

Global Cryptocurrencies and Digital Assets

Digital Assets: In the flow

Strategy

7-day Performance to March 14: S&P 500 -1.7%, Nasdaq -0.9%, Digital Assets Top 100 +12%, Top 5 blockchain/scaling solution tokens (BTC, ETH, BNB, ADA, MATIC) +10%, DeFi TVL -2%, Top 4 stablecoins (USDT, USDC, BUSD, DAI) -2%

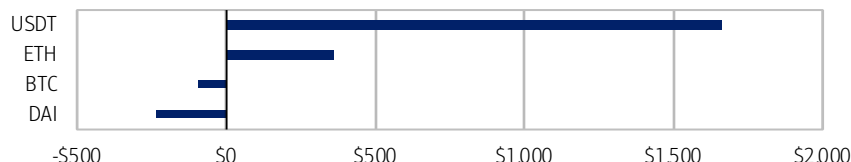
Above the Crowd: Our client conversations last week were focused on bank failures, crypto-specific regulatory actions and ecosystem development. Our Economics Research colleagues [view recent regulatory actions \(see Ethan's 3/13 report\)](#) as likely “enough to contain stresses” given that “the Fed is taking a page out of its traditional financial crisis response playbook...[and] will strive to lend early and freely, to solvent firms, against good collateral”. We expect market turmoil to weigh on digital asset liquidity, likely driving near-term volatility, and continued aggressive US regulatory actions to incentivize some digital asset companies to look overseas for more hospitable jurisdictions. Financial market turmoil drove token prices higher, specifically BTC (+11%) as a defensive play and for portfolio diversification as BTC/Nasdaq correlation fell to the lowest level in a year. Small-cap tokens (MVDASC) underperformed in sympathy with small-cap equities, pressured as [near-term risks increase \(see Jill's 3/15 report\)](#), and as Fed easing + credit tightening = [worst spot for stocks \(see Savita's 3/13 report\)](#).

In the Weeds: Last week, Digital Assets Large-Cap Index (MVDALC) +12%, Mid-Cap Index (MVDAMC) +10%, Small-Cap Index (MVDASC) +9%. Large-cap outperformance was driven by BTC (+11%) as holders of USDC (-12%) likely rotated into BTC due to concerns that USDC reserves were inaccessible, resulting in BTC short covering.* Mid-cap performance was driven by stablecoin TUSD (+60%), a beneficiary of USDC concerns, and APT (+23%) due to the launch of its gaming-focused SDK and announcement of its partnership with gaming company Npixel. Small-cap performance was driven by STX (+43%) as its scheduled upgrade on Mar 20 (Bitcoin block 781,551) approaches.**

Weekly Flows: BTC exchange net inflows were driven by profit taking on Mon and Tues following consistent daily net outflows from Mar 7-11. Exchange net outflows post-2 consecutive weeks of muted flows, tight supply (all-time highs) and ~\$73mn in short liquidations on Mar 14 indicate BTC sentiment may be shifting positively, and investors may be returning to HODLing (*neutral*). ETH saw its third consecutive week of accelerating exchange net outflows, but activity remains muted with flows ytd -61% y/y when ignoring direction, indicating that investors remain focused on the next catalyst, the Shanghai upgrade scheduled for Apr 12 (*neutral*).

Exhibit 1: 1 week net flow (\$mn) into personal digital asset wallets

USDT +\$1.7bn, ETH +\$359mn, BTC -\$91mn, DAI -\$238mn



Source: BofA Global Research, Glassnode; Data: 3/8/23 – 3/14/23

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16 March 2023

Cryptocurrency & Digital Assets
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Ecosystem at a glance

- ~\$1.1tn: crypto mkt value
- ~\$478bn: bitcoin mkt value
- ~\$597bn: altcoin mkt value
- ~52: altcoins with mkt value \$1bn+
- ~\$134bn: stablecoin mkt value
- ~\$47bn: DeFi TVL
- ~\$3.7bn: NFT ytd sales volume

Source: CoinMarketCap, DefiLlama, Dune Analytics (<https://dune.xyz/rchen8/opensea> & https://dune.com/kit_kwan/blurio-analytics)

Social Media

- Largest mentions increase wk/wk: DAI, WBTC, USDC
- Largest mentions decrease wk/wk: FTM, GRT, LRC

DeFi = Decentralized Finance

HODL = Hold on for Dear Life

NFT = Non-Fungible Token

SDK = Software Development Kit

TVL = Total Value Locked

*Stablecoin performance calculated with market values. Token performance calculated with price.

**Digital Asset Performance Tracker

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Timestamp: 16 March 2023 09:34PM EDT

Digital asset analytics

Exhibit 2: Tokens included in our flows analysis

23 tokens with a combined market value of \$739bn

Token	Ticker	Price	7-day / YTD	Volume (\$mn)	Smart Contract	Mkt Value (\$bn)
Bitcoin	BTC	\$24,746.07	+11% / +50%	\$36,575	NA	\$478.0
Ether	ETH	\$1,703.51	+9% / +42%	\$12,503	27%	\$208.5
Polygon	MATIC	\$1.20	+4% / +58%	\$785	66%	\$10.5
Shiba Inu	SHIB	\$0.000011	+2% / +40%	\$376	NA	\$6.2
Lido Staked ETH	stETH	\$1,692.82	+9% / +44%	\$85	NA	\$5.9
Uniswap	UNI	\$6.34	-1% / +23%	\$126	47%	\$4.8
Wrapped Bitcoin	WBTC	\$24,735.01	+11% / +50%	\$408	63%	\$3.7
Chainlink	LINK	\$6.98	+2% / +25%	\$346	57%	\$3.6
Unus Sed Leo	LEO	\$3.34	-1% / -7%	\$1	97%	\$3.2
OKB	OKB	\$49.10	+12% / +89%	\$60	NA	\$2.9
Cronos	CRO	\$0.07	+4% / +31%	\$20	2%	\$1.8
ApeCoin	APE	\$4.28	-9% / +18%	\$140	NA	\$1.6
Quant	QNT	\$129.57	+6% / +23%	\$35	41%	\$1.6
Decentraland	MANA	\$0.61	+4% / +106%	\$106	33%	\$1.1
Aave	AAVE	\$79.33	+6% / +53%	\$82	56%	\$1.1
The Sandbox	SAND	\$0.64	+6% / +68%	\$185	NA	\$1.0
Kucoin Token	KCS	\$9.19	+8% / +42%	\$2	1%	\$0.9
Maker	MKR	\$862.15	-7% / +69%	\$140	43%	\$0.8
Huobi Token	HT	\$4.20	-15% / -19%	\$26	30%	\$0.7
Loopring	LRC	\$0.34	+7% / +83%	\$47	23%	\$0.5
Basic Attn Token	BAT	\$0.25	-0.4% / +50%	\$36	19%	\$0.4
Compound	COMP	\$46.70	+3% / +50%	\$33	40%	\$0.3
Wrapped Ether	WETH	\$1,705.46	+9% / +43%	\$3,282	NA	NA

Source: CoinMarketCap, Glassnode

All data as of 3/14/23

Volume measures the avg daily trading volume across major exchanges from 3/8/23 – 3/14/23. Smart contract measures the avg daily percent of a token's supply held in smart contracts from 3/8/23 – 3/14/23.

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Token prices moved higher with few exceptions over the last week as the digital asset ecosystem's market value rose by 5%.

Market value of the top 100 digital assets increased by 12% over the last week and is up 41% ytd.

