Crypto Compare ASSET REPORT

October 2021



About CryptoCompare

CryptoCompare is a 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 12 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 a summarised analysis of the latest movements in cryptocurrency markets. The report frames cryptocurrencies as an investable asset that has a role to play in global investment portfolios. Thus, it compares major cryptocurrencies with traditional asset classes, as well as with each other. Finally, the report includes factsheets that dive into the latest developments of the five largest assets, including market updates, DeFi, scaling solutions, ownership concentration, and developer news.

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	3
Asset Performance & Market Metrics	4
Volumes	5
Asset Segmentation	5
DeFi and On-Chain Activity	6
Investable Digital Products and Treasuries	7
Asset Factsheets	
Bitcoin	8
Ethereum	11
Ripple	14
Cardano	16
Solana	18
Metric Methodology	21

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. While it currently uses PoW as a consensus protocol, it is transitioning to the alternative Proof of Stake (PoS) via Ethereum 2.0 upgrades.



3. XRP

XRP is a cryptocurrency built by Ripple Labs in 2012. It specialises as a payment system that supports real-time transfers of money across geographies, currencies, and assets. It aims to revolutionise the international banking and payment industry by acting as the common currency for international transfers.



4. SOL

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



5. 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.



Key Market Insights

Solana Boasts Highest October Returns - Total Value Locked Reaches \$12.5bn

Solana (+43.4%) had a stellar October as the cryptocurrency outperformed other large-cap assets in terms of intramonth returns. The smart contract alternative to Ethereum reached \$12.5bn in TVL (+35% since September), with the majority locked in DEXs. Despite the platform's growth, TVL is still low relative to funds locked into DeFi on Ethereum, which stood at \$164bn at the end of October (+32% since September).

US Futures ETFs Trigger Strong October Performance for Bitcoin

Market speculation surrounding the potential acceptance of a US-listed Bitcoin ETF in September, followed by its official acceptance in October spurred, a healthy bull run throughout October with the cryptocurrency ending the month at \$61,350 (+40%). While most other direct USD/USDT spot market volumes dropped throughout the month, trading volumes for BTC markets increased and topped \$235bn (+16%) on BTC/USDT markets and \$61.8bn (+36%) across BTC/USD markets.

Investment inflows also surged for single tracker Bitcoin-based digital asset investment products, with inflows in October reaching almost \$800mn (excluding the \$1bn+ for ProShares' newly listed BTC futures ETF). In comparison, the asset experiencing the second highest inflows was Solana (\$36.4mn). Current AUM for BTC-based investment products (spot markets only) now stands at over \$50bn - 4.3% of the total BTC market capitalization.

On-Chain Transactions Trending Upwards - Ripple Sees End of Month Spike

Total on-chain transactions trended upwards in October, from between 9-11% for Ethereum and Bitcoin (totals of 8.45mn and 37.6mn respectively). Ledger transactions on Ripple rose 21.2% to a total of 43.3mn. This coincides with the release of <u>Ripple's Q3 2021 Sales Report</u>, which shows a 200%+ increase in XRP's ODL (On-Demand Liquidity) sales compared to Q2.

ETH Experiences Deflationary Rate and Spark Pool Shuts Down

From the 27th to the 30th of October, Ethereum experienced a deflationary rate as 62k ETH were burnt in that period due to high transaction volumes (up 9.6% to 37.6mn in October) and growing average transaction fees (up 15.4% to \$36.04 in October). Amid the transition to proof-of-stake validation, Ethereum mining pool SparkPool has shut down, with the majority of its block share going to F2Pool.

Latest Crypto News

TOPIC	STORY	DATE
BITCOIN	BiFi brings native BTC lending to Ethereum	Oct 1st
ETHEREUM	Société Générale Applies for \$20mn Loan with Ethereum's MakerDAO	Oct 1st
SOLANA	Grayscale Adds SOL to Digital Large Cap Fund Portfolio	Oct 2 nd
ETHEREUM	Amount of ETH Held by Miners Reaches Highest Level Since 2016	Oct 8 th
RIPPLE	Ripple and Nelnet Announce \$44 Million Clean Energy Fund	Oct 11 th
BITCOIN	Canadian City Plans to Supply Residents' Heat using Bitcoin Mining	Oct 14 th
BITCOIN	First Bitcoin Futures ETF Rises Over 4% in Trading Debut on the NYSE	Oct 19 th
CARDANO	RavenDex Proposes New Cardano DEX and begins RAVE Token Seed Sale	Oct 20 th
SOLANA	Solana Reaches Record TVL on DeFi Protocols while SOL Price Soars	Oct 21st
CARDANO	Cardano Set to Enter the Babbage Era after Alonzo HFC Milestone	Oct 21st
CARDANO	Cross-Chain Bridge Connecting Cardano and Ethereum Set to Open	Oct 22 nd
RIPPLE	Ripple CEO says the SEC Helped Ethereum Overtake XRP as No.2 Crypto	Oct 22 nd
CARDANO	Cross-Chain Bridge Connecting Cardano and Ethereum Set to Open	Oct 22 nd
RIPPLE	Ripple and Pyypl Debut New, First-in-Market Service in Middle East	Oct 26 th
ETHEREUM	Ethereum Hits New ATH After Altair Upgrade Shows Clear Path to the Merge	Oct 29 th
SOLANA	Solana Secondary NFT Sales Reach Half a Billion Dollars in Three Months	Nov 3 rd
ETHEREUM	Early Ethereum Name Service (ENS) Adopters Rewarded With a Hefty Five-Figure Airdrop	Nov 10 th
BITCOIN	Taproot, Bitcoin's Long-Anticipated Upgrade, Has Activated	Nov 13 th

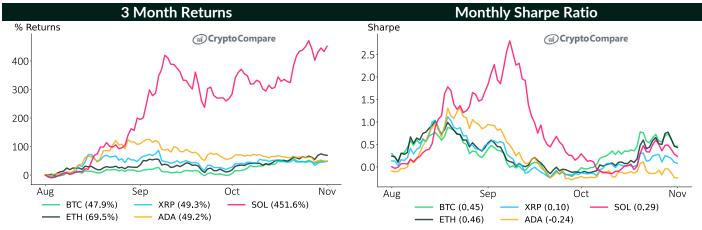
Asset Performance & Market Metrics

Summary

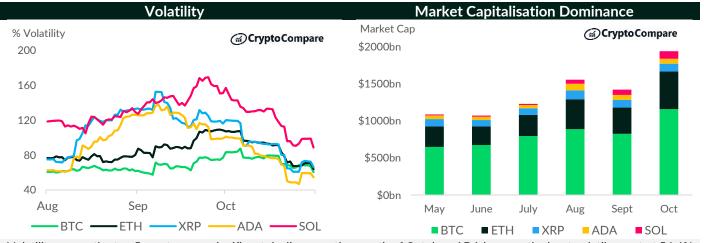
SOL was the best performing asset out of the largest cryptocurrencies in October, returning 43.4% throughout the month. It was closely followed by ETH and BTC with 43.0% and 40.0% returns respectively. ADA was the only major cryptocurrency to see a negative performance in October, returning -7.09%.

The top cryptocurrencies by market capitalization have seen strong returns so far this year, with all cryptos returning over 100%. This is well above competing, traditional assets such as Gold, which has seen negative returns of 6.3% so far this year. Similarly, the stock indices S&P500 and NASDAQ 100 have returned just 22.3% and 19.6% in 2021. However, with higher returns comes significantly higher volatility – in October, the investigated crypto assets had volatilities between 54.4% and 88.7%, compared to just 10.9% – 13.9% for the aforementioned traditional assets.

