

STATE OF THE MARKET

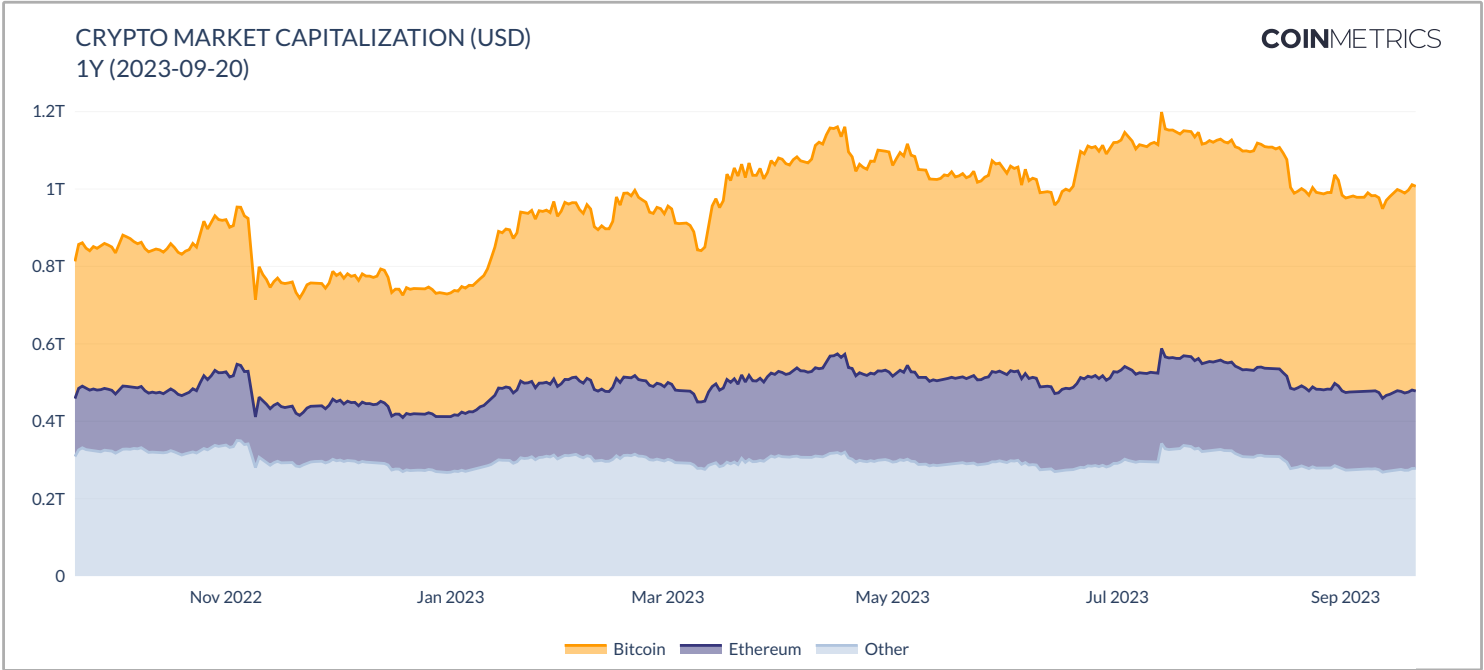
SEPT. 14 - 20, 2023

Coin Metrics' State of the Market provides an overview of cryptoasset market activity



MARKET SUMMARY

Nearly a decade after the first wave of "Blockchain, Not Bitcoin" hype, private blockchains are making material progress in the financial sector. On Monday, banking giant Citigroup introduced Citi Token Services, a deposit & trade platform powered by a permissioned blockchain. Citi states the tokenization of customer deposits will allow the bank to transmit global transfers "in seconds." The bank piloted the technology with logistics leader Maersk, testing smart contract capabilities to automate and accelerate a swathe of trade processes. A chief executive of Citi's digital assets division expressed apprehension about deploying services to a public blockchain like Ethereum, remarking that if regulators "get comfortable" with public chains they would "go down that route, but right now, from a regulatory standpoint, we're sticking with permissioned." Meanwhile, a Republican-controlled House committee is advancing an anti-Central Bank Digital Currency bill, led by crypto-friendly Congressman Tom Emmer (R-Minn.). Following Rep. Emmer's introduction of the "CBDC Anti-Surveillance State Act" last week, the bill passed within the ranks of the House Financial Services Committee, and now heads for a vote in the broader House of Representatives. The bill forbids the Federal Reserve from issuing a digital currency intended for citizen use, whether directly or through an intermediary. In his post-victory speech, Rep. Emmer derided the "downright un-American" nature of CBDCs, championing the Constitution's guarantees of a "right to financial privacy." On the other side of the aisle, fellow Congressman Rep. Stephen Lynch (D-Mass.) dismissed the bill as an "act of breathless stupidity," claiming a CBDC ban would make the U.S. less competitive. Of course, a CBDC isn't the Fed's most pressing priority. On Wednesday, Chairman Powell reaffirmed his "higher for longer" strategy, leaving rates unchanged and forecasting at least one more 25 bps bump by year end. Though the central bank has "covered a lot of ground" in their monetary tightening efforts, inflation "remains elevated" and the impact of past hikes are "yet to be felt," according to Powell. While unchanged rates fell in-line with analyst expectations, the announcement did nudge crypto prices a bit lower, with Bitcoin retreating to the \$26K range after spending a brief period above \$27,000. In a major milestone for consumer crypto, PayPal is rolling out its PYUSD stablecoin to its retail-focused payments app Venmo. In a Wednesday press release, PayPal hailed the integration as the "first example of a stablecoin enabling wallet interoperability at scale with no cost," highlighting that "transfers between PayPal and Venmo users are fast and free," connecting millions of users via blockchain rails. The release also claimed users will be able to withdraw funds on-chain to "compatible external wallets," noting PYUSD was already present on popular Web3 wallets like MetaMask, Ledger, and Phantom. At a critical inflection point for the digital assets industry, the tug-of-war between decentralization and permissioned control continues, with titans of the financial industry each deploying a different strategy for engaging with public ledgers.



PRICE (CMBI CONSTITUENTS)

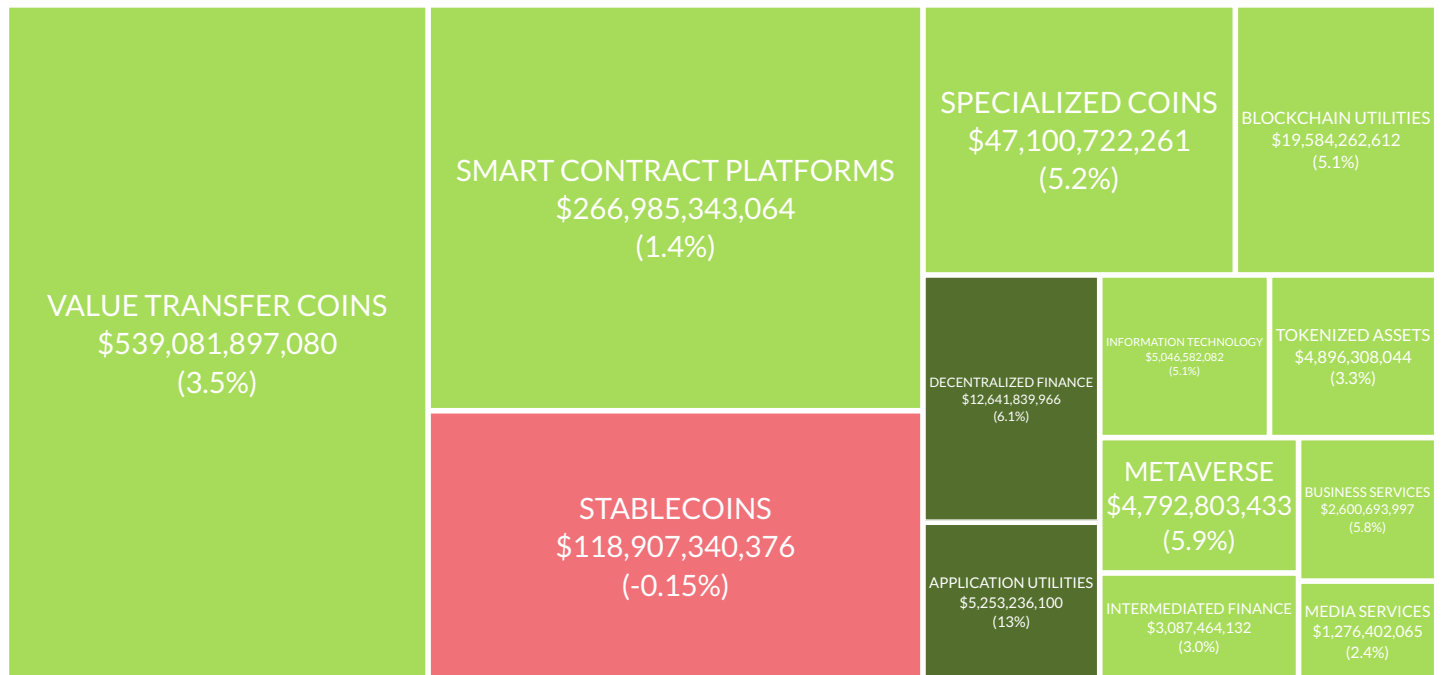
Coin Metrics' Reference Rate price calculated using a transparent, independent methodology robust to manipulation and derived from high quality constituent markets. Data based on 4pm EST NYC close.

ASSET	CLOSING PRICE	7D CHANGE	7D MAX	7D MIN	52W CHANGE	52W MAX	52W MIN
BTC	\$26,936.79	+1.09%	\$27,172.69	\$26,421.97	+39.33%	\$31,644.02	\$15,799.60
ETH	\$1,616.66	-1.04%	\$1,643.75	\$1,616.66	+22.45%	\$2,129.88	\$1,103.83
SOL	\$20.09	+5.85%	\$20.09	\$18.73	-38.26%	\$36.57	\$8.35
DOT	\$4.10	+0.99%	\$4.14	\$4.06	-36.54%	\$7.56	\$3.94
ADA	\$0.25	+0.12%	\$0.26	\$0.25	-45.53%	\$0.46	\$0.24
DOGE	\$0.06	-0.03%	\$0.06	\$0.06	+4.98%	\$0.14	\$0.06
TRX	\$0.08	+0.93%	\$0.08	\$0.08	+40.38%	\$0.08	\$0.05
BNB	\$214.36	+0.80%	\$216.96	\$212.25	-21.75%	\$353.50	\$204.88
AVAX	\$8.95	-4.53%	\$9.39	\$8.95	-49.32%	\$22.04	\$8.95
XLM	\$0.12	-2.27%	\$0.12	\$0.12	-2.94%	\$0.17	\$0.07
CMBI10	\$2,759.24	+0.43%	\$2,789.79	\$2,726.76	+22.63%	\$3,398.54	\$1,838.40

ASSET CLASSES

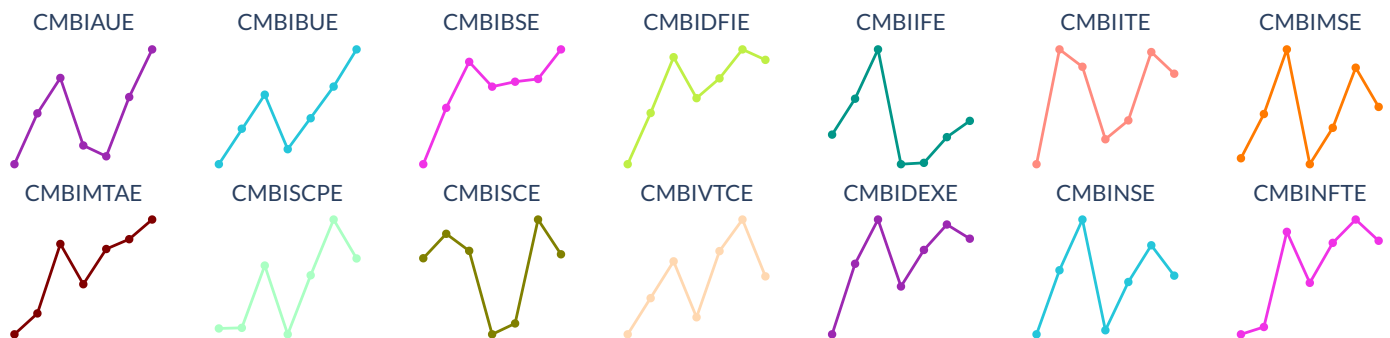
DIGITAL ASSET SECTOR 7D MARKETCAP (2023-09-20)

COINMETRICS



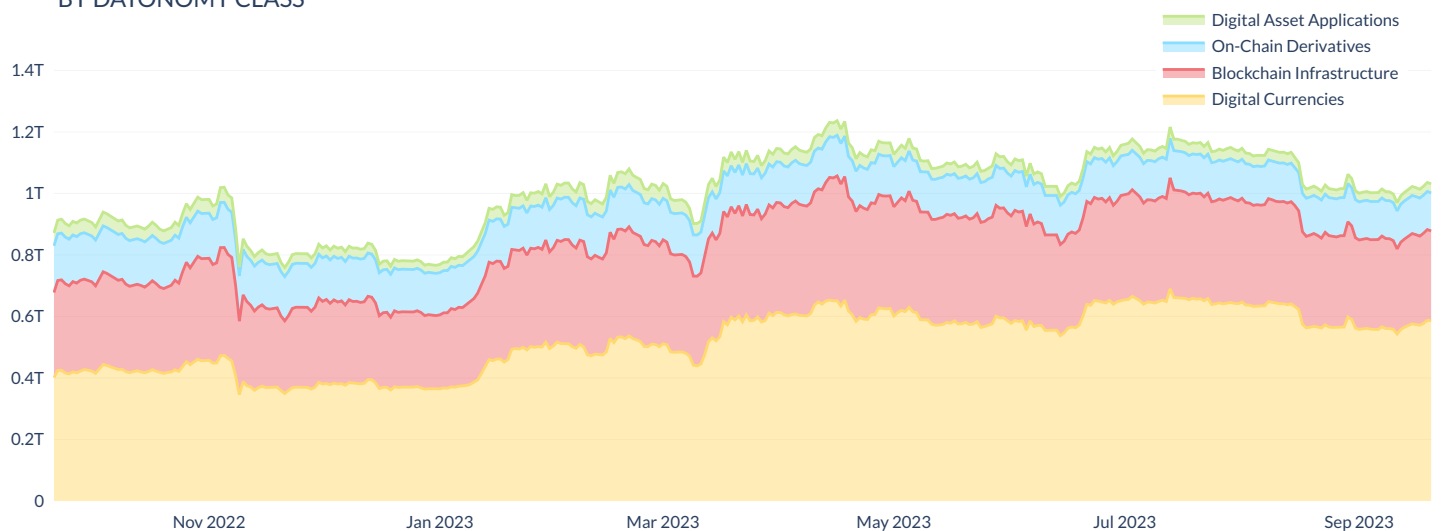
TRENDING SECTOR INDEXES, 7 DAY TREND

COINMETRICS



CRYPTO MARKET CAPITALIZATION (USD)
BY DATONOMY CLASS

COINMETRICS



INDEX ROUNDUP

SINGLE ASSET INDEXES

The CMBI Single Asset series are institutionally designed cryptoasset benchmarks that accurately & reliably represent a real-time market aggregate USD value for singular crypto assets.

