

WATCH THIS SPACE

Crypto and blockchain trends you should follow

S19J PRO+ BY BITMAIN:
122 TH/S EFFICIENCY ----- 27.5 J/TH (3,355W),

M50S IS EXPECTED TO DELIVER OVER 126 TH/S FOR AN
EFFICIENCY OF ----- 26 J/TH.
110 TH/S ----- EFFICIENCY OF 30 J/TH
A1346 AND 130 TH/S ----- EFFICIENCY OF 25 J/TH
A1366 MODEL. THIS MAKES THE A13-SERIES MINERS
SLIGHTLY MORE EFFICIENT THAN MICROBT'S M50S

03



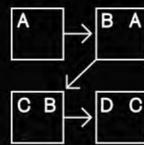
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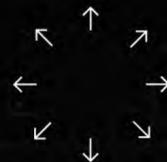
Rollups

24



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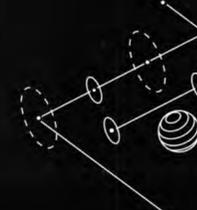
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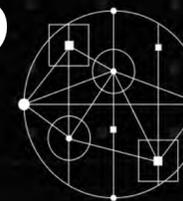
NFTs

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Venture
Investing

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Regulation

INSCRIPTIONS IMPACT ON FUNGIBILITY

TOTAL AMOUNT AVAILABLE BLOCKSPACE PER ANNUM	210 240 000 000 BYTES
TOTAL NUMBER OF BLOCKS PER ANNUM	52 560
TARGET NUMBER OF INSCRIPTIONS	500 000 000
AVG. SIZE OF INSCRIPTION	30 000 BYTES
AVG. SIZE OF INSCRIPTION UTXO	10 000 SATS
PERCENTAGE OF TOTAL TRANSACTIONS ATTRIBUTABLE TO INSCRIPTIONS	30.00%
NUMBER OF YEARS TO MINT TARGET AMOUNT OF INSCRIPTIONS	238
NUMBER OF BLOCKS	3 750 000
AMOUNT OF BITCOIN INSCRIBED	50 000 BTC
PERCENT OF TOTAL SUPPLY	0.24%



Bitcoin

Demonstrating resilience during a crisis of confidence

INSCRIPTION COST

NETWORK TRANSACTION FEE COST	3 SAT/VBYTE
AVG. SIZE OF AN INSCRIPTION	33 114 BYTES
SEGWIT DISCOUNT	75%
TOTAL COST TO MINT SINGLE INSCRIPTION (Sats)	24 836 SATS
TOTAL COST TO MINT SINGLE INSCRIPTION	\$5.71
ANNUAL TRANSACTIONS FROM INSCRIBING	1 330 344
TOTAL SIZE OF TRANSACTIONS	44 056 322 616 BYTES
NUMBER OF BLOCKS ATTRIBUTABLE TO INSCRIPTIONS	11 014
TOTAL FEES ATTRIBUTABLE TO INSCRIPTIONS	330 BTC



Bitcoin: a best performing asset



Alex Thorn

Head of Firmwide Research

With the global banking system rocked by rising interest rates, attention has turned once again to Bitcoin, which itself was created out of the ashes of the last banking crisis. Indeed, Satoshi inscribed the words “Chancellor on brink of second bailout for banks” in the first block of Bitcoin’s blockchain on January 3, 2009, and the project has enjoyed a material uplift in early 2023 as the world reconsiders the nature of savings. Year to date, Bitcoin is the best performing asset when compared to a range of securities (both equities and fixed income), indices, and commodities, only beaten by one S&P component (NVDA) at the time of writing. Over longer time frames, Bitcoin’s outperformance only improves.

KEY FACTS

\$14.8T

Value of BTC Transferred in 2022

10M

Count of BTC transactions per month as of March 2023

75%

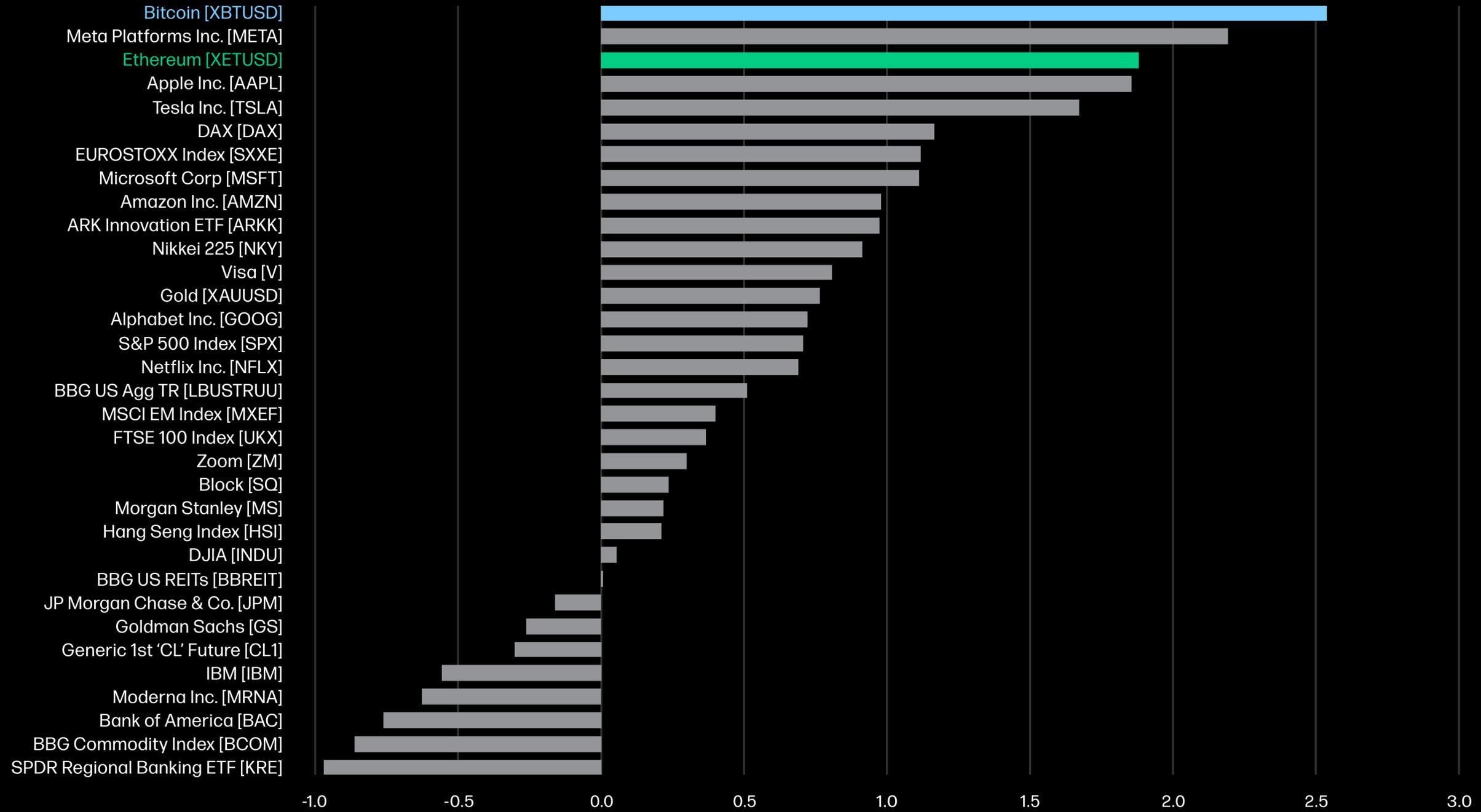
Percent of addresses “in profit” (BTC acquired when price was lower)

45M (+5% YTD)

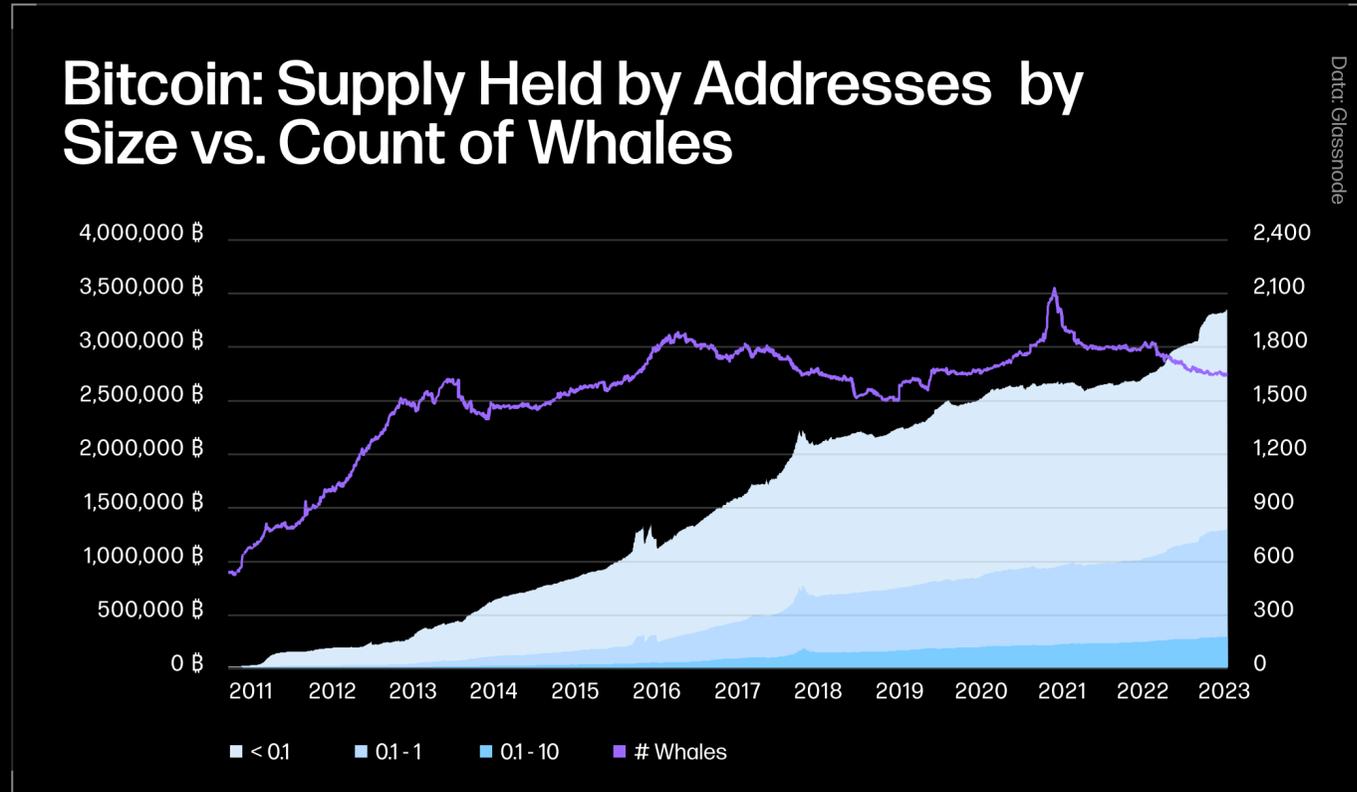
Addresses with a balance



Risk-adjusted Performance (Sharpe Ratio) Q1 2023

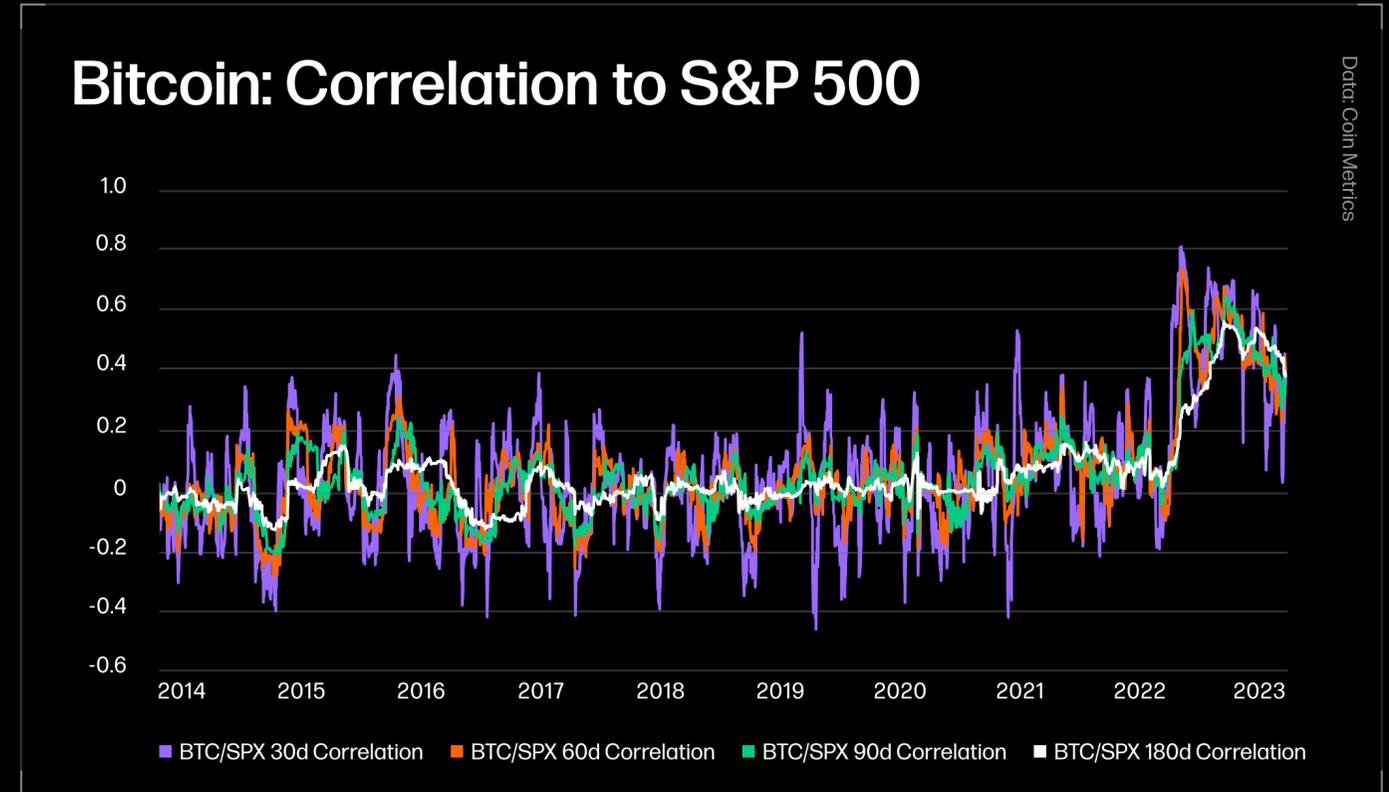


Data: Bloomberg, Galaxy Research



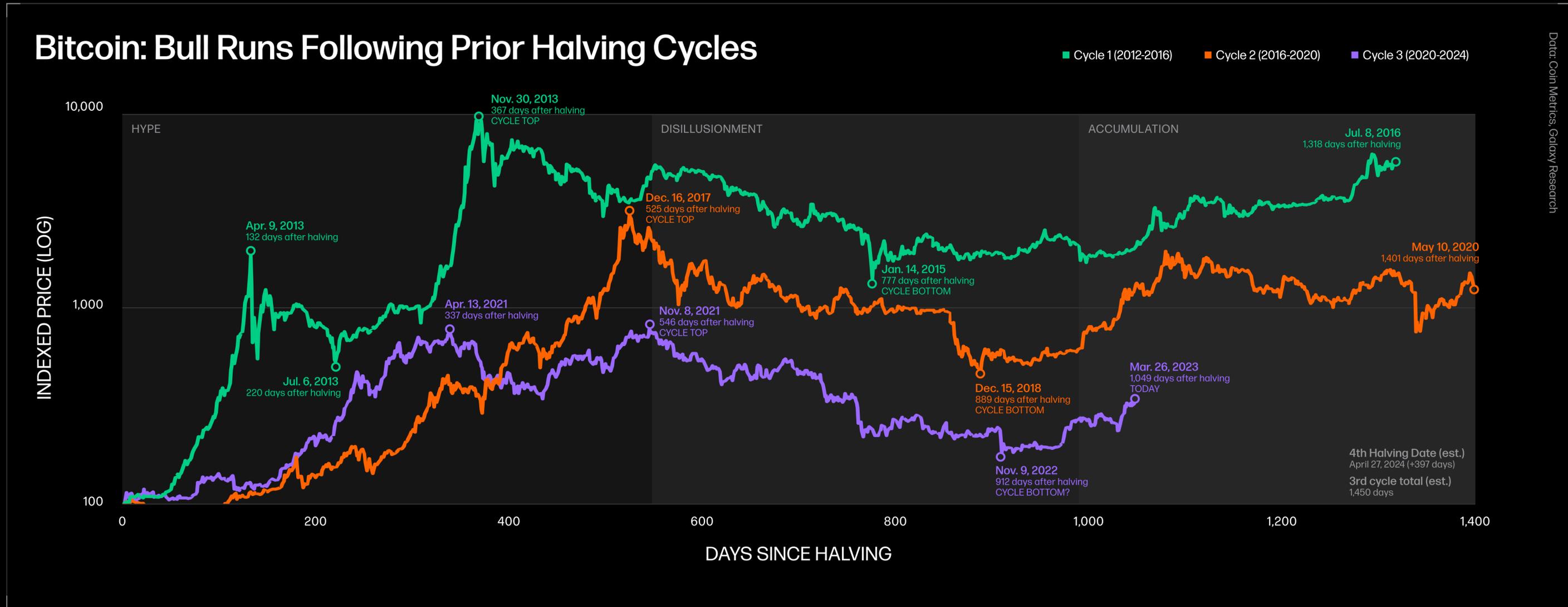
Several metrics suggest that Bitcoin’s rally is built on a sturdy foundation after a year of dismal performance. On-chain data suggests ongoing accumulation, growing dispersion of ownership, and longer holding times. Today, more than 65% of Bitcoin’s supply hasn’t moved in a year or more, and 50% hasn’t moved in 2+ years, an all-time high for these measures. When evaluating dispersion of ownership, it’s clear that coins are increasingly moving from weak hands to strong hands with longer term conviction.

