



ASSET REPORT

NOVEMBER 2022

About CryptoCompare

CryptoCompare is an FCA authorised benchmark administrator and global leader in digital asset data, providing institutional and retail investors with high-quality real-time and historical data. Leveraging its track record of success in data expertise, CryptoCompare's thought-leadership reports and analytics offer objective insights into the digital asset industry.

About This Report

Cryptocurrencies were born in 2009 when Bitcoin was released as the first global decentralised currency. In the last 13 years, crypto has grown into an investable asset class of its own, with exchanges providing a platform to buy and sell thousands of different currencies. However, for most of its history, the asset class has mainly been fuelled by a purely retail investor base who have arguably left institutional investors and investment management professionals behind when it comes to grasping the opportunities in the cryptocurrency space. This began to change in 2020 when well-regarded investors and corporations started to pay more attention to this growing asset class.

A major challenge for institutional investors and other professionals looking into the sector is the lack of reliable data. This complicates the analysis of investment opportunities in cryptocurrencies, specifically when considering crypto as part of a wider investment portfolio. The Asset Report was initiated to tackle this challenge.

CryptoCompare's Asset Report aims to provide professionals in the financial services space, particularly the investment management industry, with key insights relating to some of the largest cryptocurrencies by market capitalization. The report frames cryptocurrencies as an investable asset that has a role to play in global investment portfolios, and thus also compares these cryptocurrencies with traditional asset classes

This review is conducted on a monthly basis and caters to institutional investors, analysts and regulators interested in more specific analyses on the performance and risk metrics of the largest available cryptocurrencies.

For questions related to this research or any potential requests, feel free to contact CryptoCompare's research department at research@cryptocompare.com.

Disclaimer:

The content found in this report is for informational purposes only, you should not construe any such information or other material as legal, tax, investment, financial, or other advice.

Contents

About CryptoCompare	1
About This Report	1
Featured Currencies	4
Latest News	5
Asset Performance & Market Metrics	6
Key Market Insights	7-10
Access More of our Research and Insights	11
Metric Methodology	12

Featured Currencies

1. **BTC**

Bitcoin is the world's first decentralised cryptocurrency, having been released in 2009 by the pseudonymous developer(s) Satoshi Nakamoto. It utilises Proof of Work (PoW) mining to validate transactions between decentralised parties and to ensure the security of the blockchain network. It is the largest cryptocurrency by market capitalization, having reached a \$1T valuation for the first time in February 2021.



2. **ETH**

Ether is the native currency of Ethereum, an open-source blockchain created by Vitalik Buterin in 2014. It has a large range of decentralised applications facilitated via smart contracts, including peer-to-peer lending, insurance, and yield farming. Ethereum historically used a PoW consensus protocol, however, it successfully transitioned to a Proof of Stake (PoS) consensus after 'The Merge' on September 15th, 2022.



3. **SOL**

SOL is the native token of the Solana blockchain, which was released in April 2019. It is a smart contract platform that saw incredible growth in 2021. It uses a combination of PoS and Proof of History to validate transactions and has grown to become one of Ethereum's biggest competitors in the Decentralised Finance space.



4. **ADA**

ADA is the cryptocurrency of the Cardano blockchain network, which was launched in 2017 by Charles Hoskinson, a co-founder of Ethereum. It is one of the largest PoS blockchains, which validates transactions by selecting validators on the blockchain proportionally to the amount of ADA they own and stake. It is an academically rigorous project, which launched smart contract functionalities in September 2021.



Latest News

TOPIC	STORY	DATE
Solana	Solana Unveils Google Partnership, Smartphones, Web3 store at Breakpoint	Nov 6
Bitcoin	Feds announce seizure of \$3.36 billion in bitcoin stolen a decade ago from illegal Silk Road marketplace—the second-largest crypto recovery	Nov 7
Solana	Solana Blockchain Hit by FTX Tremors as Nearly \$800M SOL Tokens Set to Be Unstaked	Nov 9
Ethereum	Ether Turns Deflationary as Amount of ETH Burned Spikes Amid FTX-Induced Market Volatility	Nov 11
Solana	FTX Hack Spurs Revolution at Serum DEX as Solana Devs Plot Alameda's Ouster	Nov 12
Cardano	Cardano-Based Regulated Stablecoin USDA Will Hit the Market in Early 2023	Nov 18
Cardano	Cardano Is Launching New Privacy Blockchain and Token	Nov 18
Bitcoin	Coinbase shares tumble as bitcoin slide continues, investors fear contagion from FTX collapse	Nov 21
Cardano	Cardano DeFi Project Ardana Halts Development, Citing Funding, Timeline Concerns	Nov 24
Bitcoin	European Central Bank says bitcoin is on the 'road to irrelevance'	Nov 30

