\$272M	7 36.4%	
Synapse	\$137M	\$211M	7 35.1%	
Celer cBridge	\$122M	\$150M	7 18.7%	
Thorchain	\$94M	\$106M	7 11.3%	
Terra Bridge	\$75M	\$146M	7 48.6%	

\$8.03_B

(-69.3%)

Total Cross-chain Bridge Liquidity as of 1st January 2023

While the WBTC bridge has remained as the top bridging protocol, its liquidity has fallen drastically along with the price of Bitcoin. From \$12.1B in January 2022, TVL has plummeted by 75.2% to \$3B towards the end 2022, while BTC fell by 64% from \$46,300 to \$16,500.

Long after Wormhole's \$325M exploit, TVL on the rebranded Portal bridge is now a shell of its former self, **dropping sharply by 94% since its ATH of \$4.21B** in May 2022.

Since the demise of FTX, Portal has continued to bleed even more liquidity, decreasing by another 44.6% to \$242M in Q4 2022.

Terra isn't faring any better as well, **dropping another 48.6% to \$75M** over the past quarter. Since its ATH of \$1.47B in April 2022, TVL on the Terra bridge has **fallen by 95%**.

Bridges have been the primary targets of hackers throughout the past year, with billions of dollars worth of assets for the taking. In 2022, cross-chain bridges such as <u>Harmony</u>, <u>Nomad</u> and the <u>BNB Bridge</u> lost over \$1.9B due to exploits. Out of the top 10 exploits of the year, half of those were attacks on bridging protocols.

2022 Highlights for DeFi



While prices may have been stagnant in 2022, the build-ing continues as DeFi becomes more relevant than ever before

Decentralized Perpetuals on the Rise







As CEXs continue to face increased scrutiny over their perceived solvency, more users have begun flocking to DeFi once more, embracing decentralized exchanges (DEXs), and more importantly, decentralized perpetuals platforms, allowing them to continue performing leveraged trades while maintaining custody of their own funds.

Although older protocols such as dYdX have lost their luster, the next generation of decentralized perpetuals, such as GMX, have solidified their position in DeFi. As one of the top protocols on Arbitrum, GMX saw its TVL increase by almost 5x since the start of the year, with its native token becoming one of the top performers of 2022. Multiple forks of GMX have spawned on other networks such as Gains Network and Metavault on Polygon.

The Evolution of Cross-chain Bridges







WORMHOLE #ASHFLOW

While cross-chain bridges have been invaluable during the rise of the omnichain narrative in 2021, they have also been the victims of many devastating exploits over the past year. As such, bridging protocols are always iterating to provide greater accessibility and security for its users. Multiple bridges have partnered with DEXs to bring new innovations such as SushiXSwap, allowing users to bridge their assets through the DEX's liquidity **pools** on other networks via LaverZero. Hashflow has also partnered with Wormhole to provide MEVprotected cross-chain trades with lower fees.

As bridges continued to proliferate in 2022, more services have been built on top of this critical infrastructure, such as cross-chain lending and cross-chain farming. The latter has become a primary feature of Farming-as-a-Service (FaaS) platforms, where protocols can venture beyond their native network to seek out the highest returns.

A Year Full of V3s





↑/\\/E ¥ Bancor



2022 proved to be a good year for building, as several blue-chip DeFi platforms such as Aave, Bancor and Compound have released the third iterations of their protocols, bringing even more functionality to users.

In March 2022, Aave V3 was launched, bringing with it the concept of cross-chain lending, along with isolated lending pools for more exotic assets. V3 also introduced a High-Efficiency Mode, where users can borrow price-correlated assets with a collateral ratio of up to 98%.

Bancor V3 went live in May 2022, making it much easier for users to stake their assets and provide liquidity. Bancor's new Omnipool design allows users to stake BNT into a single pool to earn the highest yield.

Finally, Compound 3, released in August 2022, sets supply caps on collateral assets and segregates lending and borrowing rates.



1inch is a global network of decentralized protocols designed to provide the most lucrative, fastest and secure operations in the DeFi space.





1inch Fusion

Tired of high gas costs on DEXes? Check out 1inch Fusion.

Fusion mode enables users to exchange tokens on DEXes without paying network fees, at the most favorable rates.