Other data points support this analysis, including all-time highs for “accumulation addresses,” (addresses that have received coins but never spent coins) and long-term holder supply. Open interest on Bitcoin futures markets remains moderate, including on the Chicago Mercantile



Exchange (CME), suggesting that the run has been driven primarily by spot trading rather than leveraged speculation. Bitcoin’s volatility has been declining over time, and its correlation to equities is receding from the all-time highs seen in 2021 and 2022.

Bitcoin’s 4th halving, the quadrennial event when the network’s new issuance halves, is expected to occur sometime in April 2024. While the absolute impact of the halving will be relatively minimal (reducing from 900 to 450 new coins per day, well below daily trade volumes), the event serves as a global marketing event showcasing Bitcoin’s fixed supply and unwavering and automated monetary policy, two of the asset’s most fundamental characteristics.



It's this feature, Bitcoin's credibly transparent and predictable money supply, that stands in stark relief to the modern fiat currencies issued by central banks. Bitcoin should, therefore, be viewed as a hedge against central bank monetary policy, not a hedge against the inflation of consumer good prices. With the dollar's reach in slow decline and the rise and strengthening of alternative trade networks (such as an emerging Russia/China nexus),

the case for a hardened, resilient, and global non-state currency only improves. Meanwhile, the growth and adoption of Bitcoin's Lightning Network (which makes small and lightning-fast Bitcoin payments possible) will continue to improve Bitcoin's use as a medium of exchange, while Inscriptions (which enable significant data storage and even non-fungible tokens) are poised to expand the design space for bitcoin adoption.

Ethereum

The leading programmable blockchain

All arithmetic is modulo 2^{256} unless otherwise noted. The zero value is denoted 0s: Stop and Arithmetic Shift Right

Value	Mnemonic	δ	α	Description
0x00	STOP	0	0	Halts execution.
0x01	ADD	2	1	Addition operation. $\mu'_s[0] \equiv \mu_s[0] + \mu_s[1]$
0x02	MUL	2	1	Multiplication operation. $\mu'_s[0] \equiv \mu_s[0] \times \mu_s[1]$
0x03	SUB	2	1	Subtraction operation. $\mu'_s[0] \equiv \mu_s[0] - \mu_s[1]$
0x04	DIV	2	1	Integer division operation. $\mu'_s[0] \equiv \begin{cases} 0 \\ \lfloor \mu_s[0] \div \mu_s[1] \rfloor \end{cases}$
0x05	SDIV	2	1	Signed integer division operation. $\mu'_s[0] \equiv \begin{cases} 0 \\ -2^{255} \\ \text{sgn}(\mu_s[0] \div \mu_s[1]) \end{cases}$

Where all values are treated as signed integers.
Note the overflow semantics.



Ethereum continues to dominate user activity and developer mindshare.



Christine Kim
VP of Research

Ethereum is the most sprawling public blockchain and the most important in programmable finance. Its latest upgrade, dubbed “Shanghai,” completes its multi-year transition from proof-of-work mining to proof-of-stake validating, a major milestone for the world’s second most valuable blockchain that further differentiates it from Bitcoin, the world’s first cryptocurrency. **Ethereum has the clearest line of sight to becoming the “world computer” to support decentralized applications** for a myriad of use cases including decentralized finance, tokenized assets, blockchain gaming, decentralized identity, and more.

KEY FACTS

Number of Ethereum addresses with a non-zero ETH balance

March 31, 2023

78,376,564

% change from January 1 to March 31, 2023

4.8%

Total ETH supply staked

March 31, 2023

11,025,195

% change from January 1 to March 31, 2023

13.4%

% of ETH supply in smart contracts

March 31, 2023

27%

March 31, 2022

26%

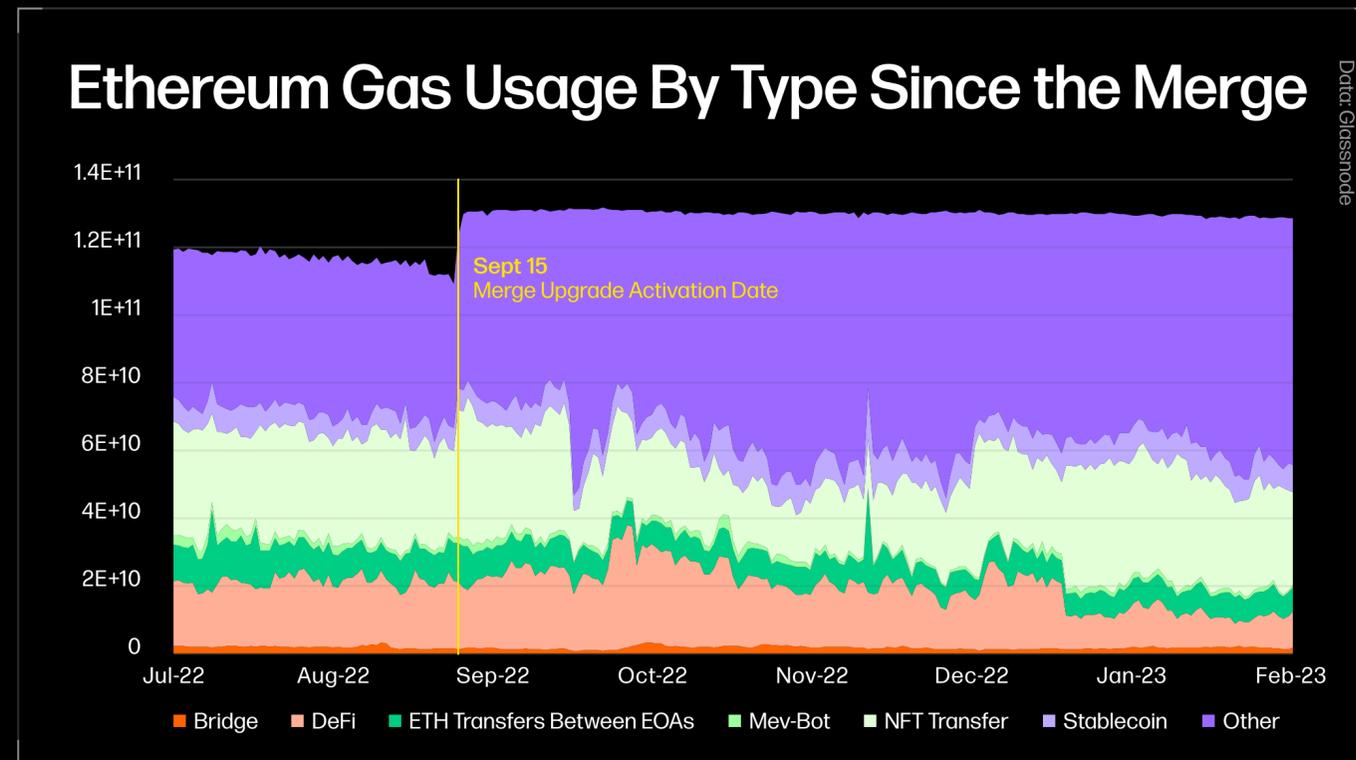
ETH inflation rate

March 31, 2023

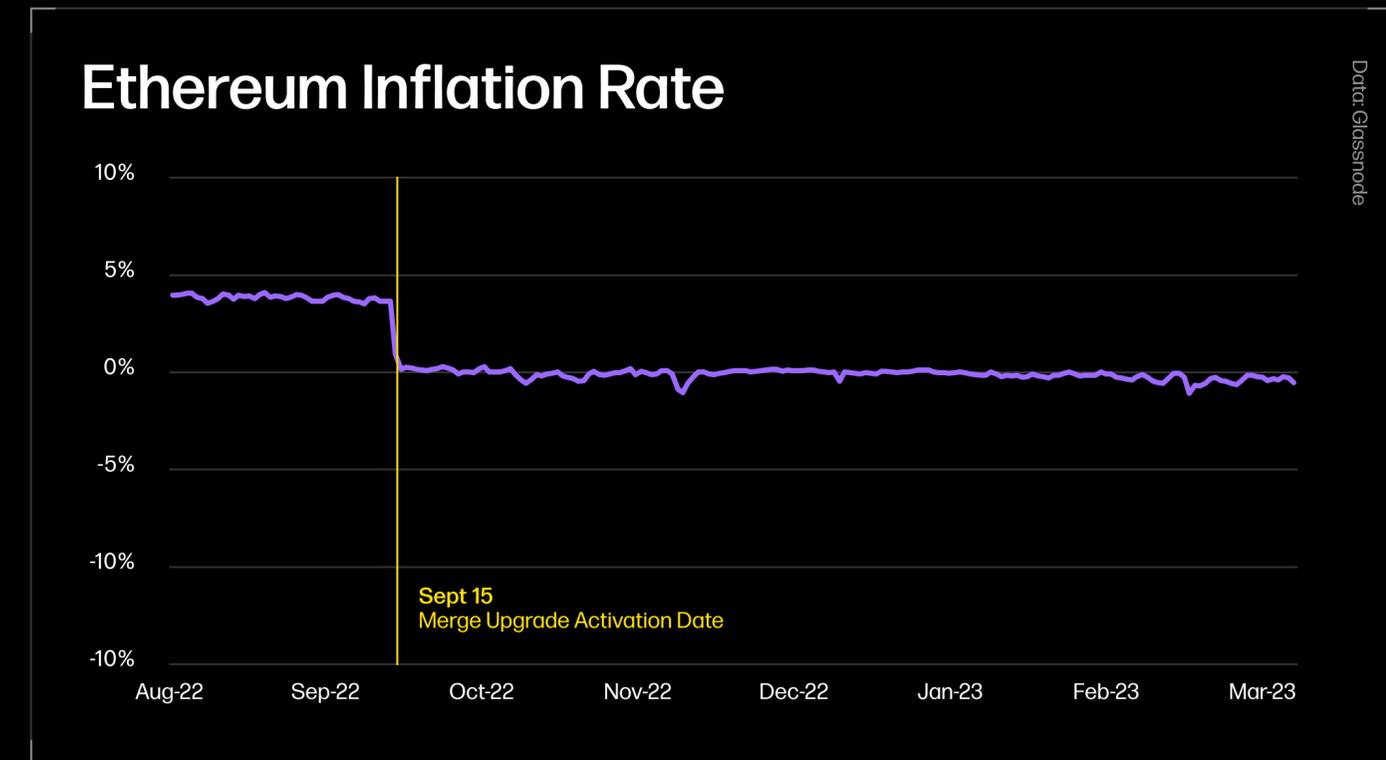
-0.289%

March 31, 2022

3.21%



Gas usage on Ethereum, which measures the amount of computation being expended by validators to execute user transactions and smart contract operations, has noticeably increased since the Merge upgrade in September 2022. Slightly faster block times created greater network capacity. Since the Merge, ether (ETH) has become a deflationary asset, as issuance on the network has declined significantly. Rather than spend ETH on applications, more users are opting-in to staking their assets on-chain through staking-as-a-service providers like Lido. The total amount of ETH staked reached an all-time high of 17.5mn ETH staked on March 6, 2023, which represents 14.6% of total ETH supply.



The activation of Shanghai and staked ETH withdrawals on Ethereum in Q2 2023 is an important milestone that will fundamentally alter network participation and have a positive impact on network health. Ethereum is designed to be resilient against large swings in validator set size, but this has never been tested in practice on mainnet given that the protocol has never supported withdrawals of any type. The Shanghai upgrade is akin to Ethereum taking off its training wheels as a new proof-of-stake blockchain and therefore, Shanghai may be a potential catalyst for more bullish sentiment over Ethereum's future roadmap should the upgrade this April go smoothly.



Since the activation of staked ETH withdrawals through the Shanghai upgrade, the Ethereum network has maintained a high level of security and resiliency.



Despite over 15,000 active validators unstaking from Ethereum since the activation of the upgrade, the total amount of ETH staked remains up 8.5% year-to-date.* With the successful activation Shanghai, Ethereum's next major upgrade will focus on scalability and improving Ethereum's support for Layer 2 scaling technologies, particularly optimistic and zero-knowledge rollups, which prepares Ethereum for further growth and adoption. The combination of Ethereum's first-mover advantage and the adoption of Layer 2 technologies will allow Ethereum to compete against new highly-scalable blockchain competitors and maintain its lead as the public blockchain with the highest amount of developer innovation and activity.

* As of April 17, 2023

DeFi

Innovation in both the lending and trading space are driving DeFi adoption and the on-chain experience.

```
#include <iostream>
#include <string>
using namespace std;

int main() {
    vector<string> arr;
    chat ch;
    istream inttoarray[];

    DATE TIME AMT USDC
    3/9/23 20:43 $407 811 622
    3/9/23 22:01 $200 000 000
    3/9/23 22:29 $200 000 000
    3/9/23 22:53 $200 000 000
    3/9/23 23:03 $100 000 000
    3/9/23 10:23 $93 750 368
    3/9/23 15:57 $90 000 000
    3/8/23 5:34 $87 310 898
    3/9/23 23:27 $80 067 048
    3/12/23 20:47 $60 891 133
```

57,835,468

```
int main() {
    vector<string> arr;
    chat ch;
    istream inttoarray[];
```



Open. Transparent. Non-custodial.



Walt Smith
Research Analyst

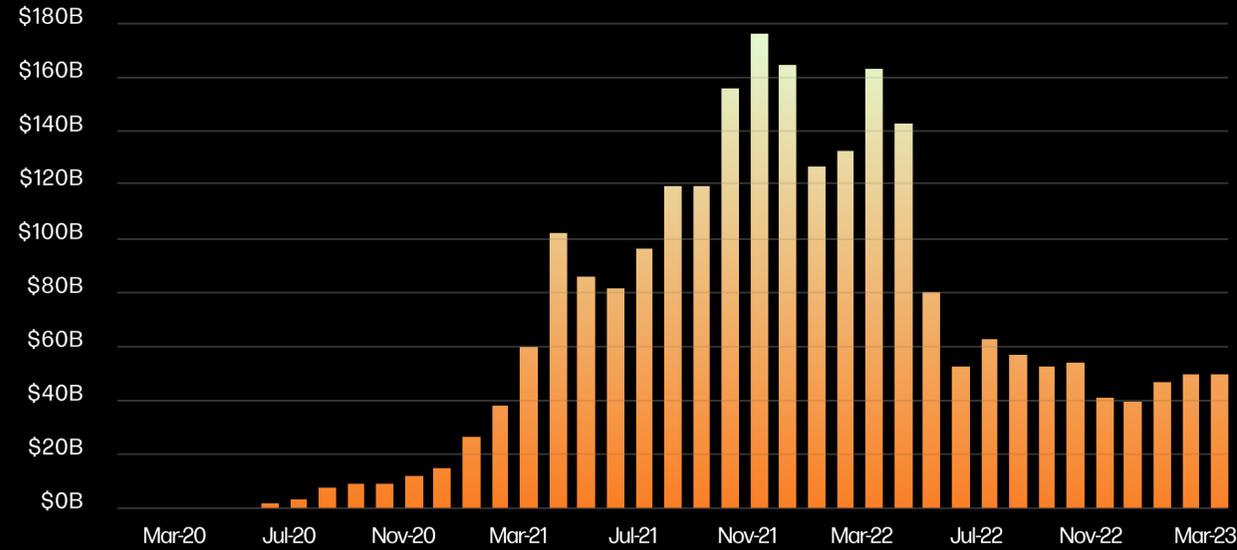


Decentralized Finance (DeFi) are the services and products that replicate real world finance but in a decentralized manner via a blockchain. They take some of the offerings of banks, institutions, and trading houses alike and make them auditable and accessible to anyone transacting on-chain. DeFi lending proved robust and resilient again and again during a tumultuous 2022, as automatic liquidation engines hardcoded into dapps ensured risk was managed more uniformly than at centralized, human operated lending houses. DeFi trading on venues like dYdX, GMX, and prominent Decentralized Exchanges (DEXs) like Uniswap v3 and SushiSwap also remained fairly stable during the year, but grew to greater heights following the demise of FTX. March 2023 has seen the largest DEX volumes since May 2022 and the most unique users since March 2022. While still experiencing growing pains, the openness, transparency, and noncustodial nature of DeFi has proven its here to stay.



