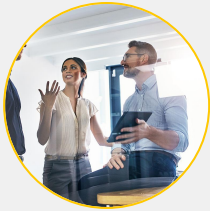


XXIII Quarterly Report Bitcoin, crypto-assets, and blockchain

Q3 2024 edition

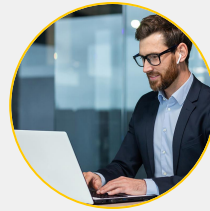


Digital Gold Institute's activities



Consulting

Empowering professional expertise in Bitcoin, crypto, and blockchain.



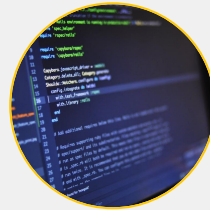
Training

Advanced education programs on Bitcoin and blockchain technology.



Research

Reports and academic research, with a focus on the Crypto Asset Lab (CAL).



Development

We write code. Check out our OpenTimestamps calendar and btclib.





Michele Mandelli

Deloitte.

BCG BOSTON
CONSULTING
GROUP

18 years in strategic consulting for the financial services sector

DGI
DIGITAL GOLD INSTITUTE



CHECKSIG

Bitcoin and crypto focus since 2016

Ferdinando Ametrano



DGI
DIGITAL GOLD INSTITUTE

 **CHECKSIG**

UNIVERSITÀ DEGLI STUDI
BICOCCA


ESSEC
BUSINESS SCHOOL

INTESA  SANPAOLO

 MONTE PASCHI
ASSET MANAGEMENT SGR

Bitcoin since 2014

20+ years of banking
experience

Markets



Ecosystem



Regulation



Technology



01

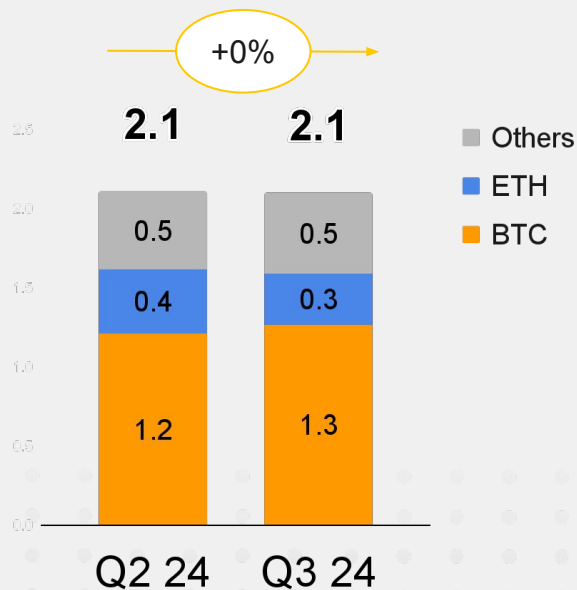
Markets Performances



Q3 2024 Overview: Market Stabilizes as Bitcoin Gains Momentum, Ether Loses Ground

Total Market Capitalization

\$Tr, excluding stablecoins

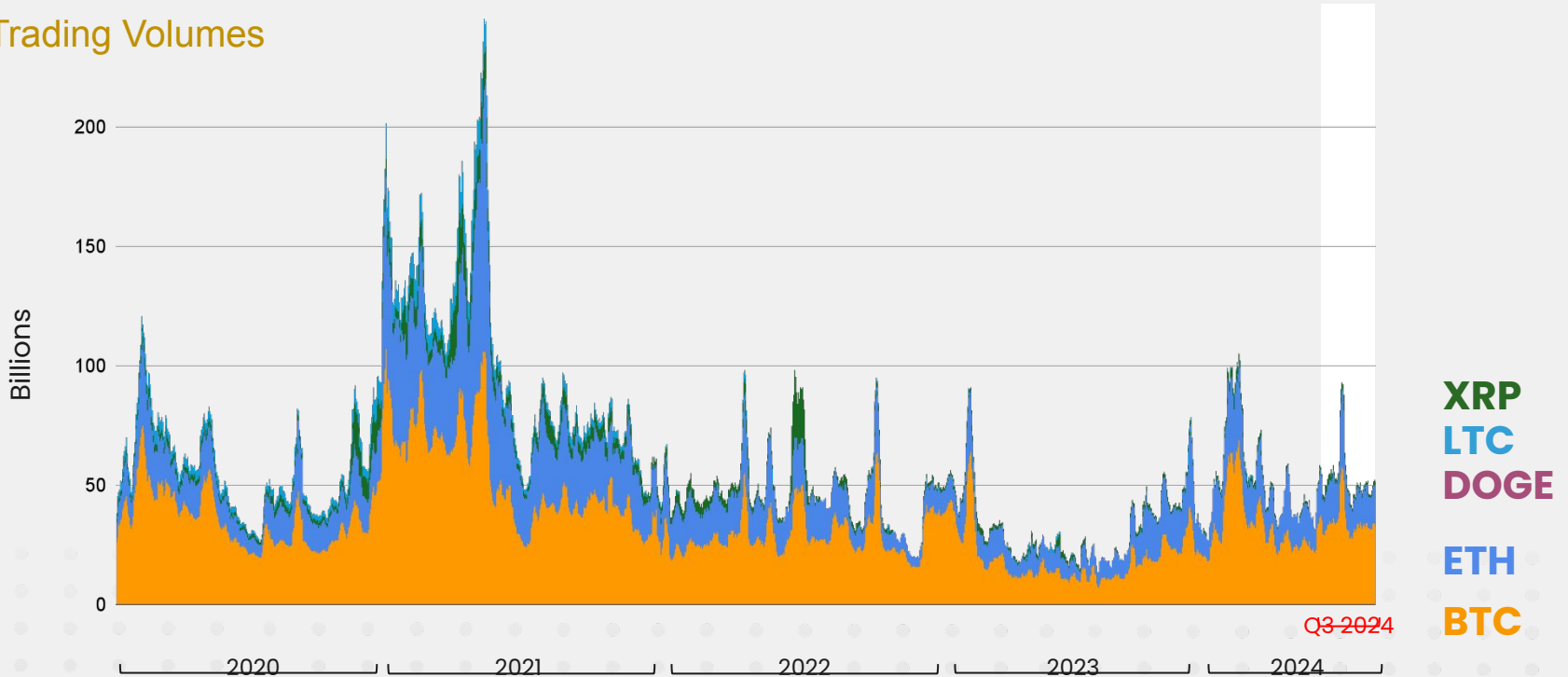


Top Crypto by Traded Volumes Quarterly Performance

Cryptocurrency	Q3 Closing Price \$	Performance %
Bitcoin	63,715.65 \$	+5%
Ether	2,612.27 \$	-21%
BNB	573.75 \$	+1%
Solana	154.70 \$	+5%
Ripple	0.62 \$	+32%
Doge	0.11 \$	-8%