INDEX	CLOSING PRICE	7D CHANGE	7D MAX	7D MIN	52W CHANGE	52W MAX	52W MIN
CMBIBTC	\$26,936.79	+1.09%	\$27,172.69	\$26,421.97	+39.33%	\$31,644.02	\$15,799.60
CMBIBTCT	\$28,940.57	+1.09%	\$29,194.02	\$28,387.45	+39.33%	\$33,997.97	\$16,974.91
CMBIETH	\$1,616.66	-1.04%	\$1,643.75	\$1,616.66	+22.46%	\$2,129.88	\$1,103.83
CMBIETHHT	\$1,755.04	-1.04%	\$1,784.44	\$1,755.04	+22.46%	\$2,312.19	\$1,198.31

CMBI BITCOIN
1Y (2023-09-20)

COINMETRICS



CMBI ETHEREUM
1Y (2023-09-20)

COINMETRICS



TRENDING INDEXES, 7 DAY TREND

COINMETRICS

CMBISAND



CMBISOL



CMBIMANA



CMBIADA



CMBILTC



CMBILINK



CMBIEOS



CMBIXTZ



MULTI ASSET INDEXES

The CMBI Multi Asset series are institutionally designed cryptoasset benchmarks that accurately & reliably represent a real-time market aggregate USD value for baskets of crypto assets.

INDEX	CLOSING PRICE	7D CHANGE	7D MAX	7D MIN	52W CHANGE	52W MAX	52W MIN
CMBI10	\$2,759.24	+0.43%	\$2,789.79	\$2,726.76	+22.63%	\$3,398.54	\$1,838.40
CMBI10E	\$3,917.75	+0.20%	\$3,955.25	\$3,888.99	-21.98%	\$6,420.90	\$3,409.70
CMBI10EX	\$5,755.04	-0.55%	\$5,838.83	\$5,751.10	+3.01%	\$7,991.44	\$4,562.49
CMBI10M	\$10,148.15	-0.08%	\$10,157.09	\$10,141.50	-18.45%	\$13,044.36	\$9,310.27
CMBIBE	\$13,557.69	+0.34%	\$13,714.17	\$13,404.16	+33.10%	\$16,210.93	\$8,387.96

CMBI 10
1Y (2023-09-20)

COINMETRICS



CMBI 10 MOMENTUM
1Y (2023-09-20)

COINMETRICS



MARKET MOVEMENT

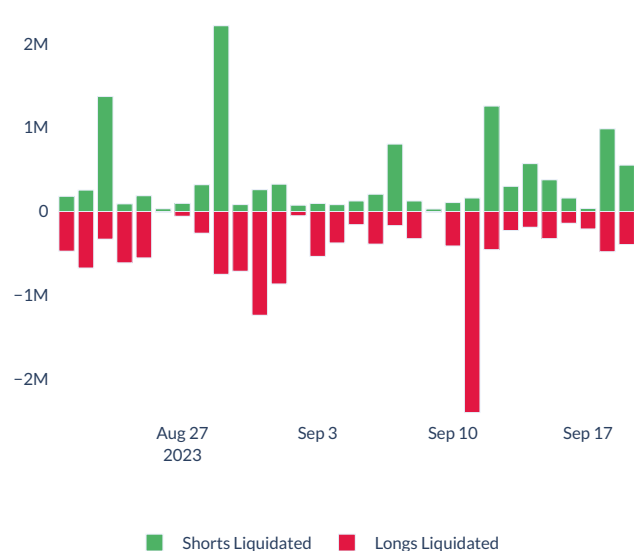
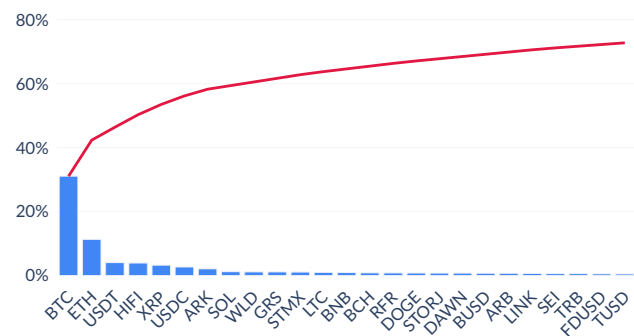
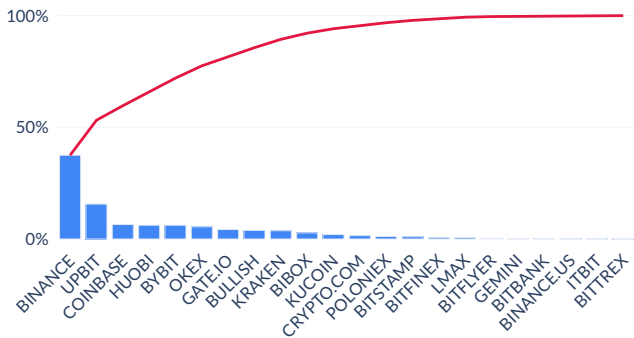
TRADING DIARY, 7 DAY

ADVANCING VOLUME	\$82,881,313,995
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DECLINING VOLUME	\$2,377,812,022
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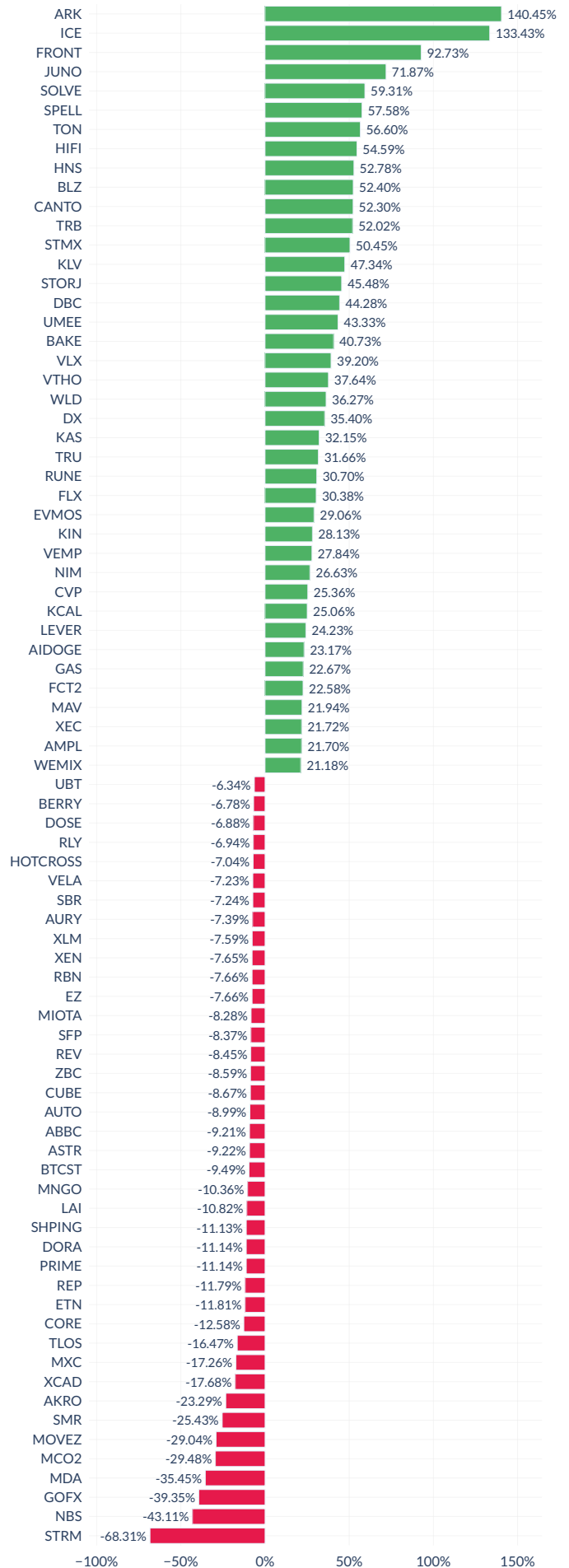
ADVANCES 575

DECLINES 149



PRICE CHANGE, 7 DAY

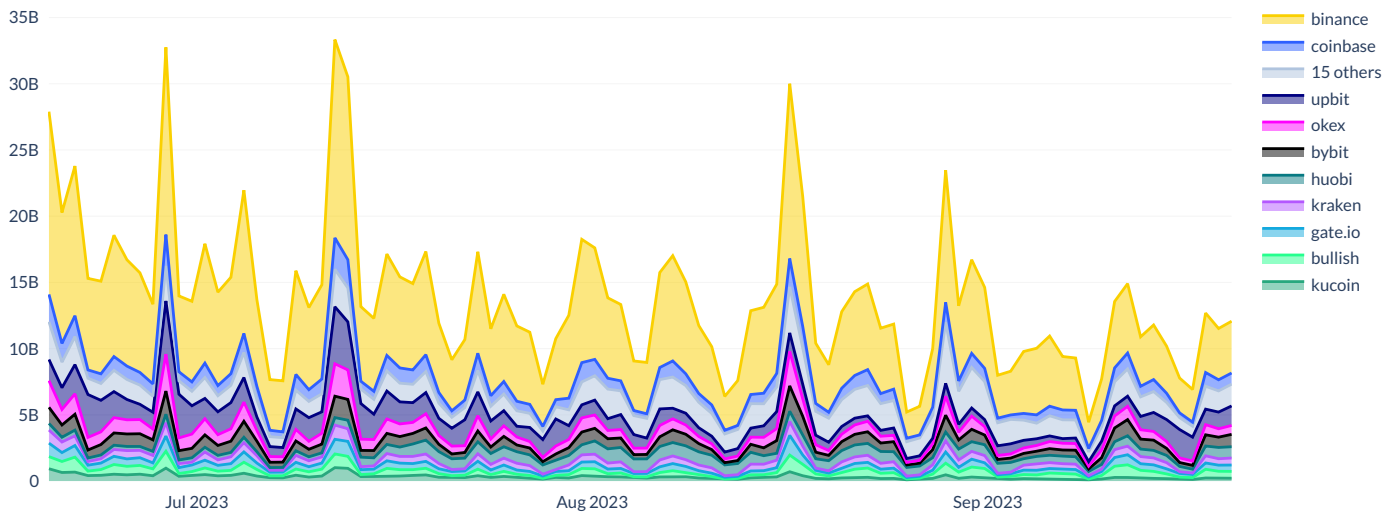
COINMETRICS



AGGREGATE VOLUME

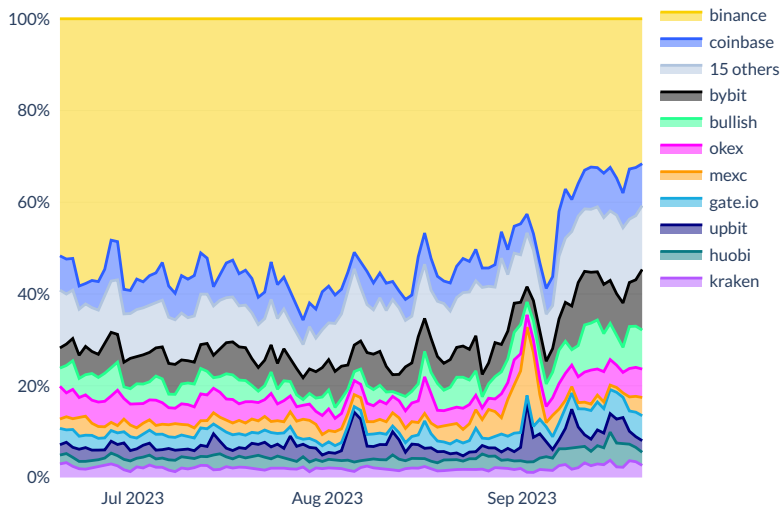
REPORTED SPOT VOLUME (USD)
BY EXCHANGE 3M (2023-09-20)

COINMETRICS



BTC SPOT VOLUME, % BY EXCHANGE
3M (2023-09-20)

COINMETRICS



BTC SPOT VOLUME LEADERS

Top 10 exchanges by Bitcoin (BTC) spot volume reported over past 3 months.

