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# Year in Review

## 2022

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# 2022 – A year of expensive lessons

This report is both a backward-looking review and a forward-looking assessment of what's to come.

2022 has been a yearlong hangover. 2020-2021 was a zero-interest rate policy party, rewarding the most suave party attendants for extreme risk-taking. Combine easy money, extreme returns, and nascent explorative visionary tech with intricacies understood by few, and you have a proper breeding ground for charlatans and fraudsters. During the two-year-long extravaganza of 2020 and 2021, many were enchanted by the suave. This caused an unsustainable build-up of credit towards the "bravest" risk-takers.

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Consistent interest rate hikes and quantitative tightening in 2022 granted us a devastating hangover. Fortune did not favor the brave, and we entered a consistent doom cycle of default, fraud, and contagion. A financial crisis with seemingly no end that still ravages our industry. In 2022, the naked swimmers were exposed and bad apples got eliminated. This is promising through long-term lenses, while ever so painful in the short term.

While other crypto analysts point towards the chaotic year of 2022 being caused by financial markets and not crypto tech, arguing that BTC and other chains still produce blocks, we would like to backtrack on this slightly.

Yes, the blockchains work as intended – and it is fantastic! BUT, crypto is pure open finance. A borderless battleground for testing in production. Fast and slick intermediary-free transactions toppled with a prolonged buoyancy trend. This is a breeding ground for risk-taking.

While the blockchain is transparent, a lot of the most influential activity originates off-chain, through backdoor agreements, on exchanges, and in the largely unregulated global markets. This is primarily possible due to crypto being purely borderless and will likely cause headaches and hangovers also in the future. This is the first financial crisis in crypto, not the last, and new hard-earned lessons will be learned in the distant future.

We are not seeking to sugarcoat the current state of crypto but want to balance what's overwhelmingly been a negative year for the industry by focusing on various positive tendencies. In 2022, BTC censored no one and represented an alternative for sanctioned individuals, while censorship-resistant attributes of bitcoin and crypto regained relevancy following the tragic war in Ukraine. Ethereum finally transitioned from Proof of Work to Proof of Stake, and the industry got rid of ill-intentioned charlatans.

Over the last year, we have relearned an old bitcoin slogan – **trust no one**.

Intermediaries, in general, and lenders and exchanges, in particular, represent risks through venues of trust. This year's key lesson from active market participants should be the following: your funds in someone else's custody is someone else's liability, and their intentions could be harmful. While there are good arguments for storing funds at exchanges, traders should strive to avoid concentrating risks on one venue.

We expect the market to calm down in 2023, with declining volumes and falling volatility. Overall, we expect interest and headlines related to crypto to be fewer and the market to be less hectic in general. This will be a year to accumulate and build exposure. It will be a year for the patient, and we do not anticipate prices nearing former all-time highs in 2023. We believe BTC and ETH will increase their relative strength in the market and that altcoin returns will be subdued for most of the year.

To condense our market view into a stupid analogy (where clothes=crypto): In 2022, we pushed our clothes into the washing machine on a 3-hour program. Twenty minutes remain of this washing process, and then the clothes will have to be placed in the tumble dryer so we eventually can return to the streets and flaneur in style.

