

# Crypto Market Review

# Q4.24

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# Q4 2024: A Monumental Quarter

The fourth quarter of 2024 will be remembered as one of the most important in crypto's history. It was, to my mind, the quarter when crypto officially "crossed the chasm," moving from outsider status fully into the mainstream.

You can see this most clearly in the incredible pro-crypto sweep of the November elections, which installed pro-crypto leadership in the White House, Congress, and at the local level. But you can also see it clearly in the data captured by this report, which shows crypto achieving breakout success on a number of metrics.

Highlights that caught my eye included:

- **New all-time highs in multiple key metrics**, including ETF inflows, stablecoin AUM, Layer 2 transaction activity, and of course, asset prices (particularly bitcoin, which topped \$100,000 for the first time).
- **The rise of breakout "killer apps,"** including the predictions market Polymarket, which attracted hundreds of millions of dollars as it became the primary tool for investors wagering on the 2024 elections. (And accurately called the election ahead of all mainstream media outlets.)
- **Massive growth in real-world assets moving onchain**, with billions flooding into tokenized Treasury products, private credit, and more.

Reading this report, however, it struck me that—for all the breakout growth—some things remain the same:

- **Bitcoin, Ethereum, and other assets continue to have relatively low correlations to stocks**; often lower than 0.50.
- **Crypto continues to be a valuable addition to portfolios**, showing a unique ability to boost returns without increasing portfolio volatility on a historical basis.
- **The volatility of crypto asset prices continues to decline**. In fact, bitcoin is now no more volatile than the Mag 7 stocks.

As we enter 2025, my advice is to strap in and keep your focus on the long term. Big picture, crypto is in a sustained bull market and there are many, many reasons to be optimistic. We believe many of those reasons are captured in this report.

Enjoy!



**Matt Hougan**  
Chief Investment Officer  
Bitwise Asset Management

# 10 Noteworthy Developments in Q4 2024

## Crypto Wins the U.S. election

Over 250 pro-crypto candidates elected in the U.S., reshaping the House, Senate, and D.C.'s approach to regulating crypto.

## Trump Admin Gets Orange Pilled

Trump stacks administration with crypto bulls: David Sacks (Crypto Czar), Scott Bessent (Treasury Secretary), and Howard Lutnick (Commerce Secretary).

## Major Stablecoin Acquisition by Stripe

Fintech giant Stripe acquires stablecoin platform Bridge for \$1.1 billion.

## Crypto Wins in Court

Courts strike down SEC's "dealer rule" and Tornado Cash sanctions, marking major crypto legal victories.

## Bitcoin ETFs Get Options

SEC approves options trading for bitcoin ETFs, expanding investment strategies for traders and institutions.

## MicroStrategy Enters Nasdaq-100

With billions in bitcoin holdings, MicroStrategy breaks into the Nasdaq-100, cementing its place among tech giants.

## AI Agents See Breakout Growth

From AI hedge funds to memecoin launches, AI agents take crypto by storm.

## Bitcoin Arms Race Commences

Countries around the globe explore strategic bitcoin reserves, igniting a geopolitical race for bitcoin dominance.

## Bitcoin Crosses \$100,000

Bitcoin crosses the \$100,000 milestone for the first time, ending the year up 120%.

## Corporate Bitcoin Trend Grows

Inspired by MicroStrategy, a slew of new companies announce the purchase of bitcoin for their treasuries, signaling mainstream adoption.

# Key Upcoming Catalysts

## New Administration and Regulatory Relief

Over 250 pro-crypto candidates won key races in the election, marking a seismic shift in Washington.

President-elect Trump appointed crypto champions to lead Treasury, Commerce, SEC, and more, cementing crypto's takeover of Washington.

Bitcoin, Ethereum, and XRP surged 39%, 40%, and 342% respectively post-election, signaling the market's optimism. But we think the incoming regulatory unlock is not yet priced in.

## Insatiable Demand from ETFs, Corporations, and Institutions

Bitcoin ETFs and corporations like MicroStrategy each bought more than 100% of the bitcoin that was mined in 2024.

Demand is set to accelerate in 2025, with institutions (like the U.S. government) eyeing strategic reserves.

Limited supply meets surging demand—economics takes care of the rest.

## Killer Apps and Exciting New Launches

Crypto thrives on the emergence of killer apps and new blockchains (think of the “DeFi Summer” of 2020 or the excitement that surrounded the growth of blockchains like Solana).

Now, apps like stablecoins, DePIN, RWAs, and prediction markets are scaling together, driving the next wave.

Meanwhile, new blockchains like Sui, Aptos, and Hyperliquid are fueling fresh excitement across the ecosystem.

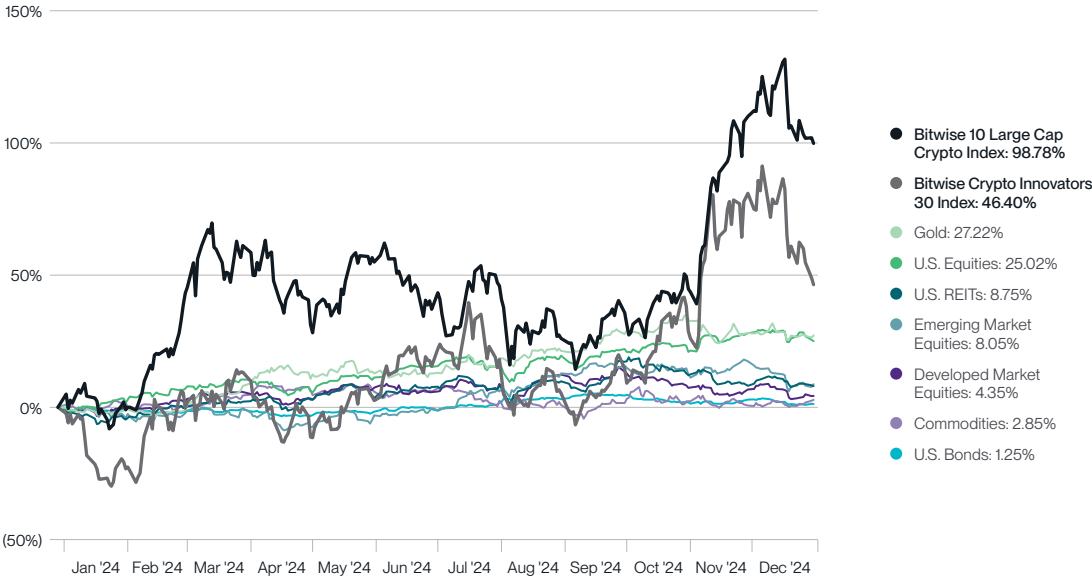
## AI/Crypto Convergence Gains Momentum

AI and crypto started colliding in Q4, with spectacular hedge results. AI-powered hedge funds, automated token launches, blockchain-based AI agents ... the pace of innovation is shocking.

One thing is clear: Crypto is the currency of AI. Agents aren't opening bank accounts; they're using crypto and blockchains. This is a huge long-term catalyst.

At the same time, bitcoin miners are uniquely positioned to capitalize on AI's computing needs, creating new revenue streams and boosting growth.

# Performance of Crypto vs. Major Asset Classes



Source: Bitwise Asset Management with data from Bloomberg. Data as of December 31, 2024.

Note: Asset classes are represented by the following. Commodities: Deutsche Bank DBIQ Optimum Yield Diversified Commodity Index Total Return. Developed Market Equities: MSCI EAFE Gross Total Return USD Index. Emerging Market Equities: MSCI Emerging Markets Gross Total Return USD Index. Gold: Gold spot price. U.S. Bonds: Bloomberg U.S. Aggregate Bond Index. U.S. Equities: S&P 500 Total Return Index. U.S. REITs: MSCI U.S. REIT Gross Total Return Index. For definitions of the indexes and assets listed here, [see p.62](#).

All calculations are total return, including dividends for the stated period. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index. Index performance does not include the fees and expenses that are charged by any Fund. Fund returns may differ materially from the returns of an index. Past performance is no guarantee of future results. Please refer to additional important disclosures at the back of this document.

# Performance of Crypto vs. Major Asset Classes

	— Cumulative —				— Annualized —	
	Q4 2024	1 YR	3 YR	5 YR	3 YR	5 YR
Bitwise 10 Large Cap Crypto Index	47.17%	<b>98.78%</b>	51.33%	1,105.38%	14.79%	64.43%
Bitwise Crypto Innovators 30 Index	27.75%	<b>46.40%</b>	(19.81%)	—	(7.09%)	—
Gold	(0.38%)	<b>27.22%</b>	43.48%	72.98%	12.46%	11.23%
U.S. Equities	2.41%	<b>25.02%</b>	29.29%	97.02%	8.93%	14.51%
U.S. REITs	(6.12%)	<b>8.75%</b>	(6.62%)	23.47%	(2.26%)	4.30%
Emerging Market Equities	(7.84%)	<b>8.05%</b>	(4.37%)	10.98%	(1.48%)	2.10%
Developed Market Equities	(8.06%)	<b>4.35%</b>	6.64%	29.07%	2.16%	5.23%
Commodities	1.20%	<b>2.85%</b>	18.04%	55.64%	5.68%	9.24%
U.S. Bonds	(3.06%)	<b>1.25%</b>	(7.05%)	(1.62%)	(2.41%)	(0.33%)

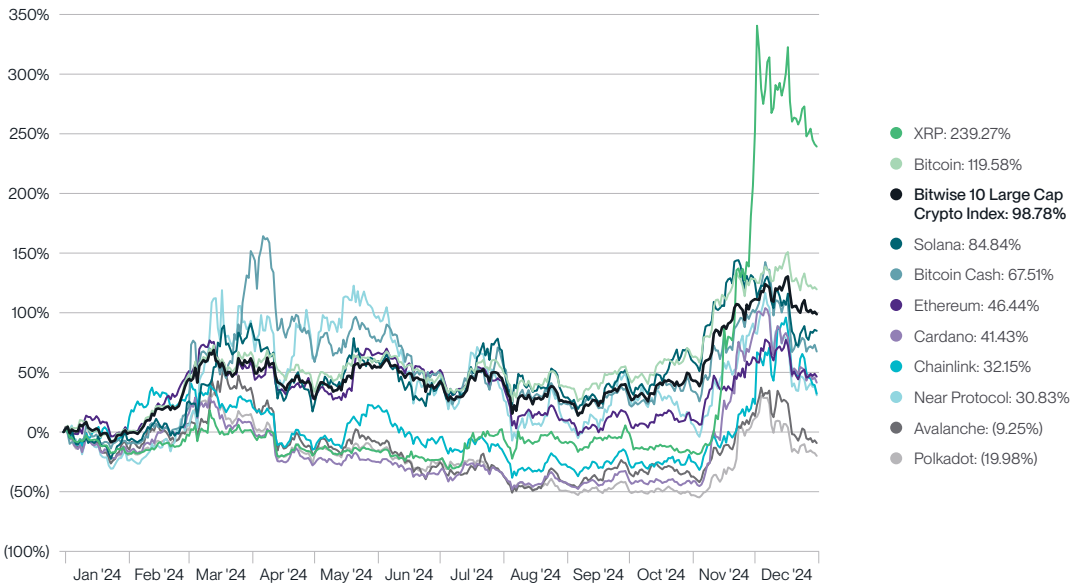
Source: Bitwise Asset Management with data from Bloomberg. Data as of December 31, 2024.

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# Performance of the Bitwise 10 Large Cap Crypto Index and Its Constituents



Source: Bitwise Asset Management. Data as of December 31, 2024.

The Bitwise 10 Large Cap Crypto Index captures the 10 largest eligible crypto assets by free-float-adjusted market capitalization, screened and monitored for certain risks. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index. Index performance and crypto asset performance do not include the fees and expenses that are charged by any fund. Fund returns may differ materially from the returns of an index or crypto asset. Past performance is no guarantee of future results. Please refer to additional important disclosures at the back of this document.

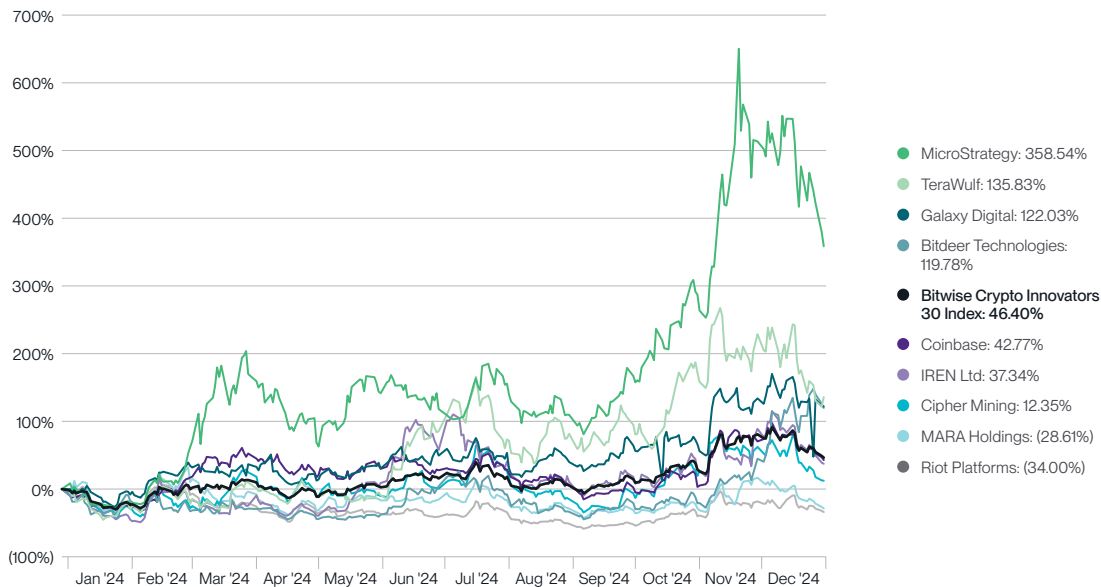
# Performance of the Bitwise 10 Large Cap Crypto Index and Its Constituents

INDEX WEIGHT		— Cumulative —				— Annualized —	
		Q4 2024	1 YR	3 YR	5 YR	3 YR	5 YR
Bitwise 10 Large Cap Crypto Index	—	47.17%	98.78%	51.33%	1,105.38%	14.79%	64.43%
Bitcoin (BTC)	72.66%	47.16%	119.58%	103.58%	1,206.63%	26.71%	67.10%
Ethereum (ETH)	15.82%	28.75%	46.44%	(8.37%)	2,511.90%	(2.87%)	91.90%
XRP (XRP)	4.69%	236.77%	239.27%	157.98%	1,004.39%	36.95%	61.12%
Solana (SOL)	3.62%	24.98%	84.84%	15.12%	—	4.81%	—
Cardano (ADA)	1.19%	123.44%	41.43%	(34.34%)	2,481.78%	(13.09%)	91.53%
Avalanche (AVAX)	0.58%	28.21%	(9.25%)	(66.54%)	—	(30.56%)	—
Chainlink (LINK)	0.49%	66.76%	32.15%	4.67%	1,035.73%	1.53%	62.49%
Polkadot (DOT)	0.38%	47.40%	(19.98%)	(74.72%)	—	(36.77%)	—
Bitcoin Cash (BCH)	0.34%	27.86%	67.51%	3.65%	115.76%	1.20%	16.61%
NEAR Protocol (NEAR)	0.23%	(8.78%)	30.83%	(65.75%)	—	(30.10%)	—

Source: Bitwise Asset Management. Data as of December 31, 2024.

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# Performance of the Bitwise Crypto Innovators 30 Index and Its Top Constituents



Source: Bitwise Asset Management with data from Bloomberg. Data as of December 31, 2024.

The Bitwise Crypto Innovators 30 Total Return Index is an equity index that provides focused exposure to companies that are building the future of the crypto-asset-enabled decentralized economy. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index. Index performance and equity performance do not include the fees and expenses that are charged by any fund. Fund returns may differ materially from the returns of an index or individual equity. Past performance is no guarantee of future results. Please refer to additional important disclosures at the back of this document.

Note: Core Scientific (CORZ) relisted on the Nasdaq on January 24, 2024 and therefore is not shown on this chart.

