

Ahead of the curve

Market Update

Continued docile market activity

Crypto markets remain subdued, with BTC posting modest volumes, flat open interest, and mild ETF outflows. BTC fell 3% over the past week after four consecutive down days, now trading at two-week lows. A brief post-FOMC rally marked the local high following the Fed's 25 bps rate cut.

The initial relief from the rate cut faded as the Fed signaled a renewed "wait-and-see" stance, weighing on broader risk sentiment. Futures markets now price a 73% probability of unchanged rates at the January FOMC meeting and a 47.6% probability of no change in March. Meanwhile, betting markets have shifted sharply on the next Fed chair, with Kevin Warsh overtaking Kevin Hassett as the leading candidate.

BTC ETPs saw renewed outflows, with 4,513 BTC redeemed over the week and a single-day outflow of roughly 6,500 BTC on December 15. However, as quarter-end approaches and BTC has materially underperformed other assets, portfolio rebalancing could support inflows into late December and early January, echoing a similar dynamic observed in late September to early October (Figure 1).

Derivatives still hands off

CME activity remains subdued, with traders largely sidelined as BTC futures open interest sits near yearly lows at 124k BTC and futures premiums for both BTC and ETH remain compressed around 6%. The lack of engagement reflects weak relative BTC performance versus equities and limited appetite to add exposure into year-end. Perpetuals mirror this passivity, with open interest broadly stable and only a minor uptick late in the week. Funding rates hovered near 0% and briefly normalized as discounts narrowed, reinforcing the absence of a clear short-term directional bias.

A 2-year long on-chain distribution

BTC supply held in UTXOs older than two years has been in a persistent two-year decline, with roughly 1.6 million BTC reactivated, signaling sustained selling from long-term holders. While part of this reflects structural factors such as the Grayscale ETF conversion and wallet consolidations, the scale of the decline points to meaningful on-chain sales rather than purely technical movements.

Revived supply data reinforces this view, with 2024 and 2025 ranking as the second- and third-largest long-term supply reactivations in Bitcoin's history, behind only 2017. Unlike prior cycles, these reactivations are not driven by altcoin trading or protocol incentives, but by deep liquidity from U.S. ETFs and treasury demand, enabling O6 holders to realize profits at six-digit prices and materially reducing ownership concentration.

Looking ahead, the sell-side pressure from long-term holders appears closer to saturation, with around 20% of BTC supply reactivated over the past two years. While historical cycles show supply reactivation peaking near market tops, the expectation is for OG selling to subside in 2026, allowing 2-year supply to rise as BTC transitions toward net buy-side demand amid deeper institutional integration.

Digital Assets

Signals from the market

Vetle Lunde

Head of Research vetle@k33.com +47 416 07 190

By the numbers

BTCUSD \$87,498	ETHUSD \$2,960
7d: -3%	7d: -5%
30d: -9%	30d: -7%

Open Interest (BTC futures and perps) \$41.9bn

479,000 BTC (2.3% last seven days)

Average daily BTC spot volume \$3.2bn (-12% last seven days)

BTC 90-d correlations (Weekly change included)

ETH	Gold	S&P 500	DXY
0.87 (0.00)	0.15 (0.01)	0.51 (0.01)	-0.18 (0.04)

Percentage of Total Market Capitalization

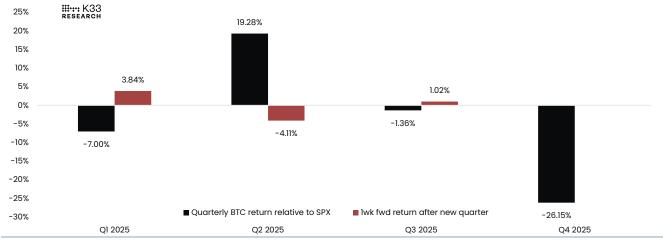
One week change in percentage points

BTC	ETH	Stablecoins	Rest
58.7% (0.2%)	12.1% (-0.2%)	9.1% (0.6%)	20.1% (-0.6%)

Last week of top 50 by market cap

		ricker	/a	YID
	Gainers			
	1	XMR	14%	115%
	2	MNT	12%	0%
	3	TRX	-1%	10%
Losers				
	1	ADA	-14%	-55%
	2	HBAR	-14%	-57%
	3	TAO	-14%	-46%

Figure 1: Potential Rebalancing Effects? Early New Quarter Reaction in BTC tend to move in the opposite direction of the past quarter.



