



30 November 2023

WisdomTree Crypto Monthly



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Cryptocurrencies can demonstrate higher volatility than other asset classes.**

Market Commentary:

Bullish environment for crypto prices

Macro environment expected to become favourable for crypto asset prices next year

This year, the crypto market has benefited from Federal Reserve's improved liquidity to the banking system but, next year, lower interest rates could be the driver for higher prices. Since mid-October, the US 10-year treasury rate has come down meaningfully from almost 5% to 4.2% [1]. As the US 10-year yield peaked in October, the crypto prices took off. This was due to an expectation for lower rates and a more favourable macro environment for digital assets next year and, for bitcoin, also due to an expectation that spot bitcoin ETFs could be approved in the US. Momentum for digital assets has clearly turned positive.

Increased demand for bitcoin the main driver for bitcoin's price performance

As we wrote in our Crypto Monthly for October, the main drivers for the price of bitcoin are the potential approval of spot bitcoin ETFs in the US as well as bitcoin halving, which will reduce the amount of new bitcoin awarded to miners in half and is expected to take place in April/May 2024 (Crypto Monthly October link [here](#)). The potential approval of spot bitcoin ETFs is likely to expand the investor base for bitcoin and we expect an ETF wrapper to be particularly appealing for US advisors. In a US retirement account, an ETF wrapper could have tax benefits, it is easy to trade and also has a familiar structure, which would eliminate the many complexities of investing in bitcoin directly via a self-custodial wallet, for example.

In bitcoin halving, the number of new bitcoin awarded as a block reward will be cut from 6.25 bitcoin to 3.125 per block, which takes place every ten minutes or so. Halving also means that bitcoin miners will have less bitcoin to sell to the market to cover their operating expenses, such as powerful computing equipment and electricity. Historically, bitcoin halving has led to a meaningful bull run in the price of bitcoin. We wrote more about our views on bitcoin in a recent blog post: [What has driven bitcoin growth since 2019 and will it become more mainstream?](#)

Bitcoin inflows expected to come over time

So far this year, bitcoin has outperformed most traditional assets with 148% price performance [2]. The big question is: how much increased demand is already priced in? While some advisors and institutional investors might be able to invest right after potential spot bitcoin ETF approval, we expect many others to invest over time after their compliance and infrastructure teams have approved this new asset class in their portfolios. In the coming months, we could see some volatility in the bitcoin price as some early investors in closed-ended funds, like Grayscale's GBTC, might be liquidating their early profitable positions.

[1] Bloomberg, as of 13th of Dec, 2023

[2] Bloomberg, as of 13th of Dec, 2023. Comparing bitcoin to SPX500, Nasdaq100, MSCI Emerging Markets Index, XAU gold

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Market Commentary:

Bullish environment for crypto prices

Increase in open interest for bitcoin futures and 'greedy' market sentiment reaffirming the crypto rally

In November 2023, we saw a significant increase in the open interest for bitcoin CME futures while the price of bitcoin was going up. This indicated confirmation for the long bitcoin trade. Most recently, we have seen the bitcoin perpetuals funding rates going up with the upside price momentum indicating overly crowded trade and leveraged traders. In fact, this has resulted in liquidations for some levered trades.

These bullish moves have been reaffirmed by crypto sentiment indicators, such as Crypto Greed and Fear Index, which has been in the 'greedy' territory for some weeks now. It would not be unusual to see a price pull-back after this kind of extensive bullish sentiment in the market.

On-chain activity chugging along

While the crypto price momentum has revived, we have not seen equivalent bullish moves in the on-chain data for blockchains. In the bitcoin blockchain, transactions have been volatile this year. Although we have seen the number of active addresses steadily going up, we are not seeing any meaningful activity coming from transactions. The fees paid to miners on bitcoin transactions had a rise in November, but have since come down again.

The same goes for ethereum. We have seen the number of transactions increase somewhat since mid-October. It is too early to say whether the downward trajectory in the number of active addresses has turned, but it could be that we reached a bottom in May of this year. In the ethereum network, the bulk of recognizable transactions are split among vanilla transfers, ERC20 contract interactions, decentralized finance (DeFi) activities, and NFT engagements. Maximum Extractable Value (MEV) bots, which are known for rearranging transactions in a block to maximize profitability.

Are we moving from large-cap season to Alt-season?

For most of this year, we have been in a large-cap season where bitcoin and ether have outperformed smaller tokens but since mid-October we have seen some smaller coins perform really well. This could have something to do with expectations that a smaller market cap and a successful project could have higher growth potential than some more established names. Bitcoin has 52% of crypto's market cap versus ether's 17%, solana's 2% and cardano's 1.4% [1]. Solana is up 660% and cardano 148% year-to-date [2]. For both assets, most of the upside has come since Oct 18th when the crypto market in general turned positive. Historically, it has not been until the bitcoin halving when the alt-season really takes off, but in recent months, we have seen meaningful flows going particularly to solana, which survived its -97% decline in 2022 and seems to have recovered from the bad press it received with the close links it had with FTX/Alameda. In this cycle, we have also seen an unusually strong price momentum in bitcoin very early. It remains to be seen whether this cycle is very front-loaded in price gains or whether price momentum continues steadily in the historical pattern.

[1] Coinmarketcap

[2] Bloomberg as of 19th of Dec, 2023

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Market Commentary:

Bullish environment for crypto prices

Could ether outperform bitcoin long-term?

We view bitcoin and ether as having very different use cases. Bitcoin can be viewed as digital gold, an anti-fiat, anti-sovereign asset with limited supply, where the potential addressable market could be the size of the gold market, which is approximately \$12 trillion [1]. Bitcoin's market cap at the moment is \$819 billion [2]. Long-term, if the promise of a global payment system with the Lightning network comes to fruition, the addressable market could be bigger, of course. Ethereum, on the other hand, is more like a technology stock or platform, where the usage of decentralised applications requires the user to own ether to pay for transaction fees. The potential addressable market could be much larger as the next stage of internet is likely at least partly be based on blockchains. However, scalability is important and ethereum has postponed its upgrade to next year. In addition, faster blockchains, such as solana, and new third generation blockchains are increasingly challenging ethereum as the most popular smart contract network.

[1] World Gold Council, June 2023

[2] Coinmarketcap

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Insight of the Month:

What's behind Solana's price performance?

When Solana was founded in 2017 and its mainnet went live in 2020, the vision of its founder Anatoly Yakovenko was to create a decentralised competitor to centralised exchanges, such as Nasdaq. This is one of the reasons why the speed of the blockchain network became so important for the project early on. Since the early days, the use cases have expanded to DeFi, NFTs and crypto payments. It is said solana's transactions per second (TPS) can reach over 700,000 but the current TPS hovers around 3,100 [1]. This is still very fast compared to ethereum, which without a layer 2 solution, can only reach an average of 10-15 TPS [2]. The speed of the solana network makes it ideal for decentralised applications requiring high speed, such as payments and gaming. With speed, comes one of solana's main weaknesses so far, and it is instability of the network. The blockchain has suffered from outages although these have become less frequent in recent months.

Solana's SOL token pays a staking yield, which is around 7% at the moment [3]. The token's initial inflation rate was 8% per annum but this is expected to go to 1.5% per annum long-term. Solana has so far issued 565 million SOL tokens, of which 76% is in circulation [4]. Some critics have blamed Solana Foundation for an uneven early token distribution, where a large part of issuance (29%) was awarded to venture capital firms and seed investors, founding team and solana foundation (25%) and only 38% for community reserve. Only 1.6% was issued via public auction sale [5]. The others were issued to validators and strategic investors.

We know that Alameda Research/FTX held approximately 10% of SOL tokens (around 50 million). Of these, 12 million had a monthly linear unlock schedule from Sept 2021-Sept 2027 and close to 35 million a monthly linear unlock schedule from Jan 2022 to Jan 2028. The early 4 million tokens had an unknown unlock schedule [6]. Given this information, we would assume that approximately 600,000 SOL tokens are unlocked every month. It is also likely that at least part of these SOL tokens have been staked to earn a staking yield. In mid-September, the bankruptcy court gave permission to FTX to start selling its crypto assets, including the solana tokens, which at the time were approximately \$1.1 billion in value. Interestingly, in mid-Dec 2023, the same number of SOL tokens would be valued at \$3.8 billion. We initially expected meaningful selling pressure for solana, but the comments made by the SEC's chairman Gary Gensler in November could have alleviated this selling pressure. He said the crypto exchange FTX could be revived under a new leadership, and this could mean that the crypto assets held by FTX could be used in some other way to pay for creditors.

<u>Solana Foundation</u>	<u>SOL awarded</u>	
Alameda Research	4,000,000	NA
Alameda Research	12,000,000	Linear monthly unlock from Sept 2021 to Sept 2027
Alameda Research/FTX Trading	<u>34,524,833</u>	Linear monthly unlock from Jan 2022 to Jan 2028
	50,524,833	

Source: FTX Filings

[1] Solanabeach

[2] Dune Analytis

[3] Stakingrewards, solana

[4] Coinmarketcap

[5] Coinmarketcap

[6] FTX filings

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Insight of the Month:

What's behind Solana's price performance?

Solana's price really took off after Solana's Breakpoint developer conference in late Oct/early Nov, where a number of new product announcements were made. One of the more important ones was the Firedancer solana upgrade, which went live on testnet, and is planned to be introduced on mainnet in H1 2024. Firedancer adds a new solana validator client and is expected to make the blockchain more decentralised, secure and even faster than before. Solana has also announced a number of payment agreements, for example, it is working with Visa to test a pilot program for USDC settlement on solana, and it is integrating plug-ins with merchants for USDC payments. One of these payment partnerships is with Shopify. A lot is already priced in to the SOL token. It will ultimately be the success of the applications built on top of the blockchain that will determine the long-term potential of the network.

