

Around the block

Monthly cryptocurrency and blockchain related highlights from the Truist Investment Advisory Group

September 9, 2022

Off the block

The Ethereum blockchain will undergo its much anticipated “Merge” next week. This changes the way Ethereum transactions will be settled and validated. It shifts the burden of validation from energy intensive crypto mining to existing Ethereum owners who will be compensated for their efforts. We highlight this in our chart-of-the-month in the right panel.

Some context on Ethereum and the Merge:

- Ethereum has a market cap of \$209 billion which would make it the 28th largest company in the S&P 500 if publicly traded, just ahead of Disney.
- Year-to-date, Ethereum has generated \$8.2 billion in mining revenue and totaled over \$6 trillion in transaction value over their network.
- Bitcoin and Ethereum account for the majority of crypto miner revenue. As Ethereum “proof of work” mining is replaced with “proof of stake” validation, some miners could lose up to 50% of current revenue.
- The negative economic impact to miners will remain a heightened risk for investors.

Investing in speculative investments, like those related to cryptocurrency, involves a high degree of risk and is not suitable for all investors.



Industry developments

- Snapchat, after weak earnings, announced it will close its Web 3.0 team as well as its augmented reality (AR) team to cut costs.
- GameStop entered a partnership with the FTX cryptocurrency exchange to offer an interactive experience for the gaming and crypto community.

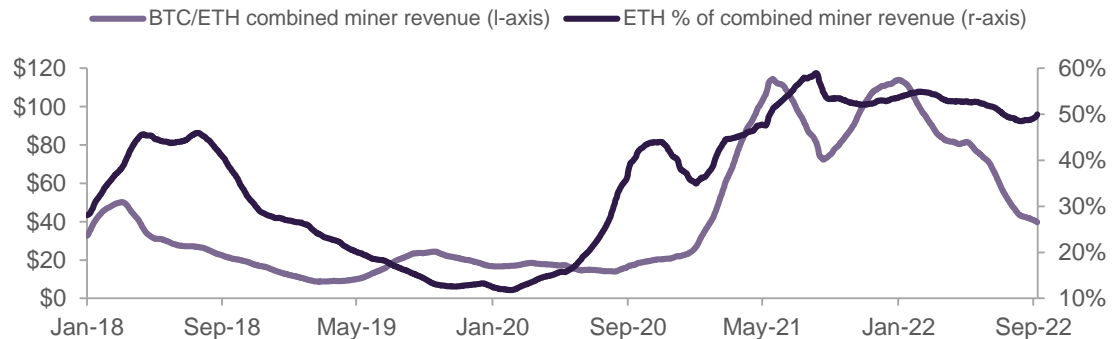
Regulatory developments

- SEC chairman Gary Gensler is signaling support for Congress giving regulatory authority over Bitcoin to the CFTC.
- In Europe, the MiCA (Markets in Crypto Assets) regulation has announced its proposed regulatory language could be finalized in the next 60 days to be implemented in 18 months in the EU.

Chart of the month — Miner concern

Crypto miners have been generating roughly \$40 million in daily revenue from settling bitcoin and ether transactions. Ether accounts for 50% of that revenue. Crypto mining companies pose investor risks due to declining revenue streams and the upcoming Ethereum “merge” to a “proof-of stake” consensus mechanism.

**Bitcoin/Ether miner revenue and ETH % share
(miner revenue in millions)**



Data sources: Truist IAG, Coin Metrics. Ether % share shown as 90-day average.

Investment and Insurance Products:

- Are Not FDIC or any other Government Agency Insured
- Are Not Bank Guaranteed
- May Lose Value

Wealth

Performance monitor (8/31/2022)

Crypto and traditional indices

Bitcoin/Ethereum	Composition	1 Mo	YTD	1 Yr
CMBI Bitcoin		-15.4%	-56.0%	-57.3%
CMBI Ethereum		-10.2%	-57.6%	-54.7%
CMBI Btc/Eth		-12.9%	-56.3%	-56.0%
Diversified Baskets				
CMBI 10 Cap Wgt	cap weight	-13.0%	-59.7%	-60.3%
CMBI 10 Even Wgt	equal weight	-14.8%	-67.2%	-67.9%
CMBI ex-bitcoin	CMBI 10 - BTC	-10.0%	-63.5%	-63.4%
MVIS CryptoCompare DA 10	30% coin cap	-12.2%	-61.6%	-62.4%
MVIS CryptoCompare DA 25	20% coin cap	-14.3%	-65.3%	-63.9%
MVIS Sector Leaders				
Smart Contracts		-14.7%	-71.1%	-71.8%
DeFi		-26.2%	-70.6%	-80.2%
Media and Entertainment		-19.5%	-82.8%	-94.2%
Infrastructure		-21.7%	-74.1%	-76.3%
Equities				
NYSE Factset Global Blockchain	digital equities	-3.4%	-59.8%	-66.5%
MVIS Global Digital Assets Equity	digital equities	-4.5%	-68.1%	-77.4%
S&P 500		-4.1%	-16.1%	-11.2%
MSCI World ex USA		-4.7%	-18.7%	-18.6%
MSCI EM		0.4%	-17.5%	-21.8%
Fixed Income				
Bloomberg US Agg Bond		-2.8%	-10.8%	-11.5%
Bloomberg US Treasury US TIPS		-2.7%	-7.5%	-6.0%
Commodities				
Bloomberg Commodity		0.1%	23.6%	27.7%
SPDR® Gold Shares		-2.2%	-6.0%	-5.8%