September	ВТС	ETH	XRP	ADA	SOL	GOLD	S&P500	NASDAQ
EoM Price	\$61,350	\$4,290	\$1.11	\$1.97	\$203	\$1,781	4,605	14,690
Market Cap	\$1.16tn	\$507bn	\$106bn	\$65.0bn	\$102bn	\$11.4tn	\$36.5tn	\$32.8tn
Month Return	40.0%	43.0%	16.8%	-7.09%	43.4%	1.4%	6.7%	-5.6%
3 Month Return	47.9%	69.5%	49.3%	49.2%	451.6%	-2.0%	4.5%	5.0%
YTD Return	111.8%	482.0%	407.1%	982.0%	13322%	-6.3%	22.3%	19.6%
EoM Sharpe	0.45	0.46	0.10	-0.24	0.29	-0.15	0.27	018
Month Volatility	60.5%	63.8%	66.0%	54.4%	88.7%	11.4%	10.9%	13.9%
Max Drawdown	-35.3%	-33.4%	-23.1%	-37.0%	-37.1%	-6.0%	-6.7%	-8.5%

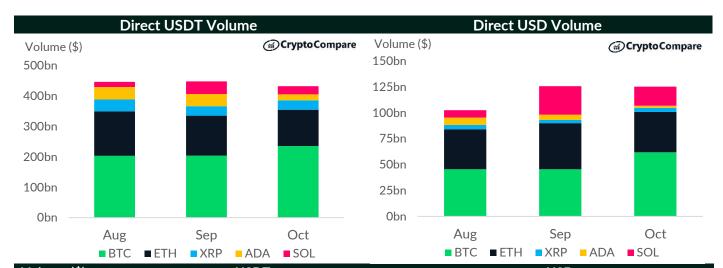


SOL boasted the highest returns out of the top cryptocurrencies, recording a three-month gain of 452% (Sharpe 0.29), followed by ETH with 69.5% returns (Sharpe 0.46) and ADA with 49.2% returns (Sharpe -0.24). XRP and BTC trailed with returns of 49.3% and 47.9% respectively, albeit BTC's 30-day Sharpe (0.45) remained high due to its lower volatility.



Volatility across the top 5 assets saw a significant decline over the month of October. ADA became the least volatile asset at 54.4% volatility, falling below BTC's volatility of 60.5%. SOL was the most volatile asset at 88.7%, which remains notably below its September volatility of 151%. Total market cap for the top 5 cryptos rose 36.3% in October to \$1.9tn, as ETH recorded a 26.2% market share of the top five assets, the highest ever recorded.

Volumes

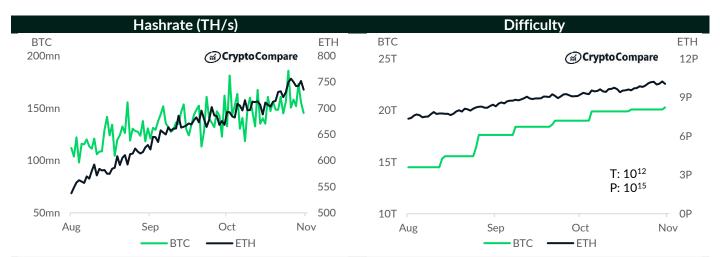


Volume (\$)		USDT			USD	
	Aug	Sep	Oct	Aug	Sep	Oct
BTC	203bn	204bn (+0%)	235bn (16%)	45.5bn	45.6bn (+0.2%)	61.8bn (+36%)
ETH	146bn	132bn (-10%)	119bn (-10%)	38.7bn	44.5bn (+15%)	38.9bn (-12%)
XRP	38.6bn	31.1bn (-19%)	31.0bn (-0%)	4.15bn	3.06bn (-26%)	3.98bn (+30%)
ADA	41.1bn	39.8bn (-3%)	19.9bn (-50%)	7.11bn	5.13bn (-28%)	2.11bn (-59%)
SOL	16.9bn	41.8bn (+148%)	26.8bn (-36%)	7.05bn	27.4bn (+289%)	18.3bn (-33%)
Total Top 5	446bn	448bn (+0%)	432bn (-4%)	102bn	126bn (+23%)	125bn (-0%)

In October, ADA volumes fell 58.9% and 50.2% for USD and USDT markets respectively, falling below XRP volumes. BTC volumes saw the largest increase to \$61.8tn and \$235tn for USD and USDT markets (35.7% and 15.6% increase). Thus, BTC saw its volumes market share rise significantly to 49.4% in USD markets (vs. 36.3% in September) and 54.4% in USDT markets (vs. 45.4% in September).

Asset Metric Decomposition

Proof of Work Metrics:



Bitcoin and Ethereum's hashrate has trended upwards in the last three months, closing October with a hashrate of 146mn TH/s and 735 TH/s respectively, compared to 112mn and 537 three months prior. Difficulty also trended upward in October, closing the month at 20.3T and 10.1P respectively.

		ВТС			ETH			
	Aug	Sep	Oct	Aug	Sep	Oct		
Hashrate (TH/s)	131mn	162mn (+24%)	145mn (-10%)	625	668 (+7%)	735 (+6%)		
Difficulty	17.6T	19.0T (+8%)	20.3T (+7%)	8.30P	9.10P (+10%)	10.0P (+9%)		
Av. Block Time (s)	579	504 (-13%)	571 (+13%)	13.3	13.6 (+2%)	13.5 (-1%)		
Av. Block Size (mb)	1.02	1.11 (+9%)	1.17 (+4%)	86,918	82,912 (-5%)	75,218 (-9%)		

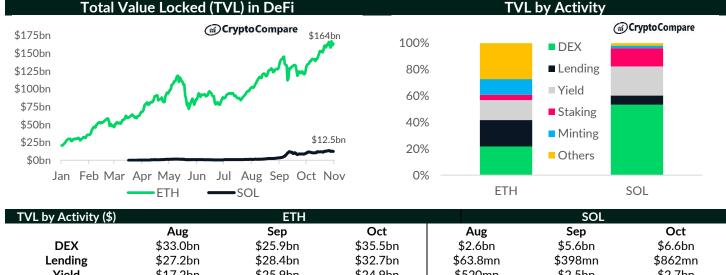
Proof of Stake Metrics:

Staking	ETH			SOL		ADA			
	Aug	Sep	Oct	Aug	Sep	Oct	Aug	Sep	Oct
Staking Rate	5.8%	5.5%	5.3%	6.5%	6.6%	6.8%	6.2%	6.1%	5.8%
% of Supply Staked	6.1%	6.6%	6.7%	75.5%	76.9%	77.9%	69.9%	70.3%	70.9%

ETH, SOL, and ADA are the three largest PoS cryptocurrencies by market capitalization. Staking is a major activity for SOL and ADA holders, with 77.9% and 70.9% of the total supply was being staked at the end of October respectively, compared to just 6.74% for ETH. SOL provided the best annual interest rate for staking in October (6.8%) followed by ADA (5.8%) and ETH (5.3%).