Asset Performance & Market Metrics

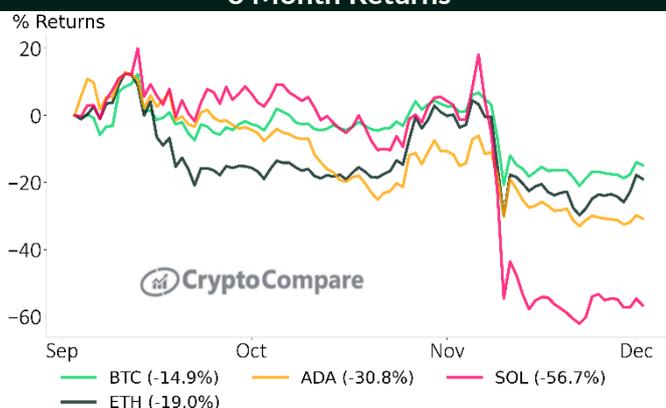
Summary

The performance of digital and traditional assets diverged in November as the collapse of FTX erased billions of dollars from digital asset markets. Accompanying this are fears of market contagion which has led to severe negative performances this month, with BTC returning -16.3%, its worst monthly performance since June 2022. On the other hand, the S&P 500 and NASDAQ attained positive returns after a lower-than-expected CPI figure. The Federal Reserve has begun to provide signals that the pace of future rate hikes will soon slow down – the market now expects a 50bps rate hike in the next FOMC meeting in December.

	BTC	ETH	ADA	SOL	GOLD	S&P500	NASDAQ
EoM Price	\$17,162	\$1,295	\$0.32	\$14.2	\$1,753	\$4,080	\$11,468
Market Cap	\$330bn	\$149bn	\$10.8bn	\$4.85bn	\$11.9tn	-	-
Monthly Return	-16.3%	-17.7%	-21.4%	-56.5%	+6.86%	5.37%	4.38%
YTD Return	-62.8%	-64.8%	-75.6%	-91.7%	-4.19%	-14.9%	-27.6%
Monthly Volatility	84.8%	119%	97.2%	241%	15.92%	20.6%	26.5%

3 Month Returns

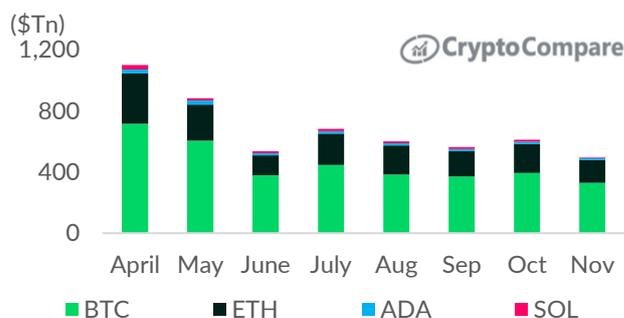
Monthly Sharpe Ratio



In November, all four crypto assets had negative risk-adjusted returns and saw a significant increase in volatility. Over the last three months, SOL and ADA have heavily underperformed BTC and ETH with a -56.7% and -30.8% return, respectively.

Volatility

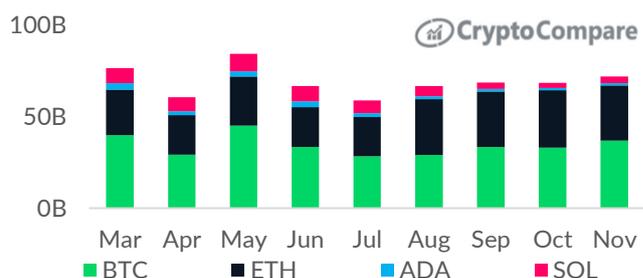
Market Capitalisation Dominance



Volatility skyrocketed in November as a result of the collapse of FTX, following what was one of the least volatile months for crypto in its recent history. SOL recorded the highest volatility out of all investigated assets at 241%, while BTC's 30-day volatility more than doubled from 32.2% in October to 84.8% in November. Total market capitalisation across these four assets has fallen to the lowest level since 2020, to \$495bn.