Fusion mode feautes:

- No gas fees
- MEV protection
- Ability to pre-set price and time ranges for swap orders to maximize trading efficiency

1inch Wallet

Your DeFi entry point.

A non-custodial mobile wallet that provides an easyto-navigate interface with secure storing, transaction, and staking capabilities.

Try it on your phone or visit **linch.io**





NON-FUNGIBLE TOKENS (NFTs)

2022 NFT Trading Volume across Top 8 Chains



The chill of NFT winter strikes hard in 2022 as volumes continued to bleed after May's crypto crash



-93.1%

Decrease in Trading Volume from January 2022

NFT trading volumes have sharply decreased since the crypto market plunged in May, reaching just \$400M in December 2022, barely 7% of the monthly volume in January.

Unsurprisingly, Ethereum-based NFTs continue to dominate over 90% of the market in 2022, thanks to the popular blue-chip collections such as Pudgy Penguins, Bored Apes and Azukis.

Although Ronin recorded \$126M in secondary sales in January, monthly volumes have continued to plummet since then. As of December 2022, Ronin has fallen out of the Top 8, with a monthly trading volume of just \$20k.

Volumes on Polygon doubled in October to ~\$15M due to the rising popularity of Reddit NFTs, which made up over 60% (~\$9M) of the total volume.

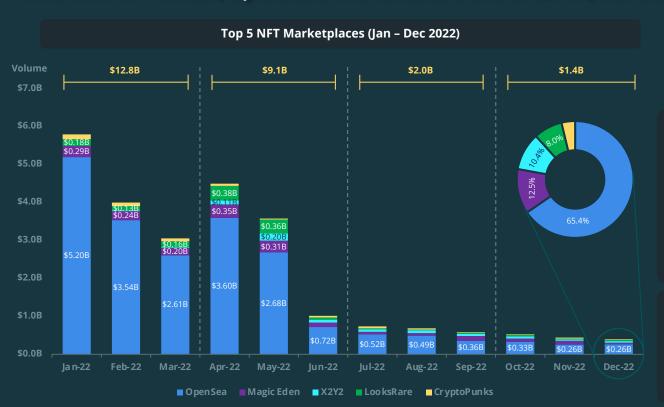
Source: FootPrint Analytics; Cryptoslam

^{*}Wash trades on LooksRare and X2Y2 are excluded

2022 NFT Platform Trading Volumes



Amid first NFT winter, OpenSea's market share slid to 65.4%, but still dominates



-93.2%

Decrease in Trading Volume from January 2022

In 2022, new challengers, such as LooksRare and X2Y2, looked to challenge OpenSea as the top NFT marketplace by providing incentives for users to list and trade popular collections on their platform. However, users turned to wash trading to earn these rewards.

98.5% of LooksRare's total volume in January alone were wash trades, but that percentage has reduced to 76% in December 2022 due to lower reward emissions.

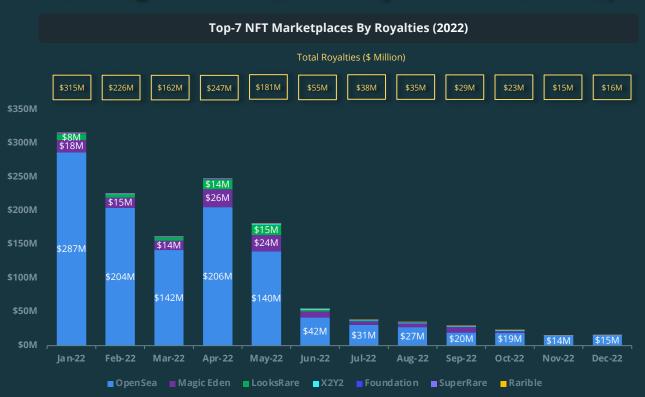
In terms of real trading volume, OpenSea is still clearly ahead of the pack, with 65.4% share of NFT trading volume at the end of 2022. However, their dominance has decreased since January, as the rise of Solana NFTs propelled Magic Eden's share of trading volume upwards to 12.5% by the end of December.

Source: FootPrint Analytics

2022 NFT Royalties



With declining NFT volumes, creator royalties have also correspondingly suffered



\$1.3_B

Royalties Paid out to NFT Creators in 2022

In-line with decline in NFT trading volumes, creator royalties have also declined by 95% throughout 2022.