BTC Dominates Trading Volumes; ETH Holds the Second Largest Share, with Minor Cyclical Memecoins Contributions

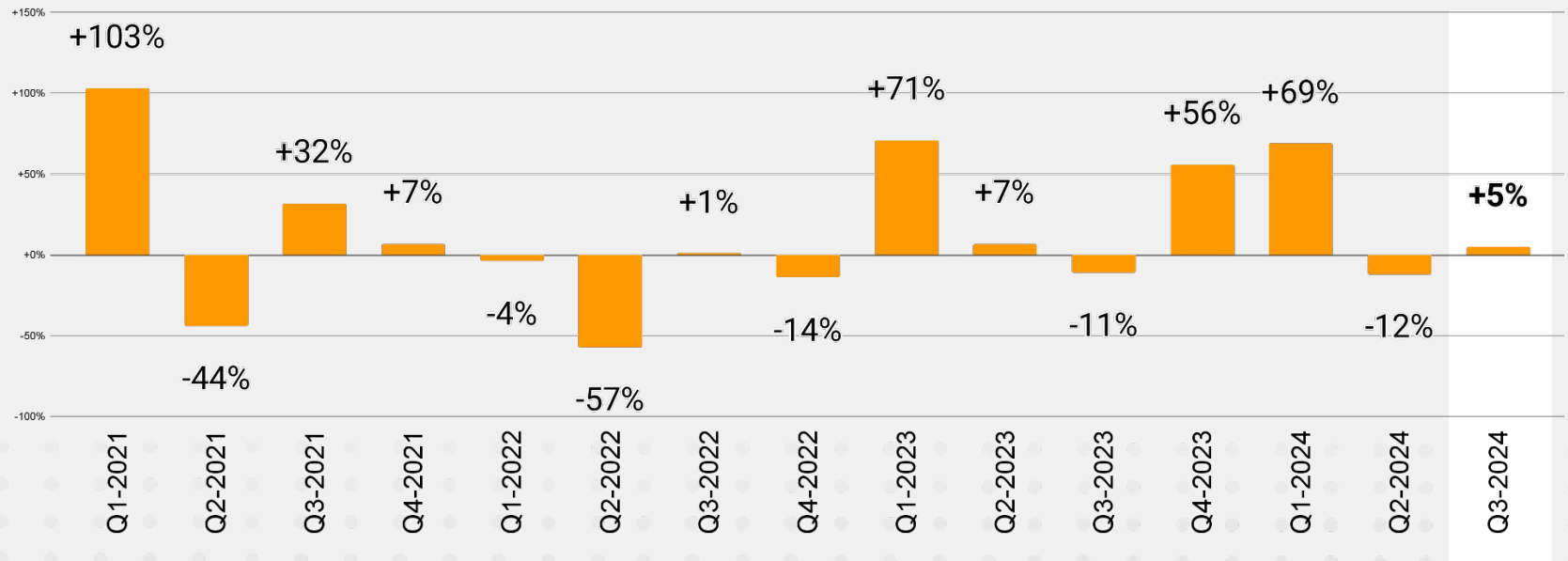
Trading Volumes



Source: Digital Gold Institute 2024, CoinMarketCap

A Six-Month Phase of Post-Bull Run Consolidation: Bitcoin Trades Sideways in Q3, in line with Q2 Trends

BTC quarterly performance

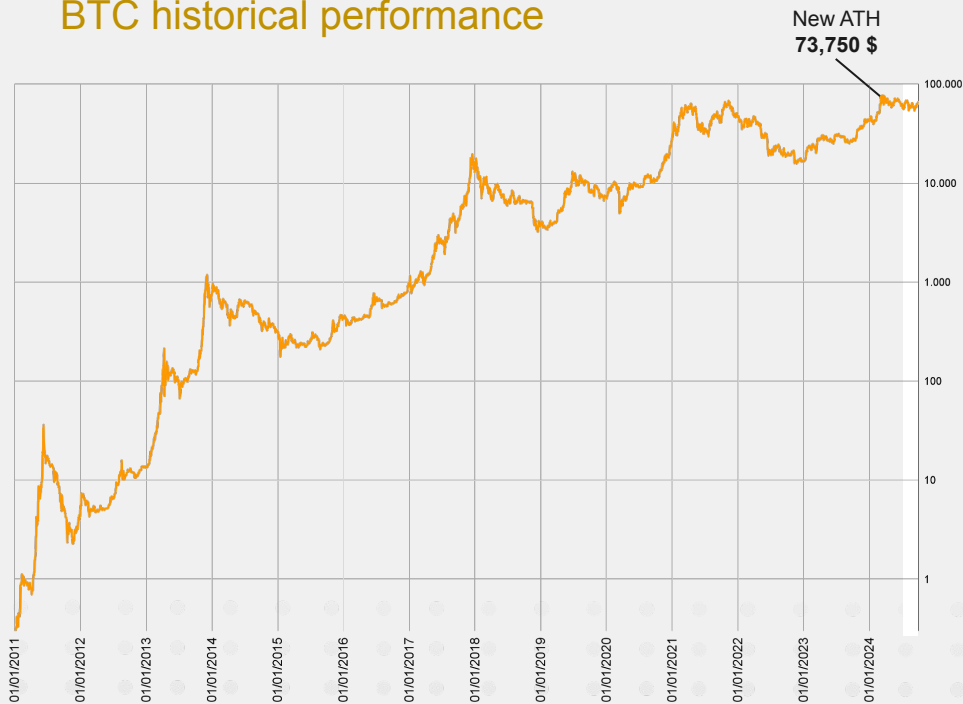


Bitcoin's Unstoppable Long-Term Performance: Best Performing Asset in 9 of the Last 12 Years...