DeFi and On-Chain Activity

DeFi Activity:



DEX	\$33.0bn	\$25.9bn	\$35.5bn	\$2.6bn	\$5.6bn	\$6.6bn
Lending	\$27.2bn	\$28.4bn	\$32.7bn	\$63.8mn	\$398mn	\$862mn
Yield	\$17.2bn	\$25.9bn	\$24.9bn	\$520mn	\$2.5bn	\$2.7bn
Staking	\$4.2bn	\$0.8bn	\$6.5bn	\$75.8mn	\$523mn	\$1.7bn
Minting	\$12.9bn	\$9.2bn	\$19.5bn	\$61.5mn	-	\$244mn
Others	\$30.0bn	\$34.3bn	\$44.5bn	-	\$231mn	\$228mn
		Тор	Protocols by TVL			
FTH	Curve (\$	19 4bn - DFX)	MakerDAO (\$	17 5hn - Minting)	AAVF (\$13.6	hn - Lending)

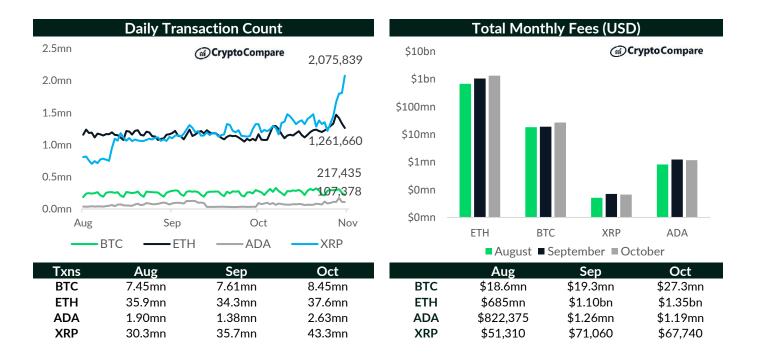
ETH	Curve (\$19.4bn - DEX)	MakerDAO (\$17.5bn – Minting)	AAVE (\$13.6bn - Lending)
SOL	Raydium (\$1.86bn - DEX)	Saber (\$1.61bn - DEX)	Serum (\$1.59bn - DEX)

In October, TVL in DeFi rose to \$164bn and \$12.5bn for ETH and SOL respectively (32.1% and 35.0% increase from September). 53.3% of the value locked in October is in Decentralised Exchanges such as Raydium and Saber. On the other hand, this only accounts for 21.7% of activity in Ethereum, while Lending (20.0%), Yield Farming (15.2%) and Minting (11.9%) also took a significant share of TVL.

On-Chain Activity:

Annualised Inflation Rates	Aug	Sep	Oct
BTC	1.89%	1.75%	1.88%
ETH	4.34%	4.21%	4.30%
XRP	20.75%	20.20%	21.59%
SOL	5.90%	5.51%	5.80%
ADA	2.10%	2.06%	2.05%

Annualised inflation rates remained stable in October. XRP issuance remains significantly above its peers at 21.59%. This is followed by SOL (5.80%), ETH (4.30%), ADA (2.05%) and BTC (1.88%).



XRP transactions rose 21.2% in October to a total of 43.3mn, diverging from ETH transactions which saw a smaller increase of 9.66% to 37.6mn. This is well above BTC and ADA transactions, which totalled 8.45mn and 2.63mn in October (+11.0% and +43.2% change).

Total fees incurred for all transactions in the Bitcoin network grew 41.7% to \$27.3mn, while fees in the Ethereum network also rose 26.5% to \$1.35bn, the largest monthly amount ever recorded. This comes to an average transaction fee of \$36.04, which suggests the issues with Ethereum's gas fees remains a major headwind for the cryptocurrency.

Investable Digital Asset Products and Treasuries

Investment Products and Flows:

Asset	No. of ETPs	Total Monthly Flows	Total AUM*	% of Total Asset Market Cap
BTC	15	+\$798.2mn	\$50.5bn (+44.98%)	4.35%
ETH	11	- \$0.70mn	\$19.9bn (+48.82%)	3.93%
XRP	2	+\$0.40mn	\$84.0mn (+22.29%)	0.08%
ADA	1	+\$15.9mn	\$87.8mn (+8.00%)	0.14%
SOL	2	+\$36.4mn	\$242.7mn (+177%)	0.24%

For more information on Digital Asset products, see CryptoCompare's Monthly Digital Asset Management Review *Current AUM values as of 4 Nov 2021, % figures compare current AUM figures to 22 Sep 2021

Public Asset Treasuries:

Firm	Industry	Market Capitalization	Crypto Exposure	\$ Value of Crypto Position
MicroStrategy	Business Intelligence	\$5.68bn	114,042 BTC	\$7.00bn
Tesla, Inc.	Automotives	\$768bn	42,902 BTC	\$2.63bn
Galaxy Digital	Financial Services	\$5.33bn	15,689 BTC	\$963mn
Voyager Digital	Financial Services	\$1.62bn	12,260 BTC	\$752mn
Coinbase	Financial Services	\$48.0bn	6,330 BTC, 43,761 ETH	\$388mn, \$188mn

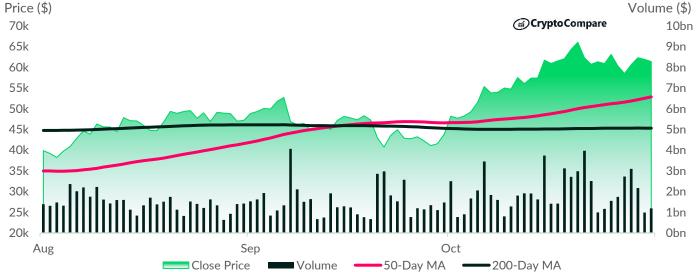
Bitcoin (BTC) <a>B

Summary

Bitcoin's price rose 40.0% in October to \$61,350, reaching a market capitalization of \$1.2tn at the end of the month. This included an intra-month high of \$66,980, an all-time high for the cryptocurrency. Monthly volumes (BTC/USD markets) grew 35.8% to \$61.8bn, while 30-day volatility fell from 77.1% to 60.5%. Bitcoin's Lightning Network, the primary scaling solution for the blockchain, saw significant growth as capacity grew 19.1% from an average of 2,591 BTC in September to 3,058 BTC in October. Total fees paid for transactions rose by 41.7% to \$27.3mn, the highest percentage increase since April 2021.

Market Activity:

-							
Key News/Events				Market Metrics	Aug	Sep	Oct
Oct 19th - First Bitcoin Futu	ıres ETF rise	es more than	4% in	Market Cap	\$887bn	\$825bn	\$1.16tn
trading debut on the NYSE	ns to supply	, rocidonts' k	oot using	EoM Price	\$47,159	\$43,829	\$61,350
Oct 14 th – Canadian city plans to supply residents' heat using Bitcoin Mining				Average Daily Returns	+0.47%	-0.17%	+1.15%
Oct 1st - BiFi brings native I	BTC lending	to Ethereur	n	Monthly Returns	+13.7%	-7.1%	+40.0%
				USD Monthly Volumes	\$45.5bn	\$45.5bn	\$61.8bn
				Total Supply (BTC)	18.8mn	18.8mn	18.9mn
Risk Metrics	Aug	Sep	Oct	Annual Inflation	1.89%	1.75%	1.88%
Avg Daily Volatility	3.27%	4.03%	3.48%	NVT Ratio	4.87	4.30	7.10
Monthly Volatility	61.5%	83.2%	60.2%	EoM Sharpe Ratio	0.52	0.03	0.45
Monthly Max Drawdown	-26.1%	-24.9%	-35.3%				

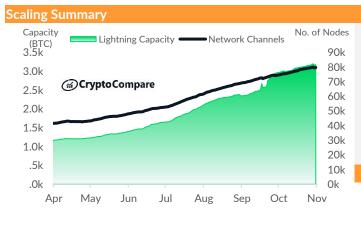


Bitcoin's price closed at \$61,350 in October, ending the month up 40.0%. On the 1st of October, Bitcoin's price broke above the 200-day moving average, which typically acts as a key resistance (or support) level, explaining the move upwards from a technical analysis perspective. The 50-day and 200-day moving average closed the month at \$52,837 and \$45,289 respectively, while total volumes averaged \$1.98bn throughout the month.