Source: K33



Spot Market

Continued docile market activity

Crypto market activity remains subdued, with BTC experiencing a week of modest trading volumes, stagnant open interest, and mild ETF outflows. BTC has declined 3% over the past week following four consecutive down days, leaving BTC to trade at 2-week lows. The post-FOMC reaction marked the week's local high, as risk assets briefly rallied after the Fed delivered a 25bps rate cut.

While the rate cut provided some short-term relief, accompanying commentary signaling a renewed "wait-and-see" stance from the Fed dampened broader market sentiment. Futures markets are currently pricing a 73% probability of unchanged rates at the January 28 FOMC meeting, alongside a 47.6% probability of no change at the March 18 meeting.

Another notable Fed-related development emerged this week as betting market probabilities for the next Fed chair shifted sharply. Odds favoring Kevin Hassett have fallen from 85% on December 3 to 41% today, while Kevin Warsh has become the leading candidate with a 47% implied probability.

Finally, this week represents the last full trading week of the year, with liquidity expected to thin further as multiple banking holidays approach over the holiday season.

Figure 2: Last week's Performance BTC and ETH



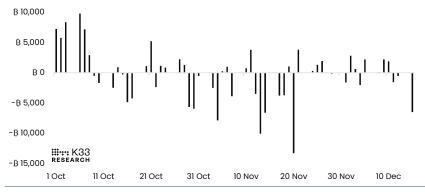
Source: Tradingview, (Coinbase, Binance)

Weekly outflows returns. Rebalancing effects to hit in late December?

BTC ETPs recorded net weekly outflows of 4,513 BTC over the past week, driven primarily by redemptions from U.S. futures-based ETFs and substantial outflows from U.S. spot ETFs on Monday, December 15.

Net daily outflows on Monday alone reached approximately 6,500 BTC. As the quarter draws to a close and BTC continues to materially underperform other asset classes, attention turns to potential portfolio rebalancing activity. Fund managers with predetermined BTC allocation targets may adjust weights into year-end, potentially resulting in excess inflows during the final trading days of the year and into early January. A similar flow dynamic was observed between late September and early October.

Figure 3: Daily Global Net BTC ETP Flows



Source: K33 Research

Headlines last week

Brazil's largest bank recommends a 3% Bitcoin portfolio allocation: 'real diversification'

<u>JPMorgan launches tokenized money-market</u> <u>fund on Ethereum</u>

FCA finds crypto ownership fell to 8% in the UK, despite high public awareness

Michael Saylor's Strategy acquires 10,645 bitcoin for \$980 million, bringing total treasury holdings to 671,268 BTC

UK aims to regulate crypto like financial products by 2027

Ripple, Circle and BitGo secure conditional approval for US banking charters

Calendar

Tuesday, Dec 16

U.S. Unemployment Rate (Exp: 4.4%)

Thursday, Dec 18

- BoE Interest Rate Decision (Exp: 25bps cut)
- ECB Interest Rate Decision (Exp: unchanged)

Friday, Dec 19

U.S. Core PCE

Wednesday, Dec 24

 Christmas. Banking Holiday or early market close across the western hemisphere.

Thursday, Dec 25

Christmas. Banking Holiday.

Friday, Dec 26

Christmas. Banking Holiday.

Wednesday, Dec 31

New Years Eve. Banking Holiday or early market close in several big economies.