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BINANCE	-11.95%	1,111,431,346	1,632,667,518	509,744,800
COINBASE	-11.49%	327,991,029	545,074,197	101,610,106
BYBIT	+15.43%	351,532,245	529,318,365	129,827,405
BULLISH	-3.68%	279,272,664	456,085,996	73,122,339
OKEX	-11.88%	202,422,487	308,453,111	59,972,242
MEXC	+154.35%	83,347,916	159,222,489	12,846,600
GATE.IO	-4.16%	172,397,845	230,464,140	59,193,890
UPBIT	-26.35%	108,720,745	140,309,626	76,623,488
HUOBI	-27.23%	131,993,088	187,079,146	68,861,714
KRAKEN	-11.10%	105,529,086	182,796,709	30,020,609

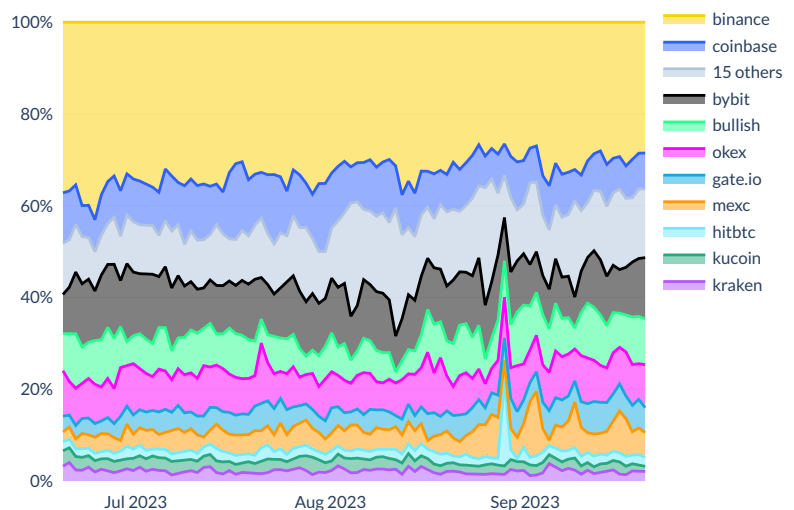
ETH SPOT VOLUME LEADERS

Top 10 exchanges by Ethereum (ETH) spot volume reported over past 3 months.

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BINANCE	-14.87%	404,093,087	581,223,438	203,189,952
COINBASE	-20.70%	109,282,361	165,746,742	49,078,097
BYBIT	+14.77%	157,210,370	232,933,896	65,854,242
BULLISH	+0.06%	128,545,526	201,524,120	51,794,183
OKEX	+15.17%	116,471,931	172,646,862	55,249,859
GATE.IO	-19.72%	79,286,006	113,893,523	38,722,632
MEXC	-4.09%	82,046,977	99,190,997	63,380,585
HITBTC	+1.34%	26,663,189	36,853,040	13,718,394
KUCCOIN	-40.39%	22,565,129	31,148,996	14,349,800
KRAKEN	-9.08%	28,065,004	42,547,015	10,393,493

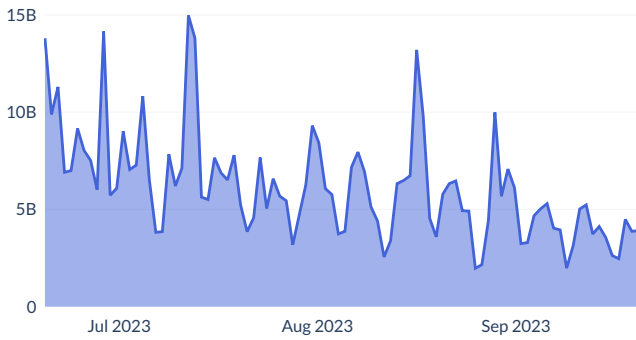
ETH SPOT VOLUME, % BY EXCHANGE
3M (2023-09-20)

COINMETRICS

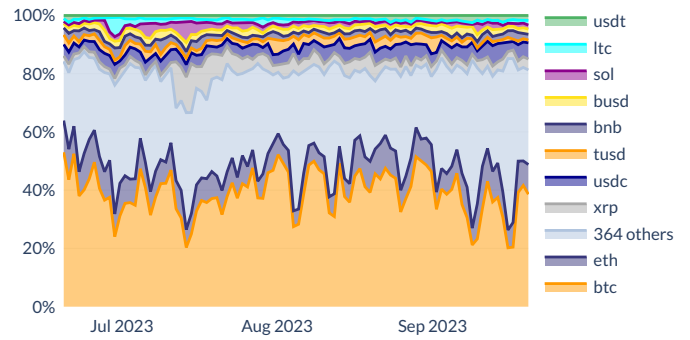


EXCHANGE SPOT VOLUME

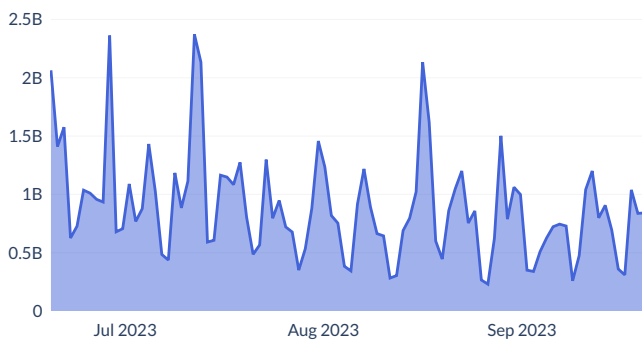
BINANCE DAILY USD SPOT VOLUME
3M (2023-09-20) COINMETRICS



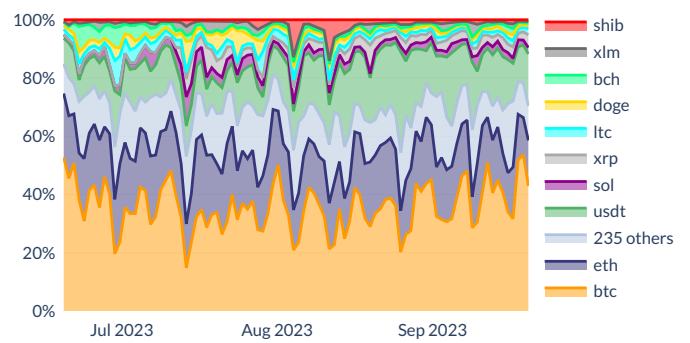
BINANCE SPOT VOLUME, % BY ASSET
3M (2023-09-20) COINMETRICS



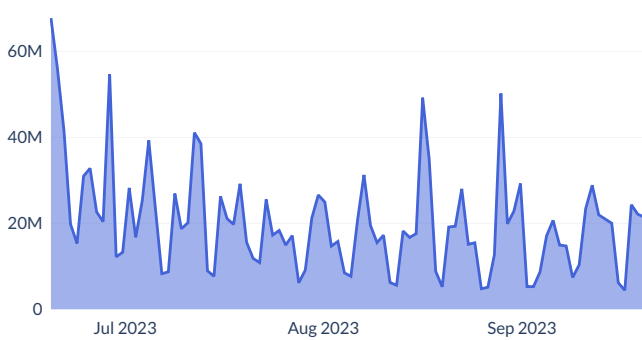
COINBASE DAILY USD SPOT VOLUME
3M (2023-09-20) COINMETRICS



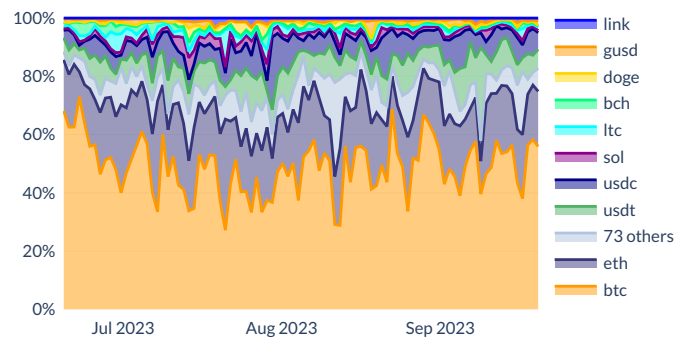
COINBASE SPOT VOLUME, % BY ASSET
3M (2023-09-20) COINMETRICS



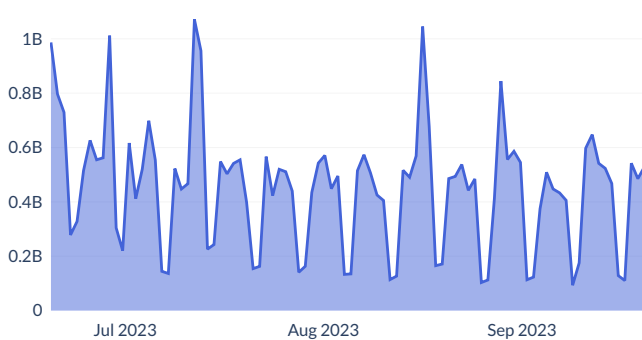
GEMINI DAILY USD SPOT VOLUME
3M (2023-09-20) COINMETRICS



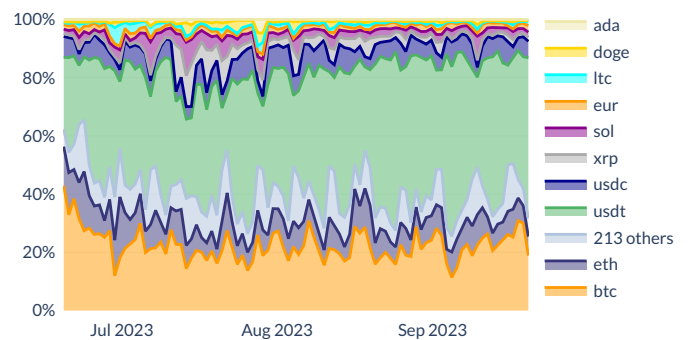
GEMINI SPOT VOLUME, % BY ASSET
3M (2023-09-20) COINMETRICS



