

Monthly Market Recap

September 2024

Market Performance

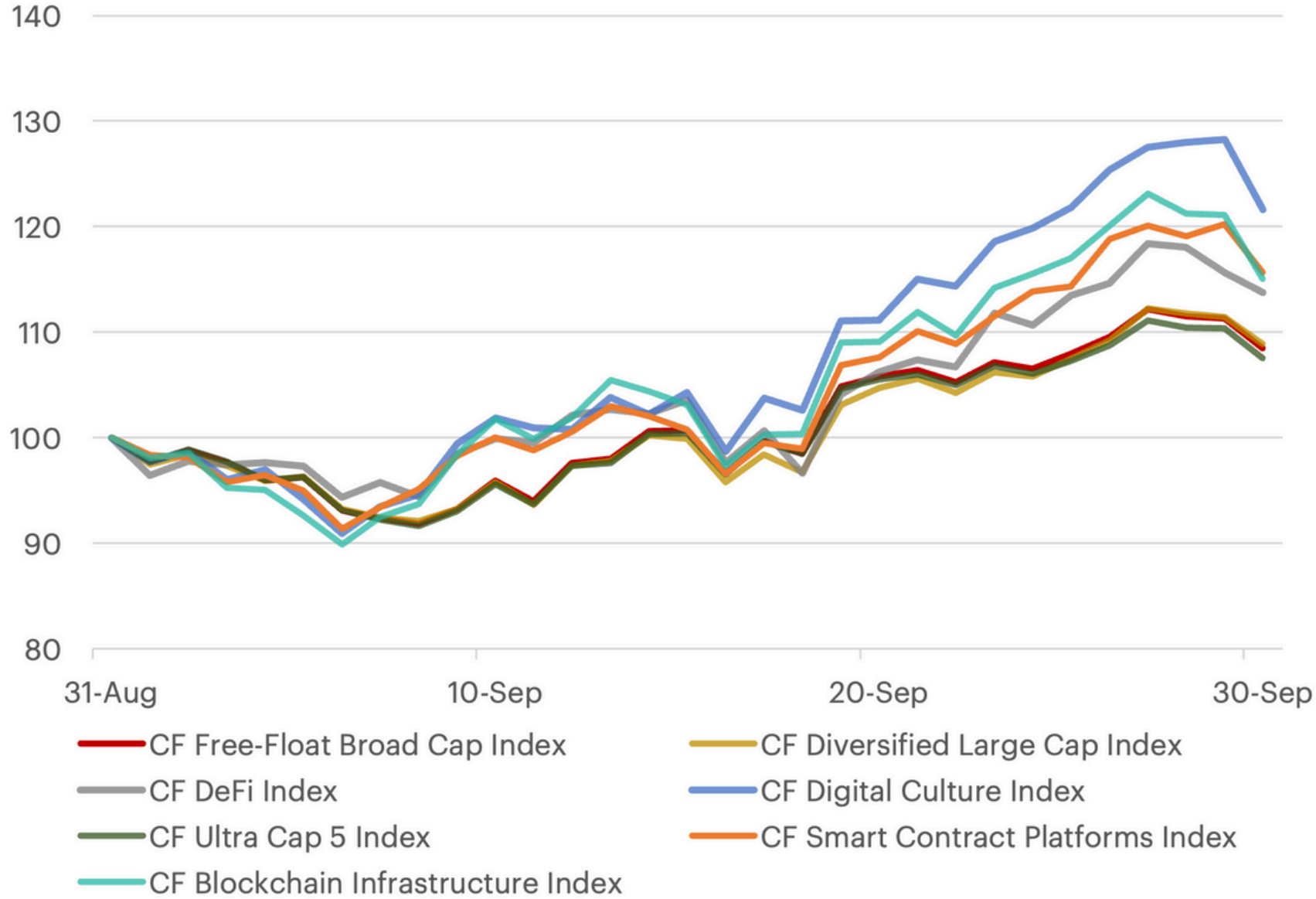


Fed Pivot DeFi(es) Historically Weak September



Monthly Index Performance

Multi-token indexes



- All eyes were on the Federal Reserve, effectively splitting the month into two periods. Initially, markets were cautious due to signs of a softening labor market and slowing growth, aligning with September's historically weak performance for digital assets. Optimism surged when the Fed cut the benchmark rate by 50 basis points to 4.75–5.0%, emphasizing their "maximum employment" mandate while inflation trends back towards their 2% goal. The Fed's median projections now indicate that policy rates could eventually fall below 3% to mitigate economic risks. Bucking typical seasonal weakness, large-cap tokens like Bitcoin and Ether closed significantly higher than their early September lows. The historically challenging month saw a rebound in investor sentiment in the face of changing monetary policy.
- Our CF Digital Culture Index led performance, rising over 21.63%, and the CF Smart Contract Platforms Index followed closely, ending at 15.67%. Meanwhile, the CF Ultra Cap 5 Index and CF Free-Float Broad Cap Index lagged, finishing at 7.53% and 8.46%, respectively, indicating relatively slower price appreciation in large-cap cryptocurrencies.

All index performance is rebased to 100. Source: CF Benchmarks, Bloomberg, as of September 30, 2024

Major Crypto-Pairs

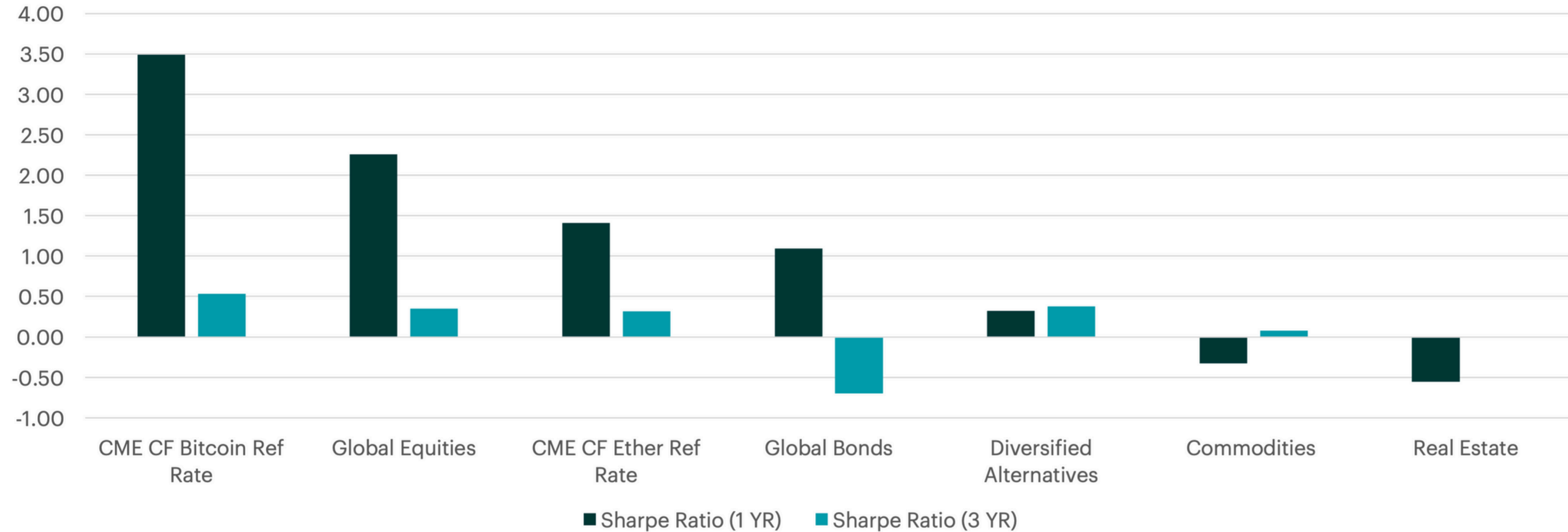


Name	DACS Level 1	DACS Level 2	DACS Level 3	1 Day	1 Week	1 Month	3 Month	1 Year	30 D Volatility
Fantom	Settlement	Programmable	General Purpose Smart Contract Platforms	0.6%	9.6%	67.6%	24.0%	256.9%	97.64
Apecoin	Sectors	Culture	Social	-6.5%	-2.1%	28.8%	-19.9%	-37.7%	75.06
Uniswap	Sectors	Finance	Trading	1.4%	10.6%	28.0%	-17.3%	70.0%	55.41
Chiliz	Sectors	Culture	Social	-4.3%	11.7%	24.1%	-14.1%	13.6%	60.87
Stacks	Services	Infrastructure	Computing	-6.4%	-0.2%	21.6%	10.1%	281.7%	74.65
Avalanche	Settlement	Programmable	General Purpose Smart Contract Platforms	-4.6%	1.1%	21.5%	-5.5%	200.0%	62.15
Internet Computer	Settlement	Programmable	General Purpose Smart Contract Platforms	-5.7%	3.3%	19.8%	10.1%	182.7%	74.21
Aave	Sectors	Finance	Borrowing & Lending	-4.4%	-10.2%	19.3%	58.6%	128.4%	83.47
Dogecoin	Settlement	Non-Programmable	Store Of Value And Payment	-6.7%	11.1%	17.3%	-3.9%	90.2%	66.55
Hedera	Settlement	Programmable	General Purpose Smart Contract Platforms	-6.8%	-0.9%	14.8%	-25.1%	15.3%	49.53
Solana	Settlement	Programmable	General Purpose Smart Contract Platforms	-3.7%	5.5%	12.8%	4.3%	614.0%	50.77
Decentraland	Sectors	Culture	Vr And Ar	-6.2%	-1.9%	12.4%	-9.5%	-2.4%	54.76
Cardano	Settlement	Programmable	General Purpose Smart Contract Platforms	-5.1%	5.3%	10.0%	-1.4%	49.9%	49.64
Ripple	Settlement	Non-Programmable	Store of Value and Payment	-2.9%	6.5%	9.9%	31.6%	20.5%	42.56
EOS	Settlement	Programmable	General Purpose Smart Contract Platforms	-2.1%	1.6%	9.9%	-7.6%	-9.2%	40.62
Filecoin	Services	Utility	Information & Data Management	-5.0%	4.2%	9.2%	-12.2%	16.3%	51.26
Chainlink	Services	Utility	Oracles	-4.5%	5.3%	9.2%	-14.1%	47.6%	55.03
Algorand	Settlement	Programmable	General Purpose Smart Contract Platforms	-4.9%	-0.1%	8.8%	-6.4%	30.2%	51.60
Bitcoin	Settlement	Non-Programmable	Store Of Value And Payment	-3.1%	0.7%	8.2%	3.0%	135.6%	38.71
Ethereum Classic	Settlement	Programmable	General Purpose Smart Contract Platforms	-4.2%	3.0%	7.6%	-16.3%	19.5%	39.06
Polkadot	Settlement	Programmable	General Purpose Smart Contract Platforms	-5.6%	2.8%	7.1%	-26.6%	10.4%	49.30
Bitcoin Cash	Settlement	Non-Programmable	Store Of Value And Payment	-3.2%	0.8%	6.7%	-12.2%	45.6%	47.48
Stellar	Settlement	Non-Programmable	Store Of Value And Payment	-3.2%	2.3%	6.4%	8.1%	-12.3%	26.07
Tezos	Settlement	Programmable	General Purpose Smart Contract Platforms	-5.3%	1.4%	6.0%	-9.0%	4.4%	43.69
Cosmos	Settlement	Programmable	General Purpose Smart Contract Platforms	-5.7%	6.1%	5.5%	-30.3%	-32.0%	62.42
Ether	Settlement	Programmable	General Purpose Smart Contract Platforms	-1.8%	-1.8%	4.3%	-23.5%	55.5%	48.51
Litecoin	Settlement	Non-Programmable	Store Of Value And Payment	-3.7%	0.6%	3.8%	-9.8%	1.5%	37.32
Synthetix	Sectors	Finance	Derivatives	-6.3%	3.4%	3.4%	3.4%	-42.3%	77.19
Curve DAO Token	Sectors	Finance	Trading	-7.7%	-6.9%	-1.5%	-1.7%	-47.1%	71.72
Polygon	Services	Infrastructure	Scaling	-4.8%	-0.5%	-3.6%	-27.3%	-24.7%	54.17
Maker	Sectors	Finance	Stablecoin Issuance & Management	-5.4%	-4.4%	-10.6%	-37.6%	2.2%	48.77