With OpenSea dominating the NFT market, the platform paid out **85% of all royalties** in **2022**, allowing creators to earn a total of \$1.15B.

There is growing consensus that royalties will be phased out due to market efficiencies and are no longer a sustainable income stream for creators. Sudoswap started the no-royalty model, and other marketplaces have followed suit, or offer optionality to investors to not pay.

OpenSea has been consistent with its stance on royalties, leaving it up to the creators to decide while providing tools to enforce royalties if need be.

rce: Footprint Analytics CoinGecko 2022 Annual Crypto Industry Report 34

2022 Notable NFT Collections



Despite an NFT winter, Pudgy Penguins, Yuga Labs, RTFKT, Reddit NFTs, ENS and DeGods still found ways to thrive in 2022

Pengus Take Back Power with New Leadership in Charge



- Pudgies were a beloved OG NFT collection, but with a muchmaligned founding project team. Early in the year, a bid led by Luca Netz was ultimately successful in taking over the project. Since then the new team has initiated projects to expand the Pudgy IP, starting with Pudgy Media and a toyline.
- Floor price of Pudgy Penguins, Lil Pudgies and Pudgy Rods have gone from strength to strength since the takeover, a rare bright spot in crypto winter.

Phygital Experiments continue at RTFKT x Nike



- RTFKT's CloneX, MNLTH, and CryptoKicks collections were huge hits, with their unique "forging" mechanic producing real-world sneakers to complement their NFT counterparts. The company was acquired by Nike in December 2021 to spearhead its metaverse initiatives.
- In 2022 their Clone X Forging SZN 1 collection expanded its phygital offerings to other merch, and inspired other brands to copy the same playbook.

Three Character Hype Drives ENS Registrations



- They've become so ubiquitous as to be almost taken for granted, but ENS domains have come a long way since launching in 2017.
 Their early success has spawned an entire NFT sub-sector, as well as many competitors across all chains.
- The three character hype in the middle of 2022 reignited a race for the most valuable addresses, with 80% of all ENS addresses registered in 2022.

Yuga Frees Punks (and Meebits!), Pushes into Metaverse

- In 2022, Yuga Labs, the owner of BAYC, cemented its leadership position in NFTs with the acquisition of CryptoPunks and Meebits in March, and transferred ownership of the IP to NFT holders.
- The team also announced its ambitious Otherside metaverse project, the ApeCoin token, as well as other media projects. While the journey hasn't been exactly smooth sailing thus far, Yuga's influence over the NFT market is undeniable, and is sure to attract significant attention.

Just Call It Digital Collectibles



- Reddit NFTs was a pleasant surprise in Q4 this year, as the
 collections suddenly took off in the middle of crypto winter. Over 3
 million Redditors were stealthily converted into NFT holders as
 Reddit marketed these as collectible avatars, with limited collabs
 with popular Reddit creators.
- The success of this collection provides greater proof that NFTs can be seamlessly incorporated into traditional brands if done right.

DeGods Leads Solana NFTs, Now Throws it into Disarray



- In a year where Solana NFTs came to the fore, DeGods was its most prominent collection, gaining a cult following on the back of its \$DUST token and v00ts sister collection.
- However, with uncertainty surrounding Solana post-FTX collapse, the project dropped a bombshell by announcing that it was bridging to Polygon and Ethereum in 2023, throwing the budding community into disarray.

2022 Highlights for GameFi



While the hype of Play-to-Earn and Move-to-Earn has come and gone, GameFi projects continued to deliver updated content and new ways to play in 2022

Appeal of First Gen Games have Plunged, but New Games are on the Horizon

illuvium BETIME

While GameFi has grown by leaps and bounds thanks to the success of Play-to-Earn (P2E) in 2021, the crypto gaming scene in 2022 was mostly filled with products that offered little in terms of gameplay and weren't very fun once players could no longer make a profit. The first generation of P2E games such as Axie Infinity, DeFi Kingdoms and Crabada, which used to attract thousands of players daily, have lost their appeal as player rewards continued to plunge due to extremely inflationary tokenomics and worsening market conditions.

However, there are many projects still building blockchain-based games that claim to be worth of rivaling AAA games in the conventional gaming market. Projects such as Big Time and Illuvium are just some of the projects that have continued to provide regular updates and released early versions of their games to users. However, it will still take some time before any of these games will be fully launched.