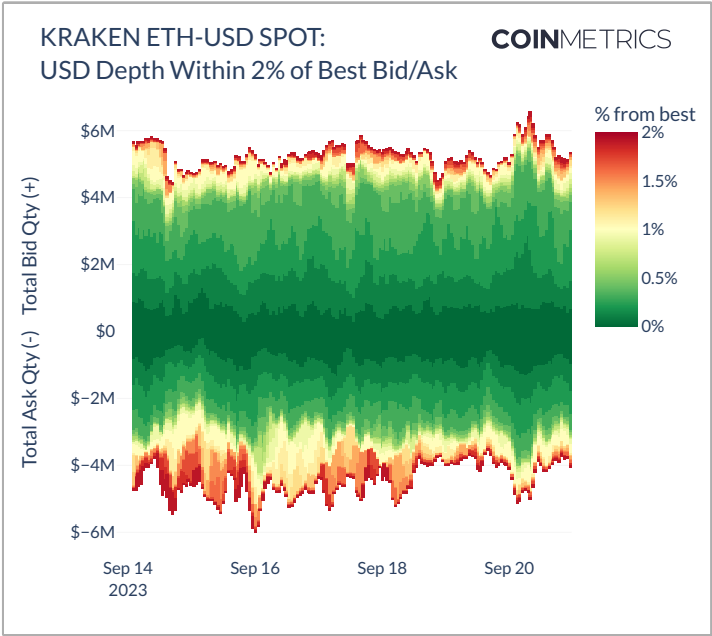
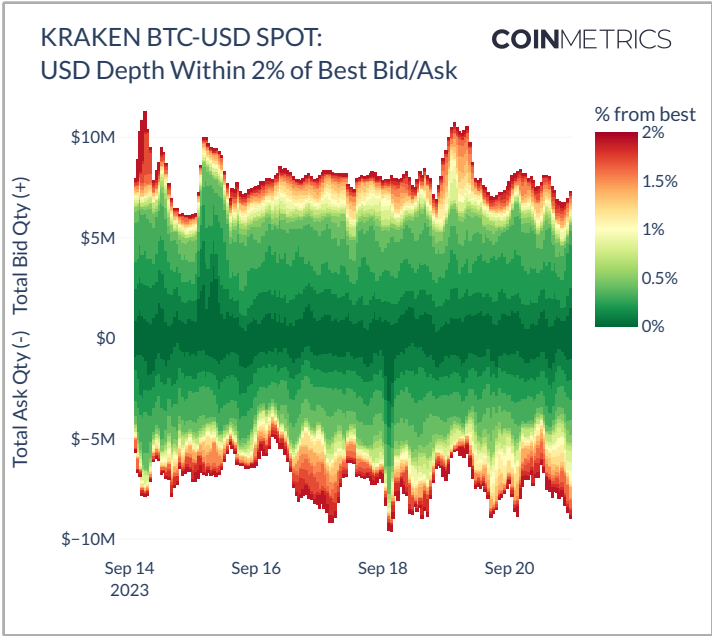
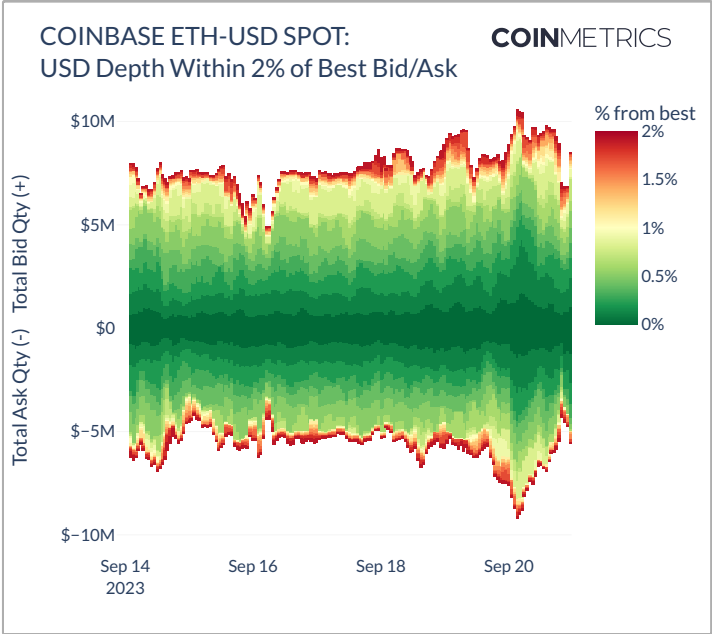
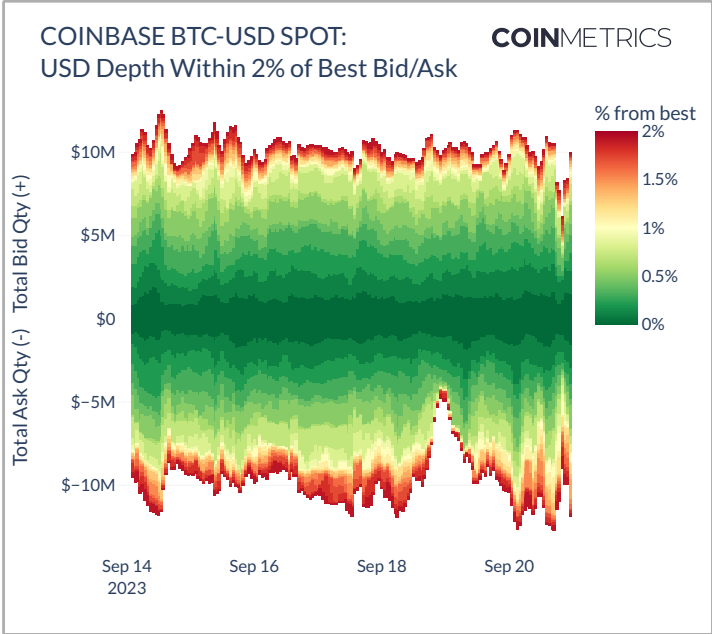
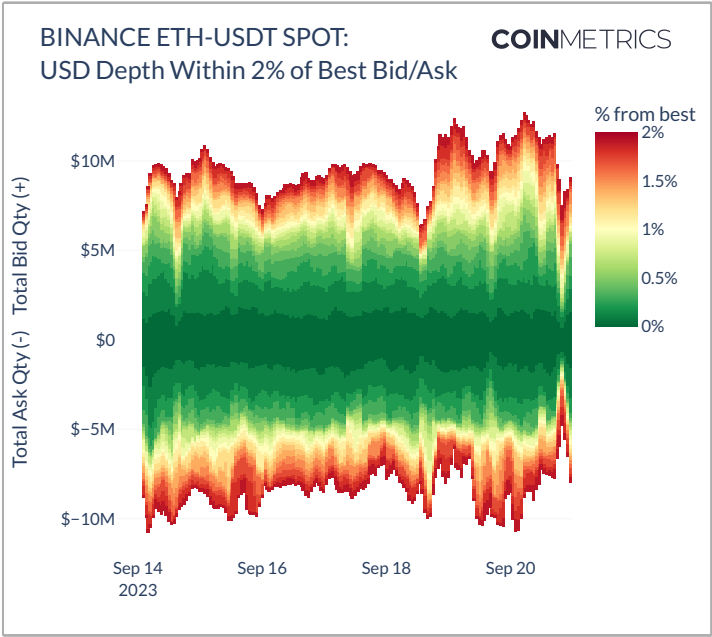
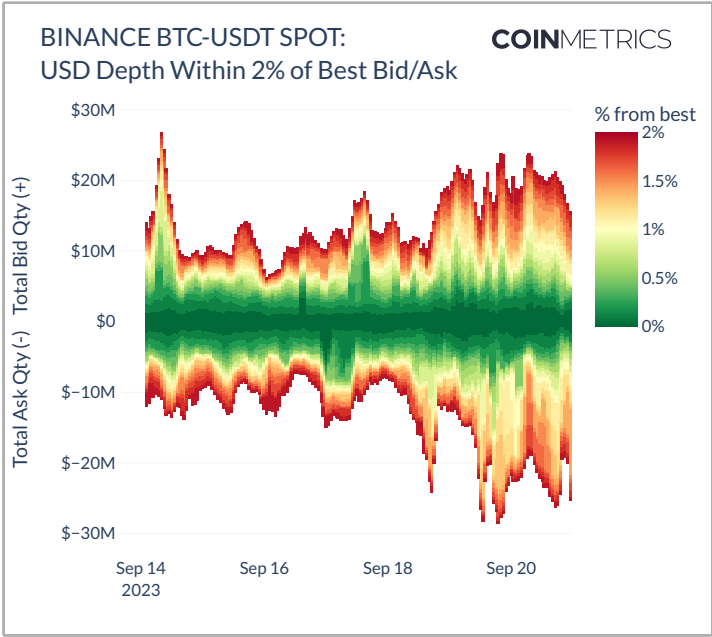
KRAKEN DAILY USD SPOT VOLUME
3M (2023-09-20) COINMETRICS



KRAKEN SPOT VOLUME, % BY ASSET
3M (2023-09-20) COINMETRICS



ORDER BOOK DEPTH



DEX DIGEST

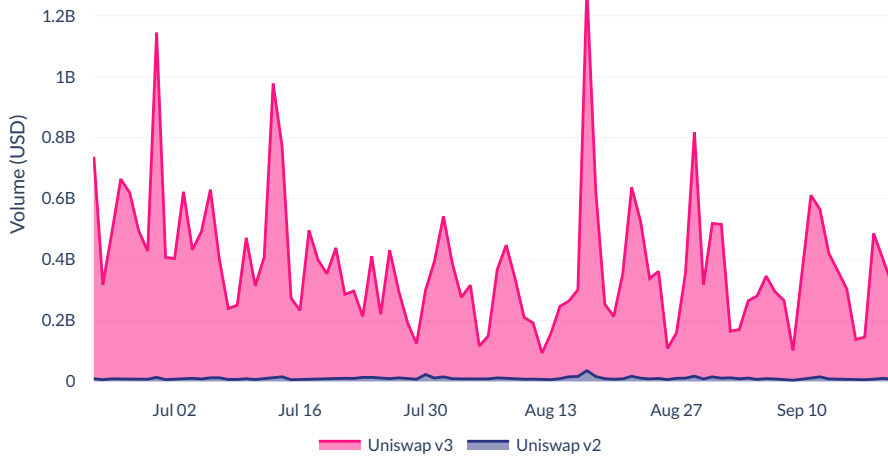
COINMETRICS

RISING VOLUME



UNISWAP DAILY TRADING VOLUME (2023-09-20)

COINMETRICS



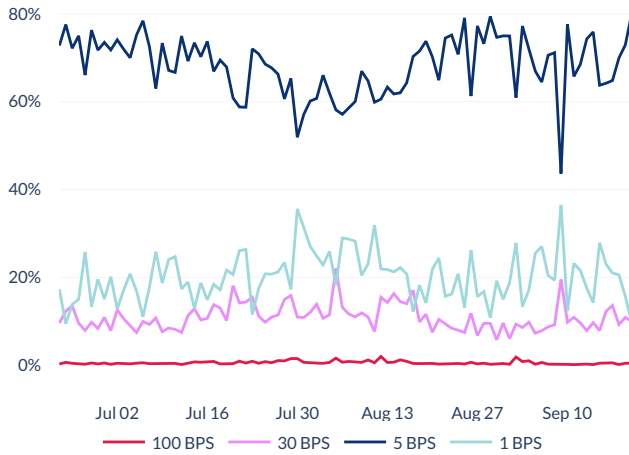
COINMETRICS

FALLING VOLUME



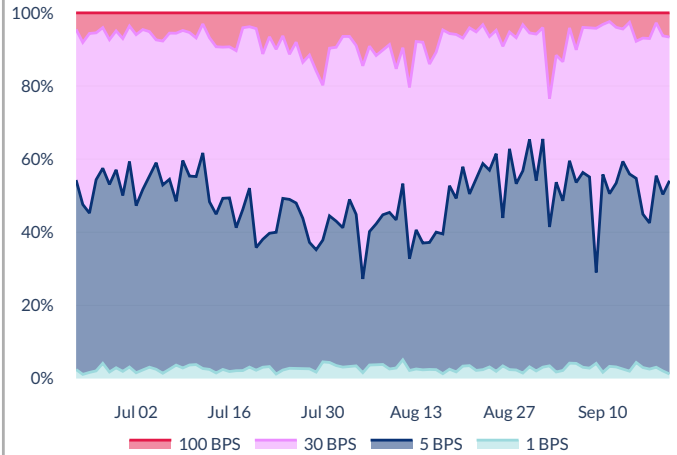
UNISWAP V3 VOLUME BY FEE TIER (2023-09-20)

COINMETRICS



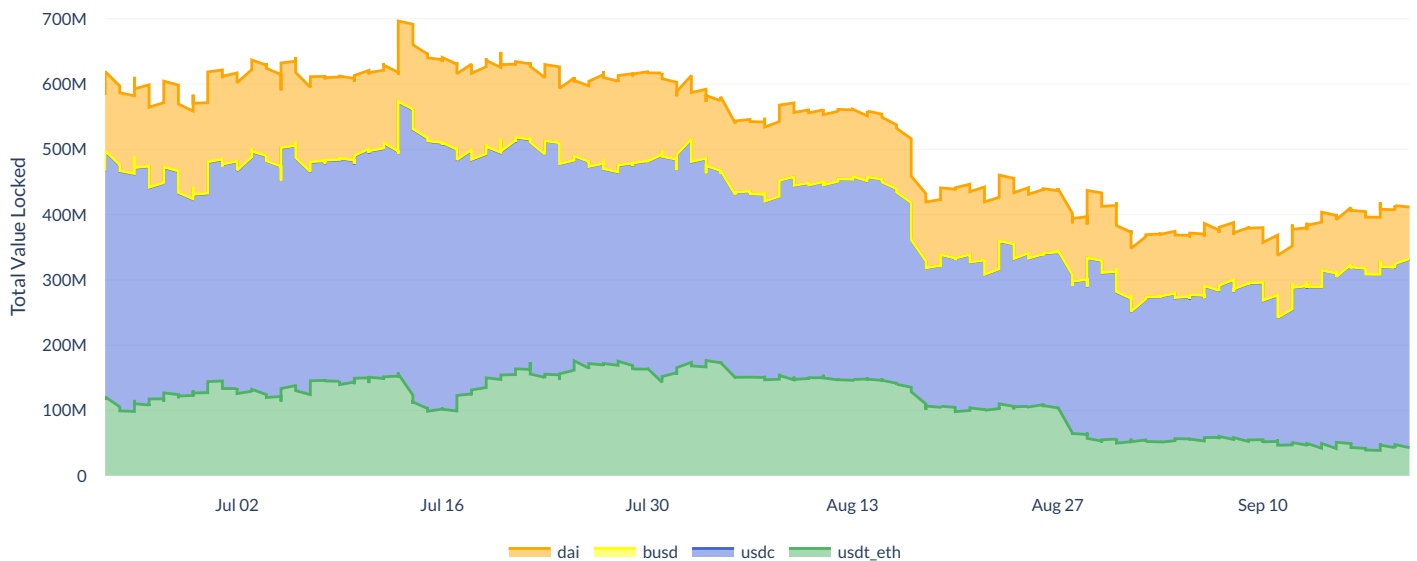
UNISWAP V3 REVENUE BY FEE TIER (2023-09-20)