Direct USDT Volume

Direct USD Volume

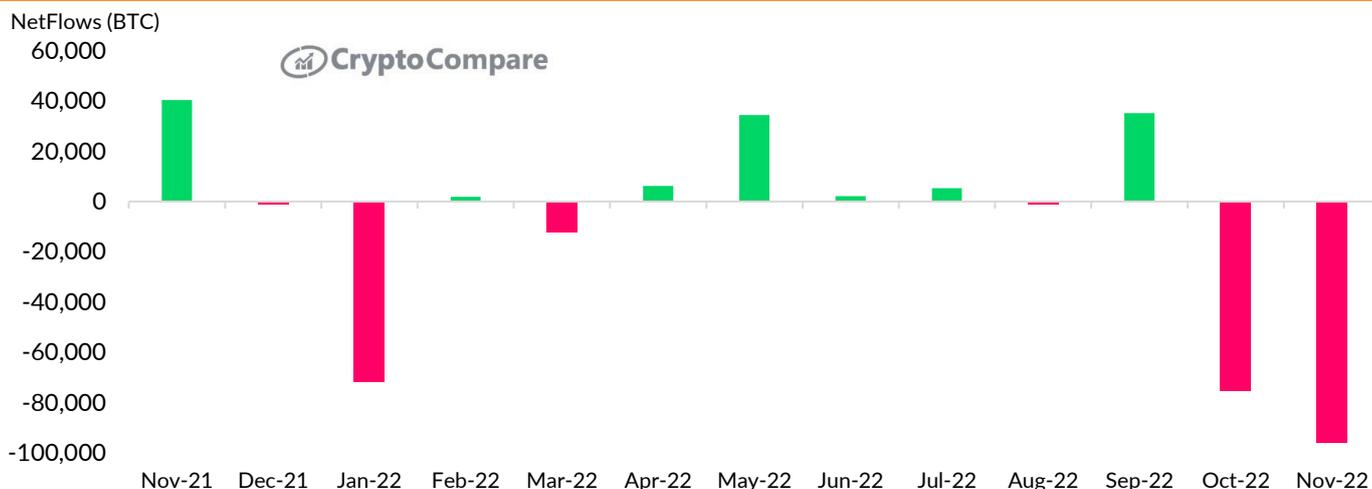


In November, USD volumes saw an increase of 5.2%, while aggregate USDT volumes fell -4.2%. SOL-USD volumes saw a particularly sharp rise – a 29.7% increase to \$3.64bn, amid the panic caused by FTX's bankruptcy.

Key Market Insights – Bitcoin

BTC Record Largest Outflows from Exchanges Following FTX Collapse:

Monthly Bitcoin Netflows On Centralised Exchanges, Nov 2021 – 2022



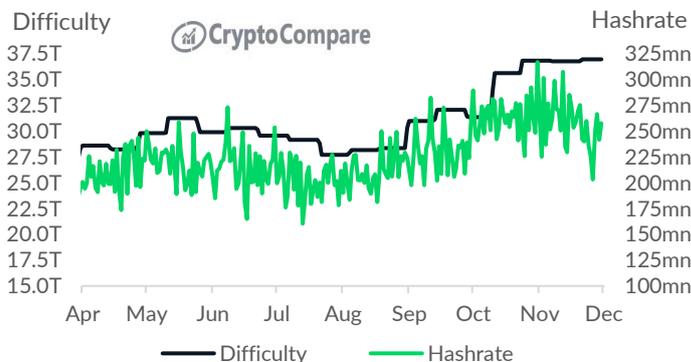
Following the collapse of FTX on November 8th, centralised exchanges have seen a string of outflows as investors panic over the safety of their deposits on centralised platforms. In November, BTC recorded the largest negative flows from CEXs in its history, with net outflows of -91,557 BTC. It is likely that we will see a continuation of this trend as the 'not your keys, not your coins' narrative takes over the crypto markets.

Bitcoin Hashrate Drops Sharply After Hitting New Highs:

BTC Hashrate and Difficulty, Apr – Nov 2022

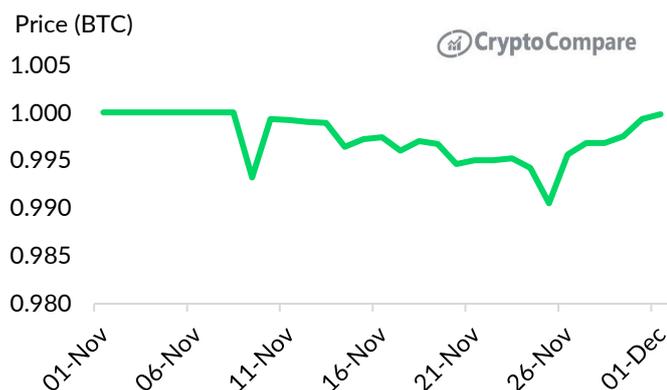
In November, the average Bitcoin hashrate fell 20.7% to 210mn TH/s, recording the largest drop of the year. After hitting an all-time high of 317mn last month, hashrate has now fallen as low as 203mn TH/s on November 26th – the lowest since September. Meanwhile, mining difficulty hit a new all-time high of 37.0tn in November.