Data sources: Truist IAG, Morningstar, CoinMetrics, Messari

See disclosures for more on index definitions and methodology.

Crypto assets month in review

We saw a return to heightened volatility in August as the crypto ecosystem once again fell below the \$1 trillion market cap line in the sand. Unsurprisingly, this came alongside a synchronized de-risking in other risk assets such as equities after taking a break from the July rally.

September often confronts investors with seasonal weakness in equities which would likely have an impact on crypto as well. Also, the Fed has doubled down on its restrictive monetary policy intentions and is expected to announce yet another super-sized rate hike of 0.5% to 0.75% at its September meeting. Markets may already have priced in a 0.5% increase, but a 0.75% increase may challenge the market's wishful thinking and inject renewed risk asset volatility. Finally, Ethereum's shift from a proof-of-work to a proof-of-stake consensus mechanism is likely a long-term positive but could serve as a short-term disruptor. This stands to be one of the biggest events in the short history of crypto and bears watching over the weeks to come.

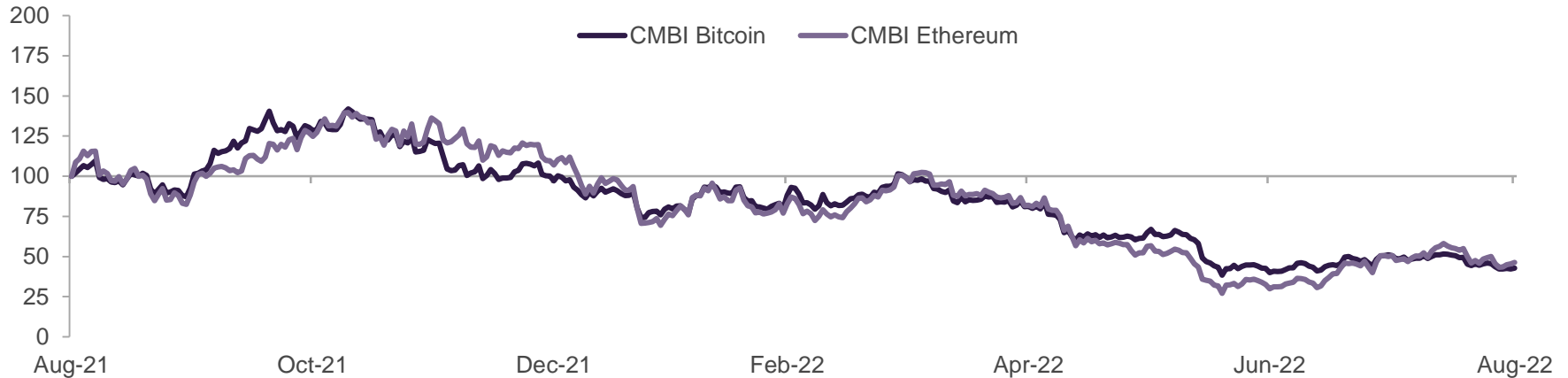
September could see renewed progress toward crypto legislation, but the upcoming mid-term elections could be a distraction. Meaningful legislative progress is more likely to gain traction once government agencies report their recommendations to the Executive branch in response to the March executive order. The most consistent regulatory priority seems to be stablecoin legislation which has the strongest link to the banking system.

Notable callouts for the month:

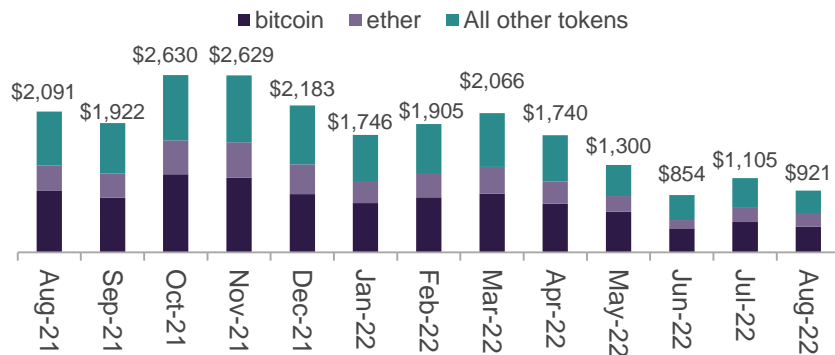
- Digital equity indices were a notable outperformer in August performing in line with major equity averages despite YTD drawdowns of 60-70%.
- Smart contracts were a relative bright spot over the month led by Ethereum. Markets continue to acknowledge the likely staying power of these new technologies with growing use cases and applications.
- Decentralized finance (DeFi) was the weakest link in August led down by Uniswap.
- Crypto and digital equity product flows for August and early September reveal bitcoin weakness and flat trends for ether and other alt coins. But we saw an uptick for digital asset equities which are concentrated in miners, financials, chip and equipment makers— slide 7.

Cryptocurrency ecosystem snapshot as of 8/31/22

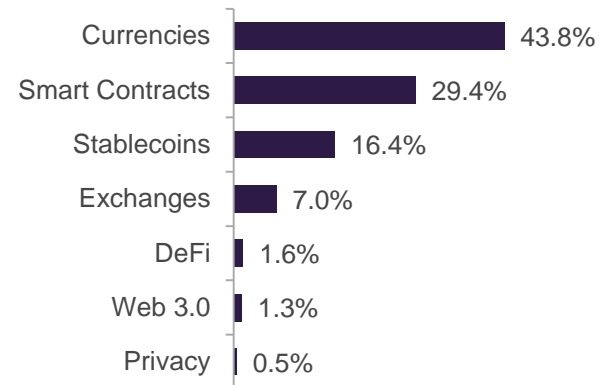
Bitcoin and ether 1-year indexed returns



Cryptocurrency aggregate market cap (\$billions) with bitcoin and ethereum dominance



Cryptocurrency ecosystem sector composition

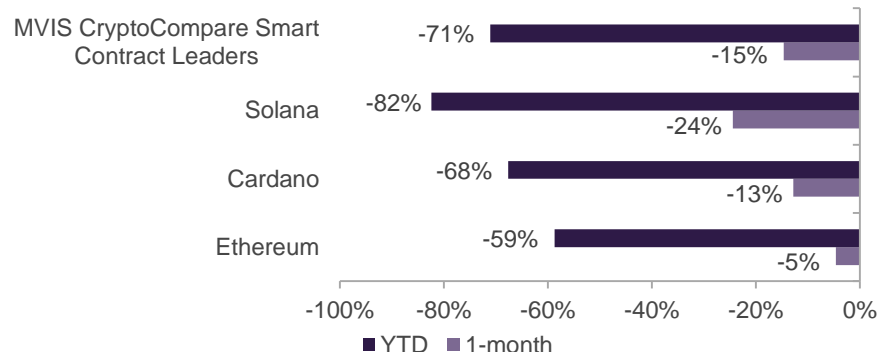


Data sources: Truist IAG, CoinMetrics, Messari

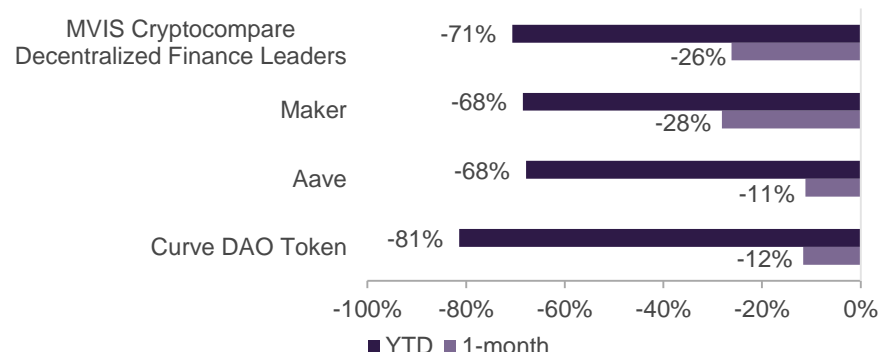
Key crypto sectors 8/31/22

Differentiating between crypto sectors provides industry perspective similar to sectors within the S&P 500.