COINMETRICS



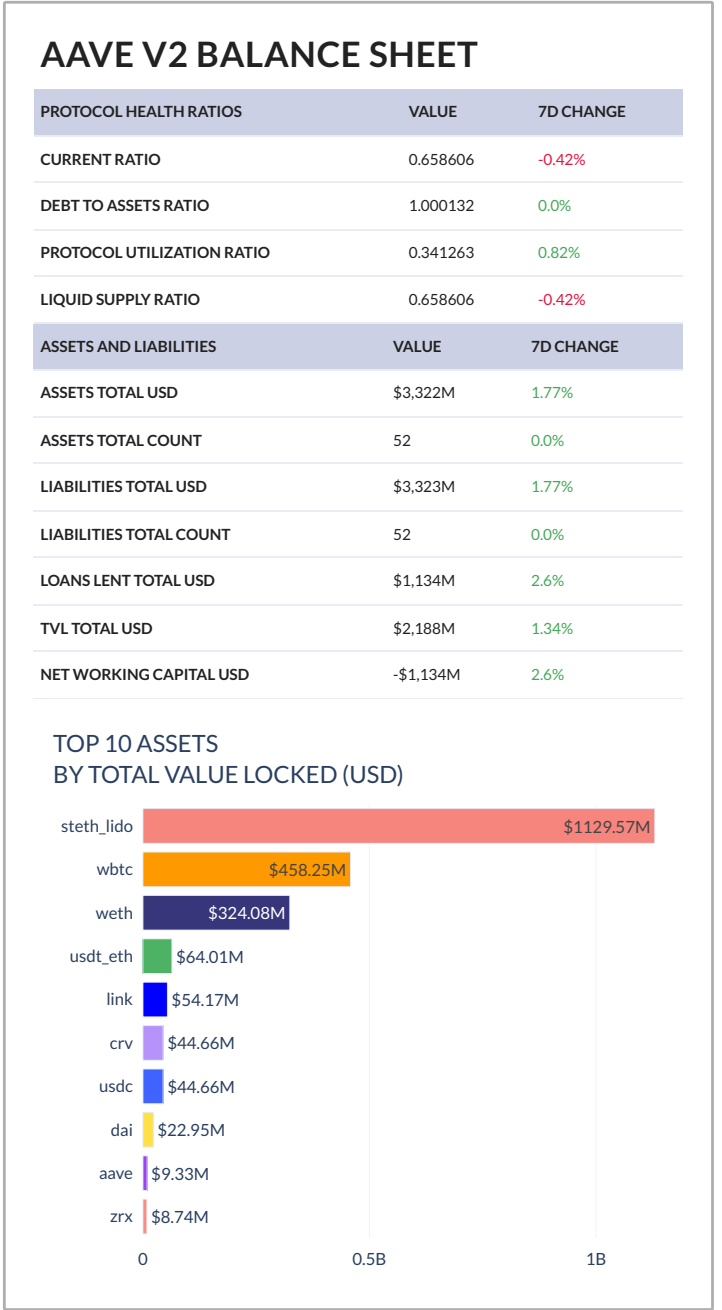
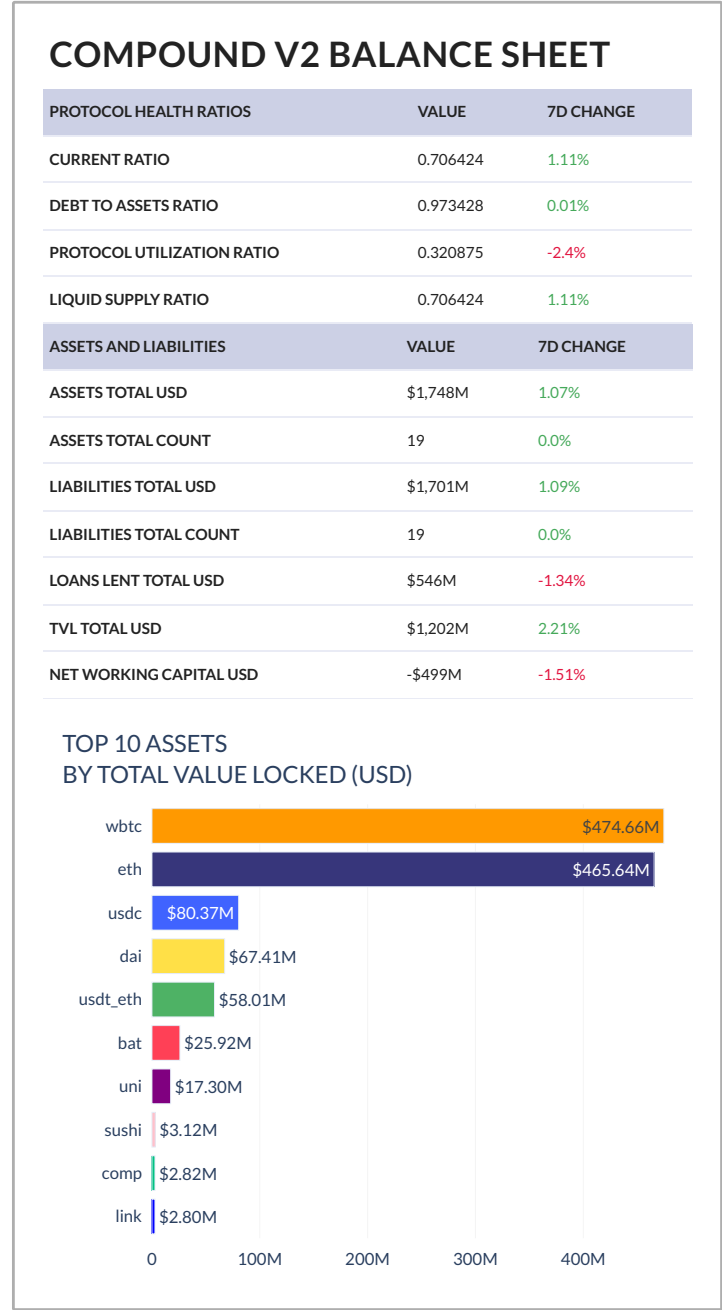
UNISWAP V3 STABLECOIN TVL (2023-09-20)

COINMETRICS



Note: DEX metrics currently capture a subset of the top liquidity pools on the Ethereum-based instantiation of each protocol.

DEFI BALANCE SHEETS



FUTURES FEED

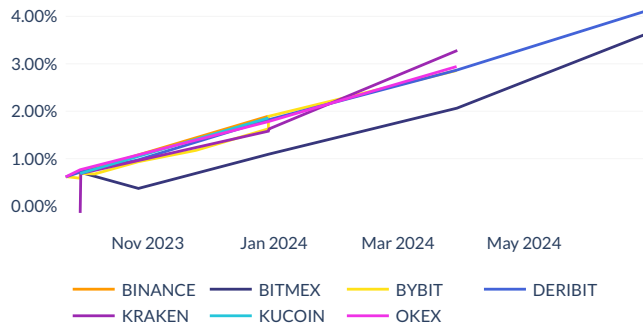
OPEN INTEREST 1Y (2023-09-20)

COINMETRICS



BTC USD DATED FUTURES BASIS

COINMETRICS



OPEN INTEREST

Sum of all reported open interest from futures markets in USD

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+6.45%	10,363,690,297	10,784,827,470	10,131,347,431
ETH	-0.84%	4,573,218,944	4,612,628,676	4,509,108,535
XRP	+11.37%	318,070,195	337,392,458	302,939,145
ADA	-1.36%	82,744,413	83,757,311	81,060,683
LINK	+37.99%	97,378,887	120,018,809	86,977,209
CRO	-18.24%	4,990,525	5,467,629	4,325,055
LTC	+7.84%	207,767,168	217,707,108	199,911,606
UNI	+0.57%	43,166,673	44,368,273	42,190,534
BCH	+3.51%	222,740,830	237,281,837	210,321,749

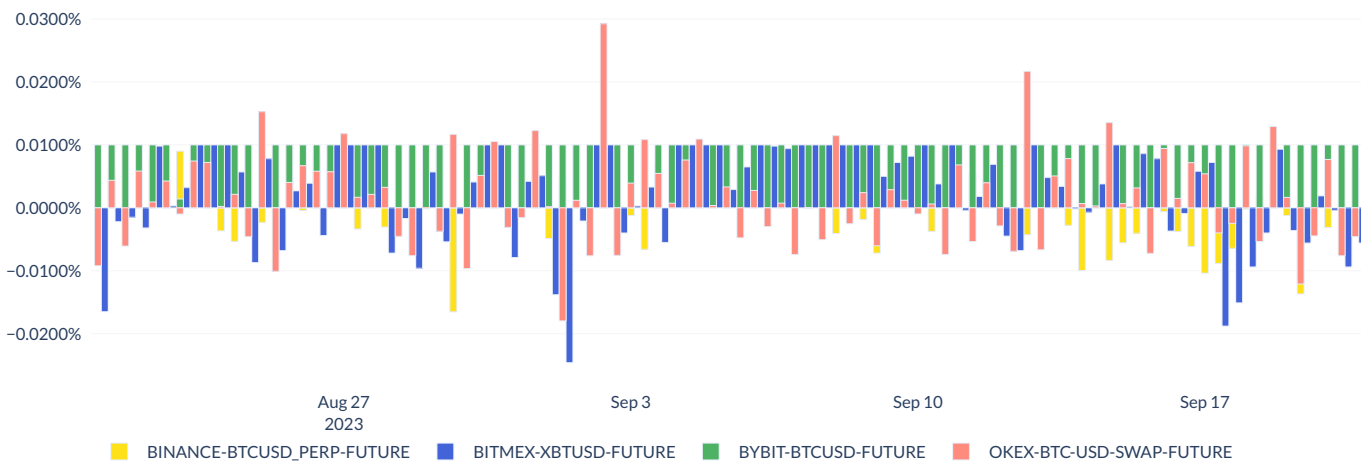
FUTURES VOLUME

USD value of all reported futures volume

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	-4.21%	23,268,784,090	37,014,395,835	8,512,760,459
ETH	-10.89%	7,975,466,789	11,799,220,433	3,754,914,251
XRP	+68.55%	953,505,513	1,396,941,509	506,428,462
ADA	+17.62%	173,861,059	227,068,283	128,031,052
LINK	+175.33%	429,342,072	1,026,151,000	156,871,302
CRO	+22.04%	4,267,040	15,221,496	928,669
LTC	+76.06%	566,477,100	802,758,639	392,110,498
UNI	+0.28%	58,253,408	76,504,757	51,782,004
BCH	-21.41%	848,107,013	1,247,344,335	592,868,715

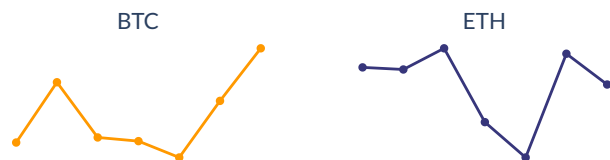
BTC FUTURES FUNDING RATES 1M (2023-09-20)

COINMETRICS



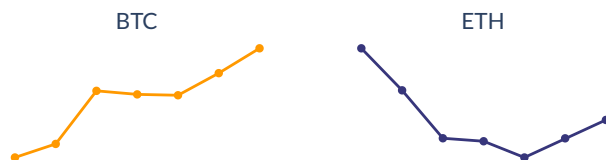
PERP OPEN INTEREST, 7 DAY TREND

COINMETRICS



NON-PERP OPEN INTEREST, 7 DAY TREND

COINMETRICS



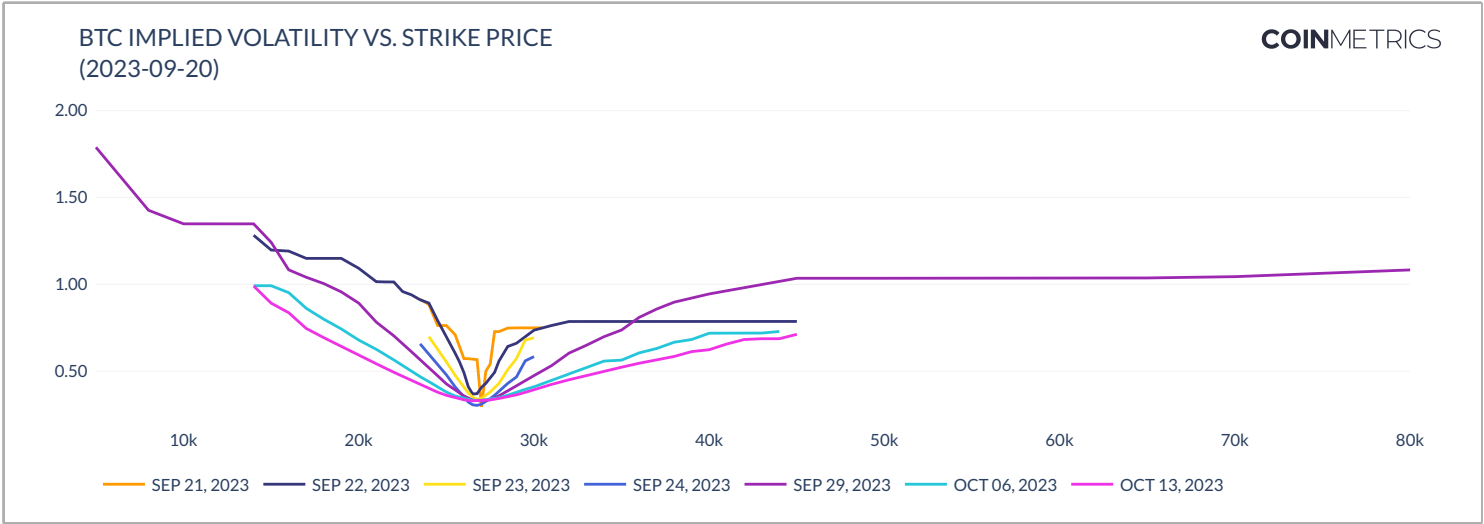
OPTIONS SNAPSHOT

BTC OPEN INTEREST

TOTAL	\$8,580,112,078
CALLS	\$5,730,525,532
PUTS	\$2,849,586,545

ETH OPEN INTEREST

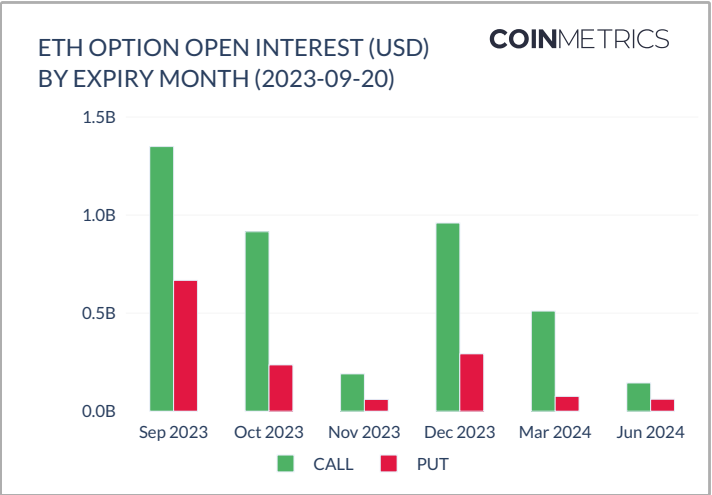
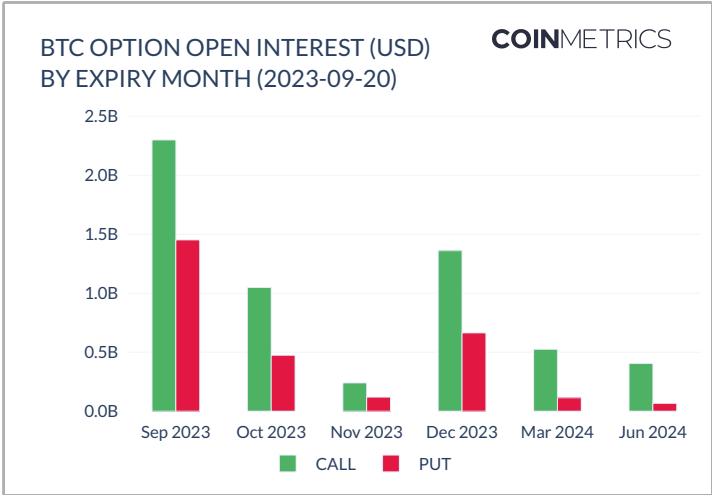
TOTAL	\$5,387,742,371
CALLS	\$4,026,868,203
PUTS	\$1,360,874,168



AT THE MONEY OPTIONS

Market greeks, implied volatility, and mark contract prices for BTC options at or near strike price.