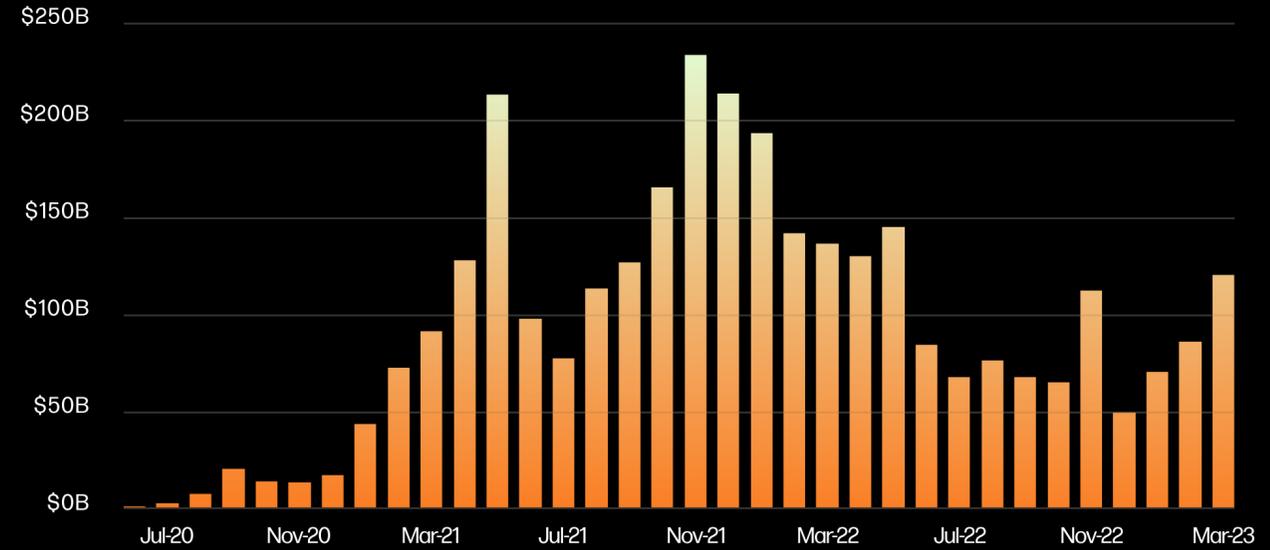
DeFi Total Value Locked (TVL)

Data: DeFiLlama



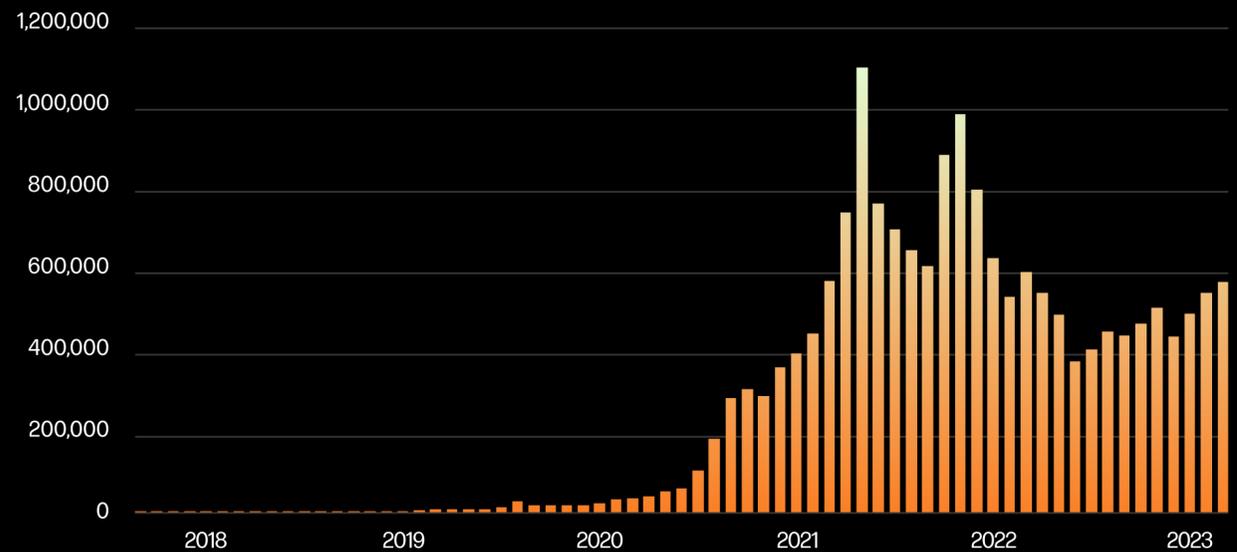
DEX Trading Volume

Data: DeFiLlama



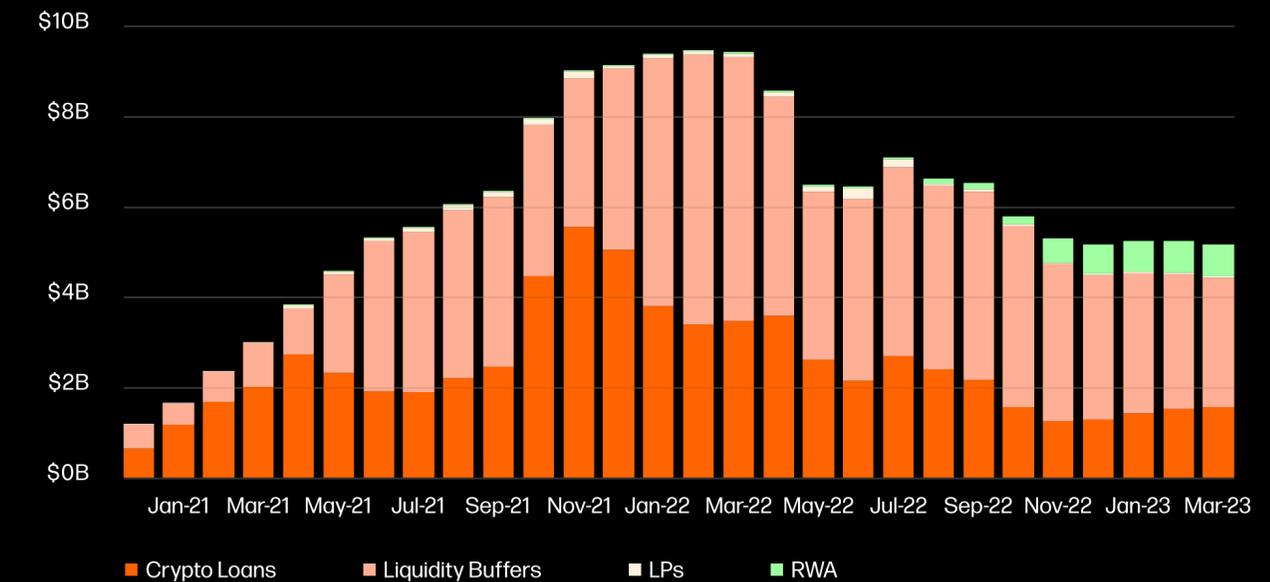
Monthly Unique Addresses Accessing DeFi

Data: Dune Analytics



Maker - Loan Assets by Month

Data: Dune Analytics (@SebVentures)





WHAT TO WATCH

01 Innovation

While issues like impermanent loss, high gas fees, and a limited asset availability have plagued early DeFi protocols, innovation in both the lending and trading space are bringing the on-chain experience more in line with traditional finance rails while maintaining the core properties of decentralization. As new ideas go to market, and user experience improves, activity should pick up.

02 Competition

New models, particularly in trading, including Request for Quote (RFQ) and Dutch auction powered AMMs along with the rebirth of CLOB trading on Solana are ensuring trading experiences are more balanced and fair. Decentralized exchanges (DEXs) will continue to compete to give users best in class experience.

03 Real World Assets

Coinciding with the explosive growth of stablecoins, regulatory clarity in places like Switzerland is letting assets from the traditional world go on-chain for the first time ever. Should more clarity be given, greater transparency, quick settlement, and clear custody will pull participants from emerging markets to assets normally only available to more mature markets.

04 Sophistication Grows

As DeFi ages, confidence in its renaming participants, pipeline, and products grows. Differentiated products like whitelisted lending, options vaults, and perpetual future DEXs are designed for participants with fundamentally different demands. The effects of aging along with more sophisticated offerings will spur new entrants, creating a larger network effect around DeFi.

Stablecoins

Extending the dollar's reach around the world



Combining the benefits of crypto networks with fiat currencies



Charles Yu
Research Associate

Stablecoins are important bridges connecting the digital and physical worlds - they combine the benefits of crypto networks with the price stability of widely accepted fiat currencies. **Stablecoins represent ~15%* of the total crypto market cap.** Historically, they have been relied upon to facilitate trading on CEXes, but the explosion of DeFi in recent years has led to even more demand for stablecoins as a tool for leverage, risk management, savings, and other financial activities. More than 99% of the world's circulating stablecoin supply tracks the United States dollar, showing the primacy of the dollar and its ongoing global demand. As crypto firms and investors struggle in the United States to acquire and retain traditional banking services, stablecoins offer a lifeline. Broadly speaking, stablecoins have been and continue to be one of the most effective and adopted use cases for public blockchains.

KEY FACTS*

\$132B
(-4.1% YTD)

Stablecoin Market Cap

10.7%
(-5.9-ppt YTD)

Stablecoins % of Total
Crypto Market Cap

60.4%
(+12.4-ppt YTD)

Tether Dominance

6.5%
(+0.4-ppt YTD)

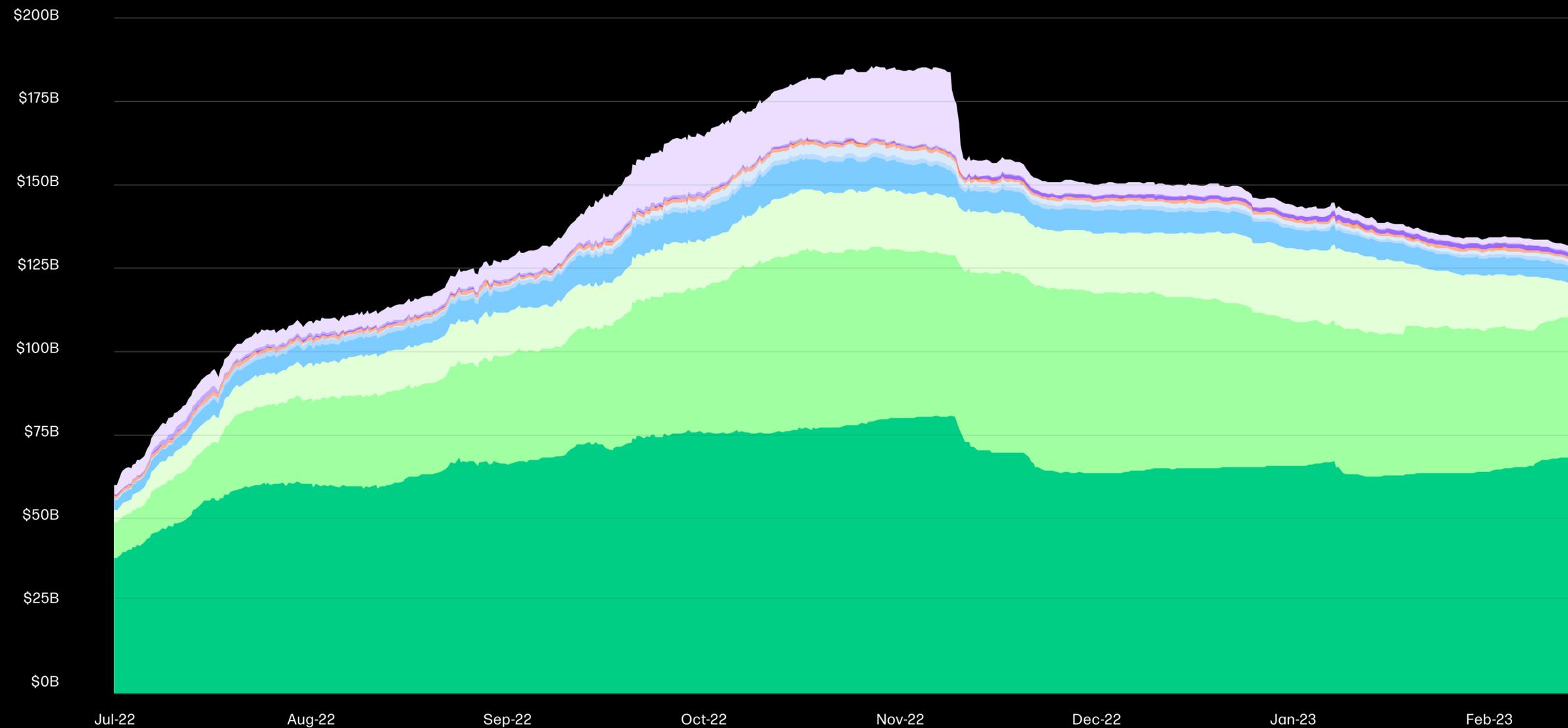
Crypto-backed
stablecoin % of Total
Stablecoins

* As of March 31, 2023



Stablecoin Market Capitalization

Data: Defi Llama



- USDT
- USDC
- BUSD
- DAI
- TUSD
- FRAX
- USDP
- USDD
- GUSD
- LUSD
- Other



WHAT TO WATCH

01 Adoption

When it comes to business development and driving stablecoin integrations, fiat-backed issuers have an advantage of operating more closely with traditional enterprises and regulators. Stablecoins continue to find adoption in real-world use cases like treasury management, international B2B, cross-border remittances, and e-commerce, among other payment flows.

02 Regulation

BUSD, the 3rd largest stablecoin, is now in wind down-only mode after regulatory action by the NYDFS and SEC against its issuer Paxos. Regulation will lead to new winners & losers in stablecoin issuance. Jurisdictional regulatory requirements will favor certain industries, such as banking, and could tip the scales in terms of market share over time.

03 Competition

As most fiat-backed stablecoins converge on a common model (100% cash backed), stablecoin issuers will look to differentiate and compete by providing more favorable pass-through yields, forming more partnerships & integrations, and leveraging network effects - all while fighting for regulatory-compliance.

04 Yields

Higher treasury yields will make it difficult for non-fiat backed stables (e.g., DAI, FRAX, and LUSD) to compete. But more Real World Asset deals can help to deliver TradFi yields to DeFi (as seen with MakerDAO hiking the DAI Savings Rate).

05 Demand for censorship resistance/decentralization

The top crypto-native stablecoins—DAI & FRAX—are heavily reliant on USDC for explicit backing, and many more may be indirectly reliant on USDC for stability in arbitrage structures. Establishing a separate reserve of exogenous assets to support price stability will become more standard and there will be greater emphasis on reducing reliance upon custodial stablecoins (i.e., USDC & USDT) in favor of more decentralized reserve assets (e.g., BTC and ETH).

06 New products

We'll also see some new stablecoin products from Aave and Curve, which could have the potential to change the dynamics in the decentralized stablecoin market.