Currency Volume	Volume (BTC)	Share	Exchange Volume (USDT)	ADV (\$bn)	Share	Exchange Volume (USD)	ADV (\$mn)	Share
USDT	4.1mn (-8.56%)	62.7%	Binance	2.91 (+24.3%)	27.8%	Coinbase	824 (+36.0%)	33.0%
USD	1.1mn (+5.90%)	16.4%	BeQuant	1.41 (-12.6%)	13.5%	FTX	654 (+22.4%)	26.2%
JPY	280k (+2.42)	4.3%	HitBTC	1.41 (-13.2%)	13.5%	Bitfinex	343 (+27.8%)	13.7%
EUR	249k (-8.68%)	4.0%	ZBG	0.92 (+1.85%)	8.82%	LMAX Digital	305 (+8.4%)	8.40%
Other	918k (-7.18%)	12.9%	Other	3.79 (-20.5%)	36.3%	Other	1095 (+7.0%)	43.9%

^{*}For further information on exchange volumes, see CryptoCompare's Monthly Exchange Review

Lightning Network and Scaling Solutions:



*Certain values within the above chart have been interpolated

Activity within the Bitcoin Lightning Network has consistently grown so far in 2021. In October, the average daily capacity of the network grew 19.1% to 3,085 BTC, an all-time high for the second-layer solution.

Similarly, the number of transaction channels in the network grew 7.6% to 77,569 channels, where users can transact with each other from.

In October, the number of nodes interacting with the Bitcoin blockchain and the Lightning Network grew 7.7% to 16,908.

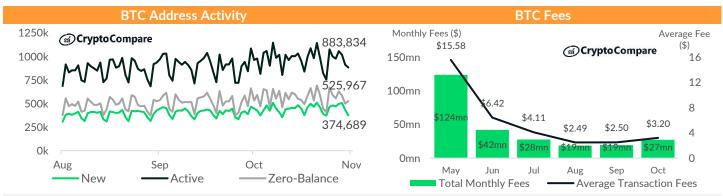
Lightning Network	Aug	Sep	Oct
No. of Open Channels	65.8k	72.1k	77.6k
No. of Nodes	14.4k	15.7k	16.9k
Capacity (BTC)	2,277	2,591	3,085

Network Metrics:

Network Metrics	Aug	Sep	Oct		E	ВТС Мо	nthly Ti	ransactio	ons	
Monthly Transactions	7.5mn	7.6mn	8.5mn	10mn						oCompare
Blocksize (MB)	1.02mn	1.11mn	1.17mn	2011111					ш) стурс	o compare
Blocktime (s)	554	579	571	8mn						
Hashrate (TH/s)	121mn	138mn	151mn	6mn						
Difficulty	15.6tn	18.4tn	19.9tn							
New Addresses	384,466	407,121	444,651	4mn	7.79mn	6.51mn	6.82mn	7.45mn	7.61mn	8.45mn
Active Addresses	856,220	904,746	974,879	2mn						
Zero Balance Addresses	485,699	522,704	567,516							
Total Monthly Fees	\$18.6mn	\$19.3mn	\$27.3mn	0mn	May	lun	Jul	Διια	Con	Oct
Average Fee	\$2.49	\$2.50	\$3.20		May	Jun	Jui	Aug	Sep	OCL

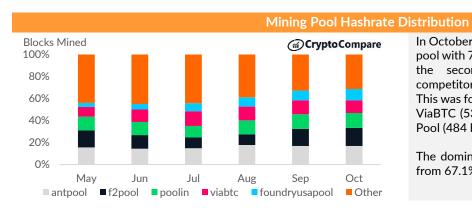


Bitcoin's average hashrate in October grew 9.6% to 150.7mn EH/s, the highest end-of-month level since the lows reached at the end of June following China's crackdown on mining. Average BTC block size increased 5.8% to 1.2mn megabytes, while average block time decreased 1.3% to 571 seconds.



Average daily active addresses in the Bitcoin network grew 7.8 % to 974,879 in October, the highest level since May 2021. Similarly, new addresses in the network increased 9.2% to 444,651. The total amount of fees paid in October grew 41.7% to \$27.3mn, however this remains well below the all-time high fees paid in April (\$246mn).

Mining Pools:



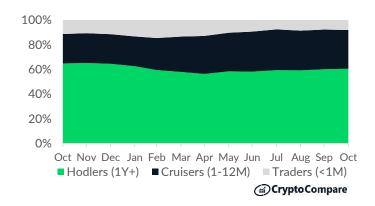
In October, Antpool remained the largest Bitcoin mining pool with 793 blocks mined (16.9% of total). F2Pool was the second largest miner after overtaking its competitors in September, mining 771 blocks (16.5%). This was followed by Poolin (631 blocks, 13.5% of total), ViaBTC (537 blocks, 11.5% of total) and Foundry USA Pool (484 blocks, 10.3% of total).

The dominance of the top five mining pools increased from 67.1% in September to 68.7% in October.

Ownership Distribution:

Address Type	Aug	Sep	Oct
Hodlers	22.5mn	22.8mn	23.1mn
nouleis	22.31111	(+1.3%)	(+1.0%)
Cruisers	12.2mn	12.2mn	11.9mn
Cruisers	12.211111	(+0.1%)	(-2.4%)
Traders	3.27mn	2.94mn	3.11mn
rrauers	3.2/11111	(-10.2%)	(+5.8%)

The number of investors holding Bitcoin for over a year grew 1.0% in October to 23.1mn (60.5% of total holders), an all-time high for the network. However, the number of traders also grew 5.8% to 3.1mn, or 8.2% of all investors.



Developer News Statistics:

	News Summary						
LQwD FinTech Corp. announced on the 1st of November that it had							
acquired \$4.5mn of	Bitcoin, meaning the company holds						
approximately 133 Bitcoins. The purchase is not purely for monetary							
gain, but also serves as an operational asset given the company's involvement with the development of the Lightning Network.							

Developer Statistics	Sep	Oct	
Github Stargazers	57,300	58,200	
Total Commits	30,883	31,228	
Total Contributors	825	828	
Total Forks	30,000	30,318	

Investment Products, and Corporate and Government Holdings:

ETP Provider	BTC Held	AUM*	Product	Public Treasuries	Holdings	\$ Value
Grayscale (GTBC)	646,860	\$40.5bn	Trust	MicroStrategy Inc.	114,042	\$7.0bn
XBTProvider Bitcoin Tracker EUR	-	\$1.68bn	ETC	Tesla	42,902	\$2.6bn
ETC Group (BTCE)	25,280	\$1.58bn	ETN	Galaxy Digital Holdings	15,689	\$963mn
Purpose (BTCC)	24,107	\$1.51bn	ETF	Voyager Digital	12,260	\$752mn
3iQ CoinShares BTCQ	20,998	\$1.32bn	ETF	Square Inc.	8,027	\$492mn

*Current ETP AUM values as of 4 Nov 2021

 $For more information \ on \ Digital \ Asset \ Products, see \ Crypto Compare's \ Monthly \ Digital \ Asset \ Management \ Review$



Summary

ETH's price rose 43.0% in October to \$4,290, reaching a market capitalization of \$507tn at the end of the month. This included an intra-month high of \$4,460, an all-time high for the cryptocurrency. Monthly volumes (ETH/USD markets) fell 12.5% to \$38.9bn, while 30-day volatility also fell from 102% to 63.8%. Total Value Locked in DeFi rose 32.1% to \$164bn, also an all-time high. Fees continue to be a significant headwind for the cryptocurrency, as total fees paid in October grew 26.5% to \$1.4bn, which caused significant burning of ETH, and thus a deflationary issuance rate between the 27^{th} and 30^{th} of October.

