

Around the block

Truist Advisory Services, Inc.

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

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Two highlights:

1. Crypto winter enjoying a brief respite

- The total market cap of the crypto ecosystem, is down over 60% from its 2021 all-time highs, but bounced from \$780 billion to \$920 billion in the last few weeks.
- The Fed onslaught of 7 rate hikes totaling 4.25% in 2022 has decimated crypto valuations. The recent rebound is alongside other risk assets stemming from an expected slower pace of tightening or even a Fed pause.
- Investors should exercise caution interpreting this as an all-clear sign. Crypto specific risks and a persistent Fed remain headwinds.

2. Bitcoin and Ethereum in focus

- Bitcoin is approaching its next halving event in May 2024. Prior halvings (the amount of BTC awarded to miners is cut in half) have seen BTC prices advance in anticipation.
- Ethereum is slated to undergo another upgrade (the Surge) late 2023. This could be more consequential than 2022's Merge.
- The Surge should magnify the quantity of transactions across the Ethereum blockchain network - a plus for real economy use cases.

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



Industry developments

- Starbucks launched Odyssey, extending its customer loyalty program with Web 3 technology and NFT's, offering customer Journeys focused on coffee, connection and community.
- Bitcoin miner Core Scientific filed for Chapter 11 bankruptcy but has since obtained financing from others, including Blackrock, to continue operating as it works through reorganization.

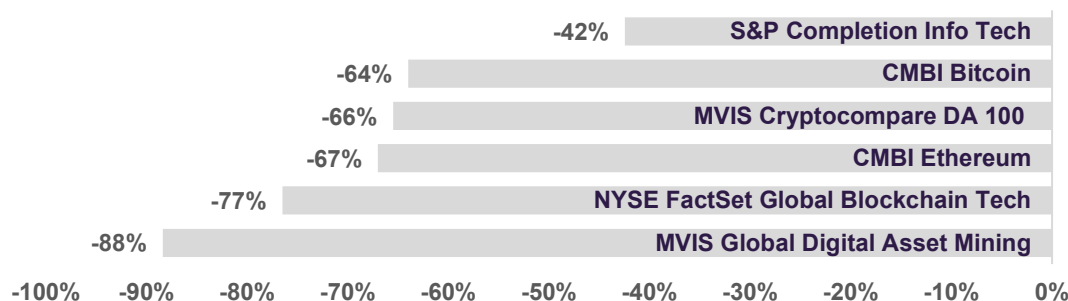
Regulatory developments

- Senators Elizabeth Warren (D) and Roger Marshall (R) introduced the Digital Asset Anti-Money Laundering Act of 2022, aligning crypto with traditional banks regarding illicit activity.
- Rep Patrick Henry, Chairman of the House Financial Services Committee announced the first Sub-Committee on Digital Assets and Financial Technology and Inclusion.

Chart of the month —Crypto aligning with tech, miners lose big

2022 was a washout for high-risk assets like mid-small cap tech (S&P Completion Info Tech), crypto and especially crypto related equities (NYSE FactSet Blockchain Tech and MVIS Mining). Federal reserve rate hikes were a chief catalyst. Crypto experienced specific events such as Terra Luna and FTX. Digital asset equities were especially impacted by the troubled mining sector.

2022 returns: Crypto and digital equities



Data sources: Truist IAG, Coin Metrics, Morningstar

Investment and Insurance Products:

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

Wealth

Performance monitor (12/31/2022)