CALLS							PUTS							
VEGA	THETA	RHO	DELTA	GAMMA	IV	MARK	SYMBOL	MARK	IV	GAMMA	DELTA	RHO	THETA	VEGA
8.34726	-52.69751	1.49644	0.70584	0.00038	0.4847	0.0324	BTC-21SEP23-26250	0.0001	0.4847	0.00038	-0.29445	-0.66077	-52.80418	8.35105
9.33055	-58.9052	1.28719	0.60452	0.00042	0.4297	0.0233	BTC-21SEP23-26500	0.0002	0.4297	0.00042	-0.39548	-0.88989	-58.9052	9.33055
9.6638	-61.10477	1.06121	0.4966	0.00043	0.3229	0.0144	BTC-21SEP23-26750	0.0003	0.3229	0.00043	-0.5034	-1.13641	-61.10477	9.6638
9.29478	-58.77146	0.83609	0.39005	0.00042	0.2867	0.0063	BTC-21SEP23-27000	0.0016	0.2868	0.00042	-0.60995	-1.38206	-58.77146	9.29478
4.49775	-55.20767	1.10862	0.84904	0.00027	0.4332	0.0338	BTC-22SEP23-26250	0.0013	0.4331	0.00027	-0.15096	-0.20888	-55.20767	4.49775
25.06413	-22.78629	9.65036	0.64149	0.00014	0.3671	0.0248	BTC-22SEP23-26500	0.0016	0.3672	0.00014	-0.35851	-6.32174	-22.78629	25.06413
6.74779	-71.60677	0.91736	0.69302	0.00047	0.3243	0.0166	BTC-22SEP23-26750	0.0027	0.3243	0.00047	-0.30698	-0.42523	-71.60677	6.74779
26.37219	-23.97548	8.61601	0.56832	0.00015	0.3019	0.0099	BTC-22SEP23-27000	0.0051	0.3019	0.00015	-0.43168	-7.65745	-23.97548	26.37219
6.50248	-43.46489	1.74202	0.81756	0.00027	0.3638	0.0344	BTC-23SEP23-26250	0.0018	0.3638	0.00027	-0.18244	-0.41451	-43.46489	6.50248
7.94475	-52.83418	1.58884	0.74163	0.00033	0.3381	0.0262	BTC-23SEP23-26500	0.0028	0.3381	0.00033	-0.25837	-0.58824	-52.83418	7.94475



MARKET CAPITALIZATION

MARKET CAPITALIZATION, 7 DAY TREND



MARKET CAP

USD value of current supply. Also referred to as market capitalization.

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+2.20%	521,735,133,847	530,432,200,789	516,494,120,491
ETH	-0.25%	201,234,625,760	202,574,821,121	199,731,944,473
XRP	+6.43%	50,281,931,927	52,100,284,657	48,952,081,127
ADA	+0.07%	8,635,036,772	8,778,445,714	8,489,213,731
LINK	+12.20%	6,469,029,120	6,909,621,497	6,134,683,179
CRO	+0.47%	5,112,652,564	5,135,079,173	5,092,826,804
LTC	+2.76%	4,791,199,642	4,960,731,700	4,627,213,700
UNI	+2.17%	4,339,016,870	4,407,482,319	4,273,051,758
BCH	+3.59%	4,185,051,052	4,273,966,610	4,057,647,658
FTT	-1.88%	342,498,307	344,804,199	337,832,360

FREE FLOAT MARKET CAP

The sum USD value of the free float supply.

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+2.29%	366,719,543,261	373,070,036,019	362,893,796,100
ETH	-0.37%	179,017,806,723	180,238,471,688	177,694,400,659
XRP	+6.59%	23,610,421,554	24,485,233,285	22,970,537,833
ADA	+0.07%	7,683,134,540	7,809,171,853	7,554,456,613
LINK	+16.16%	3,511,523,461	3,767,818,548	3,243,685,852
CRO	+0.47%	558,070,103	560,514,200	555,912,511
LTC	+2.76%	4,113,878,273	4,259,210,422	3,973,196,823
UNI	+2.18%	1,076,407,342	1,093,409,001	1,059,963,034
BCH	+3.61%	2,823,741,532	2,883,890,028	2,737,395,086
FTT	-1.88%	342,498,307	344,804,199	337,832,360

REALIZED CAP

USD value for all native units based on the USD closing price on the day that a unit last moved.

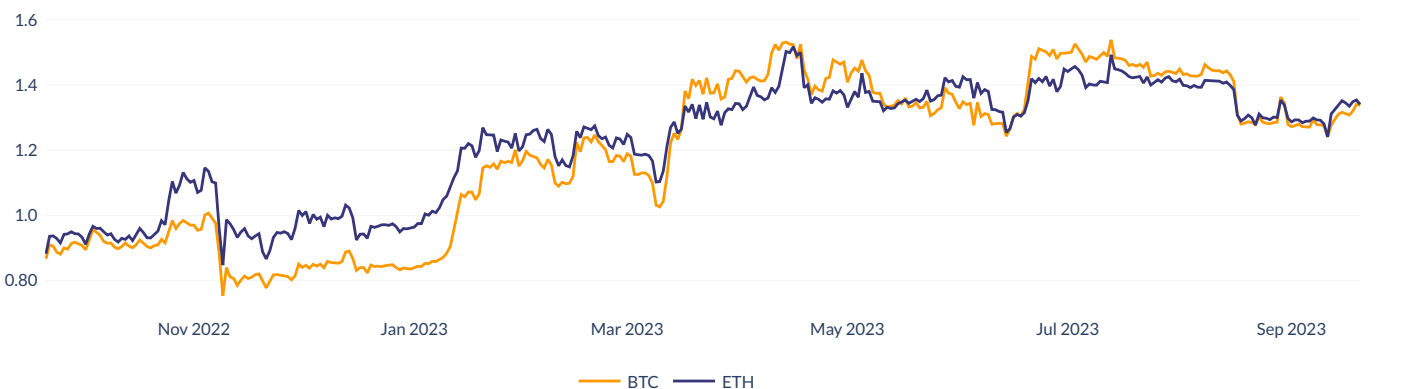
ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+0.16%	395,057,128,974	395,404,881,014	394,787,374,879
ETH	-0.30%	149,621,480,137	149,816,605,095	149,221,705,132
XRP	+0.31%	51,925,224,828	52,018,532,067	51,859,985,171
ADA	-0.18%	15,774,500,313	15,787,610,491	15,758,560,757
LINK	+1.60%	8,282,031,907	8,319,208,984	8,188,084,367
CRO	-8.31%	22,188,312,305	22,456,033,023	20,587,323,986
LTC	-0.02%	6,789,564,181	6,791,360,353	6,787,309,217
UNI	+0.06%	8,330,794,485	8,333,231,974	8,327,401,051
BCH	+0.08%	4,684,079,563	4,686,238,882	4,682,286,586
FTT	-0.02%	841,403,212	841,460,452	841,313,121

MARKET VALUE TO REALIZED VALUE

The ratio of a cryptoasset's market cap (aka market value) to realized cap (aka realized value).

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+2.05%	1.32	1.34	1.31
ETH	+0.05%	1.34	1.35	1.33
XRP	+6.11%	0.97	1.00	0.94
ADA	+0.25%	0.55	0.56	0.54
LINK	+10.43%	0.78	0.83	0.74
CRO	+9.58%	0.23	0.25	0.23
LTC	+2.78%	0.71	0.73	0.68
UNI	+2.11%	0.52	0.53	0.51
BCH	+3.51%	0.89	0.91	0.87
FTT	-1.86%	0.41	0.41	0.40

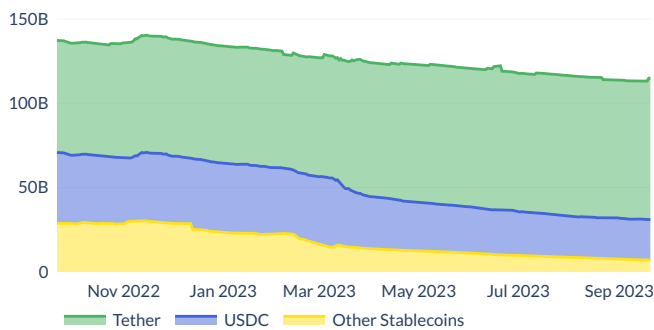
MARKET VALUE TO REALIZED VALUE 1Y (2023-09-20)



STABLECOINS REPORT

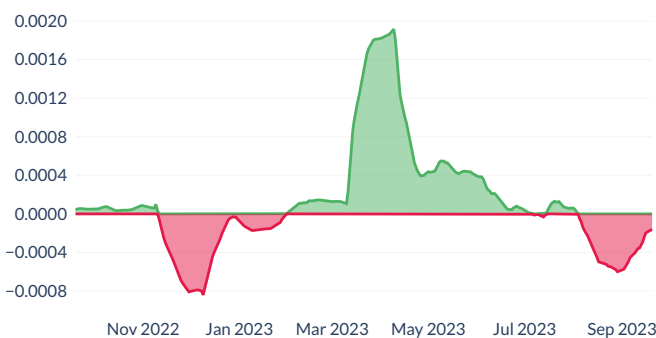
TOTAL STABLECOINS SUPPLY 1Y (2023-09-20)

COINMETRICS



TETHER PREMIUM/DISCOUNT TO USD 1Y (2023-09-20)

COINMETRICS



MARKET CAPITALIZATION

USD value of current supply

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
USDT_ETH	-0.04%	39,033,022,606	39,042,433,716	39,027,231,490
USDT	-0.01%	253,738,013	888,119,575	888,046,513
USDT_TRX	+2.29%	43,124,551,322	43,836,113,175	42,834,255,507
PAX	-2.93%	493,233,301	505,036,543	490,236,676
DAI	-0.35%	3,849,785,369	3,870,044,608	3,832,504,655
USDC	-0.99%	24,116,943,076	24,203,581,114	23,940,810,085
BUSD	-2.53%	2,477,327,521	2,500,270,169	2,436,927,246
GUSD	-0.26%	305,556,047	306,412,912	304,669,268

TRANSFER VALUE, ADJUSTED

USD value of the sum native units transferred removing noise

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
USDT_ETH	+2.99%	2,331,405,643	3,095,060,432	1,025,357,071
USDT	+4.44%	71,157	254,461	243,639
USDT_TRX	+16.22%	9,691,332,204	12,642,404,376	4,491,566,677
PAX	-83.03%	18,938,475	104,424,670	1,881,189
DAI	-52.68%	765,272,027	1,526,932,076	113,919,097
USDC	-13.04%	2,981,516,624	4,073,155,929	1,378,991,195
BUSD	-94.62%	174,992,596	1,084,395,483	11,733,139
GUSD	-70.59%	1,517,015	4,034,788	544,676

MARKET CAPITALIZATION, 7 DAY TREND

COINMETRICS



TRANSFER VALUE, 7 DAY TREND

COINMETRICS



TRANSACTION COUNT

Count of transactions

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
USDT_ETH	-5.63%	98,988	112,065	70,141
USDT	+118.75%	15	70	32
USDT_TRX	-3.33%	1,908,138	2,051,390	1,624,117
PAX	-32.62%	95	141	45
DAI	+2.97%	3,540	3,944	2,883
USDC	+2.02%	31,551	34,988	24,244
BUSD	+3.99%	567	646	415
GUSD	+496.88%	306	579	42

MEDIAN TRANSFER VALUE

Median USD value transferred per transfer between addresses

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
USDT_ETH	+5.54%	492	613	347
USDT	+208.36%	781	4,128	1,339
USDT_TRX	+11.29%	112	128	99
PAX	-61.32%	19,576	121,166	1,088
DAI	-14.16%	1,147	1,654	545
USDC	+0.05%	842	1,005	493
BUSD	+12.03%	325	497	216
GUSD	-97.54%	1,784	5,694	55

VELOCITY

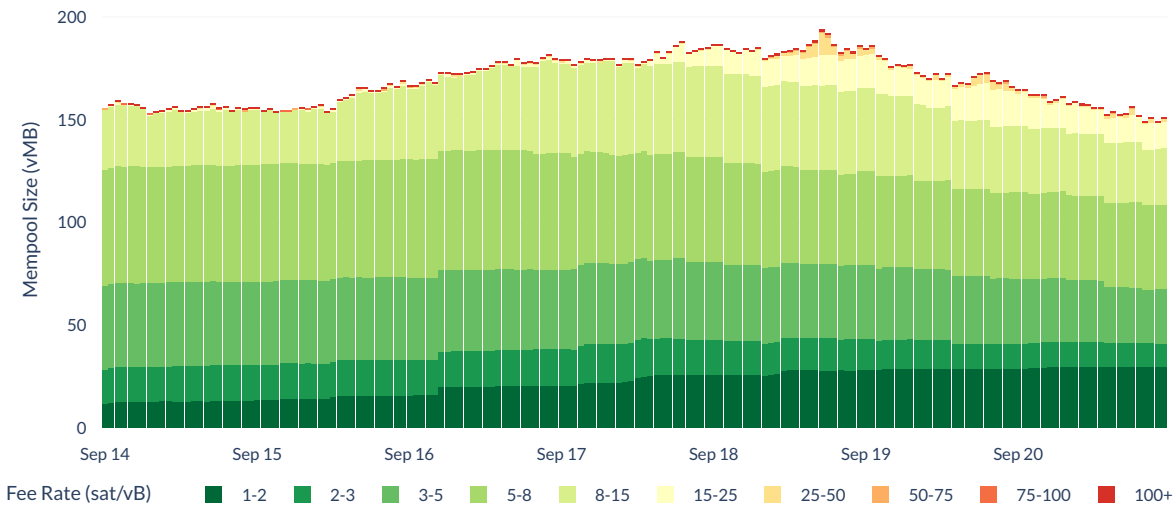
Number of times that an average native unit among the active supply has been transferred in the past 1 year