Multi-asset yearly performance ranking

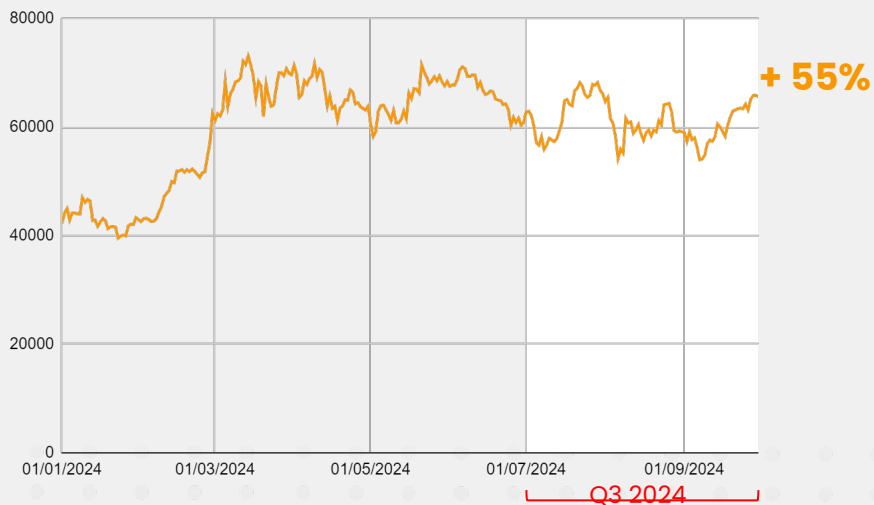
	Top Performer	Second Best	Third Best
2012	Bitcoin (217.9%)	MSCI EM (18.6%)	Russell 2000 (16.4%)
2013	Bitcoin (5428.4%)	Russell 2000 (38.8%)	S&P 500 (32.4%)
2014	REITS (7.4%)	Infrastructure (7.4%)	Equities (4.2%)
2015	Bitcoin (36.2%)	REITS (0.1%)	Small Caps (-1.0%)
2016	Bitcoin (120.3%)	High Yield (14.3%)	Commodities (11.8%)
2017	Bitcoin (1403.2%)	Equities (24.0%)	Small Caps (23.8%)
2018	US Treasuries (-0.4%)	Gold (-0.9%)	IG Bonds (-1.2%)
2019	Bitcoin (94.8%)	Equities (26.6%)	Small Caps (24.7%)
2020	Bitcoin (305.1%)	Gold (24.6%)	Small Caps (16.3%)
2021	Bitcoin (59.8%)	REITS (27.2%)	Commodities (27.1%)
2022	Commodities (16.1%)	Gold (0.4%)	Infrastructure (-4.7%)
2023	Bitcoin (152.9%)	Equities (22.2%)	Small Caps (16.8%)

BTC historical performance

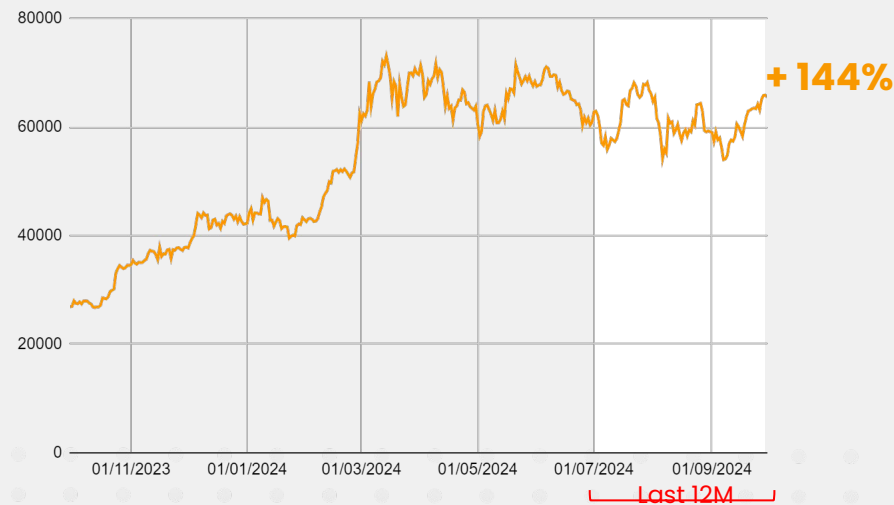


...On Track to Lead Again in 2024

Year-to-date Bitcoin performance



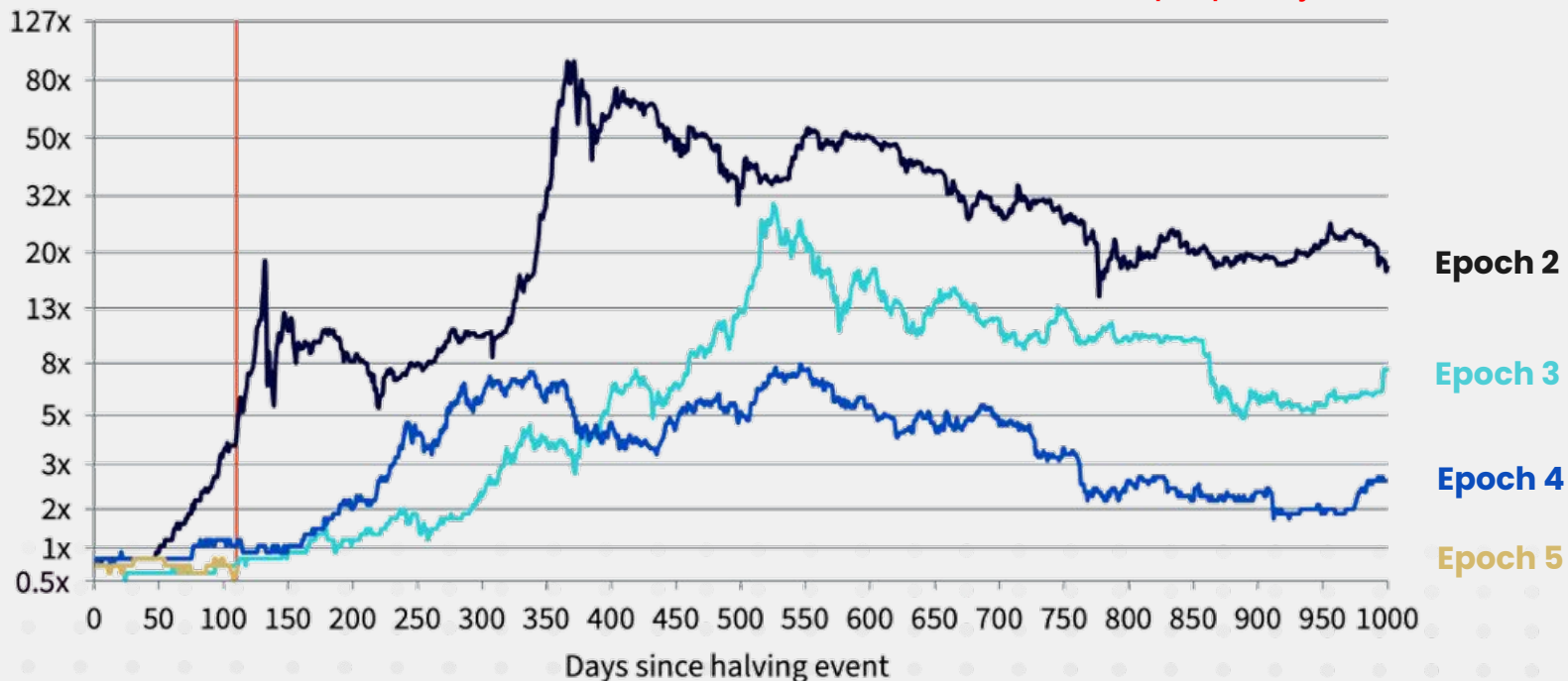
Yearly Bitcoin performance



The Bitcoin halving -although quantitatively irrelevant- has always been a bullish event