Exhibit 3: Stablecoins included in our flows analysis

4 stablecoins with a combined market value of \$126bn

Stablecoin	Ticker	Price Range	Volume (\$mn)	Mkt Value (\$bn)
Tether	USDT	\$1.00 - \$1.01	\$55,611	\$73.1
USD Coin	USDC	\$0.9976 - \$1.00	\$9,753	\$38.4
Binance USD	BUSD	\$0.9982 - \$1.00	\$8,041	\$8.4
Dai	DAI	\$0.9955 - \$1.00	\$1,240	\$6.2

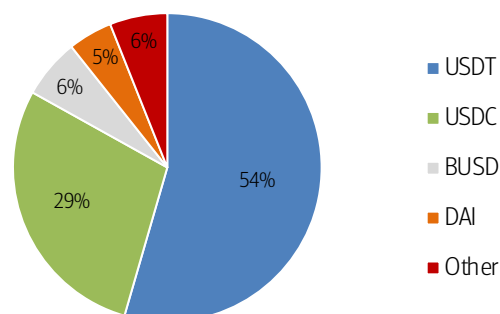
Source: CoinMarketCap

Price ranges and market values as of 3/14/23

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Exhibit 4: USDT's (+10% ytd) and DAI's market value +8% ytd taking share from BUSD's (-50% ytd), and USDC's (-14%)

Stablecoins have a market value of \$134bn

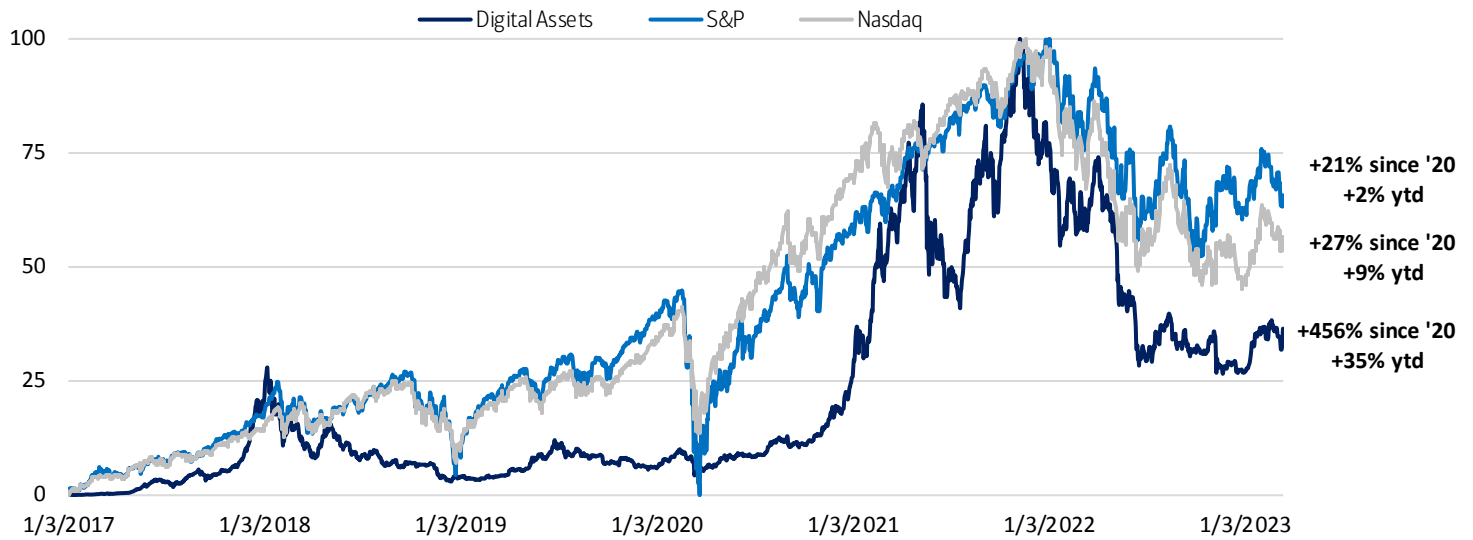


Source: CoinMarketCap

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Exhibit 5: Digital assets' market value has risen 35% ytd after falling 64% in 2022

Digital assets' market value appreciation relative to S&P (SPX) and NASDAQ (CCMP) performance



Source: CoinMarketCap, Bloomberg

Performance calculated from 12/31/19 – 3/14/23 and 12/31/22 – 3/14/23. Digital Assets' performance represents the change in the ecosystem's market value. Note that +21% and +2% is the performance of the S&P 500 Index (SPX) and +27% and +9% is the performance of the NASDAQ (CCMP).

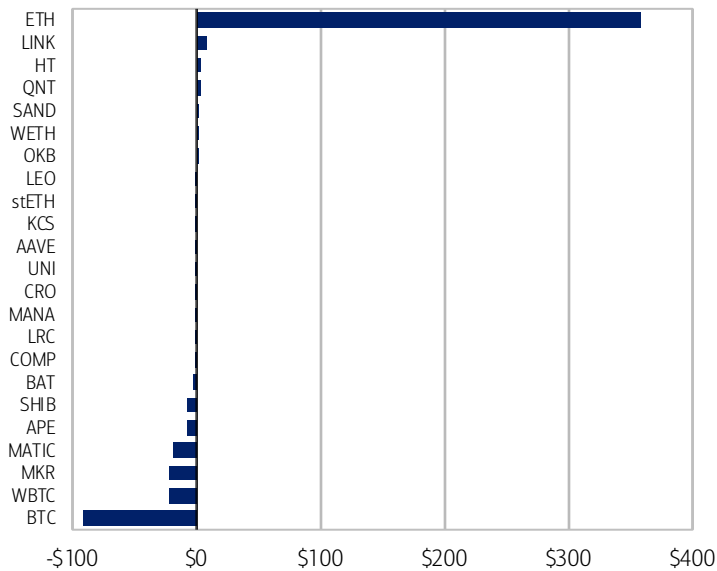
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4-Week Performance to March 14: S&P 500 -5%, Nasdaq -4%, Digital Assets Top 100 +11%, Top 5 blockchain/scaling solution tokens +10%, DeFi TVL +1%, Top 4 stablecoins -4%

YTD Performance to March 14: S&P 500 +2%, Nasdaq +9%, Digital Assets Top 100 +41%, Top 5 blockchain/scaling solution tokens +46%, DeFi TVL +20%, Top 4 stablecoins -5%

Exhibit 6: 1 week net flow (\$mn) into personal wallets (tokens)

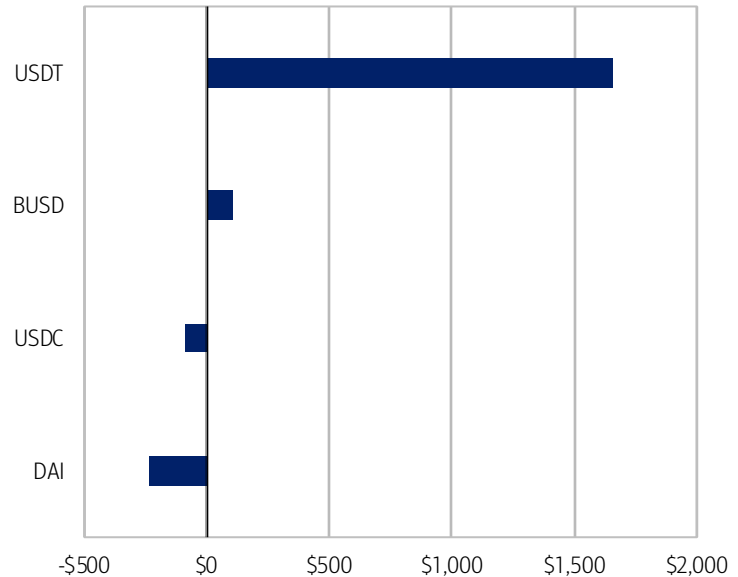
ETH +\$359mn, LINK +\$9mn, WBTC -\$23mn, BTC -\$91mn