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
USDT_ETH	-0.03%	36.76	36.80	36.70
USDT	-0.22%	4.26	14.92	14.88
USDT_TRX	-1.82%	72.79	73.33	71.70
PAX	+4.01%	36.95	37.23	35.75
DAI	-10.48%	174.47	183.42	164.19
USDC	-2.10%	114.58	116.25	113.50
BUSD	+0.76%	66.72	67.29	66.43
GUSD	-0.20%	17.12	17.16	17.06

FEE MARKET

BTC MEMPOOL SIZE VS. FEE RATES
(2023-09-20)

COINMETRICS



COINMETRICS

BTC FEE TRENDS

AVG. USD FEE

MED. USD FEE

AVG. FEE / BYTE

AVG. FEE / WEIGHT

BTC RECOMMENDED FEE RATE
(1H AVERAGE)

COINMETRICS



COINMETRICS
ETH FEE TRENDS

AVG. USD FEE

MED. USD FEE

DAILY GAS USED

AVG. GAS USE / TX

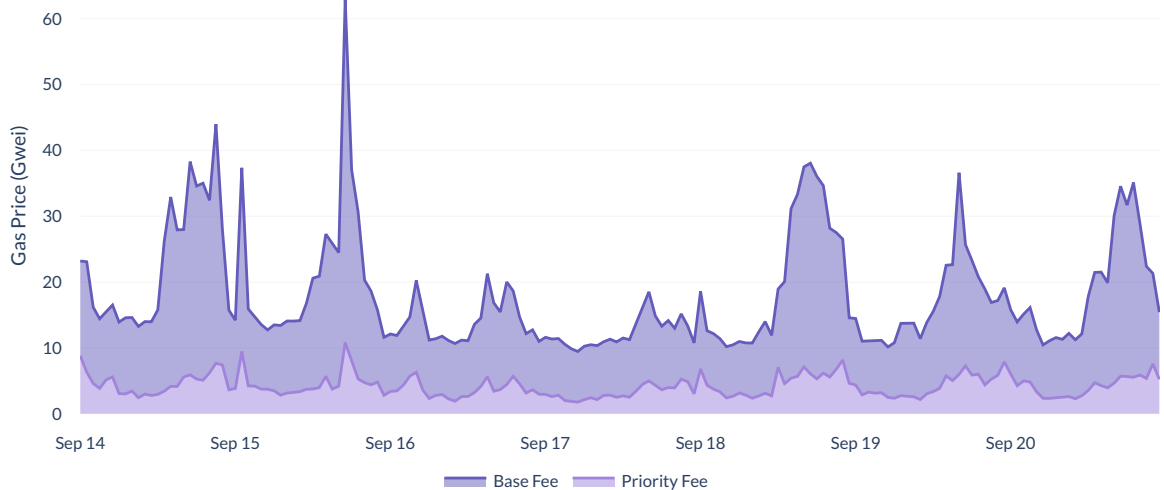
ETH TRANSACTION COUNT PER BLOCK
(1H AVERAGE)

COINMETRICS



ETH BASE & PRIORITY FEES
(1H AVERAGE)

COINMETRICS



NETWORK DATA FUNDAMENTALS

NVT RATIO (90D MA)
1Y (2023-09-20)

COINMETRICS



ACTIVE ADDRESSES

Count of unique addresses that were active in the network

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	-6.10%	1,097,342	1,234,300	1,035,954
ETH	-6.86%	466,974	496,985	451,904
XRP	+16.81%	24,375	38,299	19,938
ADA	-11.07%	29,467	37,776	23,645
LINK	+20.51%	2,452	3,247	1,883
CRO	+25.58%	243	310	215
LTC	+4.52%	211,952	221,902	195,131
UNI	+60.33%	747	986	615
BCH	-8.07%	75,860	90,750	33,118
FTT	+53.76%	82	143	62

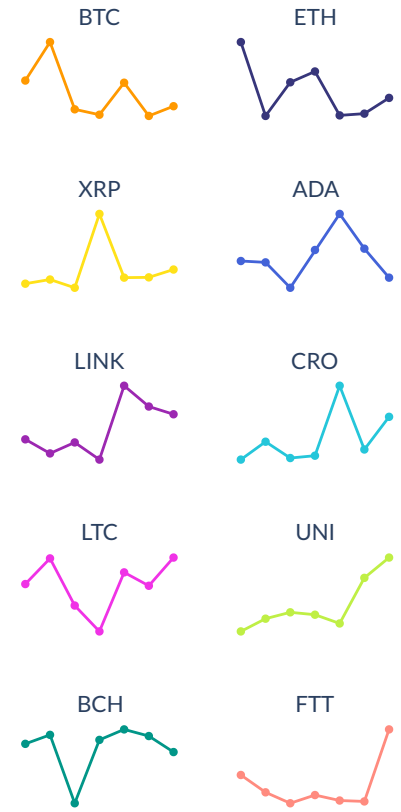
FREE FLOAT SUPPLY

Sum of native units readily available to trade in open markets

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+0.11%	13,698,116	13,708,668	13,692,849
ETH	-0.07%	109,629,473	109,656,907	109,576,975
XRP	+0.15%	46,950,002,412	46,992,127,569	46,917,851,090
ADA	+0.01%	30,605,766,660	30,609,556,197	30,601,482,567
LINK	+3.53%	542,694,372	545,448,958	526,704,028
CRO	-0.00%	10,915,471,070	10,915,598,193	10,915,353,408
LTC	+0.03%	63,251,068	63,261,773	63,243,647
UNI	+0.01%	248,076,269	248,080,579	248,057,616
BCH	+0.05%	13,161,740	13,164,354	13,158,008
FTT	+0.00%	328,895,104	328,895,104	328,895,104

COINMETRICS

ACTIVE ADDRESSES, 7 DAY TREND



TRANSACTION COUNT

Count of transactions

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	-2.35%	595,776	708,663	491,377
ETH	-5.50%	981,635	1,071,590	879,624
XRP	+6.28%	1,045,969	1,131,263	952,501
ADA	-10.85%	45,009	51,987	38,020
LINK	+31.58%	3,184	4,422	2,218
CRO	+40.17%	278	383	229
LTC	+4.00%	107,163	114,287	100,325
UNI	+295.32%	1,161	2,621	663
BCH	-50.27%	67,927	113,262	14,787
FTT	+70.83%	100	164	80

TRANSFER VALUE, ADJUSTED

USD value of the sum native units transferred removing noise

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	-13.57%	2,618,081,605	3,404,048,778	1,733,057,923
ETH	+10.54%	1,821,925,661	2,206,647,444	1,094,626,417
XRP	+105.03%	454,965,037	814,591,289	261,164,396
ADA	-19.80%	3,245,872,381	3,990,812,184	2,500,944,202
LINK	+176.96%	88,579,795	339,721,203	18,207,434
CRO	+977.14%	1,419,551	5,810,758	458,915
LTC	+64.40%	59,895,125	88,934,938	46,280,616
UNI	+170.74%	16,857,940	32,819,481	5,722,736
BCH	-11.79%	20,923,097	31,058,200	10,740,118
FTT	+94.31%	635,558	1,086,086	278,245

ADDRESSES ≥ \$1

Count of addresses holding at least \$1 worth of native units

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+0.92%	41,225,756	41,398,671	41,020,339
ETH	+0.02%	58,887,509	59,015,983	58,752,230
XRP	+0.15%	4,790,465	4,794,224	4,786,984
ADA	+0.08%	3,533,548	3,540,016	3,519,636
LINK	+0.48%	532,600	533,996	531,467
CRO	+0.10%	149,386	149,473	149,310
LTC	+0.97%	2,305,966	2,324,574	2,284,625
UNI	+0.33%	283,722	284,170	283,228
BCH	+0.77%	4,486,814	4,503,587	4,455,100
FTT	-0.30%	21,425	21,449	21,353

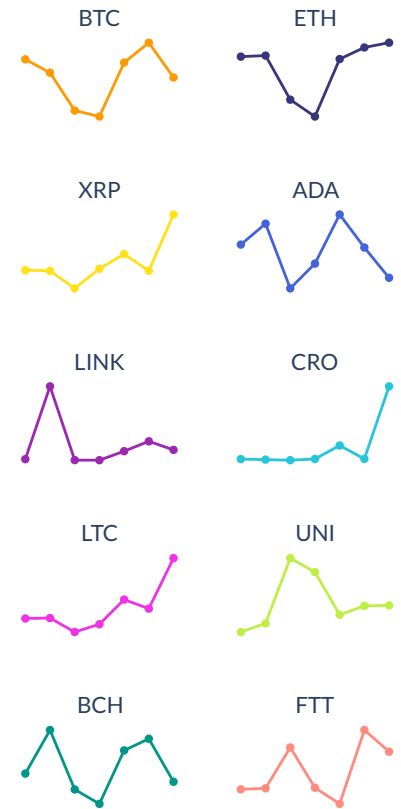
ADDRESSES ≥ \$1M

Count of addresses holding at least \$1M worth of native units

ASSET	7D CHANGE	7D AVERAGE	7D MAX	7D MIN
BTC	+0.74%	71,213	71,620	70,981
ETH	-0.58%	9,424	9,482	9,360
XRP	+8.27%	1,135	1,178	1,088
ADA	+0.00%	768	780	751
LINK	+13.33%	380	408	359
CRO	+0.00%	48	48	48
LTC	+3.16%	423	440	411
UNI	-1.04%	286	289	284
BCH	+2.11%	338	341	331
FTT	+0.00%	14	14	14

COINMETRICS

TRANSFER VALUE, 7 DAY TREND



ESTIMATED MARKET CAPITALIZATION (MARKET CAP)

Estimated Market Capitalization (Market Cap) is an asset's reported supply multiplied by its price. In this version of the metric, circulating supply is reported by the projects or other derived sources.

PRICE

Closing Price (4PM), High Price, Low Price, % Change in Price for each asset for the previous month and the previous 52-week period. Price represents Coin Metrics' Reference Rate, which is calculated using an independent methodology robust to manipulation. [More information](#) on Coin Metrics' Reference Rates.

DIGITAL ASSET TAXONOMY

Asset classes, sectors, and sub-sectors are derived from datonomy™, a digital asset classification system created by Coin Metrics, Goldman Sachs, and MSCI, offering a consistent, standardized way for investors to analyze the digital assets ecosystem.

Class is the top level of the classification system, describing the fundamental purpose of an asset.

Sector describes specialization of an asset within a class.

Sub-Sector delineates the asset within a sector by the specific product, service, or function it provides to users.

datonomy™ offers a new level of transparency into how the market is moving and serves as a powerful foundation for portfolio performance measurement, risk management, reporting, & investment strategy. [More info](#) on datonomy.

SECTOR INDEXES

The Total Market Series is a suite of indexes measuring segments of the digital assets ecosystem as defined by datonomy™, allowing investors to passively track the growth of sectors and sub-sectors. The full list of index offerings is outlined below:

- **CMBIAUE:** CMBI Application Utilities Sector Even
- **CMBIBUE:** CMBI Blockchain Utilities Sector Even
- **CMBIBSE:** CMBI Business Services Sector Even
- **CMBIDFIE:** CMBI Decentralized Finance Sector Even
- **CMBIITE:** CMBI Information Technology Sector Even
- **CMBIIFE:** CMBI Intermediated Finance Sector Even
- **CMBIMSE:** CMBI Media Services Sector Even
- **CMBIMTAE:** CMBI Metaverse Sector Even
- **CMBISCPE:** CMBI Smart Contracts Platform Sector Even
- **CMBISCE:** CMBI Specialized Coins Sector Even
- **CMBIVTCE:** CMBI Value Transfer Coins Sector Even
- **CMBIDEXE:** CMBI Decentralized Exchanges Sub-Sector Even
- **CMBINSE:** CMBI Network Scaling Sub-Sector Even
- **CMBINFTE:** CMBI NFT Ecosystem Sub-Sector Even

CMBI SINGLE ASSET SERIES

The CMBI Single Asset Series provide the cryptoasset community, investors and asset managers with publicly available and investable benchmarks that reliably and accurately track the price of a single cryptoasset, through sourcing market prices from numerous global liquidity venues. [More information](#) on Coin Metrics Indexes.

CMBI BITCOIN

Daily level for Coin Metrics Bletchley Index (CMBI) Bitcoin for the previous month. CMBI Bitcoin tracks the price and performance of Bitcoin by sourcing BTC/USD market prices from numerous global liquidity venues. As of 9/17/2023 constituent markets in the CMBI Bitcoin were Binance.US, Bitstamp, Bittrex, Coinbase, Gemini, itBit and Kraken. [More information](#) on Coin Metrics Indexes.

CMBI ETHEREUM

Daily level for CMBI Ethereum for the previous month. CMBI Ethereum tracks the price of Ethereum by sourcing ETH/USD market prices from numerous global liquidity venues. As of 9/17/2023 constituent markets in the CMBI Ethereum were Binance.US, Bitstamp, Bittrex, Coinbase, Gemini, itBit and Kraken. [More information](#) on Coin Metrics Indexes.

CMBI MULTI ASSET SERIES

The CMBI Multi Asset Series provide the cryptoasset community, investors and asset managers with publicly available and investable benchmarks that reliably and accurately track the value of cryptoasset markets. [More information](#) on Coin Metrics Indexes.

CMBI 10

Daily level for CMBI 10 for the previous month. The CMBI 10 is designed to measure the performance an investor would expect from investing in a diversified basket of cryptoassets weighted by their free float market capitalization. The 10 largest cryptoassets, defined by an asset's expected 10 year future market capitalization, are selected as the index constituents. [More information](#) on Coin Metrics Indexes.

CMBI 10 MOMENTUM

Daily level for CMBI 10 Momentum for the previous month. The CMBI 10 Momentum is designed to measure the performance of a short term momentum factor applied to a basket of the 10 largest cryptoassets. The 10 largest cryptoassets, defined by an asset's expected 10 year future market capitalization, are selected as the index constituents. [More information](#) on Coin Metrics Indexes.

DATA EXPLAINER (P.2)

TRADING DIARY

Total Volume, which is the total traded volume for the previous week for the cryptoassets under Coin Metrics Reference Rate Coverage.