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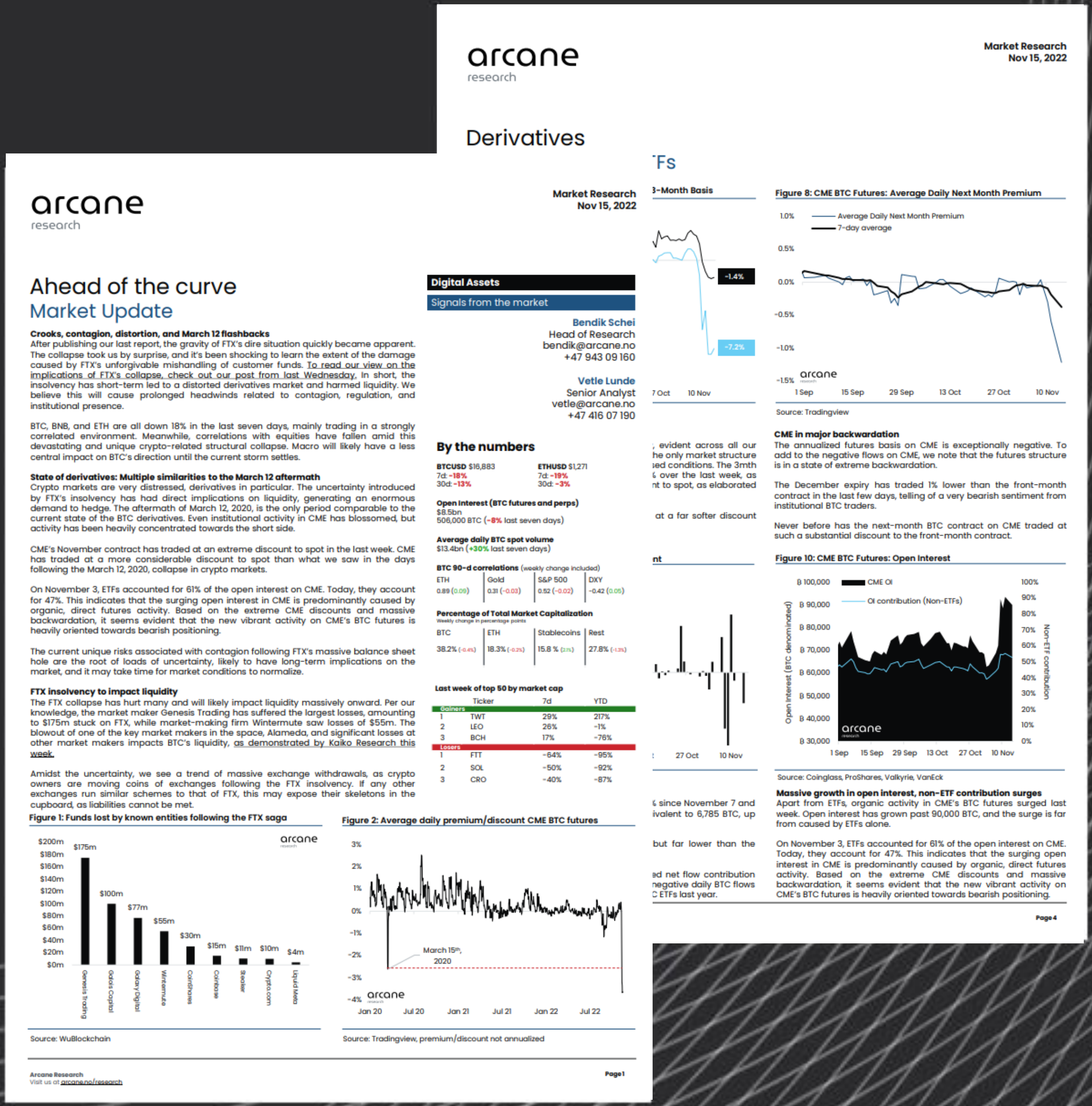
# **Ahead** of the curve