# Performance of the Bitwise Crypto Innovators 30 Index and Its Top Constituents

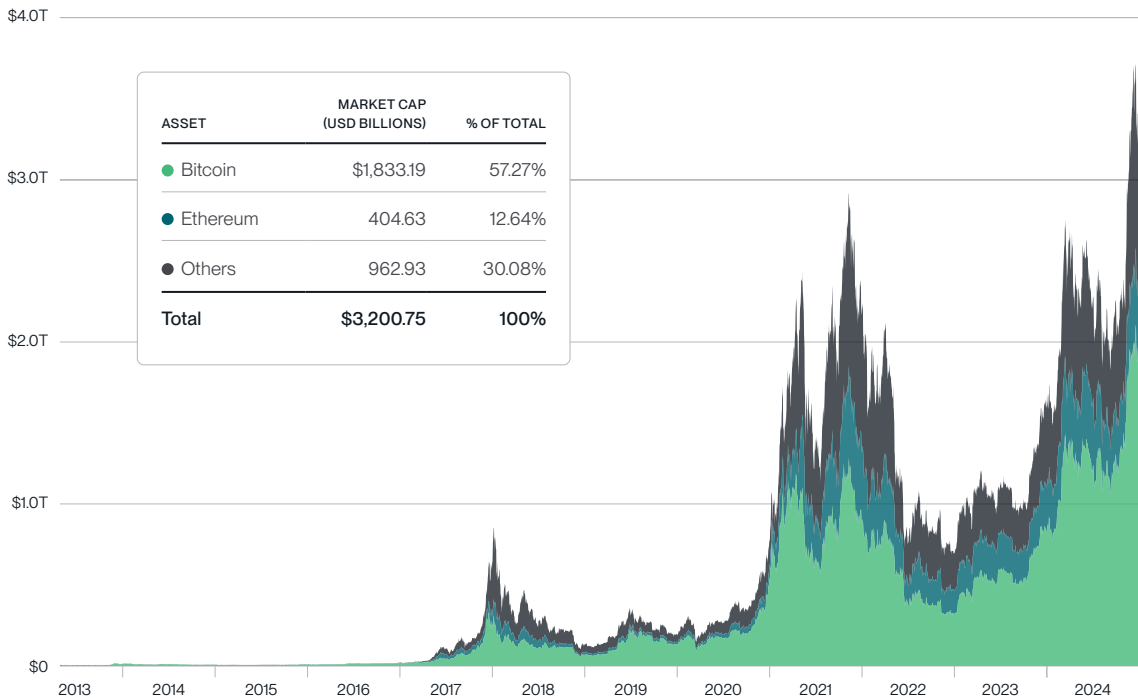
INDEX WEIGHT		— Cumulative —				— Annualized —	
		Q4 2024	1 YR	3 YR	5 YR	3 YR	5 YR
Bitwise Crypto Innovators 30 Index	—	27.75%	46.40%	(19.81%)	—	(7.09%)	—
MicroStrategy (MSTR)	18.32%	71.78%	358.54%	431.91%	1,930.57%	74.47%	82.49%
Coinbase (COIN)	10.88%	39.36%	42.77%	(1.61%)	—	(0.54%)	—
MARA Holdings (MARA)	8.58%	3.39%	(28.61%)	(48.97%)	1,802.65%	(20.07%)	80.13%
IREN Ltd (IREN)	4.75%	16.35%	37.34%	(39.27%)	—	(15.30%)	—
Riot Platforms (RIOT)	4.68%	37.60%	(34.00%)	(54.28%)	811.61%	(22.94%)	55.51%
Galaxy Digital (GLXY CN)	4.67%	35.12%	122.03%	(3.02%)	2,026.22%	(1.02%)	84.18%
TeraWulf (WULF)	4.59%	20.94%	135.83%	(62.39%)	5.79%	(27.80%)	1.13%
Cipher Mining (CIFR)	4.27%	19.90%	12.35%	0.22%	—	0.07%	—
Core Scientific (CORZ)	3.92%	18.47%	308.43%	—	—	—	—
Bitdeer Technologies (BTDR)	3.74%	176.76%	119.78%	117.57%	—	29.55%	—

Source: Bitwise Asset Management with data from Bloomberg. Data as of December 31, 2024. Index weights as of December 20, 2024.

The Bitwise Crypto Innovators 30 Total Return Index is an equity index that provides focused exposure to companies that are building the future of the crypto-asset-enabled decentralized economy. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index. Index performance and equity performance do not include the fees and expenses that are charged by any fund. Fund returns may differ materially from the returns of an index or individual equity. Past performance is no guarantee of future results. Please refer to additional important disclosures at the back of this document.

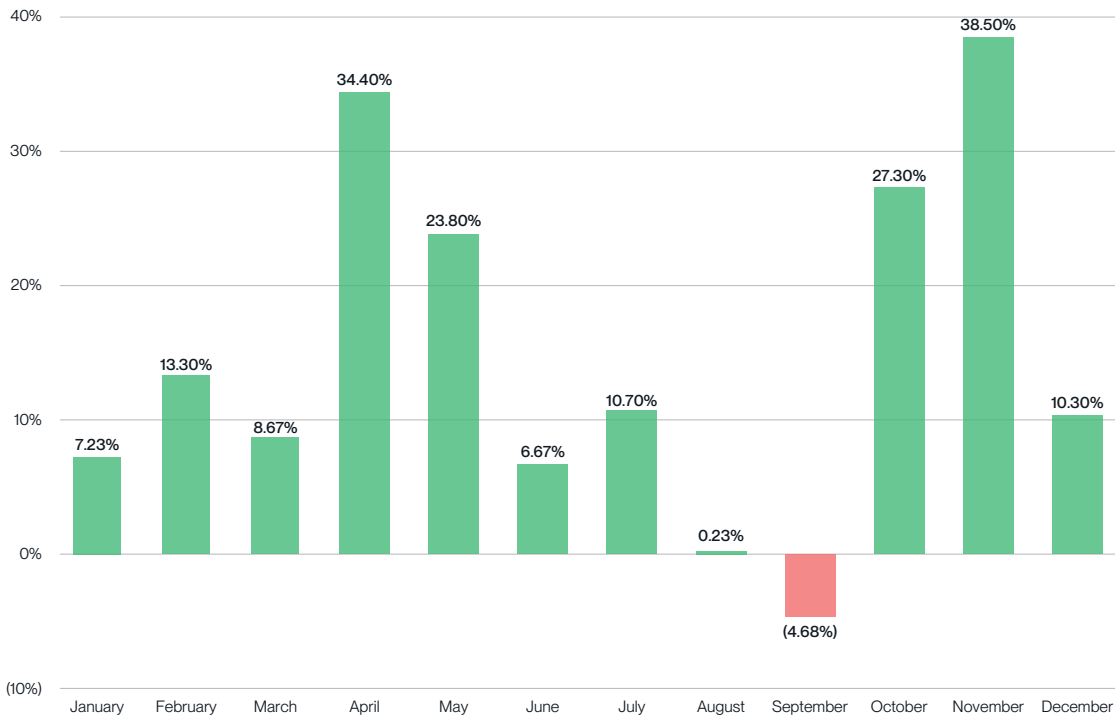
\*Note: Core Scientific (CORZ) relisted on the Nasdaq on January 24, 2024. One year performance is shown since that date.

# Total Crypto Market Capitalization



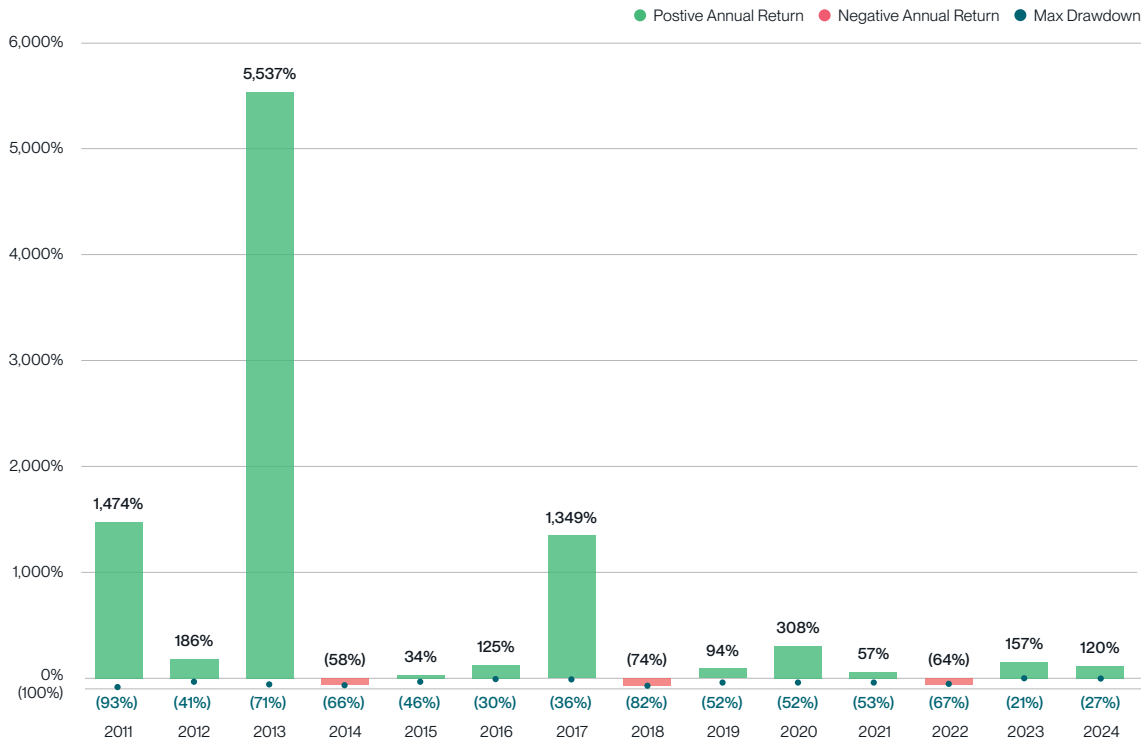
Source: Bitwise Asset Management with data from CoinGecko and The Block. Chart data from April 28, 2013 to December 31, 2024. Table data as of December 31, 2024.  
Note: "Others" includes all crypto assets for which data is available from CoinGecko and The Block, excluding stablecoins, Bitcoin, and Ethereum. Values in table may not add to total due to rounding.

# Bitcoin Seasonality: Average Monthly Performance



Source: Bitwise Asset Management. Data from October 1, 2010 to December 31, 2024. Past performance is no guarantee of future results.

# Bitcoin: Annual Returns vs. Intrayear Declines



Source: Bitwise Asset Management. Data from January 1, 2011 to December 31, 2024. Past performance is no guarantee of future results.

# Bitcoin Performance: Four-Year Cycles

<i>"The Bitcoin Cycle"</i>		<i>"The Ethereum Cycle"</i>		<i>"The Early Application Cycle"</i>		<i>"The Mainstream Cycle"</i>	
YEAR	BTC	YEAR	BTC	YEAR	BTC	YEAR	BTC
2011	1,474%	2015	34%	2019	94%	2023	157%
2012	186%	2016	125%	2020	308%	2024	120%
2013	5,537%	2017	1,349%	2021	57%	2025	—
2014	(58%)	2018	(74%)	2022	(64%)	2026	—

Source: Bitwise Asset Management. Data from December 31, 2010 to December 31, 2024.

Note: The names given to the four-year cycles represent our assessment of the forces that most contributed to bitcoin's performance during that period.

Performance information is provided for informational purposes only. Returns reflect the return of bitcoin itself, and not of any fund or account, and do not include any fees. Backward-looking performance cannot predict how any investment strategy will perform in the future. Future crypto cycles may not be four years long; the four-year increment is based on historical data for illustrative purposes and is not a prediction of future results. This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events, or a guarantee of future results.



# Historical Bitcoin Performance After Bitcoin Halvings



Source: Bitwise Asset Management. Data from July 9, 2016 to December 31, 2024. Past performance is no guarantee of future results.

# Performance of Major Assets and Asset Classes

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Bitcoin 1,473.76%	Bitcoin 186.08%	Bitcoin 5,537.40%	U.S. REITs 30.38%	Bitcoin 33.74%	Bitcoin 124.81%	Bitcoin 1,349.04%	U.S. Bonds 0.01%	Bitcoin 93.95%	Bitcoin 308.17%	Bitcoin 57.25%	Commodities 21.23%	Bitcoin 156.89%	Bitcoin 119.58%
Gold 10.10%	EM Equities 18.63%	U.S. Equities 32.39%	U.S. Equities 13.69%	U.S. REITs 2.52%	Commodities 19.53%	EM Equities 37.75%	Gold (1.56%)	U.S. Equities 31.49%	Gold 25.12%	U.S. REITs 43.06%	Gold (0.28%)	U.S. Equities 26.29%	Gold 27.22%
U.S. REITs 8.69%	DM Equities 17.90%	DM Equities 23.29%	U.S. Bonds 5.97%	U.S. Equities 1.38%	U.S. Equities 11.96%	DM Equities 25.62%	U.S. Equities (4.38%)	U.S. REITs 25.84%	EM Equities 18.69%	Commodities 42.60%	U.S. Bonds (13.01%)	DM Equities 18.85%	U.S. Equities 25.02%
U.S. Bonds 7.84%	U.S. REITs 17.77%	U.S. REITs 2.47%	Gold (1.44%)	U.S. Bonds 0.55%	EM Equities 11.60%	U.S. Equities 21.83%	U.S. REITs (4.57%)	DM Equities 22.66%	U.S. Equities 18.40%	U.S. Equities 28.71%	DM Equities (14.01%)	U.S. REITs 13.74%	U.S. REITs 8.75%
U.S. Equities 2.11%	U.S. Equities 16.00%	U.S. Bonds (2.02%)	EM Equities (1.82%)	DM Equities (0.39%)	U.S. REITs 8.60%	Gold 13.53%	Commodities (11.18%)	EM Equities 18.88%	DM Equities 8.28%	DM Equities 11.78%	U.S. Equities (18.11%)	Gold 13.10%	EM Equities 8.05%
Commodities (2.39%)	Gold 7.06%	EM Equities (2.27%)	DM Equities (4.48%)	Gold (10.41%)	Gold 8.14%	Commodities 6.16%	DM Equities (13.36%)	Gold 18.31%	U.S. Bonds 7.51%	U.S. Bonds (1.54%)	EM Equities (19.74%)	EM Equities 10.27%	DM Equities 4.35%
DM Equities (11.73%)	U.S. Bonds 4.22%	Commodities (6.55%)	Commodities (26.43%)	EM Equities (14.60%)	U.S. Bonds 2.65%	U.S. REITs 5.07%	EM Equities (14.24%)	Commodities 12.94%	Commodities (7.53%)	EM Equities (2.22%)	U.S. REITs (24.51%)	U.S. Bonds 5.53%	Commodities 2.85%
EM Equities (18.17%)	Commodities 4.16%	Gold (28.28%)	Bitcoin (57.74%)	Commodities (26.68%)	DM Equities 1.51%	U.S. Bonds 3.54%	Bitcoin (73.71%)	U.S. Bonds 8.72%	U.S. REITs (7.57%)	Gold (3.64%)	Bitcoin (63.91%)	Commodities (5.33%)	U.S. Bonds 1.25%

Source: Bitwise Asset Management with data from Bloomberg. Data from December 31, 2010 to December 31, 2024.

Note: Asset classes are represented by the following. Bitcoin: BTC spot price. Gold: Gold spot price. U.S. REITs: MSCI U.S. REIT Gross Total Return Index. U.S. Bonds: Bloomberg U.S. Aggregate Bond Index. U.S. Equities: S&P 500 Total Return Index. Commodities: Deutsche Bank DBIQ Optimum Yield Diversified Commodity Index Total Return. DM Equities: MSCI EAFE Gross Total Return USD Index. EM Equities: MSCI Emerging Markets Gross Total Return USD Index. All calculations are total return, including dividends for the stated period. For definitions of the indexes and assets listed here, [see p.62](#).

Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index. Index performance and equity performance do not include the fees and expenses that are charged by any fund. Fund returns may differ materially from the returns of an index or individual equity. Past performance is no guarantee of future results.

# Correlations of Select Assets and Asset Classes

## 90-Day Rolling

BITWISE 10 LARGE CAP CRYPTO INDEX	1.00									
BITWISE CRYPTO INNOVATORS 30 INDEX	0.83	1.00								
BITCOIN	0.98	0.82	1.00							
U.S. EQUITIES	0.50	0.58	0.46	1.00						
DEVELOPED MARKET EQUITIES	0.21	0.19	0.16	0.20	1.00					
EMERGING MARKET EQUITIES	0.01	0.13	(0.03)	0.11	0.60	0.03				
COMMODITIES	(0.07)	(0.12)	(0.06)	0.07	0.23	0.27	1.00			
U.S. REITS	0.21	0.26	0.20	0.45	0.21	0.09	(0.06)	1.00		
U.S. BONDS	0.07	0.09	0.03	0.03	0.29	0.09	(0.08)	0.51	1.00	
GOLD	0.03	0.06	0.04	0.20	0.25	0.26	0.47	0.28	0.22	1.00
	BITWISE 10 LARGE CAP CRYPTO INDEX	BITWISE CRYPTO INNOVATORS 30 INDEX	BITCOIN	U.S. EQUITIES	DEVELOPED MARKET EQUITIES	EMERGING MARKET EQUITIES	COMMODITIES	U.S. REITS	U.S. BONDS	GOLD

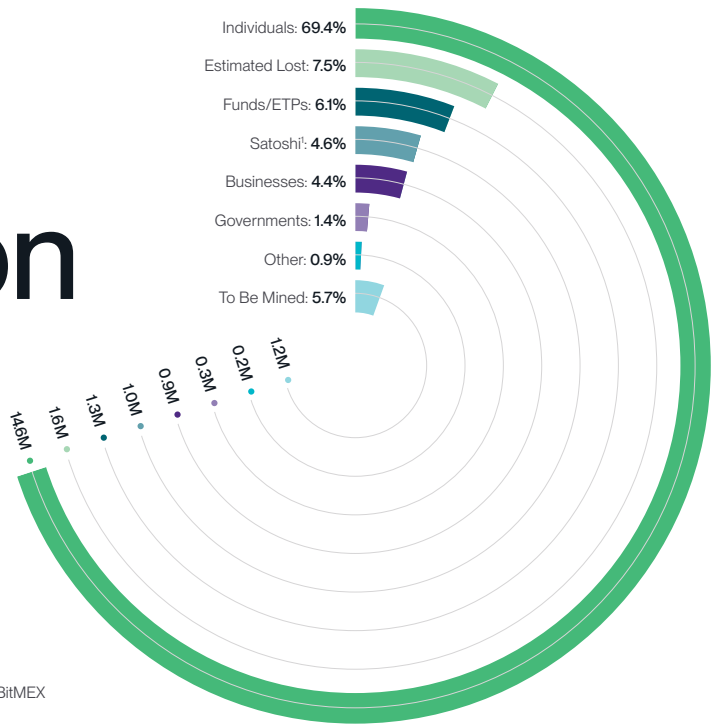
Source: Bitwise Asset Management with data from Bloomberg. Data as of December 31, 2024.