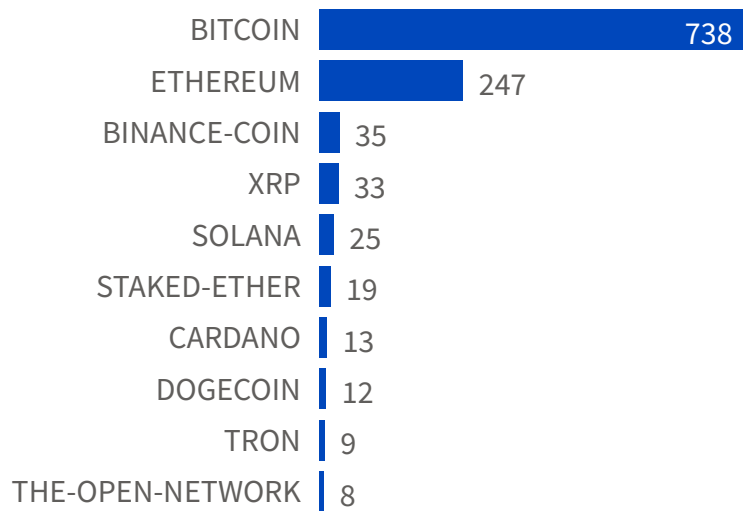
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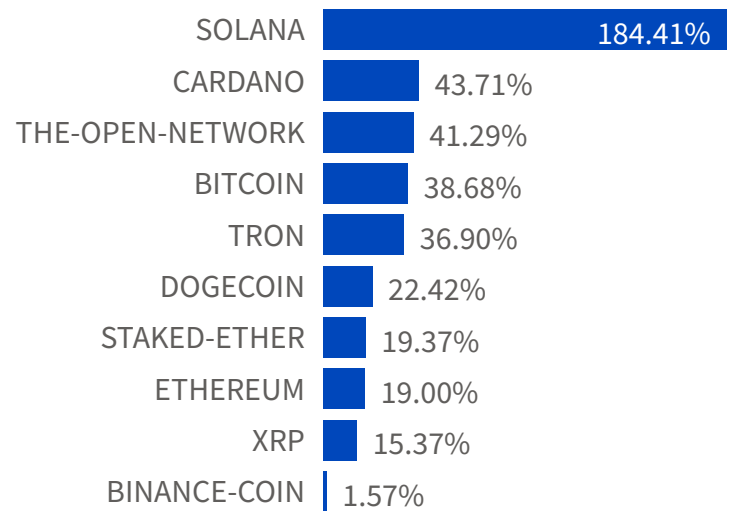
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Market Summary

Top 10 by Market Cap | USDbn



3-Month Return | USD



Summary Statistics

Asset	Market Cap	1m Return	3m Return	Volatility	Correlation w. Bitcoin
BITCOIN	737.56	9.74%	38.68%	39.28%	1.00
ETHEREUM	246.80	12.11%	19.00%	44.44%	0.76
BINANCE-COIN	34.54	-0.41%	1.57%	38.04%	0.68
XRP	32.68	5.26%	15.37%	47.80%	0.53
SOLANA	25.12	69.49%	184.41%	101.00%	0.64
STAKED-ETHER	18.90	12.29%	19.37%	42.18%	0.75
CARDANO	13.27	26.10%	43.71%	45.73%	0.63
DOGECOIN	11.85	15.72%	22.42%	51.32%	0.51
TRON	9.16	8.29%	36.90%	36.28%	0.50
THE-OPEN-NETWORK	8.20	14.44%	41.29%	74.48%	0.23

3-Month Correlation | Daily USD Returns

Asset	BITCOIN	ETHEREUM	BINANCE-COIN	XRP	SOLANA	STAKED-ETHER	CARDANO	DOGE COIN	TRON	THE-OPEN-NETWORK
ETHEREUM	0.85									
BINANCE-COIN	0.70	0.70								
XRP	0.40	0.48	0.39							
SOLANA	0.65	0.64	0.56	0.40						
STAKED-ETHER	0.84	0.98	0.70	0.47	0.62					
CARDANO	0.68	0.73	0.69	0.67	0.66	0.72				
DOGECOIN	0.60	0.63	0.60	0.40	0.50	0.60	0.66			
TRON	0.60	0.61	0.53	0.37	0.54	0.59	0.58	0.51		
THE-OPEN-NETWORK	0.32	0.29	0.31	0.18	0.25	0.29	0.28	0.27	0.22	

Source: WisdomTree. Volatility and correlation on 3-month USD returns. As of 30 November 2023.

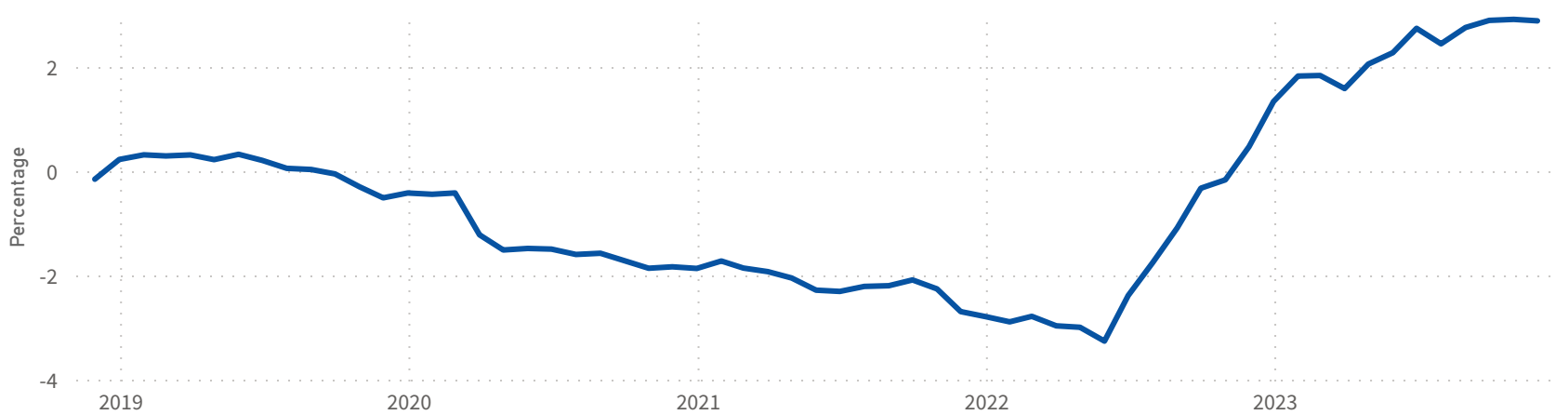
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Macro Landscape

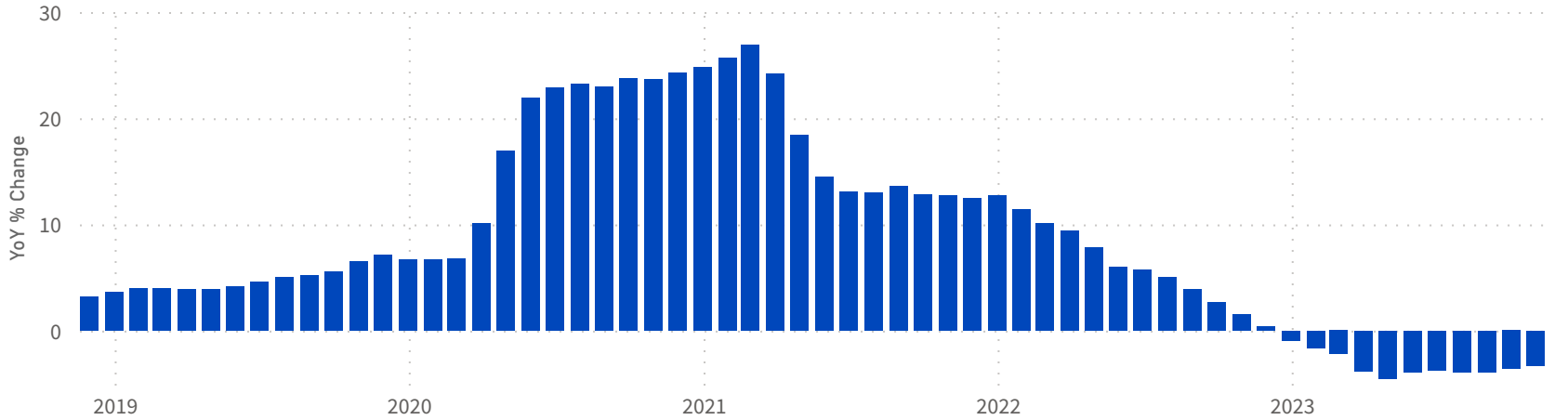
Curve | 10Y minus 3M US Treasury Yield



3-Month Real Yield



US M2 Money Supply



US Liquidity Index

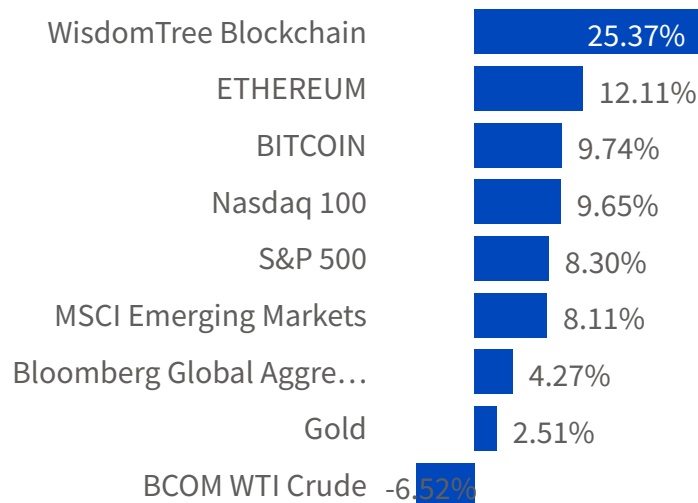


Source: WisdomTree. Bloomberg. As of 30 November 2023.

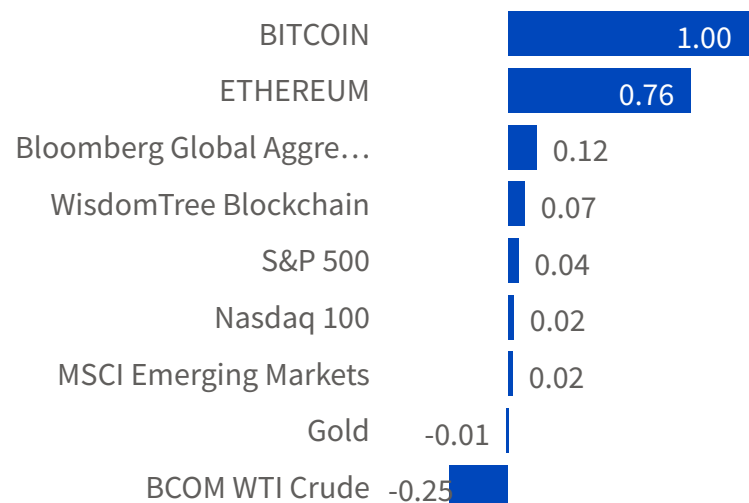
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Market Summary

Top 10 by Market Cap | USDbn



Correlation with Bitcoin



Summary Statistics

Asset	1m Return	3m Return	Volatility	Correlation w. Bitcoin
WisdomTree Blockchain	25.37%	-2.76%	60.74%	0.07
ETHEREUM	12.11%	19.00%	44.44%	0.76
BITCOIN	9.74%	38.68%	39.28%	1.00
Nasdaq 100	9.65%	-3.75%	21.61%	0.02
S&P 500	8.30%	-2.52%	16.55%	0.04
MSCI Emerging Markets	8.11%	-1.18%	14.44%	0.02
Bloomberg Global Aggregate	4.27%	1.17%	8.00%	0.12
Gold	2.51%	5.71%	14.93%	-0.01
BCOM WTI Crude	-6.52%	-1.60%	42.00%	-0.25

3-Month Correlation | Daily USD Returns

Asset	BITCOIN	ETHEREUM	Nasdaq 100	S&P 500	MSCI Emerging Markets	WisdomTree Blockchain	Bloomberg Global Aggregate	Gold
ETHEREUM	0.85							
Nasdaq 100	0.02	0.07						
S&P 500	0.02	0.05	0.93					
MSCI Emerging Markets	0.05	0.06	0.88	0.94				
WisdomTree Blockchain	0.02	0.01	0.56	0.57	0.56			
Bloomberg Global Aggregate	0.01	-0.03	0.25	0.20	0.36	0.25		
Gold	-0.11	-0.16	0.02	-0.01	0.09	0.10	0.56	
BCOM WTI Crude	-0.08	-0.03	0.07	0.17	0.22	0.09	-0.03	0.08

Source: WisdomTree. Volatility and correlation on 3-month USD returns. As of 30 November 2023.