Rise and Fall of Move-to-Earn





The success of P2E sparked a movement towards the gamification of everyday activities where users are rewarded for completing tasks such as reading, writing and even walking. The concept of Move-to-Earn (M2E), where users can collect token rewards by walking and running with NFT sneakers, was arguably one of the biggest trends of 2022.

Notable projects such as STEPN and Genopets were on the forefront of the industry, incentivizing users to adopt a more active lifestyle using a video-game style approach. At its peak, STEPN recorded over 1 million registered users, with 76,000 daily active users in May 2022. The price of STEPN's governance token, GMT, also rose by 28x to \$3.83.

However, the popularity of M2E was short-lived, as it faced the same problems that plagued GameFi excessive inflation of rewards. As rewards continued to drop in value, users quickly fell out off favor with the M2E ecosystem, as less than 5,000 active users remain on STEPN.

A MAGICal year for Games Beyond Ethereum





While GameFi projects on Solana and Avalanche stole the show in 2021, games on other networks have begun to amass a following in 2022 despite a challenging market environnment.

On Arbitrum, TreasureDAO launched their first strategy game in January called BridgeWorld, as well as integrated several new games into the Treasure ecosystem. One of Treasure's latest entrants, The Beacon, released a prototype of their roguelite game in late November 2022, which attracted over 26,000 players over a period of 20 days.

Over on ImmutableX. Gods Unchained has continued to attract crypto gamers over the past year, with over 10,000 unique players daily. On top of that, secondary sales of Gods Unchained cards have increased by over 4x to \$90.2M, though most of this volume likely comes from users wash trading to earn IMX token rewards.



Interested in tracking NFT market data?

CoinGecko's enterprise-grade API is built upon the same infrastructure that powers our industry-leading platform - CoinGecko.com.

Our REST APIs provide you access to historical and real-time data from our extensive and ever-expanding list of exchanges and crypto assets.

Trusted by hundreds of the world's leading cryptocurrency exchanges and products, our API enables your project with reliable and accurate data.

Free One Month Analyst API Subscription for Geckos

Subscribe now with the following promo code:

WELCOME2023

SIGN UP

*Promotion valid till 31 January 2023. Promo code only applicable for new subscription and entitles the subscriber to a \$129 discount for Analyst API Monthly or Yearly subscription.



List of Fully Supported NFTs

Supported on multiple chains such as Ethereum, Avalanche, Optimism, Polygon, Klaytn and Arbitrum.



Current Market Data

Search for an NFT collection's current market data such as image, description, total supply, floor price and more!



Historical Market Data

Search for an NFT collection's historical market data such historical floor price, historical market cap, historical volume and more!



30+ Endpoints related to Cryptoassets, Exchanges & Derivatives

Access wide range of market data such as live pricing, trading volume, tickers, exchanges, historical data, coin info, global markets, along with many others!



EXCHANGES

2022 Top 10 Cryptocurrency Exchanges



Spot trading volume shrank 67.3% from January 2022, with its largest QoQ decline of 21.2% in Q4 2022



-21.2%

Top 10 (CEX + DEX) Total Trading Volume Decline from Q3 2022 to Q4 2022

Crypto closed out 2022 with total trading volume declining 21.2% from Q3 to Q4, the largest QoQ drop for the year.

December, in particular, has been dismal, as the industry deals with the setbacks stemming from FTX's collapse.

Despite the open display of centralized risks, the CEX:DEX ratio remains consistently high. As at the end of 2022, CEXs command 93% of the market. While FUD regarding Binance's insolvency gave DEXs a small boost in market share in November, as at the end of 2022, CEXs command 92.5% of the market.

Dwindling volumes are a sign that investors are withdrawing further from the market, or leaving it entirely through CEX off-ramps.



2022 Crypto Spot Trading Volume vs Equities Trading Volume

Decline in crypto spot trading volume in 2022 have been matched with a similar trend in equity trading volume on the NASDAQ



-67.3%

Top 10 (DEX + CEX) Total Trading Volume Decline across 2022

Crypto spot trading volume really took off at the start of 2021 during the bull market, but has been on a downward trend since. At its **peak of \$3,501B in April 2021** it even surpassed the trading volume on NASDAO.