The drop in hashrate comes as miners continue to suffer from increasing energy prices and poor price action, leading to a shortfall in revenue. Miner capitulations have often led to a big crash in Bitcoin's price, however, it is likely that this will not have as much impact given the already negative sentiment surrounding market conditions.



Wrapped Bitcoin Records its Largest Depeg Since 2020:

Price of WBTC-BTC, Nov 2022



Wrapped Bitcoin (WBTC), a token that allows Bitcoin to be used for DeFi on other blockchains, lost its peg in November, falling as low as 0.9875. This was the largest depeg in WBTC since August 2020, when it depegged to as low as 0.95.

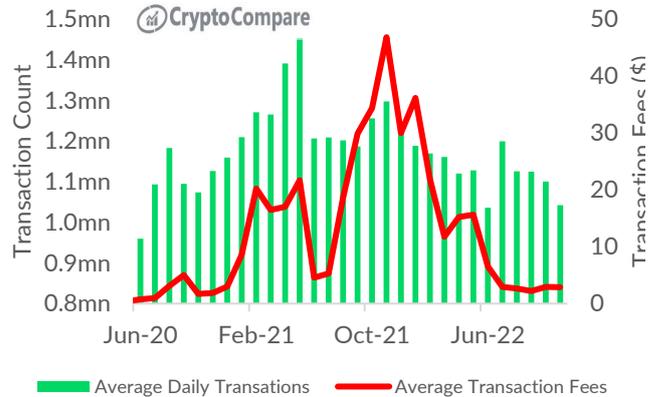
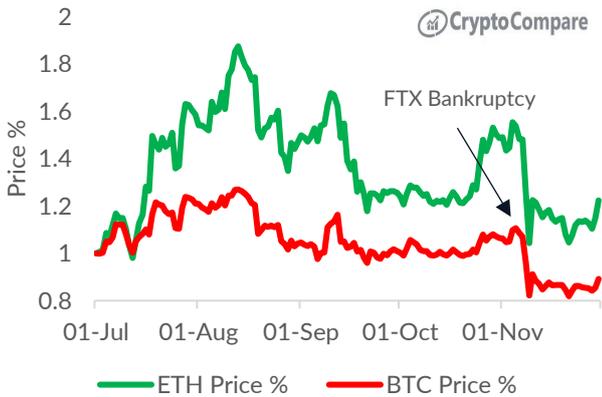
The depeg is largely due to the collapse of FTX, which was the second largest marketplace for the WBTC/BTC pair after Binance. Moreover, the associated market maker, Alameda Research, was one of the largest minters of WBTC.

We believe it is unlikely that WBTC will depeg further, as each WBTC is backed 1:1 with BTC, stored in cold storage by custodian Bitgo. BitGo has carried out a Proof of Reserves audit that is publicly available.

Key Market Insights – Ethereum

ETH Continues to Outperform BTC:

ETH and BTC Price %, Jul – Nov 2022 **ETH Transaction Fees and Count, Jun 20 – Nov 22**



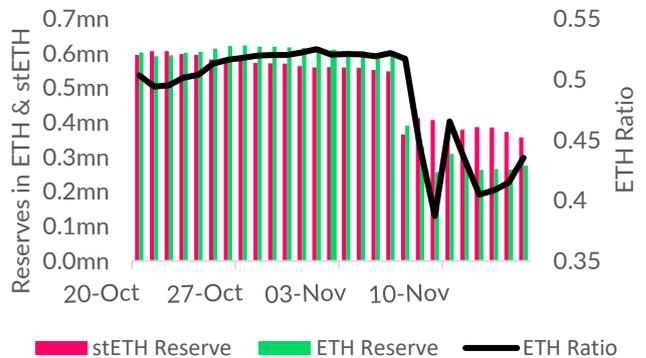
In November, BTC and ETH saw a major decline, recording a low of \$15,480 and \$1,074 on the 21st and the 23rd respectively. This was a year-low price for BTC, while ETH showed relative resilience by staying above its June 2022 lows. ETH has outperformed BTC in the second half of the year, recording a return of 22.4%, compared to BTC’s -10.8% return.

Despite the price resilience, average daily transactions in the Ethereum network saw a 5.30% decline in November to 1.04mn average daily transactions, the second-lowest monthly figure since July 2020. Average daily transaction fees also fell to \$2.86; a 93.9% drop compared to its peak in November 2021.