- Fantom's FTM token (+67.6%) and ApeCoin's APE token (+28.8%) were the top performers in August. Fantom rebranded to Sonic Labs and launched the Sonic testnet, aiming to boost transaction speeds to 10,000 TPS, which garnered investor attention and contributed to a rise in the token's price.
- Maker's MKR token (-10.6%) and Polygon's MATIC token (-3.6%) were the month's bottom performers. Despite Polygon's token migration from MATIC to POL as part of the Polygon 2.0 upgrade, the network saw reduced user engagement and a drop in daily active addresses.


Source: Returns are based in USD terms, CF Benchmarks, Bloomberg, as of September 30, 2024

Trailing Risk-Adjusted Returns



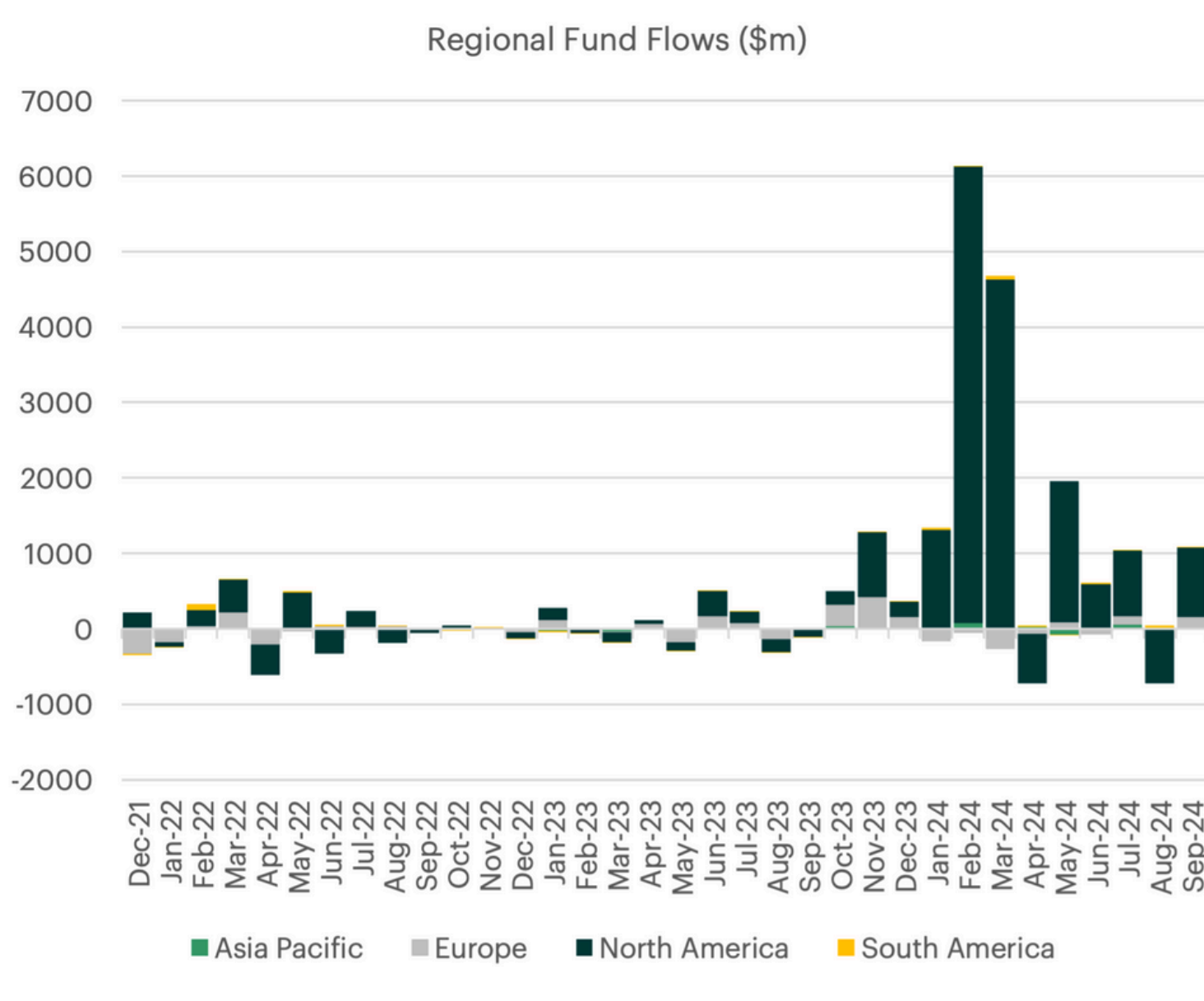
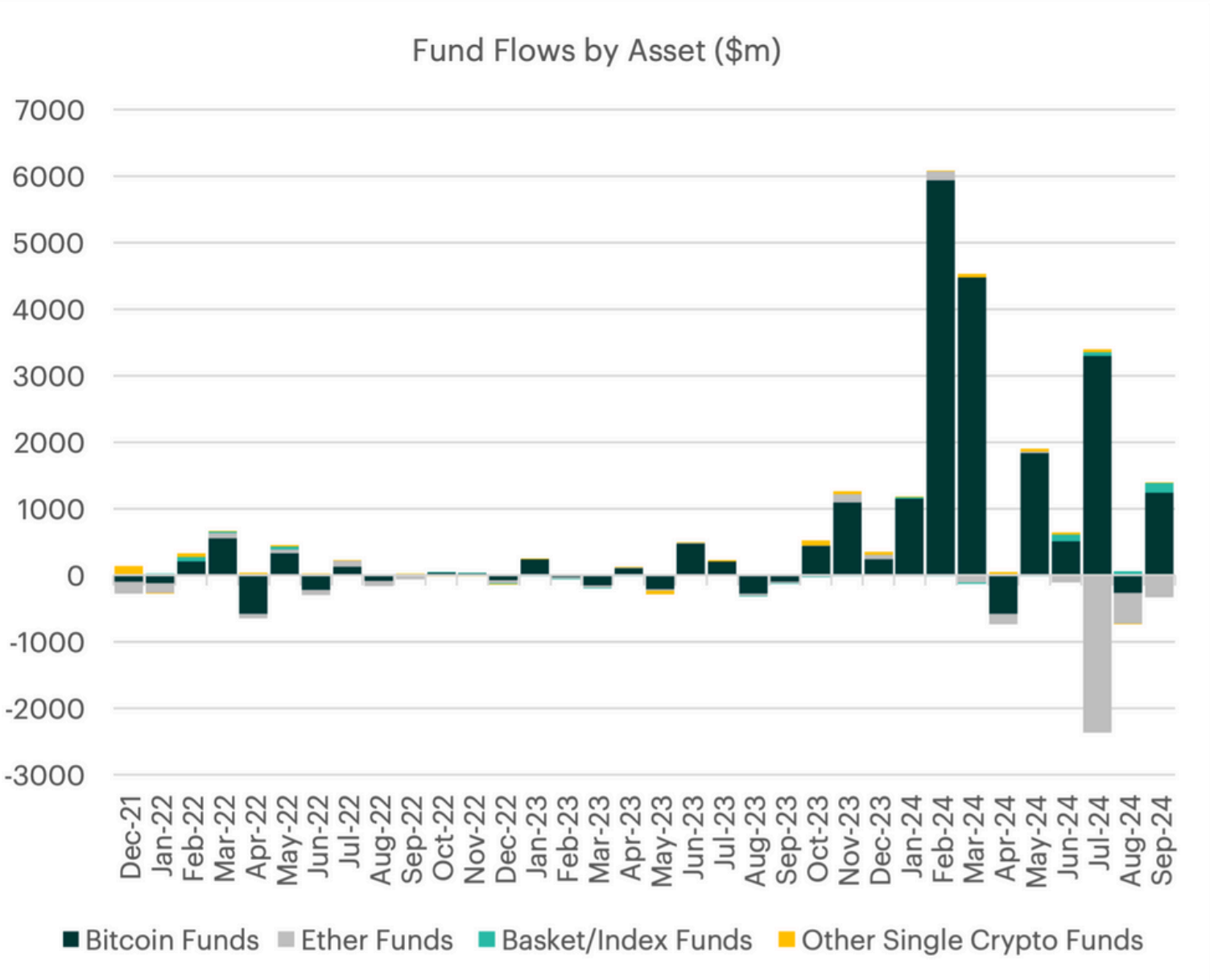
- When compared to traditional asset classes, both Bitcoin and Ether have delivered above average risk-adjusted performance over both shorter and longer time horizons.