Source: BofA Global Research, Glassnode
Data: 3/8/23 – 3/14/23

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Exhibit 7: 1 week net flow (\$mn) into personal wallets (stablecoins)

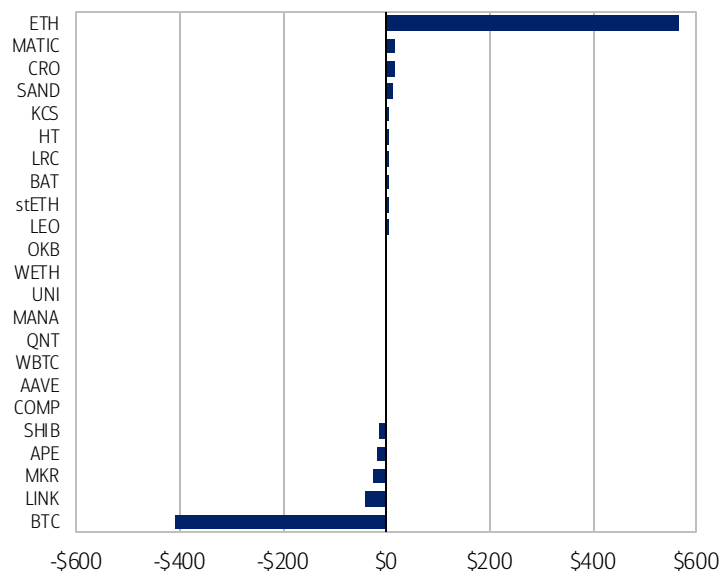
DAI -\$238mn, USDC -\$91mn, BUSD +\$103mn, USDT +\$1.7bn

Source: BofA Global Research, Glassnode
Data: 3/8/23 – 3/14/23

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Exhibit 8: 4 week net flow (\$mn) into personal wallets (tokens)

ETH +\$567mn, MATIC +\$17mn, LINK -\$42mn, BTC -\$408mn

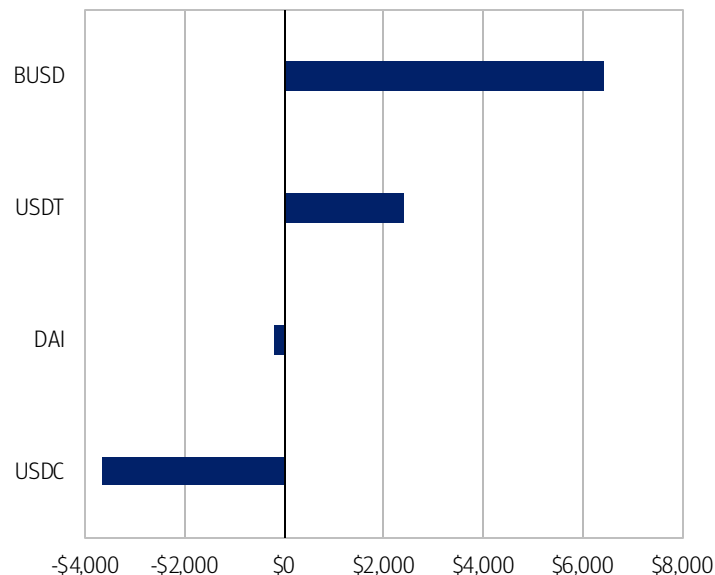


Source: BofA Global Research, Glassnode
Data: 2/15/23 – 3/14/23

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Exhibit 9: 4 week net flow (\$mn) into personal wallets (stablecoins)

USDC -\$3.7bn, DAI +\$224mn, USDT +\$2.4bn, BUSD +\$6.4bn

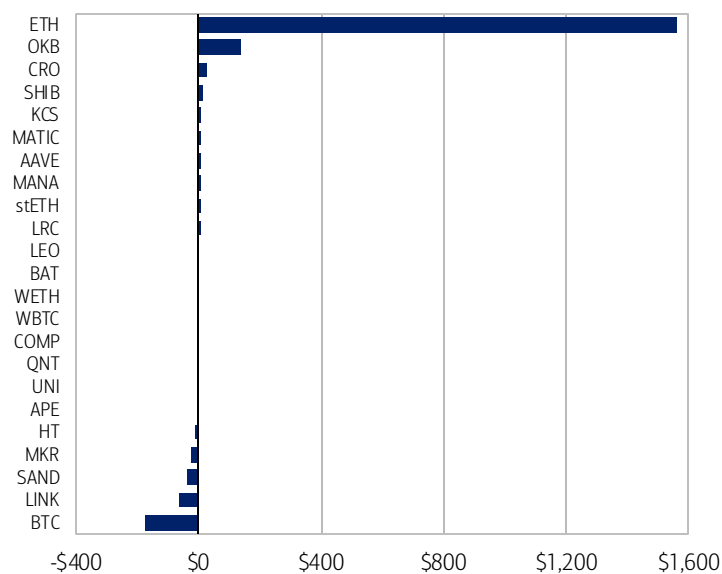


Source: BofA Global Research, Glassnode
Data: 2/15/23 – 3/14/23

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Exhibit 10: YTD net flow (\$mn) into personal wallets (tokens)

ETH +\$1.6bn, OKB +\$135mn, LINK -\$63mn, BTC -\$174mn

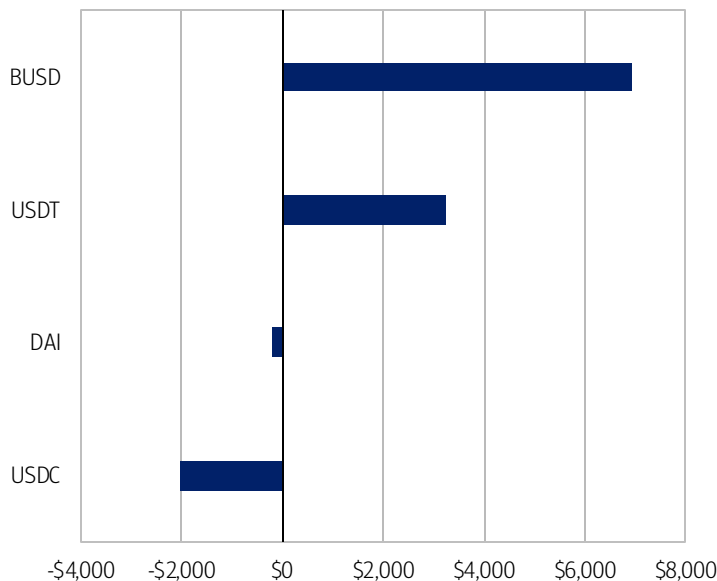


Source: BofA Global Research, Glassnode
Data: 1/1/23 – 3/14/23

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Exhibit 11: YTD net flow (\$mn) into personal wallets (stablecoins)

USDC -\$2.0bn, DAI -\$201mn, USDT +\$3.2bn, BUSD +\$6.9bn



Source: BofA Global Research, Glassnode
Data: 1/1/23 – 3/14/23

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What can flows tell us about investor sentiment?