**Our weekly digital assets market report. Delivered directly to your inbox.**



# THE HEADLINES THAT DEFINED 2022

## Q1 Narratives
### Macro, war, exploits and Luna

| | |
|---|---|
| 14/01/2022 | FTX Establishes $2B Venture Fund |
| 20/01/2022 | Andreessen Horowitz seeks $4.5bn for new crypto investments |
| 31/01/2022 | FTX valued at $32bn as blue-chip investors pile into crypto groups |
| 03/02/2022 | Jump Trading Backstops Wormhole's $320M Exploit Loss |
| 08/02/2022 | US Officials Seize $3.6B in Bitcoin From 2016 Bitfinex Hack |
| 10/02/2022 | Crypto exchange Binance to invest $200 mln in U.S. media firm Forbes |
| 15/02/2022 | Accused Bitfinex Bitcoin Launderer Heather 'Razzlekhan' Morgan Released on Bail |
| 17/02/2022 | Sequoia Capital Is Looking to Invest Up to $600 Million in Crypto Startup Tokens |
| 22/02/2022 | Luna Foundation Guard raises $1 billion to form bitcoin reserve for UST stablecoin |
| 03/03/2022 | Swiss City of Lugano to Make Bitcoin and Tether 'De Facto' Legal Tender |
| 07/03/2022 | Crypto Exchange FTX Announces Expansion Into Europe |
| 09/03/2022 | Ukraine Has Received Close to $100M in Crypto Donations |
| 16/03/2022 | FED approves first interest rate hike in more than 3 years |
| 29/03/2022 | Luna's BTC reserves reach 27,785 BTC, and they are far from done acquiring bitcoin |
| 29/03/2022 | Axie Infinity's Ronin Network Suffers $625M Exploit |

## Q2 Narratives
### Macro, Luna collapse and contagion

| | |
|---|---|
| 04/04/2022 | BitMEX lays off a quarter of staff after failed acquisition |
| 12/04/2022 | Luna's reserves reach 39,898 BTC |
| 14/04/2022 | US Tie North Korea's 'Lazarus' Hackers to $625M Crypto Theft |
| 28/04/2022 | Central African Republic becomes second country to adopt bitcoin as legal tender |
| 28/04/2022 | Goldman Sachs Makes Its First Bitcoin-Backed Loan |
| 04/05/2022 | Fed raises rates by half a percentage point — the biggest hike in two decades |
| 05/05/2022 | LFG's increases holdings to more than 80,000 bitcoins |
| 10/05/2022 | UST Peg Slips Below $0.70 Despite Loan From Bitcoin Reserves |
| 11/05/2022 | Terra's LUNA Drops to Almost $1 After 90% Weekly Plunge |
| 16/05/2022 | Luna Foundation Sold 80,000 BTC Amid UST Crash |
| 13/06/2022 | Crypto lender Celsius pauses withdrawals due to 'extreme market conditions |
| 15/06/2022 | Crypto fund Three Arrows Capital faces potential insolvency after lender liquidation |
| 15/06/2022 | Fed rolls out biggest rate hike since 1994 |
| 20/06/2022 | Babel Finance Reaches Debt Agreement With Counterparties After Withdrawal Freeze |
| 21/06/2022 | Crypto Exchange FTX in Talks to Acquire Stake in BlockFi |
| 30/06/2022 | Worst quarter since 2011 for bitcoin |

## Q3 Narratives
### Ethereum merge and contagion

| | |
|---|---|
| 01/07/2022 | FTX agrees deal with option to buy BlockFi for up to $240mn |
| 05/07/2022 | Crypto Lender Vauld Suspends Trading After $198 Million In Customer Withdrawals |
| 11/07/2022 | Celsius Hires New Restructuring Lawyers Amid Debt Repayments |
| 14/07/2022 | Celsius Network Files for Chapter 11 Bankruptcy |
| 20/07/2022 | Tesla Sold $936M Worth of Bitcoin in Second Quarter |
| 21/07/2022 | 236,237 BTC sold by known institutions in the last two months |
| 27/07/2022 | Fed hikes interest rates by 0.75 percentage point |
| 02/08/2022 | Ethereum 2.0 is just around the corner |
| 05/08/2022 | Justin Sun Backs Ethereum Hard Fork as Merge Approaches |
| 08/08/2022 | Crypto mixing service Tornado Cash blacklisted by Treasury Department for alleged use in laundering |
| 17/08/2022 | Crypto Broker Genesis Cutting 20% of Workforce as CEO Michael Moro Exits |
| 07/09/2022 | New yearly high for ETH vs BTC |
| 13/09/2022 | Schwab, Citadel Securities, Fidelity, Other Wall Street Firms Start Crypto Exchange EDX Markets |
| 15/09/2022 | Ethereum activates The Merge as it shifts to proof of stake |
| 20/09/2022 | Crypto Market Maker Wintermute Hacked for $160M |
| 21/09/2022 | Fed hikes interest rates by 0.75 percentage point |
| 27/09/2022 | FTX Wins Bankrupt Firm Voyager's Assets |