Source: CF Benchmarks, Bloomberg, total return indices are referenced in USD, as of October 1, 2024



Investor Activity & Sentiment Positioning

Currency of Flows

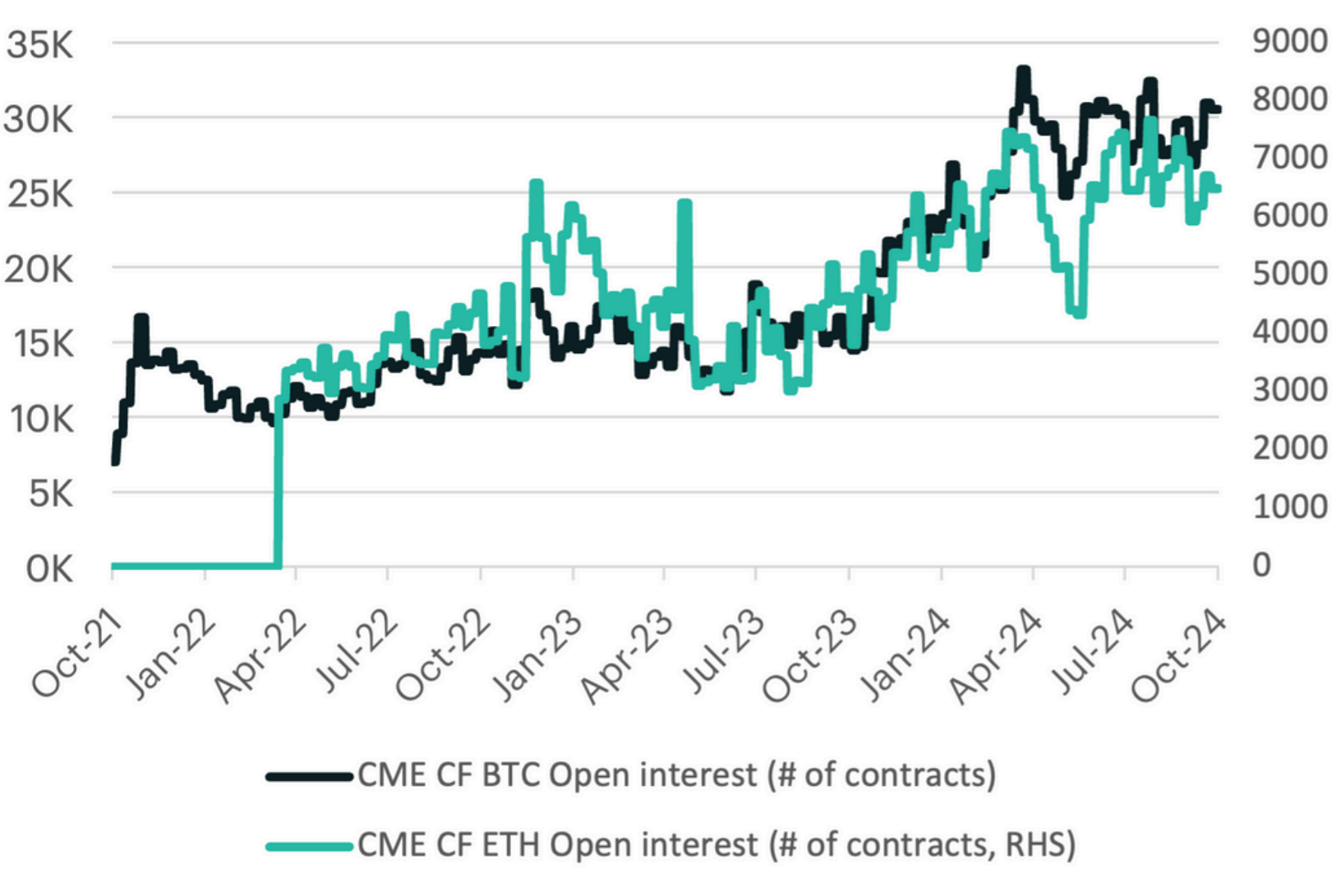
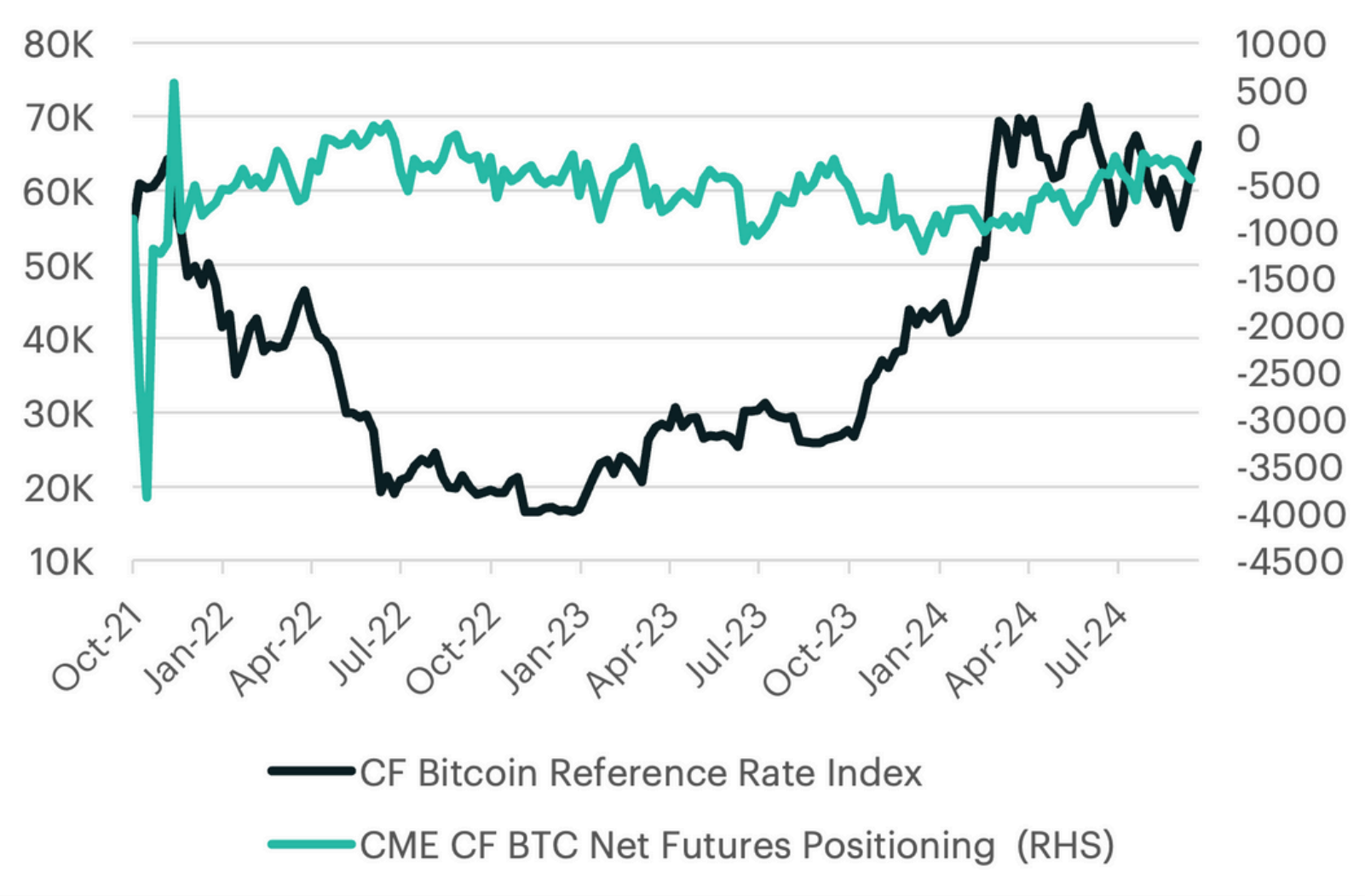


- Fund inflows rebounded in September, with Bitcoin accounting for \$1.2 billion of the inflows, while Ether experienced slight outflows of \$326 million.

- From a regional perspective, the majority of inflows were concentrated in North America (\$926 million), while Europe saw \$155 million in inflows, registering its highest level this year.

Source: CF Benchmarks, Bloomberg, as of September 30, 2024

Futures Positioning and Open Interest

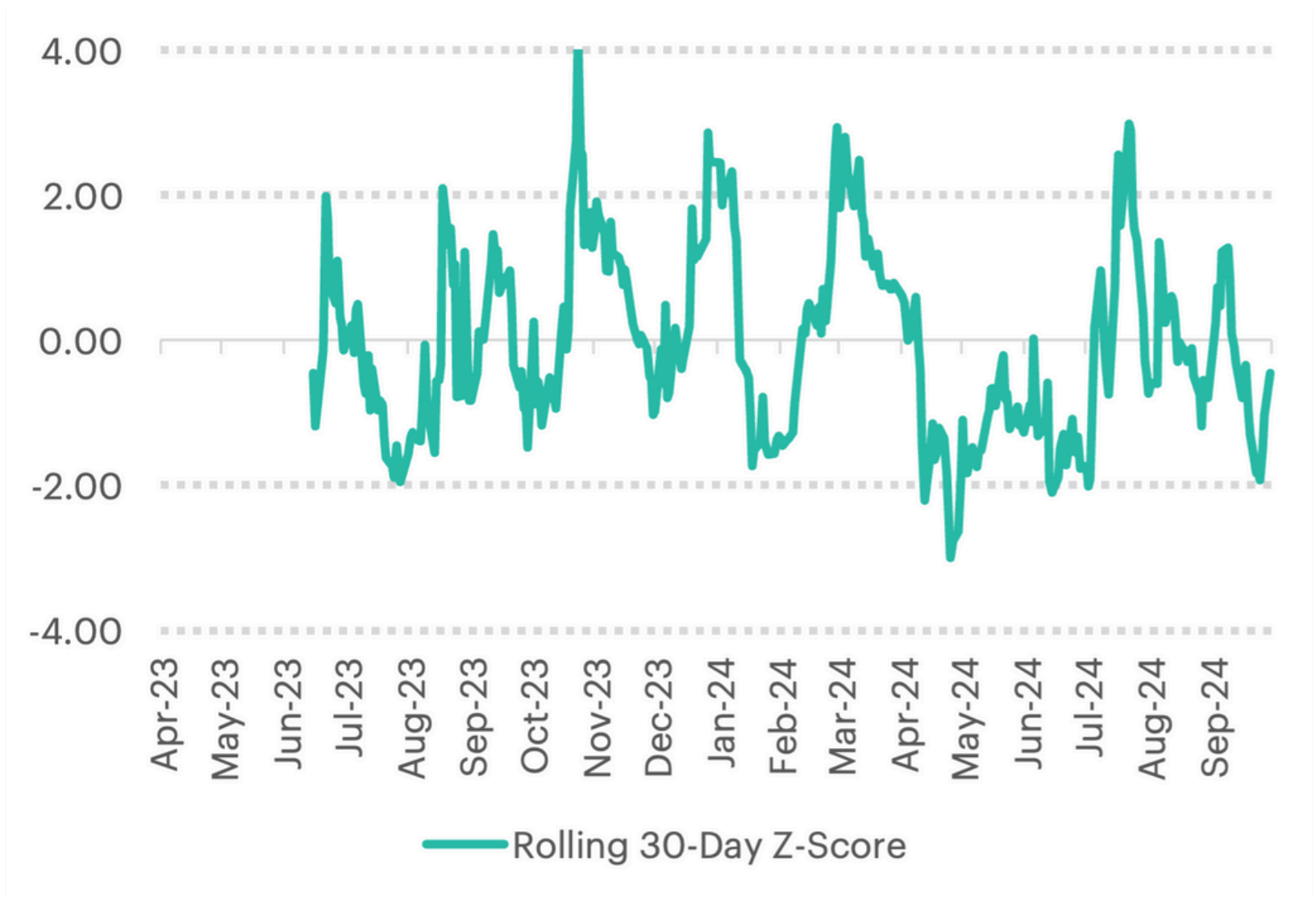


- Net sentiment positioning in Bitcoin decreased slightly in September, with short positions outpacing longs. This resulted in net futures positioning on the CME decreasing to -453 from -298 contracts.

- Total open interest for Bitcoin grew 2.4% from a month prior, while Ether saw a 7.0% decrease.