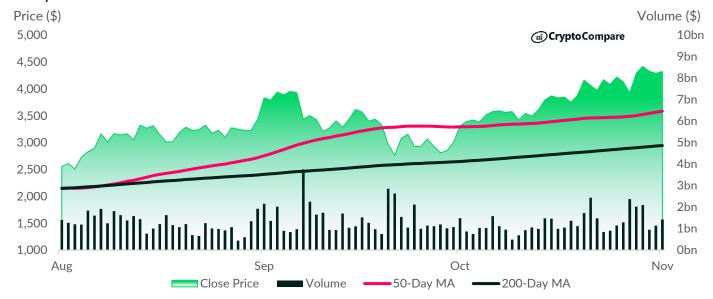
Market Activity:

icy news/ Events
Oct 21st – Automated Market Maker Mono X launches on
Ethereum and Polygon
Oct 8th - Amount of ETH held by miners reaches highest level
since 2016
Oct 1st - Société Générale applies for \$20mn loan with
Ethereum layer 2 protocol MakerDAO

Key News/Event

Market Metrics	Aug	Sep	Oct
Market Cap	\$403bn	\$353bn	\$507bn
EoM Price	\$3,435	\$3,001	\$4,290
Average Daily Returns	+1.1%	-0.3%	+1.2%
Monthly Returns	+35.7%	-12.6%	+43.0%
USD Monthly Volumes	\$38.7bn	\$44.5bn	\$38.9bn
Total Supply (ETH)	116.9mn	117.7mn	118.2mn
Annual Inflation	4.34%	4.21%	4.30%
NVT Ratio	25.32	23.91	50.49
EoM Sharpe Ratio	0.43	-0.12	0.46

Risk Metrics	Aug	Sep	Oct
Avg Daily Volatility	4.1%	5.7%	3.7%
Monthly Volatility	80.2%	102%	63.8%
Monthly Max Drawdown	-29.7%	-33.5%	-33.4%

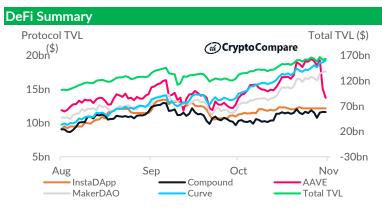


ETH's price closed at \$4,290 in October, ending the month up 43.0%. This included an intra-month all-time high price of \$4,460 on the 29th of October. On the 1^{st} of October, ETH's price rose above the 50-day moving average, which closed the month at \$3,567. The 200-day moving average, which acts as a resistance level, closed the month at \$2,936. Average daily volumes fell 14.4% month-on-month to \$1.25bn.

Currency Volume	Volume (ETH)	Share	Exchange Volume (USDT)	ADV (\$mn)	Share	Exchange Volume (USD)	ADV (\$mn)	Share
USDT	31.3mn (-21.4%)	56.4%	Binance	1767 (-7.1%)	41.9%	Coinbase	663 (-6.9%)	32.9%
USD	10.1mn (-25.2%)	18.2%	Huobi Global	632 (-23.9%)	15.0%	FTX	489 (-7.0%)	24.2%
EUR	2.19mn (-29. 1%)	3.9%	BeQuant	617 (-26.0-%)	14.6%	LMAX Digital	174 (-10.0%)	8.62%
KRW	2.01mn (-5.81%)	3.6%	HitBTC	617 (-26.4%)	14.6%	Kraken	109 (-21.1%)	5.40%
Other	49.5mn (-9.34%)	8.91%	Other	582 (-77.3%)	13.8%	Other	582 (-20.7%)	28.9%

^{*}For further information on exchange volumes, see CryptoCompare's Monthly Exchange Review

DeFi Protocols:

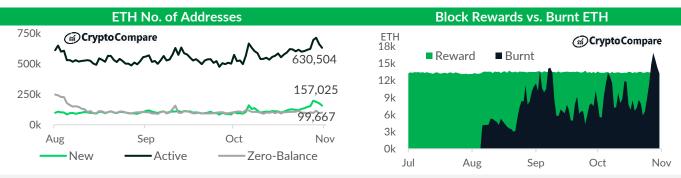


Total Value Locked (TVL) in the Ethereum Network grew 32.1% in October to \$164bn. Curve, an exchange liquidity pool designed for stablecoin trading, was the protocol with the largest TVL, rising 41.0% to \$19.3bn. This was followed by MakerDAO, the protocol of stablecoin DAI, with \$17.6bn (48.8% growth since September) and the lending protocol AAVE, with \$17.6bn TVL (8.0% growth since September).

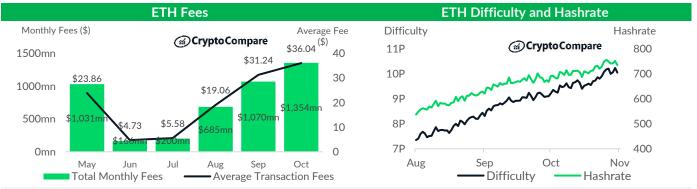
Statistics	Aug	Sep	Oct
Staking Rate	5.81%	5.48%	5.25%
% of Supply Staked	6.10%	6.58%	6.74%
Total Value Locked	\$129bn	\$124bn	\$164bn

Network Metrics:

Network Metric	Aug	Sep	Oct	ETH Monthly Transactions						
Total Transactions	35.9mn	34.3mn	37.6mn	50mn				6	⊘Crynto	Compare
New Addresses	98,777	101,703	125,326	3011111				Ċ.	c. ypto	compare
Active Addresses	535,184	538,200	592,357	40mn						
Zero-Balance	130,601	101,455	103,288	30mn						
Daily Block Rewards	13,496	13,481	13,397	30mn						
Daily Burned Fees	5,776	8,421	9,766	20mn	43.2mn	35.1mn	35.9mn	35.9mn	34.3mn	37.6mn
Total Monthly Fees	\$685mn	\$1.07bn	\$1.35bn	10		33.11111			34.311111	
Average Fee	\$19.2	\$31.1	\$35.4	10mn						
Hashrate (TH/s)	588	667	716	0mn						
Difficulty (T)	7,868tn	8,922tn	9,690tn		May	Jun	Jul	Aug	Sep	Oct

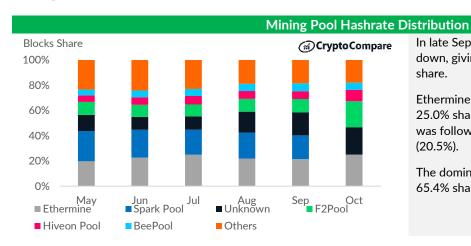


Average daily active addresses on the Ethereum network grew 10.1% in October to 592k, while new addresses also grew 23.2% to 125k. From the 27th to the 30th of October, Ethereum was deflationary as 62k ETH were burnt in that period due to high transaction and fee volumes. A total of 303k ETH were burnt throughout the month, compared to 415k ETH of miner rewards.



Fees spent on the Ethereum network continued to rise in October and reached another monthly all-time high of \$1.4bn, a 26.5% growth from September. Average fee per transaction rose to an all-time high of \$36.04. Ethereum's hashrate and mining difficulty trended upwards in October, closing the month at 735 TH/s and 10.1P respectively (10.1% and 10.4% increase from September).

Mining Pools:



In late September, the ETH mining pool 'Sparkpool' shut down, giving the rest of the top miners higher market share.

Ethermine remained the largest ETH mining pool with 25.0% share, an increase from 21.5% in September. This was followed by unknown miners (21.8%) and F2Pool (20.5%).

The dominance of the top five known pools reached 65.4% share, compared to 62.1% in September.

Owner Distribution:

Address Type	Aug	Sep	Oct
Hodlers	36.7mn	37.6mn	38.6mn
Houlers	00.711111	(+2.50%)	(+2.66%)
Cruisers	18.2mn	19.0mn	20.0mn
Ciuiscis	10.21111	(+4.11%)	(+5.04%)
Traders	3.43mn	3.85mn	4.78mn
Hauers	3.431111	(+12.2%)	(+24.3%)

The number of addresses holding ETH grew 4.8% to an all-time high of 63.3mn in October. This includes a significant increase in traders (addresses holding the asset for less than 1 month) of 24.3% to 4.78mn. The number of long-term holders increased 2.66% to 38.6mn, an all-time high for the cryptocurrency.