## Q4 Narratives
### FTX and contagion

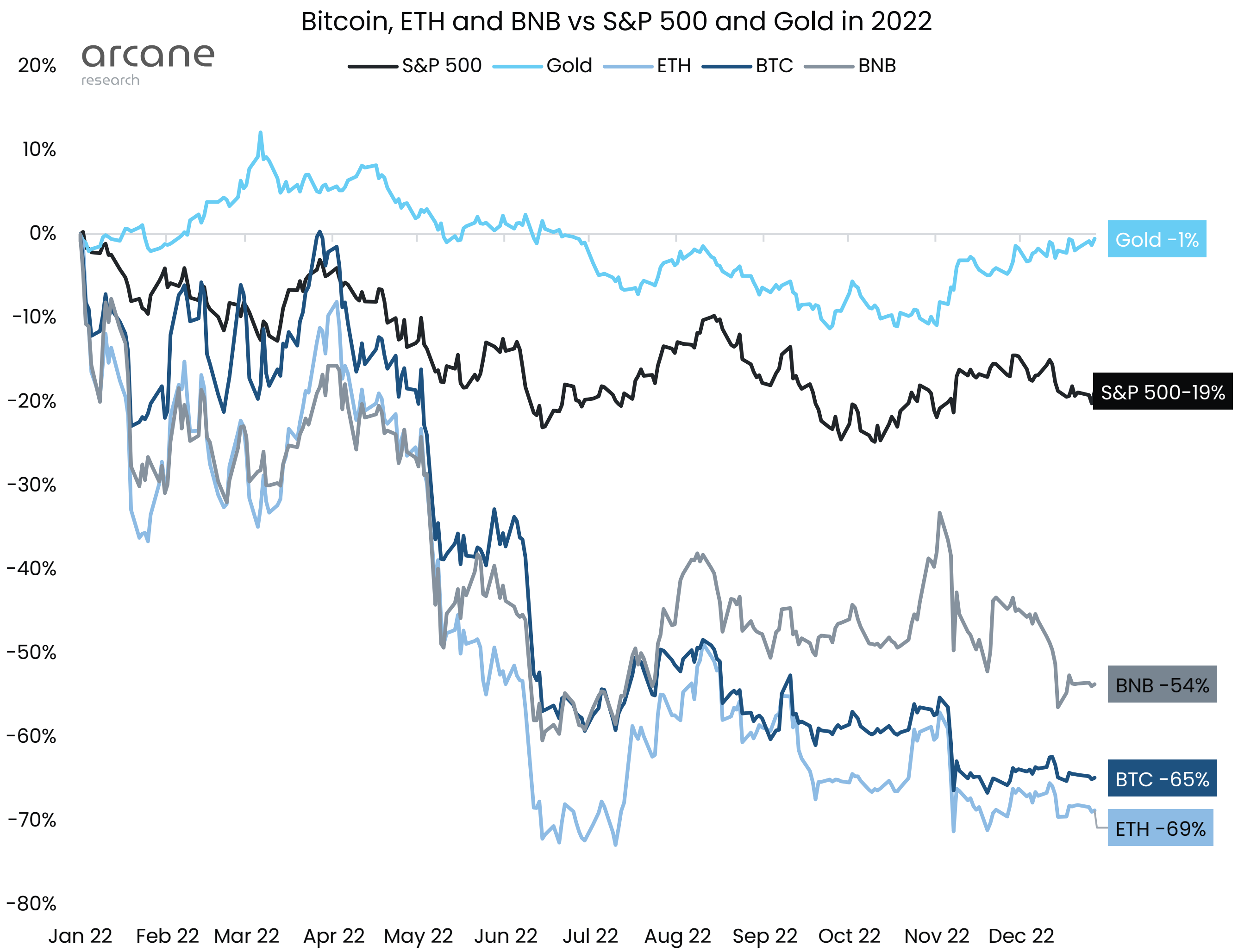
| | |
|---|---|
| 11/10/2022 | Google Partners With Coinbase to Accept Crypto Payments for Cloud Services |
| 11/10/2022 | Crypto Exchange FTX US Under Investigation by Texas Regulator Over Securities Allegations |
| 02/11/2022 | Alameda had $14.6 billion of assets as of June 30, according to a private document CoinDesk reviewed |
| 06/11/2022 | CZ publicly announced Binance's intention to sell its FTT stake, |
| 07/11/2022 | FTX weekly stablecoin outflows surge as Binance piles on the pressure |
| 08/11/2022 | Nomura Unit Preparing To Trade Crypto, Boost Staff by 45% |
| 08/11/2022 | FTX Exchange Halts All Crypto Withdrawals |
| 08/11/2022 | Binance signed a Letter of Intent (LOI) to potentially buy rival cryptocurrency exchange FTX |
| 09/11/2022 | Binance backs out of FTX rescue |
| 10/11/2022 | DCG Gives $140M Infusion to Genesis |
| 12/11/2022 | FTX held less than $1bn in liquid assets against $9bn in liabilities |
| 15/11/2022 | Bankrupt crypto exchange FTX says it may have more than a million creditors |
| 17/11/2022 | Genesis sought emergency loan of $1 billion |
| 18/11/2022 | Man Group Readies Crypto Hedge Fund Despite FTX Chaos |
| 21/11/2022 | BTC reaches yearly low of $15,400 |
| 28/11/2022 | BlockFi files for Chapter 11 |
| 04/12/2022 | Genesis Creditor Groups' Loans Amount to $1.8B and Counting |
| 06/12/2022 | Goldman Sachs on hunt for bargain crypto firms after FTX fiasco |
| 13/12/2022 | FTX Founder Sam Bankman-Fried Arrested in the Bahamas |
| 19/12/2022 | If Grayscale's Bitcoin ETF Dreams Fail, Firm May Try a Tender Offer |