Crypto and traditional indices

Bitcoin/Ethereum	Composition	1 Mo	3 Mo	1 Yr
CMBI Bitcoin		-2.9%	-15.7%	-64.0%
CMBI Ethereum		-6.9%	-11.0%	-67.1%
CMBI Btc/Eth		-3.2%	-12.0%	-66.2%
Diversified Baskets				
CMBI 10 Cap Wgt	cap weight	-6.0%	-14.6%	-69.6%
CMBI 10 Even Wgt	equal weight	-17.9%	-30.3%	-79.7%
CMBI ex-bitcoin	CMBI 10 - BTC	-10.7%	-15.6%	-74.1%
MVIS CryptoCompare DA 10	30% coin cap	-9.6%	-17.2%	-69.6%
MVIS CryptoCompare DA 25	20% coin cap	-12.2%	-23.3%	-74.2%
MVIS Sector Leaders				
Smart Contracts		-13.6%	-35.4%	-82.3%
DeFi		-13.4%	-30.0%	-80.8%
Media and Entertainment		-22.7%	-49.8%	-91.4%
Infrastructure		-19.3%	-22.7%	-78.1%
Equities				
NYSE Factset Global Blockchain	digital equities	-17.7%	-31.7%	-76.5%
MVIS Global Digital Assets Equity	digital equities	-22.0%	-46.2%	-85.9%
S&P 500		-5.8%	7.6%	-18.1%
MSCI World ex USA		-0.5%	16.2%	-14.3%
MSCI EM		-1.4%	9.7%	-20.1%
Fixed Income				
Bloomberg US Agg Bond		-0.5%	1.9%	-13.0%
Bloomberg US Treasury US TIPS		-1.0%	2.0%	-11.8%
Commodities				
Bloomberg Commodity		-2.4%	2.2%	16.1%
SPDR® Gold Shares		3.3%	8.3%	-0.8%

Data sources: Truist IAG, Morningstar, CoinMetrics, Messari
 See disclosures for more on index definitions and methodology.



Crypto assets month in review

2022 experienced the most aggressive Federal Reserve tightening in two generations. This was a dagger for risk assets but magnified for crypto and crypto-related equities. Upon reflection it is important to call out that this was the first real tightening cycle embarked on by the Fed (aside from the brief policy mistake in 2018) in the short history of crypto. This dates to the inception of Bitcoin in October 2008 at the heights of the Great Recession. This is a lesson learned and perhaps even a page for the future crypto playbook in the future.

2022 offered a glimpse into what crypto-contagion looks like. Aside from macro headwinds, crypto was faced with multiple events that rocked the entire ecosystem. There were two common themes of these crypto specific events; leverage and fraud. Carnage was seen earlier in the year as investors who leveraged up to 100% of their crypto holdings saw their balances collapse under the weight of depleted collateral. 2022 also brought us the dramatic rise and fall of FTX, Alameda and its founder Sam Bankman-Fried. This was a story of alleged fraud and theft that had a lack of regulatory enforcement to prevent investor loss.

The regulatory theme will be one of the key developments this year with potential for draft bills leaning toward investor protection working their way in Congress.

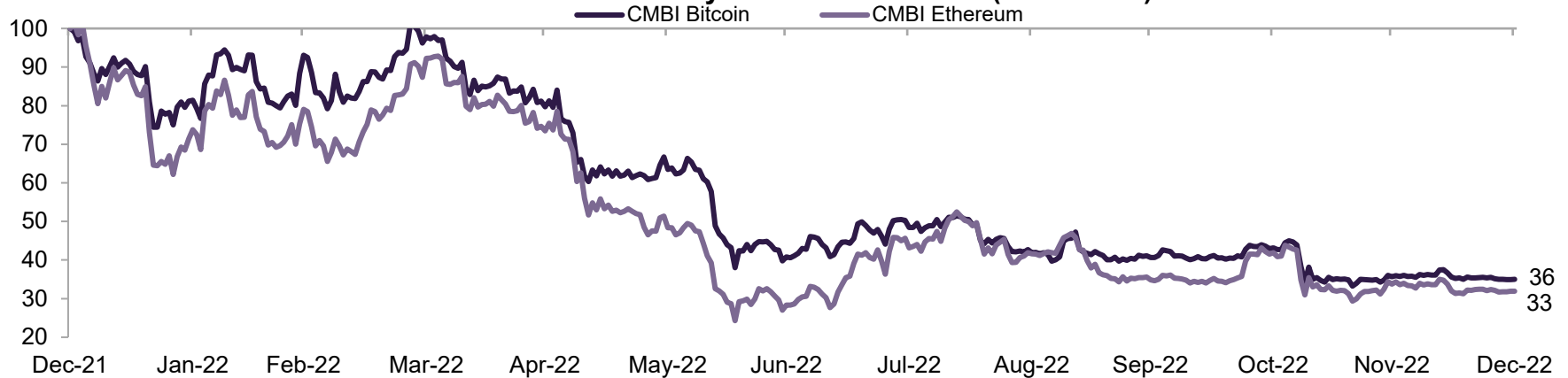
Notable callouts for the month:

- Crypto indices less reliant (CMBI Even and CMBI ex-bitcoin) on BTC and ETH fared worst without the relative outperformance of the ecosystem's two largest members..
- Interestingly, most of the drawdown in BTC and ETH occurred in the first half of the year while many other tokens and equities saw outsized losses in the 2nd half of the year perhaps related to FTX.

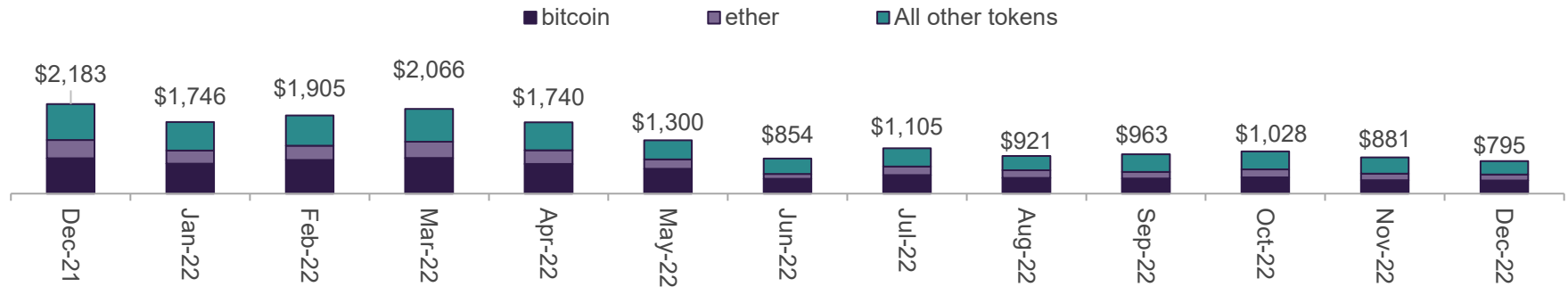
Cryptocurrency ecosystem snapshot as of 12/31/22

- Bitcoin and ether 1-year returns remain more than 60% below their record highs from November 2021
- The crypto ecosystem market value lost roughly 9.75% in December and 70% for 2022.

Bitcoin and ether 1-year indexed returns (12/31/2022)



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



Data sources: Truist IAG, CoinMetrics, Messari

December 2022 top 25 tokens by market cap

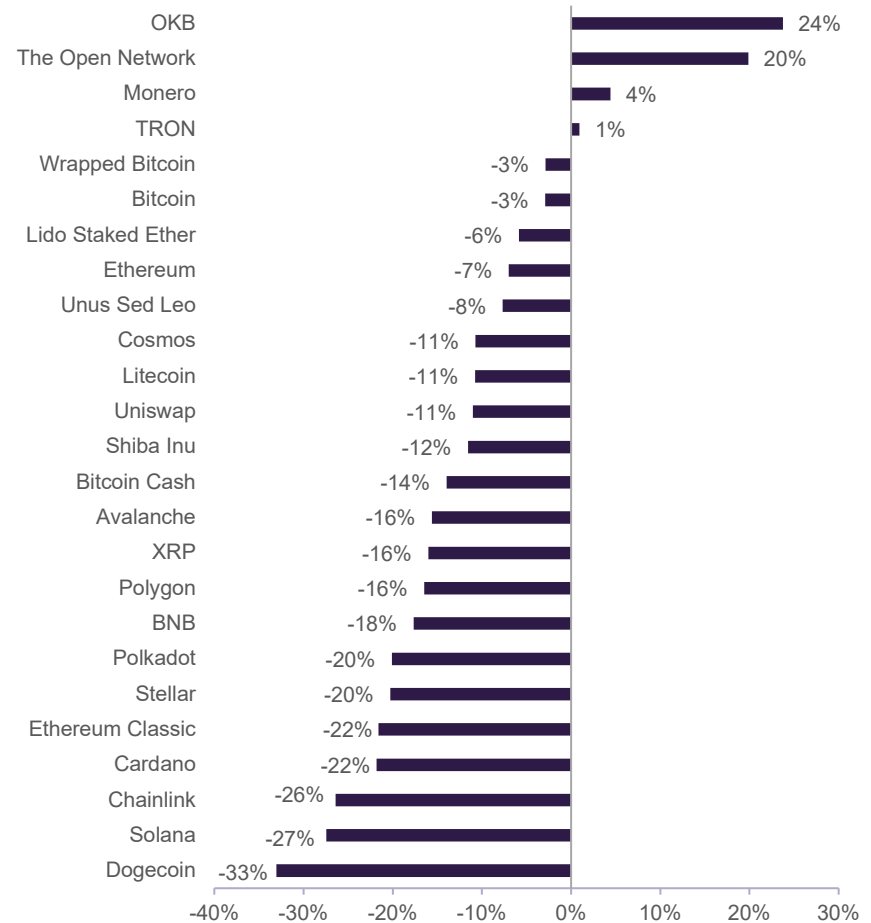
Top 25 cryptocurrencies and top five stablecoins:
86% of total crypto market cap