Thursday, Jan 1

New Years Day. Banking Holiday

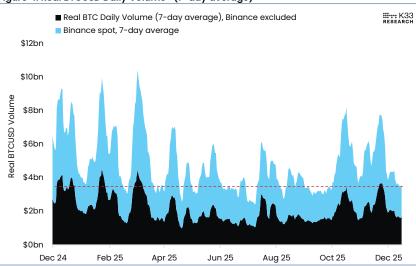


Spot Market

Trading volumes approaching the Q3 doldrums

Weekly spot volumes fell 12% over the past week, with average daily spot volumes coming in at \$3.2bn since last Tuesday. The declining volumes reflect passivism, an observation present across most verticals of the crypto market.

Figure 4: Real BTCUSD Daily Volume* (7-day average)

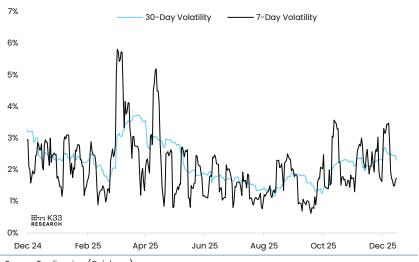


Source: Tradingview, Bitcoinity *Includes Bitwise 10 exchanges

Declining volatility

After reaching three-week highs after the FOMC, prices have steadily grinded lower, resulting in BTC's lowest 7-day volatility since October.

Figure 5: BTC-USD Volatility



Source: Tradingview (Coinbase)

Fear and Greed

Now: 11 (Extreme Fear) Last week: 22 (Extreme Fear) Last month: 10 (Extreme Fear)



Derivatives CME, Futures and ETFs

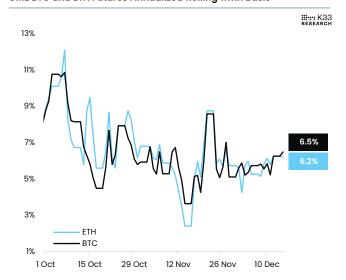
CME traders remain idle and passive, OI stays near yearly lows, and futures premiums remain compressed.

The past week has offered no notable developments on CME. Open interest stays modest, with OI sitting at 124,000 BTC. Traders appear uninterested in adding BTC exposure amid continued underperformance compared to equities and the year coming to a close.

Annualized futures premiums for BTC and ETH have stayed stable at 6% throughout the week, illuminating the current passive CME environment.

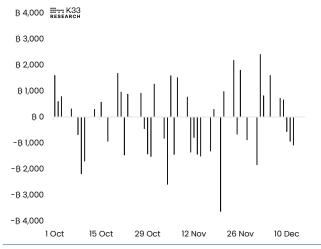
The recent sluggish BTC performance has led to new rounds of outflows from leveraged BTC ETFs, with BITX exposure declining toward the monthly open below 35k BTC.

Figure 6: Stagnant CME premiums
CME BTC and ETH Futures Annualized Rolling 1mth Basis



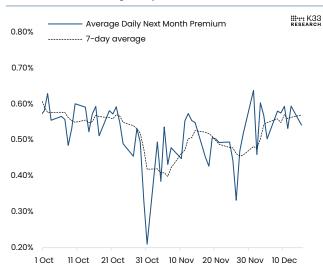
Source: Tradingview

Figure 8: Back-to-back outflows Futures-based ETFs: Net Flow – BTC Equivalent



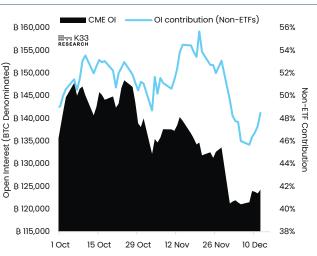
Source: ProShares, Valkyrie, VanEck, Bitwise, CSOP, Samsung, VolatilityShares

Figure 7: Next month premium stabilizes
CME BTC Futures: Average Daily Next Month Premium