Major concerns driven by Staked ETH:

The Rise of Staked ETH and stETH, 20th Oct – 15th Nov 2022

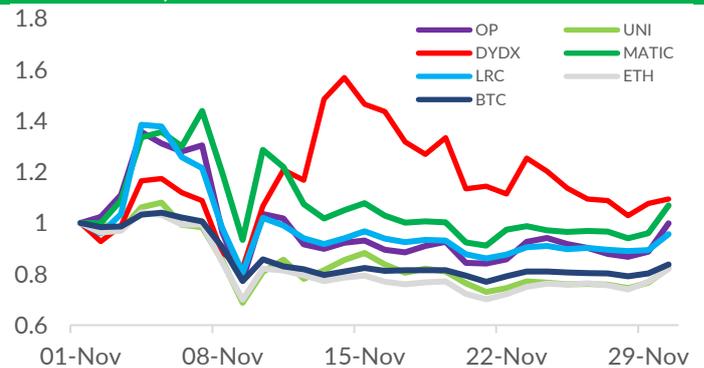
In November, ETH withdrawals from the stETH-ETH pool on Curve witnessed a significant spike, creating a huge imbalance in the pool's stETH-ETH ratio, and causing a drop in stETH price against ETH which has led to rising concerns among market participants. The withdrawals peaked on the 24th when a single whale withdrew around 80k ETH from the pool. The rising concerns were also fueled by the unclear timeline surrounding the implementation of the Shanghai Upgrade, which would enable withdrawals of Staked ETH and was originally planned to take place 6-12 months after the Merge.



Decentralised Applications Benefit From FTX’s Collapse:

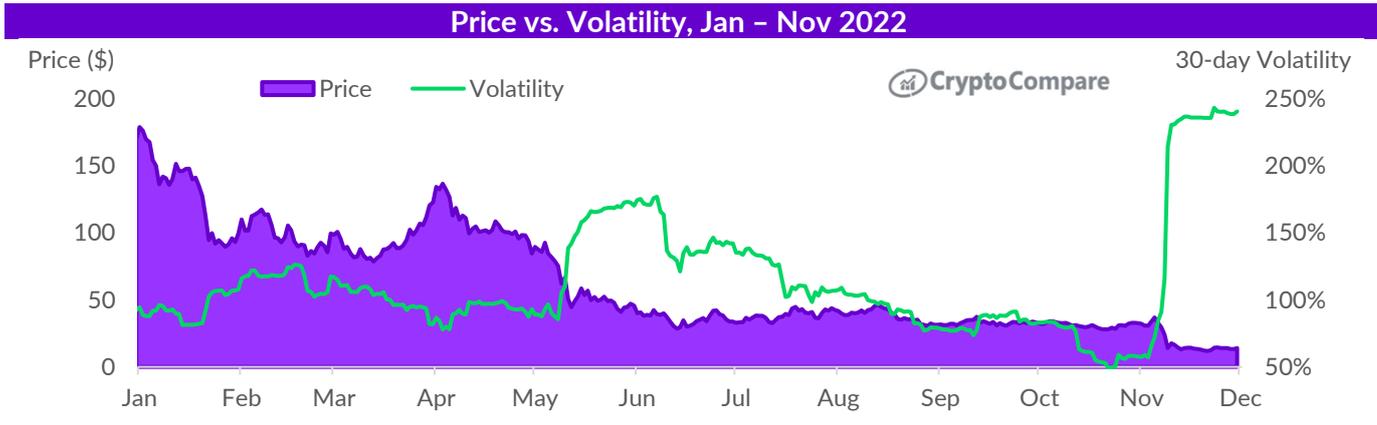
DeFi Token Returns vs. BTC, Nov 2022

In November, Layer 2 protocols and decentralised exchanges built on Ethereum outperformed both BTC and ETH following the collapse of FTX. Concerns surrounding the previously top exchange have led market participants to withdraw their assets from CEXs, leaving room for DEXs to grow in market share. This has led to an appreciation in price in Layer 2 and DEX tokens. For example, DYDX and MATIC have returned 9.35% and 6.34% in November, compared to BTC and ETH’s negative returns of -16.3% and -17.7% respectively.