Note: Asset classes are represented by the following. U.S. Equities: S&P 500 Total Return Index. Developed Market Equities: MSCI EAFE Gross Total Return USD Index. Emerging Market Equities: MSCI Emerging Markets Gross Total Return USD Index. Commodities: Deutsche Bank DBIQ Optimum Yield Diversified Commodity Index Total Return. U.S. REITs: MSCI U.S. REIT Gross Total Return Index. U.S. Bonds: Bloomberg U.S. Aggregate Bond Index. Gold: Gold spot price. For definitions of the indexes and assets listed here, [see p.62](#).

# Bitcoin Ownership by Type

Total Bitcoin Supply:

# 21 Million



Source: Bitwise Asset Management with data from River and BitMEX Research. Data as of December 31, 2024.

(t) Psuedonymous creator of bitcoin.

Values in table may not add to total due to rounding.

# Bitcoin Demand From U.S. Spot ETPs vs. New Supply



Bitcoin Purchased by U.S. Spot ETPs

**510,645**

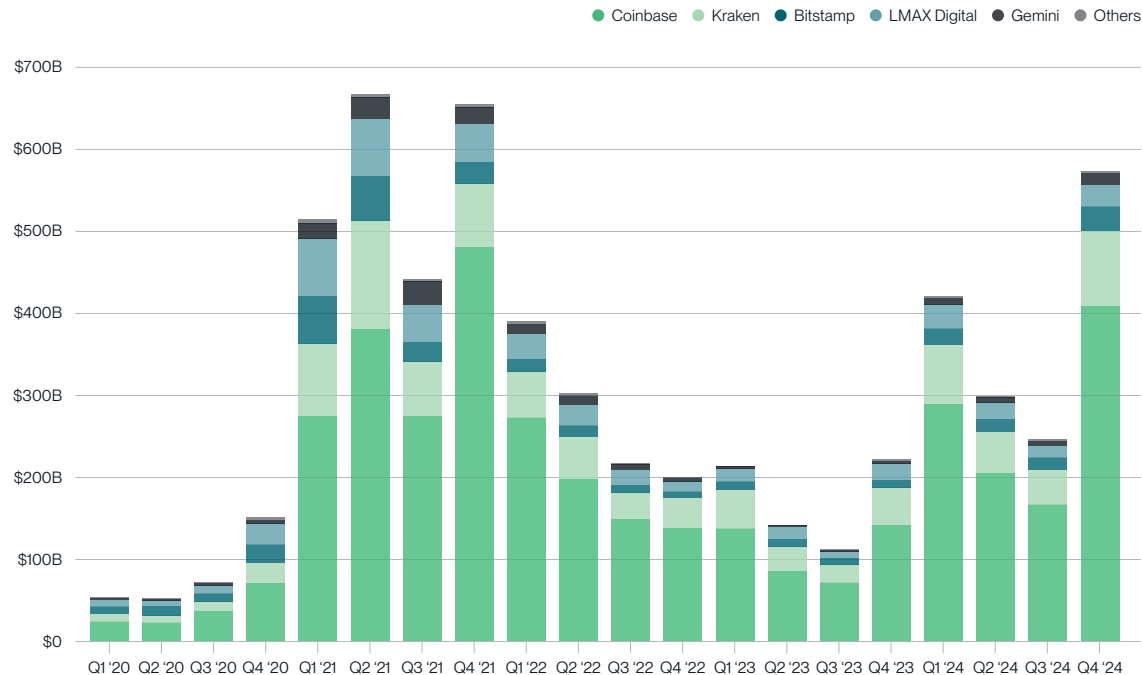


New Bitcoin Supply Since U.S. Spot ETPs Launched

**208,894**

Source: Bitwise Asset Management with data from Coin Metrics and Bloomberg. Data from January 11, 2024 to December 31, 2024.

# Spot Trading Volume on Centralized Exchanges

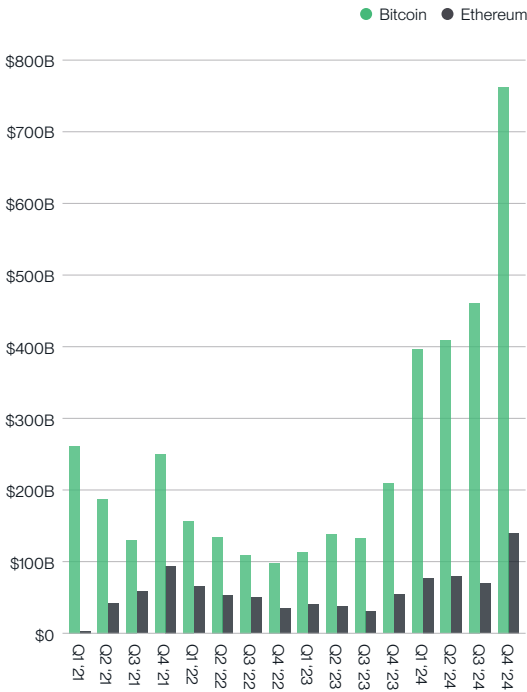


Source: Bitwise Asset Management with data from The Block. Data from Q1 2020 to Q4 2024.

Note: "Others" includes bitFlyer and iBit. "Centralized Exchanges" refers to venues that meet the criteria for "Eligible Crypto Asset Trading Venues" per the Bitwise Crypto Asset Index Methodology. The methodology is available at <https://bitwiseinvestments.com/indexes/methodology>. "Spot trading" refers to trading in a financial market in which financial instruments are traded for immediate delivery.

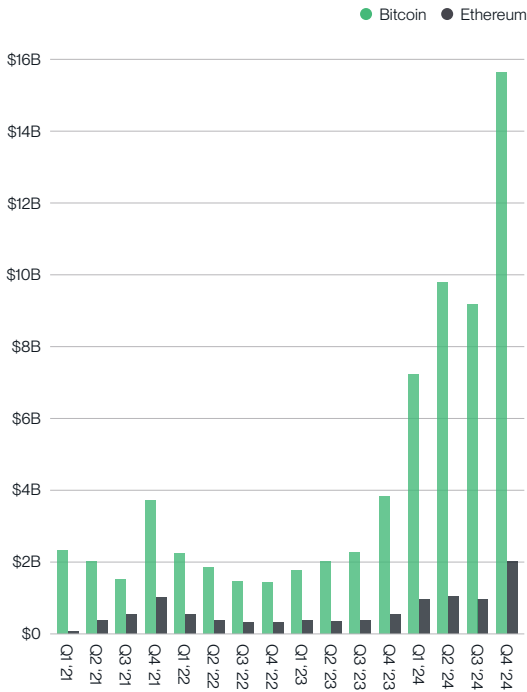
# CME Bitcoin and Ethereum Futures

Total Volume



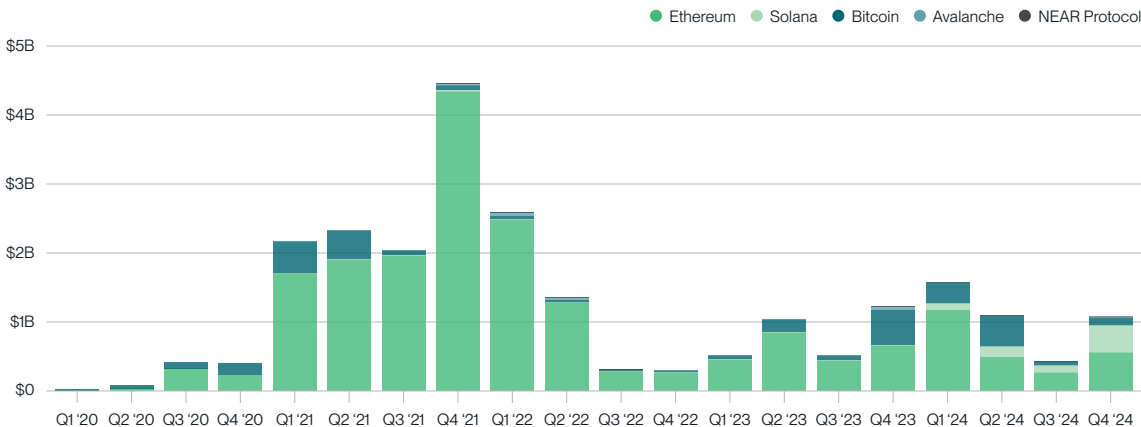
Source: Bitwise Asset Management with data from The Block and CoinGlass. Data from Q1 2021 to Q4 2024.

Average Open Interest



Source: Bitwise Asset Management with data from The Block and CoinGlass. Data from Q1 2021 to Q4 2024.

# Revenue: Leading Blockchains



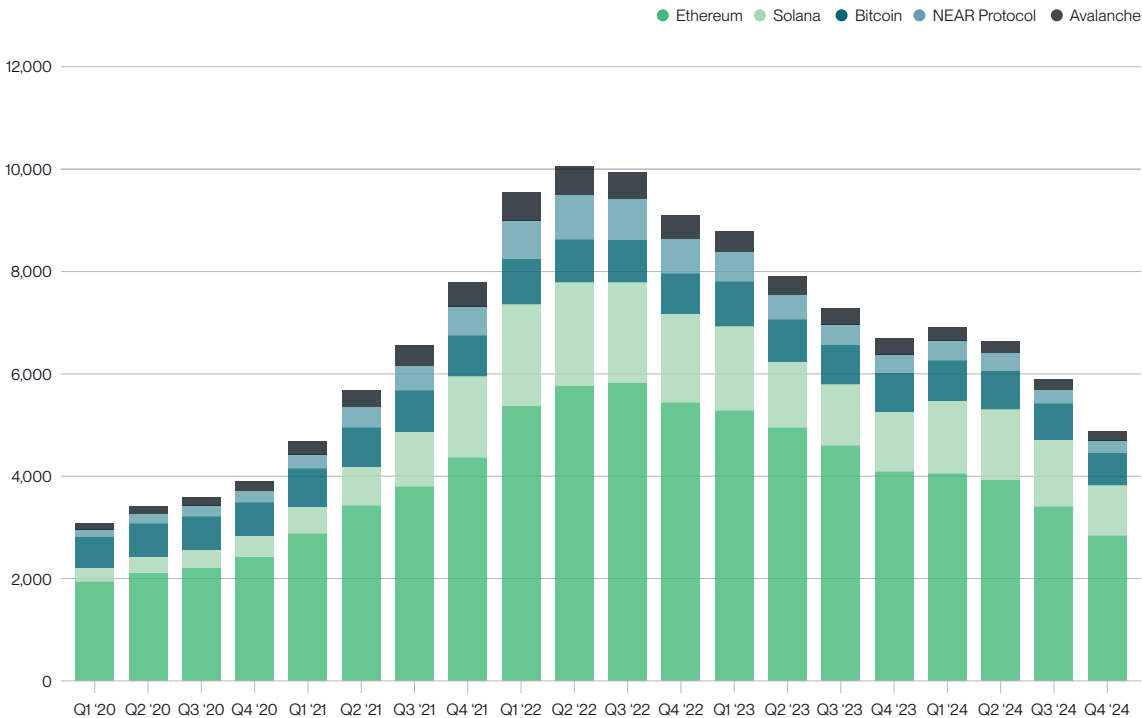
— USD millions —

	2019	2020	2021	2022	2023	2024
Ethereum	\$35	\$596	\$9,911	\$4,299	\$2,406	\$2,478
Bitcoin	156	324	1,017	142	796	923
Solana	—	<1	28	26	26	751
Avalanche	—	—	41	94	65	17
NEAR Protocol	—	<1	1	3	1	9

Source: Bitwise Asset Management with data from Token Terminal. Chart data from Q1 2020 to Q4 2024. Table data from January 1, 2019 to December 31, 2024.



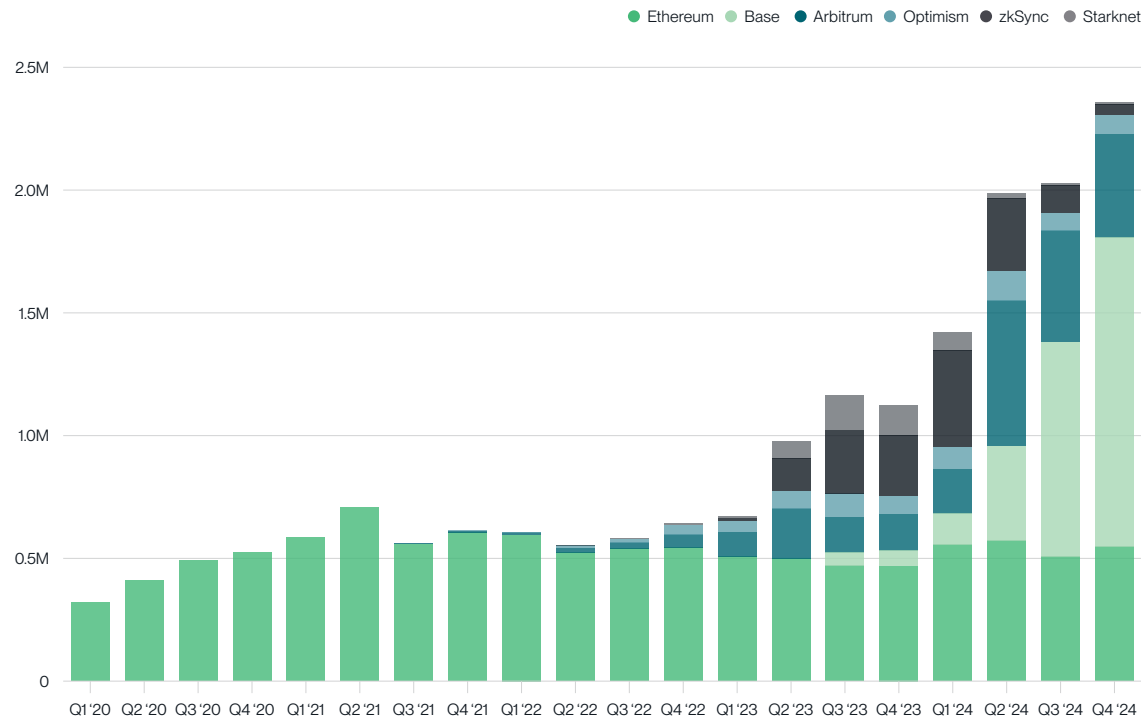
# Average Developer Count



Source: Bitwise Asset Management with data from Artemis and Electric Capital Crypto Ecosystems Mapping. Data from Q1 2020 to Q4 2024.

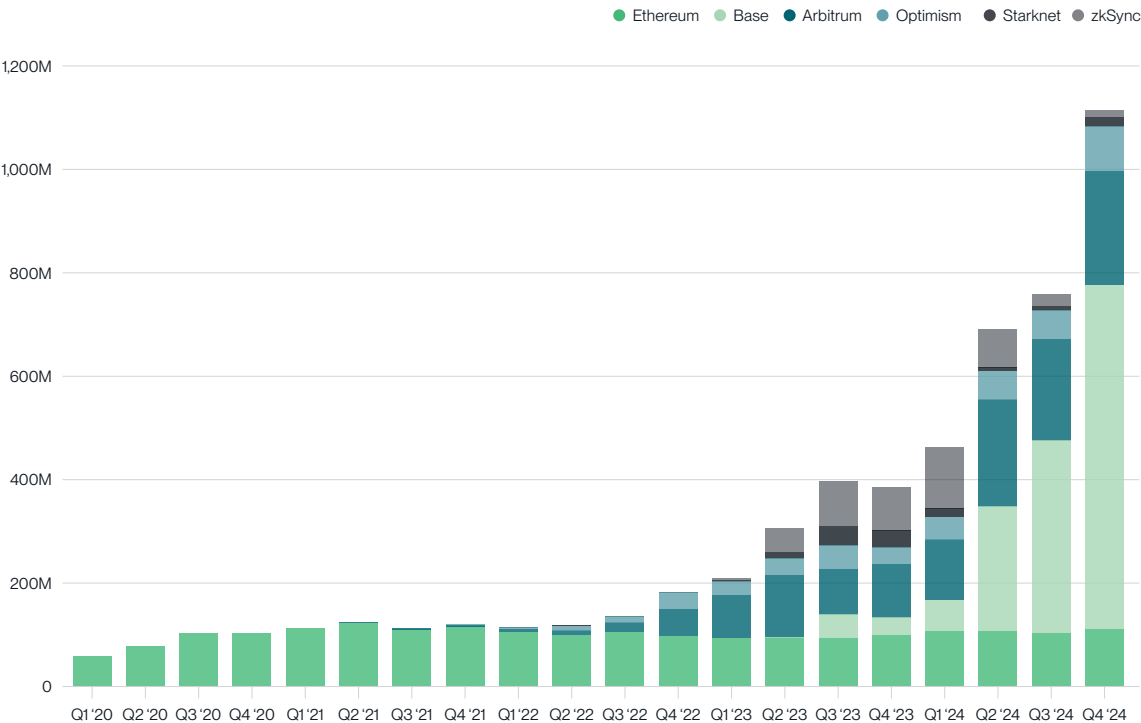
Note: "Average Developer Count" includes developers contributing to Layer 1 blockchains as well as Layer 2s and crypto applications for which data is available from Artemis.