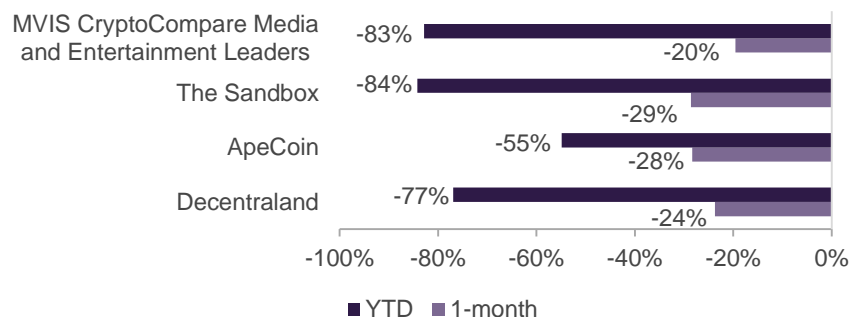
Smart contract index and top 3 tokens



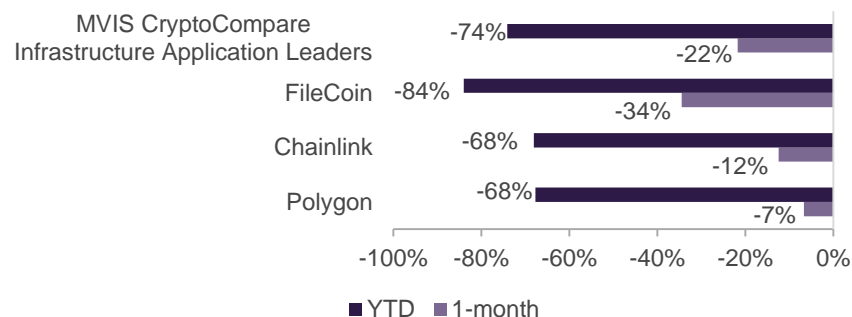
DeFi index and top 3 tokens



Metaverse index and top 3 tokens



Infrastructure index and top 3 tokens



Data sources: Truist IAG, MVIS CryptoCompare, Messari, Morningstar.

See disclosures for more on index definitions and methodology.