Rank	Name	Symbol	Sector	Mkt Cap (\$billions)	Mkt Cap Dominance	Cumulative Mkt Cap Dominance
1	Bitcoin	BTC	Currencies	\$ 345.9	36.9%	36.9%
2	Ethereum	ETH	Smart Contract	\$ 168.5	18.0%	18.0%
3	BNB	BNB	Smart Contract	\$ 44.8	4.8%	4.8%
4	XRP	XRP	Currencies	\$ 18.5	2.0%	2.0%
5	Cardano	ADA	Smart Contract	\$ 11.1	1.2%	1.2%
6	Dogecoin	DOGE	Currencies	\$ 10.2	1.1%	1.1%
7	Polygon	MATIC	Scaling	\$ 7.6	0.8%	0.8%
8	Lido Staked Ether	STETH		\$ 6.7	0.7%	0.7%
9	Polkadot	DOT	Smart Contract	\$ 6.0	0.6%	0.6%
10	Litecoin	LTC	Currencies	\$ 5.9	0.6%	0.6%
11	Solana	SOL	Smart Contract	\$ 5.8	0.6%	0.6%
12	Shiba Inu	SHIB		\$ 5.3	0.6%	0.6%
13	TRON	TRX	Smart Contract	\$ 5.1	0.5%	0.5%
14	Avalanche	AVAX	Smart Contract	\$ 4.6	0.5%	0.5%
15	Uniswap	UNI	Exchanges	\$ 4.5	0.5%	0.5%
16	Cosmos	ATOM	Smart Contract	\$ 3.3	0.4%	0.4%
17	Wrapped Bitcoin	WBTC		\$ 3.3	0.4%	0.4%
18	Unus Sed Leo	LEO	Exchanges	\$ 3.3	0.4%	0.4%
19	The Open Network	TONCOIN		\$ 3.2	0.3%	0.3%
20	Chainlink	LINK	Data Mgmt	\$ 3.1	0.3%	0.3%
21	Monero	XMR	Currencies	\$ 3.0	0.3%	0.3%
22	Ethereum Classic	ETC	Smart Contract	\$ 2.8	0.3%	0.3%
23	Bitcoin Cash	BCH	Currencies	\$ 2.1	0.2%	0.2%
24	Stellar	XLM	Currencies	\$ 2.1	0.2%	0.2%
25	OKB	OKB	Exchanges	\$ 1.7	0.2%	0.2%
						72.3%
Top 5 Stablecoins						
	Tether	USDT	Stablecoins	\$ 66.2	7.1%	7.1%
	USD Coin	USDC	Stablecoins	\$ 43.7	4.7%	4.7%
	Binance USD	BUSD	Stablecoins	\$ 16.4	1.8%	1.8%
	Dai	DAI	Stablecoins	\$ 5.1	0.5%	0.5%
	FRAX	FRAX	Stablecoins	\$ 1.0	0.1%	0.1%
						14.1%