Rollups

Scaling Ethereum to handle the world's transactions

AIRDROP QUALIFIERS	#ELIGIBLE	OP PER ADDRESS
OPTIMISM USERS	92157	777
REPEAT OPTIMISM USERS	19174	1692
DAO VOTERS	84015	272
MULTISIG SIGNERS	19542	1190
BITCOIN DONORS	23925	556
USERS PRICED OUT OF ETHEREUM	74272	409



Rollup adoption accelerates as technology continues to develop



Charles Yu
Research Associate

Rollups – Ethereum's core Layer 2 (L2) scaling solution – handle execution off-chain and post a compressed form of transaction data on-chain to the Layer 1 (L1) so anyone can reconstruct what's happened off-chain with the data that is posted. The main value proposition of rollups is to minimize the data footprint on Ethereum while preserving the ability to check for fraud (i.e., providing cheaper transactions and greater scale while ensuring data availability). **The leading optimistic rollups, Optimism and Arbitrum, experienced a 10x increase in daily active addresses since the start of 2022** after successful marketing initiatives and incentives to educate and onboard new users. ZK-rollups – widely believed to be a superior technology compared to their optimistic counterparts – still require significant development before being production ready, but meaningful progress has been made by project teams such as Starkware, zkSync, Polygon, and Scroll.

KEY FACTS*

\$3.3B
(+113% YTD)

TVL in All Rollups

920K
(+37.8% QoQ)

Avg Combined Daily Txns
on Arbitrum & Optimism
in Q1

60.4%
(+12.4-ppt YTD)

L2 Fees Generated on
Arbitrum & Optimism in Q1

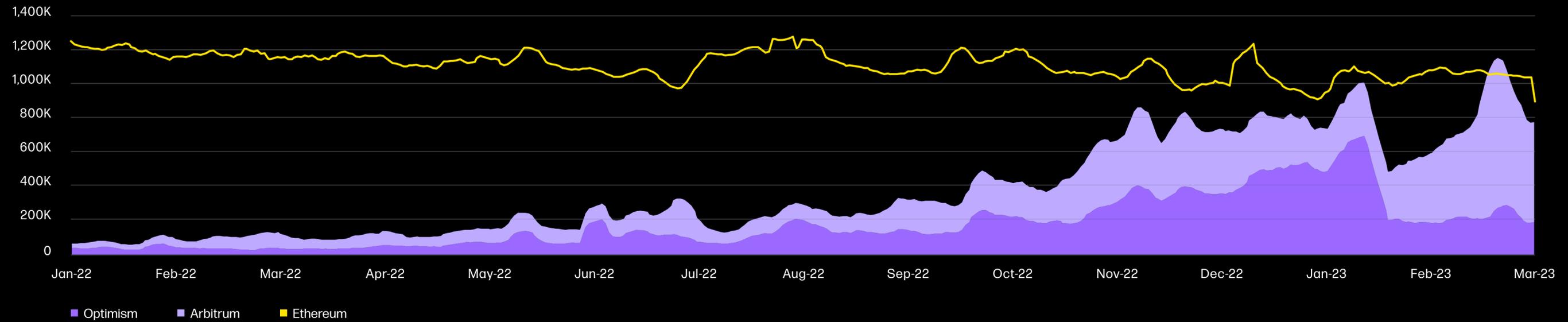
13.9%
(+10.0-ppt YTD)

% max daily available gas
on Ethereum spent by L2
proof contracts (7d-MA)

* As of March 31, 2023

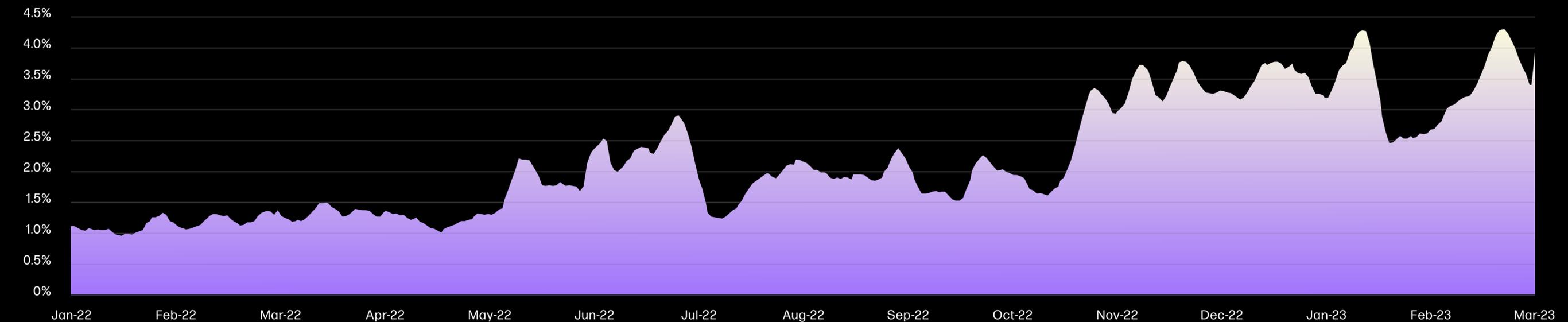


Daily Rollup Transactions (7d MA)



Data: Dune Analytics, Coin Metrics

Ethereum: % of L1 Gas Used by L2s



Data: Dune Analytics, Coin Metrics



WHAT TO WATCH

01 Infrastructure improvements to drive adoption

With more direct on-ramps to rollups (e.g., CEXes to rollups and fiat-to-crypto on wallet apps) including the launch of Coinbase’s own L2 called Base, onboarding for new users on-chain has never been easier. Infrastructure improvements enable users to avoid interfacing with the costly gas fees and latency of the Ethereum base layer and will continue to reducing UX frictions that have slowed mass adoption.

02 Further scaling improvements

Rollups have a clear roadmap to even cheaper fees through EIP-4844, which can drive average transaction costs to under \$0.01, which facilitate further adoption and enable new applications to be built.

03 Key technical focus areas

There's a lot of forward promises with rollups, which still face meaningful risks around security and decentralization. Technical focus areas for rollups generally include improving compatibility, supporting proof generation, reducing costs of proof generation – all of which must occur before the centrally-operated sequencer may become fully decentralized. Other areas of interest new modular implementations around data availability and shared security, as well as MEV capture and cross-chain MEV opportunities.

04 The first zkEVMs launch on Mainnet

zkEVM aims to create a full Ethereum experience on a rollup. There's a lot of nuances with the different implementations of zkEVM - each coming with different levels of compatibility and support of native EVM opcodes or reliance on customized opcodes. In late March, zkSync Era and Polygon zkEVM were the first zkEVMs to publicly launch on Mainnet, while other promising zkEVM solutions yet to launch include Scroll, Taiko, and Linea. These zkEVM launches are particularly significant for the adoption of ZKRUs to maintain mindshare for developers and users that have grown impatient with the practical limitations of using ZKRUs despite their promising potential

05 Competition Optimism and Arbitrum

In 2022, Optimism closed in on Arbitrum’s early lead in usage and DeFi activity after launching its OP token and a series of marketing initiatives. Since the start of 2023 however, Arbitrum has reclaimed the lead as active addresses and transaction counts have surged on the network driven by hype around the ARB token, which launched on March 23. Competition should continue between the two leading rollups as they begin to diverge in their technical architectures and strategic approaches to composable shared infrastructure with the Optimism Superchain and Arbitrum Orbit visions.

06 Rollup KPIs

Some KPIs to assess the adoption and development of rollups include transaction count or active addresses benchmarked against Ethereum (Arbitrum and Optimism have collectively surpassed Ethereum in transaction count on several occasions), % of L1 gas spent by L2s for posting calldata or proofs (should ramp up with continued rollup adoption and with more validity proofs generated by new zkEVM chains).

Bitcoin Mining

The heartbeat of the world's leading decentralized money

ASIC EFFICIENCY	1 MONTH	3 MONTHS	6 MONTHS
<38 J/TH	0.59	0.67	0.62
BETWEEN 38-68 J/TH	0.93	0.83	0.62
>68 J/TH	0.48	0.74	0.51
AVERAGE	0.67	0.74	0.58

12 MONTHS	24 MONTHS
0.81	0.84
0.80	0.78
0.41	0.59
0.67	0.74



Favorable market conditions support broad recovery



Gabe Parker
Research Analyst

Despite the economic headwinds Bitcoin mining faced in 2022, the mining sector is beginning to recover. With the price of natural gas down 27% YTD, miners paying for energy using a floating rate are observing increased revenue from improved profit margins. Further supporting the recovery is Bitcoin's price up 65% YTD at the time of writing. The increased profit margins for miners translates to an overall increase in mining revenue in Q1 2023. From the increased profitability in mining operations, new ASICs that were backordered are being plugged in. **As a result, Bitcoin's hashrate grew almost 30% in Q1 2023 to more than 340 EH/sec.**

KEY FACTS

+17%

YTD increases in miner revenue from \$16.2-\$19M

+135%

Increase in mean blocksize (in bytes) largely influenced by Ordinals*

342.7

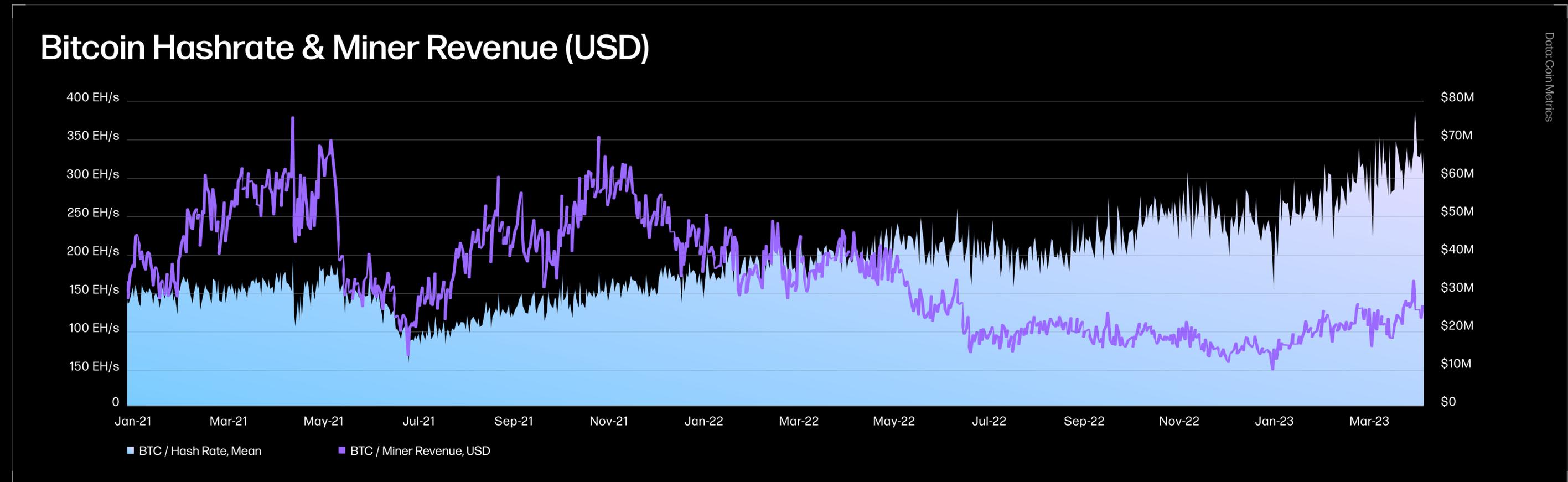
exahash/sec

Mining Hashrate (+29% YTD)

\$40M

Amount of BTC public miners hold

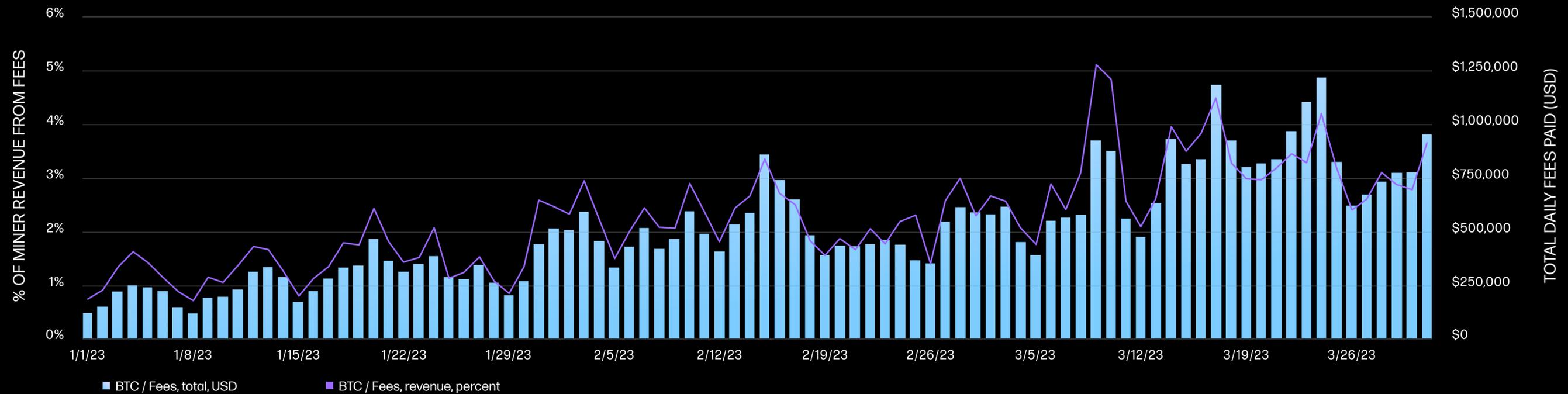
* Refer to the NFT section of this report



Miners won't have the same access to funding through capital markets in 2023 as they did in 2021 and early 2022. Several companies still need new sources of capital in order to finance the construction of infrastructure or procurement of ASICs and one such way they can solve for this is through acquisitions and partnerships with distressed mining funds. This trend appears to be playing out as Hut 8 Mining and U.S. Bitcoin Corp announced a merger to strategically position the firms to adjust to new mining economic conditions.



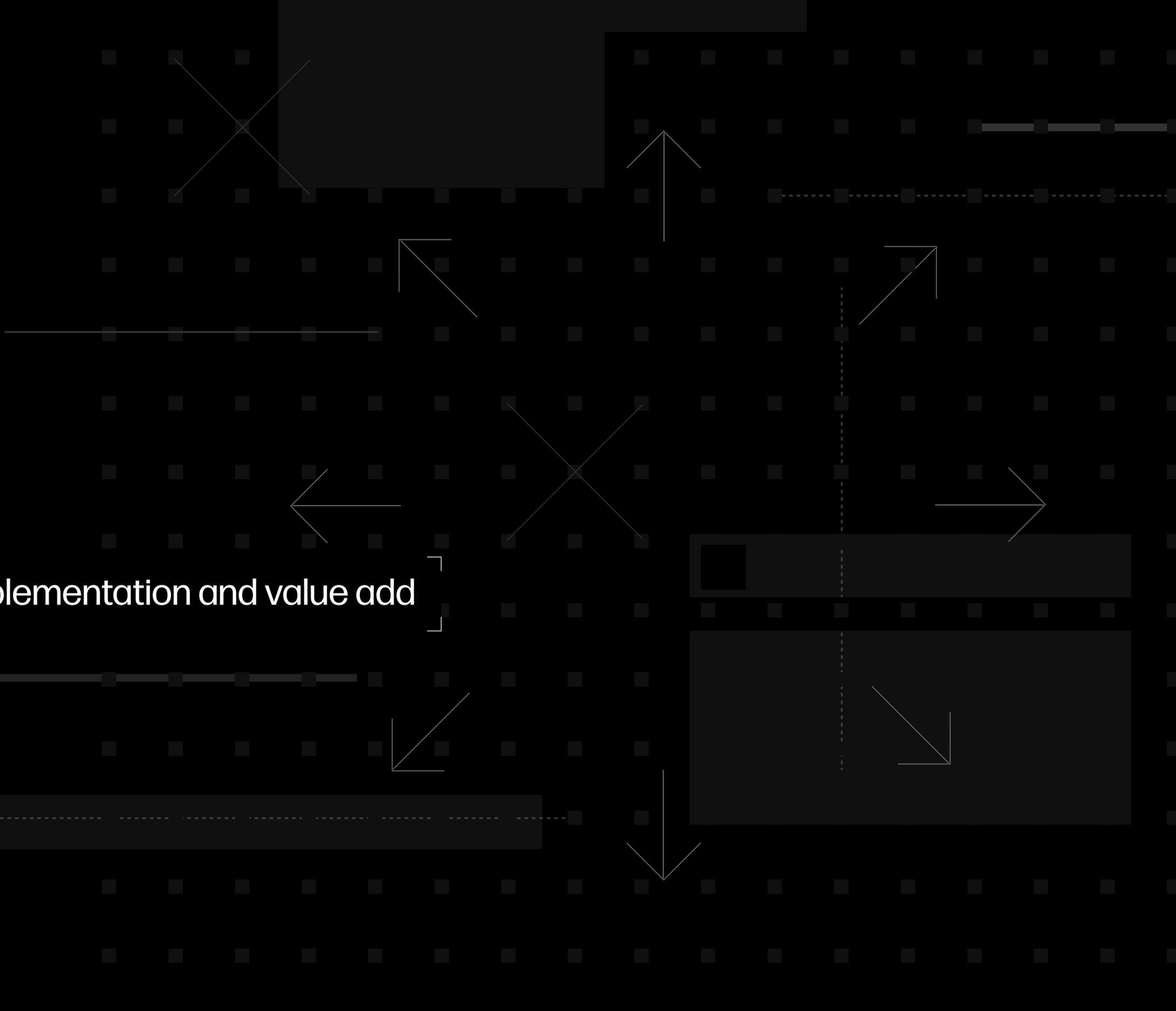
Bitcoin Transaction Fees & Miner Revenue (Daily)



Bitcoin transaction fees have risen consistently in 2023, providing much needed revenue for Bitcoin miners. The emergence of inscriptions and ordinals, which collectively make NFTs possible on Bitcoin, has driven significant new activity to the world's oldest blockchain. From the start of 2023 through the end of Q1, USD-denominated daily fee revenue (which is paid by transacting users to miners) has risen from \$118k to nearly \$1m per day, which translates directly into revenue for Bitcoin miners. The percentage of total miner revenue (which is the combination of fees and block subsidy, i.e., newly-minted BTC) comprised of fees has also risen, which many view as a healthy development given that the block subsidy declines over time.