Developer Updates and Statistics:

News Summary
Aurora, a crypto development platform, announced in October that
it raised \$12mn of funding to contribute in scaling the Ethereum
ecosystem. On the other hand, the launch of 'Rocket Pool', a
decentralised Ethereum staking protocol, has been delayed at the last
minute after a bug was found in the system.

Developer Statistics	Aug	Sep	Oct	
Github Stargazers	32.1k	32.5k	33.0k	
Total Commits	12,849	12,891	12,958	
Total Contributors	647	653	663	
Total Forks	11,800	12,000	12,212	

Investment Products and Corporate Holdings:

ETP Provider	ETH Held	AUM*	Product	Public Treasuries	Holdings	\$ Value
Grayscale ETHE	3.13mn	\$14.3bn	Trust	Coinbase	43,761 ETH	\$188mn
XBT Provider Ether Tracker (EUR)	-	\$1.67bn	ETC	Meitu	31,000 ETH	\$133mn
XBT Provider Ether Tracker (SEK)	-	\$969mn	ETC	Mogo Inc.	146 ETH	\$628,648
3iQ QETH	188,902	\$872mn	Trust			
21 Shares AETH	113,048	\$506mn	ETN			

*Current ETP AUM values as of 4 Nov 2021

For more information on Digital Asset Products, see CryptoCompare's Monthly Digital Asset Management Review



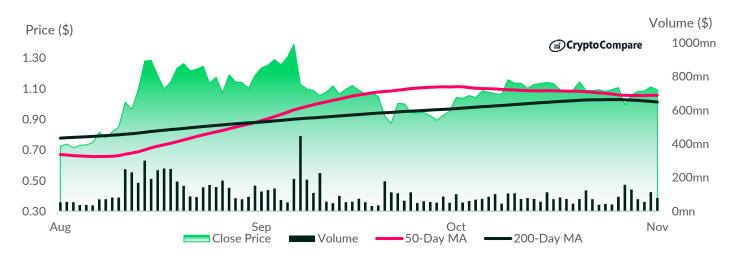
Summary

XRP's price rose 16.8% in October to \$1.11, reaching a market capitalization of \$106bn at the end of the month. This included an intra-month high of \$1.16, which is 64.7% below the cryptocurrencies all-time-high of \$3.29, reached on January 1^{st} 2018. Monthly USD volumes grew 30.2% to \$3.98bn, while 30-day volatility fell from 117% to 66%. Ledger metrics continued an upwards trend with 43.4mn transactions on the network (up 21.3%), 212k account creations (up 90.4%), and average transaction fees falling to 0.156c (down 20.8%), from September.

Market Activity:

Market Metrics	Aug	Sep	Oct	
Market Cap	\$120bn	\$103bn	\$106bn	
EoM Price	\$1.19	\$0.95	\$1.11	
Daily Returns	+1.75%	-0.56%	+0.57%	
Monthly Returns	+59.2%	-19.7%	+16.8%	
USD Monthly Volumes	\$4.15bn	\$3.06bn	\$3.98bn	
Total Supply (XRP)	39.8bn	40.2bn	40.4bn	
Annual Inflation	20.8%	20.2%	21.6%	
EoM Sharpe Ratio	0.48	-0.17	0.10	

Risk Metrics	Aug	Sep	Oct
Avg Daily Volatility	6.89%	6.08%	3.75%
Monthly Volatility	133%	117%	66.0%
Monthly Max Drawdown	-48.3%	-39.3%	-23.1%



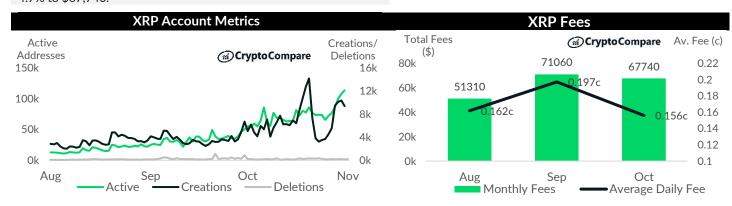
XRP's price closed at \$1.11 in October, ending the month up 16.8%. This is marginally higher than the 50-day and 200-day moving averages, which closed the month at \$1.06 and \$1.02 respectively. The moving averages trend were temporarily broken on the 27^{th} of October, and thus XRP has an important month ahead from a technical analysis perspective, given that the moving average trends will act as resistance levels. Average daily volumes rose 3.52% in October to \$79.5mn.

Currency Volume	Volume (XRP)	Share	Exchange Volume (USDT)	ADV (\$mn)	Share	Exchange Volume (USD)	ADV (\$mn)	Share
USDT	29.0bn (-20.0%)	67.2%	Binance	477 (-9.0%)	42.7%	FTX	1.50 (+15.3%)	30.7%
KRW	6.34bn (-18.0%)	14.7%	HitBTC	218 (+8.6%)	19.5%	Bitstamp	0.84 (-36.8%)	17.1%
USD	2.84bn (-26.4%)	6.6%	Huobi Global	117 (-17.7%)	10.5%	LMAX Digital	0.79 (-9.60%)	16.1%
EUR	1.09bn (-32.2%)	2.5%	Gate.io	57.6 (+190.1%)	5.2%	Bitfinex	0.79 (-27.1%)	16.1%
KRW	3.85bn (-31.7%)	8.9%	Other	249 (-44.3%)	22.2%	Other	0.98 (-13.5%)	20.0%

 $^{^*}$ For further information on exchange volumes, see CryptoCompare's Monthly Exchange Review

Network Metrics:

Network Metric	Aug	Sep	Oct	XRP Transaction Count				
Total Transactions	30.3mn	35.7mn	43.3mn	50mn		(a)	CryptoCompare	
Txn per Ledger	1,333	1,593	1,972	301111			c. , p. 10 co pui. c	
Account Creations	98.9k	111.1k	211.6k	40mn				
Total Fees (\$)	51,310	71,060	67,740	00				
Av. Transaction Fee	0.162c	0.197c	0.156c	30mn				
Escrowed Payments	329	357	357	20mn		05.704.054	43,284,463	
Account Deletions	3,952	9,173	6,431		30,324,815	35,724,856		
Total transactions on the	Ripple networ	k grew 21.3% in	October to	10mn				
43.3mn, account creati	on rose 90.49	6 to 211.6k a	nd account	Omn -				
deletions fell 29.9% to 6	,431 in what w	as a strong mor	nth for XRP.	Ollill	۸۰۰۰	Sep	Oct	
Engagement on the network grew as average transactions per					Aug	Зер	OCI	
ledger rose 28.8% to 1,9								
per transaction down 20.	.8% to 0.156c a	nd total monthl	y fees down					
4.7% to \$67,740.								



Ownership Distribution

	Distribu	ution/Holding Met	trics	Wallet Holdings	Sep	Oct		
\$ 60Bn	■ 1bn+ XRP ■ 100k-1mn XRP	■ 100mn-1bn XRP ■ 10k-100k XRP	■ 1mn-100mn XRP ■ 0 - 10k XRP	0 - 1k XRP 10k - 100k XRP 100k - 1mn XRP	\$1.32bn \$3.69bn \$4.34bn	\$1.40bn \$3.31bn \$4.56bn		
40Bn				1mn - 100mn XRP 100mn - 1bn XRP 1bn XRP +	\$9.14bn \$30.0bn \$10.8bn	\$9.41bn \$22.2bn \$11.1bn		
20Bn 0Bn				XRP holdings are heavily with over 100mn XRP. \$ 100mn - 1bn XRP (42.4	522.2bn is held on a % of total), while \$	addresses with 11.4bn is held on		
OBII	Sep	⊘CryptoCompare	Oct	addresses with over 1bn XRP (21.9% of total). On the hand, addresses with under 10k XRP holdings account just \$1.4bn (2.67% of total).				