Source: Tradingview

Figure 9: CME remains hands off CME BTC Futures: Open Interest



Source: CME, ProShares, Valkyrie, VanEck, Bitwise, CSOP, Samsung, VolatilityShares



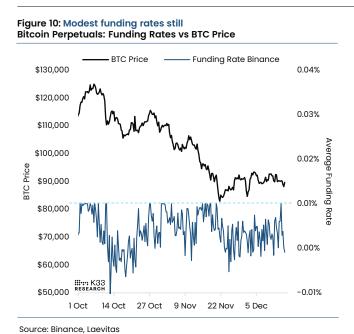
Derivatives

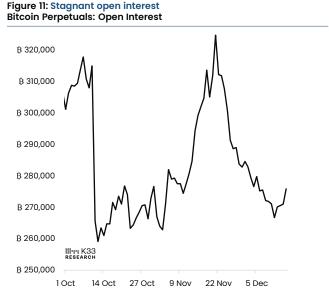
Perpetual Swaps and Options

Perpetual swaps

Perps mirror CME in its idle development over the past week. Open interest has remained stable throughout the week, with a slight increase on Sunday. Funding rates spent most of the week hovering close to 0% but revisited neutral levels during the Sunday morning session, as perp discounts narrowed.

All in all, the recent passive activity in perps and on CME lately leaves little room to establish a directional short-term bias.





Options

The options market remains heavily defensive with skews trending higher throughout the week as puts trade at continued high premiums relative to calls.

Source: Laevitas



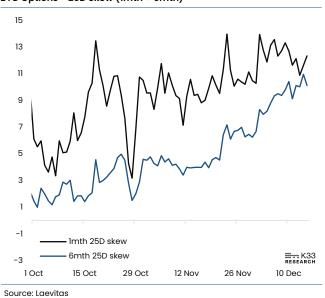
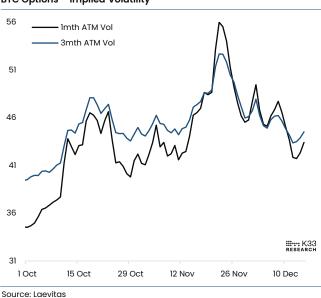


Figure 13: IVs stay elevated BTC Options - Implied Volatility





A deeper dive

Distribution, distribution, distribution

The next two pages represent a snippet of our 2025, year in Review report, which will be published on December 23.

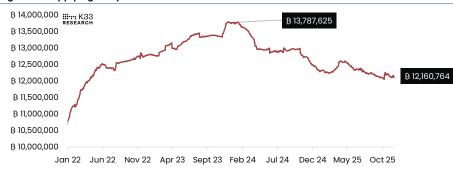
The amount of BTC in unspent transaction outputs (UTXOs) older than 2 years has been on a 2-year-long downtrend. This represents on-chain evidence of substantial, sustained selling pressure from long-term holders. Supply aged 2 years or more has declined by 1.6 million BTC over the last two years.

A portion of the early decline is attributable to Grayscale's BTC trust moving from closed-ended to open-ended upon the ETF conversion. Furthermore, reactivated supply may also be motivated by asset consolidation or as a safety measure to move coins to more secure address standards, such as the operation conducted by <u>Coinbase on November 22</u>.

Nonetheless, in light of the enormous capital absorption from ETPs and treasuries in 2025, it's clear that a significant portion of the reactivated supply is associated with significant on-chain sales.

Evidence of large OG selling is evident through on-chain patterns. In July, Galaxy concluded an 80,000 BTC OTC sale, a whale sold 24,000 BTC for ETH in August, and a whale sold 11,000 BTC between October and November. Evidence of other whales selling is plentiful, and this has likely been the key factor to BTC's relative weakness in 2025.