Source: CF Benchmarks, CFTC, Bloomberg, as of September 24, 2024

CF Bitcoin Volatility Index (BVX)

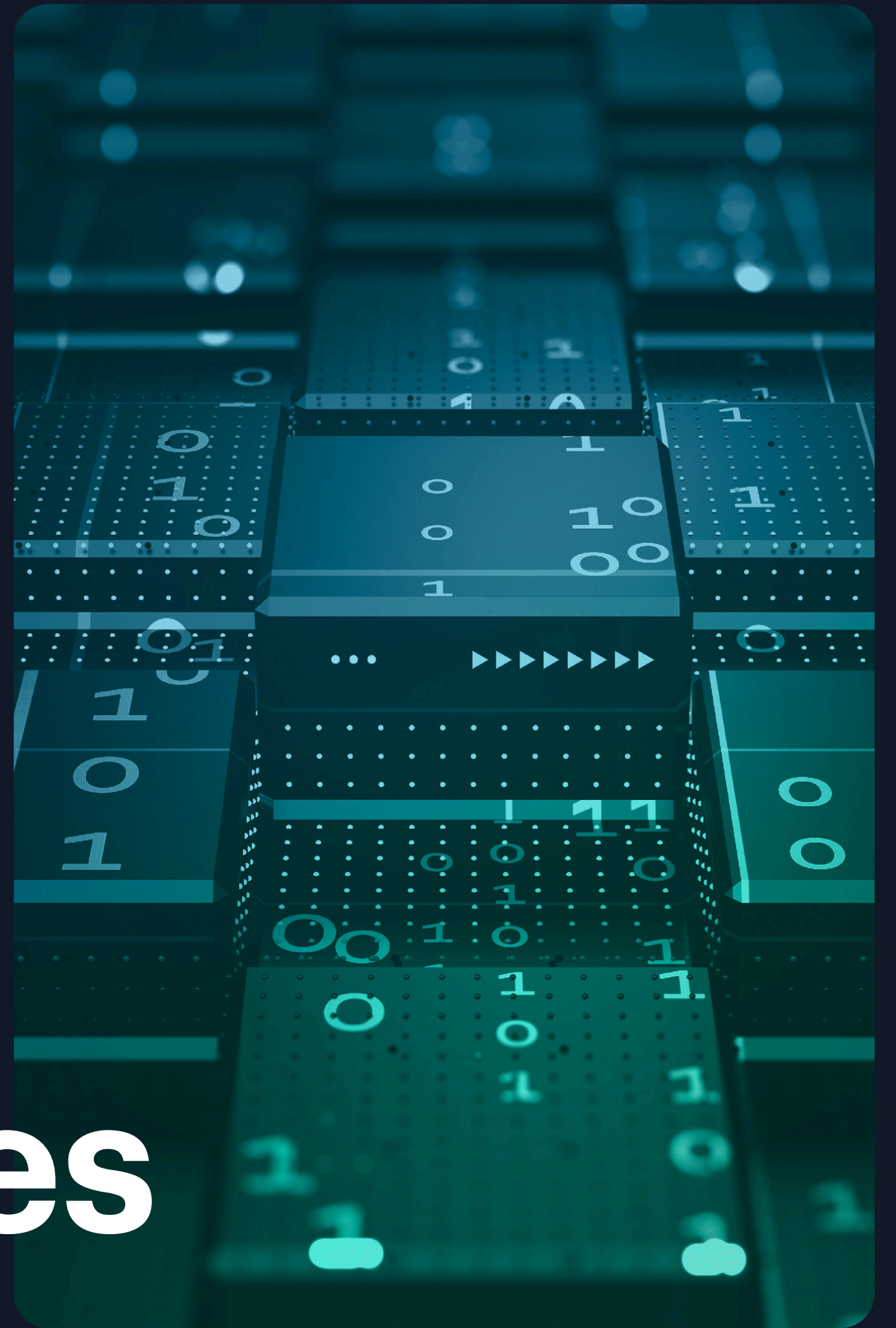


- The CF Bitcoin Volatility Index Settlement Rate (BVXS) is a once a day benchmark representing a forward looking, 30-day constant maturity measure of implied volatility based on CFTC regulated Bitcoin option contracts traded on the CME. The BVX represents the fair strike of a variance swap.
- The BVX ranged from a low of 51.43 to a high of 61.39 over the most recent month. This period saw some extreme swings, with the index posting a negative 1.9-sigma move (as measured by our rolling 30-day z-score) after the market rallied in the week following the Federal Reserve's decision to reduce the benchmark interest rate by 50 bps.

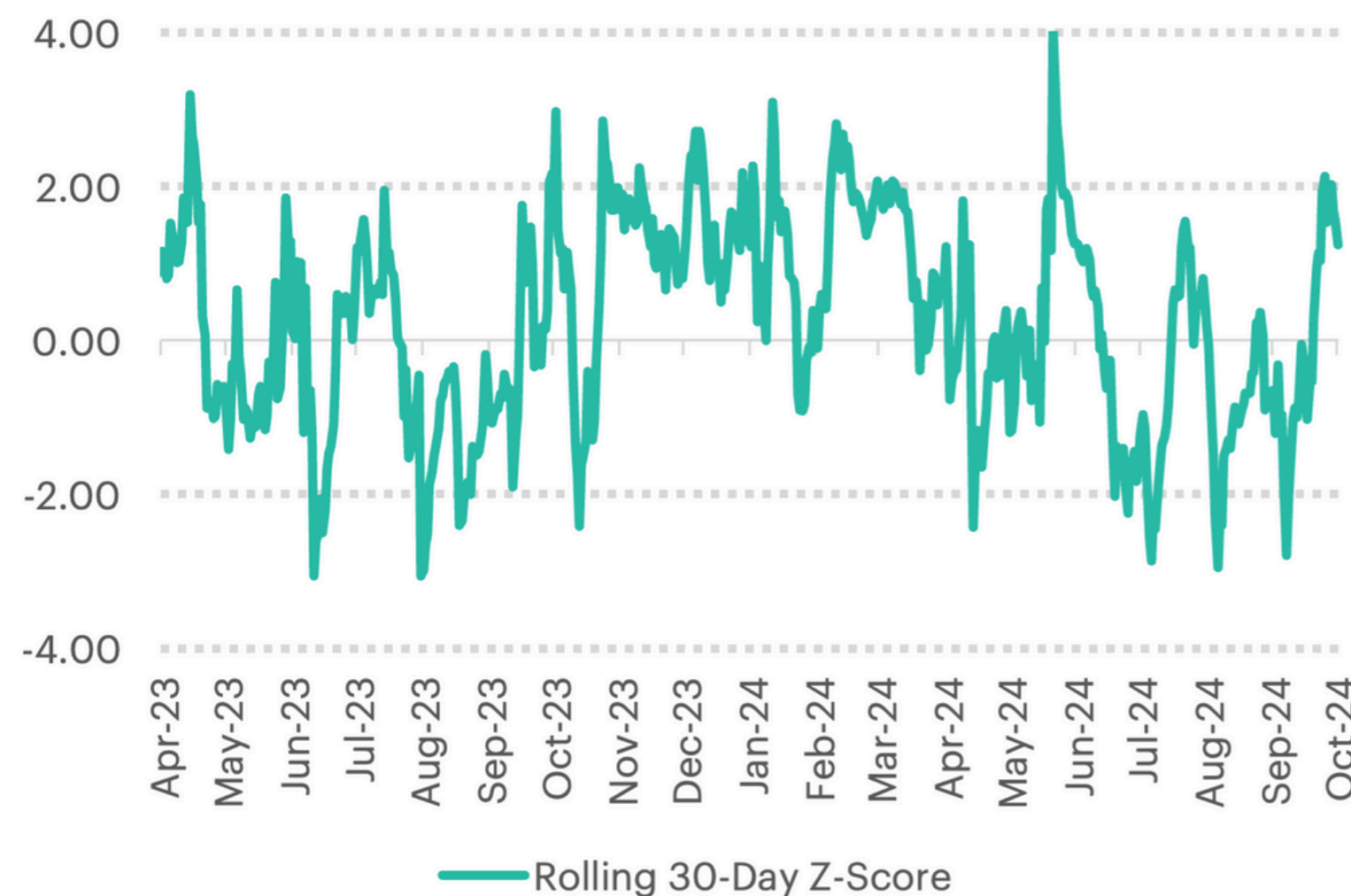
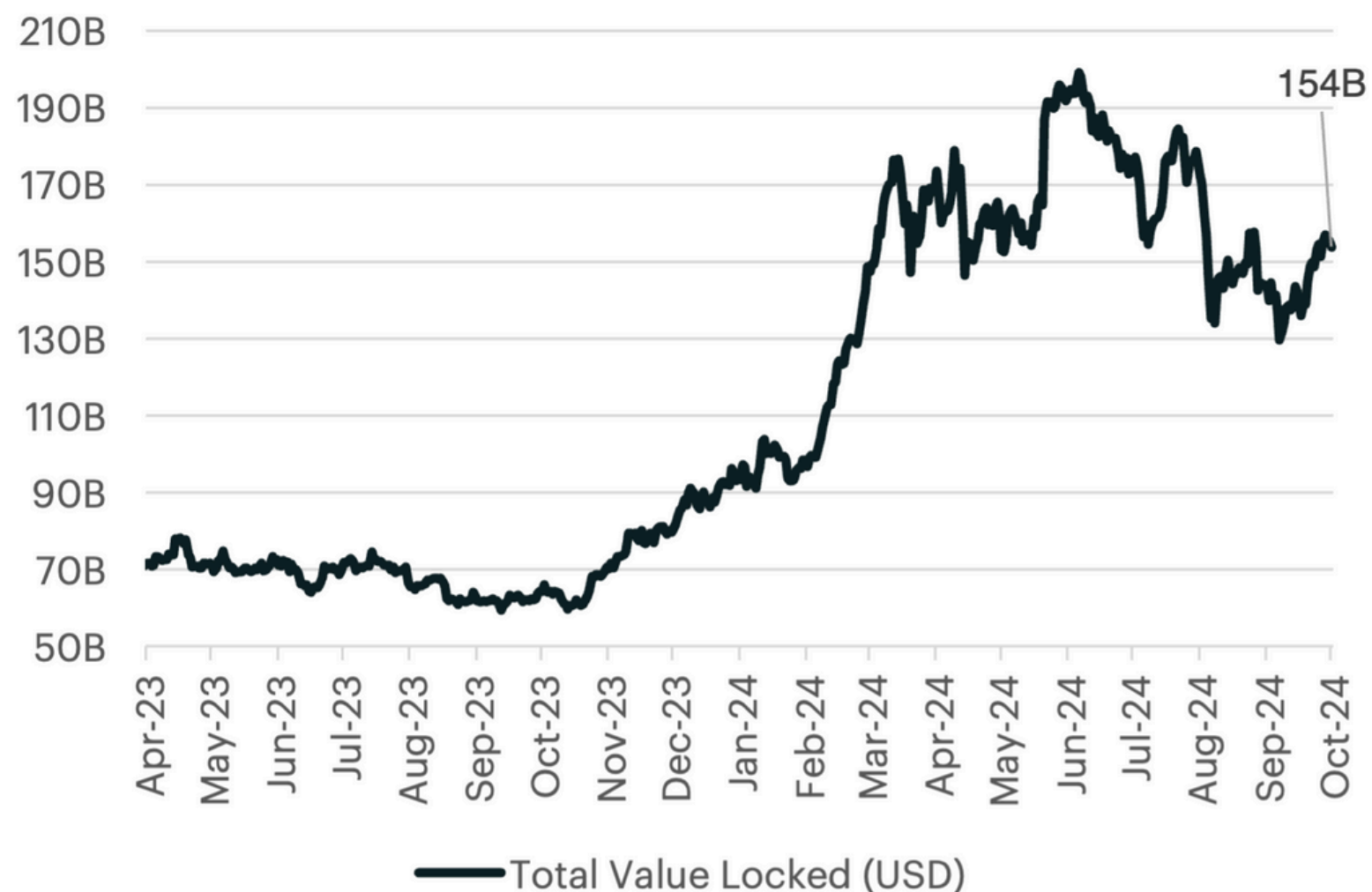
Source: CF Benchmarks, Bloomberg, as of September 30, 2024