# Average Daily Active Addresses: Ethereum and Layer 2s



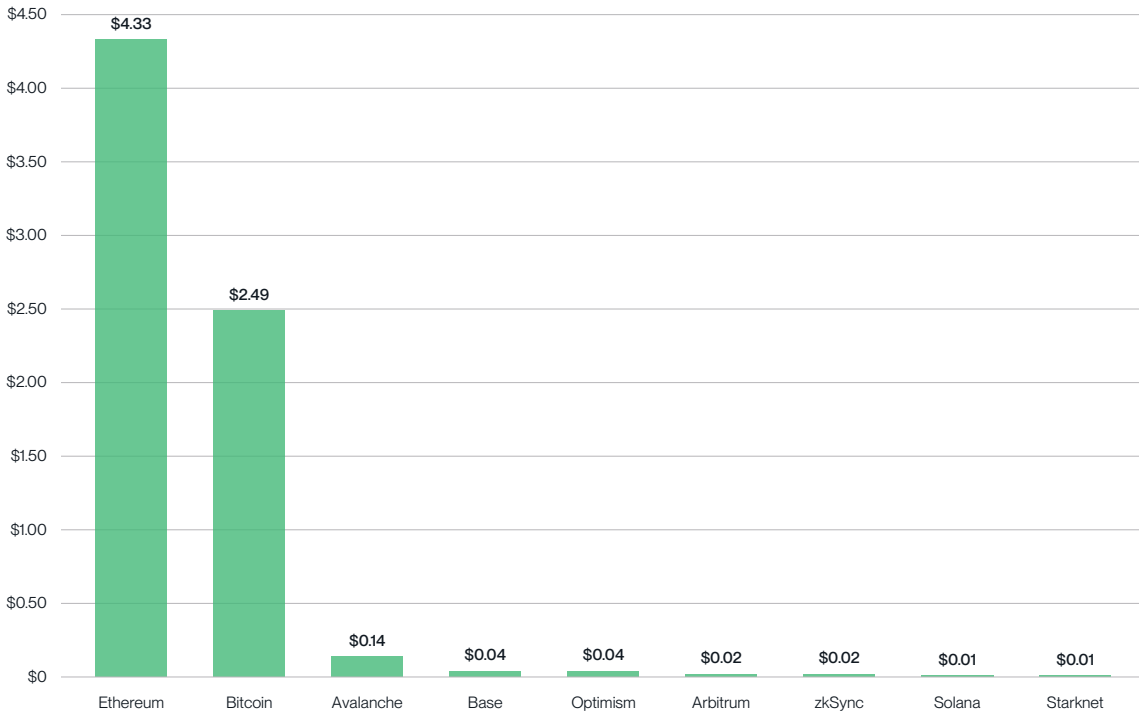
Source: Bitwise Asset Management with data from Coin Metrics and Token Terminal. Data from Q1 2020 to Q4 2024.

# Transaction Count: Ethereum and Layer 2s



Source: Bitwise Asset Management with data from Token Terminal. Data from Q1 2020 to Q4 2024.

# Median Fee Per Transaction: Leading Blockchains and Layer 2s



Source: Bitwise Asset Management with data from Allium. Data from October 1 to December 31, 2024.

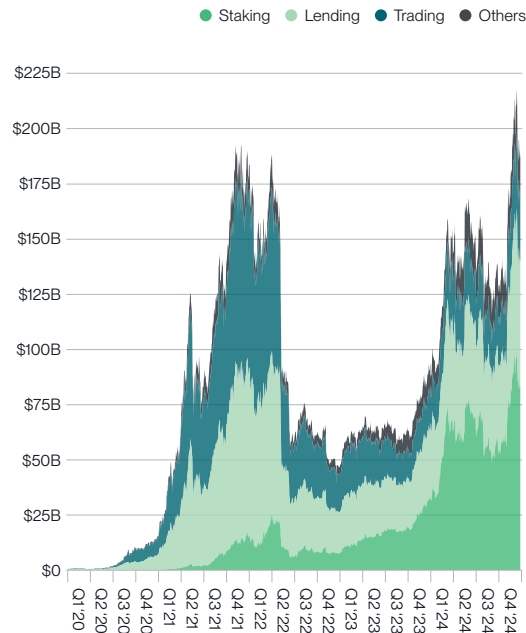
# Top 10 Crypto Applications by Revenue

PROTOCOL	DESCRIPTION	12-MONTH REVENUE (USD MILLIONS) <sup>(1)</sup>
Lido	Leading staking-as-a-service app	\$1,034.9
Uniswap	Leading decentralized crypto exchange	1,018.3
Jito	Leading Solana-based staking-as-a-service app	693.3
Flashbots	Infrastructure app for mitigating MEV	633.4
Aave	Largest lending and borrowing application in DeFi	478.4
Aerodrome	Popular decentralized exchange on Base	243.8
PancakeSwap	Popular decentralized crypto exchange	227.3
GMX	Leading crypto derivatives exchange	87.5
Morpho	Popular lending and borrowing application in DeFi	80.0
Compound	Popular lending and borrowing application in DeFi	72.4

Source: Bitwise Asset Management with data from Token Terminal. Data from January 1, 2024 to December 31, 2024.

(1) Revenue is made up of the total fees paid by users.

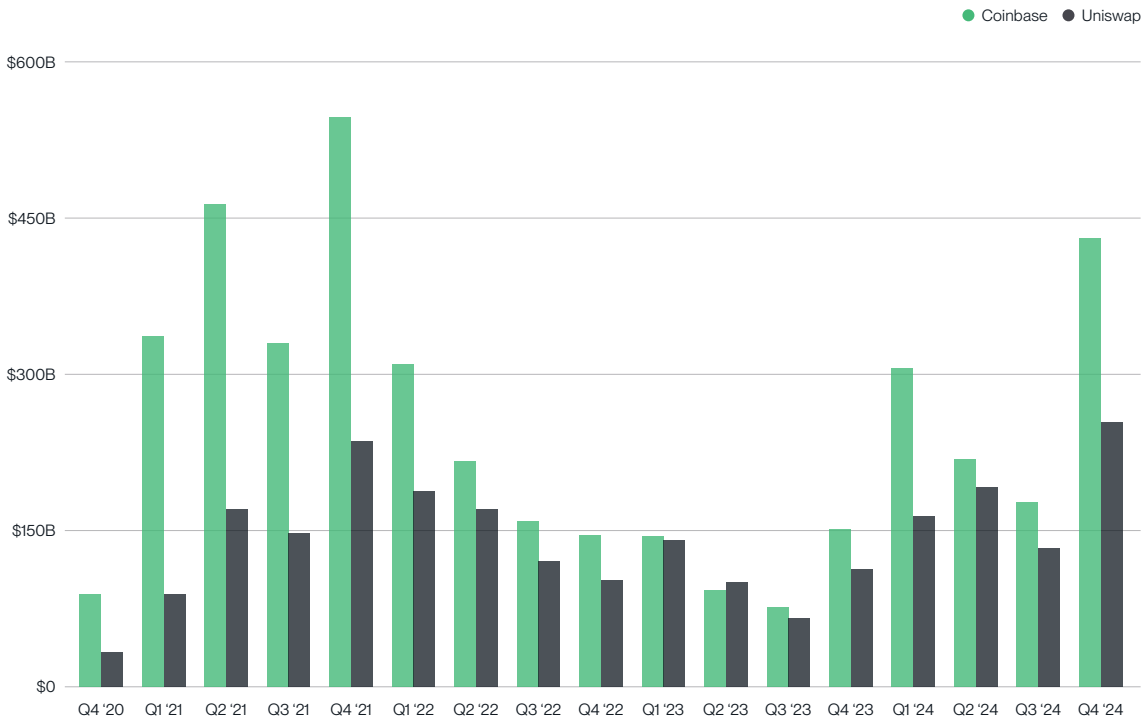
# Total Value Locked in DeFi by Sector



Source: Bitwise Asset Management with data from The Block and DeFi Llama. Data from Q1 2020 to Q4 2024.

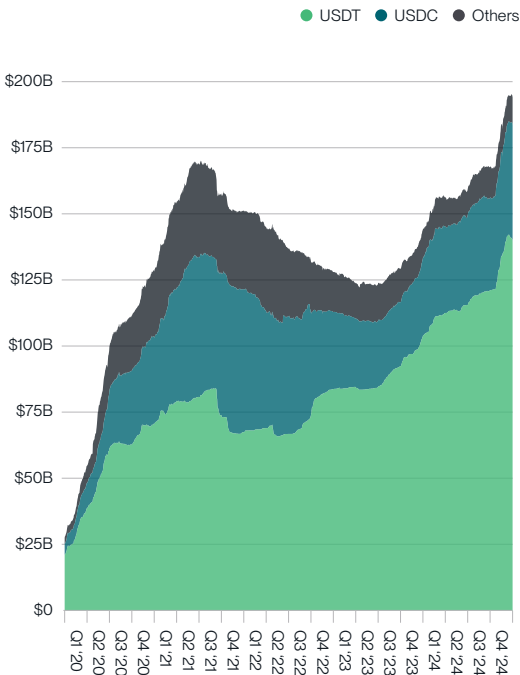
Note: "Total Value Locked" (TVL) is a measure of the total amount of capital deployed in DeFi applications. "Staking" includes liquid staking, liquid restaking, and restaking.

# Trading Volume: Coinbase vs. Uniswap



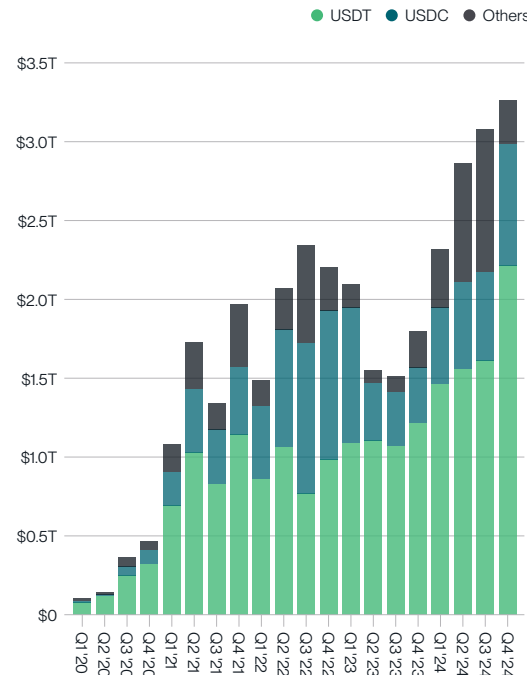
Source: Bitwise Asset Management with data from The Block and DeFi Llama. Data from Q4 2020 to Q4 2024.

# Stablecoin Market Capitalization



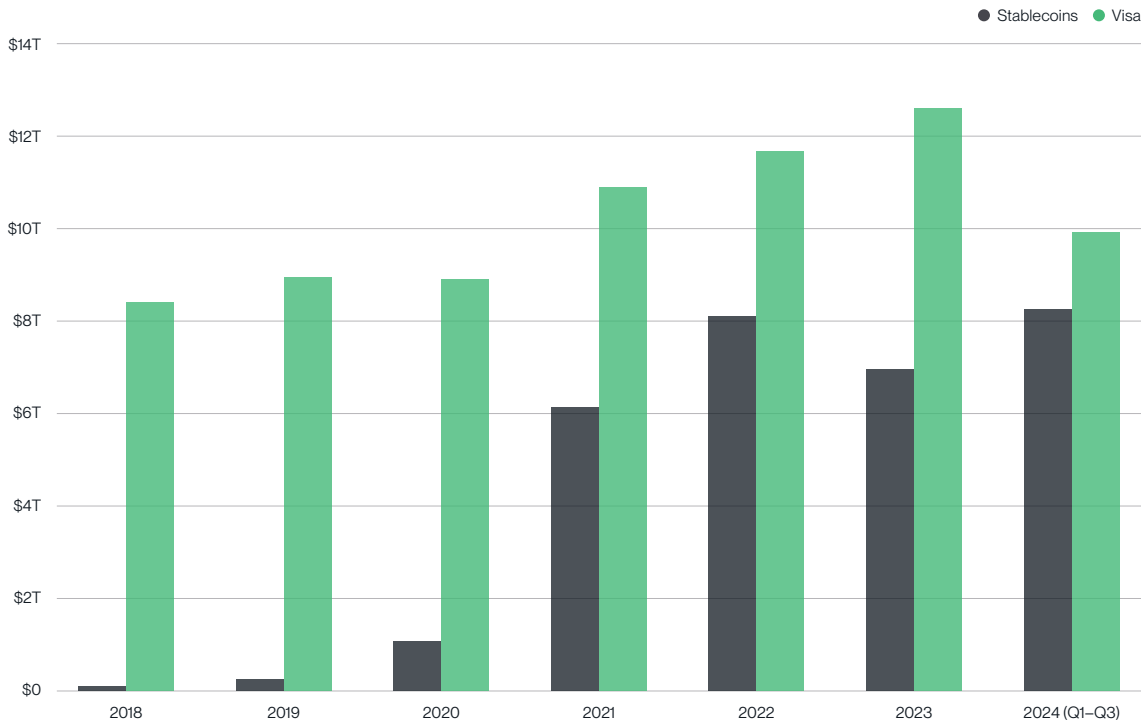
Source: Bitwise Asset Management with data from The Block, Coin Metrics, and CoinGecko. Data from Q1 2020 to Q4 2024.  
 Note: "Others" includes BUSD, crvUSD, DAI, FDUSD, FEI, FRAX, GHO, GUSD, HUSD, LUSD, MIM, PYUSD, TUSD, USDD, USDP, and USDS.

# Stablecoin Transactions



Source: Bitwise Asset Management with data from Coin Metrics. Data from Q1 2020 to Q4 2024.  
 Note: "Others" includes BUSD, DAI, GUSD, HUSD, PYUSD, TUSD, USDK, and USDP. On September 18, 2024, DAI became convertible to USDS, which is not included in this chart.

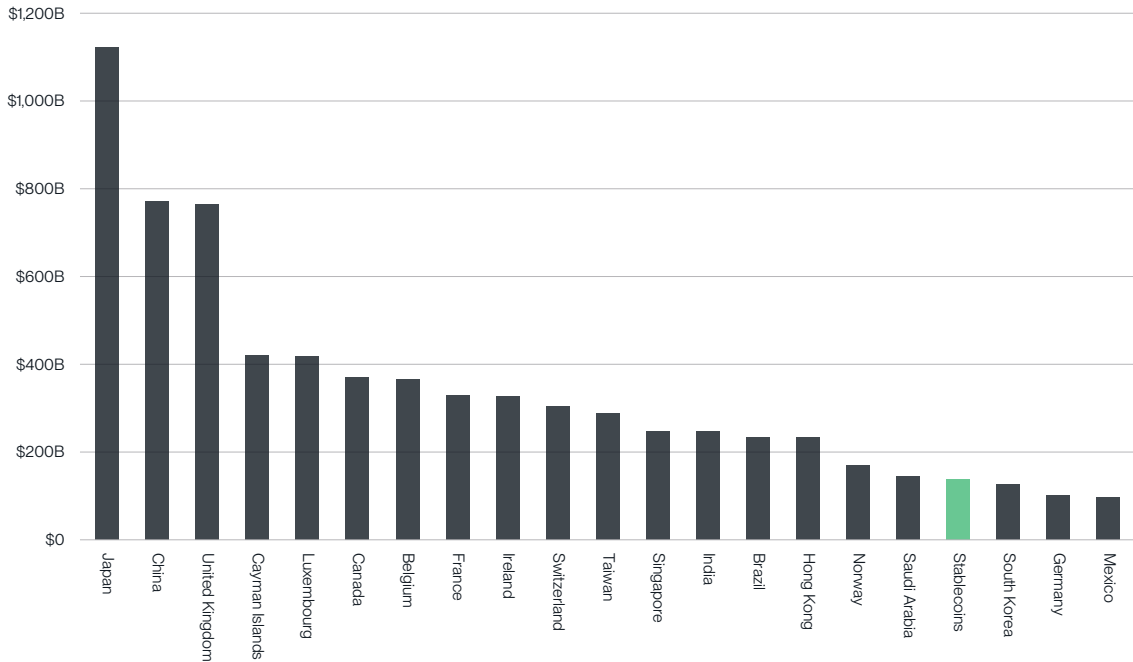
# Volume: Stablecoin Transactions vs. Visa Payments



Source: Bitwise Asset Management with data from Coin Metrics and Visa. Data from January 1, 2018 to September 30, 2024 (most recently reported data for Visa).