# Second worst YTD return for BTC since launch

**2022 is done and dusted, and it has been a painful ride.**

- BTC ends the year down 65%, seeing its second-worst yearly performance since 2011, only beaten by 2018's-73%.
- In this year's high inflation environment, physical gold (-1% YTD) has vastly outperformed bitcoin, the digital gold. BTC's digital gold narrative was premature, but the narrative delivered during the inflation build up of 2021.
- Few cryptocurrencies have been exempt from the violent destruction of value this year, and there are few apparent winners this year. We'll later make a case for stablecoins and Binance being the winners of 2022.
- In essence, the crypto winter of 2022 was fueled by tightening macro conditions and vastly exacerbated by crypto-specific leverage and awful risk management by core market participants.
- In conclusion, the honest market participant is the loser of 2022. Charlatans have been exposed, and it's clear who swam naked. Contagion will likely play out in early 2023 as well, but we view it as likely that the majority of 2023 will be less frantic and borderline uneventful compared to the last three years.

**2023 prediction:** Bitcoin will trade in a predominantly flat range this year, but close 2023 at a higher price than the yearly open.

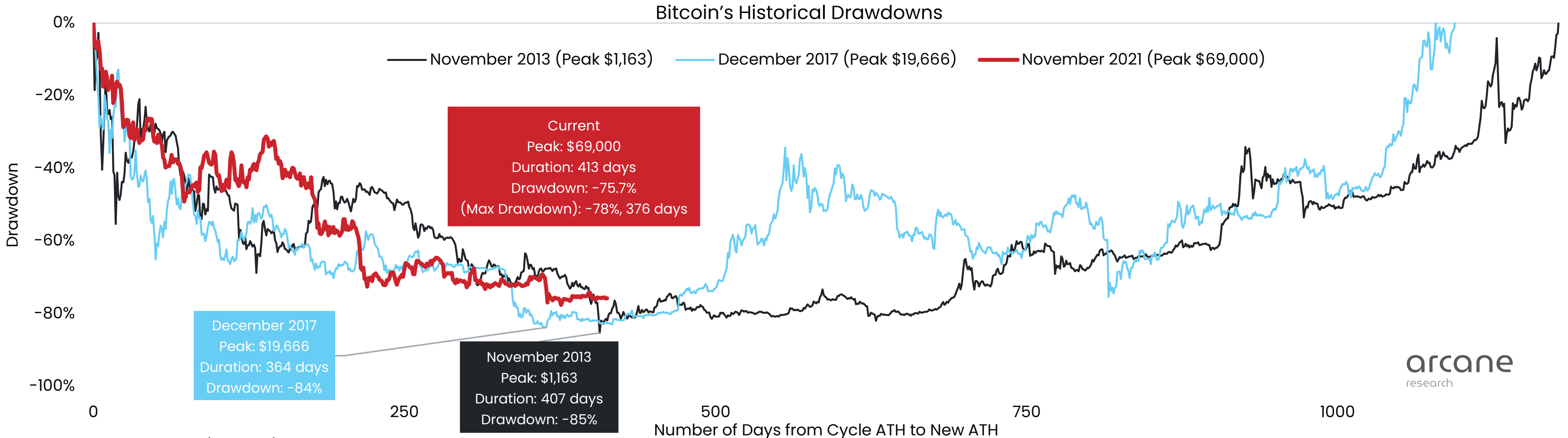


# What we expect from markets in 2023

Bitcoin's current drawdowns closely resemble the bear market patterns of previous cycles. The 2018 bear market saw a 364-day long duration from peak to through, while the 2014-15 bear market lasted for 407 days. For now, BTC has bottomed 376 days after peaking, right in between the duration of earlier cycle peak to through periods. If a new bottom is reached in 2023, this will be the longest-lasting BTC drawdown ever.

Related to catalysts and reshaping narratives, there are several potential catalysts. The FTX proceedings may incentivize more rapid progress with regulations, and we view both positive signals related to U.S. spot BTC ETF launches and more coherent classifications of tokens as a plausible outcome by the end of the year, with exchange tokens being particularly exposed for potential security classifications. Additionally, the European Parliament is expected to vote on the MiCA bill in February 2023, and the effects of the bill will gradually take effect over a 12-to-18-month-long transitional period which could affect and reshape crypto markets. Further, Grayscale's SEC lawsuit is set to make progress early in 2023, with a three-judge panel ruling occurring shortly after the release of the final written briefs on February 3rd, 2023.

**Our Core 2023 Prediction:** While the tightening macro landscape and BTC's correlated relationship to macro complicate analogies to previous bear markets, we firmly believe that this is an excellent area to build gradual BTC exposure. However, we expect low activity to be the key trend throughout most of 2023, with diminishing trading volumes and volatility in a significantly more boring market than the previous three years. As we advance into the next year, patience and long-term positioning will be key.