Figure 14: Supply Aged 2 years or more



Source: CoinMetrics

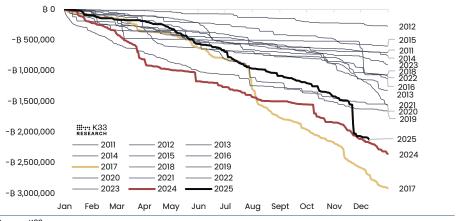
Sales from withir

Revived supply reflects a different lens for assessing on-chain selling from long-term holders. In a passive environment, the 2-year supply should rise, as UTXOs younger than 2 years age into the 2-year bracket. We therefore cover revived supply, i.e., the cumulative yearly net negative change of 2-year supply.

The data is remarkable. 2024 and 2025 represent the second and third-largest long-term held supply reactivations in BTC's history, surpassed only by 2017. The active environment in 2017 has several explanations. Trading altacins was done through BTC pairs. Participating in ICOs was done through BTC. The Blockchain War offered substantial incentives to reactivate supply in order to receive Bitcoin Cash.

2024 and 2025, on the other hand, have not seen similar factors at play, and we interpret the reactivation of clear evidence of substantial amounts of BTC changing hands, leading to new reference prices of BTC for many holders and significantly lower ownership concentration.

Figure 15: Total amount of BTC aged 2 years or more revived per year



Source: K33



A deeper dive

Distribution, distribution

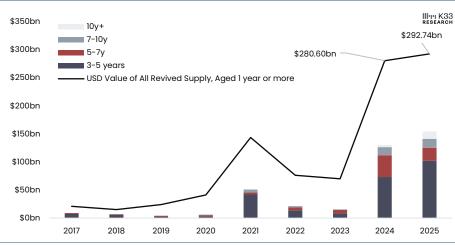
Nearly \$300bn worth of BTC supply has been revived in 2025. Deeper market liquidity following the launch of U.S. BTC ETFs and the extreme absorption from treasury firms has left ample room for OG holders to realize profits at six-digit BTC prices.

Substantial returns and BTC evolving from a fringe, anti-establishment asset to one held, marketed, and facilitated by the establishment may be the root causes behind the considerable on-chain sales. This trend should naturally subside at lower BTC prices. Furthermore, with 20% of BTC's supply reactivated over the past two years, we expect on-chain sell-side pressure to approach saturation.

2026 prediction:

Bitcoin's 2-year supply will end its downtrend and close 2026 above its current level of 12.16m BTC. OG selling pressure will subside, and BTC will see net buy-side demand.

Figure 16: USD Value of Revived BTC Supply



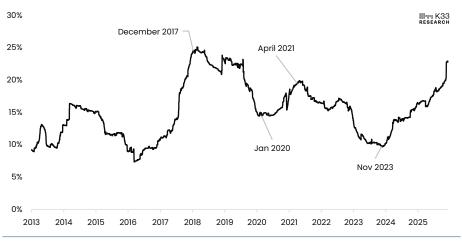
Source: Checkonchain

Reactivated supply peaks typically occurs during peaks, not bottoms

While we expect more supply to be held in 2026, one concerning trend from past cycles is clear: the reactivation peaks of circulating supply typically tend to coincide with global market peaks, rather than global market bottoms. On the contrary, idle supply has typically been a sign of a brewing bull market.

In next week's year in review, we will provide our view of why we believe this time is different. While we don't want to spill all the beans, we point to the huge divergence between headlines and price action in BTC in 2025. The gates are opening for BTC allocations through massive advisory firms, and potentially soon through 401(k) accounts. Alongside this, clear guidance and regulation following the eventual passage of the Clarity Act is expected to deliver a flurry of material banking initiatives, further integrating BTC into mainstream finance.