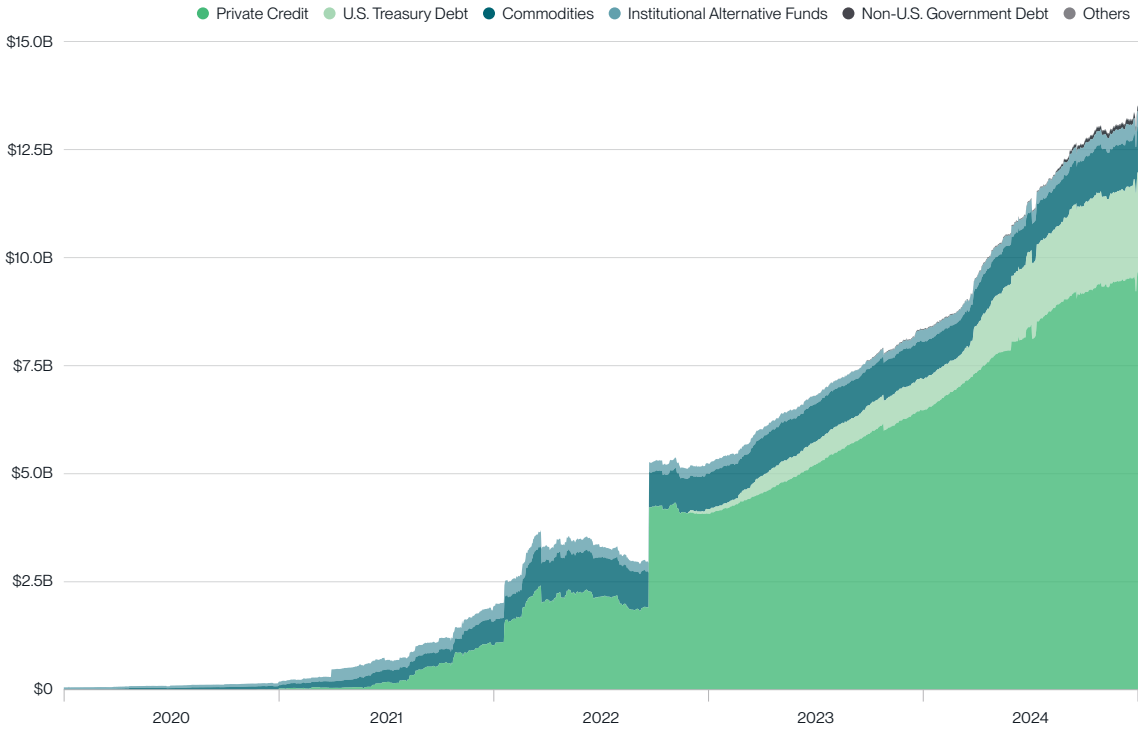
## Holder of U.S. Treasuries: Stablecoins vs. Top Foreign Holders



Source: Bitwise Asset Management with data from the U.S. Department of the Treasury and company reports. Data as of September 30, 2024.

Note: This table was inspired by a presentation by Nic Carter, a Founding Partner at Castle Island Ventures. "Stablecoins" refers to the top five stablecoins by market capitalization for which reserve attestation reports were available as of September 30, 2024 (USDT, USDC, FDUSD, PYUSD, and GUSD). "U.S. Treasury" holdings include U.S. Treasury bills, reverse repurchase agreements, and money market funds.

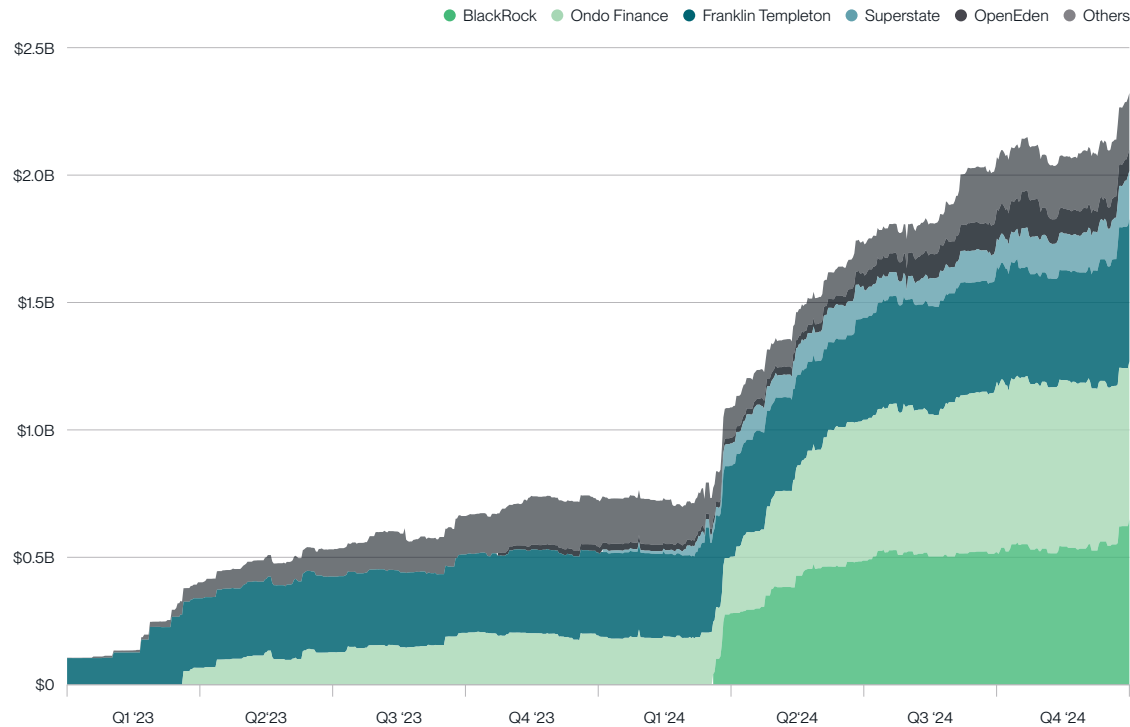
# Value of Tokenized Real World Assets (RWAs)



Source: Bitwise Asset Management with data from RWA.xyz. Data from January 1, 2020 to December 31, 2024.

Note: Stablecoin issuers such as Circle and Tether are intentionally omitted.

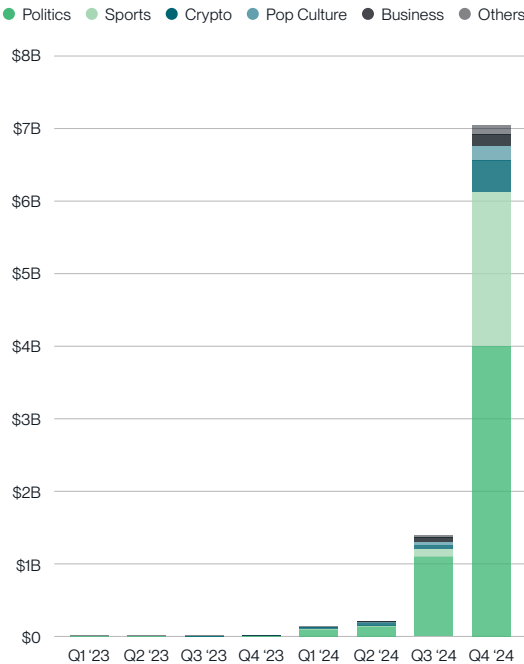
# Tokenized U.S. Treasuries



Source: Bitwise Asset Management with data from RWA.xyz. Data from January 1, 2023 to December 31, 2024.  
Note: Stablecoin issuers such as Circle and Tether are intentionally omitted.

# Polymarket Volume and Open Interest

Volume by Category



Source: Bitwise Asset Management with data from Blockworks Research.  
Data from January 1, 2023 to December 31, 2024.

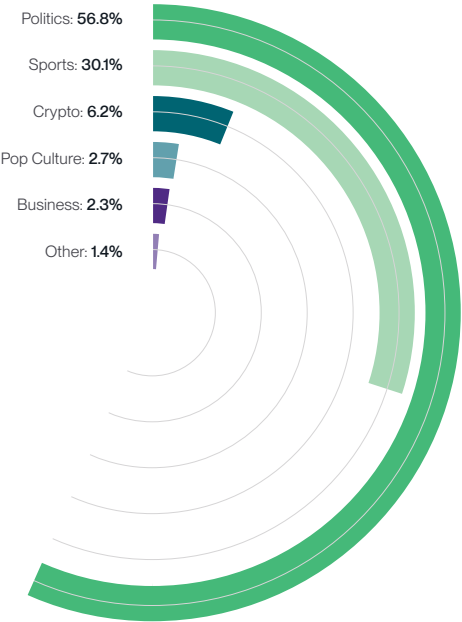
Open Interest



Source: Bitwise Asset Management with data from Blockworks Research.  
Data from January 1, 2023 to December 31, 2024.

# Polymarket Markets

Volume Share by Category



Source: Bitwise Asset Management with data from Blockworks Research. Data as of December 31, 2024.

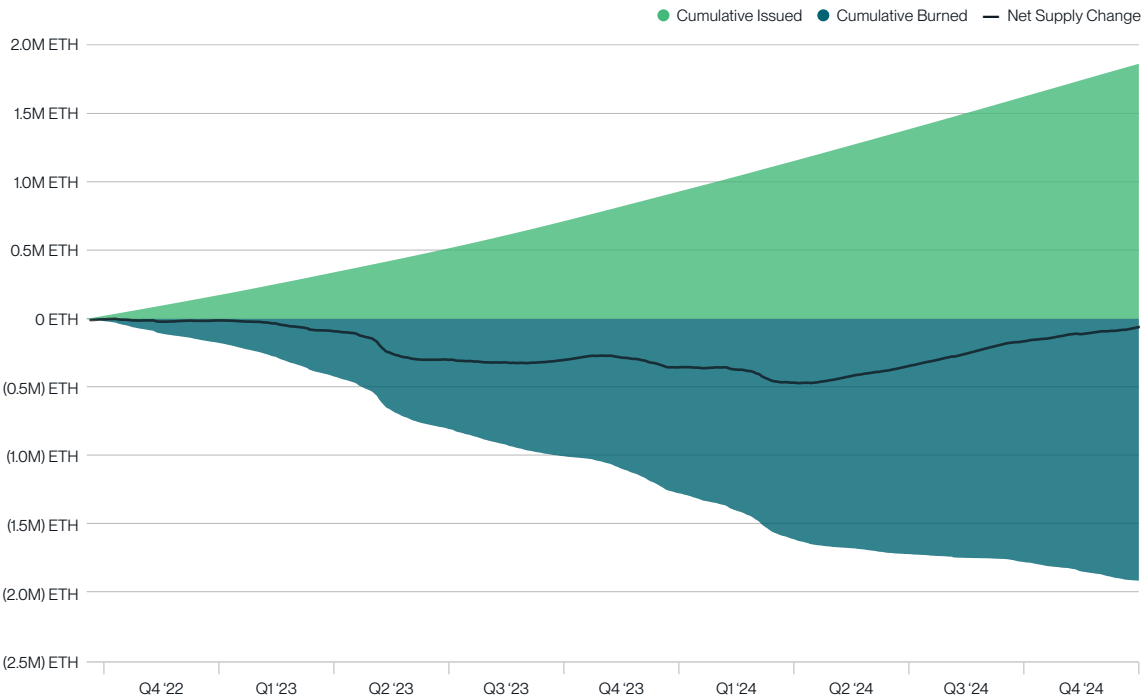
Note: Values may not add to total due to rounding.

Top Five Markets

MARKET NAME	Q4 '24 VOLUME (USD MILLIONS)
Will Donald Trump win the 2024 U.S. presidential election?	\$2,274.5
Will Manchester City win the UEFA Champions League?	543.2
Will Kamala Harris be inaugurated?	411.8
Will the Cardinals win Super Bowl 2025?	350.8
Will Donald Trump win the popular vote in the 2024 presidential election?	267.0

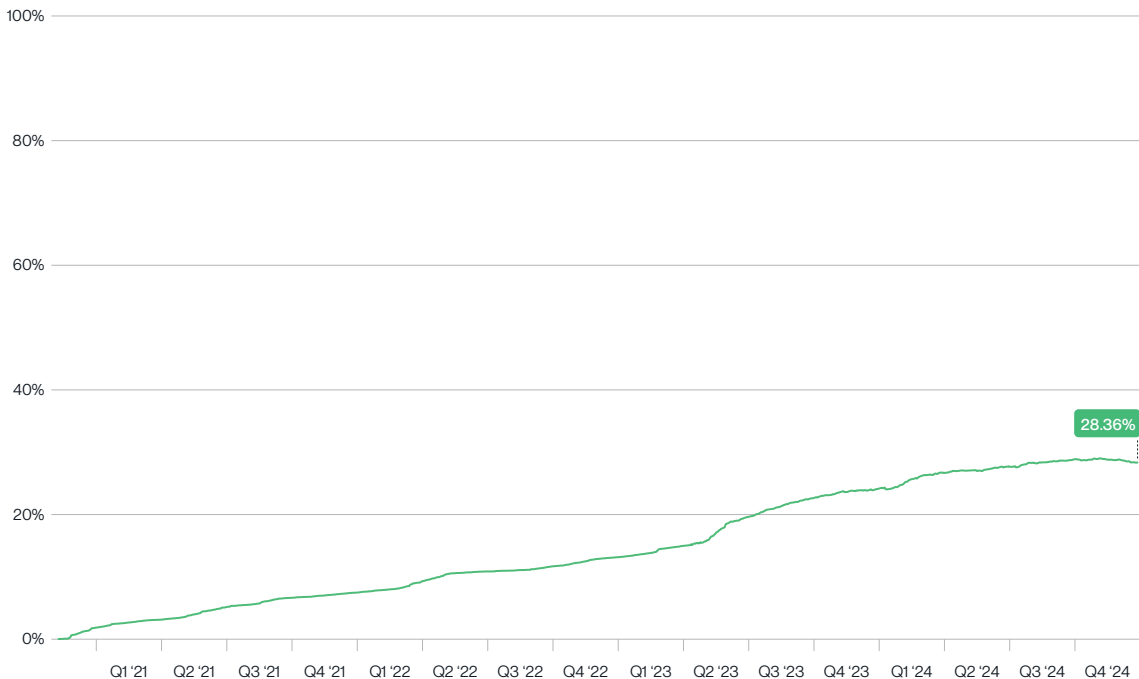
Source: Bitwise Asset Management with data from Blockworks Research. Data as of December 31, 2024.

# Ethereum Supply Since “The Merge”: ETH Issued vs. Burned



Source: Bitwise Asset Management with data from Coin Metrics and Ultra Sound Money. Data from September 15, 2022 to December 31, 2024.  
Note: The Merge (Ethereum's transition to proof-of-stake validation) took place on September 15, 2022. As of December 31, 2024, the total supply of Ethereum was 120,468,280 ETH.

# Percentage of Ethereum Supply Staked

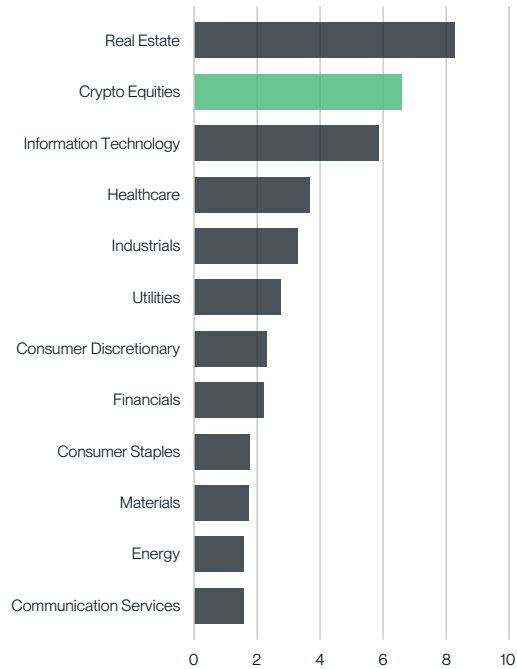


Source: Bitwise Asset Management with data from Coin Metrics and The Block. Data from November 3, 2020 to December 31, 2024.

Note: Staking involves making a financial commitment to a blockchain in its native asset to secure the network, typically in exchange for yield. Staking typically requires the owner to lock up the staked asset for a period of time. The "Shapella" upgrade in April 2023 allowed staked ETH to be withdrawn.

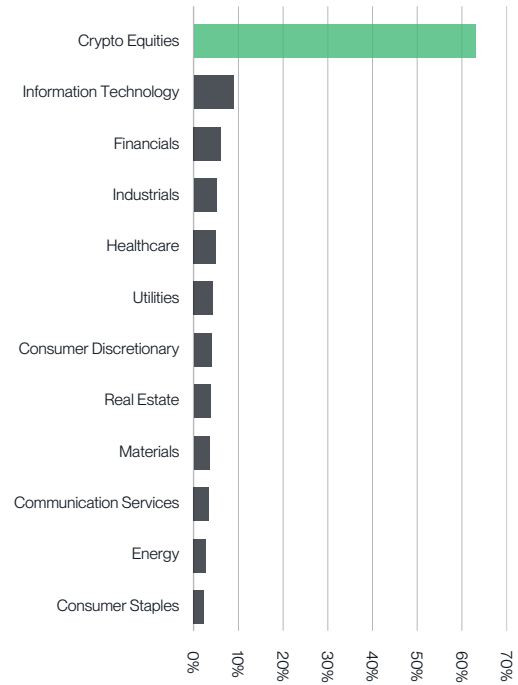
# Crypto Equities vs. Other Industries

Price-to-Sales Ratio



Source: Bitwise Asset Management with data from Bloomberg. Calculations are based on trailing 12-month sales as of September 30, 2024. Price data as of December 31, 2024.