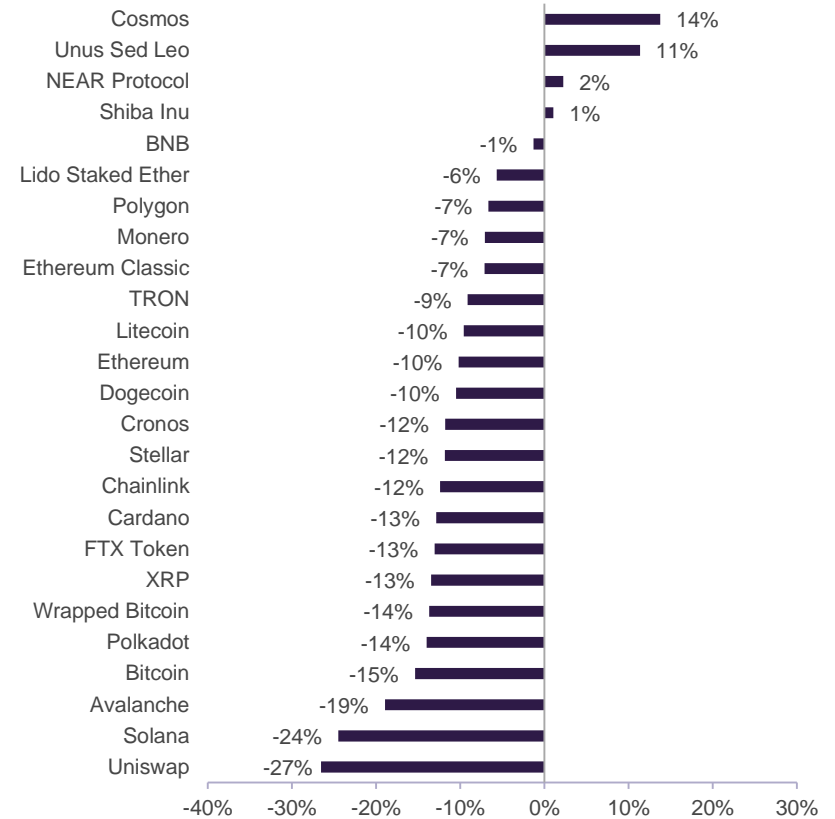
August 2022 top 25 tokens by market cap

Top 25 cryptocurrencies and top five stablecoins:
83% of total crypto market cap

Rank	Name	Symbol	Sector	Mkt Cap (\$billions)	Mkt Cap Dominance	Cumulative Mkt Cap Dominance
1	Bitcoin	BTC	Currencies	\$ 383.9	35.3%	35.3%
2	Ethereum	ETH	Smart Contract Platforms	\$ 190.2	17.5%	52.7%
3	BNB	BNB	Smart Contract Platforms	\$ 45.0	4.1%	56.8%
4	XRP	XRP	Currencies	\$ 16.3	1.5%	58.3%
5	Cardano	ADA	Smart Contract Platforms	\$ 15.1	1.4%	59.7%
6	Solana	SOL	Smart Contract Platforms	\$ 11.0	1.0%	60.7%
7	Dogecoin	DOGE	Currencies	\$ 8.1	0.7%	61.5%
8	Polkadot	DOT	Smart Contract Platforms	\$ 8.1	0.7%	62.2%
9	Shiba Inu	SHIB	-	\$ 7.1	0.7%	62.9%
10	Polygon	MATIC	Scaling	\$ 7.1	0.7%	63.5%
11	Lido Staked Ether	STETH	-	\$ 6.5	0.6%	64.1%
12	TRON	TRX	Smart Contract Platforms	\$ 5.8	0.5%	64.7%
13	Avalanche	AVAX	Smart Contract Platforms	\$ 5.6	0.5%	65.2%
14	Unus Sed Leo	LEO	Centralized Exchanges	\$ 5.5	0.5%	65.7%
15	Wrapped Bitcoin	WBTC	-	\$ 5.0	0.5%	66.1%
16	Ethereum Classic	ETC	Smart Contract Platforms	\$ 4.4	0.4%	66.6%
17	Litecoin	LTC	Currencies	\$ 3.8	0.4%	66.9%
18	FTX Token	FTT	Centralized Exchanges	\$ 3.6	0.3%	67.2%
19	Cosmos	ATOM	Smart Contract Platforms	\$ 3.4	0.3%	67.5%
20	NEAR Protocol	NEAR	Smart Contract Platforms	\$ 3.4	0.3%	67.9%
21	Chainlink	LINK	Data Management	\$ 3.3	0.3%	68.2%
22	Cronos	CRO	Payment Platforms	\$ 3.1	0.3%	68.4%
23	Uniswap	UNI	Decentralized Exchanges	\$ 2.8	0.3%	68.7%
24	Monero	XMR	Currencies	\$ 2.7	0.2%	68.9%
25	Stellar	XLM	Currencies	\$ 2.6	0.2%	69.2%

Top 5 Stablecoins						
Tether	USDT	Stablecoins	\$ 67.5	6.2%		6.2%
USD Coin	USDC	Stablecoins	\$ 52.4	4.8%		11.0%
Binance USD	BUSD	Stablecoins	\$ 19.4	1.8%		12.8%
Dai	DAI	Stablecoins	\$ 6.5	0.6%		13.4%
FRAX	FRAX	Stablecoins	\$ 1.5	0.1%		13.5%