Web3

2023, the year of real world implementation and value add





Web3 is coming for finance, social media, and music



Gabe Parker
Research Analyst

Public blockchains are already proving use cases beyond financial services. The concept of rebuilding the Internet with public blockchain infrastructure at its core is widely known as “Web3,” and public blockchains are already delivering use cases with impact.

By rebuilding parts of the web atop distributed blockchain technology, the Internet can be reshaped across multiple vectors. Builders can make use of open architecture to drive greater innovation. Creators and companies can interact with customers and monetize intellectual property in new and enhanced ways, and users can regain and retain control over their personal data and participate more holistically in the platforms they use. While there are a wide variety of applications with promise in the Web3 subsector, we highlight four areas where Web3 is gaining traction today: Web3 social, Web3 music, Gaming, and DAOs.

KEY FACTS

\$27.6B
(+157% YTD)

Total funds in DAO treasury's increase

3M

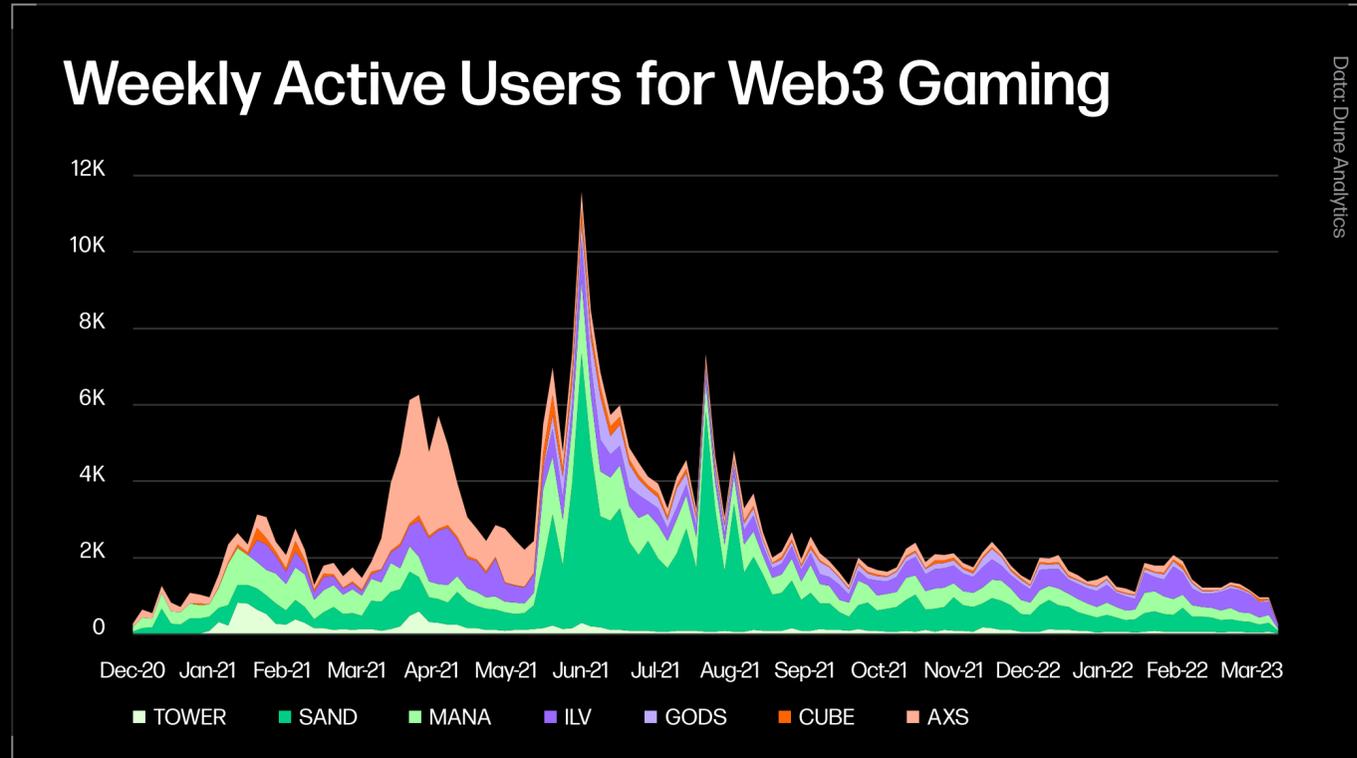
Registered wallets in the top 5 web3 social applications

80%

% of web3 music funding that went to NFT marketplaces

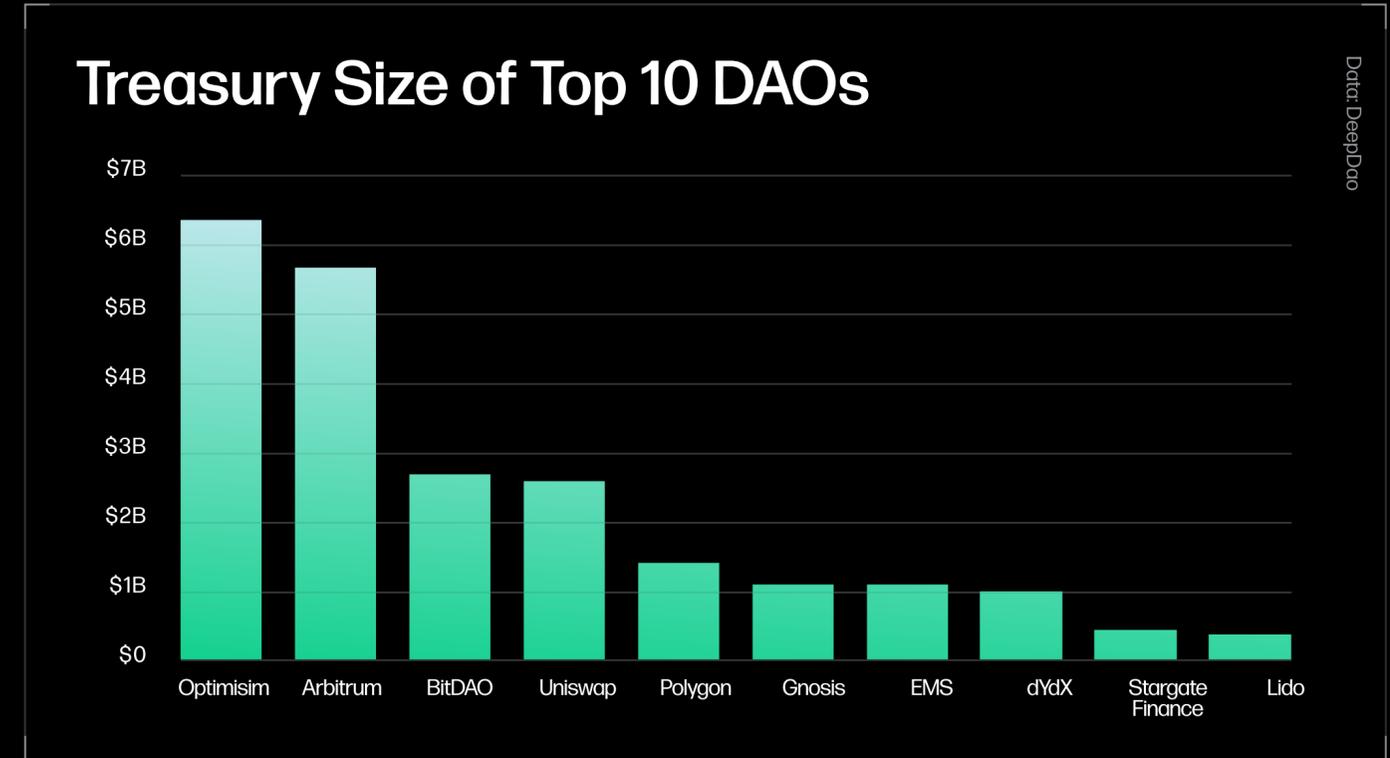
2K

The number of weekly average players of Web3 games remains in its infancy



Web3 Gaming

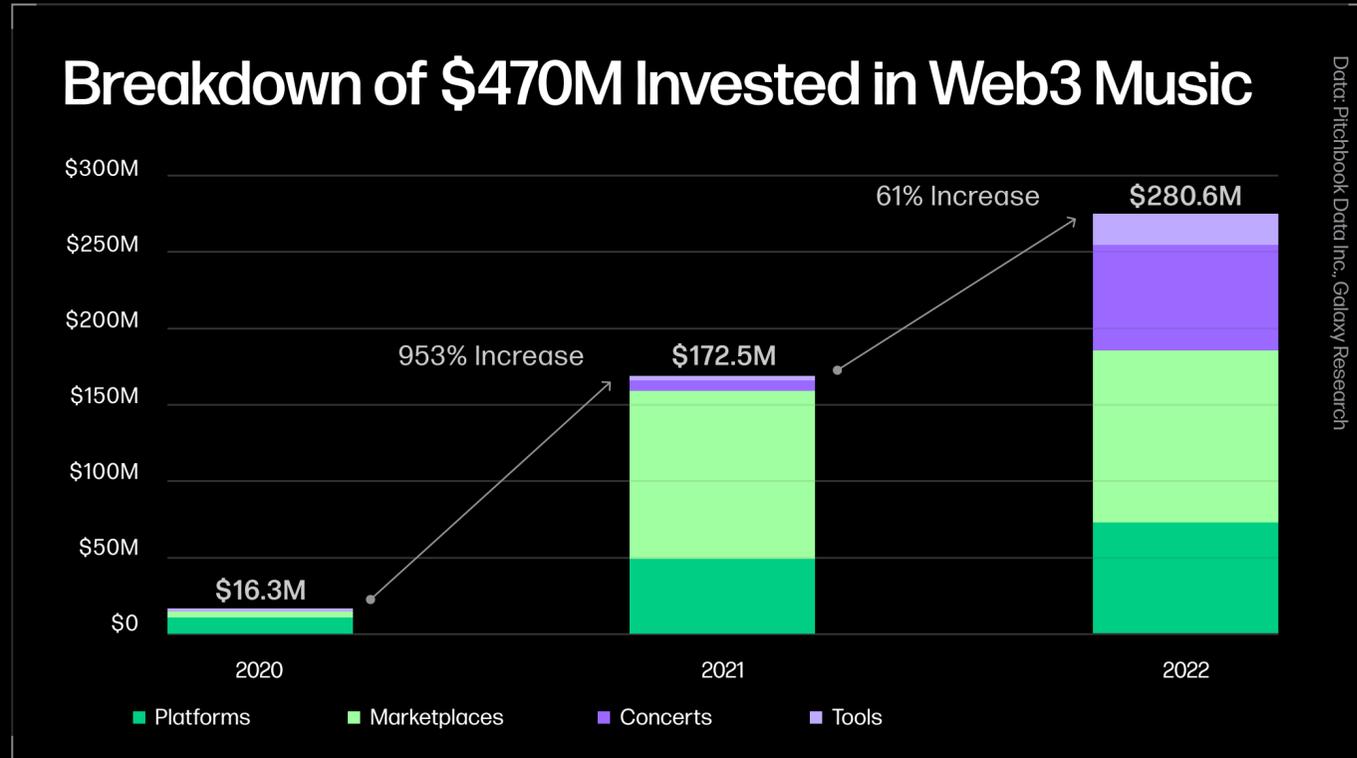
Web3 gaming projects flourished in 2021 as users, builders, and market participants became interested in the Metaverse. A subsequent cooling of interest in Metaverse has dampened usership of blockchain games, a large number of firms have identified significant benefits that blockchains can bring to games, such as enabling in-game micropayments, genuine ownership over in-game assets, or even the collective operation of games through DAOs. Broadly, the gaming industry generates more annual revenue than both movies and music combined, so the opportunity is large.



DAOs

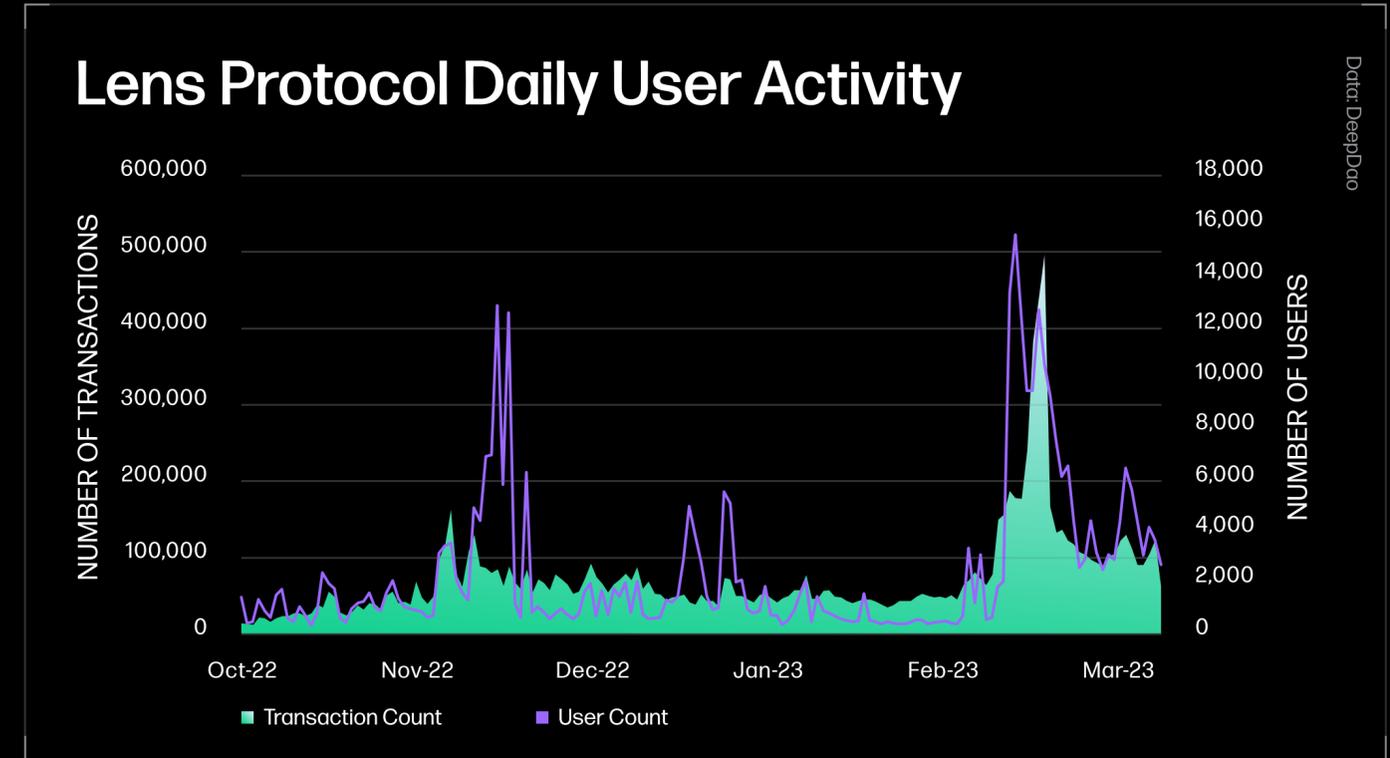
Public blockchains enable individuals and entities to create and manage new types of organizations whose rules, treasuries, and operations are facilitated by immutable software (smart contracts) and executed in a decentralized manner. The biggest decentralized autonomous organizations (DAOs) today largely manage decentralized finance applications and manage large treasuries of cryptoassets wholly on-chain. In the future, the use of DAOs is likely to expand beyond crypto-native organizations as their automation, transparency, and efficiency can bring benefit to other type of “real-world” arrangements. The biggest DAOs continue to accumulate reserves in 2023 as market conditions improve.