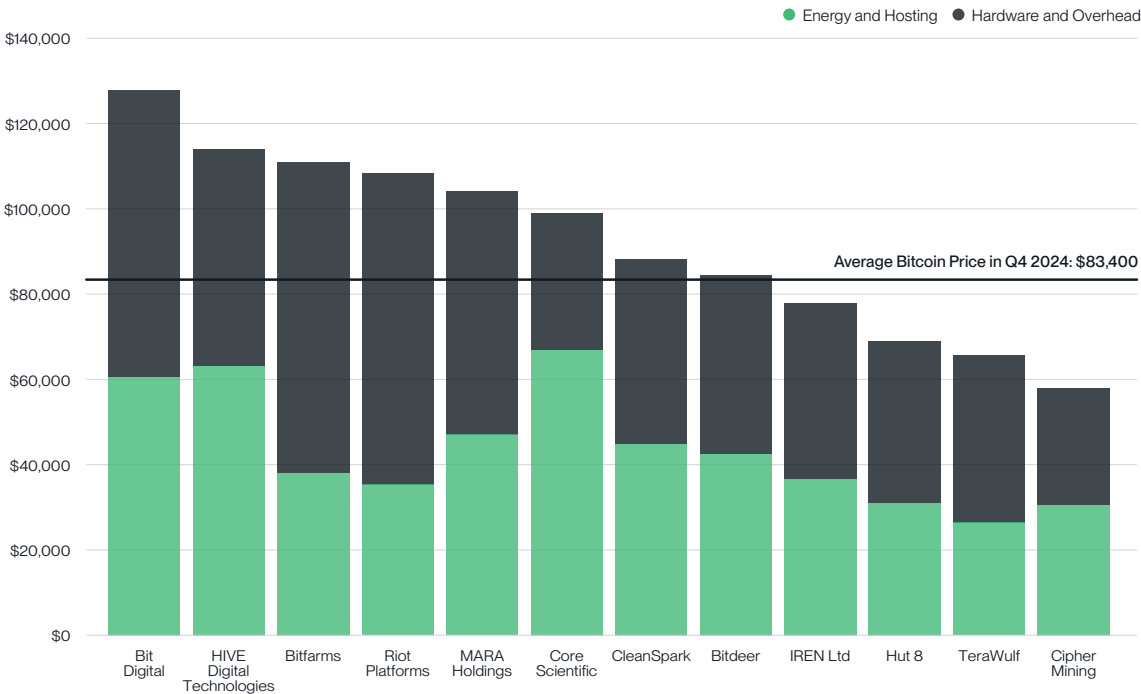
2025 Estimated Full-Year Revenue Growth



Source: Bitwise Asset Management with data from Bloomberg. Data as of December 31, 2024.



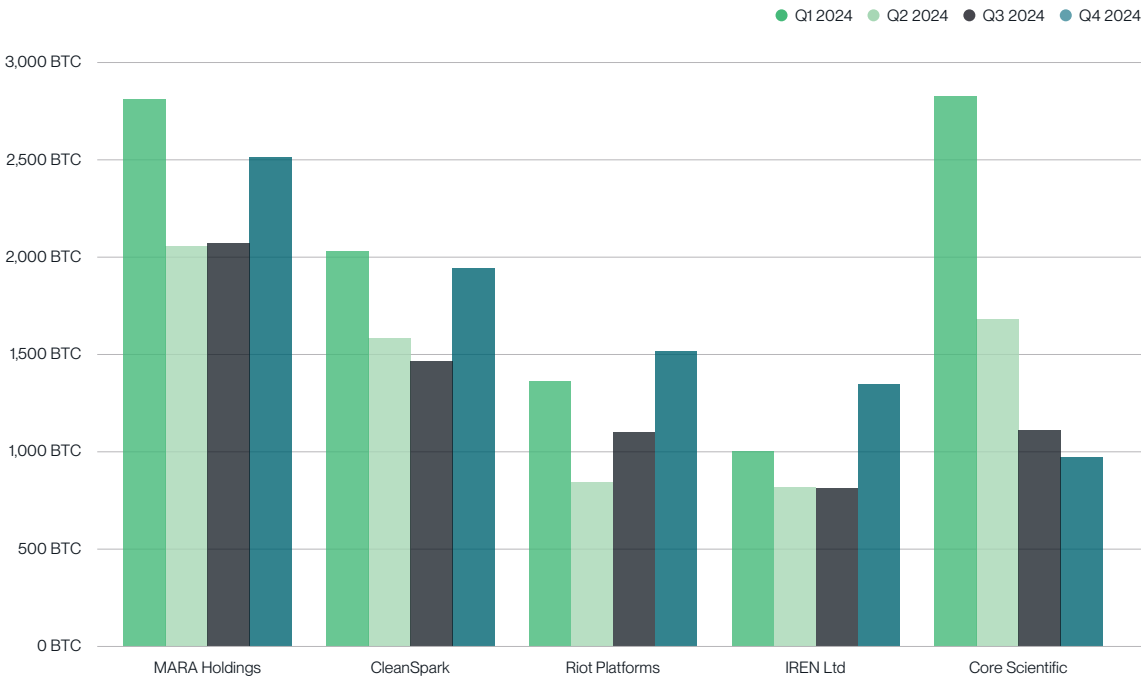
# Mining Cost per Bitcoin for Crypto Miners



Source: Bitwise Asset Management with data from company filings. Chart reflects the most recent available data for the period ending December 31, 2024.

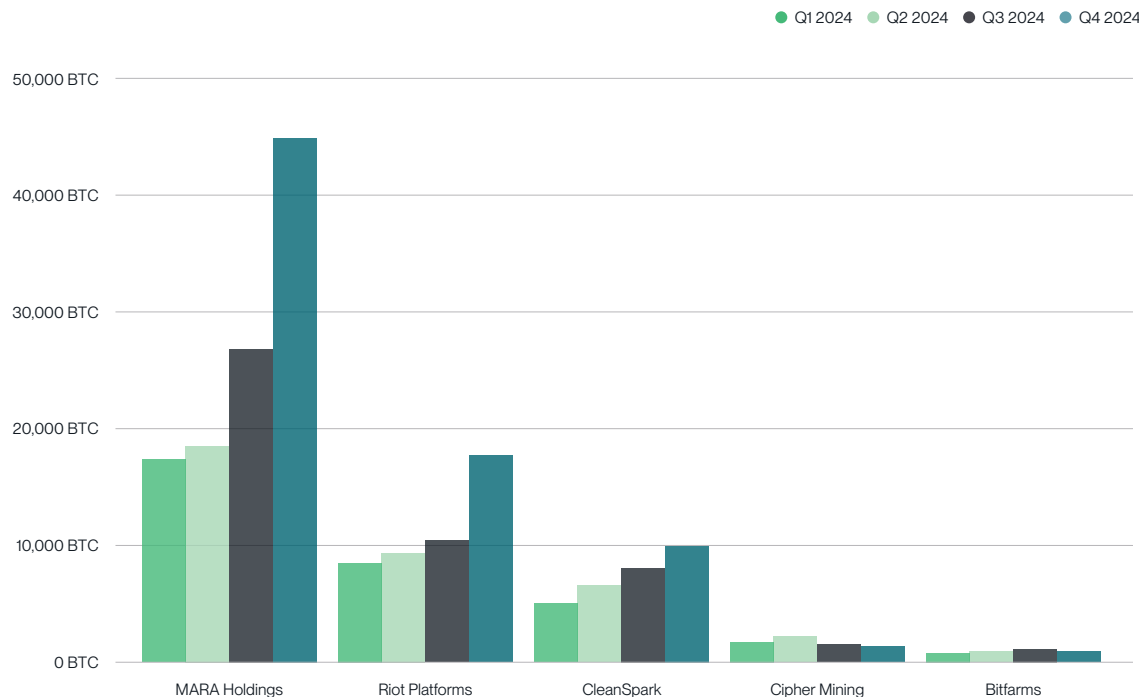
Note: "Energy and hosting" represents the cost of electricity and hosting that a miner incurs to produce one bitcoin. "Hardware and overhead" also includes depreciation expenses, such as the cost of ASICs and depreciation of hosting facilities for machines.

# Bitcoin Production by Top Five Miners



Source: Bitwise Asset Management with data from company filings. Data from Q1 2024 to Q4 2024.  
Note: "Top five miners" refers to the top five miners by bitcoin production in the most recent quarter.

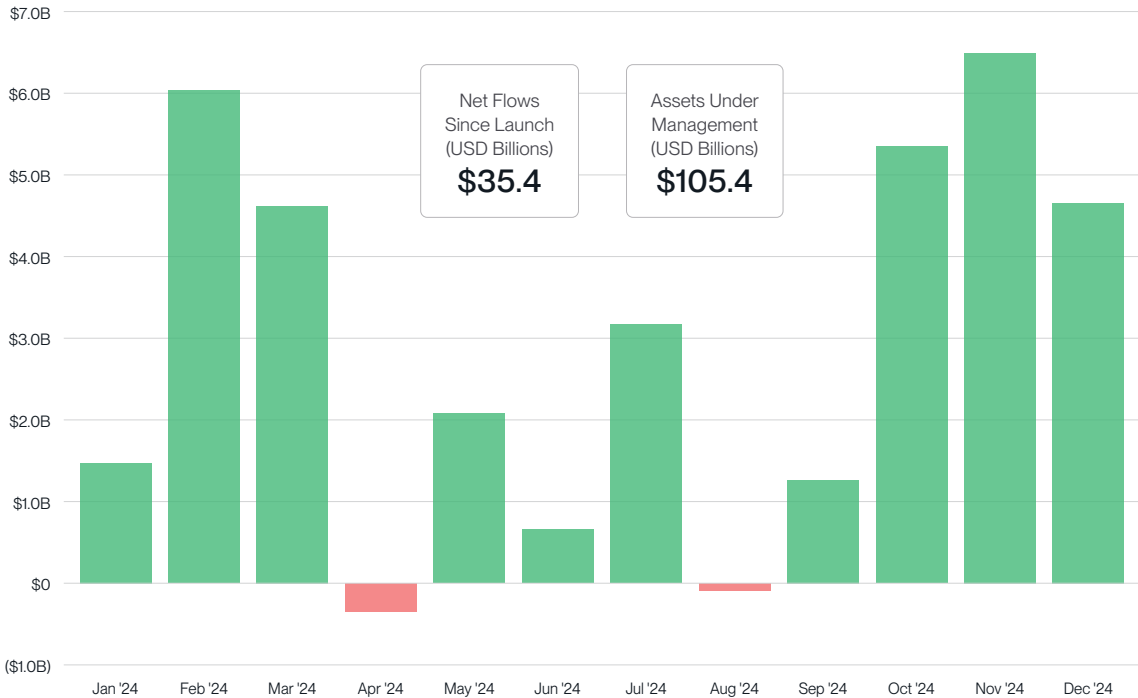
# Bitcoin Owned by Top Five Miners



Source: Bitwise Asset Management with data from company filings. Data from Q1 2024 to Q4 2024.

Note: "Top five miners" refers to the top five miners by bitcoin production in the most recent quarter that hold bitcoin on their balance sheets. Core Scientific and IREN Ltd are two of the top five miners by bitcoin production, but currently do not hold bitcoin on their balance sheets. Therefore, the next two miners by bitcoin production, Cipher Mining and Bitfarms, are included here instead.

# U.S. Spot Bitcoin ETPs: Monthly Net Flows



Source: Bitwise Asset Management with data from Bloomberg. Chart data from January 11 to December 31, 2024. Inset data as of December 31, 2024.

# U.S. Spot Bitcoin ETP Ownership Amongst Professional Investors

## By Category

CATEGORY	PERCENTAGE OF SPOT BITCOIN ETP AUM
Hedge Fund	42.10%
Investment Advisor	26.05%
Brokerage	17.94%
Other	9.40%
Private Equity	2.56%
Pension Fund	0.98%
Bank	0.63%
Family Office/Trust	0.32%
Insurance Company	0.03%
Venture Capital	<0.01%

Source: Bitwise Asset Management with data from Bloomberg. Data as of September 30, 2024.

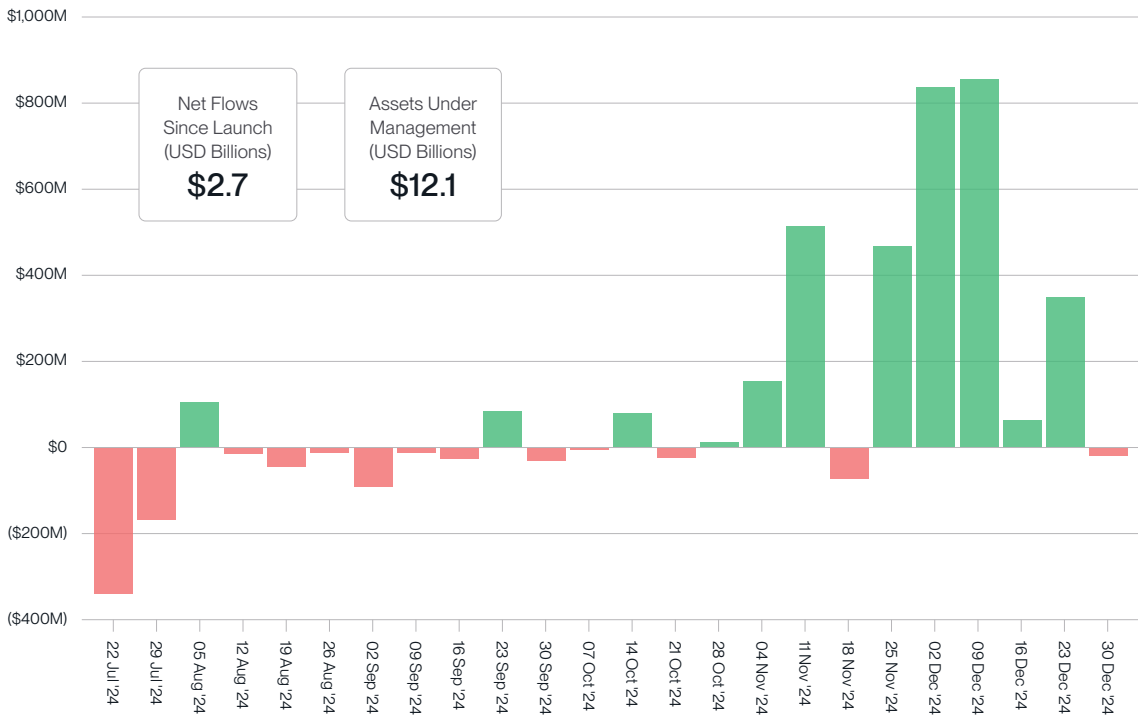
Note: Values may not add to total due to rounding.

## Top 10 Holders

INSTITUTION	MARKET VALUE OF HOLDINGS (USD MILLIONS)
Millennium Management	\$1,666
Horizon Kinetics Asset Management	884
Goldman Sachs	719
Susquehanna International Group	699
Capula Management	596
Jane Street	572
Schonfeld Strategic Advisors	485
IMC-Chicago	346
Aristeia Capital	318
D.E. Shaw	293

Source: Bitwise Asset Management with data from Whale Wisdom. Data as of September 30, 2024.

# U.S. Spot Ethereum ETPs: Weekly Net Flows



Source: Bitwise Asset Management with data from Bloomberg. Chart data from July 22, 2024 to December 31, 2024. Inset data as of December 31, 2024.