Source: Tradingview (Bitstamp)

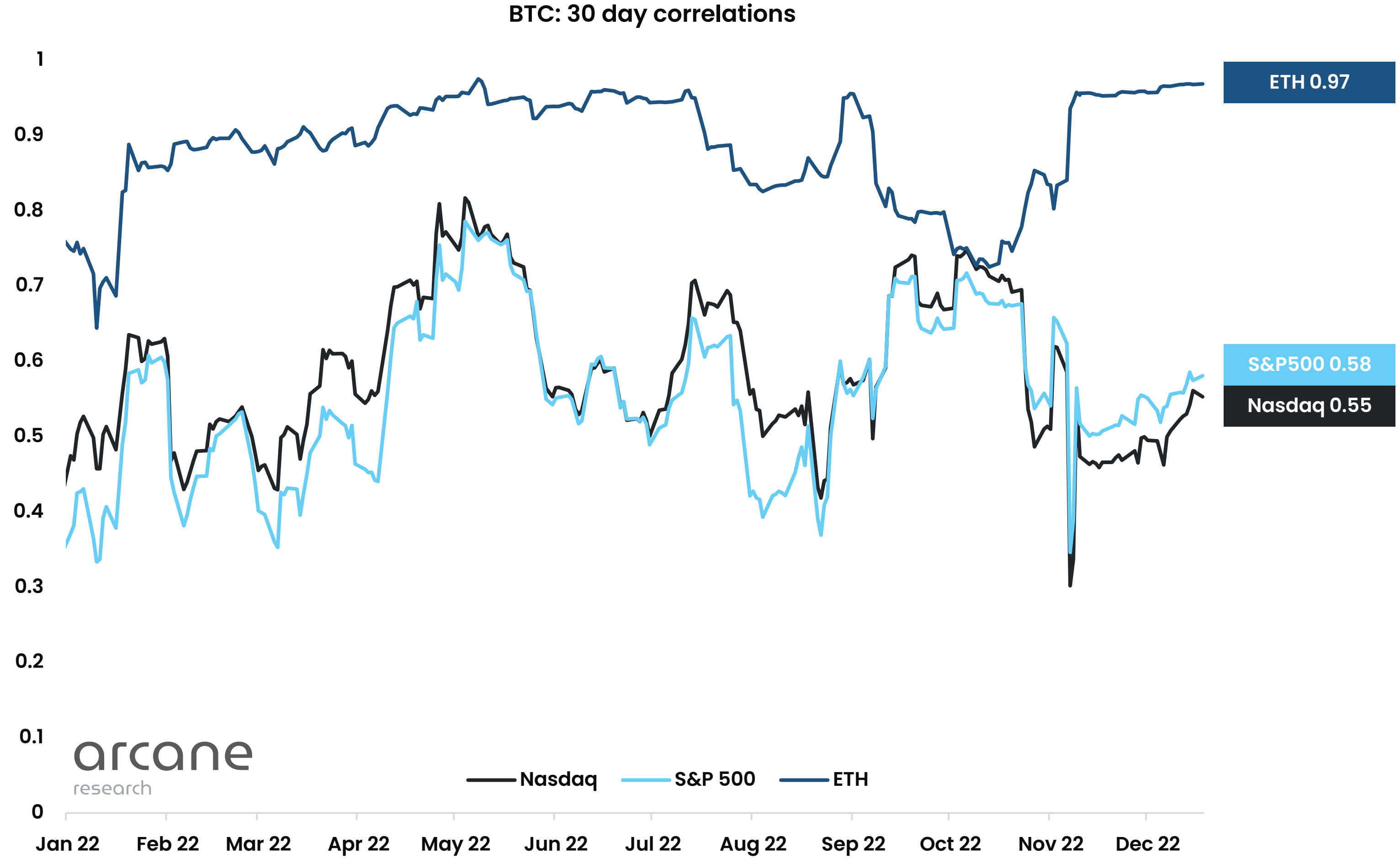
# One global dollar trade: Correlated destruction of value