Figure 17: 2y supply, or older, being reactivated over the past 2 years as a % of total supply

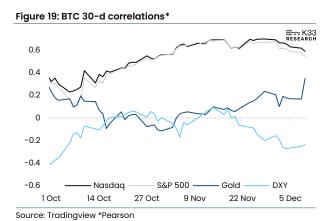


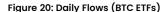
Source: K33

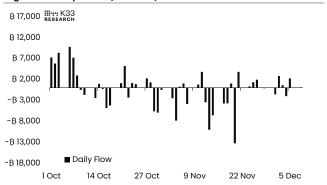


Market Related Charts

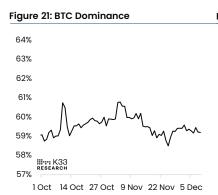
Data updated Tuesday, December 16, 2025

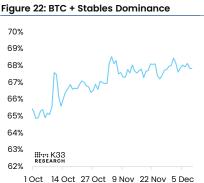


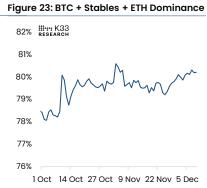




Source: K33 Research

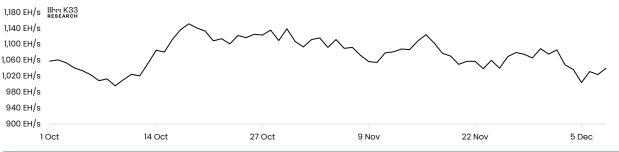






Source: Tradingview

Figure 24: Bitcoin Hashrate (7-day average)



Source: Coinmetrics

Figure 25: Active Addresses (7-day average)



Source: Coinmetrics



Why we choose the charts we do

Heavy Bitcoin focus

The crypto market is heavily correlated. Movements in BTC tend to be reflected by sharper moves in altcoins. In many ways, BTC is the lower beta exposure alternative to crypto and the definite market leader. However, don't worry – whenever we find a topic, a coin, or some tendencies worth drilling deeper into – we will. This report will get you the most important information from the crypto market.

Market by the numbers

We highlight the most critical market data by numbers in this table. A glance at these data should be sufficient to assess the state of the market superficially.

Open interest is an essential underlying market driver. Crypto tends to be very volatile, and leverage exacerbates volatility. We have had frequent massive liquidation cascades throughout the last years, mostly towards the downside, but we've periodically seen short squeezes emerge. During the March 12th collapse in 2020, cascading liquidations were the root cause of the absolute carnage in the market. You should always pay close attention to open interest if you aim to be an active participant in the market. Our derivatives pages will contribute to delivering you a directional assessment of the data.

The spot volume is an efficient way to gain an overview of the general activity in the market.

Correlations have been growingly important in the last year due to the complicated macro picture post-COVID. It's important to be aware of BTC's, for now, close relationship with U.S. equities and its inverse relationship with the dollar strength index (DXY). However, the current correlation regime is unlikely to be as strong as today forever. Through awareness of correlation trends, you may be able to execute trading strategies before the market catches up to correlations breaking.

The simplified market cap distribution box allows you to assess the general risk sentiment in the market quickly. In general, the "Rest" category may be used as a proxy for risk aversion in the market. Currently, BTC, ETH, and stablecoins represent nearly 75% of the crypto market, which is telling for a risk-averse crypto market.

The two charts on the first page illustrate the two most interesting topics covered in our market analysis. A more thorough examination of these charts is found in the last section of the report, where we dive deeper into two topics that currently seem to drive the market.

Spot Primer

Top 3 coins

We explore the last week's performance of the top 3 cryptocurrencies to asses deviations and opportunities within the safer bracket of digital assets. Currently, BTC, ETH, and BNB represent the three largest. Both ETH and BNB have a thriving DeFi user base and unique drivers of price and demand, which could generate temporary or long-term correlations within crypto to decline as trading opportunities arise or spread trade opportunities.

Indexes

We use the Bletchley Indexes to gauge and assess market activity across BTC and altcoins grouped by market cap size. Documentation for the index weights may be found at through this link.