Equity indices are USD Net Total Return.

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Bitcoin And Ether Focus

Cumulative Return | 12 Months

● BITCOIN ● ETHEREUM



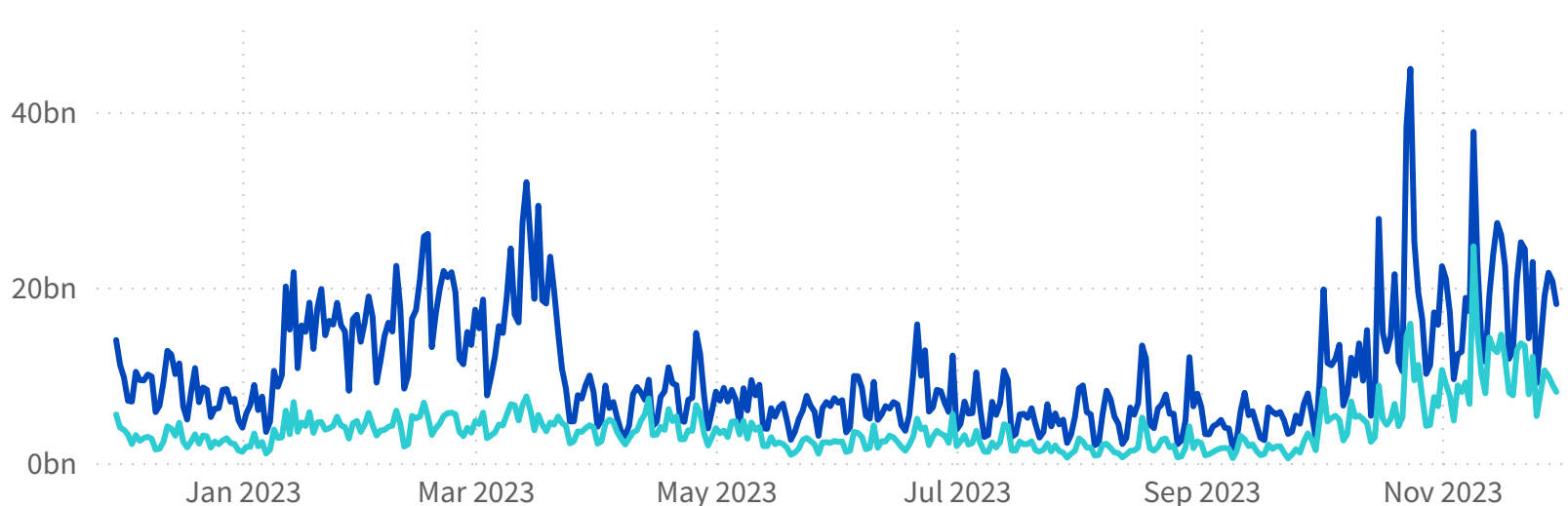
Rolling 90-Day Correlation with Bitcoin | 12 Months

● ETHEREUM



Daily Volume | USD

● BITCOIN ● ETHEREUM

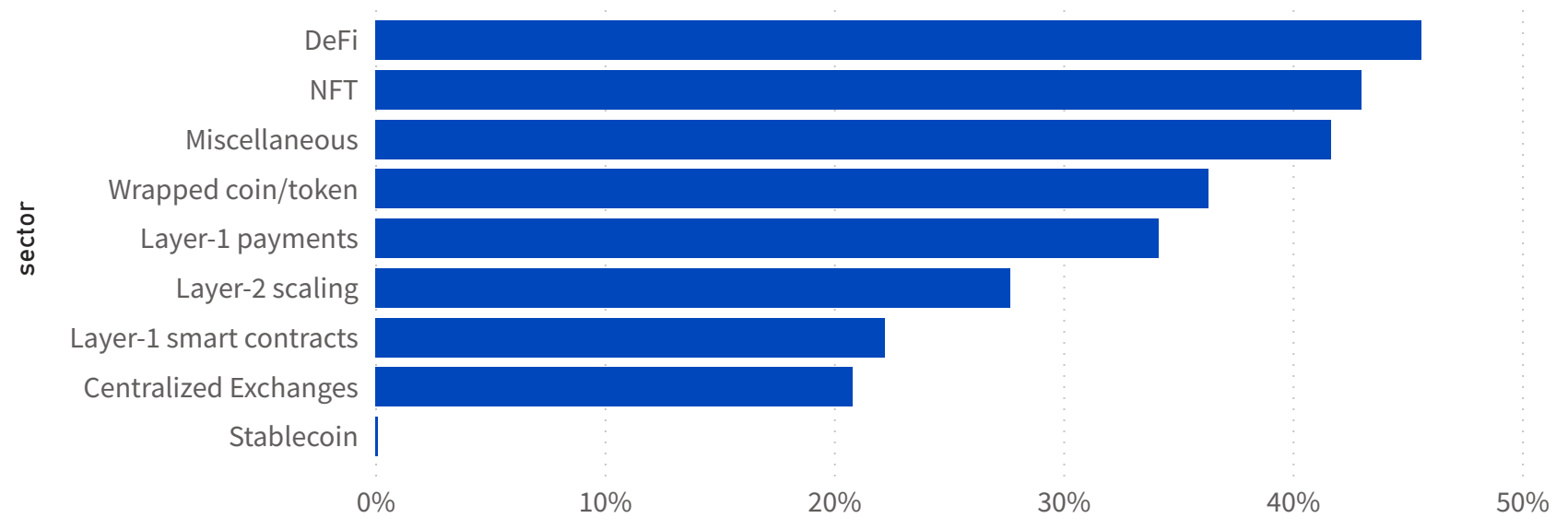


Source: WisdomTree, Messari. As of 30 November 2023.

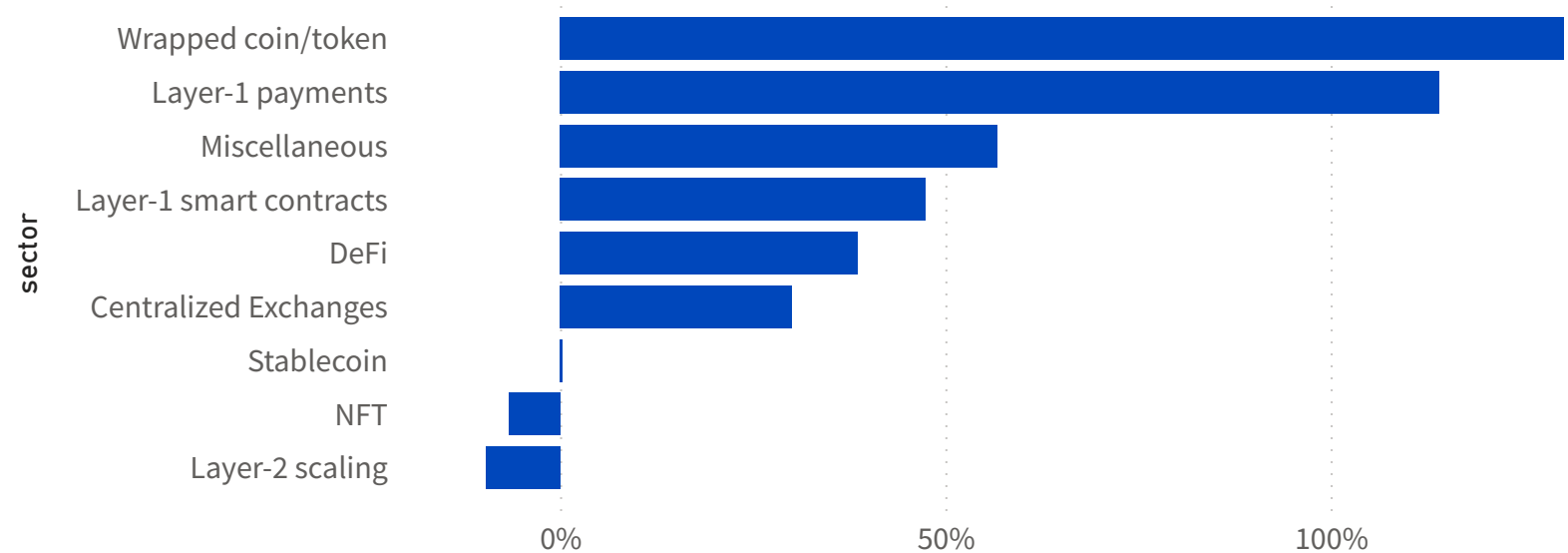
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Sector Summary