Top 25 August 2022 performance rankings

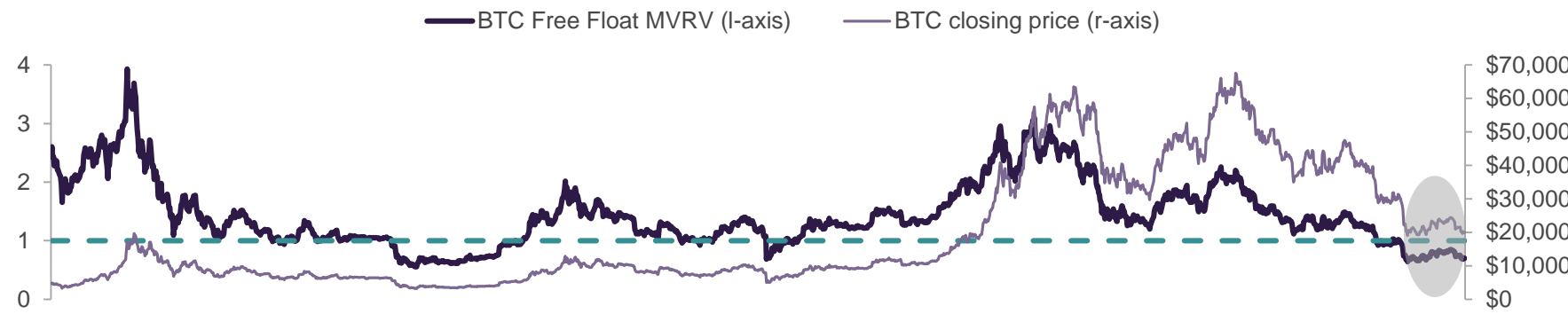


Data sources: Truist IAG, Messari

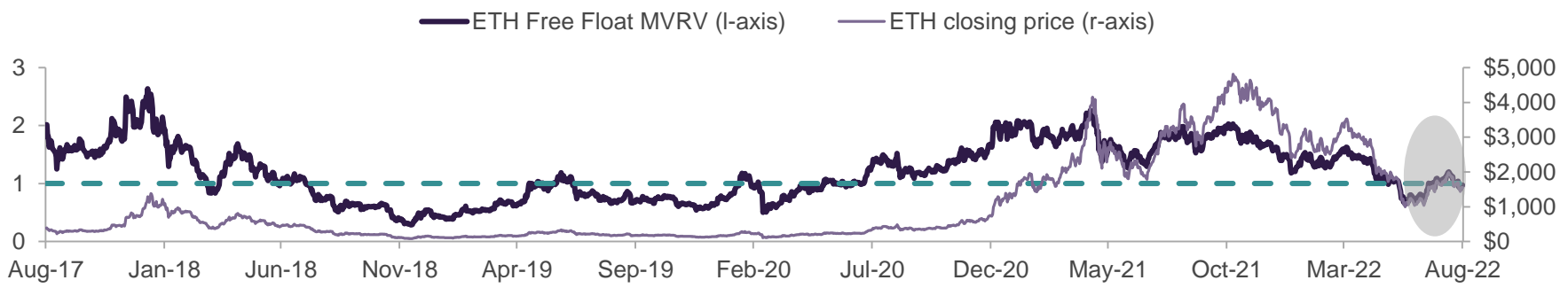
Market value to realized value (MVRV) has emerged a favorite among the crypto community as a solution to gain perspective on valuation since traditional metrics, like the price to earnings ratio, are rarely applicable. MVRV compares the current market value of the active supply of a given cryptocurrency over it's realized value, or the value each unit of cryptocurrency was last transacted at.

In simple terms, MVRV gives a sense of current market value over aggregate cost basis, thereby providing an estimate of unrealized gain/loss. As one might suspect, a value of one, or the break-even level, is a key support level. Historically values below one, especially in more mature tokens like bitcoin, have presented buying opportunities. We have seen levels stabilize and previous support levels hold.

Bitcoin MVRV



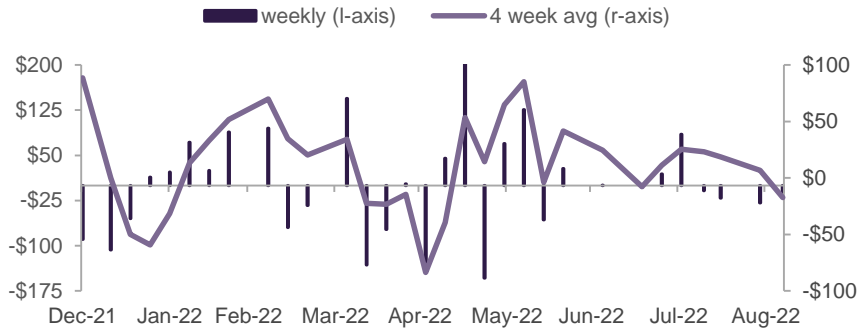
Ethereum MVRV



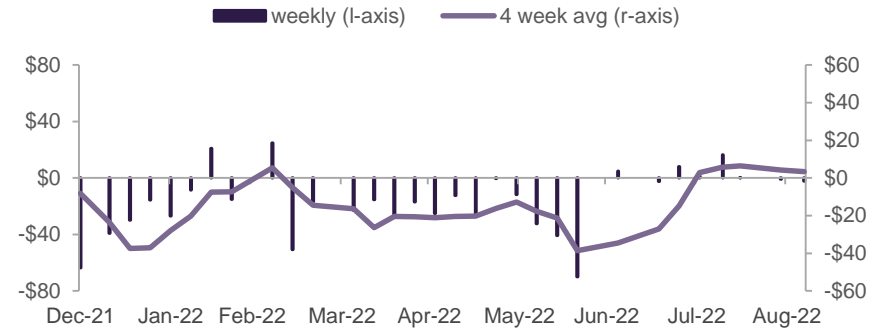
Data sources: Truist IAG, CoinMetrics

Year-to-date exchange-traded, mutual fund, and trust product fund flows (in \$ millions)