Tokens: transfer to exchange wallets means an increase in sell pressure

Investors generally prefer to hold tokens in their personal digital asset wallets and frequently transfer them to digital asset exchange wallets (net outflow) when they intend to sell them, indicating a potential increase in sell pressure. Large inflows into exchange wallets can quickly put downward pressure on prices. Conversely, investors transfer tokens from exchange wallets to their personal wallets (net inflow) when they intend to hold them (or HODL), indicating a potential decrease in sell pressure.

Stablecoins: transfer to exchange wallets means a decrease in sell pressure

Stablecoins are digital assets pegged to another asset such as a fiat currency (like the US dollar), a commodity (like gold), other digital assets or a combination of assets with the goal of maintaining a stable value. Digital asset holders and traders use stablecoins to transfer funds between exchanges or between exchanges and personal wallets, reduce exposure to more volatile digital assets without converting digital assets back to a fiat currency, lock in gains from trading and as a defensive move if expecting a downturn or during a pullback.

Determining potential buy or sell pressure from stablecoin flows is the reverse of how we determine it using token flows. Investors frequently transfer stablecoins from their personal wallets to exchange wallets (net outflow) when they intend to purchase tokens, indicating a potential decrease in sell pressure. Conversely, investors transfer stablecoins from exchange wallets to their personal wallets (net inflow) when they do not intend to buy tokens or following a token sale, indicating a potential increase in sell pressure.

See our Methodology section for how we calculate flows in dollar terms and for a list of exchanges included in our analysis of each token.

Digital Asset Performance Tracker

Exhibit 12: Performance of the top 10 tokens by market value

2023 is off to a much better start for digital asset investors who realized last year that it's not a straight line up. Token prices are trading higher ytd with few exceptions. The market value of digital assets is 37% higher than the 2022 lows touched on 11/22.

Top 10 Tokens		Percent Change			
Token	Ticker	1 week	4 week	YTD	1 year
Bitcoin	BTC	+11%	+11%	+50%	-35%
Ether	ETH	+9%	+9%	+42%	-32%
BNB	BNB	+7%	+4%	+26%	-15%
XRP	XRP	-2%	-2%	+10%	-51%
Cardano	ADA	+4%	-11%	+40%	-56%
Polygon	MATIC	+4%	-5%	+58%	-12%
Dogecoin	DOGE	+1%	-10%	+6%	-33%
Solana	SOL	+3%	-4%	+110%	-73%
Polkadot	DOT	+7%	+0.3%	+45%	-67%
Shiba Inu	SHIB	+2%	-11%	+40%	-48%

Source: CoinMarketCap

Data: 1 week performance: 3/8/23– 3/14/23, 4 week performance: 2/15/23 – 3/14/23, YTD performance: 1/1/23 – 3/14/23, 1 year performance: 3/14/22 – 3/14/23.

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Exhibit 13: Performance of digital asset indexes

The top 20 tokens out of the top 100 by market value have traded in line YTD relative to the middle 30 and underperformed relative to the bottom 50

Index		Percent Change			
Ticker	1 week	4 week	YTD	1 year	3 year
MVDA	+12%	+11%	+41%	-35%	+423%
MVDALC	+12%	+12%	+41%	-33%	+432%
MVDAMC	+10%	+4%	+40%	-55%	+346%
MVDASC	+9%	+4%	+77%	-46%	+308%
Ticker	1 week	4 week	YTD	1 year	3 year
MVSCLE	+11%	+4%	+52%	-60%	+506%

Source: Bloomberg

Data: 1 week performance: 3/8/23– 3/14/23, 4 week performance: 2/15/23 – 3/14/23, YTD performance: 1/1/23 – 3/14/23, 1 year performance: 3/14/22 – 3/14/23, 3-year performance: 3/14/20 – 3/14/23.

Indexes:

- 1) MVIS® CryptoCompare Digital Assets 100 Price Index (MVDA) - Market cap-weighted index which tracks the performance of the 100 largest digital assets and is rebalanced monthly.
- 2) MVIS® CryptoCompare Digital Assets 100 Large-Cap Price Index (MVDALC) - Market cap-weighted index which tracks the performance of the 20 largest digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.
- 3) MVIS® CryptoCompare Digital Assets 100 Mid-Cap Price Index (MVDAMC) - Market cap-weighted index which tracks the performance of the 30 mid-size digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.
- 4) MVIS® CryptoCompare Digital Assets 100 Small-Cap Price Index (MVDASC) - Market cap-weighted index which tracks the performance of the 50 smallest digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.
- 5) MVIS® CryptoCompare Smart Contract Leaders Index (MVSCLE) – Market cap-weighted index which tracks the performance of the largest and most liquid smart contract assets in the MVIS CryptoCompare Smart Contract Index and is rebalanced monthly.

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Large Cap Index (MVDALC) & Constituent Performance

Exhibit 14: MVDALC (Digital Asset Large Cap) Index Performance

YTD Performance: +41% // 2022 Performance: -64%



Source: CoinMarketCap

MVIS® CryptoCompare Digital Assets 100 Large-Cap Price Index (MVDALC) - Market cap-weighted index which tracks the performance of the 20 largest digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.

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Exhibit 15: MVDALC Constituent YTD Outperformers/Underperformers

Top 5 Outperformers YTD: SOL, MATIC, AVAX, WBTC, BTC // Top 5 Underperformers YTD: BUSD, USDC, DOGE, DAI, USDT

Constituent Outperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
Solana	SOL	0.8%	+3%	-4%	+110%	-73%
Polygon	MATIC	1.0%	+4%	-5%	+58%	-12%
Avalanche	AVAX	0.5%	+6%	-5%	+58%	-75%
Wrapped Bitcoin	WBTC	0.5%	+11%	+11%	+50%	-35%
Bitcoin	BTC	50.5%	+11%	+11%	+50%	-35%

Constituent Underperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
Binance USD	BUSD	1.3%	-1%	-46%	-50%	-54%
USD Coin	USDC	4.6%	-12%	-7%	-14%	-27%
Dogecoin	DOGE	1.0%	+1%	-10%	+6%	-33%
Dai	DAI	0.6%	+20%	+20%	+8%	-37%
Tether	USDT	7.7%	+2%	+6%	+10%	-9%

Source: CoinMarketCap

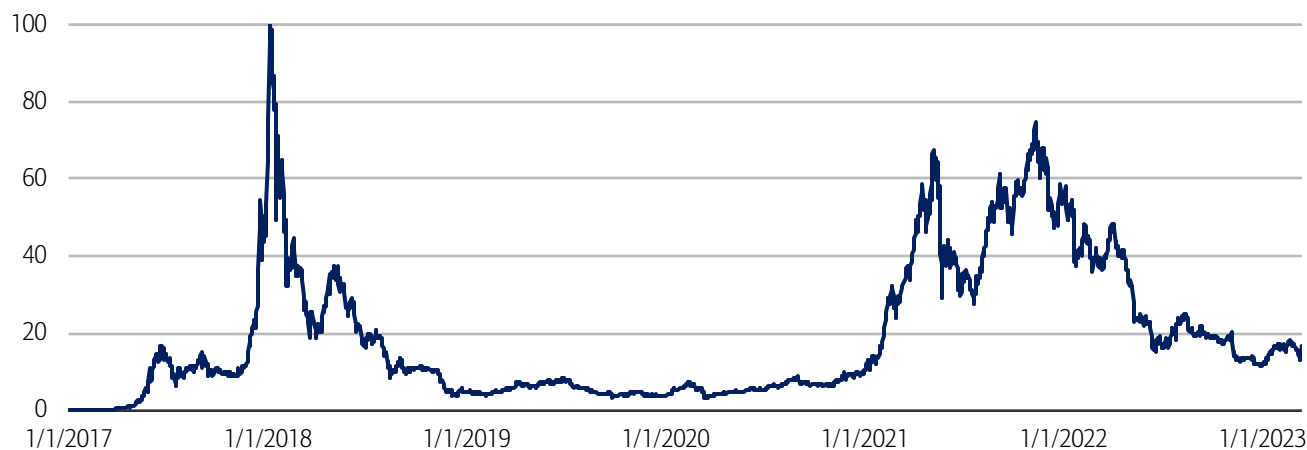
MVIS® CryptoCompare Digital Assets 100 Large-Cap Price Index (MVDALC) - Market cap-weighted index which tracks the performance of the 20 largest digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.