3-Month Performance



1-Year Performance



Sector Performance

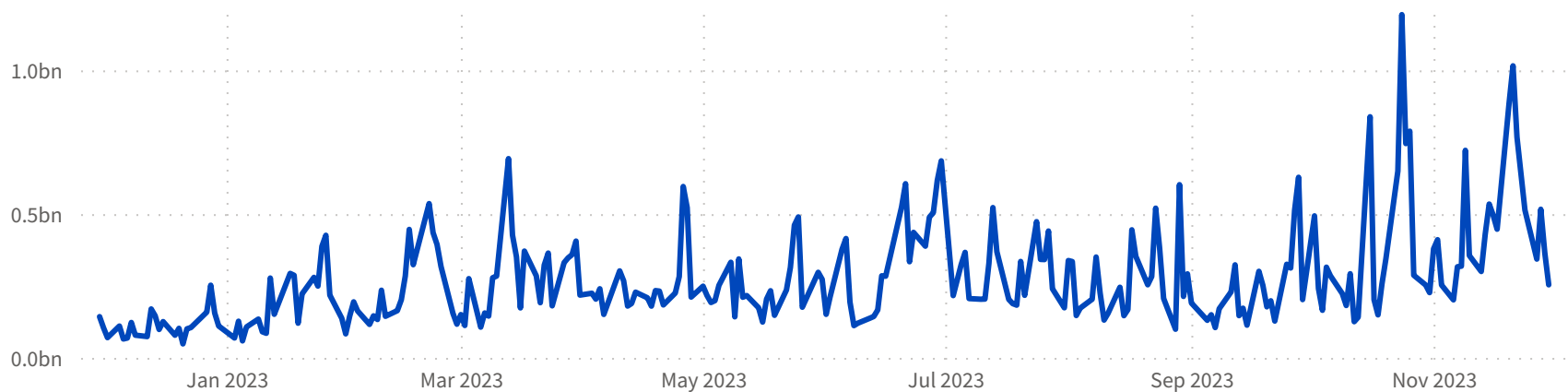
sector	YTD	1M	3M	6M	1Y
Wrapped coin/token	128.8%	9.2%	36.3%	36.0%	130.2%
Layer-1 payments	118.0%	9.4%	34.1%	34.3%	114.1%
Miscellaneous	81.2%	22.8%	41.7%	23.6%	56.8%
Uncategorized	61.8%	27.0%	44.5%	18.6%	40.3%
Layer-1 smart contracts	58.3%	16.5%	22.2%	6.9%	47.4%
DeFi	57.6%	37.2%	45.6%	25.4%	38.7%
Centralized Exchanges	37.8%	16.6%	20.8%	16.8%	30.0%
NFT	31.9%	20.2%	43.0%	-4.7%	-6.7%
Stablecoin	0.1%	-0.0%	0.0%	0.0%	0.1%
Layer-2 scaling	-0.1%	18.7%	27.7%	-16.7%	-9.7%

Source: WisdomTree. As of [30 November 2023](#).

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Regulated Futures (1/2)

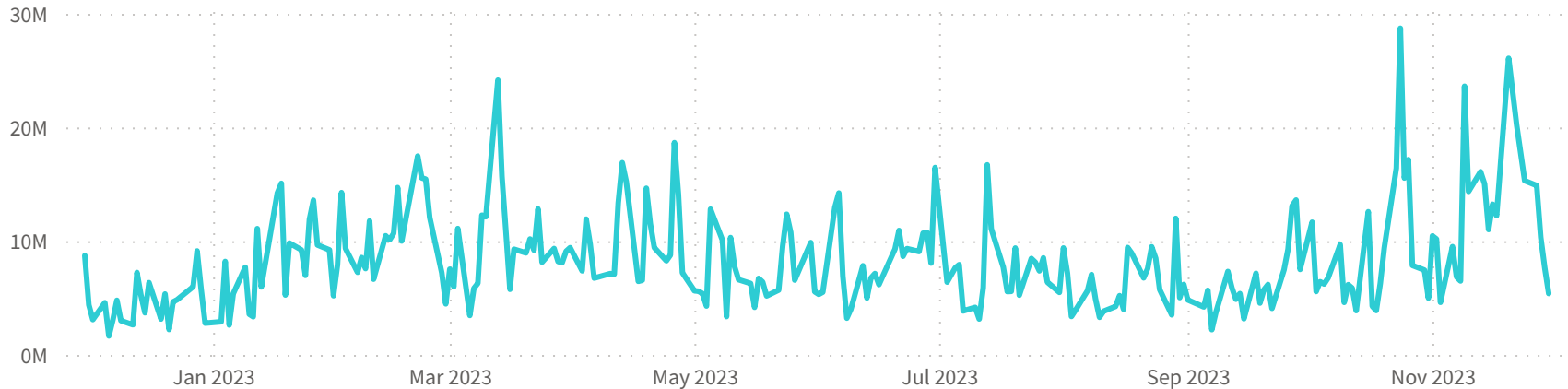
Bitcoin CME Futures | Volume USD



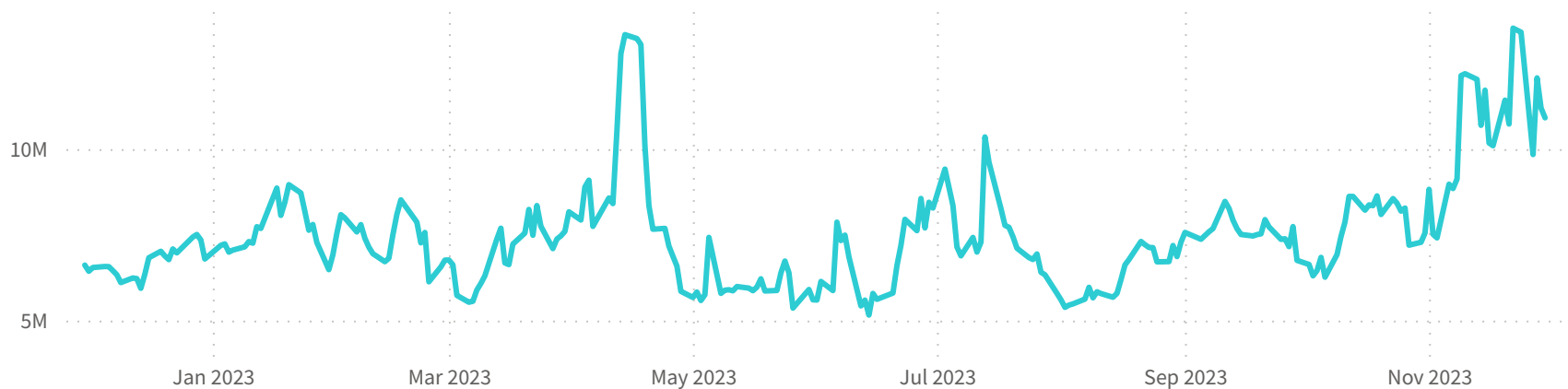
Bitcoin CME Futures | Open Interest USD



Ether CME Futures | Volume USD



Ether CME Futures | Open Interest USD

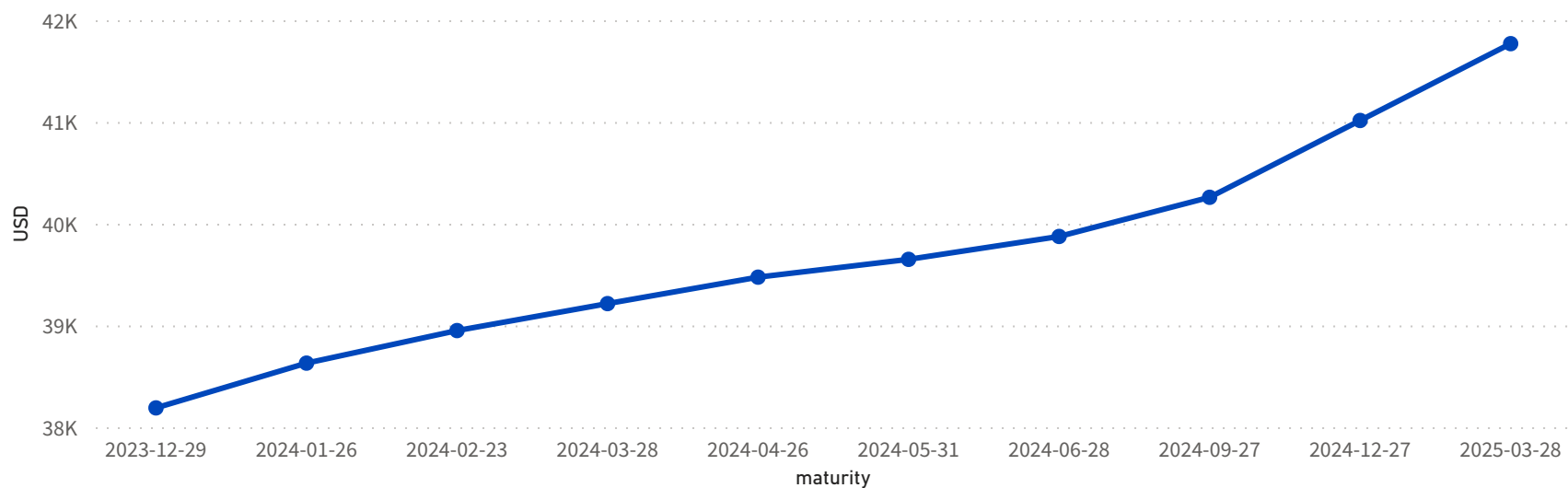


Source: WisdomTree, Bloomberg. As of 30 November 2023.

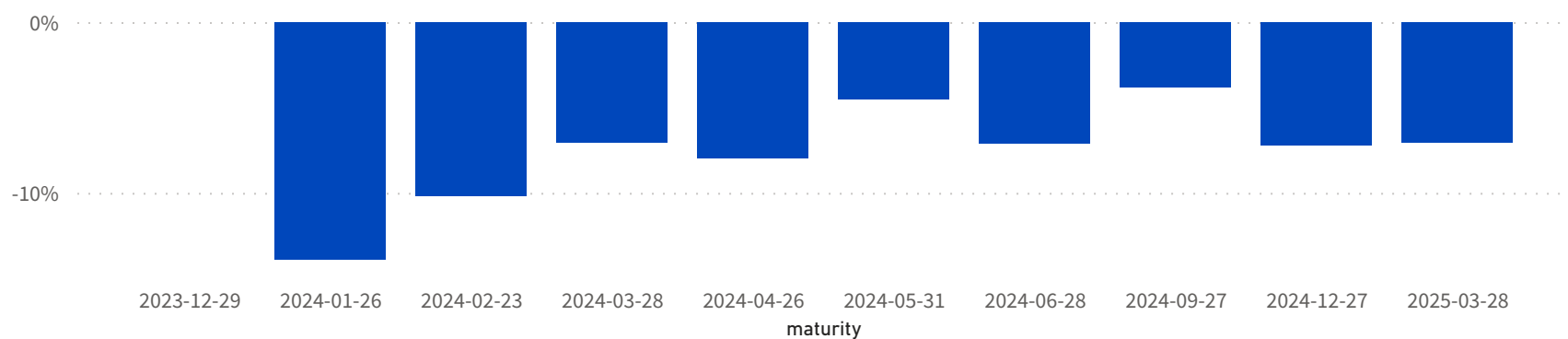
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Regulated Futures (2/2)