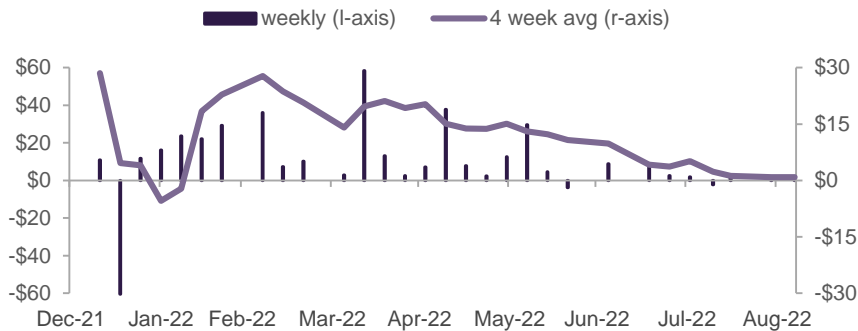
Bitcoin product flows



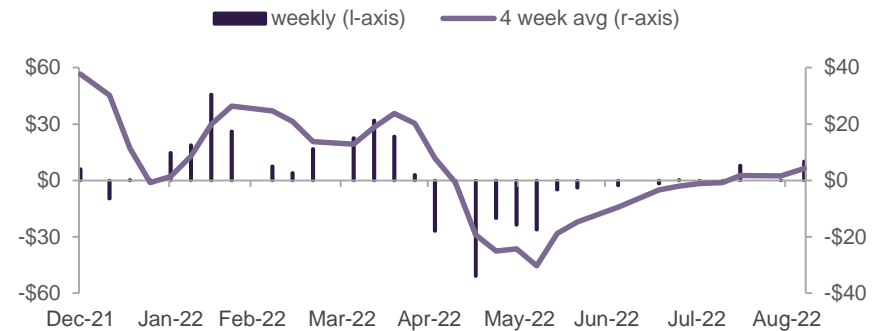
Ethereum product flows



Non bitcoin/ether products (ex short bitcoin)



Blockchain equity product flows



Data sources: Truist IAG, CoinShares. Product flows measured by ETPs, mutual funds, and OTC trusts.

Digital glossary

Digital technologies

Cryptocurrency refers to cryptographic currencies like bitcoin and alternative coins or ‘altcoins’, launched after the success of bitcoin. This category of digital assets is designed to work as a medium of exchange, store of value, or to power applications.

Token is a subset of cryptocurrencies. Tokens are units of value issued by platforms built on top of existing blockchains.

Bitcoin was the first system of global, decentralized, scarce, digital money as initially introduced in a white paper titled Bitcoin: A Peer-to-Peer Electronic Cash System by Satoshi Nakamoto.

Ethereum is a decentralized, public blockchain network that supports composable smart contracts which can support decentralized applications as well as peer-to-peer transfers. “ether” is the native cryptocurrency of the Ethereum network.

Stablecoins are the tokens designed to track the value of an off-chain asset, such as a fiat money or exchange traded commodity, most commonly U.S. dollars.

Smart contract is a software, typically carried on a decentralized public blockchain, that can execute or enforce pre-determined actions or agreements without the intervention of a centralized intermediary.

DeFi means decentralized finance; a peer-to-peer software-based network of protocols that can be used to facilitate traditional financial services like borrowing, lending, trading derivatives, insurance and more through non-custodial smart contracts carried on public blockchain networks.

NFT means non-fungible tokens. For example, money (or a single unit of bitcoin) is fungible—each one unit is considered equal to any other unit of identical size. Conversely, artwork is not fungible—no two paintings are identical. Non-fungible tokens represent unique digital property, whether a collectible, artwork, intellectual property, or something else.

Metaverse is a network of 3D virtual worlds focused on social connection. This can include virtual reality, augmented reality, and the digital economy.

Central Bank Digital Currency (CBDC) is a digital version of a government-issued fiat currency that’s managed by a central bank.

Web 3.0 is the third generation of the internet where technologies such as machine learning, decentralized ledgers, and artificial intelligence allow for a transparent environment that does not rely on central entities to manage and distribute content.

Data sources: Truist IAG, Galaxy Digital

Digital glossary

Digital technology concepts

Digital asset is any digital asset built using blockchain technology, including cryptocurrencies, stablecoins, non-fungible digital collectibles (NFTs) and security tokens.

Exchanges are platforms where you can buy and sell cryptocurrencies. Notable exchanges include Coinbase and Binance.

Decentralization is the process of removing intermediaries in a process and pushing power over a system out to the edges of the system, or to the users as a collective.

Public ledger is a transparent, distributed digital record of transactions that can be downloaded by anyone around the world.

Blockchain means a cryptographically secure digital ledger that maintains a record of all transactions that occur on the network and follows a consensus protocol for confirming new blocks to be added to the blockchain.

Block is a batch of confirmed transactions on the digital ledger. Blocks are added to an existing blockchain as transactions occur on the network. Miners are rewarded for “mining” a new block and sometimes awarded a token.

Mining is the process by which new blocks are created, and thus new transactions are added to the blockchain. The term “miner” typically refers to an entity that participates in block production on a Proof of Work network, whereas “validator” typically refers to an entity that participates in block production on a Proof of Stake network.

Double spend means the act of spending the same coin twice. If money can be double spent, it cannot function properly as it loses its scarcity and counterparties cannot trust that they alone have received payment. Solving the double-spend problem without the use of a central intermediary had never been accomplished until Bitcoin.

Address is a payment instruction for a digital asset. When receiving a payment, the recipient communicates their address to the payer, and the payer can send funds to that address.

Wallet is a tool that stores public and private keys and enables the user to use those keys to interact with a blockchain network. Wallets can be software, hardware, or physical (paper, metal, etc.).

Cold storage means the storage of private keys in any fashion that is disconnected from the internet. Common cold storage examples include offline computers, USB drives, or paper records.

Private key in asymmetric cryptography is a piece of data held in secret by an entity. It is used to compute digital signatures upon other data that can be verified by a third-party cheaply simply by knowing the public key.