Network & On-chain Updates



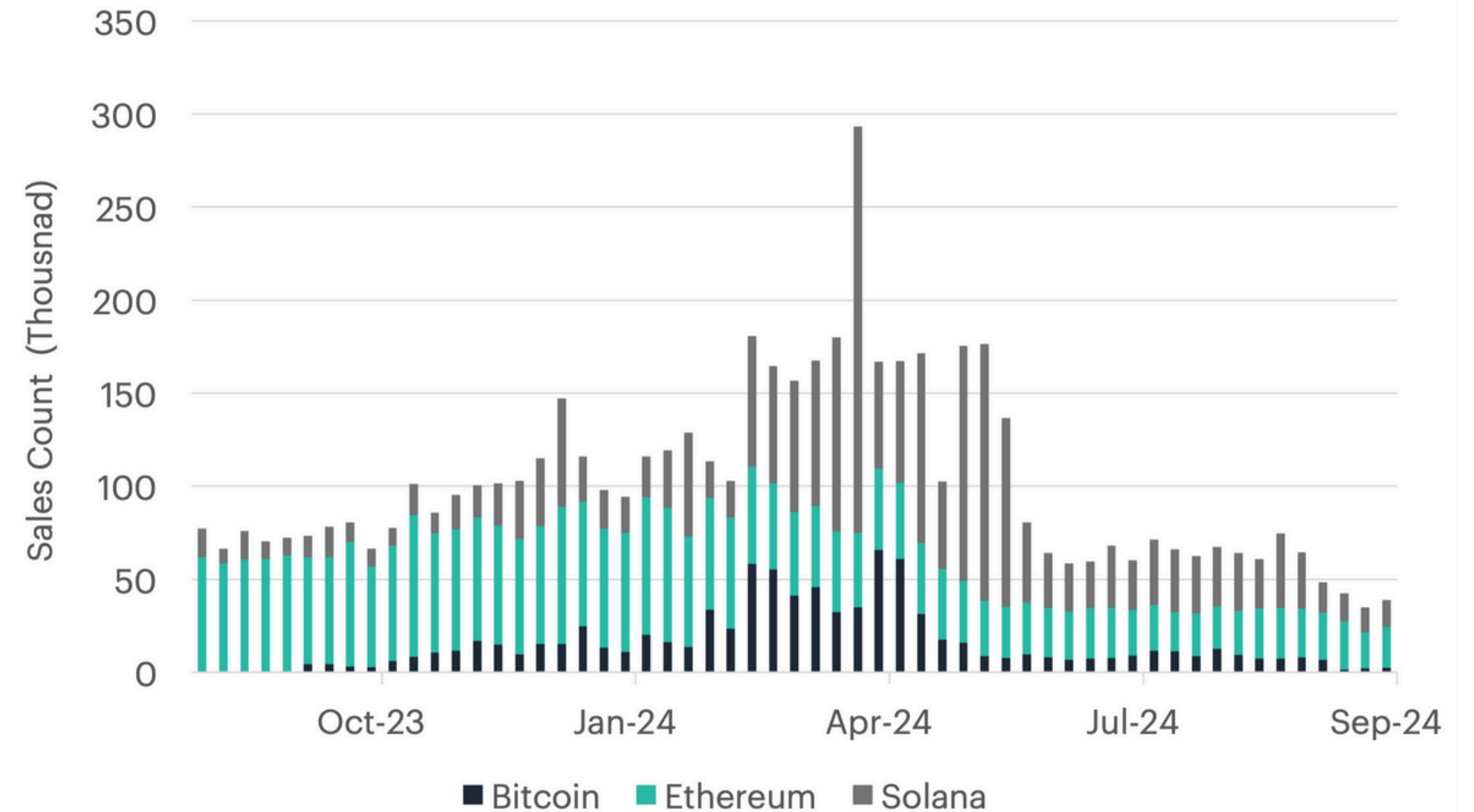
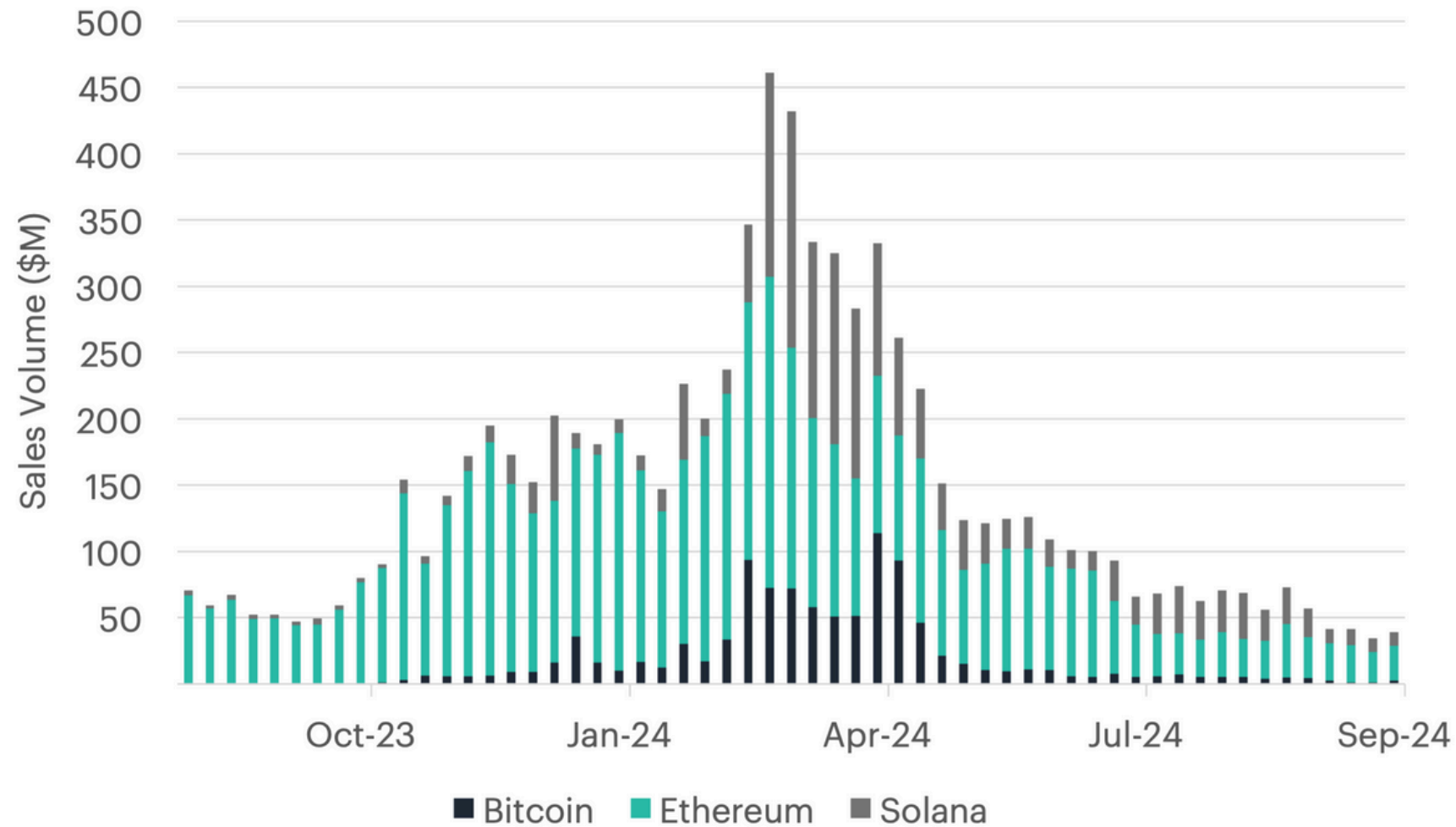
Total Value Locked (TVL) in DeFi Protocols



- TVL (Total Value Locked) in DeFi represents the total amount of assets deposited in decentralized finance protocols expressed in USD. It serves as a key metric to gauge the health and growth of the DeFi ecosystem.
- Total value locked (TVL) in decentralized finance (DeFi) protocols experienced an increase over the past month, growing from \$144 billion to approximately \$154 billion. The most significant contributors to this growth were liquid staking protocols on Ethereum, as the value of Ether increased in September.