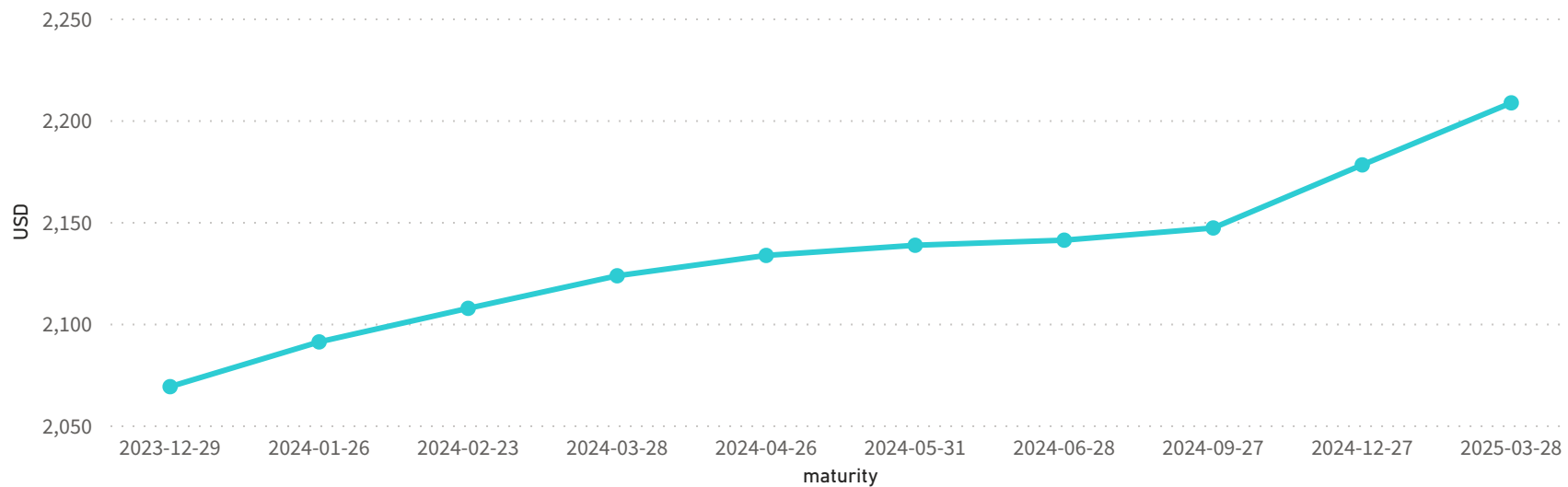
Bitcoin CME Futures | Price



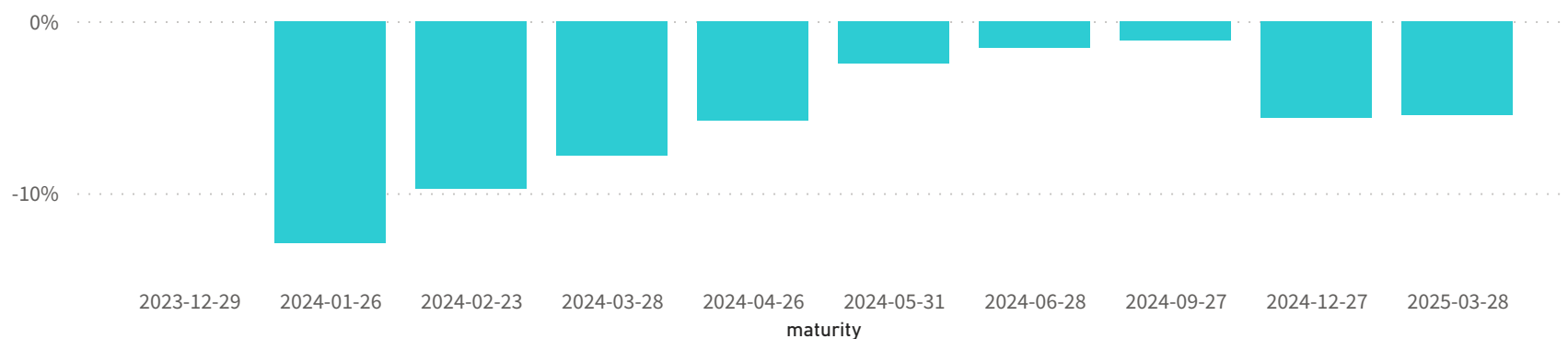
Bitcoin CME Futures | Annualised Implied Carry



Ether CME Futures | Price



Ether CME Futures | Annualised Implied Carry



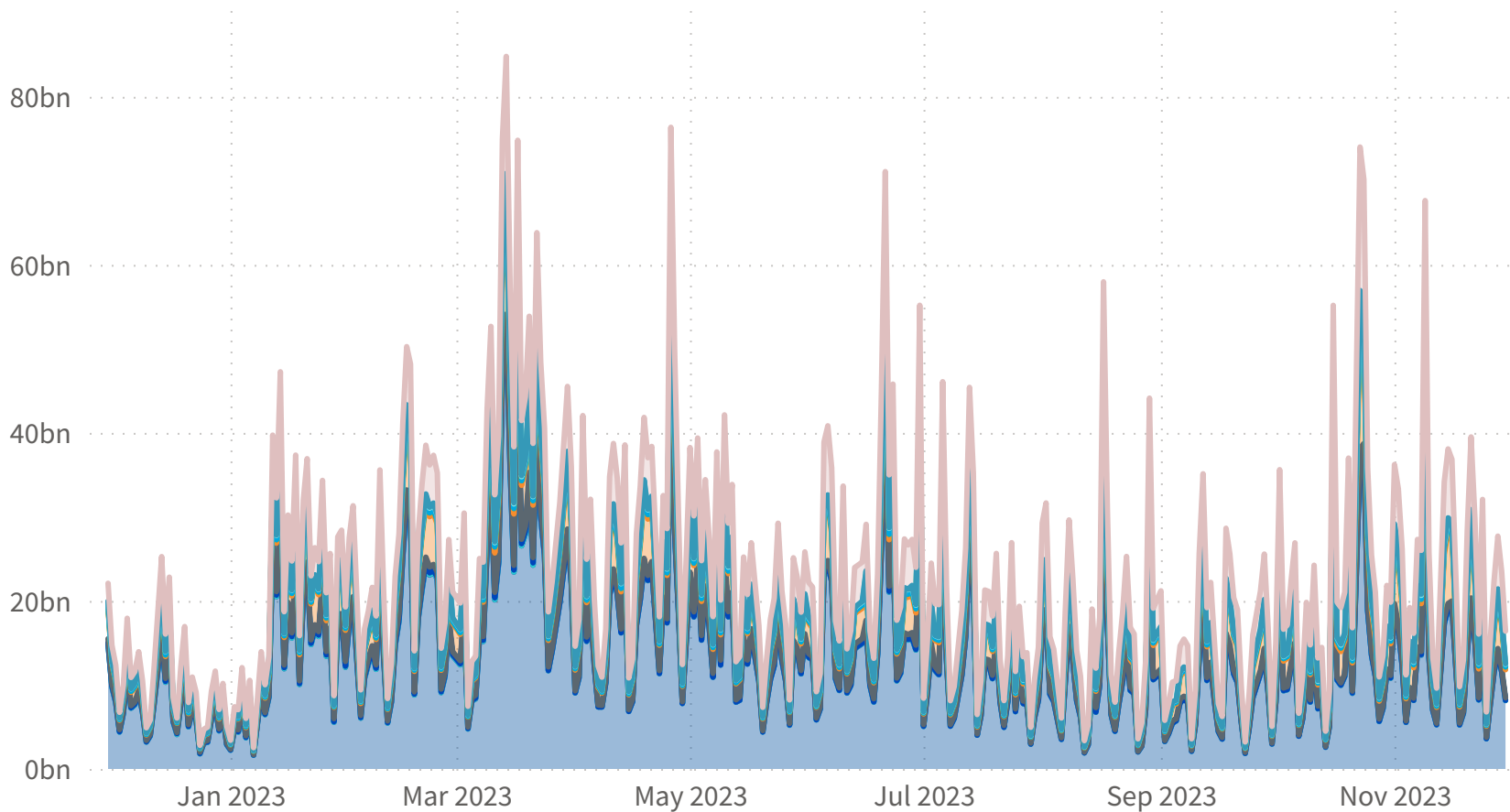
Source: WisdomTree, Glassnode. As of 11/30/2023.

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Unregulated Futures (1/3)