# U.S. Spot Ethereum ETP Ownership Amongst Professional Investors

## By Category

CATEGORY	PERCENTAGE OF SPOT ETHEREUM ETP AUM
Investment Advisor	30.62%
Hedge Fund	24.48%
Brokerage	21.75%
Other	17.97%
Family Office/Trust	2.83%
Pension Fund	1.04%
Bank	0.69%
Private Equity	0.63%
Insurance Company	<0.01%
Venture Capital	<0.01%

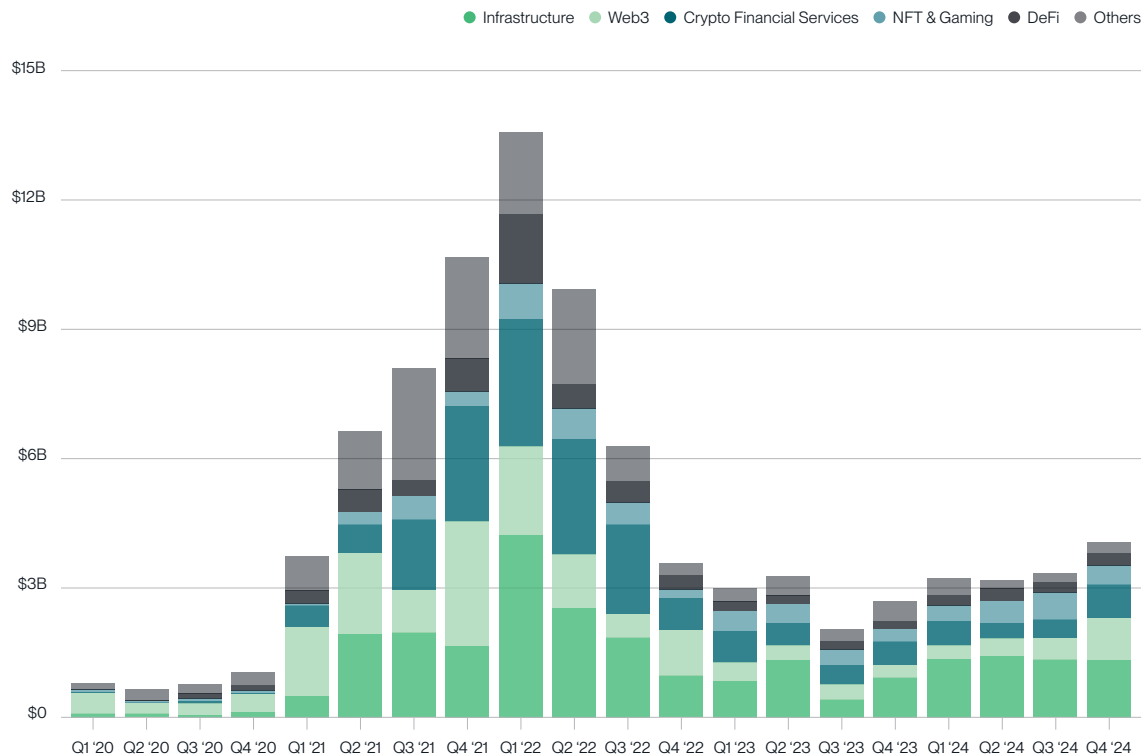
Source: Bitwise Asset Management with data from Bloomberg. Data as of September 30, 2024.

## Top 10 Holders

INSTITUTION	MARKET VALUE OF HOLDINGS (USD MILLIONS)
DRW Securities	\$150
Jane Street	96
Millennium Management	87
Susquehanna International Group	60
HBK Investments	28
Goldman Sachs	25
Wealthfront Advisers	20
Envestnet Asset Management	20
Colony Group	19
FMR	19

Source: Bitwise Asset Management with data from Whale Wisdom. Data as of September 30, 2024.

# Crypto Venture Funding



Source: Bitwise Asset Management with data from The Block. Data from Q1 2020 to Q4 2024.



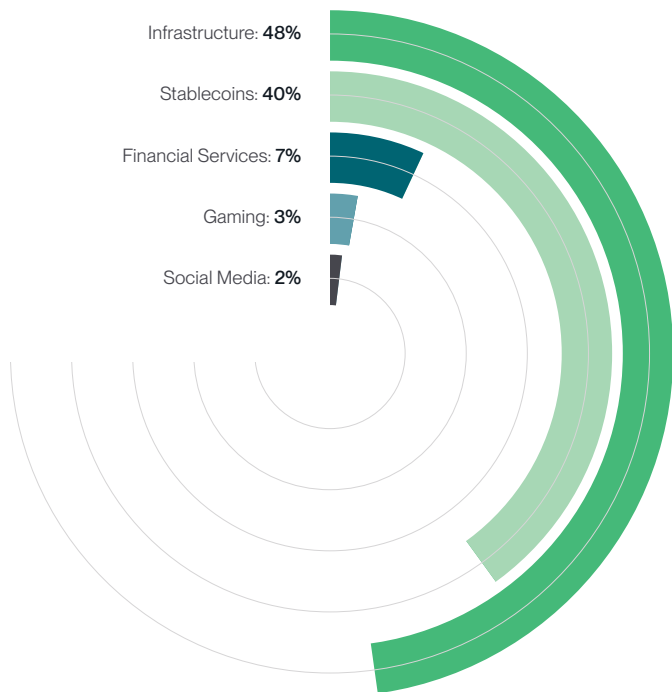
# Top Ten Venture Funding Deals in Q4

COMPANY NAME	AMOUNT (USD MILLIONS)	LEAD INVESTOR	CATEGORY	DESCRIPTION
Tether	\$600.0	Cantor Fitzgerald	Stablecoins	Tether is the issuer of USDT, the world's largest stablecoin.
Crusoe Energy Systems	500.0	Founders Fund	Infrastructure	Crusoe Energy Systems is a bitcoin miner and data center operator.
Ava Labs	250.0	Multiple	Infrastructure	Avalanche is a Layer 1 blockchain that enables the building of customized networks (called subnets).
BVNK	50.0	Haun Ventures	Financial Services	BVNK offers banking services and payments infrastructure for crypto-native businesses and stablecoins.
usdx.money	45.0	Multiple	Stablecoins	usdx.money is a synthetic stablecoin using a delta-neutral BTC collateral and derivatives hedging strategy to maintain its peg.
Azra Games	42.7	Pantera Capital	Gaming	Azra Games is a blockchain-based video game developer focused on mobile role-playing games.
Zero Gravity	40.0	Multiple	Infrastructure	Zero Gravity (OG) is a Layer 1 blockchain purpose-built for AI infrastructure and applications.
WadzPay	37.2	GEM Digital Limited	Financial Services	WadzPay is a software-as-a-service company specializing in blockchain-based payments.
Yellow Card	33.0	Blockchain Capital	Financial Services	Yellow Card is a cash-to-crypto on-ramp for emerging markets.
Lens Protocol	32.0	Faction VC	SocialFi	Lens Protocol is a decentralized social graph enabling creators to own and monetize content.

Source: Bitwise Asset Management with data from The Block. Data from Q4 2024.

# Top Ten Venture Funding Deals in Q4

Sector Breakdown



Source: Bitwise Asset Management with data from The Block. Data from Q4 2024.

# Historical Impact on a Traditional 60/40 Portfolio: Bitcoin

## Portfolio Performance Metrics (Rebalanced Quarterly)

PORTFOLIO	CUMULATIVE RETURN	ANNUALIZED RETURN	ANNUALIZED VOLATILITY	SHARPE RATIO	MAXIMUM DRAWDOWN
Traditional 60/40 Portfolio	96.00%	6.32%	8.49%	0.456	22.07%
Traditional Portfolio + 1.0% Bitcoin	115.67%	7.25%	8.59%	0.557	22.73%
Traditional Portfolio + 2.5% Bitcoin	148.09%	8.62%	8.89%	0.689	23.72%
Traditional Portfolio + 5.0% Bitcoin	210.63%	10.87%	9.74%	0.854	25.35%
Traditional Portfolio + 10.0% Bitcoin	372.61%	15.19%	12.28%	1.021	28.53%

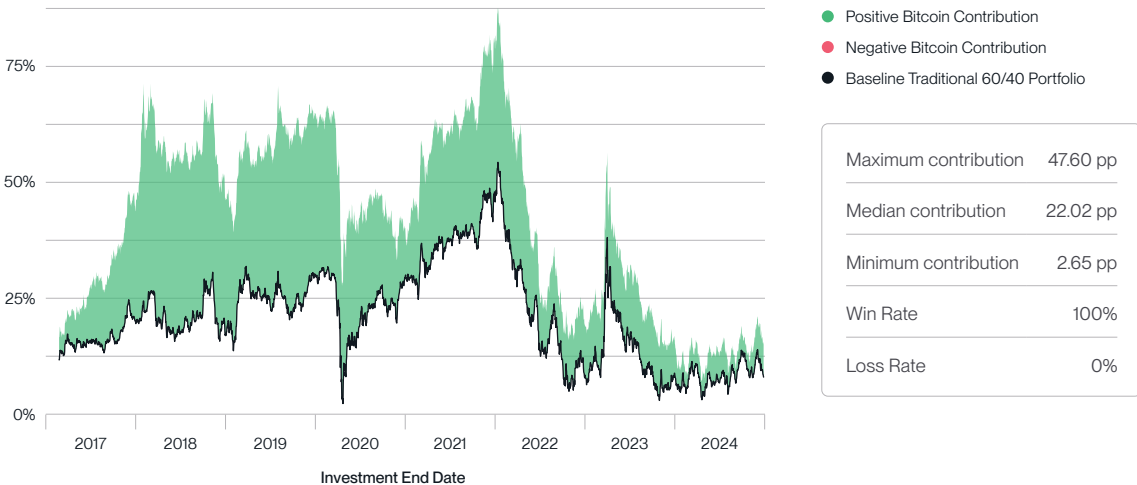
Source: Bitwise Asset Management with data from Bloomberg. Data from January 1, 2014 to December 31, 2024.

Note: Traditional Portfolio consists of 60% equities (represented by the FTSE Global All Cap Index) and 40% bonds (represented by the Bloomberg US Aggregate Bond Float Adjusted Index). For index definitions, **see p.62**. Not considering taxes nor transaction costs. Performance of individual crypto assets may differ significantly from the performance of bitcoin. The period before 2014 is excluded to better represent the experience of professional asset allocators in the U.S., as the first investable bitcoin fund launched in late 2013. For more details, please refer to our white paper "Bitcoin's Role in a Traditional Portfolio" published in August 2023 and available at <https://bitwiseinvestments.com/crypto-market-insights/bitcoins-role-in-a-traditional-portfolio>

Past performance does not predict or guarantee future results. Nothing contained herein is intended to predict the performance of any investment. There can be no assurance that actual outcomes will match the assumptions or that actual returns will match any expected returns. Historical performance of sample portfolios has been generated and maximized with the benefit of hindsight. The returns do not represent the returns of an actual account and do not include the fees and expenses associated with buying, selling and holding funds or crypto assets. It is not possible to invest directly in an index. Performance information is provided for informational purposes only. Please see important disclosure information in this document.

# Historical Impact on a Traditional 60/40 Portfolio: Bitcoin

Contribution of a 5% Bitcoin Allocation to a 60/40 Portfolio: 3-Year Rolling Cumulative Return (Rebalanced Quarterly)



Source: Bitwise Asset Management with data from Bloomberg. Data from January 1, 2014 to December 31, 2024.

Note: Traditional Portfolio consists of 60% equities (represented by the FTSE Global All Cap Index) and 40% bonds (represented by the Bloomberg US Aggregate Bond Float Adjusted Index). For index definitions, **see p.62**. Not considering taxes nor transaction costs. Performance of individual crypto assets may differ significantly from the performance of bitcoin. The period before 2014 is excluded to better represent the experience of professional asset allocators in the U.S., as the first investable bitcoin fund launched in late 2013. For more details, please refer to our white paper "Bitcoin's Role in a Traditional Portfolio" published in August 2023 and available at <https://bitwiseinvestments.com/crypto-market-insights/bitcoins-role-in-a-traditional-portfolio>.

Past performance does not predict or guarantee future results. Nothing contained herein is intended to predict the performance of any investment. There can be no assurance that actual outcomes will match the assumptions or that actual returns will match any expected returns. Historical performance of sample portfolios has been generated and maximized with the benefit of hindsight. The returns do not represent the returns of an actual account and do not include the fees and expenses associated with buying, selling and holding funds or crypto assets. It is not possible to invest directly in an index. Performance information is provided for informational purposes only. Please see important disclosure information in this document.

# Correlations: Bitcoin vs. S&P 500

90-Day Rolling



Source: Bitwise Asset Management with data from Bloomberg. Data from July 17, 2010 to December 31, 2024. S&P 500 is represented by the S&P 500 Total Return Index. For index definitions, [see p.62](#).

Note: The green color band indicates a range of -0.5 to 0.5, which is traditionally defined as "low" or "no" correlation.

# Correlations: Ethereum vs. Nasdaq-100

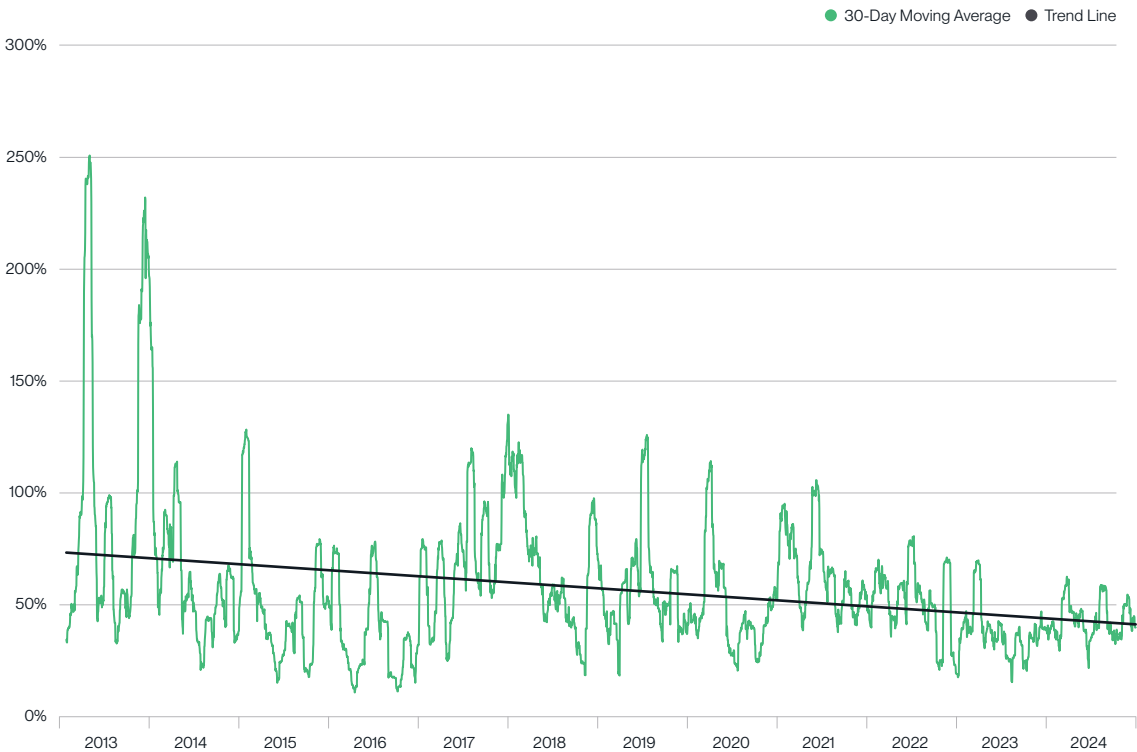
90-Day Rolling



Source: Bitwise Asset Management with data from Bloomberg. Data from March 15, 2016 to December 31, 2024. Nasdaq-100 is represented by the Nasdaq-100 Total Return Index. For index definitions, [see p.62](#).

Note: The green color band indicates a range of -0.5 to 0.5, which is traditionally defined as "low" or "no" correlation.

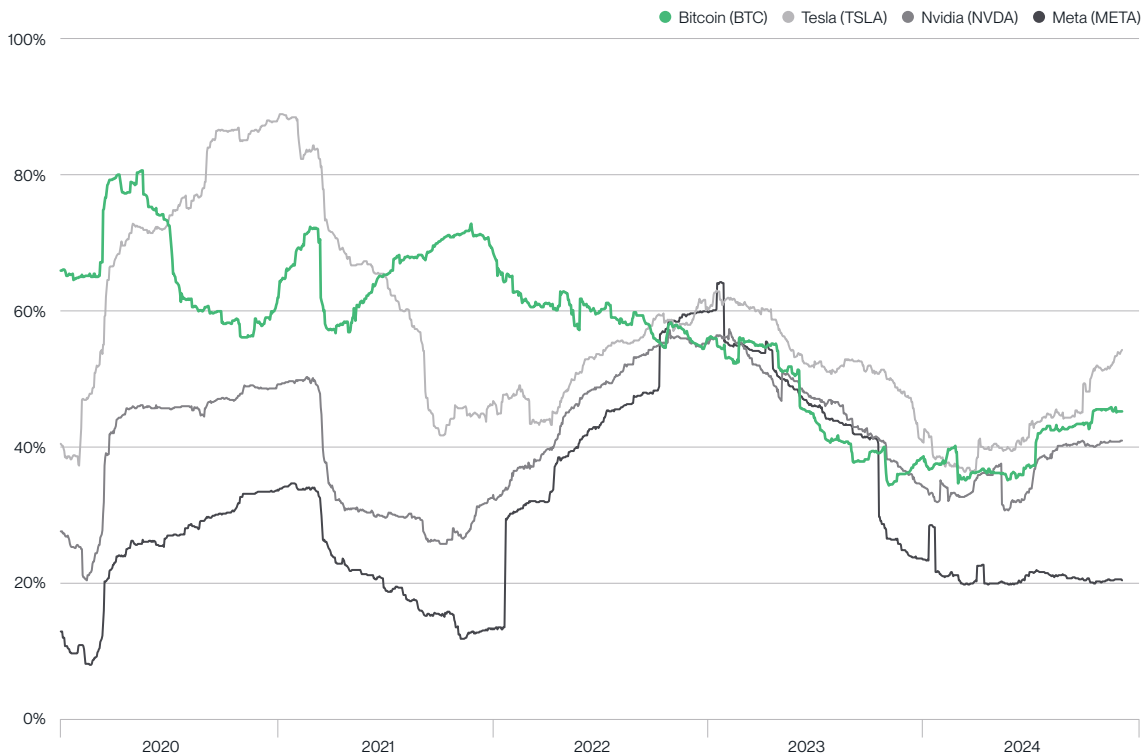
# Bitcoin's Historical Volatility



Source: Bitwise Asset Management with data from Coin Metrics. Data from January 1, 2013 to December 31, 2024.