Source: CF Benchmarks, DeFiLlama, as of October 1, 2024

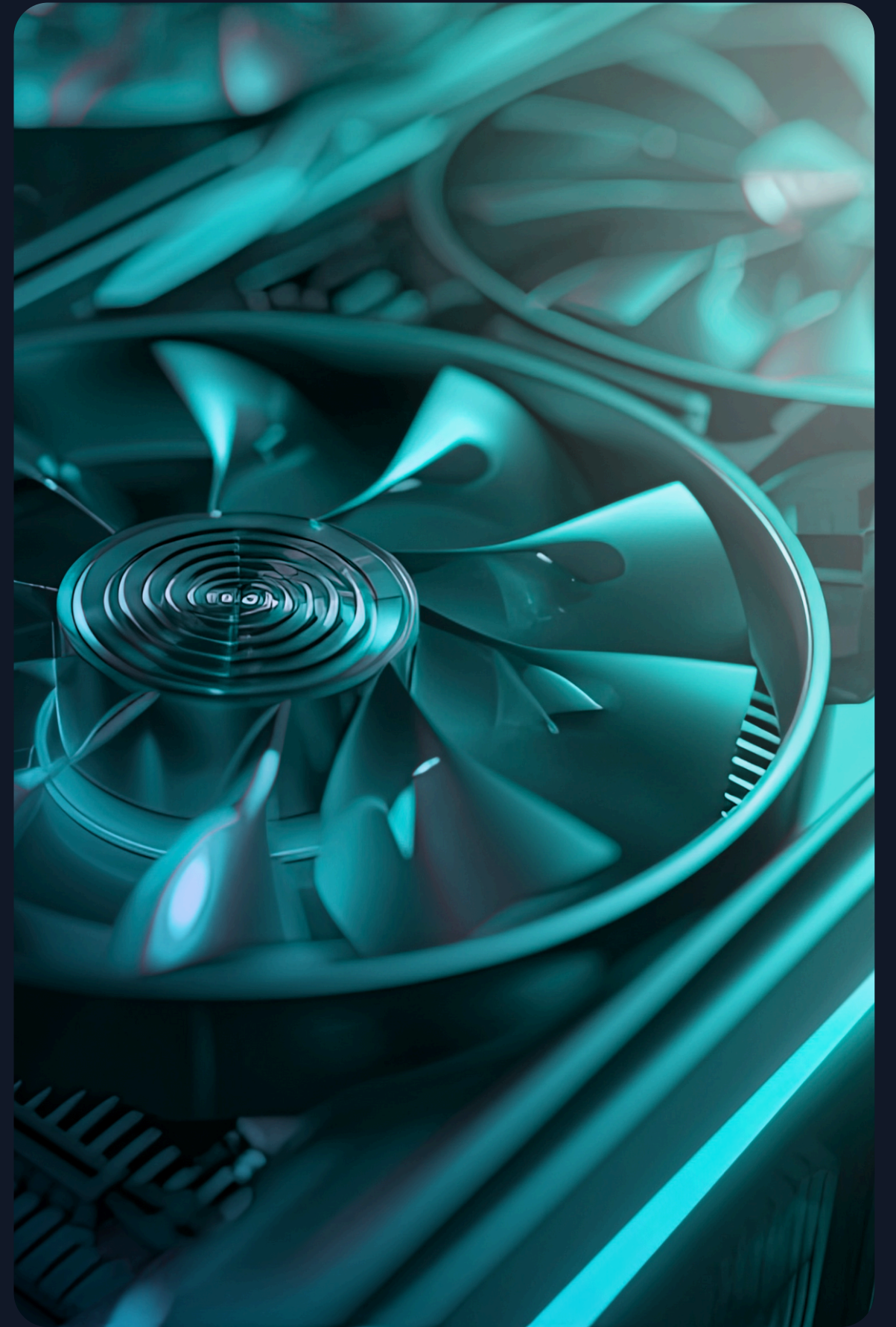
Weekly NFT Sales by Blockchain



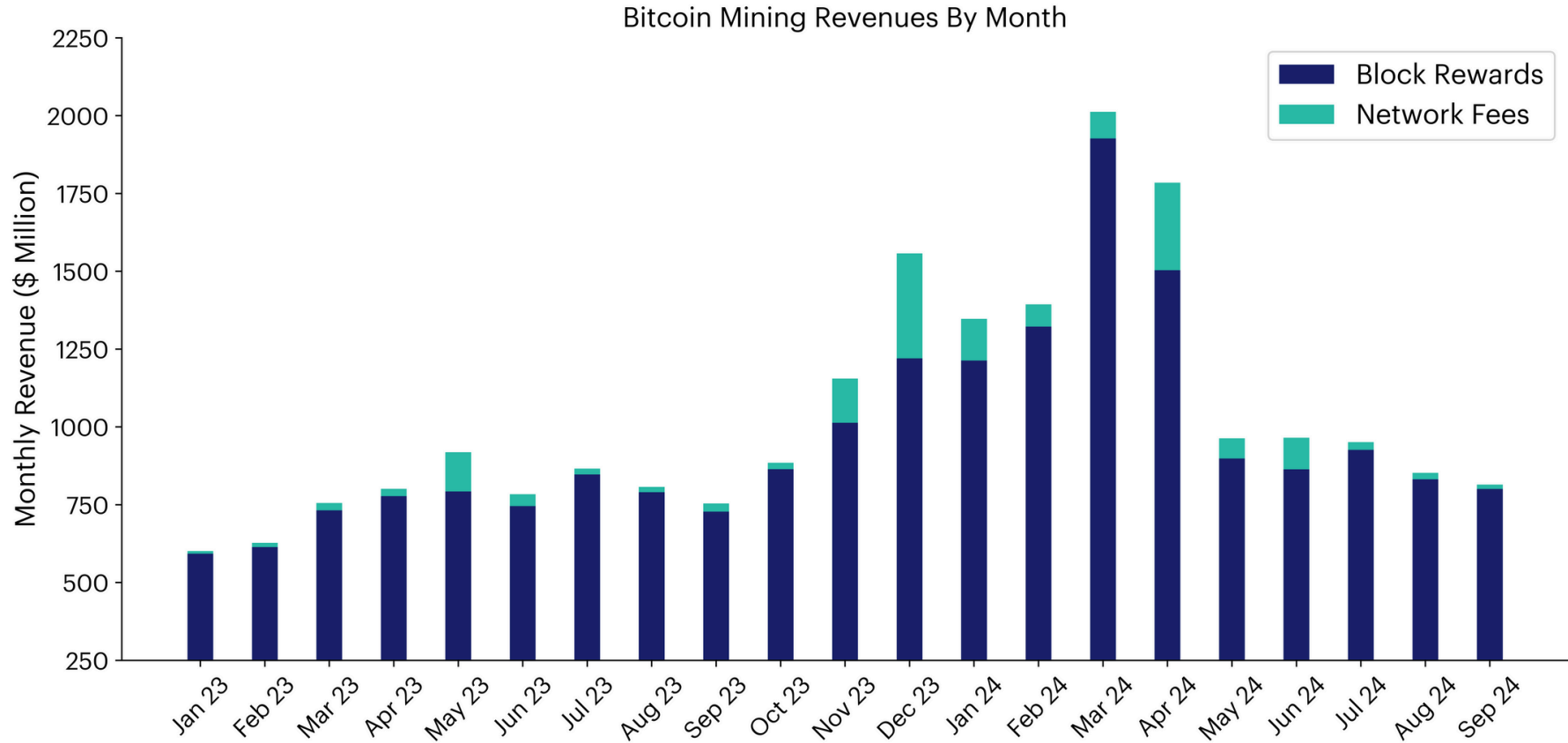
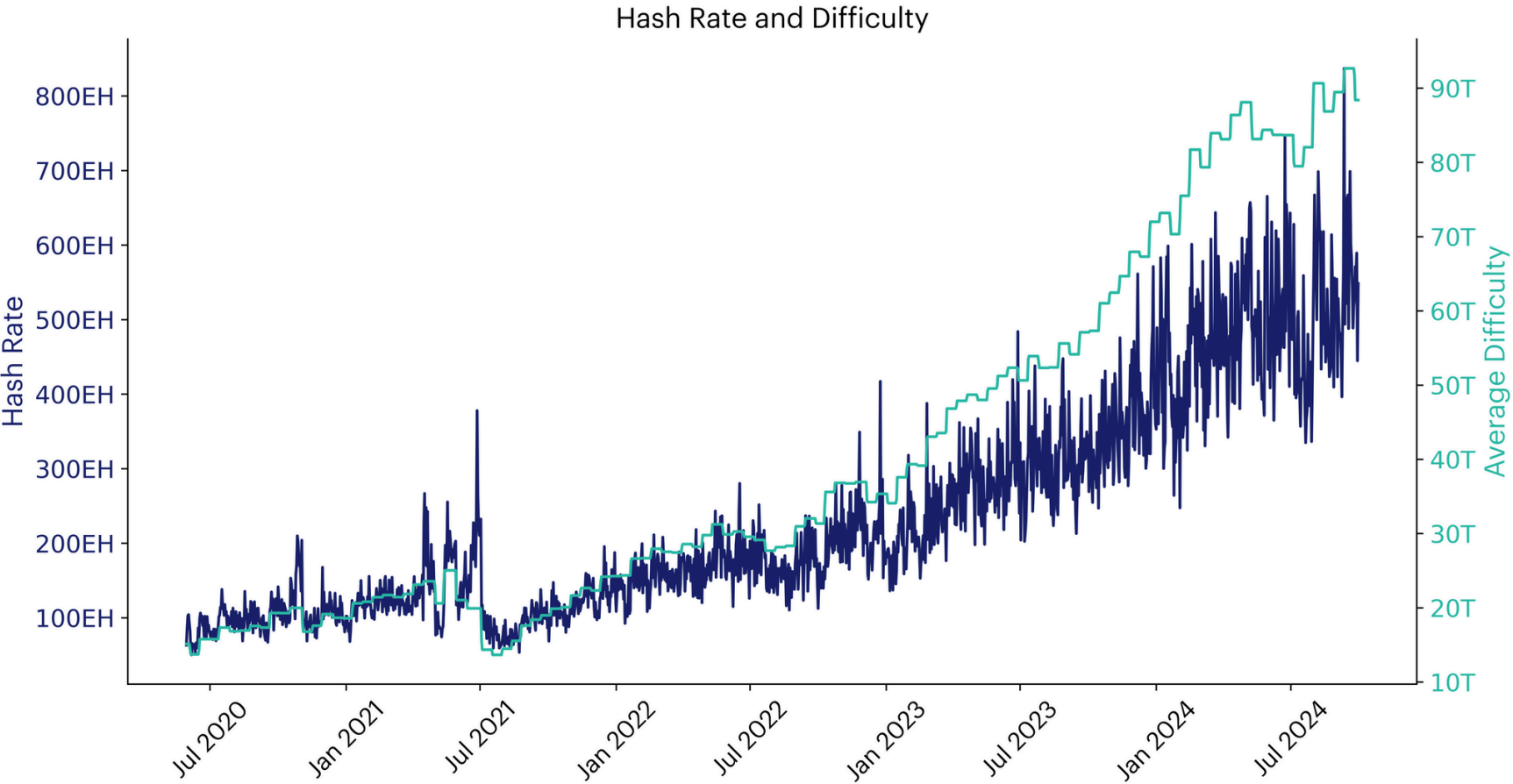
- Ethereum has taken the top position on the NFT sales volume leaderboard in September, despite a 17.8% decrease in sales, as transaction counts fell by 10.9%.
- In addition, both Bitcoin and Solana saw declines in sales volume. Bitcoin's sales volume fell by 62.9% amid a 60% decrease in ordinals transactions. Meanwhile, Solana also saw a 59% decrease in sales as NFT demand continued to cool.