Trading volume on NASDAQ's equity market has similarly declined by 41% in 2022, though not as much compared to the crypto spot market.

The volatility in trading volumes on both markets have largely mirrored each other in 2022, mimicking the trend in market movements up until Q4 2022. Correlation between trading volumes of both markets was at 0.87 in 2022.

2022 Top 10 Centralized Exchanges (CEX)



FTX's demise is Binance's win – did we learn nothing?



-19.8_%

Top 10 CEX Total Trading Volume Decline from Q3 2022 to Q4 2022

Top-10 centralized exchanges recorded \$2.11T in spot trading volume in O4 2022, marking the second quarter in a row that the industry has traded below \$3Twithin a quarter since late 2020.

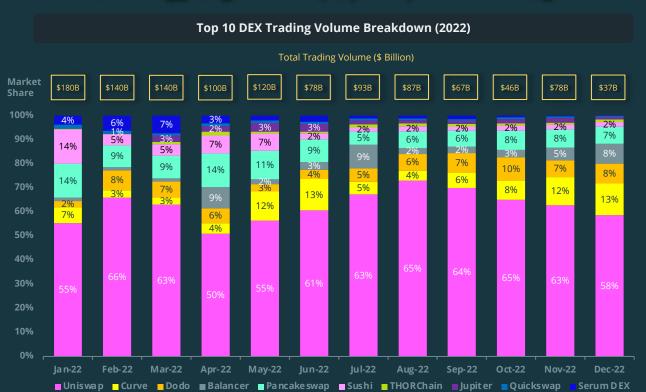
Before its demise, FTX had ~ 5% of spot market share for 2022. However, once withdrawals were halted in late November, only four exchanges managed to increase its market share, namely Binance, Coinbase, Huobi, and Crypto.com.

It appears that users are fleeing towards either 'crypto personalities' or 'regulated exchanges'. Binance is led by CZ and Huobi was acquired by Justin Sun in late December. Coinbase is regulated in the US whereas Crypto.com is regulated in the UK.

2022 Top 10 Decentralized Exchanges (DEX)



Curve was the biggest gainer in Q4, perhaps a bottom signal?



-14.6%

Top 10 DEXs Total Trading Volume Decline from Q3 2022 to Q4 2022

Top 10 DEXs recorded a total of \$160.7 billion in spot trading volume in Q3 2022, giving a monthly average of \$54B. These are volumes not seen since pre-2021.

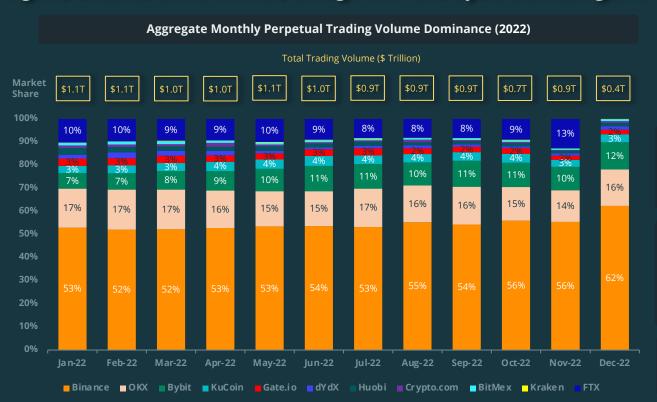
Curve is the biggest gainers amongst the DEXes in Q4, increasing its market share from 6% to 13% by the end of December as market participants all swapped into stablecoins.

Notably, this trend of Curve dominance has had also occurred in June, which was after the Terra fallout and marked the local bottom for that period. Perhaps this is another bottom signal?

2022 Derivatives Exchanges - Perpetual Swaps Volume



Again, Binance is the winner, though OKX and Bybit also saw gains



-31.2%

Top 10 Perpetual Swap
Trading Volume Decline from Q3
2022 to Q4 2022

Perpetual volumes saw an even sharper decline than spot trading as the market becomes flatter and harder to trade. Perps have been the favourite for active traders but is becoming increasingly unappetizing with less liquidity.