Volume

The BTC spot volume is an efficient way to communicate the general activity in the market. It may help you identify frantic market bottoms or peaks. Our volume data is based on Bitwise's 10. In 2019, Bitwise explored wash-trading and market manipulation in the spot market, leading to this index. In general, our volume assessment likely underestimates the volume to some degree, as legitimate volumes in other exchanges are excluded. However, the volume estimate is a good proxy for general activity in the market.

We differentiate Binance's volume from the remainder of the exchanges due to Binance's removal of trading fees this summer. We believe a substantial amount of the recent trading volume on Binance is related to "inorganic" trades, i.e., high-volume trading strategies that were not economically feasible prior to fees being removed. Of course, removing fees has likely also contributed to moving traders from alternative exchanges over to Binance.

Volatility

Volatility is a topic well worth paying attention to. In specific periods, such as the current – where BTC trails in a shallow volatility regime, new trading opportunities emerge related to options and straddles. This chart is handy to pay close attention to, as it may help you enhance your ability to act on opportunities in the market when activity is low and options are becoming cheap.



Derivatives primer

Why should you care about derivatives flows?

The crypto market is periodically extremely volatile, and activity in derivatives enhances the market reactions. Crypto derivatives are at the cutting edge of financial innovation, the offshore market is periodically wild, and animal spirits tend to take over. Derivatives more or less always carry a clue of overheating in the market or full-on depression. It's highly actionable and worthwhile understanding if you aim to be an active crypto market participant.

The market is also clearly divided. There are two branches worth monitoring – institutional and offshore. Both components periodically lead the market, and assessing sentiment and general risk aversion in these two provides you the tools to understand dangers or opportunities on the horizon.

CME - The importance of a cash-based futures market in BTC

Institutional traders strongly impact BTCs price discovery, as identified both by <u>Bitwise</u> and by <u>us.</u> However, many institutional traders have limitations regarding access to crypto markets or even related to holding BTC. CME provides the most accessible, most efficient access to crypto markets for those traders. CME also has the added caveat of a familiar clearinghouse structure, leading to fewer barriers to entry for crypto exposure for institutional traders.

We assess institutional sentiment by monitoring the futures basis and contract spreads between the front month (upcoming expiry) and the near month (next expiry). In general, a positive and high futures basis on CME indicates a positive sentiment, whereas a negative basis indicates the opposite. We include Binance's basis to compare offshore and CME premiums to highlight different sentiments between institutional traders and retail. While Binance have institutional traders, they also enable easy access to derivatives for retail, which may provide useful information ahead of periods of distress.

We monitor aggregated ProShares flows, meaning inflows and outflows to both ProShares' long BTC ETF (BITO) and short BTC ETF (BITI) on the CME page. In the chart, inflows to BITI will be calculated as a negative flow impact, while inflows to BITO will be calculated as a positive flow impact. The opposite is true for outflows from the ETFs mentioned above. ProShares are by far the largest U.S. BTC ETF provider, holding a substantial amount of BTC contracts on CME. Retail and institutions have access to BITO and BITI. Periods of strong aggregated flows to BITO may substantially impact CME's basis. An interesting scenario that has yet to emerge would be one scenario with neutral flows but a rising CME basis. In this scenario, one can assume that certain institutional players actively add long BTC exposure.

We further monitor CME's open interest and the contribution of ETFs to the open interest to assess the degree of activity in CME futures.

Perpetual swaps

Perpetual swaps are the most frequently traded derivative in crypto markets. It's an everlasting futures-like instrument, utilizing funding rates to secure that perp prices align with spot markets. There are certain intricate nuances to funding rates, for instance, varying funding intervals and varying neutral funding rate thresholds. In normal conditions, Binance and Bybit's funding rate sits at 0.01% every eight hours – meaning longs pay shorts a fee. This structural element in crypto derivatives may lead to a natural structural contango. They may be utilized for cash and carry strategies (albeit in a non-arbitrage fashion, assuming that funding rates will average around neutral terrain).