Developer Updates and Statistics:

News Summary	Developer Statistics	Sep	Oct
In October, Ripple announced a partnership with the Digital Pound	Github Stargazers	3,900	3,964
Foundation to develop a digital pound CBDC in the United Kingdom.	Total Commits	12,514	12,530
Ripple also announced a major engineering update for XRP that will contribute to enabling decentralised finance and smart contract	Total Contributors	93	93
functionality in the XRP ecosystem.	Total Forks	1,277	1,277

Investment Products and Corporate Holdings:

ETP Provider	XRP Held	AUM*	Product Type	Corporate Holdings
21Shares	68.5mn	\$81.4mn	ETN	As of <i>October 2021</i> , there are no public firms
CoinShares XRPL	2.37mn	\$2.6mn	ETF	on record with XRP holdings.
*Current ETP AUM values as of 4 Nov 2021 For more information on Digital Asset Products, see CryptoCompare's Digital Asset Management Review				



Summary

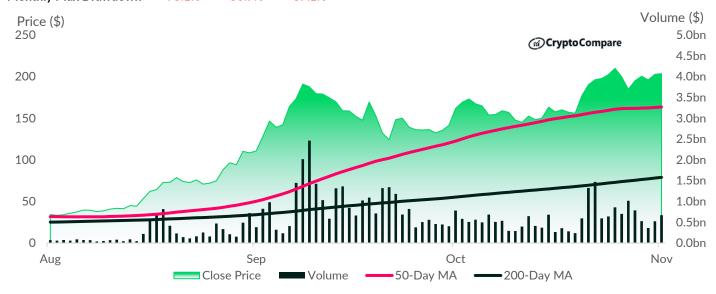
Solana's price increased 43.4% in October to \$203, reaching a market capitalization of \$102.1bn at the end of the month, which included an all-time high of \$210 on the 25th of October. DeFi activity on the Solana blockchain continued to grow, albeit at a slower pace – 35.0% growth from September to \$12.5bn, compared to a 177% increase the month prior. October also saw the end of a Solana Ventures-backed hackathon, which had almost 6,000 participants that submitted 568 final projects.

Market Activity:

Key News/Events
Oct 21 st – Solana-based DeFi protocol Synchrony raises \$4.2m for composable indices
Oct 21st – Solana reaches record high in TVL on DeFi
protocols while SOL price soars
Oct 2 nd – Grayscale adds SOL to Digital Large Cap Fund portfolio

Return & Risk	Aug	Sep	Oct	
Market Cap	\$54.9bn	\$71.7bn	\$102bn	
EoM Price	\$108	\$141	\$203	
Avg. Daily Returns	+3.80%	+1.20%	+1.30%	
Monthly Returns	+195%	+30.4%	+43.4%	
USD Monthly Volumes	\$7.05bn	\$27.4bn	\$18.3bn	
Total Supply (SOL)	-	503mn	508mn	
Annual Inflation	-	5.51%	5.80%	
EoM Sharpe Ratio	0.85	1.29	0.16	

Risk Metrics	Aug	Sep	Oct
Avg Daily Volatility	6.95%	7.90%	5.10%
Monthly Volatility	129%	153%	88.7%
Monthly Max Drawdown	-75.1%	-50.9%	-37.1%

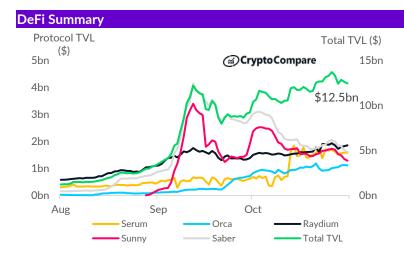


SOL rose 43.4% in October to \$203, with an all-time high closing price of \$209.85 being reached on the 25th of October. This follows a stellar few months for the cryptocurrency, which has returned 493% in just three months. Because of this, SOL's price is well above its 50-day and 200-day moving average, which closed the month at \$162.8 and \$78.0 respectively. However, average daily volumes fell 31.1% to \$588mn.

Currency Volume	Volume (SOL)	Share	Exchange Volume (USDT)	ADV (\$mn)	Share	Exchange Volume (USD)	ADV (\$mn)	Share
USDT	8.68mn (+14.9%)	31.4%	Binance	645 (-37.7%)	59.6%	Coinbase	274 (-25.7%)	43.8%
USD	5.11mn (+70.1%)	20.2%	OKEx	187 (-56.6%)	17.2%	FTX	207 (-29.5%)	33.0%
EUR	1.86mn (+146%)	6.30%	Huobi Global	82.1 (-47.9%)	7.6%	Binance US	52.5 (-48.7%)	8.4%
GBP	11.4mn (+64.8%)	42.0%	FTX	43.7 (-30.5%)	4.0%	FTX US	34.1 (-38.4%)	5.5%
			Other	125 (-11.9%)	11.5%	Other	58.5 (-49.5%)	9.3%

 $^{{}^*} For \ further \ information \ on \ exchange \ volumes, see \ Crypto Compare's \ Monthly \ Exchange \ Review$

DeFi Protocols:



Total Value Locked (TVL) in the Solana blockchain grew 35.0% in October to a total of \$12.5bn, however TVL peaked on the 26th of October at \$13.7bn.

Raydium became the protocol with the highest TVL in the Solana network, reaching \$1.9bn at the end of the month, a 34.5% growth from September. Raydium is an automated market maker (AMM) used for efficient trading of stablecoins and assets. Saber (AMM) and Serum (DEX) follow with \$1.6bn in TVL each.

Statistics	Aug	Sep	Oct
Staking Rate	6.56%	6.64%	6.82%
% of Supply Staked	75.5%	76.9%	77.9%
Total Value Locked	\$3.33bn	\$9.22bn	\$12.5bn

Ownership Distribution:

	Distrib	ution/Holding Metrics	Wallet Holdings	Sep	Oct
\$ 120Bn	■1mn + SOL ■1K - 10K SOL	■ 100K - 1mn SOL ■ 10K - 100K ■ 0 - 1K SOL	SOL 0 - 1k SOL	\$6.45bn	\$9.23bn
100Bn			1k - 10k SOL	\$1.91bn	\$2.75bn
80Bn					
60Bn			10k - 100k SOL	\$5.77bn	\$25.7bn
40Bn					
20Bn			100k - 1MN SOL	\$35.8bn	\$33.2bn
OBn	Sep	©CryptoCompare Oct	1MN - 10MN SOL	\$21.7bn	\$31.3bn

SOL holdings are heavily concentrated on addresses with over 100k SOL. Within the 100k – 1mn range, there are 779 addresses holding \$33.2bn (32.5% of total). Similarly, there are just 65 addresses with over 1mn SOL holdings, with a total value of \$31.3bn (30.6%). On the other hand, there are 6.1mn addresses holding 0 – 1k SOL with a total value of \$9.2bn (9.0%).