BTC performance since each halving

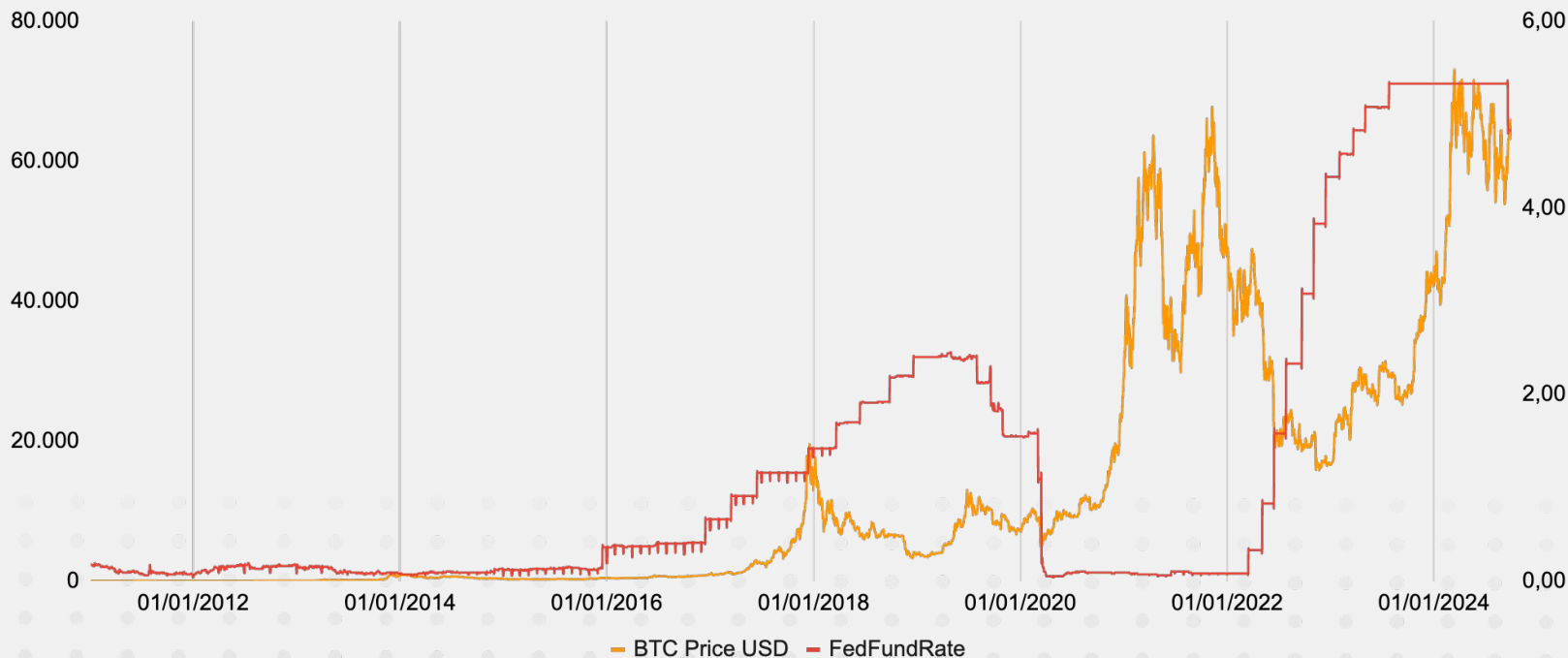
A self-fulfilling prophecy?



Impending Central Bank Rate Cuts Historically Favor Bitcoin and Crypto

BTC Price and Fed Rate

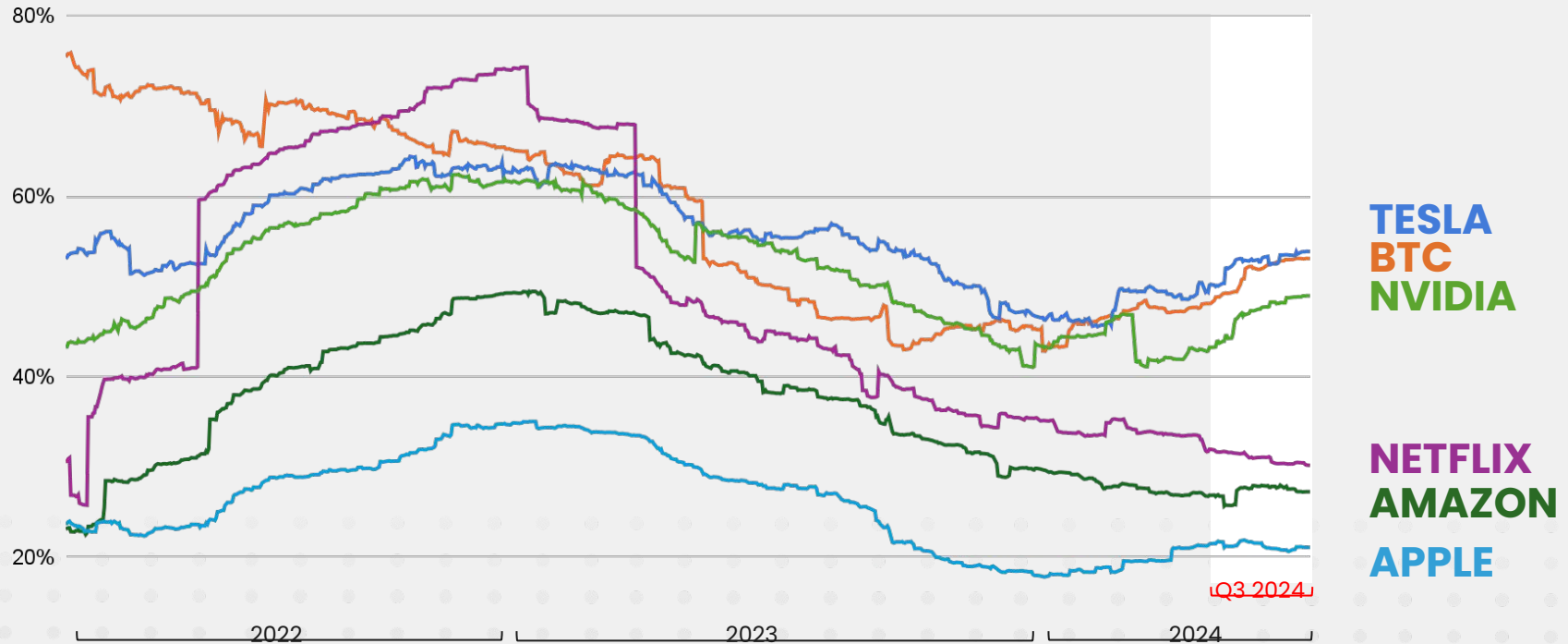
USD (left), pp (right)