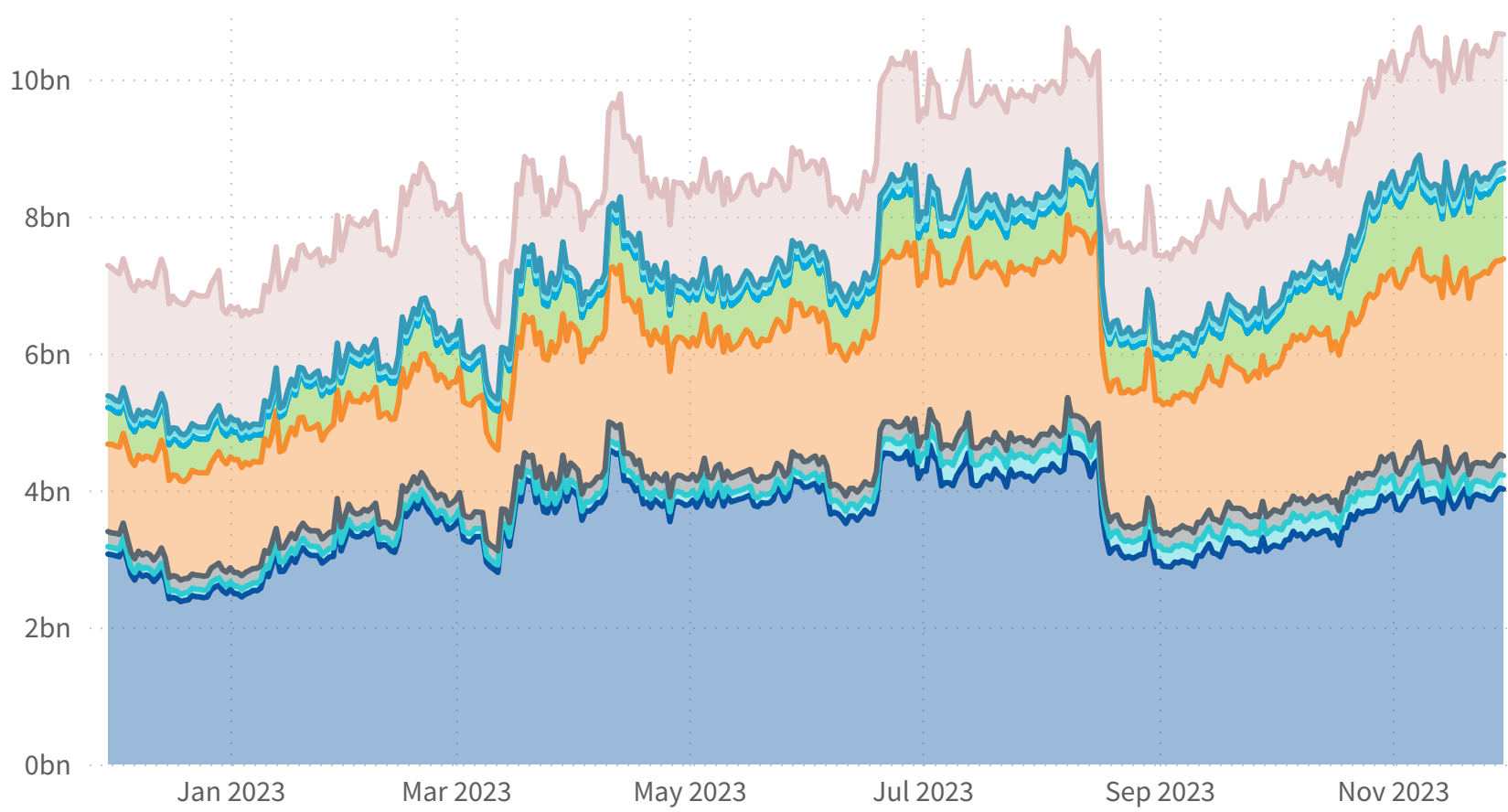
USD Volume in Futures | Bitcoin

binance bitfinex bitflyer bitmex bybit deribit ftx huobi kraken okex



USD Open Interest in Futures | Bitcoin

binance bitfinex bitmex bybit deribit ftx huobi kraken okex



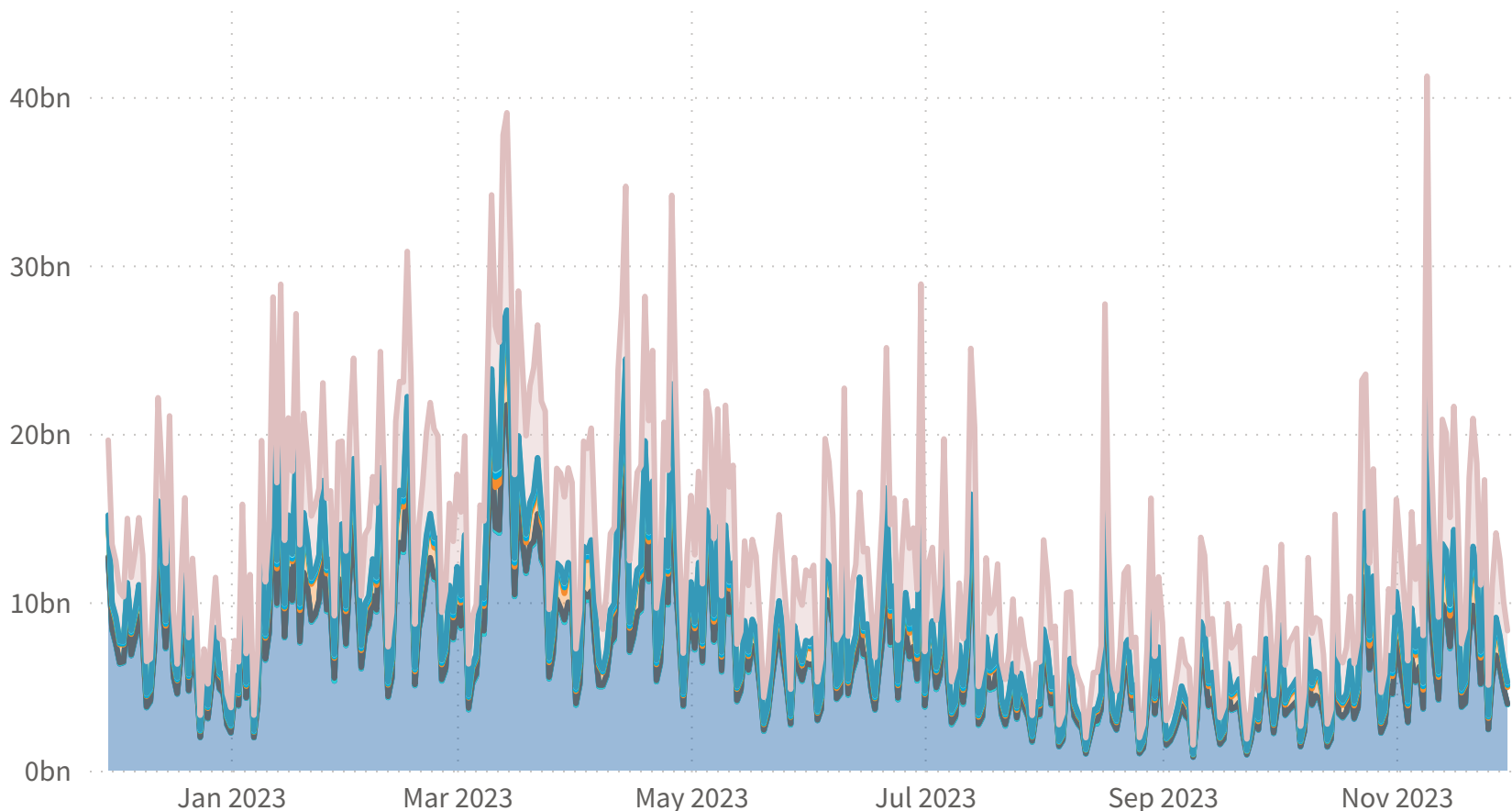
Source: WisdomTree, Glassnode. As of 30 November 2022.

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Unregulated Futures (2/3)

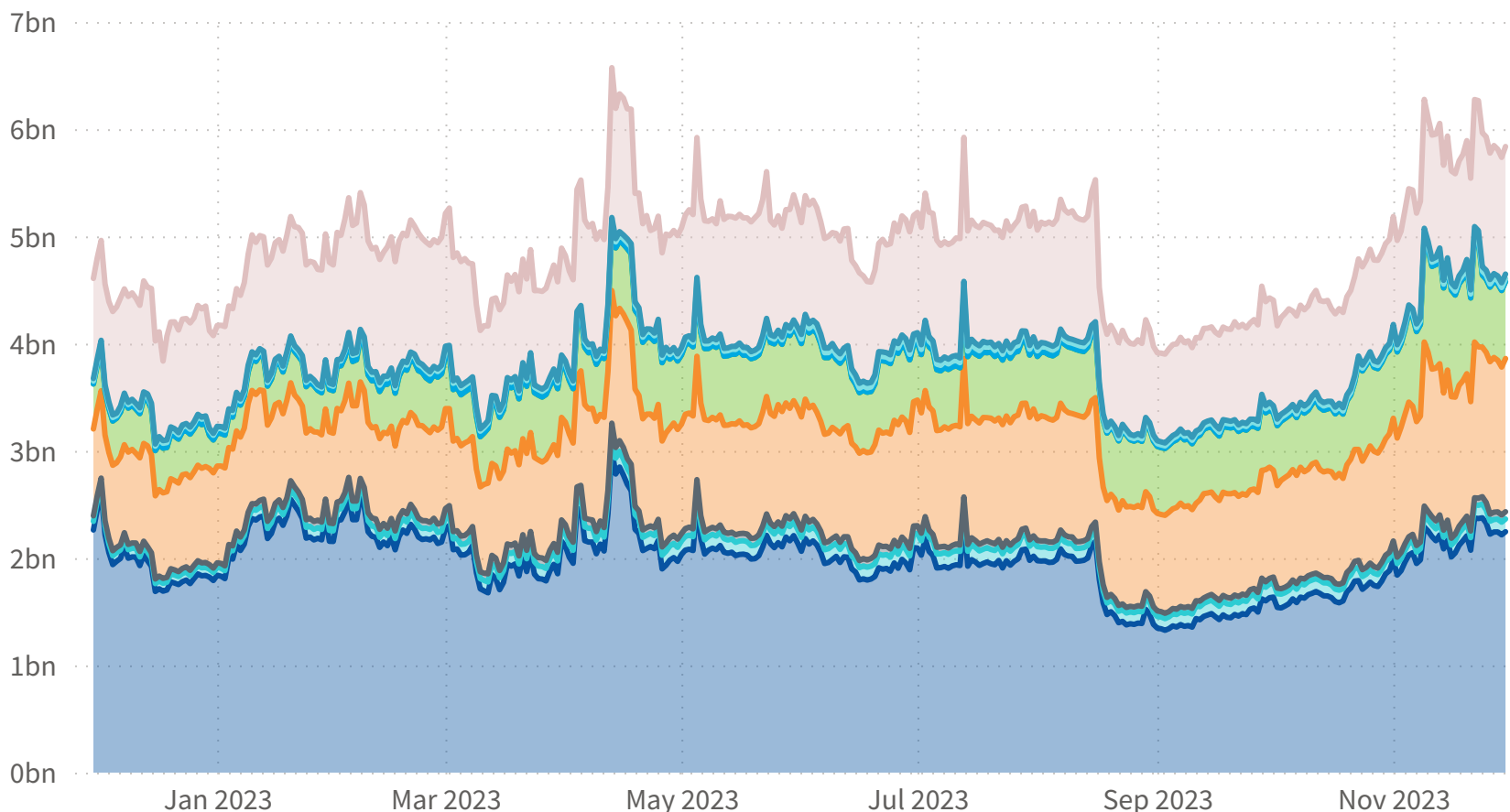
USD Volume in Futures | Bitcoin

binance bitfinex bitmex bybit deribit ftx huobi kraken okex



USD Open Interest in Futures | Bitcoin

binance bitfinex bitmex bybit deribit ftx huobi kraken okex

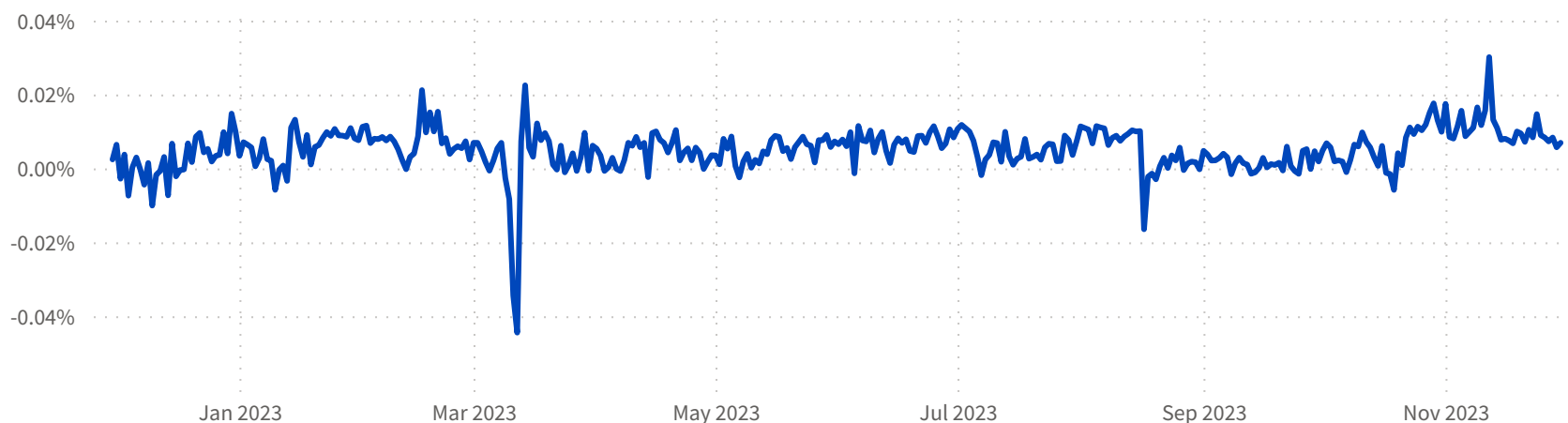


Source: WisdomTree, Glassnode. As of 30 November 2023.