* Source: SuperData 2020 Year in Review



Web3 Music

The intersection of the music industry and web3 continue to develop. Spotify, which has 480mn monthly users, is planning to add token gated playlists where users utilize their NFTs on the app. Another major development in the web3 music space is Audius, the largest web3 streaming platform, integrating with TikTok. For the first time, web3 musicians can streamline their work onto a major web2 social media platform using one interface.

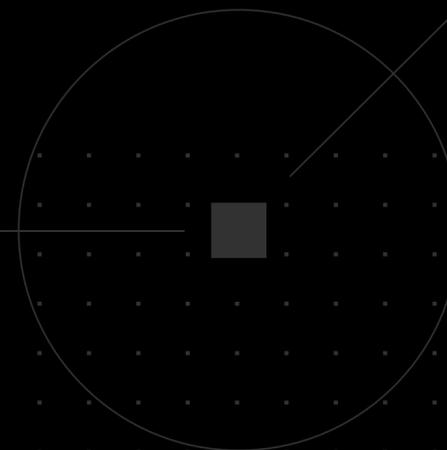
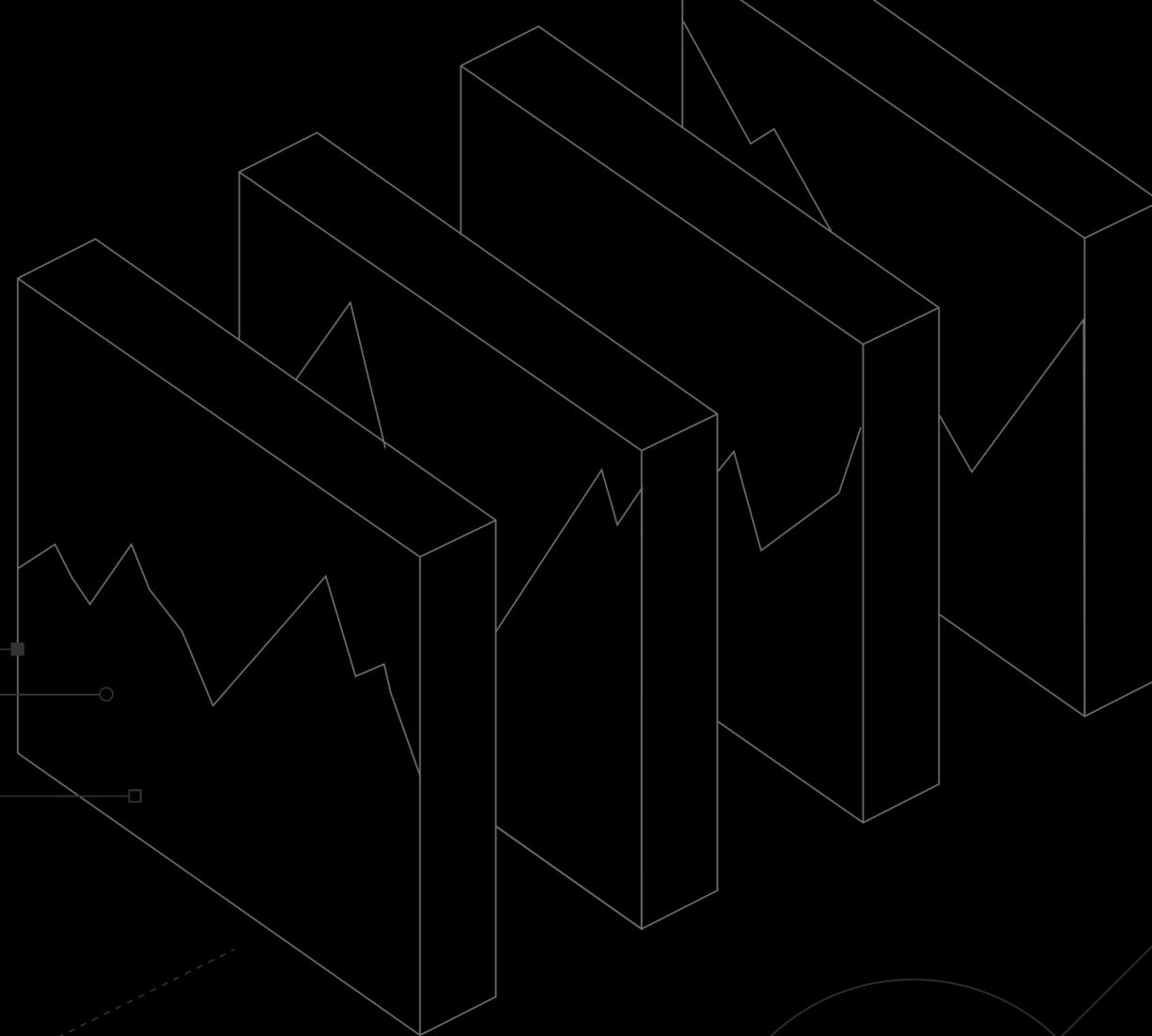
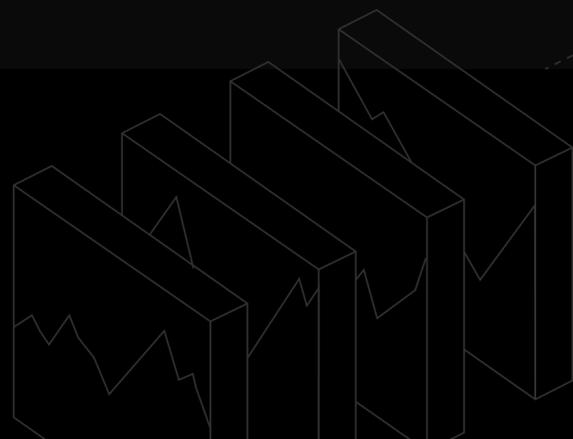


Web3 Social

Decentralized social media applications received increased attention this quarter after Damus, a new decentralized application built on Nostr, released on the iOS Appstore. Web 3 social graph protocols continue to onboard new applications as the decentralized social network narrative grows.

NFTs

Platforms battle for trading supremacy.





The Financialization of NFTs has just gotten started



Gabe Parker
Research Analyst



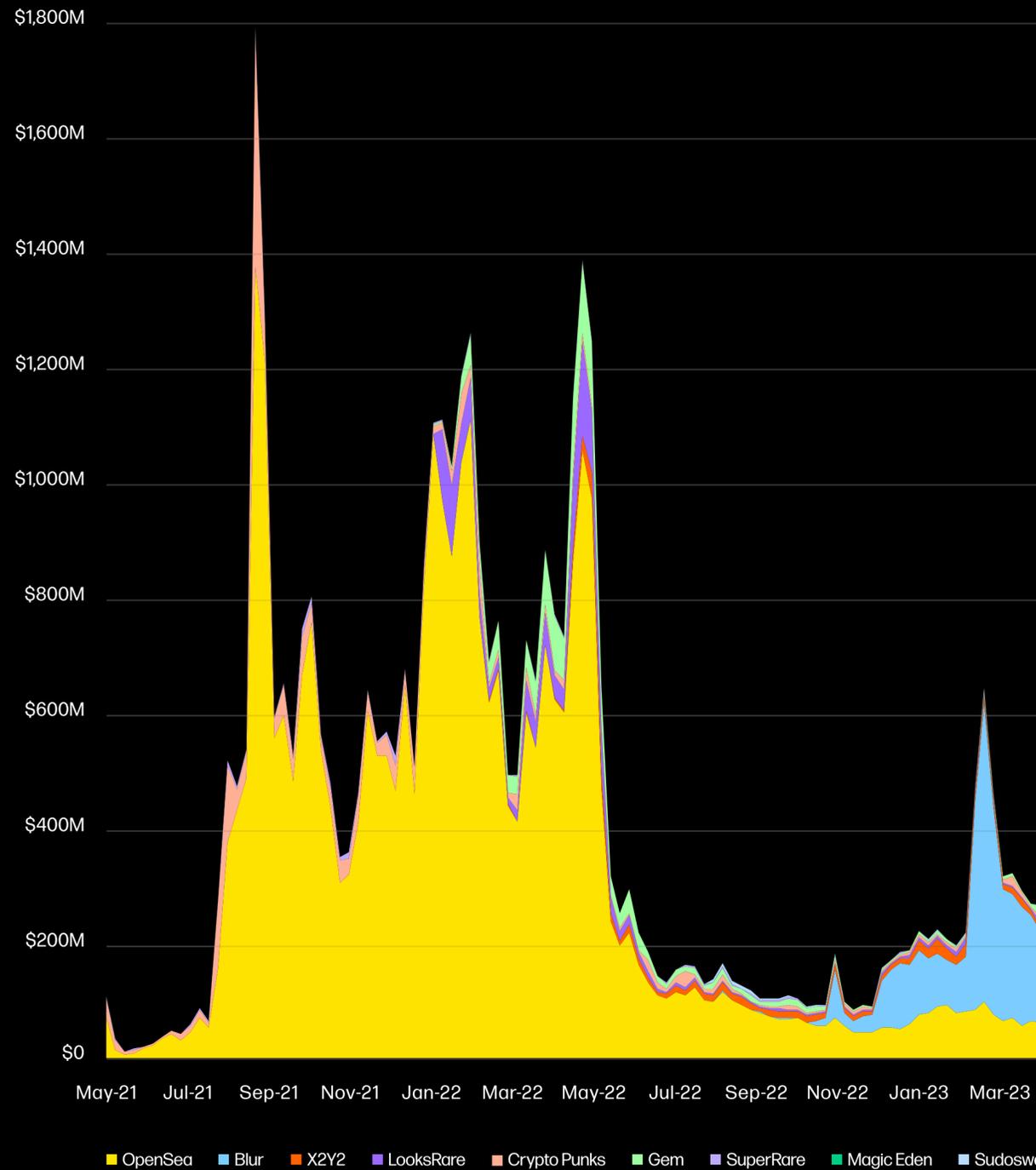
NFT sales ballooned from \$59m in 2020 to over \$12bn in 2021, taking the crypto world by storm. While the value of most NFT collections has since declined significantly in the bear market, activity remains high. NFTs are here to stay.

NFTs, 'non-fungible tokens', are unique digital identifiers recorded on a blockchain. We believe NFTs are poised to serve as a key infrastructural primitive that will power both web3 applications and the oft-mentioned Metaverse. So far, NFTs have gone through their trials and tribulations as the market attempts to attribute a fair value to this burgeoning asset class. While NFTs have served primarily as profile pictures and digital avatars to date, we anticipate that the usage of NFTs will expand significantly beyond these rudimentary use cases in the future.



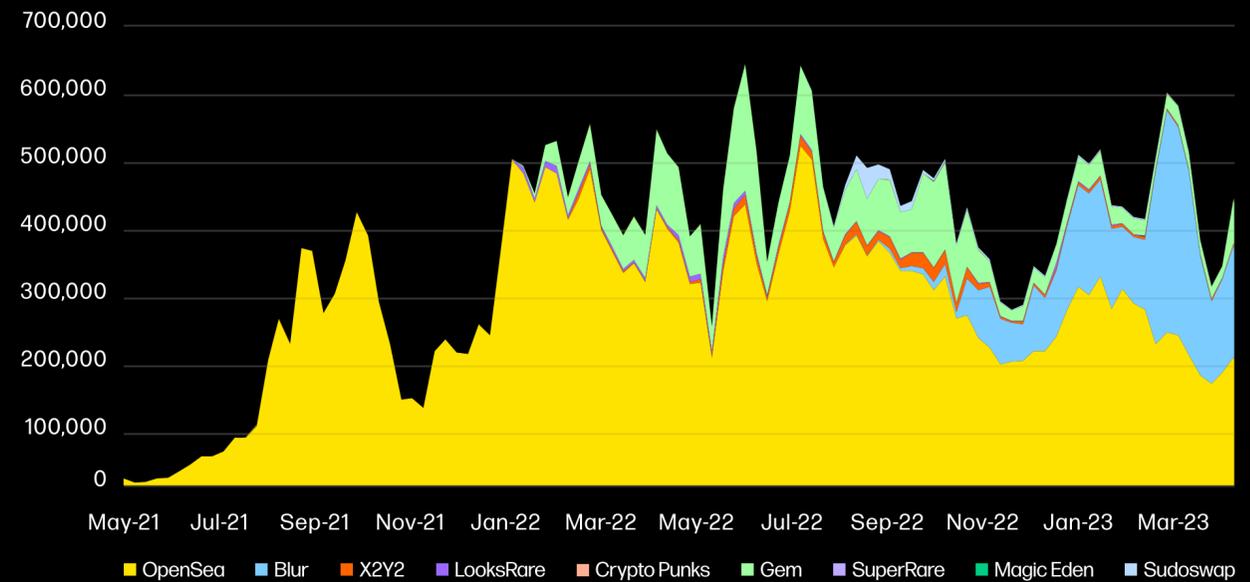
Weekly Trading Volume

Data: Dune Analytics



NFT Weekly Trades

Data: Dune Analytics



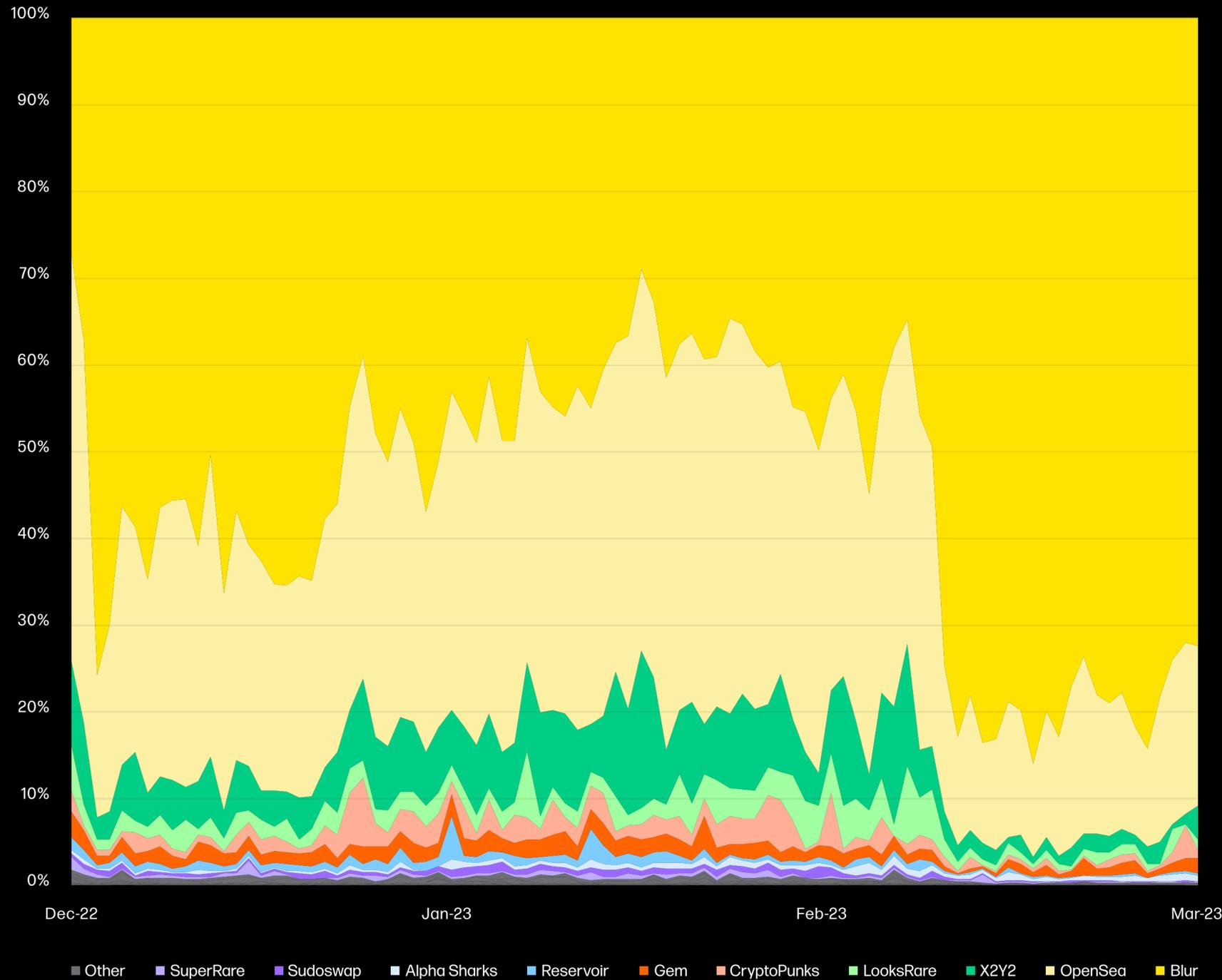
Volume falters. Activity sustains.