Source: Digital Gold Institute 2024

Bitcoin's Volatility Rises Again in Q3 2024, Yet Remains Comparable to Leading North American Tech Stocks

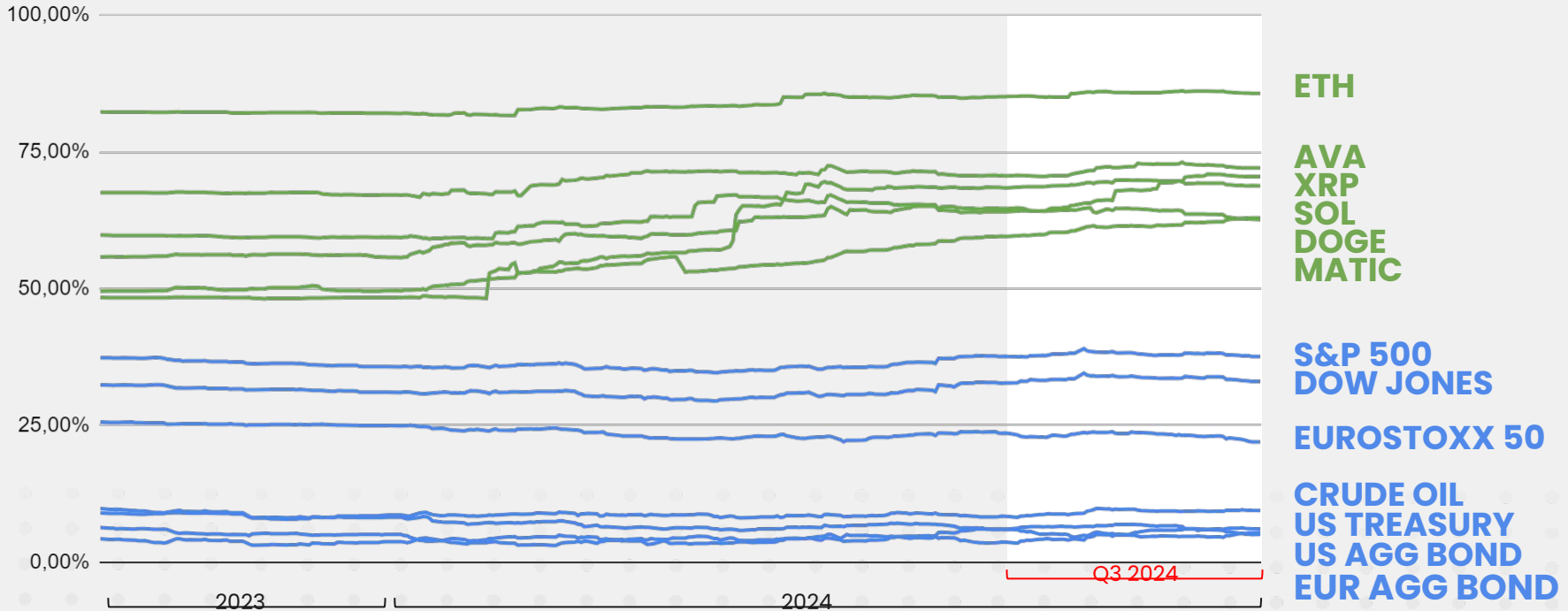
Volatility of Bitcoin and Major Tech Stocks



Source: Digital Gold Institute 2024

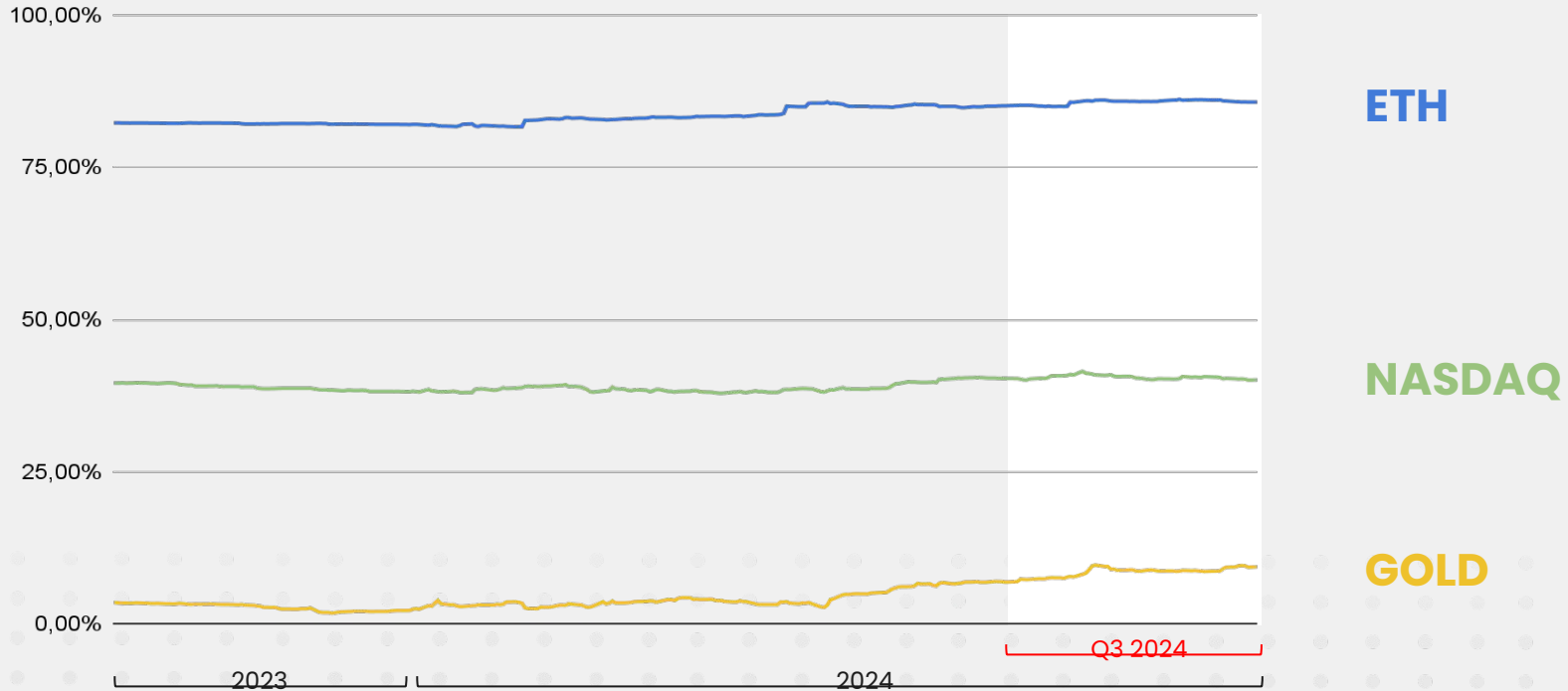
Traditional assets are uncorrelated with crypto, while all cryptos are highly correlated with BTC