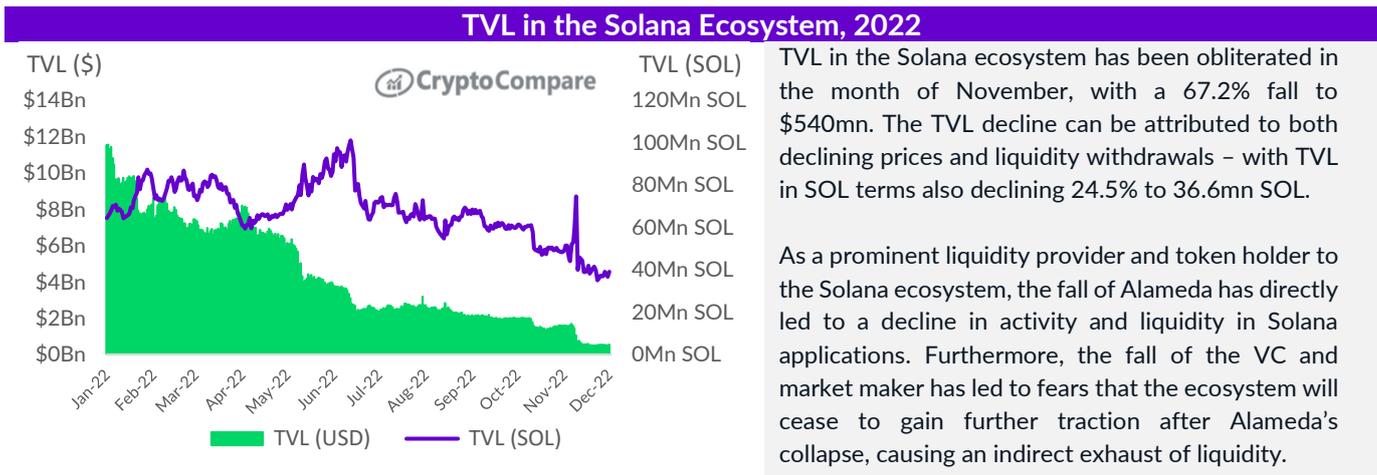
Key Market Insights – Solana

SOL Volatility Reaches Multi-Year High Following FTX Collapse:



The Solana ecosystem was one of the worst hit blockchains following the collapse of FTX and its sister company, Alameda Research. As one of the prime investors in the Solana blockchain, Alameda’s collapse has created worries on the blockchain’s future, with a large number of validators unstaking their SOL (and selling these in the open market) over the last month. DeFi platforms have also lost significant liquidity. As a result, SOL has returned -56.5% in the month of November, and its volatility has reached a multi-year high of 243%.

Solana TVL Falls to Lowest Since April 2021:



TVL in the Solana ecosystem has been obliterated in the month of November, with a 67.2% fall to \$540mn. The TVL decline can be attributed to both declining prices and liquidity withdrawals – with TVL in SOL terms also declining 24.5% to 36.6mn SOL.

As a prominent liquidity provider and token holder to the Solana ecosystem, the fall of Alameda has directly led to a decline in activity and liquidity in Solana applications. Furthermore, the fall of the VC and market maker has led to fears that the ecosystem will cease to gain further traction after Alameda’s collapse, causing an indirect exhaust of liquidity.

Solana Remains an Active NFT Trading Network:



It is clear that views on the Solana ecosystem are severely negative, with multiples outages this year and the collapse of its most outspoken backer in SBF. However, it is important to remember that the Solana blockchain remains heavily used by market participants, particularly in the NFT sector.

According to CryptoSlam data, Solana NFT sales in November reached \$65mn, a 19.5% increase from the month prior. While this compares to \$407mn of NFT sales on the Ethereum blockchain, the Solana ecosystem has been more resilient – with a 78.0% decline in NFT sales from January, compared to a 89.8% decline on Ethereum.

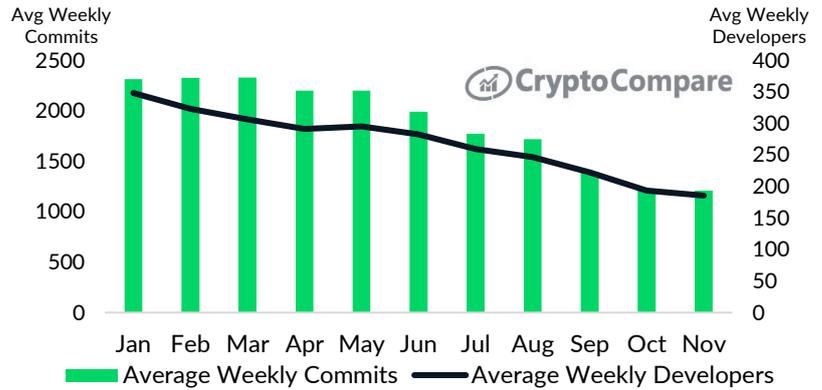
Key Market Insights – Cardano

Cardano Projects Shut Down Amid Lack of Funding in Bear Market:

Cardano Developer Activity: Average Weekly Commits and Developers, 2022

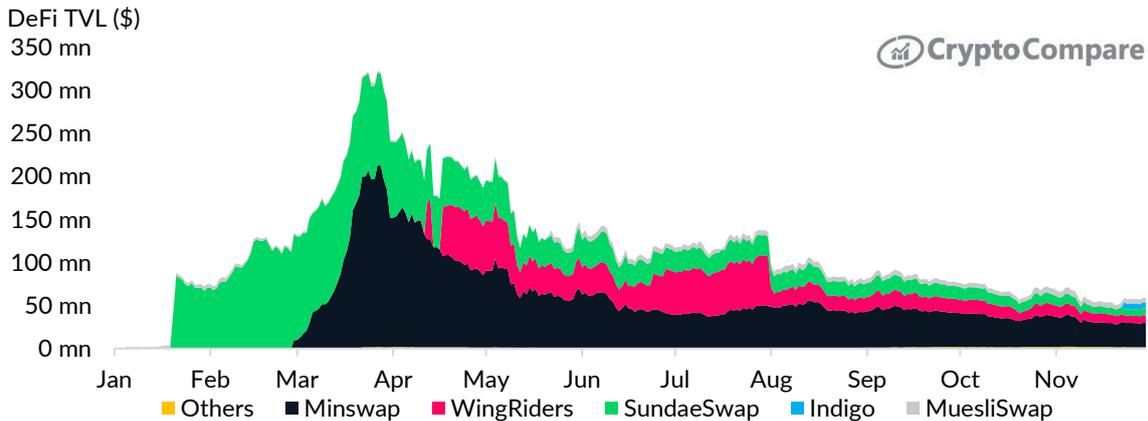
The bear market has continued to impact the Cardano ecosystem – as lack of funding and uncertain market conditions leads to the shut down of two projects – Orbis and Ardana in November.

In November, the average weekly Github commits for Cardano fell 0.36% to 1.21k – the lowest for the year. Meanwhile, average weekly developers also continued to slide, falling 3.99% to 186.



Cardano Celebrates its First Anniversary of DeFi:

Cardano's DeFi TVL, 2022



November 28th marked the first anniversary of DeFi for the Cardano Blockchain, as MuesliSwap, the first DEX on Cardano, launched on that day in 2021. The Total Value Locked (TVL) in the Cardano blockchain fell 16.6% to \$58.8mn in November – the lowest recorded in the year, as macro conditions continue to weigh down on the DeFi ecosystem. MinSwap, a multipool DEX dominates the Cardano DeFi space with a market share of 48.7%.

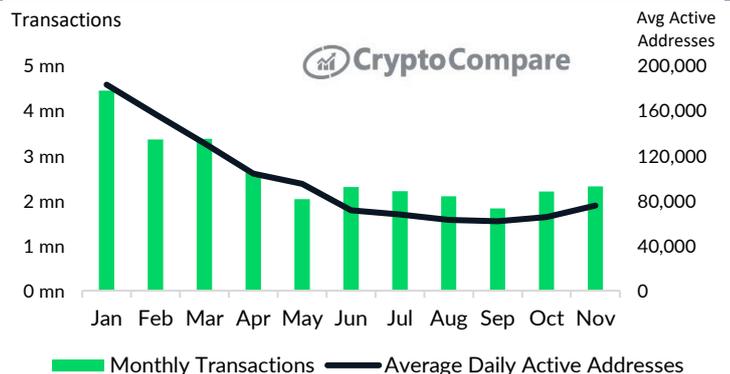
Cardano enthusiasts are hoping that the upcoming launch of multiple developments – including sidechains, Cardano EVM (which allows Solidity developers to build dApps on Cardano) and Midnight (a privacy-focused sidechain) – will add more utility and total value locked to Cardano DeFi.

On Chain Activity Rises Following the Collapse of FTX:

Cardano Active Addresses and Transactions, 2022

Following the collapse of FTX in November, there has been a rising trend in users moving their assets off exchanges to decentralised solutions, and self-custody. This has led to a spike in average daily active users in Cardano, which rose 15.6% to 75.8k in November – the highest active users recorded since May.

The monthly transactions also rose 5.34% to 2.32mn – the largest transaction volume since April earlier this year.



Access More Of Our Research and Insights

As the digital asset markets continue to grow, so does the need for high-quality research that brings greater clarity and transparency to this rapidly evolving industry. CryptoCompare's suite of research reports provides market participants with trusted, high-quality data and analysis.