While the value of NFT collections has declined in the current bear market conditions, activity remains surprisingly high. The count of weekly trades remains robust, although dollar-denominated volumes remain depressed. One reason trading volume looks so depressed is because most NFTs are denominated in ETH, which itself is down more than 50% from its all-time high.



Market Share of NFT Marketplaces

Data: Dune Analytics



Other Includes: Foundation, Uniswap, Element, OKX, Rarible, Flip, BitKeep, Zora, Tiny Astro, Magic Eden, Skillet, Giga Mart, Trove, Rarity Garden, Archipelago, Genie

The battle to host NFT trading activity is heating up, with Blur rapidly accumulating market share, including at the expense of market leader OpenSea, in Q1 2023. Blur's growing dominance in the NFT marketplace ecosystem is largely due to their Season 1 token airdrop on Feb 15th, which distributed 360mn tokens to Blur users. Upon the highly anticipated airdrop, OpenSea witnessed their market share diminish as NFT traders flocked to Blur. Underneath Blur's success, the marketplace's inorganic trading should be highlighted as 50% of the volume comes from 300 wallets. Regardless of inorganic activity, Blur has managed to differentiate its product from other NFT marketplaces by catering intensely to high-volume NFT traders with an emphasis on fast execution. In the short term, we don't expect a serious drop-off in Blur's trading volume because the platform continues to keep its users highly engaged.



NFT Marketplaces Battle Over Royalties

Blur and OpenSea are also deeply involved in the fight over honoring NFT royalties. Blur, which only requires users to pay a 0.05% royalty, announced that it will enforce royalty fees for creators who restrict their project from being traded on OpenSea. Blur's action is a response to OpenSea's prior announcement that they would automatically set royalties to optional when they detect an NFT was traded on Blur. Overall, the royalty debate between the two largest NFT marketplaces displays how broken the NFT royalty system is; royalties are completely controlled and enforced by marketplaces.

Two key developments to watch with respect to Blur.

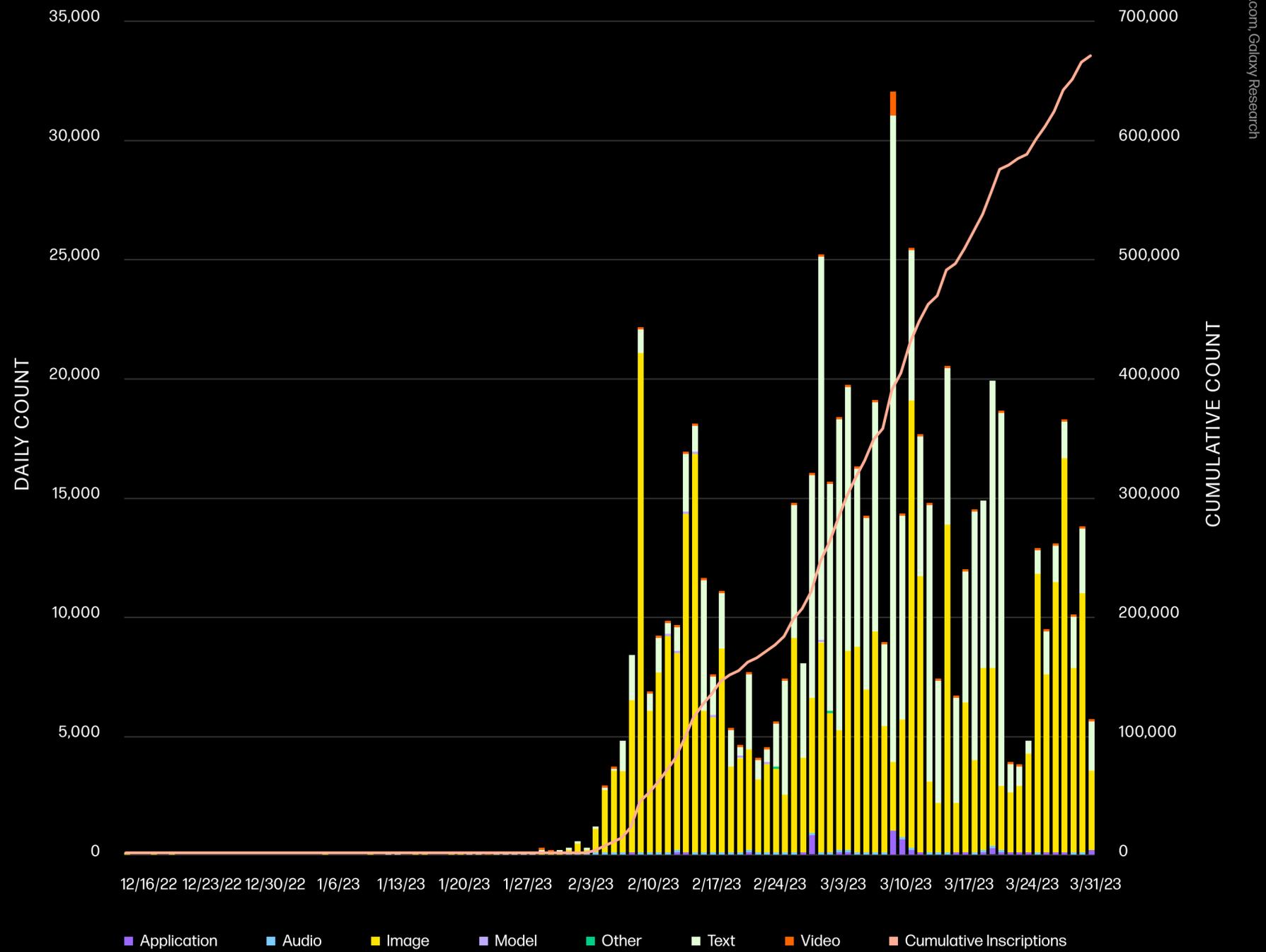
- 01 How much market share can Blur retain now that their \$BLUR token is liquid?
- 02 How will OpenSea manage to recoup lost market share?

KEY FACT

63% OpenSea share of all royalty-paying NFT transactions.



Bitcoin Inscription Activity by Content Type



NFTs Emerge on Bitcoin

A new frontier in Bitcoin emerged unexpectedly at the end of 2022. Between December 2022 and the end of March 2023, more than 650,000 inscriptions have been minted on Bitcoin.

These digital carvings, etched into the world's oldest and most secure distributed ledger, are files ranging from images to text, audio, and even applications. Each of these inscriptions can then be tied to an ordinal, a single, unique Satoshi (sat), the smallest unit of BTC. The innovation displays that a native on-chain ecosystem for NFTs is emerging on Bitcoin.

Galaxy Research believes that NFTs on Bitcoin could reach a \$4.5bn market cap in two years.

Venture Investing

Driving innovation in a bear market





Funds raised. Capital deployed.



Alex Thorn

Head of Firmwide Research

Venture capital is the lifeblood of innovation in America, with venture-backed startups dominating several sectors of the economy, including technology, fintech, and of course crypto. While monetary tightening from global central banks has increased the cost of capital, contributed to a cooling of the financial economy, and resulted in a broad decline in venture capital activity, **new crypto funds are still being raised and capital is being deployed at levels well above the prior crypto bear market.**

KEY FACTS

\$2.4B
(-80% YoY)

Money invested by VCs into crypto startups in Q1 2023

\$2.5M
on \$18.8M pre-money

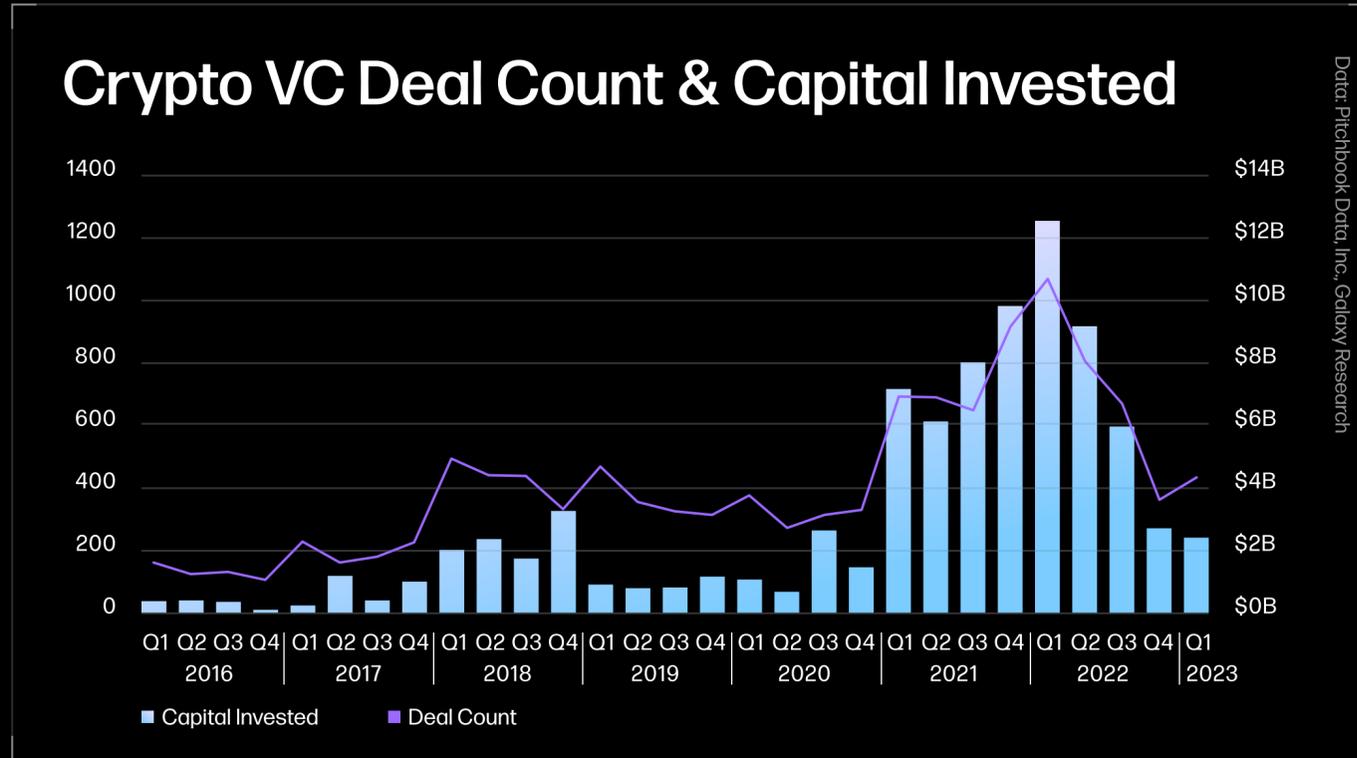
Median deal size and valuation for crypto deals in Q1 2023

\$2.2B
(-82% YoY)

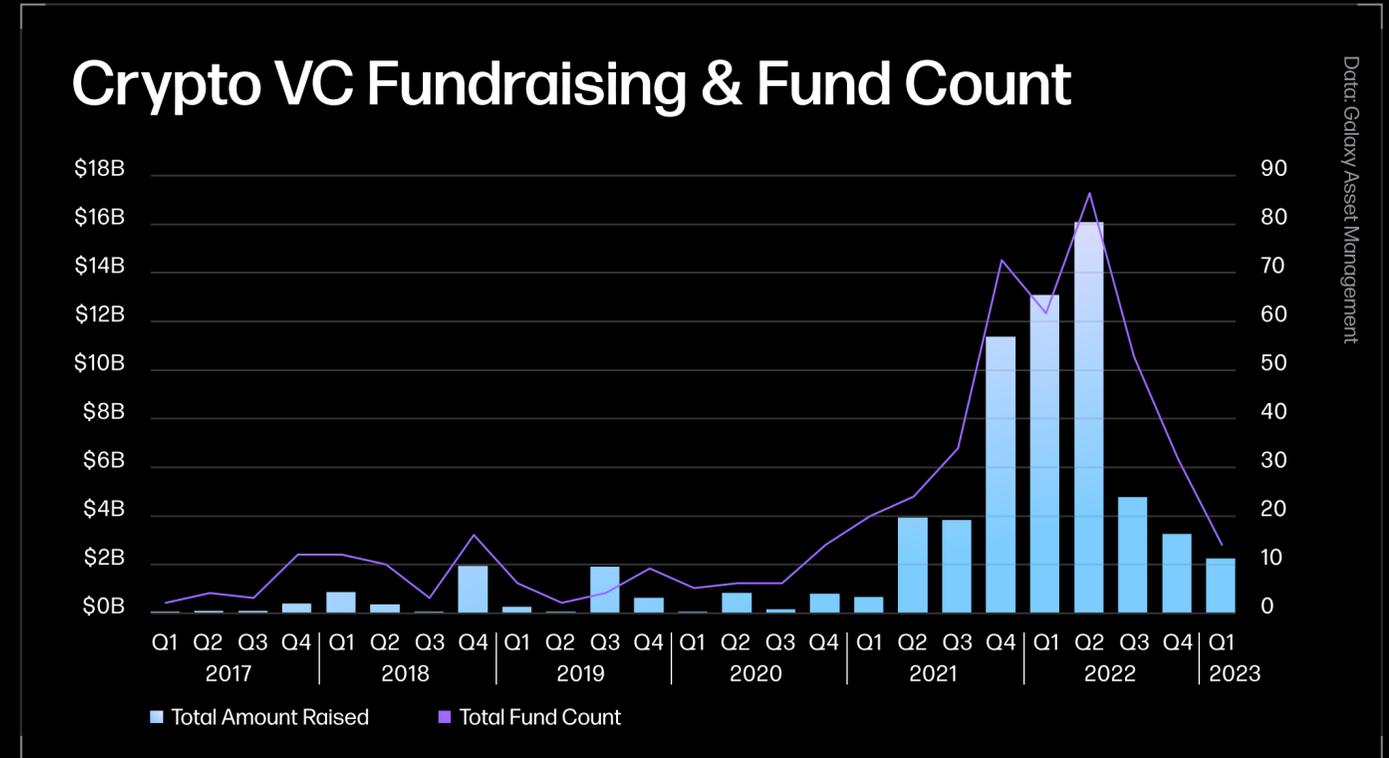
Money raised by crypto VCs for new funds in Q1 2023

42%

Global crypto VC deals and money that went to US-headquartered startups in Q1 2023