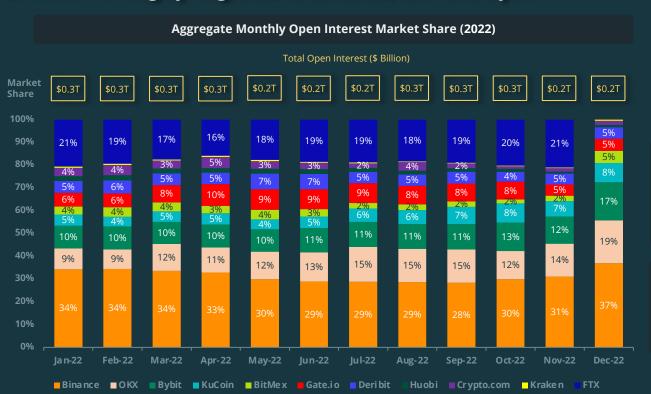
Relative market share between exchanges and their market positions remained largely the same throughout the year. However, after the demise of FTX, things changed significantly. Binance has absorbed most of the perp volume from FTX. Considering that FTX was the third largest player, that gain is significant.

Binance **now controls 62% of the perp market which** is the largest its share has ever been.

2022 Derivatives Exchanges - Aggregate Monthly Open Interest



OI from FTX largely migrated to Binance, OKX and Bybit



-11.3%

Top 10 Aggregate Monthly Open Interest Decline from Q3 2022 to Q4 2022

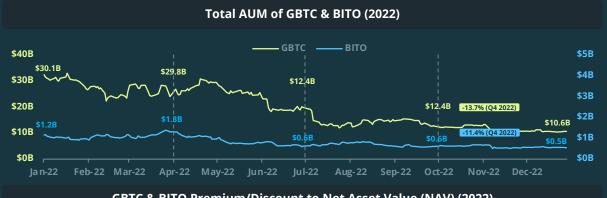
Open interest (OI) across the top-10 derivatives exchanges recorded a total of \$0.70 trillion in Q4 2022, which is a slight decline from Q3 (\$0.78T). Overall, 2022 has been a slow but sure decline for OI as the market crabs.

FTX had close to a fifth of OI and this has largely migrated to the other derivative exchanges. This led to gains in OI for Binance, OKX and Bybit, but relatively unchanged for the rest of the exchanges.

2022 Performance of GBTC and \$BITO



GBTC discount continues to widen as crisis at sister lending company Genesis continues, generating fears of liquidation



GBTC & BITO Premium/Discount to Net Asset Value (NAV) (2022)



Both BITO and GBTC's AUM has declined largely in line with the market. GBTC closes out the year with a 67.1% drop in AUM whereas BITO experienced a 52.7% decline.

There has been little developments regarding GBTC's efforts to sue the SEC over its repeated rejections for a spot Bitcoin ETF. If anything, the SEC's decision to not convert the trust into an ETF may prove to be a blessing in disguise for DCG considering recent events.

GBTC's NAV discount continues to widen as prospective investors worry about Genesis's parent company's solvency. At one point, the NAV discount reached 49% in December. There have always been issues about whether Bitcoin can even be redeemed from Grayscale, but now there are even larger concerns about the commingling of assets between the two companies and Genesis/DCG's reckless lending.

Trust Score 3.0 - Proof of Reserves

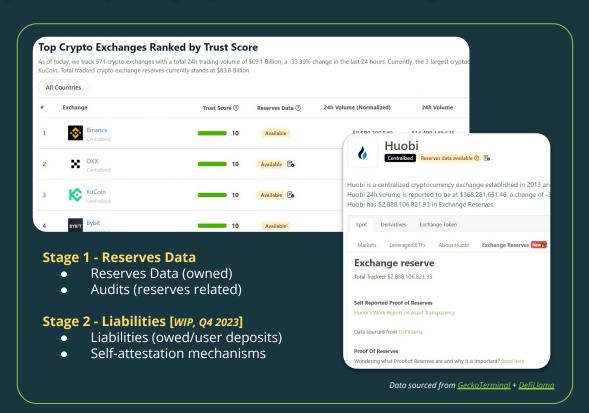


Reserves data to improve crypto space transparency & provide actionable insights

We're upgrading Trust Score once more with lessons learned throughout 2022.

Trust Score now ranks exchanges with consideration of availability of **Reserves Data + Reserves Audits**.

If you'd like to read more, here's a blog post about it!











THAT'S ALL! THANK YOU FOR READING:)