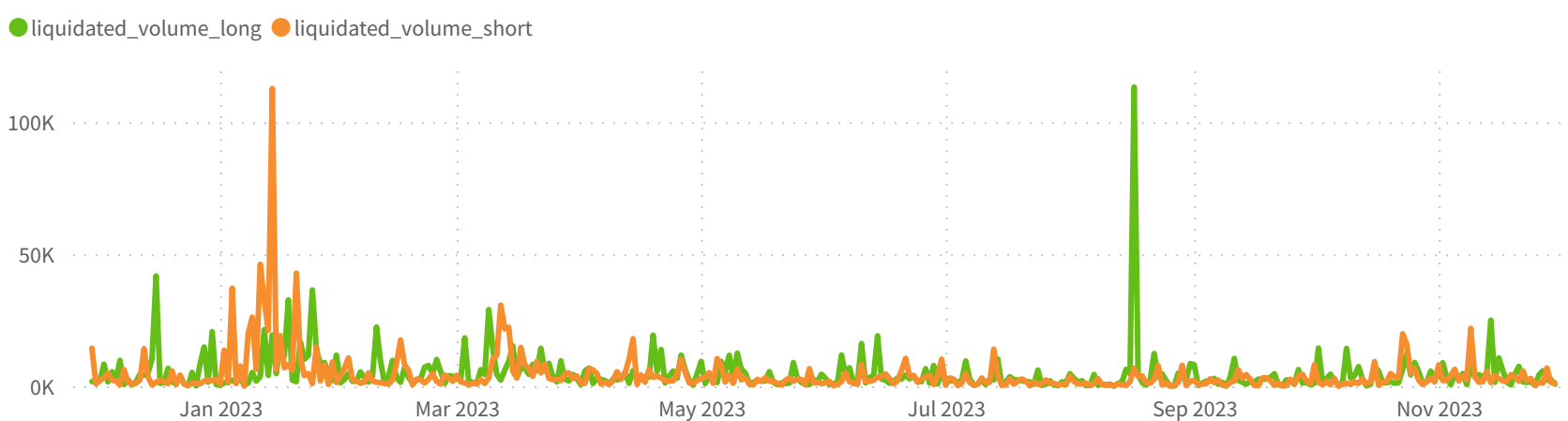
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Unregulated Futures (3/3)

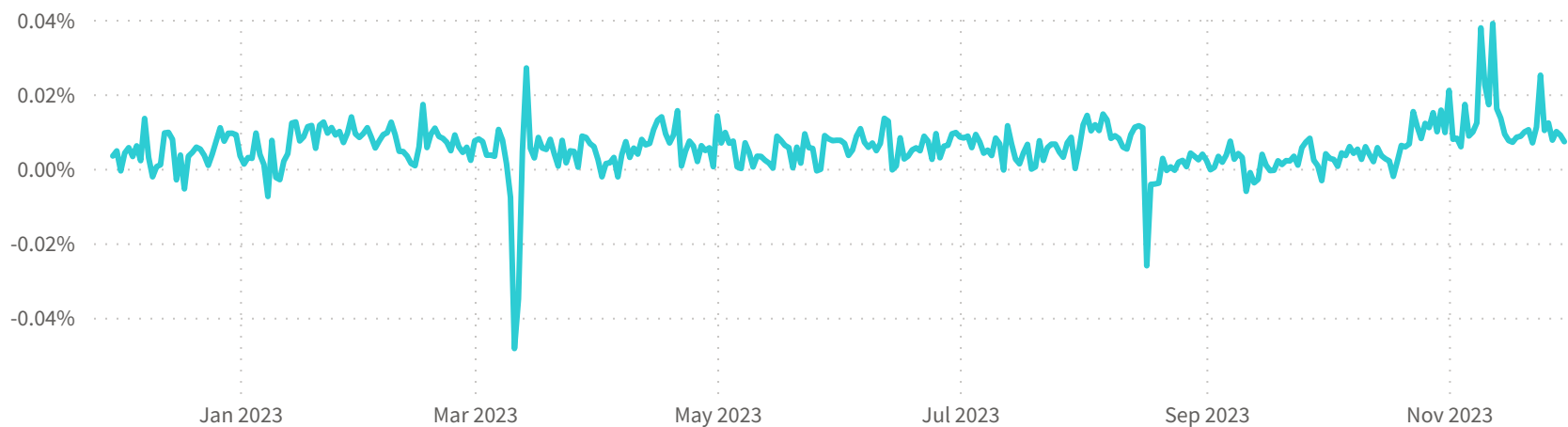
Bitcoin | Perpetual Funding Rate



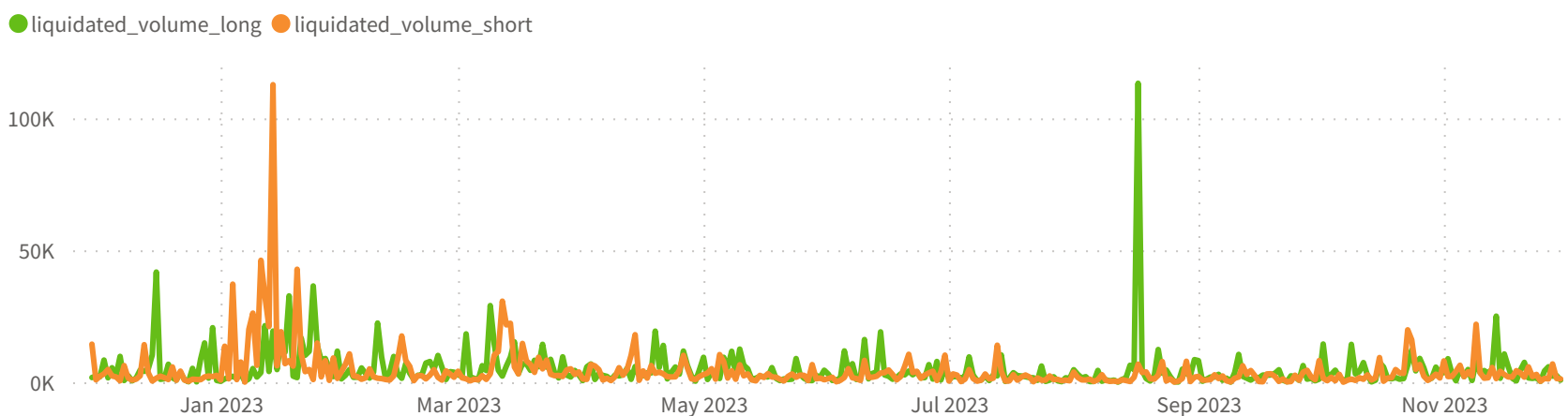
Bitcoin | Liquidated Volume



Ether | Perpetual Funding Rate



Ether | Liquidated Volume

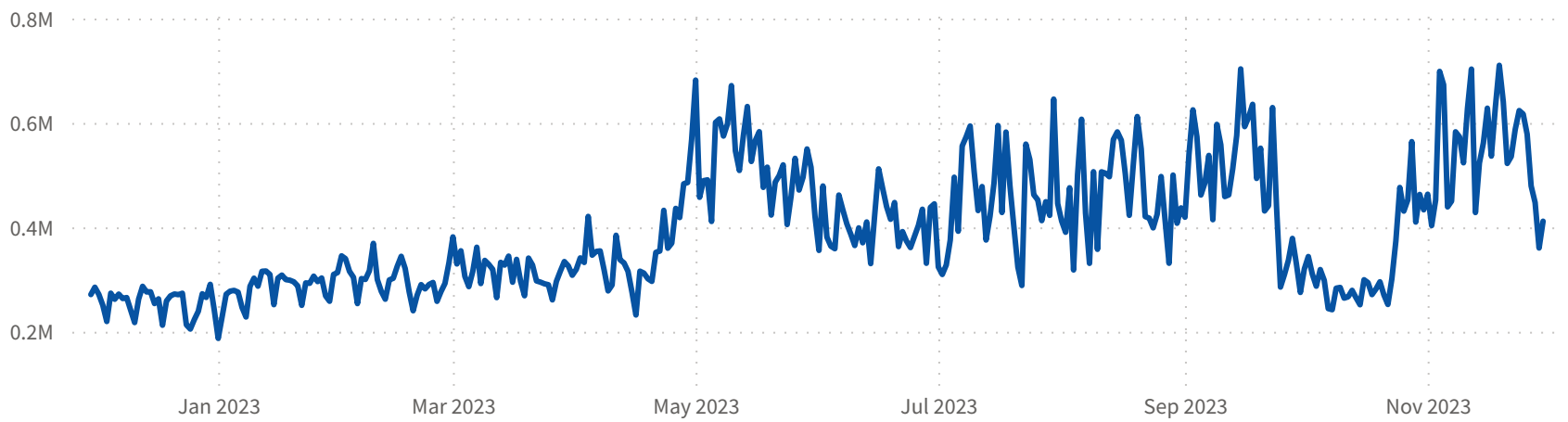


Source: WisdomTree, Glassnode. As of 30 November 2023.