Adv. Volume is the total traded volume for the previous week for all cryptoassets under Coin Metrics Reference Rate Coverage that had closing prices higher than their opening prices for the week.

Decl. Volume is the total traded volume for the previous week for all cryptoassets under Coin Metrics Reference Rate Coverage that had closing prices lower than their opening prices for the week.

Advances are the number of cryptoassets that had closing prices higher than their opening price for the week.

Declines are the number of cryptoassets that had closing prices lower than their opening price for the week.

The ratio of advances to declines can be used to determine the breadth of market direction. For example, higher advance/decline ratios indicate that advancing market direction is driven by a broader set of cryptoassets.

EXCHANGE SPOT VOLUME MARKET SHARE

Market share of exchange spot volume for the previous week for the Markets covered by Coin Metrics.

BASE ASSET SPOT VOLUME MARKET SHARE

Market share of base asset volume for the previous week for the top 25 cryptoassets based on volume under Coin Metrics Reference Rate Coverage.

LIQUIDATIONS

Exchanges which offer futures products have a liquidation system that will attempt to close a market participant's position before the point at which the market participant begins to owe more than the available amount of collateral in their account. If a short trade enters liquidation, the exchange will enter a 'buy' order to forcibly close out the position. Vice versa, if a long trade enters liquidation, the exchange will enter a 'sell' order to forcibly close out the position.

% PRICE CHANGE

Percentage change in price over the previous week for cryptoasset gainers and losers in Coin Metrics' Reference Rate and Market Cap coverage universe. Coin Metrics' price/Reference Rate is calculated using an independent methodology robust to manipulation. [More information](#) on Coin Metrics' Reference Rates.

REPORTED EXCHANGE VOLUME

Our exchange reported volume metric is an aggregation of the daily reported volume from an exchange in units of U.S. dollars.

SPOT VOLUME SHARE, % BY ASSET

Exchange spot volume asset share is derived using Coin Metrics market candles. Candles include volume and volume-weighted average price, as well as open, high, low, and close values for each market. Candles are available at various intervals, from 1-minute to 1-day frequency. Candle USD volume is calculated by aggregating the total volume of trades for each base pair in a given window and multiplying by the asset's Coin Metrics Reference Rate.

ORDER BOOK DEPTH

Order book depth (+/-2%) is calculated using Coin Metrics order book snapshots. Coin Metrics stores three types of order book snapshots. One type consists of a snapshot of the top 100 bids and top 100 asks taken once every 10 seconds for major markets. The 2nd type includes all levels where the price is within 10 percent of the midprice taken once every 10 seconds for major markets. The 3rd type consists of a full order book snapshot (every bid and every ask) taken once every hour for all markets that we are collecting order book data for.

DEX REPORTED SPOT VOLUME

Decentralized exchange spot volume is calculated by aggregating the total amount of USD trading volume occurring in major DEX liquidity pools. The subset of liquidity pools where both the base and the quote asset have a Coin Metrics Reference Rate are included.

DEX RISING VOLUME

Decentralized exchange rising volume is calculated by aggregating the total amount of USD trading volume occurring in major DEX liquidity pools and selecting the pools with the largest week-over-week rise in volume. The subset of liquidity pools where both the base and the quote asset have a Coin Metrics Reference Rate are included.

DEX FALLING VOLUME

Decentralized exchange falling volume is calculated by aggregating the total amount of USD trading volume occurring in major DEX liquidity pools and selecting the pools with the largest week-over-week decline in volume. The subset of liquidity pools where both the base and the quote asset have a Coin Metrics Reference Rate are included.

DATA EXPLAINER (P.3)

DEX VOLUME BY FEE TIER

Decentralized exchange volume by fee tier is calculated by aggregating the total amount of swap USD volume that occurred in each liquidity pool, segmented by the different fee tiers of pools available for each pair. Revenue by fee tier is calculated by multiplying the amount of USD volume by the fee tier of the liquidity pool in which the volume occurred. [More information](#) on Coin Metrics DeFi data.

DEX TOTAL VALUE LOCKED (TVL)

Decentralized exchange total value locked is derived by calculating the amount of tokens held in all DEX liquidity pools covered by Coin Metrics. Balance held by each liquidity pool smart contract is retrieved using ATLAS, Coin Metrics' universal blockchain search engine. [More information](#) on Coin Metrics ATLAS.

FUTURES OPEN INTEREST

The reported futures open interest from markets in Coin Metrics' coverage in units of U.S. dollars, aggregated across all futures markets for a particular asset. Covered markets can be found in the Coin Metrics [Data Encyclopedia](#).

FUTURES BASIS

The futures basis is the percent difference between the price of a dated futures contract and the price of its underlying spot market, calculated using the Coin Metrics Reference Rate. In addition to calculating futures basis manually, Coin Metrics also offers annualized [futures basis metrics](#) at the exchange-asset level.

FUTURES VOLUME

The reported futures volume from the markets in Coin Metrics' coverage in units of U.S. dollars, aggregated across all futures markets for a particular asset. Covered markets can be found in the Coin Metrics [Data Encyclopedia](#).

FUNDING RATES

Funding rates are a mechanism that exchanges use to ensure that perpetual futures trade at a price that is close to the price of the underlying spot markets. The funding rate is used to calculate the funding fee which long position holders pay short position holders, or vice versa, as a way to incentivize market participants to take positions that keep perpetual futures prices close to the underlying.

Positive funding rates indicate that the price of a perp contract is higher than mark price, forcing traders with long positions to pay those holding shorts. Inversely, negative funding rates mean that perp prices are below mark price, so those with shorts must pay the longs. Some analysts have noted that persistently positive funding rates tend to precede a downturn, while persistently negative rates can lead to short squeezes.

PERP & NON-PERP OPEN INTEREST

The reported futures open interest from markets in Coin Metrics' coverage in units of U.S. dollars, aggregated across all futures markets for a particular asset and segmented by contract type (perpetual and non-perpetual futures).

A perpetual ("perp") contract is a special type of futures contract, which is an agreement to buy or sell a cryptoassets at a predetermined price at a specified time in the future. Perpetuals do not have an expiry date, so one can hold the position for as long as desired.

OPTIONS OPEN INTEREST

The reported options open interest from markets in Coin Metrics' coverage in units of U.S. dollars. Currently, the open interest displayed is collected from Deribit, the largest crypto options exchange. Open interest is broken down into calls (long positions) and puts (short positions) to highlight prevailing investor sentiment.

OPTIONS IMPLIED VOLATILITY VS. STRIKE PRICE (VOLATILITY SMILE)

Implied volatility represents the market's expectation of future volatility as derived from options prices, calculated using an options pricing model. When this value is input to an options pricing model, that makes the actual options price equal to its theoretical price.

The options implied volatility (IV) vs. strike price visualization (also known as a "volatility smile") is generated by plotting the IV of each options contract with a common expiration date against the corresponding strike prices of each contract. This representation underscores the fact that out-of-the-money (OTM) options must factor in a higher likelihood of extreme, market-moving events when compared to in-the-money (ITM) options, warranting a higher premium to be paid for the IV component of that contract.

OPTIONS GREEKS

Option greeks represent the sensitivity of the price of an options contract with respect to changes in its underlying parameters. Greeks are used in risk management & hedging so that market participants can achieve their desired exposure. Exchanges report the following greeks:

- **Vega:** The 1st derivative of an option's price to the volatility of the underlying asset's price.
- **Theta:** The 1st derivative of an option's price to the passage of time.
- **Rho:** The 1st derivative of an option's price to the risk free interest rate.
- **Delta:** The 1st derivative of an option's price to the underlying asset's price.
- **Gamma:** The 2nd derivative of an option's price to the underlying asset's price.

DATA EXPLAINER (P.4)

MARKET CAPITALIZATION (MARKET CAP)

Market Capitalization (Market Cap) is an asset's on-chain supply (Coin Metrics' Current Supply) multiplied by its price. Current supply is the sum of all native units ever created (i.e., issued) and visible on the ledger.

Market cap is the most commonly used measure of a cryptoasset's total market value. However, market cap can be misleading because it treats each unit of supply equally. Unlike with traditional equities, significant amounts of cryptoassets are permanently lost or go unclaimed, yet are still counted as part of the on-chain supply.

FREE FLOAT MARKET CAP

The sum USD value of the free float supply. Also referred to as free float network value or free float market capitalization.

Free Float Market Capitalization is a measure of the market value of an asset's supply that is issued and available to market participants. This excludes supply that is held by company insiders, controlling investors, and long term strategic holders. Free Float Supply also excludes large token burn wallets and funds that have been provably lost.

REALIZED CAP

Realized cap is calculated by valuing each unit of supply at the price it last moved on-chain (i.e. the last time it was transacted). For example if a coin was last transacted three years ago when the price was \$2,500, that particular coin would be priced at \$2,500 instead of the current market price. The realized cap is the total sum of all coins priced this way.

Realized cap provides a more realistic representation of market cap and discounts coins that are lost or out of circulation.

MARKET TO REALIZED VALUE (MVRV)

MVRV is the ratio of a cryptoasset's market cap (aka market value) to realized cap (aka realized value).

It can be used to help gauge cryptoasset market tops and bottoms. Historically, periods where Bitcoin's MVRV has dropped below 1.0 have coincided with market bottoms and in hindsight have been the best times to buy.

TOTAL STABLECOIN SUPPLY

Total Stablecoin Supply based on Coin Metrics' Current Supply, which reflects all native units ever created and visible on the ledger (i.e., issued). Tether supply includes Tether Omni, Tether ETH, and Tether Tron. Other Stablecoins include PAX, DAI, USDC, BUSD, GUSD, HUSD, TUSD, and SAI.

TETHER PREMIUM/DISCOUNT TO USD

30-day moving average of Tether's price YTD premium or discount to USD. Price represents Coin Metrics' Reference Rate, which is calculated using an independent methodology robust to manipulation. [More information](#) on Coin Metrics' Reference Rates.

MARKET CAPITALIZATION

See prior explanation.

TRANSFER VALUE, ADJUSTED

Transfer value is the total amount of a cryptoasset transferred over the course of a day, denominated in USD. We adjust raw transfer value to remove noisy "non-economic" behavior such as self-sends and spam.

TRANSACTION COUNT

Transaction count is the measure of the number of transactions either sent or received on a daily basis. Similar to active addresses it is a measure of network activity but it is susceptible to some spam and other types of manipulation.

MEDIAN TRANSFER VALUE

The median USD value transferred per transfer (i.e., the median "size" in USD of a transfer) between distinct addresses.

VELOCITY

The ratio of the value transferred (i.e., the aggregate "size" of all transfers) in the trailing 1 year divided by active supply in the trailing 1 year.

Velocity can be thought of as the rate of turnover— the number of times that an average native unit among the active supply has been transferred in the past 1 year.

MEMPOOL SIZE VS. FEE RATES

Coin Metrics' Mempool Monitor provides a full breakdown of what other network participants are willing to pay to have their transactions settled, thereby enabling precise fee estimation and settlement prediction. The chart showcases all feerate levels that have corresponding transactions in the mempool. For each feerate level, the total number of mempool transactions, as well as their size (in virtual bytes), are monitored.

BTC RECOMMENDED FEE RATE

The recommended minimum feerate required for a transaction to be included in the upcoming blockchain block. This metric accounts for situations where there are many transactions paying the minimum feerate by adding an additional cushion to the minimum estimate, providing better settlement guarantees.

BTC FEE TRENDS

The USD value of the mean and median fee per transaction that interval. Average fees per unit of blockspace (bytes and virtual bytes) are also calculated.

TRANSACTION COUNT PER BLOCK

The count of all transactions within the most recent block processed.

ETH GAS PRICES

The most recent block we processed within a 1-minute window is evaluated and its Base Fee and Priority Fees are captured. The concept of a Base Fee was introduced as part of EIP-1559 and it represents the portion of the total transaction fees that is destroyed and taken out of circulation (i.e. burnt). Ethereum post-1559 requires users to pay for a Base Fee as a prerequisite to include transactions in a block. The Base Fee can go up or down on the basis of the size (in gas units) of the previous block. The concept of a Priority Fee was introduced as part of EIP-1559 and it represents the portion of the total transaction fees that rewards validators. This serves as an added incentive so that validators prioritize transactions that have opted-in and paid a tip.

ETH FEE TRENDS

The USD value of the mean and median fee per transaction that interval. The sum gas used (i.e. paid) across all transactions and mean gas used (i.e. paid) per transaction that day are also captured.

NVT RATIO

The ratio of the network value (or market capitalization) to the 90-day moving average of the adjusted transfer value.

NVT uses native units network value and adjusted transaction volume. It is therefore available at the asset's genesis, unlike if it was using USD values. It can be thought of as a rough P/E (price to earnings) ratio proxy for crypto assets.

ACTIVE ADDRESSES

Active addresses is the unique number of addresses that either send or receive a transaction, calculated daily.

This metric can serve as a rough proxy for daily active users. However, it's not exact— a single user can have many addresses, and a single addresses can be owned by many users.

FREE FLOAT SUPPLY

Coin Metrics' free float supply takes many of the best practices from traditional capital markets and applies them to cryptoassets to identify supply that is highly unlikely to be available to the market in the short to mid-term. In doing so, free float supply provides a better approximation of a cryptoasset's liquidity and market capitalization compared to standard supply measurements. [More information](#) on Coin Metrics Free Float Supply.

TRANSACTION COUNT

See prior explanation.

TRANSFER VALUE, ADJUSTED

See prior explanation.

ADDRESSES WITH ≥ \$1

The count of addresses that hold at least \$1 worth of a cryptoasset. This gives a rough estimation of the amount of users that hold an asset, with the same caveats that apply for active addresses.

ADDRESSES WITH ≥ \$1M

The count of addresses that hold at least \$1M worth of a cryptoasset. This gives a rough estimation of the amount of institutional investors that hold an asset, with the same caveats that apply for active addresses.