Source: CF Benchmarks, Dune Analytics, as of September 30, 2024

Mining Metrics



Bitcoin's Hash Rate & Mining Revenue

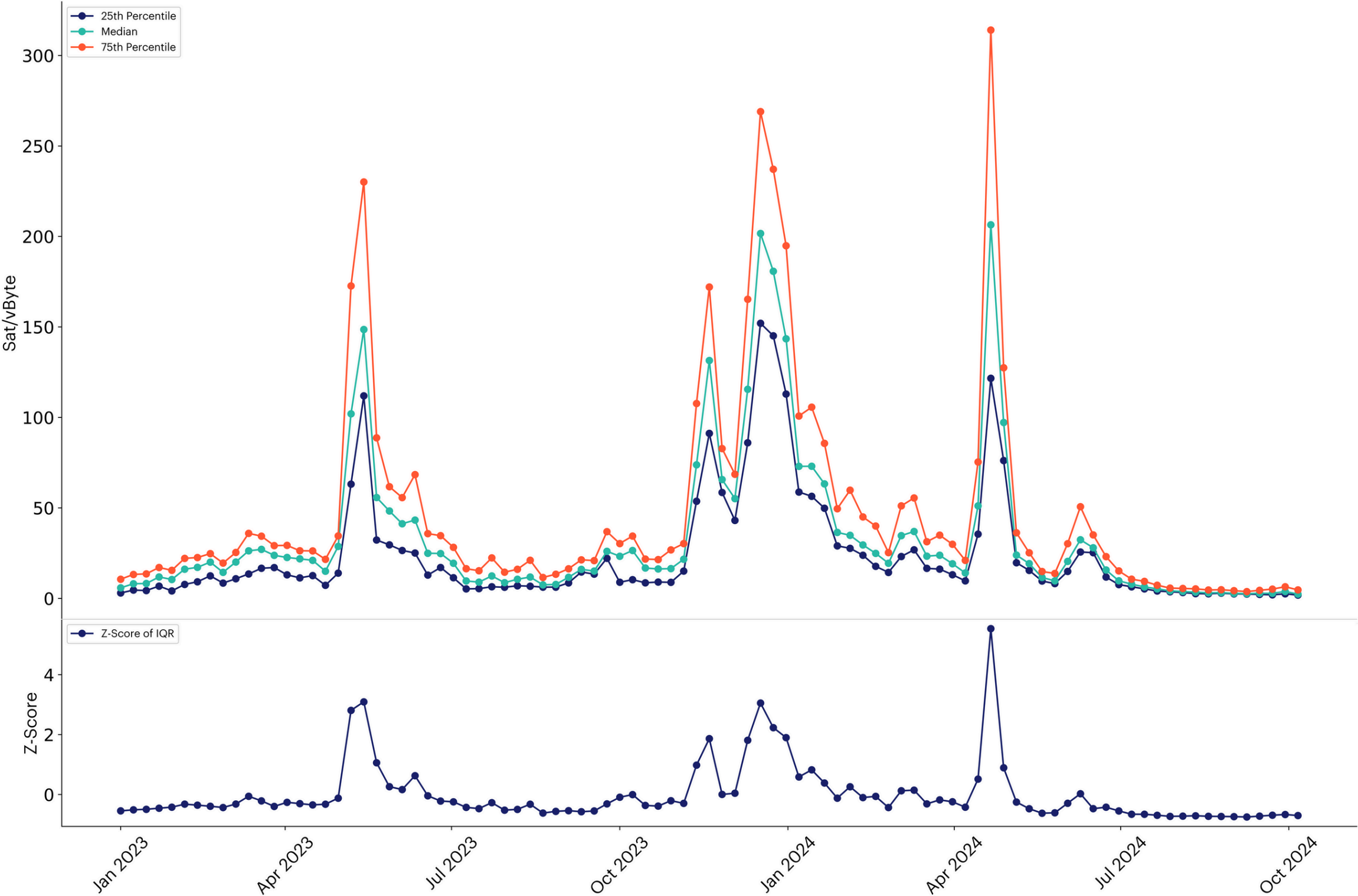


- Bitcoin's network hash grew slightly in the past month, gaining 9.7% to reach 548 exahashes per second. The mining difficulty, which measures how hard it is to find a new block and thus adjusts to maintain a consistent block creation time, decreased by 1.2% during the month. The next difficulty adjustment will likely be in the second week of October and is trending towards a 2.3% decrease.

- A slight decrease in network fees contributed to mining revenues declining by 4.4% in September. Of the miner rewards during the month, 1.7% came from fees, down from 2.4% in August. As on chain activity decreased in September, Bitcoin's 8.2% monthly gain was offset by lower transaction fees and increased block times.

Source: CF Benchmarks, Dune Analytics as of September 30, 2024

Bitcoin Network Fees



- As Bitcoin’s block subsidy decreases, network fees make up a larger share share of miners’ revenue. The behavior of these fees, especially during periods of high demand for block space, can provide insights into the sustainability of fee increases.
- The data shows that during periods of high demand, the 75th percentile transaction fees surge significantly higher than the median and 25th percentile fees, indicating a subset of transactions paying much higher fees to ensure prompt inclusion in blocks.
- When the Z-score of the interquartile range exceeds 2, it signals substantial increases in the 75th percentile relative to the 25th percentile, highlighting times of significant network congestion and temporarily elevated fees.

Source: CF Benchmarks, Dune Analytics, as of September 30, 2024

Bitcoin Mining Matrix

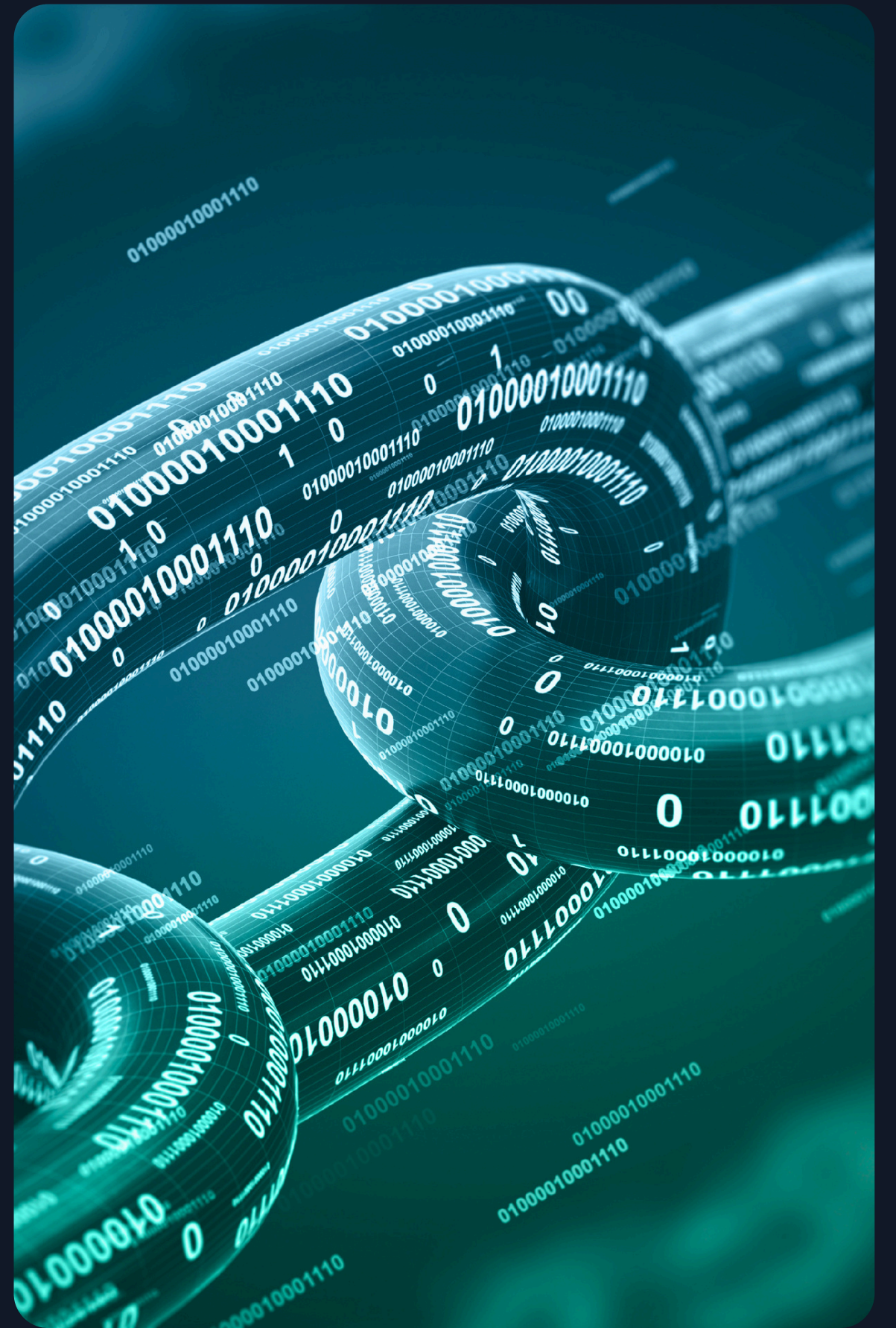


		Bitcoin Price (USD)								
		\$51,648.37	\$54,366.71	\$57,228.11	\$60,240.12	\$63,410.65	\$66,581.18	\$69,910.24	\$73,405.75	\$77,076.04
Efficiency (Watts /TH)	34.0	\$45.78	\$48.19	\$50.72	\$53.39	\$56.20	\$59.01	\$61.96	\$65.06	\$68.31
	29.5	\$52.76	\$55.54	\$58.46	\$61.54	\$64.77	\$68.01	\$71.41	\$74.98	\$78.73
	24.0	\$64.85	\$68.26	\$71.86	\$75.64	\$79.62	\$83.60	\$87.78	\$92.17	\$96.78
	21.5	\$72.39	\$76.20	\$80.21	\$84.43	\$88.88	\$93.32	\$97.99	\$102.89	\$108.03
	18.5	\$84.13	\$88.56	\$93.22	\$98.12	\$103.29	\$108.45	\$113.88	\$119.57	\$125.55
	17.5	\$88.94	\$93.62	\$98.55	\$103.73	\$109.19	\$114.65	\$120.38	\$126.40	\$132.72
	15.0	\$103.76	\$109.22	\$114.97	\$121.02	\$127.39	\$133.76	\$140.45	\$147.47	\$154.84
	13.5	\$115.29	\$121.36	\$127.74	\$134.47	\$141.54	\$148.62	\$156.05	\$163.86	\$172.05