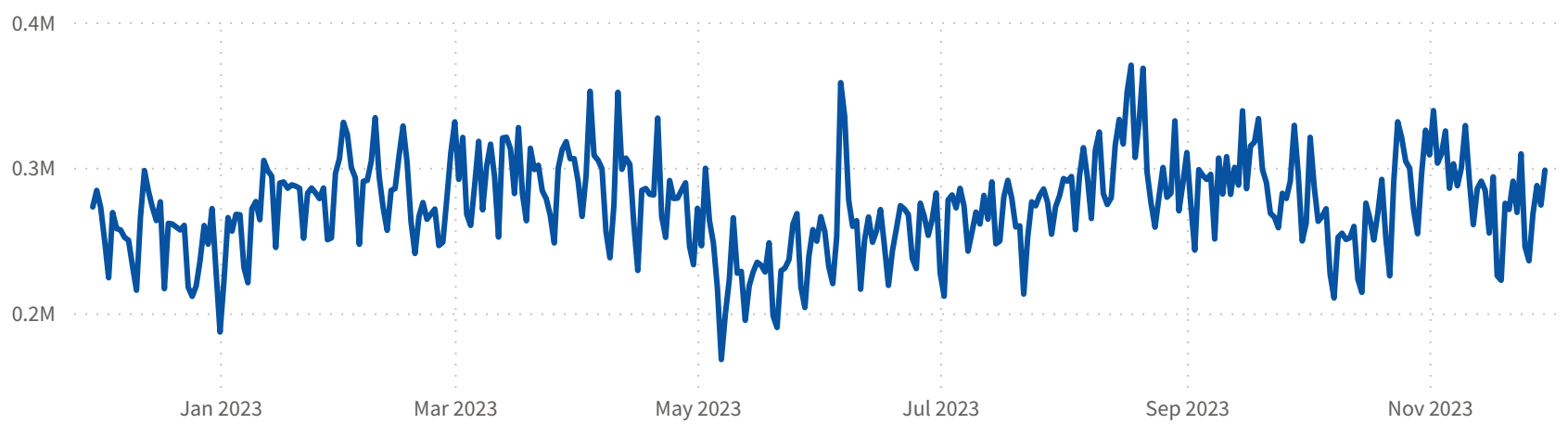
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Bitcoin | On-Chain Activity

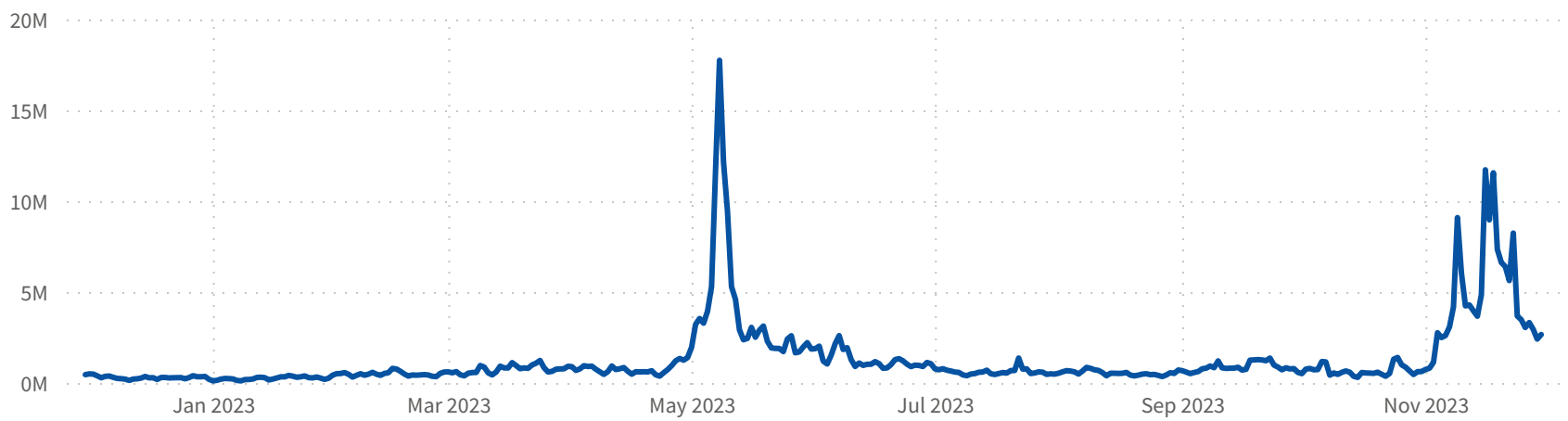
Number of Transactions



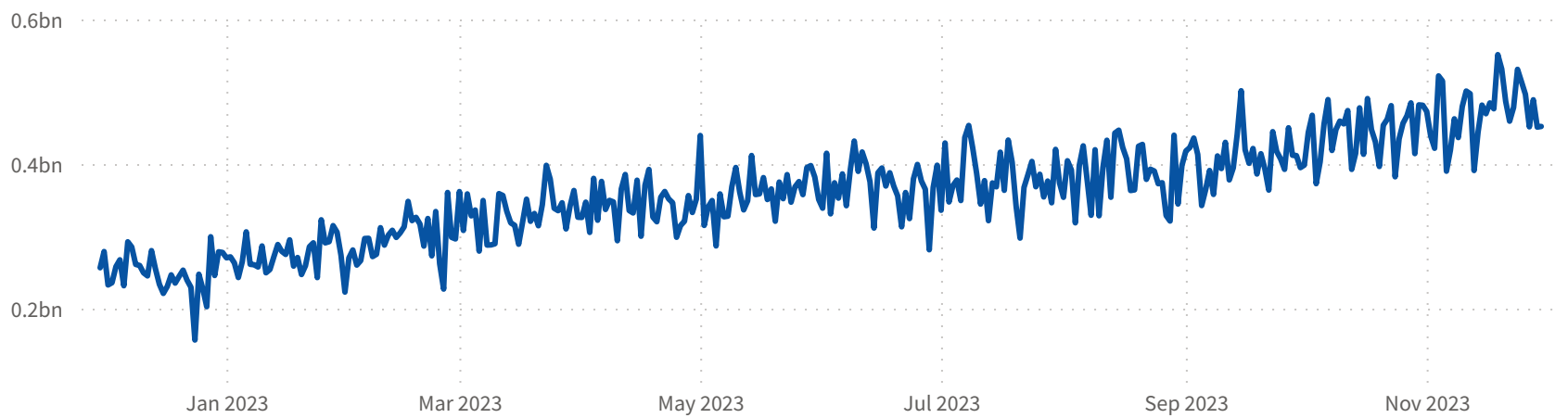
Number of Active Addresses



Fees Paid to Miners | USD



Hashrate | Terahash

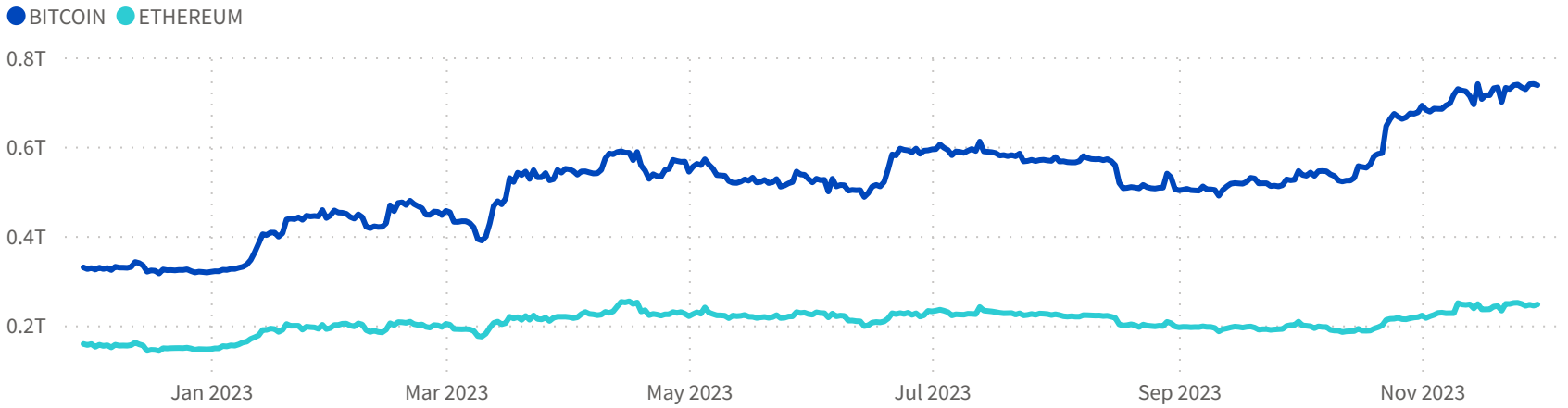


Source: WisdomTree, Glassnode. As of 30 November 2023.

Historical performance is not an indication of future performance and any investments may go down in value. Cryptocurrencies are a high-risk investment and may not be suitable for all types of investor. Cryptocurrencies can demonstrate higher volatility than other asset classes.

Valuation Metrics

Market Cap | USD



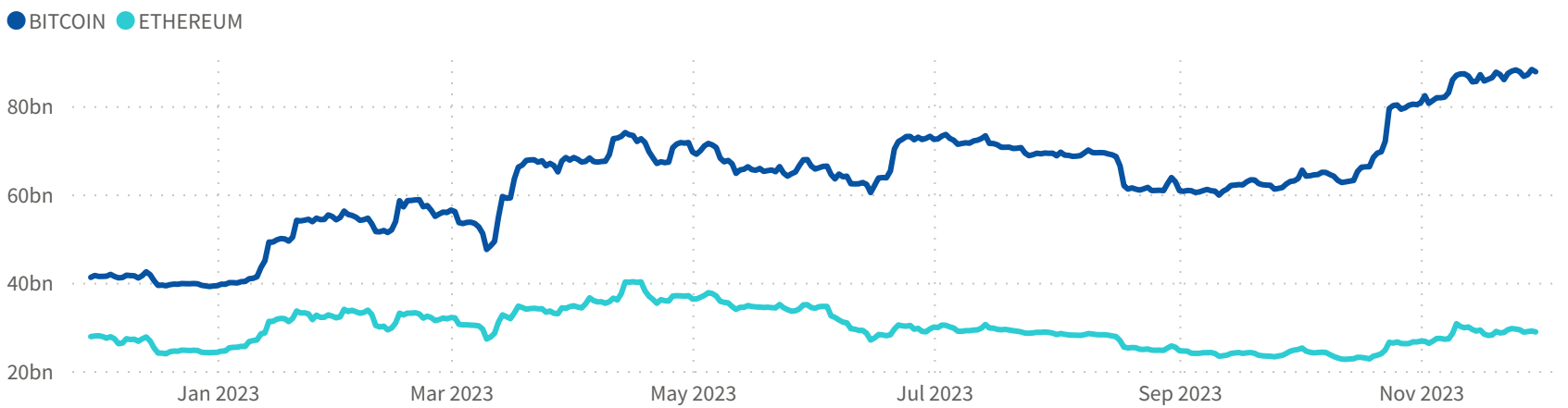
MVRV | Market Value to Realised Value



NUPL | Net Unrealised Profit Loss



Exchange Balances | USD



Source: WisdomTree, Glassnode. As of 30 November 2023.

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