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Mid Cap Index (MVDAMC) & Constituent Performance

Exhibit 16: MVDAMC (Digital Asset Mid Cap) Index Performance

YTD Performance: +40% // 2022 Performance: -78%



Source: CoinMarketCap

MVIS® CryptoCompare Digital Assets 100 Mid-Cap Price Index (MVDAMC) - Market cap-weighted index which tracks the performance of the 30 mid-size digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.

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Exhibit 17: MVDAMC Constituent YTD Outperformers/Underperformers

Top 5 Outperformers YTD: APT, LDO, GRT, TUSD, FIL // Top 5 Underperformers YTD: XMR, TON, APE, QNT, XLM,

Constituent Outperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
Aptos	APT	4.1%	+23%	-7%	+296%	NA
Lido DAO	LDO	4.1%	+9%	+7%	+190%	+14%
The Graph	GRT	2.5%	+11%	-10%	+175%	-55%
True USD	TUSD	2.0%	+60%	+115%	+168%	+36%
Filecoin	FIL	4.5%	+13%	+33%	+125%	-61%

Constituent Underperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
Monero	XMR	5.5%	-0.1%	-5%	+2%	-15%
The Open Network	TON	7.4%	+5%	+6%	+12%	+38%
ApeCoin	APE	3.1%	-9%	-18%	+18%	NA
Quant	QNT	3.1%	+6%	-5%	+23%	+16%
Stellar	XLM	4.6%	+7%	+3%	+24%	-50%

Source: CoinMarketCap

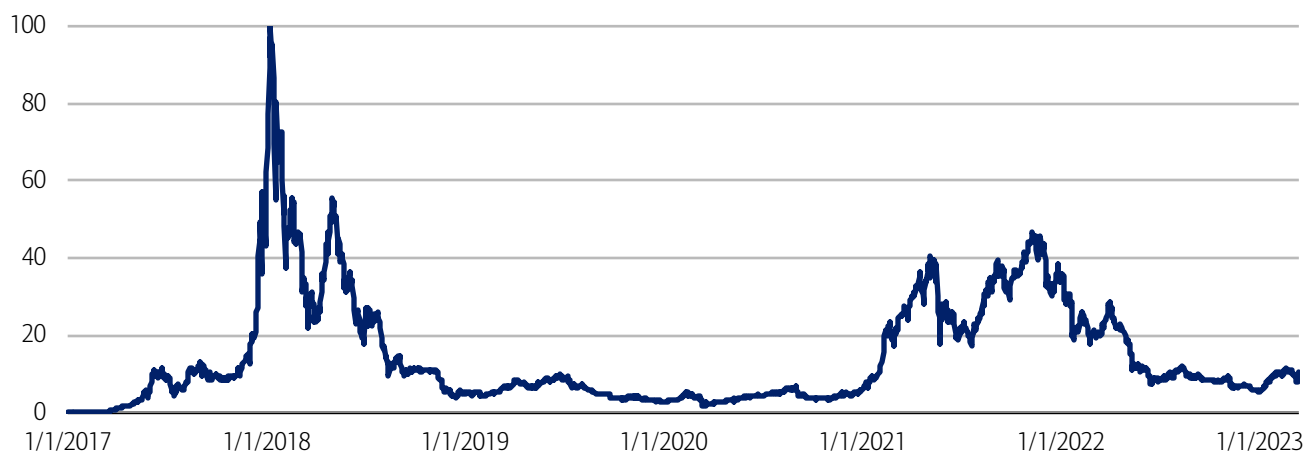
MVIS® CryptoCompare Digital Assets 100 Mid-Cap Price Index (MVDAMC) - Market cap-weighted index which tracks the performance of the 30 mid-size digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.

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Small Cap Index (MVDASC) & Constituent Performance

Exhibit 18: MVDASC (Digital Asset Small Cap) Index Performance

YTD Performance: +77% // 2022 Performance: -82%



Source: CoinMarketCap

MVIS® CryptoCompare Digital Assets 100 Small-Cap Price Index (MVDASC) - Market cap-weighted index which tracks the performance of the 50 smallest digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.

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Exhibit 19: MVDASC Constituent YTD Outperformers/Underperformers

Top 5 Outperformers YTD: CFX, AGIX, STX, IMX, OP // Top 5 Underperformers YTD: HT, BSV, TWT, ZEC, NEXO

Constituent Outperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
Conflux Network	CFX	2.2%	+37%	+439%	+1,275%	+155%
SingularityNET	AGIX	2.1%	+17%	+6%	+963%	+456%
Stacks	STX	4.5%	+43%	+217%	+362%	-21%
Immutable X	IMX	3.4%	+9%	+4%	+208%	-30%
Optimism	OP	2.2%	+13%	+12%	+196%	NA

Constituent Underperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
Huobi Token	HT	2.7%	-15%	-17%	-19%	-53%
Bitcoin SV	BSV	2.7%	-2%	-10%	-11%	-51%
Trust Wallet Token	TWT	2.0%	+2%	-11%	-10%	+103%
Zcash	ZEC	2.2%	-4%	-17%	-3%	-77%
Nexo	NEXO	1.4%	+1%	-12%	-2%	-68%

Source: CoinMarketCap

MVIS® CryptoCompare Digital Assets 100 Small-Cap Price Index (MVDASC) - Market cap-weighted index which tracks the performance of the 50 smallest digital assets in the MVIS CryptoCompare Digital Assets 100 Index and is rebalanced monthly.

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Smart Contract Leaders Index (MVSCLE) & Constituent Performance

Exhibit 20: MVSCLE (Digital Asset Smart Contract Leaders) Index Performance

YTD Performance: +52% // 2022 Performance: -82%



Source: CoinMarketCap

MVIS® CryptoCompare Smart Contract Leaders Index (MVSCLE) – Market cap-weighted index which tracks the performance of the largest and most liquid smart contract assets in the MVIS CryptoCompare Smart Contract Index and is rebalanced monthly.