Developer Updated and Statistics:

News Summary	Developer Statistics	Aug	Sep	Oct
In October, the Solana Foundation launched the 'Server Program'	Github Stargazers	4,000	4,300	4,800
which gives Solana node operators access to high-quality bare metal servers by partnering with data centre providers around the world.	Total Commits	15,734	15,988	16,422
October also saw the end of a Solana Ventures-backed 'Ignition'	Total Contributors	195	204	218
hackathon, which had almost 6,000 participants submit 568 final projects.	Total Forks	761	812	899

Investment Products and Corporate Holdings:

ETP Provider	SOL Held	AUM*	Product Type	Corporate Holdings
21Shares ASOL	775,669	153mn	ETN	As of <i>October 2021</i> , there are no public firms
VanEck VSOL	233,730	46.3mn	ETN	on record with SOL holdings.
*Current ETP AUM values as of 4 Nov 2021 For more information on Digital Asset Products, see Cr				

Cardano (ADA) **

Summary

Cardano's price dropped 7.1% in the month of October to \$1.97, reaching a market capitalization of \$65.4bn at the end of the month. Total monthly volumes (ADA/USD markets) fell 58.9% to \$2.11bn, while volatility also fell significantly from 99.5% to 54.4%. As a result, Cardano became the least volatile asset out of the top five in October. There were mixed movements in activity within the Cardano blockchain, as monthly transactions rose 43.2% to 2.63mn, while average daily active addresses fell 52.9% to 56k.

Market Activity:

Key News/Events	Market Metrics	Aug	Sep
Oct 22 nd - Cross-chain bridge connecting Cardano and	Market Cap	\$89.1bn	\$67.8bn
Ethereum set to open Oct 21st - Cardano set to enter the Babbage Era after Alonzo	EoM Price	\$2.77	\$2.12
HFC milestone	Average Daily Returns	+2.64%	-0.77%
Oct 20th - RavenDex unveils proposed DEX for the Cardano	Monthly Returns	110%	-23.6%
Ecosystem, kicks off RAVE token seed sale	USD Monthly Volumes	\$7.11bn	\$5.13bn
	Total Supply (ADA)	32.1bn	32.0bn

Risk Metrics	Aug	Sep	Oct
Avg Daily Volatility	6.50%	5.18%	3.06%
Monthly Volatility	126%	99.5%	54.4%
Monthly May Drawdown	-57 5%	-38.2%	-37.0%

Average Daily Returns	+2.64%	-0.77%	-0.19%
Monthly Returns	110%	-23.6%	-7.1%
USD Monthly Volumes	\$7.11bn	\$5.13bn	\$2.11bn
Total Supply (ADA)	32.1bn	32.0bn	33.3bn
Annual Inflation	2.10%	2.06%	2.05%
NVT Ratio	5.00	19.9	43.8
EoM Sharpe Ratio	0.88	-0.24	-0.24

Oct

\$65.4bn

\$1.97



ADA's price fell 7.1% in October to \$1.97, recording two-straight months of losses. ADA remained below its 50-day moving average, which is typically a sign of overselling. It remains marginally above its 200-day moving average (closed the month at \$1.88), which is acting as a key resistance level. Average daily volumes also fell significantly to \$68.2mn (down 60.3% from September), and remain significantly below the \$226mn average daily volumes seen in August.

Currency Volume	Volume (ADA)	Share	Exchange Volume (USDT)	ADV (\$mn)	Share	Exchange Volume (USD)	ADV (\$mn)	Share
USDT	16.4bn (-11.7%)	74.5%	Binance	327 (-55.2%)	35.4%	Coinbase	170 (-43.7%)	70.4%
USD	2.10bn (-30.2%)	9.53%	BeQuant	159 (-50.1%)	17.2%	Binance USA	30.4 (-63.2%)	12.6%
KRW	1.44bn (-23.0%)	6.54%	HitBTC	159 (-50.6%)	17.2%	Kraken	22.4 (-57.5%)	9.3%
EUR	1.19bn (-37.8%)	5.40%	Huobi Global	61.7 (-51.4%)	6.7%	Bitfinex	5.39 (-67.9%)	2.2%
Other	886mn (-66.3%)	4.03%	Other	219 (-65.0%)	23.6%	Other	13.3 (-39.2%)	5.5%

^{*}For further information on exchange volumes, see CryptoCompare's Monthly Exchange Review

On-Chain Metrics:

Network Metric	Aug	Sep	Oct			ADA T	ransacti	on Cou	nt	
Monthly Transactions	1.90mn	1.83mn	2.63mn	3.0mn					∰Crypto	Compare
New Addresses	55,169	69,958	35,006	2.5mn						
Active Addresses	105.152	118.052	55,547	2.0mn						
Active Addresses	105,152	116,052	55,547	1.5mn						
Zero Balance Addresses	54,759	50,506	12,102	1.0mn	1.87mn			1.90mn	1.83mn	2.63mn
Staking Rate	6.20%	6.12%	6.12%	0.5mn		1.18mn	1.10mn			
% of Supply Staked	69.9%	70.3%	70.9%	0.0mn	May	Jun	Jul	Aug	Sep	Oct



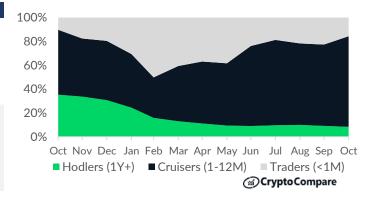
*Certain values within the above chart have been interpolated

Monthly transactions in the Cardano blockchain grew 43.2% to 2.63mn in October, the highest monthly transaction count in 2021. Number of addresses also trended downwards, as average daily active addresses fell 52.9% to a daily average of 55,547, while average daily new addresses also fell 50.0% to 35,006.

Owner Distribution:

Address Type	Aug	Sep	Oct	
Hodlers	232k	245k	255k	
noulers	232K	(+5.43%)	(+4.01%)	
Cruisers	1.60mn	1.84mn	2.32mn	
Cruisers	1.0011111	(+15.0%)	(+25.9%)	
Traders	509k	613k	481k	
iraders	JUYK	(+20.4%)	(-21.6%)	

The number of addresses holding ADA grew 15.2% to an all-time high of 3.1mn in October. This includes a significant increase in Cruisers (addresses holding the asset between 1 month and 1 year), from 1.8mn in September to 2.3mn in October. Similarly, long-term holders increased 4.0% to 255k, while traders decreased 21.6% to 481k.



Developer Updates and Statistics:

News Summary
In October, the Cadalabs project, a NFT marketplace on the Cardano
network, raised \$1mn in a private token sale and announced a pre-
sale to take place throughout the month. Cardano also developed a
cross-chain bridge with NFT solutions provider Bondly, connecting
the Cardano and Ethereum networks.

Developer Statistics	Sep	Oct	
Github Stargazers	2,100	3,656	
Total Commits	5,030	5,159	
Total Contributors	91	115	
Total Forks	401	613	

Investment Products and Corporate Holdings:

ETP Provider	ADA Held AUM*		Product Type	Corporate Holdings		
21Shares	45.0mn	\$87.8mn	ETN	As of <i>October 2021</i> , there are no public firms		
*Current ETP AUM values as of 4 Nov 2021	on record with ADA holdings.					
For more information on Digital Asset Products, see Cry	· ·					

Glossary

METRIC	Definition / Mathedalogy	Donaut Castian	Factsheets
Block Rewards	Definition/Methodology The total amount of ETH rewarded to miners.	Report Section	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.	-	ЕТН
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	втс, етн
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	Measures the total number of Bitcoin that can be transacted via the lightning network at any one point in time.	-	ВТС
Capacity Monthly Volumes	Monthly volumes represents the USD CCCAGG market volumes, as per CryptoCompare's aggregate index methodology.	-	ALL
Market Cap	This accounts for all coins in circulation, including those held by team members or the company. This also includes coins in smart contracts or escrow.	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.	-	ВТС
No. of Open Channels	The number of open passages between Bitcoin nodes that allows for transactions to take place within that channel.	-	ВТС
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.	Asset Performance & Market Metrics	ALL

 $Additional\ Data\ Sources\ include:\ Ethers can. io,\ DeFi\ Llama,\ Messari. io,\ staking rewards. com,\ xrps can. com,\ bit coinvisuals. com,\ Into\ The\ Block,\ Solana\ Beach$