1-Year BTC Correlation



Bitcoin Remains Uncorrelated with Gold and Nasdaq, Reinforcing Its Status as a Distinct Asset Class

1-Year BTC Correlation



Source: Digital Gold Institute 2024

01

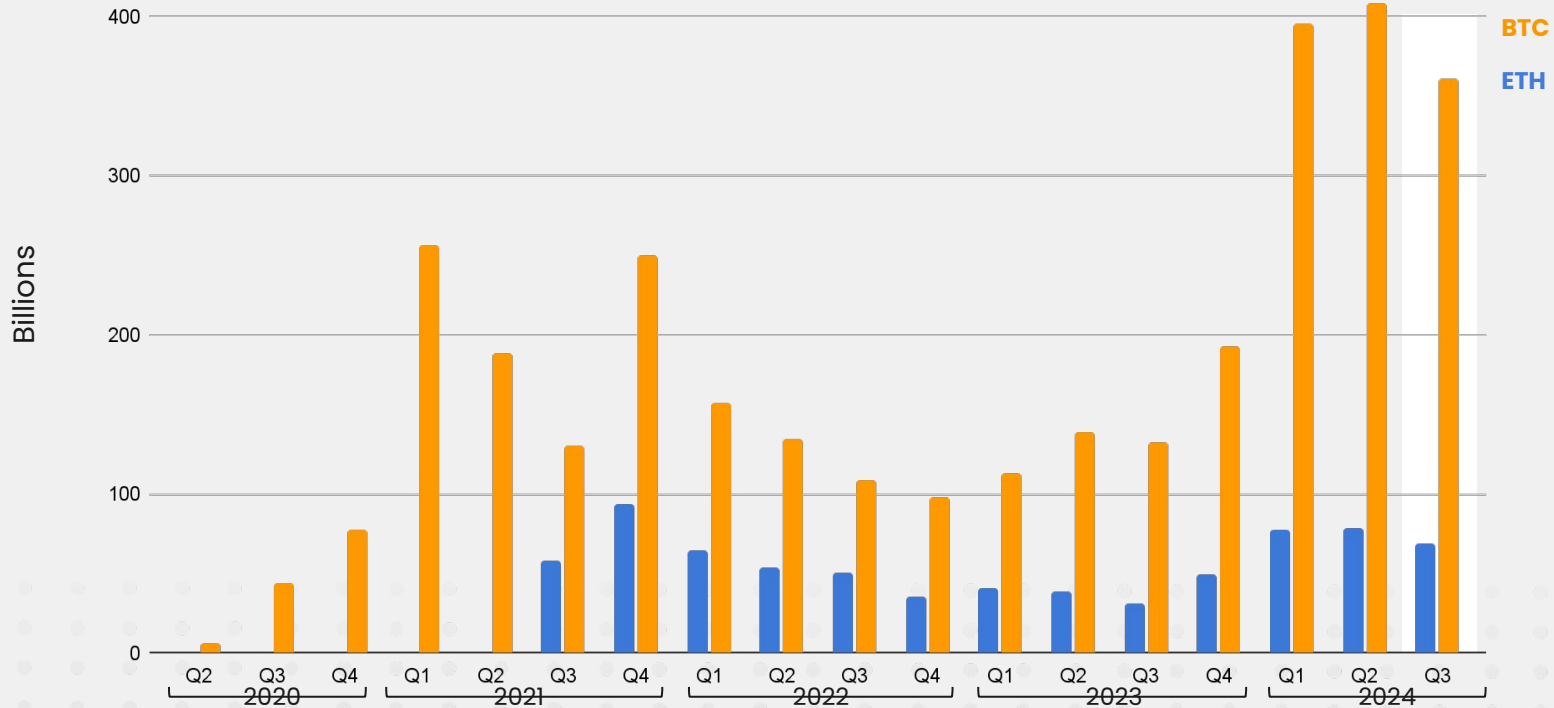
Markets

Going Institutional



CME futures: highest volume ever

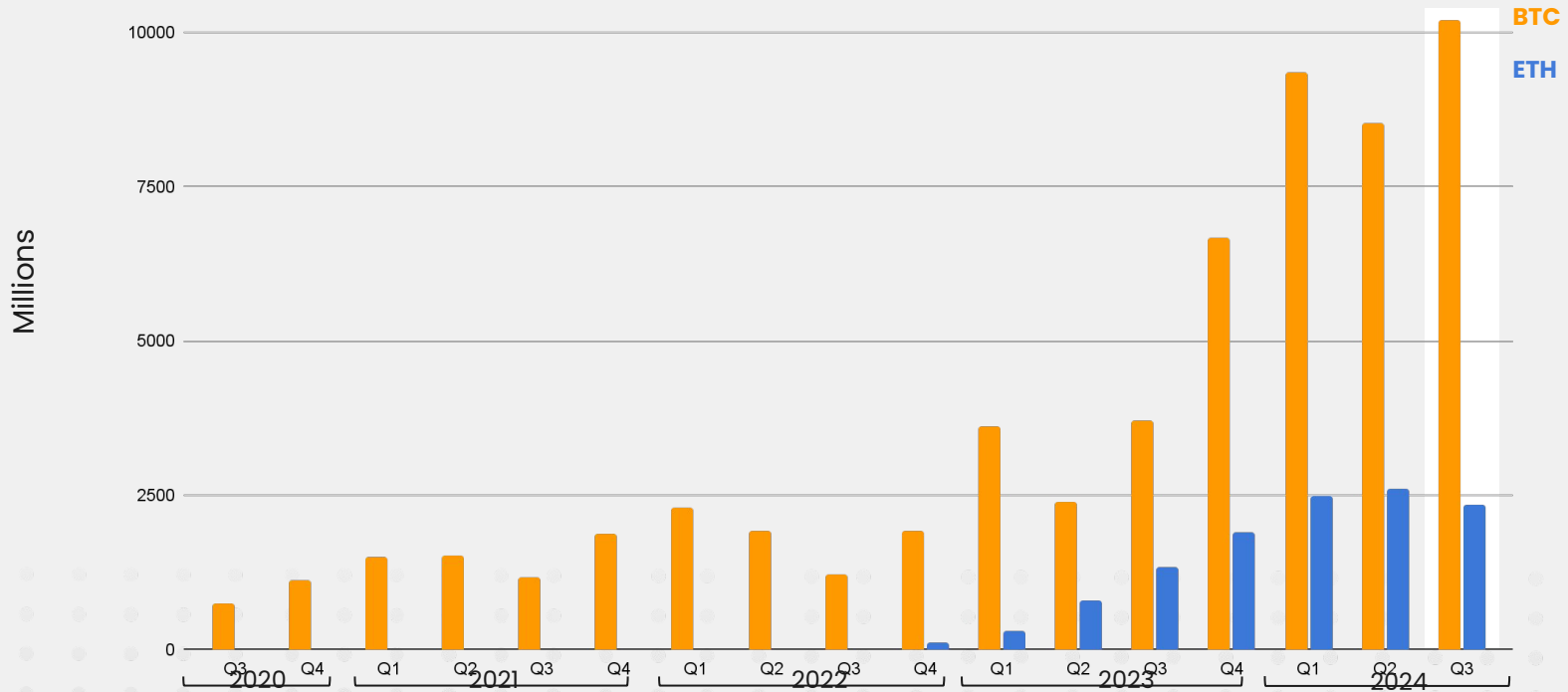
BTC and ETH futures



Source: Digital Gold Institute 2024

CME options: highest volume ever

BTC and ETH options

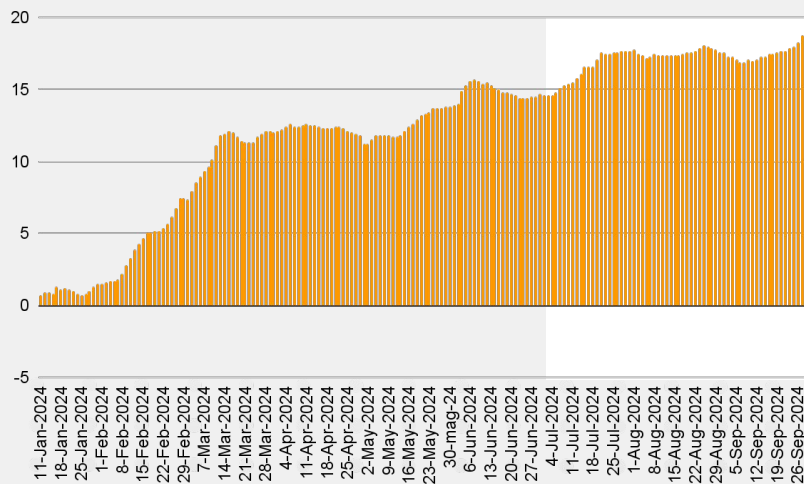


Source: Digital Gold Institute 2024

BTC ETFs Reach Record Highs Despite Slowing Momentum; ETH ETFs Face Negative Net Flows in the First Few Weeks

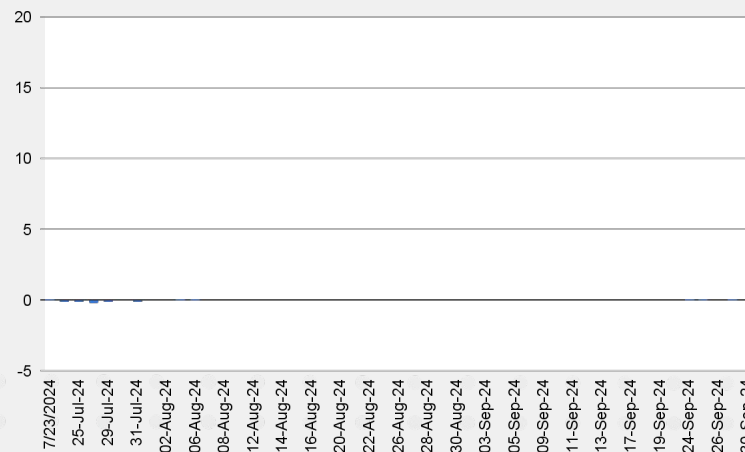
Bitcoin ETF Net Flows

USD B



Ether ETF Net Flows

USD B



EU traditional intermediaries are focusing on spot crypto

EU financial institutions pioneering crypto services



BNP PARIBAS

Authorized, Piloting

Custody

COMMERZBANK 

Authorized, Piloting

Custody

caceis
INVESTOR SERVICES

Authorized, Piloting

Custody



Deutsche Bank

Authorized, Piloting

Custody



DZ BANK

Authorized, Piloting

Custody



Active

Trading, Custody

INTESA  **SANPAOLO**

Active

Prop Trading

Revolut

Active

Trading, Custody



Active

Trading

...and more

02

Ecosystem



Italy's expanding crypto market

According to OAM, as of June 2024 more than **1.3 million Italians** owned digital assets through authorized intermediaries, an increase of **51% YoY**.

The total value of cryptocurrencies held by Italians rose from **1.2 billion** to over **2.2 billion** euros YoY.



Crypto: one of the battlegrounds in the race for the White House

Donald Trump has adopted a strongly pro-Bitcoin stance, which some view as opportunistic. Nevertheless, his alignment with the crypto community suggests that a Trump presidency could lead to more favorable regulations and increased adoption of digital assets, generating significant optimism within the sector.