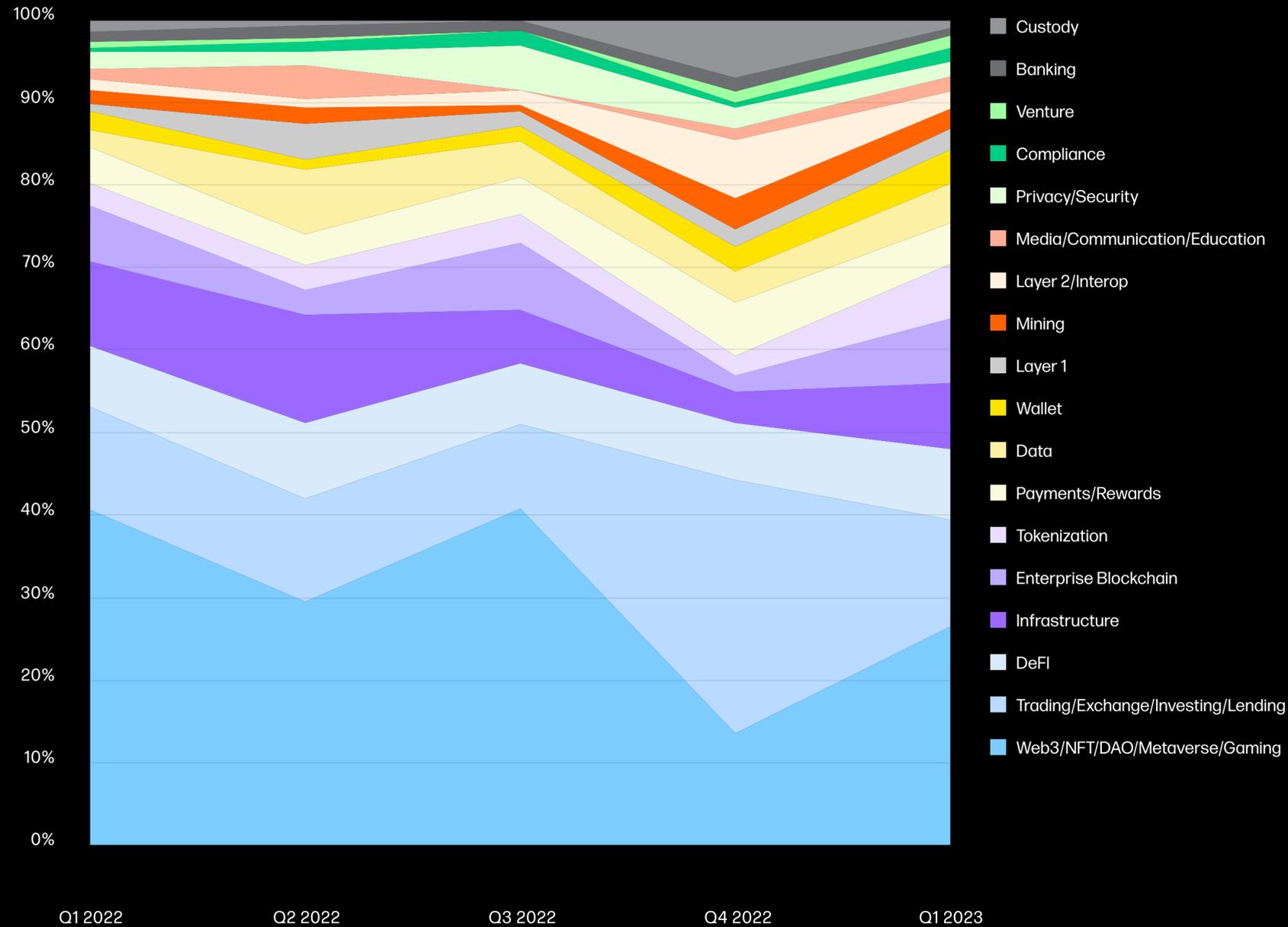
Across all sectors, venture capital activity is down significantly from its 2021 all-time highs, with capital invested down more than 50%. Within the crypto sector, Q1 2023 saw \$2.4bn invested in startups by venture capitalists, the lowest sum in more than 2 years. Q1's pace puts 2023 on track for ~\$10bn invested by venture capitalists, just barely more than 2018's \$9.5bn. Despite the decline in capital invested, deal count appears to be rebounding.



The crypto VC fundraising landscape - new funds and allocations to those funds - has also been faced headwinds from both within and without the cryptoeconomy. Q1 2023 saw the fewest new funds and smallest amount allocated since Q1 2021. However, Q1 2023 still saw more capital allocated than any other bear market quarter.

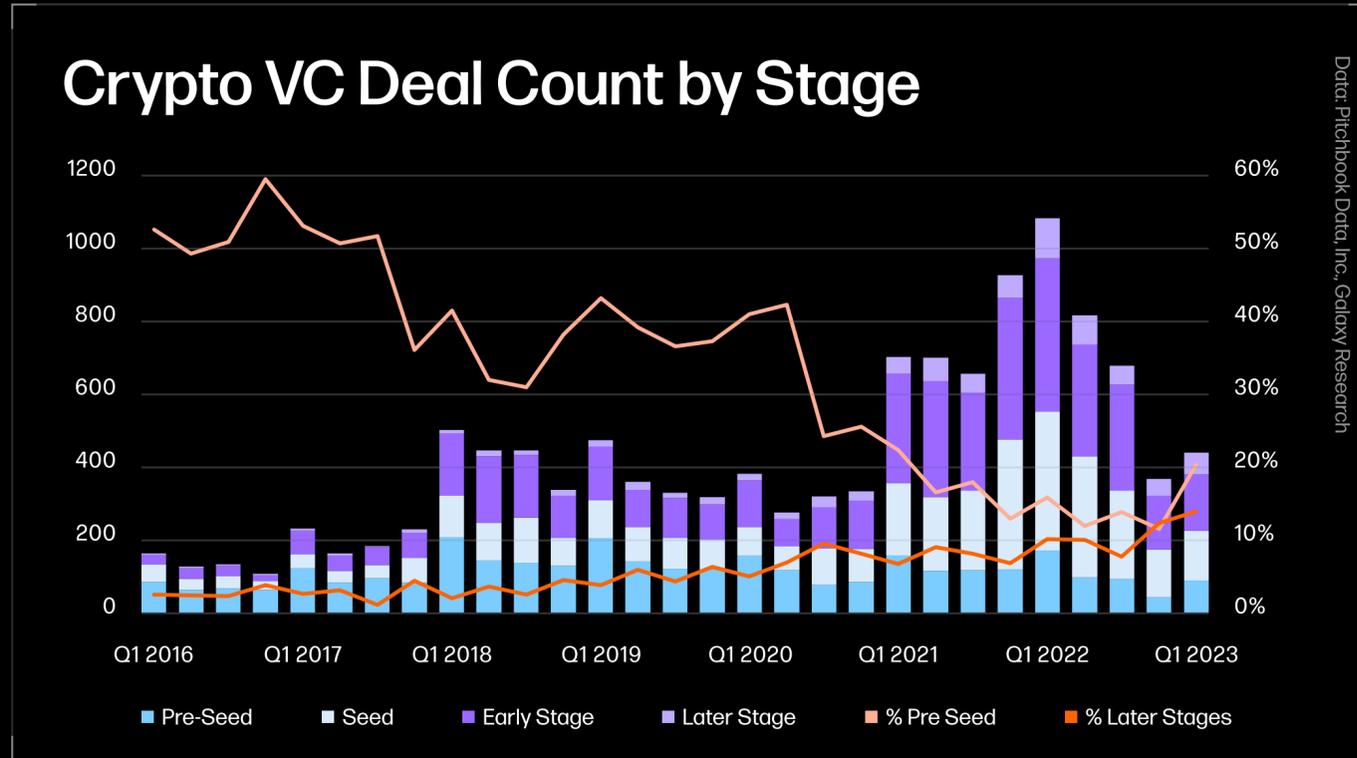


Share of Crypto VC Deal Count by Category

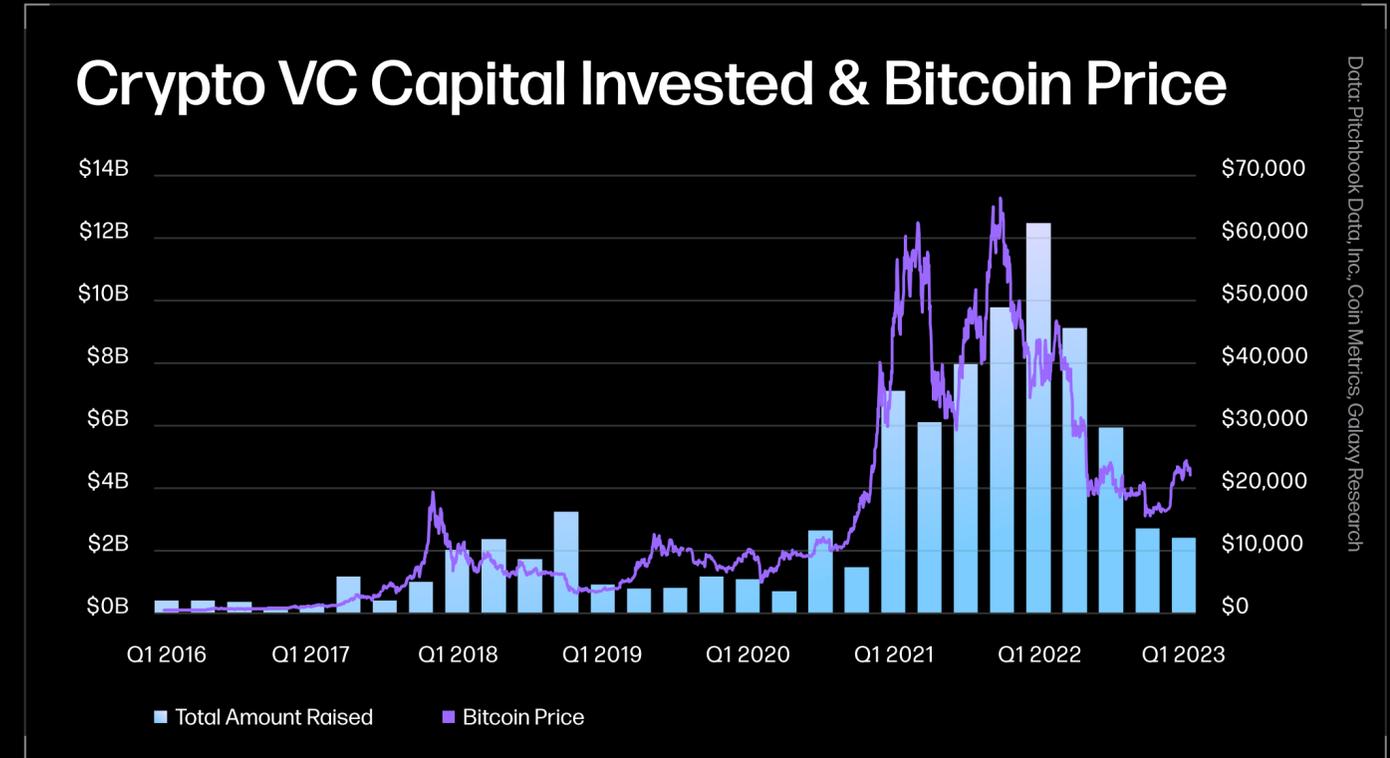


Data: Pitchbook Data, Inc., Galaxy Research

Companies building in the Web3 category, which also includes non-fungible token (NFT) startups, decentralized autonomous organizations (DAOs) and firms building tooling for them, and blockchain gaming studios, have raised the most venture deals in four of the last five quarters. Most of these companies are early stage and are pursuing innovative concepts that didn't exist 5 years ago, such as decentralized identity, organizations, social media, and creator economies. If any of these early bets prove successful, the future will look a lot different than today.



Q1 also saw a resurgence in pre-seed deals, an indication that entrepreneurs are building new companies. The increase in new company deals helped total deal count grow after 4 consecutive quarters of declines. Prior crypto bear markets saw the birth of major crypto protocols and infrastructure companies, and savvy managers with capital to invest may find the next bull market's unicorns during this time.



While macroeconomic factors and monetary policy may dampen the trend, historically rising bitcoin price has led to increased venture activity within the cryptoeconomy. If cryptoasset prices remain resilient or even constructive in 2023, venture activity could exceed expectations this year.

Regulation

The U.S. needs to wake up and reclaim the leadership in innovation or risk being left behind.

BTC	8%	-14%	-56%
ETH	18%	-12%	-59%
BGCI	6%	-15%	-61%
DEFI	4%	-24%	-70%



US regulatory environment gets more challenging while world opens up



Alex Thorn
Head of Firmwide Research



The current regulatory outlook for the cryptocurrency market is a tale of two cities. In the United States, banking regulators have pressured institutions to avoid or end relationships with cryptocurrency businesses, making it increasingly difficult to operate. The SEC continues to act mostly through enforcement and has still not conducted any meaningful rulemaking processes to establish exactly how cryptocurrencies would fit into the existing securities laws frameworks.

But abroad, the picture is much rosier. In the U.K., HM Treasury produced a comprehensive framework for incorporating cryptoassets into the country’s existing capital markets regulatory regime. If the FCA – the UK’s markets regulator – adopts the Treasury’s recommendations, the U.K. will become one of the most progressive, safe, and supportive regulatory environments in the world for cryptoassets. Europe is also in the final stages of formalizing a comprehensive crypto-specific regulatory regime – MiCA. The picture looks similar as you head East, with jurisdictions from the Middle East to the South Pacific and even Hong Kong adopting thoughtful and comprehensive frameworks to allow crypto to flourish safely.

KEY FACTS

39

Minimum number of enforcements or civil suits brought by the SEC since 2022¹

0

Number of spot crypto ETFs approved in the US

≥7

Countries with approved spot crypto ETFs²

2.8%

FDIC-insured banks with ongoing or planned crypto activities³



WHAT TO WATCH

01 US Legislation

There are several bills in Congress that have been or are expected to be introduced. A re-introduction of Sens. Lummis & Gilibrand's comprehensive bill is expected to be reintroduced this year. Stablecoin legislation may still emerge from the House Financial Services Committee. A bill from Sens. Warren and Marshall threatens to subject open source software to FinCEN registration, something that would be extremely negative but also completely impossible for much of the industry and for the regulator to compel. On balance, though, we believe the divided Congress and the Republicans' razor-thin majority in the House reduce the likelihood that major bills become law in this Congress.

02 Court Battles

Grayscale's lawsuit against the SEC has the potential to alter the market access vehicle landscape. The outcomes of the SEC's cases against Ripple and Coinbase, should one be filed, will add significant clarity to the status of cryptoassets themselves -- whether or not they are securities.. The SEC's case against Terraform Labs also previews actions that the agency may take against stablecoins.

03 Banking Regulators

A concerted effort by US bank regulators - specifically the Federal Reserve, OCC, and FDIC - to deter depositories from banking crypto companies could accelerate further. The collapse of Silvergate, Signature, and Silicon Valley Bank, each of which had notable relationships with the cryptocurrency industry, will contribute to a heightened focus by regulators and policymakers on digital assets, despite the fact that each collapse was significantly more related to rising rates and duration mismatch issues on their balance sheets than crypto.



Authors



Alex Thorn

Head of Firmwide Research

Alex Thorn is Head of Firmwide Research at Galaxy Digital. At Galaxy, Alex leads a team of researchers dedicated to understanding and unpacking developments in the cryptocurrency ecosystem, producing insights for internal and external audiences. Alex spent 12 years at Fidelity Investments, mostly recently co-managing Avon Ventures. Before that, Alex was Director of Blockchain Research at Fidelity Center for Applied Technology. Alex has a B.A. in Political Science from Vanderbilt University.



Christine Kim

Vice President Research

Christine Kim is a Vice President on the Research team at Galaxy Digital. Prior to joining the firm, she worked for three years at a crypto media company called CoinDesk as an analyst and tech reporter, mainly covering developments on Ethereum. She holds a BA in Economics and International Relations from the University of British Columbia.



Charles Yu, CFA

Research Associate

Charles Yu is a Research Associate at Galaxy Digital. Charles spent 3 years at Macquarie Group as a Senior Equity Research Associate at Macquarie Group. Before that, Charles worked as a credit analyst at Credit Agricole Corporate & Investment Bank. Charles holds a BS in Finance and Statistics from NYU Stern School of Business and is a CFA Charterholder.



Gabe Parker

Research Analyst

Gabe Parker is an Analyst on the Galaxy Research team, covering the applications side of crypto. Broadly, this encompasses NFTs, Ordinals, Web3, L2s, and Bitcoin upgrades. He also assists Alex Thorn with managing the weekly newsletter. Gabe started his journey at Galaxy interning for the research team in 2021. He has a bachelor's in Economics and Japanese.



Walt Smith

Galaxy Ventures Investor, former Research Analyst

Walt Smith is an Investor on Galaxy's Venture team, focusing on DeFi market structure, token design, and MEV. Prior to landing on Ventures, Walt worked on Galaxy's Principal Trading and Research teams, where he led trade ideation and covered the tradeoffs of different network designs, respectively. Before Galaxy, he worked for data aggregator Messari and various other crypto-focused startups. He has a bachelor's in Economics.

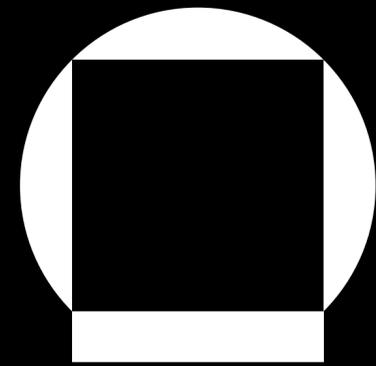


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