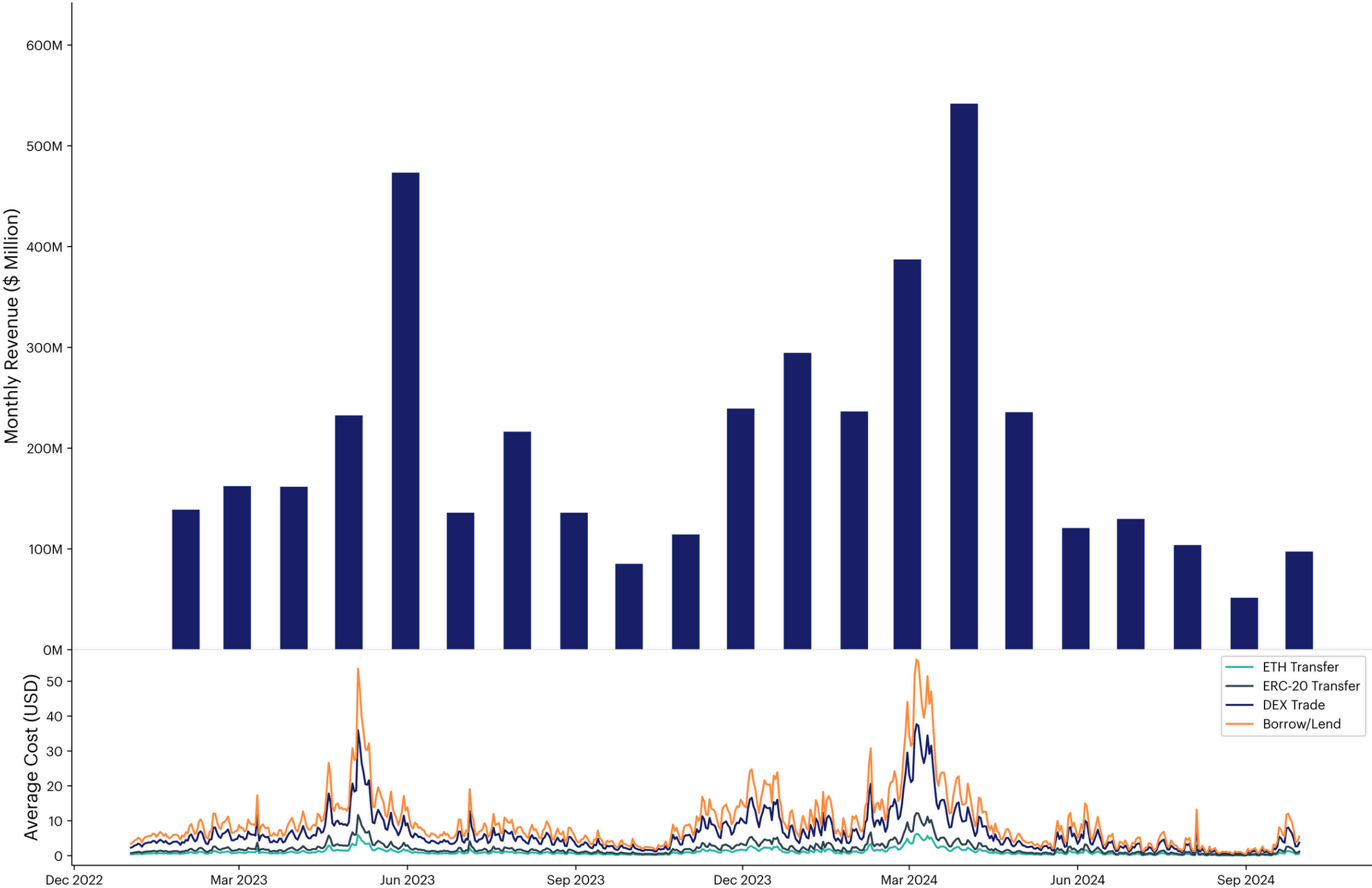
- The following sensitivity table illustrates the revenue a miner will generate per megawatt hour consumed at the current difficulty, considering different levels of miner efficiency and varying Bitcoin prices, providing a comprehensive view of potential earnings under different market conditions. The table is color-coded to reflect profitability based on the 10th percentile industrial electricity rate in the United States of \$70.04 per MWh, as reported by the EIA in July 2024.
- This table helps miners compare revenues under various operational conditions, aiding in evaluating the useful life of their equipment. By comparing projected revenues at different Bitcoin prices to electricity costs, miners can determine whether they can continue running their current fleet or if they need to upgrade to maintain profitability.
- As income per MWh increases, miners are more likely to fund additional capital expenditures, which can increase the overall network hashrate. However, this increase in hashrate can subsequently reduce the income each individual miner earns.

Source: CF Benchmarks, Dune Analytics, as of September 30, 2024
 EIA.gov as of July 31, 2024

Network Fundamentals & Reward Rates



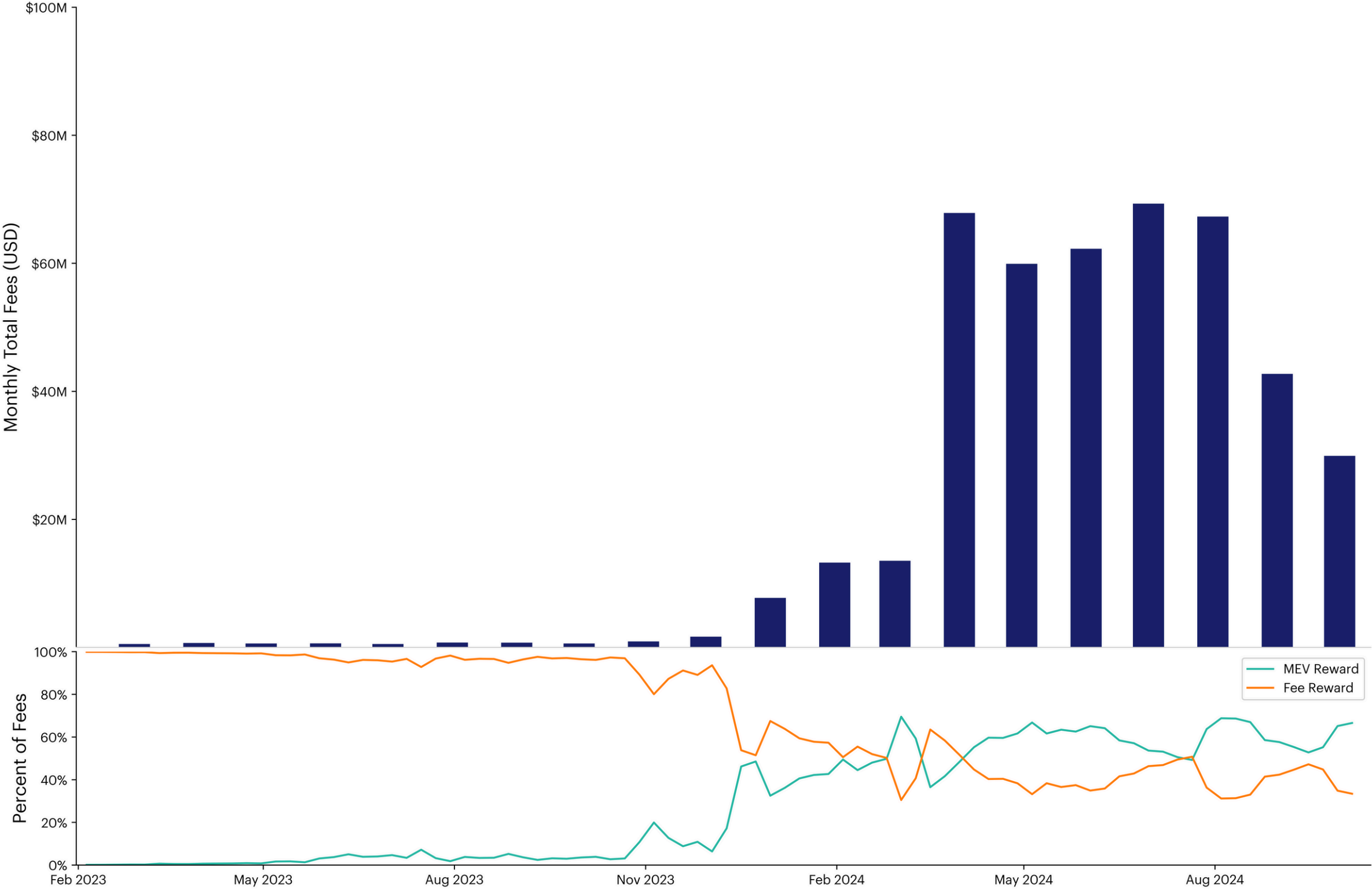
Ethereum Network Fees & Revenue



- Ethereum’s block space is the capacity to include transactions in each block. When more transactions are posted to the blockchain than can be processed, fee rates increase as users compete to have their transactions included in the next block.
- By comparing average fee rates to total fee revenue, we can evaluate Ethereum's scalability. If fee rates remain low while total revenue remains stable or increases, it indicates effective scaling.
- In September, the Ethereum network saw total fees paid increase 89% from the prior month to \$97.4M. The average fee per interaction with the Ethereum network increased by 418% over the period, indicating heightened competition for Ethereum’s limited block space.

Source: CF Benchmarks, Dune Analytics as of September 30, 2024

Solana Network Fees & Revenue



Source: CF Benchmarks, Dune Analytics as of September 30, 2024

- Solana’s block space is the capacity to include transactions in each block. When more transactions are posted to the blockchain than can be processed, fee rates increase as users compete to have their transactions included in the next block.
- By analyzing the percentage of fees derived from MEV (Maximum Extractable Value) versus base fees, we can gauge the health of Solana's fee market. A higher proportion of MEV fees may indicate increasing competition and demand for block space.
- In September, the Solana network saw total fees paid decrease 30.0% from the prior month to \$29.9M. MEV made up approximately 60.4% of the total fees, reflecting a high demand for block space despite the overall decline in fee revenue, suggesting that competitive, value-extractive activities continue to drive network usage.

Staking Rewards & Inflation Rates



Network	Staking Reward Rate	Inflation Rate	Participation Rate	Real Reward Rate
Ethereum <i>(1-Month Change)</i>	2.96% <i>0.22%</i>	0.45% <i>-0.23%</i>	28.77% <i>0.26%</i>	2.51% <i>0.45%</i>
Solana <i>(1-Month Change)</i>	7.23% <i>0.11%</i>	4.37% <i>0.02%</i>	68.06% <i>0.05%</i>	2.86% <i>0.09%</i>
Cardano <i>(1-Month Change)</i>	2.79% <i>0.01%</i>	2.18% <i>-0.11%</i>	64.82% <i>1.78%</i>	0.61% <i>0.12%</i>

- The reward rate for a Proof of Stake (PoS) blockchain represents the annual return validators earn for staking their tokens, often expressed as a percentage. This rate is determined by factors such as the total number of staked tokens, the network's overall staking yield, and any additional incentives provided by the blockchain protocol.
- Inflation rate and staking participation rate significantly influence real staking rewards. A higher inflation rate typically increases the nominal reward rate but can dilute the value of staked tokens, resulting in lower real returns. The staking participation rate, which is the proportion of tokens being staked, also impacts rewards: as more tokens are staked, the rewards per validator may decrease, potentially lowering individual returns but contributing to network security and decentralization.

Source: CF Benchmarks, Dune Analytics, stakingrewards.com as of September 30, 2024

Appendix



CF Digital Asset Classification Structure



CF Digital Asset Classification Structure



The CF Digital Asset Classification Structure (CF DACS) classifies coins and tokens based on the services that the associated software protocol delivers to end users, grouping assets by the role they play in delivering services to end users. The CF DACS powers CF Benchmarks' sector composite and category portfolio indices and allows users to perform attribution analysis to better understand the fundamental drivers of returns within their digital asset portfolios.

CF Digital Asset Classification Structure



Additional Resources

For more information about our CF Benchmark indices and our methodologies, please visit the respective web links below:

- [CF Diversified Large Cap Index](#)
- [CF DeFi Composite Index](#)
- [CF Web 3.0 Smart Contract Platforms Index](#)
- [CF Digital Culture Composite Index](#)
- [CF Blockchain Infrastructure Index](#)
- [CF Cryptocurrency Ultra Cap 5 Index](#)
- [CF Broad Cap Index Market Cap Weight](#)
- [CF Broad Cap Index Diversified Weight](#)

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