Public keys are used with digital signatures to validate that the holder of a cryptocurrency coin did legitimately authorize the transfer of that coin to a new address or entity.

Fork is an event in open source software development when part of a community breaks away by making changes to the software.

Data sources: Truist IAG, Galaxy Digital

Disclosures

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Asset classes are represented by the following indexes. An investment cannot be made directly into an index.

U.S. Large Cap Equity is represented by the S&P 500 Index which is an unmanaged index comprised of 500 widely-held securities considered to be representative of the stock market in general.

Emerging Markets is represented by the MSCI Emerging Markets Index captures large and mid cap representation across 24 Emerging Markets (EM) countries. With 1,125 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI World ex USA Index captures large and mid cap representation across 22 of 23 Developed Markets (DM) countries--excluding the United States. With 910 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

U.S. Core Taxable Bonds are represented by the Bloomberg U.S. Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency).

The Bloomberg Barclays US Treasury Inflation-Linked Bond Index measures the performance of the US Treasury Inflation Protected Securities (TIPS) market. Federal Reserve holdings of US TIPS are excluded from the index.

Commodities are represented by the Bloomberg Commodity Index which is a composition of futures contracts on physical commodities. It currently includes a diversified mix of commodities in five sectors including energy, agriculture, industrial metals, precious metals and livestock. The weightings of the commodities are calculated in accordance with rules that ensure that the relative proportion of each of the underlying individual commodities reflects its global economic significance and market liquidity.

The Coin Metrics Bletchley Index **(CMBI) Bitcoin** is a cryptoasset benchmark designed to measure the performance an investor would expect from purchasing and holding Bitcoin. The benchmark represents a market aggregate USD value for Bitcoin. It aggregates data from the major global BTC/USD markets that conform to the Coin Metrics Market Selection Framework.

The Coin Metrics Bletchley Index **(CMBI) Ethereum** is a cryptoasset benchmark designed to measure the performance an investor would expect from purchasing and holding Ether. The benchmark represents a market aggregate USD value for Ether. It aggregates data from the major global ETH/USD markets that conform to the Coin Metrics Market Selection Framework.

The Coin Metrics Bletchley Index **(CMBI) Bitcoin and Ethereum** is a cryptoasset benchmark designed to measure the performance of a portfolio of Bitcoin and Ethereum, weighted by their free float market capitalization. It aggregates data from the major global BTC/USD and ETH/USD markets that conform to the Coin Metrics Market Selection Framework.

The **CMBI 10** is designed to measure the performance an investor would expect from investing in a diversified basket of crypto assets, weighted by their free float market capitalization. The 10 largest crypto assets, defined by an asset's expected 10 year future market capitalization, are selected as the index constituents.

The **CMBI 10 Even** offers an alternative to the CMBI 10 market cap weighted indexes. Even weighting strategies reflect the performance an investor would expect from investing an equal amount in a diversified basket of the largest crypto assets. Equal weighting is one of the oldest and best known methods of factor investing and aims to overcome weighting concentrating an index too heavily in a few large assets.

Disclosures

The **CMBI 10 Excluding Bitcoin** is designed to measure the performance an investor would expect from investing in a diversified basket of the largest non-Bitcoin crypto assets, weighted by their free float market capitalization. As Bitcoin is often an investor's first exposure to crypto assets, the CMBI10EX was designed to provide a simple mechanism to diversify into other large cap crypto assets. The same constituents as the CMBI10, with the exception of Bitcoin, are selected as the index constituents.

The MVIS CryptoCompare Smart Contract Leaders Index is designed to track the performance of the largest and most liquid smart contract assets, and is an investable subset of MVIS CryptoCompare Smart Contract Index.

The MVIS CryptoCompare Decentralized Finance Leaders Index is designed to track the performance of the largest and most liquid decentralized finance assets, and is an investable subset of MVIS CryptoCompare Decentralized Finance Index.

The MVIS CryptoCompare Media and Entertainment Leaders Index is designed to track the performance of the largest and most liquid media & entertainment assets, and is an investable subset of MVIS CryptoCompare Media & Entertainment Index.

The MVIS CryptoCompare Infrastructure Application Leaders Index is designed to track the performance of the largest and most liquid infrastructure application assets, and is an investable subset of MVIS CryptoCompare Infrastructure Application Index.

The MVIS Global Digital Assets Equity Index tracks the performance of the largest and most liquid companies in the digital assets industry. This is a modified market cap-weighted index, and only includes companies that generate at least 50% of their revenue from digital asset services and products, such as exchanges, payment gateways, mining operations, software services, equipment and technology, digital asset infrastructure, or the facilitation of commerce with the use of digital assets. MVDAPP covers at least 90% of the investable universe.

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