In contrast, **Kamala Harris offers a cautious but moderately open approach to crypto**. While she lacks Trump's enthusiasm, she appears more receptive to the potential benefits of blockchain technology than the current administration. A Harris presidency could introduce gradual regulatory easing, fostering a more supportive environment for crypto businesses without making sweeping changes.



Banks, even central banks, are investing in Bitcoin

13-F reports reveal that **Morgan Stanley and Goldman Sachs** have invested in Bitcoin ETFs, amounting to \$187 million and \$418 million as of June 30, respectively.

Even the **central banks of Switzerland and Norway** have invested \$75 million and \$180 million respectively in MicroStrategy, the U.S.-based company known as the world's largest holder of Bitcoin.



03

Regulation



Ether ETFs Launch with High Expectations but Face Initial Hurdles

The SEC-approved Ether ETFs have made their debut, with experts projecting inflows to surpass \$5 billion by year-end, driven by rising institutional interest in the cryptocurrency market. **However, despite the optimistic outlook, current net flows remain negative.** This may be attributed to Ethereum facing stiff **competition from alternative chains like Solana, and it has yet to establish itself as a long-term, investable asset in the eyes of institutions,** unlike Bitcoin.



Europe moves forward with regulation

European regulation is being shaped by **MiCAr**, ensuring greater transparency and security for investors and industry participants.

In Italy, the implementing decrees from **Consob and Bank of Italy** provide guidance on how to apply these regulations effectively.