Recurring Reports:

Report	Description
Exchange Review	Captures key developments within the cryptocurrency exchange market — providing readers with an in-depth analysis of exchange volumes, trading activity, and derivatives open interest.
Digital Asset Management Review	Tracks and provides analysis of the most innovative institutional products in the industry, assessing volumes, assets under management (AUM), and product flow trends.
Exchange Benchmark	Brings clarity to the crypto asset exchange sector. Two years on, it has become the industry standard for assessing and evaluating cryptocurrency exchanges, with the methodology and rankings now being utilised to help create financial products and indices.
Asset Report	Provides professionals in the financial services space, particularly the investment management industry, with a summarised analysis of the latest movements in five of the largest cryptocurrencies.
Market Outlooks	A quarterly report that identifies the most important developments of the last quarter, which may thereafter set the tone for key trends to look out for in the following months. This includes references to the macroeconomic environment, DeFi, NFTs, stablecoins, and more.

Topic Deep Dives:

Report	Description
Liquidity Report	Created in collaboration with Bitstamp — a first of its kind report — it examines the intricacies of digital asset liquidity and compares it across top-tier exchanges to find the true liquidity of digital asset exchanges.
UST's Fall From Grace	Summarises the depegging of UST and subsequent debacle of LUNA and the Terra ecosystem, including analysis on the ripple effects of the event and where it situates the digital asset industry.

Glossary

METRIC	Definition/Methodology	Report Section	Factsheets
Block Rewards	The total amount of ETH rewarded to miners.	-	ETH
Block Size	Average size of a block in terms of data storage. Standard unit is megabytes (MB).	Proof of Work Metrics	BTC, ETH
Block Time	Average time taken for the next block to be mined, measured in seconds.	Proof of Work Metrics	BTC, ETH
Blocks Burnt	The total number of ETH burnt following transactions on the Ethereum blockchain. This was an update caused by the London Fork, which took place on the 5th of August 2021.	-	ETH
Cruiser	An investor who has been holding the underlying asset between 1 month and 1 year.	-	BTC, ETH, SOL
Difficulty	How difficult it is for miners to mine the next block in the blockchain. As difficulty increases, a higher hashrate is required to have the same probability of mining the next block.	Proof of Work Metrics	BTC, ETH
Github Stargazers	The number of likes/bookmarks the asset's Github repository has received.	-	ALL
Hashrate	The computational power used in mining operations. Standard unit is terahashes per second (TH/s).	Proof of Work Metrics	BTC, ETH
Hodler	An investor who has been holding the underlying asset for over 1 year.	-	BTC, ETH, SOL
Lightning Network Capacity	Measures the total number of Bitcoin that can be transacted via the lightning network at any one point in time.	-	BTC
Monthly Volumes	Monthly volumes represents the USD CCCAGG market volumes, as per CryptoCompare's aggregate index methodology.	-	ALL
Market Cap	This refers to circulating market capitalization rather than a project's fully diluted valuation.	Asset Performance & Market Metrics	ALL
Max Drawdown	Percentage difference between the monthly high and monthly low price for a given asset.	Asset Performance & Market Metrics	ALL
No. of Nodes	The number of computers that are currently running on the Bitcoin network and storing the entire historical blockchain.	-	BTC
No. of Open Channels	The number of open passages between Bitcoin nodes that allows for transactions to take place within that channel.	-	BTC
NVT Ratio	Ratio of an asset's market capitalization to the daily transaction volume of that asset, where daily transaction volume is equal to daily transaction count* daily average transaction value*close price.	Asset Performance & Market Metrics	ALL
Sharpe Ratio	30-day returns in excess of the risk-free rate per unit of volatility. Risk-free rate is assumed to be 0.	Asset Performance & Market Metrics	ALL
Staking Rate	The annualized return for an individual who stakes (participates in transaction validation) his/her tokens. It is a feature of Proof of Stake (PoS) cryptocurrencies.	Proof of Stake Metrics	ETH, SOL, ADA
Total Commits	The number of individual changes made to the underlying code.	-	ALL
Total Contributors	The number of individuals who have contributed to a project, but do not have collaborator access.	-	ALL
Total Forks	The number of copies made of the original code. It allows Github users to make changes to a project without affecting the original repository.	-	ALL
Total Value Locked	The total monetary value of assets deposited in a decentralised finance blockchain or protocol.	DeFi and On-Chain Activity	ETH, SOL
Trader	An investor who has been holding the underlying asset for under 1 month.	-	BTC, ETH, SOL
Volatility	Annualized, rolling 30-day standard deviation of log returns. Daily figures obtained by dividing this by square root of the days in month.	Asset Performance & Market Metrics	ALL

Additional Data Sources include: Etherscan.io, DeFi Llama, Messari.io, stakingrewards.com, bitcoinvisuals.com, Into The Block, Solana Beach