# Volatility: Bitcoin vs. Tesla, Nvidia, and Meta

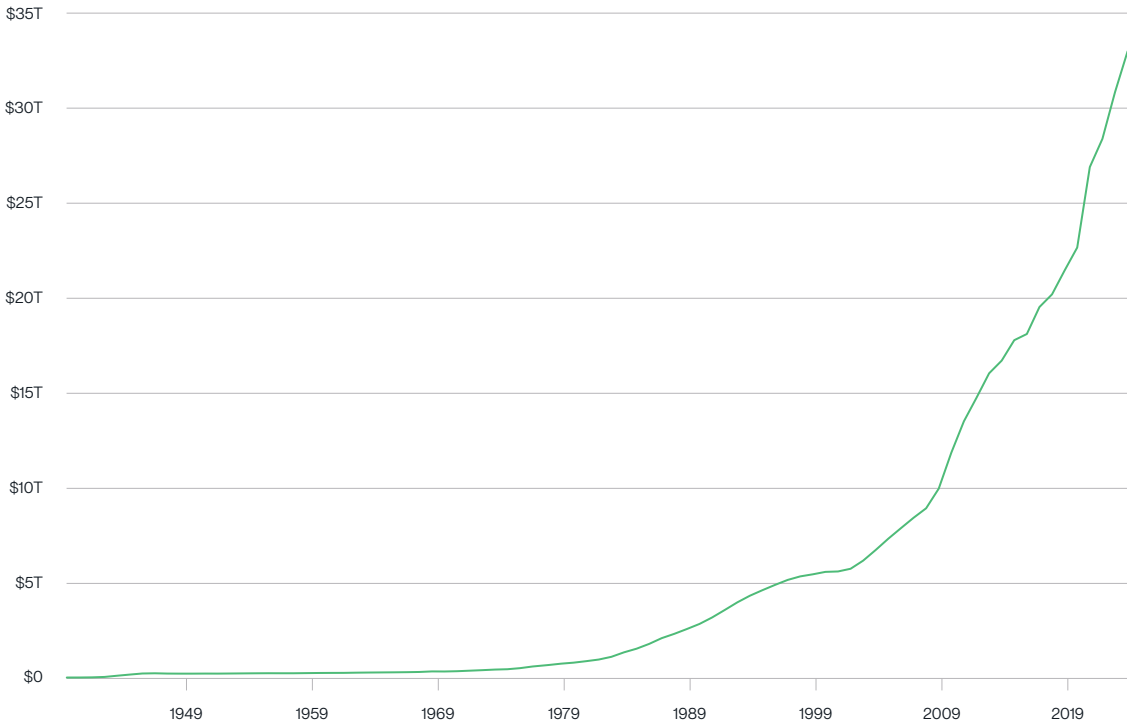
1-Year Rolling Annualized Volatility



Source: Bitwise Asset Management with data from Bloomberg. Data from December 31, 2019 to December 31, 2024.

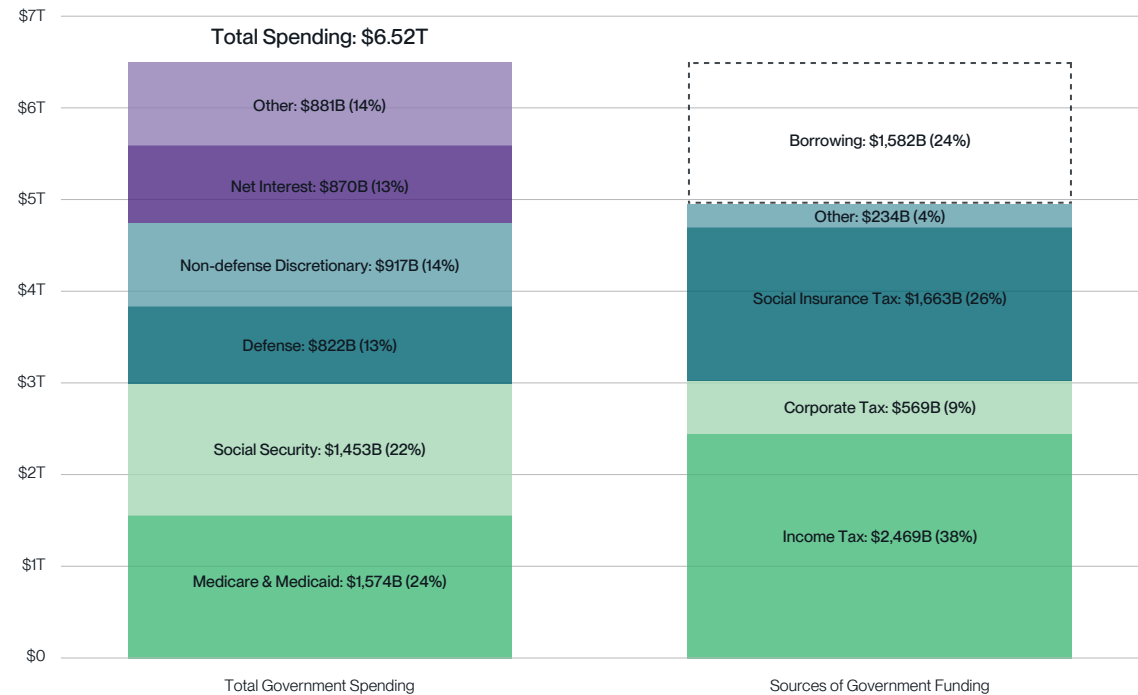


# Total U.S. Federal Debt



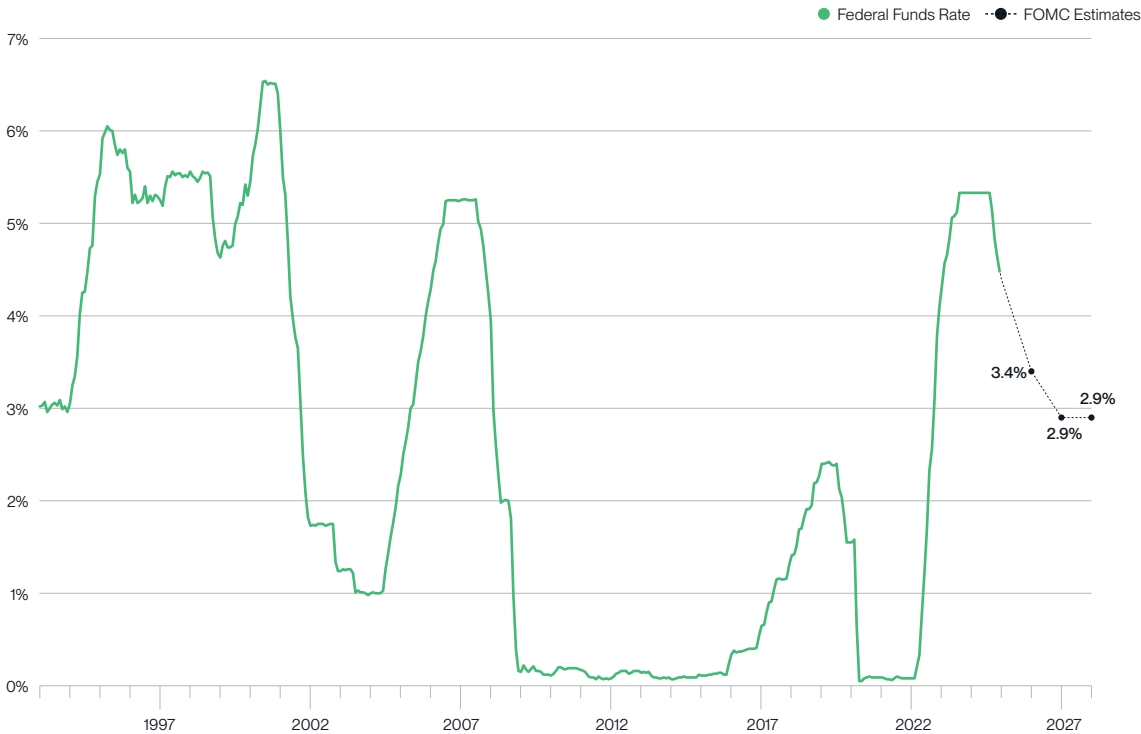
Source: Bitwise Asset Management with data from the Federal Reserve Bank of St. Louis. Data from June 30, 1939 to September 30, 2023.

# 2024 U.S. Federal Budget



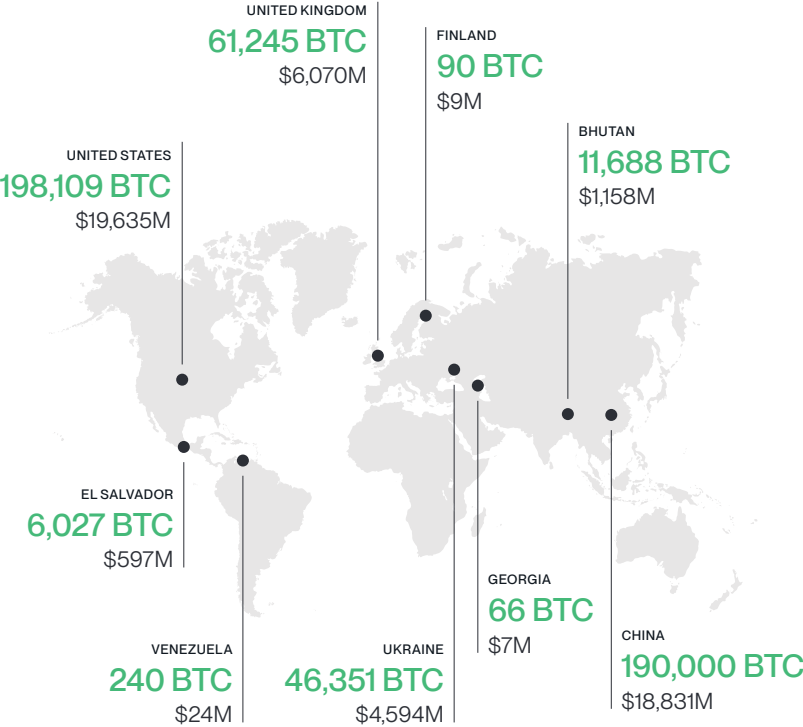
Source: Bitwise Asset Management with data from the Congressional Budget Office. Data as of February 2024.

# U.S. Federal Funds Rate and FOMC Estimates



Source: Bitwise Asset Management with data from the Federal Reserve Bank of St. Louis. "Federal Funds Rate" data from January 1, 1993 to December 1, 2024. "FOMC Estimates" data for year-end 2025, 2026, and 2027.

# Bitcoin Holdings by Country



Source: Bitwise Asset Management with data from BitcoinTreasuries.net. Data as of January 15, 2024.  
Note: Dollar figure represents the value of bitcoin holdings in USD.

# Crypto Adoption by Institutions

	CRYPTO TRADING AND CUSTODY <sup>(1)</sup>	PRIVATE CRYPTO FUNDS	CRYPTO ETPS	CRYPTO-ENABLED PAYMENTS	TOKENIZATION
Bank of America	●		●		
BlackRock	●	●	●		●
BNY Mellon	●		●		●
CBOE	●				
Charles Schwab	●		●		
Citi					●
CME	●				
Deutsche Bank	●		●	●	●
Deutsche Börse	●		●		
Fidelity	●	●	●		●
Franklin Templeton	●	●	●		●
Goldman Sachs	●		●		●
HSBC	●				●
Interactive Brokers	●		●		
JPMorgan Chase	●	●	●	●	●
London Stock Exchange	●		●		
Mastercard				●	
Morgan Stanley		●	●		
PayPal	●			●	●
Société Générale	●				●
UBS	●		●		●
Visa				●	●
Wells Fargo			●		

Source: Bitwise Asset Management with data from company filings and presentations. Data as of December 31, 2024.

(1) "Crypto Trading and Custody" includes the trading of crypto spot, futures, and derivatives products.

# Recent U.S. Regulatory Developments

TIMING	DEVELOPMENT	DESCRIPTION
November 2024	<b>Court strikes down SEC's controversial "dealer rule"</b>	A federal court rules the SEC exceeded its authority with the "dealer rule," designed to force crypto firms to register as securities dealers. The decision reinforces limits on the agency's power in crypto regulation.
November 2024	<b>Tornado Cash sanctions are overturned</b>	An appeals court strikes down Tornado Cash OFAC sanctions in a major win for DeFi, finding the U.S. Treasury Department acted outside its authority when it sanctioned the decentralized privacy protocol in 2022.
November 2024	<b>Crypto wins U.S. elections</b>	More than 250 pro-crypto candidates win races across House, Senate, and presidency. Notable Congressional victories include Bernie Moreno's defeat of incumbent and crypto-adversary Sherrod Brown in the Senate and U.S. Rep French Hill as new chair of the House Financial Services Committee.
November 2024	<b>States sue SEC for overreach</b>	Eighteen states—including Kentucky, Montana, Utah, Texas, and Florida, among others—sue the SEC for constitutional overreach and unfair persecution of crypto.
December 2024	<b>Trump appoints crypto advocates</b>	President-elect Trump nominates crypto advocates to various notable roles in new administration, including Paul Atkins (SEC chair), Scott Bessent (Treasury Secretary), Howard Lutnick (Commerce Secretary), and David Sacks (Crypto Czar), among others.
December 2024	<b>State-level strategic bitcoin reserves</b>	Multiple states, including Texas, Ohio, and Pennsylvania, introduce legislation for strategic bitcoin reserves.

Source: Bitwise Asset Management.

# Definitions

- 1) The **Bitwise 10 Large Cap Crypto Index (XBITW)** captures the 10 largest eligible crypto assets by free-float-adjusted market capitalization.
- 2) The **Bitwise Crypto Innovators 30 Total Return Index (XBITQG)** is an equity index that provides focused exposure to companies that are building the future of the crypto asset-enabled decentralized economy.
- 3) The **Bitwise Decentralized Finance Crypto Index (XBITDEFI)** tracks the value of crypto assets in the rapidly emerging Decentralized Finance space.
- 4) The **S&P 500® Total Return Index (SPXT)** tracks the performance of 500 large-cap publicly traded companies in the U.S.
- 5) The **MSCI U.S. REIT Gross Total Return Index (RMSG)** is a free float-adjusted market capitalization-weighted index that is comprised of equity Real Estate Investment Trusts (REITs).
- 6) The **FTSE Global All Cap Index (TGPVA16U)** is a market-capitalization-weighted index representing the performance of large, mid and small cap companies in Developed and Emerging markets.
- 7) The **Bloomberg U.S. Aggregate Bond Index (LBUSTRUU)** tracks U.S. dollar-denominated, investment-grade debt.
- 8) The **Bloomberg US Aggregate Bond Float Adjusted Index (LBUFTRUU)** is a broad-based benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market. The Float-Adjusted version excludes U.S. agency debentures held in the Federal Reserve SOMA account.
- 9) The **MSCI EAFE Gross Total Return USD Index (M2EA)** is designed to represent the performance of large- and mid-cap securities across 21 developed markets, including countries in Europe, Australasia and the Far East, excluding the U.S. and Canada.
- 10) The **MSCI Emerging Markets Gross Total Return USD Index (M2EF)** captures large- and mid-cap representation across 24 Emerging Markets (EM) countries.
- 11) The **Deutsche Bank DBIQ Optimum Yield Diversified Commodity Index Total Return (DBLCDBCT)** is based on 14 commodities drawn from the energy, precious metals, industrial metals and agriculture sectors.
- 12) The **Nasdaq-100® Total Return Index (XNDX)** tracks 100 of the largest domestic and international non-financial companies listed on the Nasdaq Stock Market.
- 13) "Gold" is represented by the spot gold price with data from Bloomberg.
- 14) Bitcoin and other crypto assets are represented by the respective spot price.

# Risks and Important Information

The opinions expressed herein are intended to provide insight or education and are not intended as individual investment advice. Bitwise does not represent that this information is accurate and complete and should not be relied upon as such.

Certain of the Bitwise Investment products may be subject to the risks associated with investing in crypto assets, including cryptocurrencies and crypto tokens. Because crypto assets are a new technological innovation with a limited history, they are a highly speculative asset. Future regulatory actions or policies may limit the ability to sell, exchange or use a crypto asset. The price of a crypto asset may be impacted by the transactions of a small number of holders of such crypto asset. Crypto assets may decline in popularity, acceptance or use, which may impact their price. The technology relating to crypto assets and blockchain is new and developing. Currently there are a limited number of publicly listed or quoted companies for which crypto assets and blockchain technology represent an attributable and significant revenue stream. Non-Fungible Tokens ("NFTs") are an extremely new artistic and cultural phenomenon, and interest in such artwork could wane. If the demand for NFT artwork diminishes, the prices of NFT items could be negatively affected. The market for NFTs can be subject to shallow trade volume, extreme hoarding, low liquidity and high bankruptcy risk. NFTs are also subject to risks and challenges associated with intellectual property rights and fraud. Bitwise investment products involve a substantial degree of risk and may be available only to institutional and individual accredited investors or qualified purchasers.

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