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Exhibit 21: MVSCLE Constituent YTD Outperformers/Underperformers

Top 5 Outperformers YTD: APT, FTM, SOL, HBAR, NEAR // Top 5 Underperformers YTD: TRX, EOS, ALGO, ADA, ATOM

Constituent Outperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
Aptos	APT	2.2%	+23%	-7%	+296%	NA
Fantom	FTM	1.2%	+13%	-14%	+125%	-60%
Solana	SOL	7.9%	+3%	-4%	+110%	-73%
Hedera	HBAR	1.7%	+5%	-25%	+81%	-67%
Near	NEAR	1.8%	+6%	-6%	+69%	-79%

Constituent Underperformers						
Token	Ticker	Weight	1 week	4 week	YTD	1 year
TRON	TRX	6.5%	+1%	+1%	+23%	+13%
EOS	EOS	1.2%	-6%	+6%	+29%	-42%
Algorand	ALGO	1.6%	+2%	-12%	+29%	-67%
Cardano	ADA	12.1%	+4%	-11%	+40%	-56%
Cosmos	ATOM	3.7%	+11%	-3%	+40%	-50%

Source: CoinMarketCap

MVIS® CryptoCompare Smart Contract Leaders Index (MVSCLE) – Market cap-weighted index which tracks the performance of the largest and most liquid smart contract assets in the MVIS CryptoCompare Smart Contract Index and is rebalanced monthly.

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Determining and calculating digital asset performance

Determining the digital asset ecosystem's performance

Digital assets are part of an emerging asset class and performance should be measured similarly to how the performance of traditional indexes are measured. Our view is that the market value of all ~23k tokens in existence is a proxy for the ecosystem's growth and development, but calculating performance using these market values is problematic. For example, the S&P500 index includes the 500 largest US companies and is rebalanced quarterly, but comparing the performance of these 500 companies (503 stocks) to the performance of the continuously expanding ecosystem of tokens results in an apples-to-oranges comparison in which the digital asset ecosystem's performance is skewed upward as new tokens are issued.

Calculating performance with digital asset indexes

We use 4 MVIS CryptoCompare Digital Assets Indexes that are rebalanced quarterly and track the performance of the largest 100 tokens by market value (MVDA), largest 20 tokens by market value (MVDALC), largest 30 tokens by market value after the largest 20 tokens (MVDAMC) and the smallest 50 tokens by market value out of the largest 100 tokens. These indexes include a constant number of tokens and are readjusted monthly, which allows us to compare digital asset performance over time and in relation to traditional indexes. The MVIS indexes also exclude tokens that do not meet volume requirements, which addresses potential market value manipulation. For example, we could create and issue 1mn AlkeshAndrew (AA) tokens, put the tokens in a liquidity pool on a decentralized exchange and then swap 1 AA for \$1 worth of another token. If 1 million tokens were issued, then the market value for the AlkeshAndrew token would be \$1mn, even if only one trade ever occurred.

Decentralized Finance (DeFi): Total Value Locked (TVL) Tracker

TVL: a proxy for DeFi user adoption and developer interest

TVL measures the total value of tokens staked (deposited) in DeFi protocols. The TVL on a blockchain (operating system), may indicate user adoption of specific DeFi protocols and developer interest in building applications on top of specific blockchains.

Our view is that increasing TVL on a specific blockchain indicates user adoption and network development, likely leading to accelerating transaction fees (cash flows) on the underlying blockchain due to demand for the blockchain's native token to pay gas (transaction) fees. Conversely, a decreasing TVL likely indicates waning user adoption and developer interest, but a rapid drop in TVL does not necessarily indicate a slowdown in the digital asset ecosystem's development. Note that an increasing or decreasing TVL does not provide clarity on how many new users entered the DeFi space, how many unique users increased or decreased their DeFi stake or the distribution of TVL across applications on a specific blockchain.

Exhibit 22: The TVL of the top 8 blockchains/scaling solutions has increased by an average of 24% ytd when including Arbitrum and Optimism but has increased by an average of 9% when excluding them

Top blockchains by TVL

Blockchain	Token	TVL (\$bn)	TVL Percent Change			
			1 week	4 week	YTD	1 year
Ethereum	ETH	28.49	-0.1%	+4%	+26%	-59%
BSC	BNB	5.01	-2%	-2%	+6%	-47%
Tron	TRX	4.70	-5%	-6%	+12%	+13%
Arbitrum	-	1.58	-16%	+13%	+62%	+21%
Polygon	MATIC	1.03	-6%	-7%	+8%	-65%
Optimism	OP	0.87	-10%	+12%	+74%	+225%
Avalanche	AVAX	0.78	-17%	-12%	+2%	-91%
Fantom	FTM	0.42	-10%	-13%	+1%	-91%

Source: CoinMarketCap, DefiLlama

Total Value Locked (TVL) measures the total value of tokens staked in DeFi protocols. TVL data as of 3/14/23. 1 week TVL % change: 3/8/23 – 3/14/23, 4 week TVL % change: 2/15/23 – 3/14/23, YTD TVL % change: 1/1/23 – 3/14/23, 1 year TVL % change: 3/14/22 – 3/14/23. Green/red shading indicates above/below average TVL percent change for the time period.

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Exhibit 23: Market value to TVL ratios of top blockchains and scaling solutions by TVL

Top blockchains and scaling solutions by TVL

Blockchain	Token	TVL (\$bn)	Mkt Value/TVL	Concentration	Large Projects
Polygon	MATIC	1.03	10.18	29%	3
BSC	BNB	5.01	9.75	49%	7
Ethereum	ETH	28.49	7.32	35%	19
Avalanche	AVAX	0.78	7.18	37%	1
Fantom	FTM	0.42	2.96	21%	0
Tron	TRX	4.70	1.30	65%	3
Optimism	OP	0.87	0.98	28%	2
Arbitrum	-	1.58	-	28%	3

Source: CoinMarketCap, DefiLlama

Total Value Locked (TVL) measures the total value of tokens staked in DeFi protocols. TVL and market data as of 3/14/23. Note that Arbitrum does not have a native token. Concentration measures the percent of TVL locked in one DeFi protocol. Large Projects measures the number of projects with TVL greater than \$100mn.

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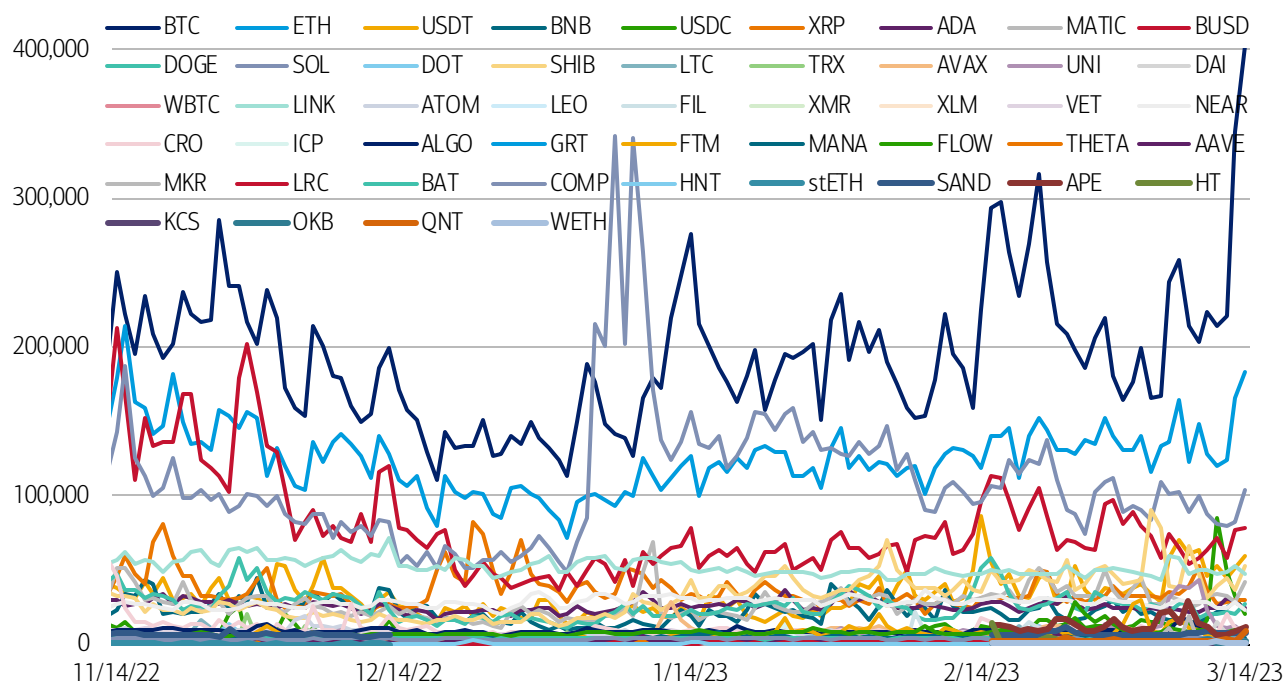
The market value to TVL (MV/TVL) ratio for **Polygon** and **BSC** is elevated relative to other blockchains' and the MV/TVL ratio for **Optimism** is low relative to other blockchains'. Note that the **Ethereum** ecosystem of DeFi applications is expansive and its TVL appears more distributed across applications than the TVL distribution of other blockchains. The Ethereum ecosystem also includes additional applications beyond DeFi that likely drive its market value. Conversely, a significant share of **Tron's** TVL (65%) and **BSC's** TVL (49%) are held in one DeFi application.