04

Technology



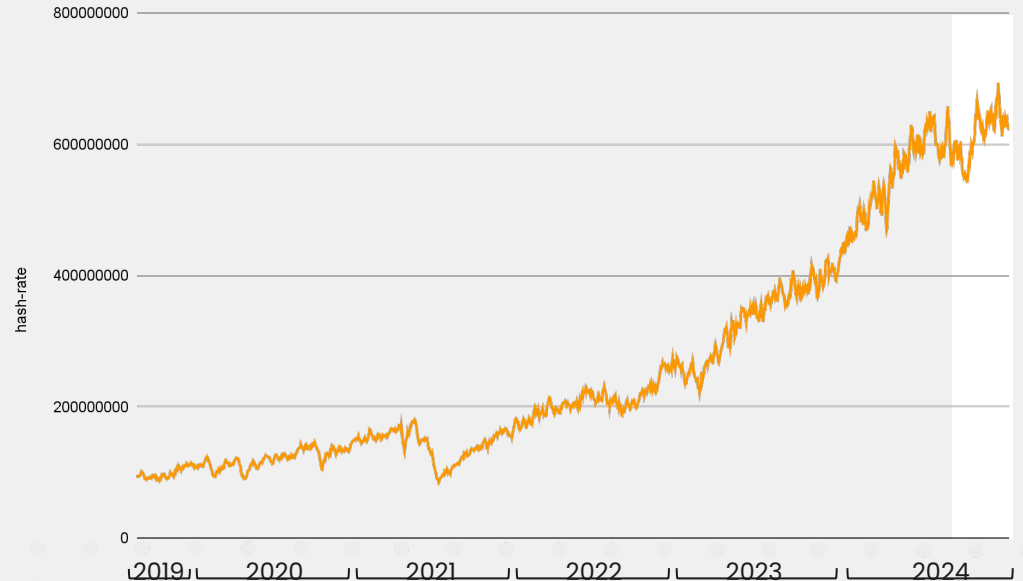
The path to maturity and resilience

Over the past quarter, the **crypto sector has seen few major technical advancements** - notably the Polygon upgrade from MATIC to POL.

Overall, innovation is increasingly focused on refining existing frameworks: **as the ecosystem matures, significant updates are becoming less frequent.**

Notably, since ETH's transition to PoS, it has not undergone any substantial updates. Meanwhile, despite the community's strong emphasis on BTC's Layer 2 payment solutions, progress remains limited. Instead, the market favors Layer 1, supported by a continuously growing hashrate.

Mining hash rate (tera hash per second)



Key Quarter Takeaways

Q3 Performance, Volatility, and Decorrelation on Track

Stable market cap at \$2.1 trillion, **Bitcoin gains (+5%)**, **Ether falls (-21%)**; BTC leads volumes and shows **strong long-term performance**, with **volatility comparable to tech stocks**.

Growing Institutional and Retail Adoption

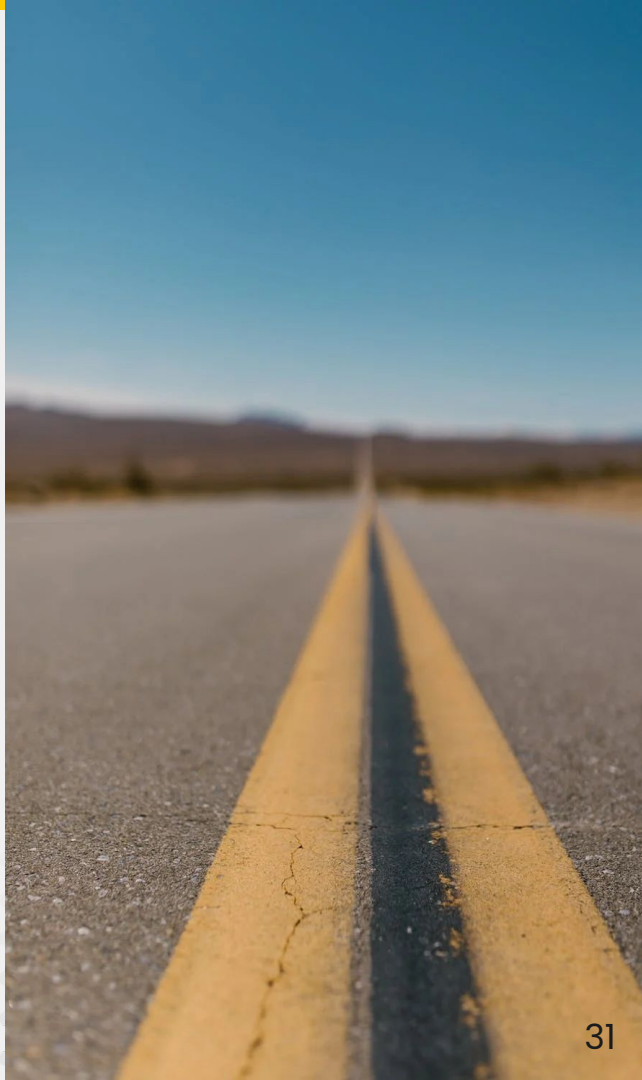
Italian **crypto adoption surges**, with 1.3M users (+51% YoY) holding €2.2B; **record BTC/ETH futures and options volumes**.

Outlook for Price Growth

Potential **halving** self fulfilling prophecy; **MiCA regulation** provides clarity; favorable **rate cuts**; **U.S. political support**.

Tech Innovation: A Consolidation Phase

No major tech breakthroughs; focus on **stability**, framework refinement. **Record hashrates** bolster BTC PoW security.





See you at
Crypto Asset Lab
Conference 2025

5TH ANNUAL EVENT
CRYPTO ASSET LAB
CONFERENCE 2025
CRYPTO-ASSET AND CBDC CHALLENGES

16 JANUARY
17 2025

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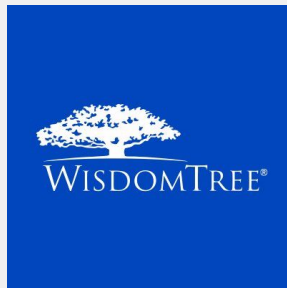
Gold Sponsors

Logos: European Union, University of Bologna, BICOCCA, Crypto Asset Lab, DGI Digital Gold Institute, MUSA, DeToMoDE, CHECKSIG

The banner is a dark blue/black rectangle with a yellow border. It features the event title 'CRYPTO ASSET LAB CONFERENCE 2025' in large, bold, cyan and white text. The dates '16 JANUARY 17 2025' are displayed in white. Below the title, it says 'CRYPTO-ASSET AND CBDC CHALLENGES'. The 'Organized by' section lists logos for the European Union, University of Bologna, BICOCCA, Crypto Asset Lab, DGI, and MUSA. The 'Sponsored by' section lists the CHECKSIG logo. The background has a subtle geometric pattern of lines and dots.



Blake Heimann



Senior Associate,
Quant Research

***The recent evolution of the
crypto market***