During roaring markets, funding rates tend to be pushed towards extreme highs due to enormous demand to go long, leading perps to trade at a substantial premium over spot. By assessing funding rates, you may be able to act on market moves and liquidation cascades prior to a liquidation cascade. Similarly, funding rates may sit in extremely negative terrain during bear markets, foreshadowing potential short squeezes.

We monitor open interest in perps to better gauge the risks of soaring volatility and market instability. We monitor open interest in notional value, i.e., in BTC, to have a clear eye on the relative leverage in the market. Currently, the open interest sits at all-time highs in notional value. This is a dangerous trend, and we view it as likely that this will generate a dramatic reaction when BTC breaks out of its prolonged consolidation. Cascading liquidations may occur in both directions, so the open interest is best used as a proxy for how volatile a spike may be.

Options

We monitor two options charts. The 25-delta skew, which is a metric comparing the implied volatility of a 25-delta put option vs. a 25-delta call option, normalized by at the money implied volatility. Counter-intuitively, when the 25d skew is positive, traders are paying more for puts than calls and may be assessed as cautious/bearish behavior in the options market. The opposite is true when skews are negative. Skews trending in a certain direction may also elaborate on repositioning from options traders and is worth paying attention to. We show the 1-month skew for contracts expiring by the end of the month, and the 6-month skew, for contracts expiring half a year from now to assess differences in positioning across maturities.

The implied volatility illustrates options traders' forward-looking assessment of volatility – or the options pricing. Implied vols in BTC are rarely trailing below 60 for long, and this has previously been a good time to enter straddle strategies.



Disclaimer

- Ahead of the curve (the "Report") by K33 Research is a report focusing on cryptocurrencies, open blockchains and fintech. Information published in the Report aims to spread knowledge and summarise developments in the cryptocurrency market.
- The information contained in this Report, and any information linked through the items contained herein, is for informational purposes only and is not intended to provide sufficient information to form the basis for an investment decision nor the formation of an investment strategy.
- This Report shall not constitute and should not be construed as financial advice, a recommendation for entering into financial transactions/investments, or investment advice, or as a recommendation to engage in investment transactions. You should seek additional information regarding the merits and risks of investing in any cryptocurrency or digital asset before deciding to purchase or sell any such instruments.
- Cryptocurrencies and digital assets are speculative and highly volatile, can become illiquid at any time, and are for investors with a high risk tolerance. Investors in digital assets could lose the entire value of their investment
- Information contained within the Report is based on sources considered to be reliable, but is not guaranteed to be accurate or complete. Any opinions or estimates expressed herein reflect a judgment made as of the date of publication and are subject to change without notice.
- The information contained in this Report may include or incorporate by reference forward-looking statements, which would include any statements that are not statements of historical fact. No representations or warranties are made as to the accuracy of these forward-looking statements. Any data, charts or analysis herein should not be taken as an indication or guarantee of any future
- Neither Research nor K33 Operations AS provides tax, legal, investment, or accounting advice and this report should not be considered as such. This Report is not intended to provide, and should not be relied on for, tax, legal, investment or accounting advice. Tax laws and regulations are complex and subject to change. To understand the risks you are exposed to, we recommend that you perform your own analysis and seek advice from an independent and approved financial advisor, accountant and lawyer before deciding to take action.
- Neither K33 Research nor K33 Operations AS will have any liability whatsoever for any expenses, losses (both direct and indirect) or damages arising from, or in connection with, the use of information in this Report.
- The contents of this Report unless otherwise stated are the property of (and all copyright shall belong to) K33 Research and K33 Operations AS. You are prohibited from duplicating, abbreviating, distributing, replicating or circulating this Report or any part of it (including the text, any graphs, data or pictures contained within it) in any form without the prior written consent of K33 Research or K33.
- By accessing this Report you confirm you understand and are bound by the terms above.
- K33 Research is a department within K33 Operations AS, org. 994 608 673, and can be contacted at research@k33com or bendik@k33.com