Social Media Indicators

Along with our BofA Predictive Analytics team, we used NLP to analyze Reddit and Twitter from November 14, 2022 – March 14, 2023. We note that significant increases in the number of social media mentions have at times coincided with outsized price appreciation since we began tracking. However, the number of mentions on social media is not necessarily an indication of bullish or bearish sentiment, given base effects and the potential for negative feedback loops to increase mentions while reinforcing negative sentiment.

Exhibit 24: Reddit and Twitter token mentions

Total mentions for 49 tokens across Reddit and Twitter



Source: ListenFirst, BofA Global Research

Data: 11/14/22 – 3/14/23. Note that searches for mentions included token names and tickers.

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Mentions of **DAI** accelerated 221% wk/wk and mentions of **USDC** accelerated 136% wk/wk following concerns that \$3.3bn of USDC reserves had become inaccessible. As a result, USDC holders rotated out of the stablecoin, which resulted in USDC's price falling to an intraday low of \$0.8774 on Mar 11. USDC's price has since regained its ~\$1.00 peg as Jeremy Allaire, CEO of USDC-issuer Circle, reassured the market that Circle would cover any shortfall in USDC reserves and as the inaccessible funds became available. Despite regaining its peg, USDC's market value fell 10% from Mar 11-14 due to redemptions. USDC makes up 50%+ of the collateral that backs decentralized stablecoin DAI, causing its price to fall to an intraday low of \$0.897 on Mar 11. DAI's price has also regained its ~\$1.00 peg and its market value increased 19% from Mar 11-14.

Exhibit 25: Change in Reddit and Twitter token mentions

Rank and change in mentions for 49 tokens across Reddit and Twitter

Rank		Token		Percent Change		Mkt Value
Last Week	Prior Week	Ticker	Name	Mentions 1wk/1wk	7-day \$ value	in \$bn
1	1	BTC	Bitcoin	+33%	+11%	\$478
2	2	ETH	Ether	+4%	+9%	\$208
3	3	SOL	Solana	-7%	+3%	\$8
4	4	BUSD	Binance USD	-11%	-	\$8
5	7	USDT	Tether	+24%	-	\$73
6	6	LINK	Chainlink	-3%	+2%	\$4
7	5	SHIB	Shiba Inu	-14%	+2%	\$6
8	9	XRP	XRP	+7%	-2%	\$19
9	17	USDC	USD Coin	+136%	-	\$38
10	8	MATIC	Polygon	-4%	+4%	\$10
11	10	NEAR	Near Protocol	-3%	+6%	\$2
12	12	ADA	Cardano	+6%	+4%	\$12
13	11	DOGE	Dogecoin	-13%	+1%	\$10
14	13	BNB	BNB	+6%	+7%	\$49
15	15	UNI	Uniswap	+26%	-1%	\$5
16	16	APE	ApeCoin	-12%	-9%	\$2
17	20	CRO	Cronos	+13%	+4%	\$2
18	19	ALGO	Algorand	+5%	+2%	\$2
19	21	FLOW	Flow	+1%	+3%	\$1
20	14	FTM	Fantom	-52%	+13%	\$1
21	26	ATOM	Cosmos	+29%	+11%	\$4
22	23	SAND	The Sandbox	+24%	+6%	\$1
23	18	AVAX	Avalanche	-16%	+6%	\$6
24	22	VET	VeChain	+2%	+2%	\$2
25	25	DOT	Polkadot	+21%	+7%	\$7
26	24	LTC	Litecoin	-12%	-2%	\$6
27	37	DAI	Dai	+221%	-	\$6
28	27	TRX	Tron	-20%	+1%	\$6
29	28	MANA	Decentraland	-9%	+4%	\$1
30	31	MKR	Maker	+8%	-7%	\$0.8
31	29	BAT	Basic Att. Token	-4%	-0.4%	\$0.4
32	32	COMP	Compound	-2%	+3%	\$0.3
33	34	QNT	Quant	+76%	+6%	\$2
34	30	FIL	Filecoin	-13%	+13%	\$3
35	35	LEO	Unus Sed Leo	+2%	-1%	\$3
36	36	ICP	Internet Computer	+7%	+4%	\$2
37	42	OKB	OKB	+77%	+12	\$3
38	38	XMR	Monero	+10%	-0.1%	\$3
39	40	AAVE	Aave	+25%	+6%	\$1
40	39	THETA	Theta Network	+12%	+7%	\$1
41	41	XLM	Stellar	+40%	+7%	\$2
42	33	GRT	The Graph	-39%	+11%	\$1
43	44	HT	Huobi Token	+62%	-15%	\$0.7
44	45	WETH	Wrapped Ether	+26%	+9%	NA
45	48	WBTC	Wrapped Bitcoin	+198%	+11%	\$4
46	43	LRC	Loopring	-23%	+7%	\$0.5
47	46	KCS	Kucoin Token	-10%	+8%	\$0.9
48	47	HNT	Helium	-1%	-4%	\$0.3
49	49	stETH	Lido Staked ETH	+86%	+9%	\$6

Source: ListenFirst, CoinMarketCap, BofA Global Research

Rank shows the total number of mentions over the last week (3/8/23 – 3/14/23) and over the prior week (3/1/23 – 3/7/23). Mentions week-over-week calculation period: 3/1/23 – 3/7/23 and 3/8/23 – 3/14/23. Market values as of 3/14/23. Note that searches for mentions included token names and tickers.