Data sources: Truist IAG, Messari



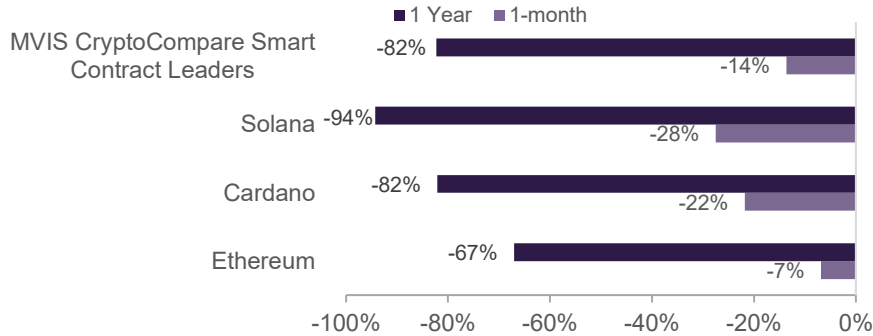
Top 25 December 2022 performance rankings



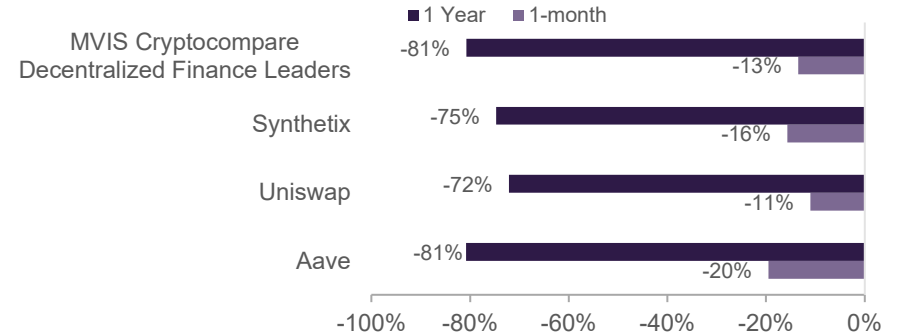
Key crypto sectors 12/31/22

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

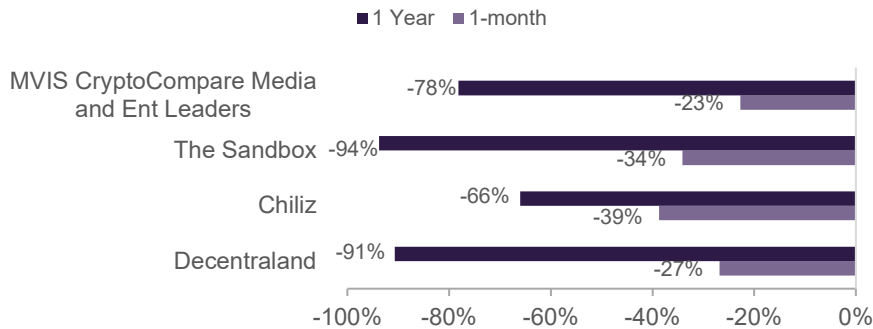
Smart contract index and top 3 tokens



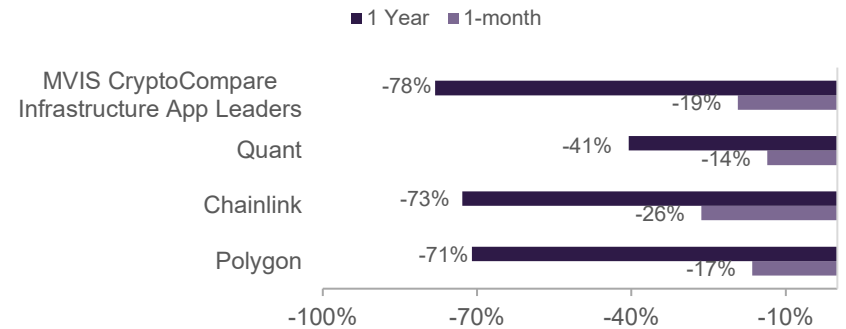
DeFi index and top 3 tokens



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.

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.

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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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