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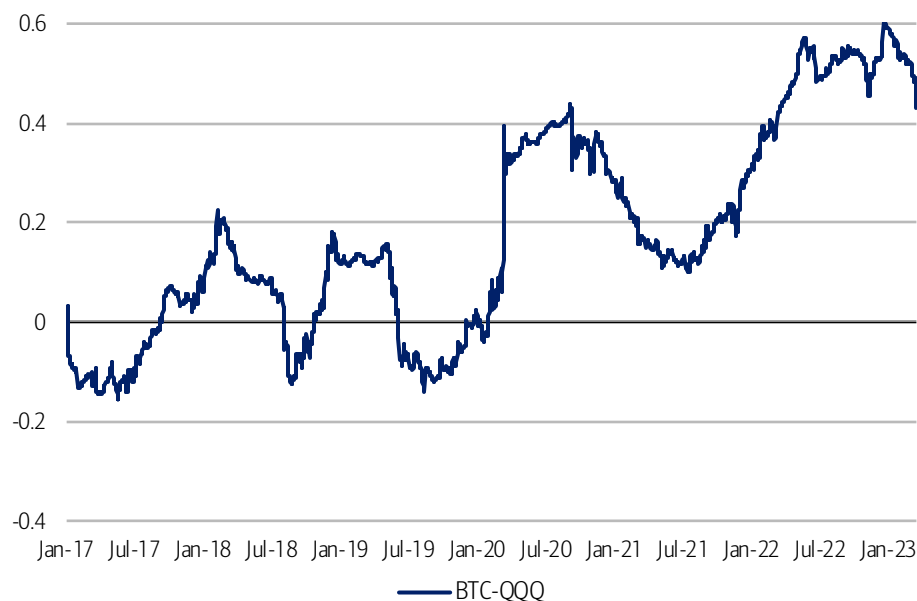


Digital assets trade as risk assets

Bitcoin/Nasdaq 100 correlation drops to 0.43

Exhibit 26: Bitcoin's correlation with QQQ

180-day rolling correlation between bitcoin and the Nasdaq 100



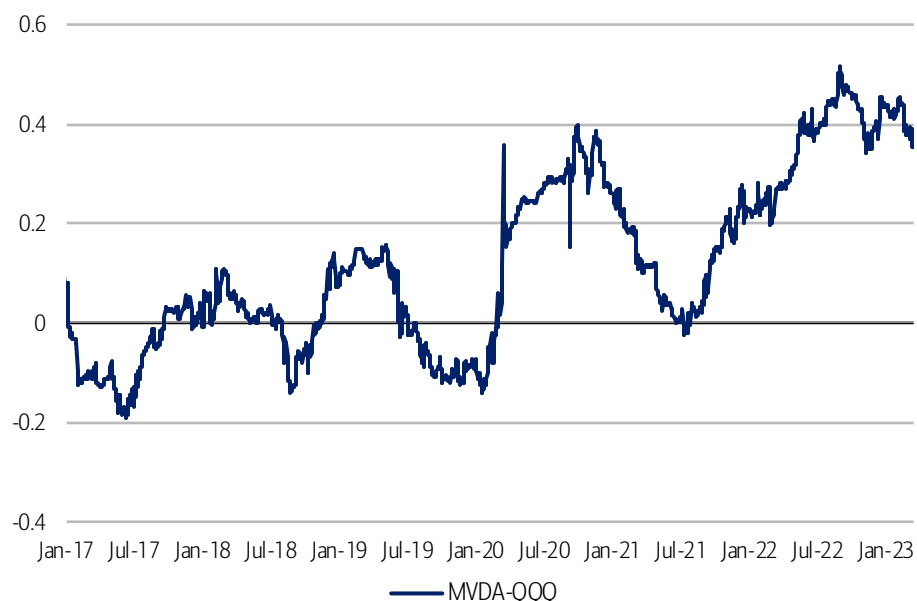
Source: Glassnode, Bloomberg
Data: 1/1/17 – 3/14/23

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Bitcoin's correlation with the Nasdaq 100 Index has fallen to 0.43 from 0.59 at the beginning of Jan'23.

Exhibit 27: MVDA's correlation with QQQ

180-day rolling correlation between MVDA and the Nasdaq 100



Source: Glassnode, Bloomberg
Data: 1/1/17 – 3/14/23. MVIS® CryptoCompare Digital Assets 100 Price Index (MVDA) - Market cap-weighted index which tracks the performance of the 100 largest digital assets and is rebalanced monthly.

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MVDA's correlation with the Nasdaq 100 Index has fallen to 0.37 from 0.45 at the beginning of Feb'23.

Methodology

The blockchain's transparency gives us insight into the digital asset ecosystem that's not available in traditional financial markets. We observe inflows into and outflows from digital asset exchange wallets and plan to expand our analysis. Flows in dollar terms are calculated by multiplying the daily number of tokens transferred on to or off of an exchange by the token price at the end of the day. See below for a complete list of the digital asset exchange wallets included in our flows analysis.

AAVE exchanges: BiBox, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

APE exchanges: BiBox, Binance, Bitfinex, Bittrex, Bybit, Coinbase, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex

BAT exchanges: BiBox, Bigone, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Cobinhood, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

BTC exchanges: Binance, Bitfinex, Bithumb, BitMEX, Bitstamp, Bittrex, Bybit, Coinbase, Coincheck, Crypto.com, Deribit, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Luno, OKX, Poloniex

BUSD exchanges: BiBox, Binance, Bittrex, Bybit, Coinbase, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex

COMP exchanges: BiBox, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex

CRO exchanges: BiBox, Bigone, Binance, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex

DAI exchanges: BiBox, Bigone, Binance, Bitfinex, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex

ETH exchanges: BiBox, Bigone, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Cobinhood, Coinbase, CoinEx, Crypto.com, Deribit, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

HT exchanges: BiBox, Bigone, Binance, Bitfinex, Bittrex, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex, ZB.com

KCS exchanges: Binance, Bittrex, Gemini, HitBTC, KuCoin, Poloniex

LEO exchanges: Binance, Bitfinex, FTX, Gate.io, HitBTC, OKX, ZB.com

LINK exchanges: BiBox, Bigone, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

LRC exchanges: BiBox, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, OKX, Poloniex

MANA exchanges: BiBox, Bigone, Binance, Bitfinex, Bittrex, Bybit, Cobinhood, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

MATIC exchanges: Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

MKR exchanges: BiBox, Binance, Bitfinex, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex

OKB exchanges: Binance, Bitfinex, Bittrex, CoinEx, FTX, Gate.io, Gemini, HitBTC, Huobi, OKX, Poloniex, ZB.com

QNT exchanges: Binance, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, Gate.io, Gemini, HitBTC, Kraken, KuCoin, Nexo, Poloniex

SAND exchanges: BiBox, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex

SHIB exchanges: BiBox, Bigone, Binance, Bitfinex, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex

stETH exchanges: Binance, Bittrex, Bybit, Coinbase, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex

UNI exchanges: BiBox, Bigone, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

USDC exchanges: BiBox, Bigone, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Coinbase, CoinEx, Crypto.com, Deribit, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

USDT exchanges: BiBox, Bigone, Binance, Bitfinex, Bithumb, Bittrex, Bybit, Cobinhood, Coinbase, CoinEx, Crypto.com, Deribit, FTX, Gate.io, Gemini, HitBTC, Huobi, Kraken, KuCoin, Nexo, OKX, Poloniex, ZB.com

WBTC exchanges: BiBox, Bigone, Binance, Bitfinex, Bittrex, Bybit, Coinbase, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex

WETH exchanges: Binance, Bitfinex, Bittrex, Coinbase, Crypto.com, FTX, Gate.io, Gemini, HitBTC, Huobi, KuCoin, Nexo, OKX, Poloniex

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