**Correlations between BTC and equities have been extremely high throughout the year.**

- Global markets have fallen in a strongly correlated environment. Central bank tightening has particularly impacted crypto markets and tech and growth stocks.
- Nevertheless, more or less all investible assets have struggled in 2022, where interest rate hikes caused a worldwide flight towards the U.S. Dollar.
- To illustrate the exceptionally correlated environment in 2022, we below illustrate the average 30-day correlation between BTC and various assets. Note that the average BTC correlation to ETH sits at an all-time high despite the unique developments in ETH related to The Merge.

| Year | Nasdaq | S&P 500 | Gold | DXY | ETH |
|---|---|---|---|---|---|
| 2017 | -0.02 | 0.01 | 0.05 | 0.05 | 0.34 |
| 2018 | 0.12 | 0.12 | -0.12 | 0.03 | 0.79 |
| 2019 | -0.035 | -0.09 | 0.24 | -0.15 | 0.85 |
| 2020 | 0.30 | 0.29 | 0.33 | -0.22 | 0.81 |
| 2021 | 0.25 | 0.24 | -0.01 | -0.10 | 0.75 |
| **2022** | **0.59** | **0.56** | **0.11** | **-0.31** | **0.89** |

**2023 prediction:** Correlations between BTC and equities will soften as trading activity in crypto declines substantially.



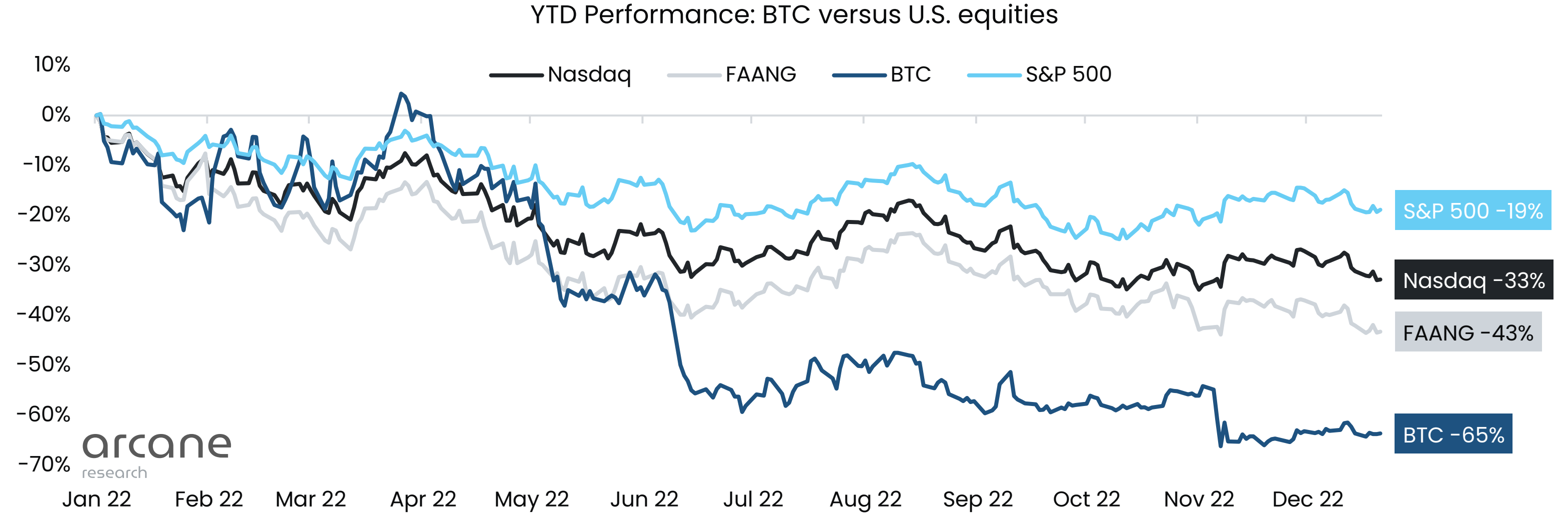

Source: Tradingview

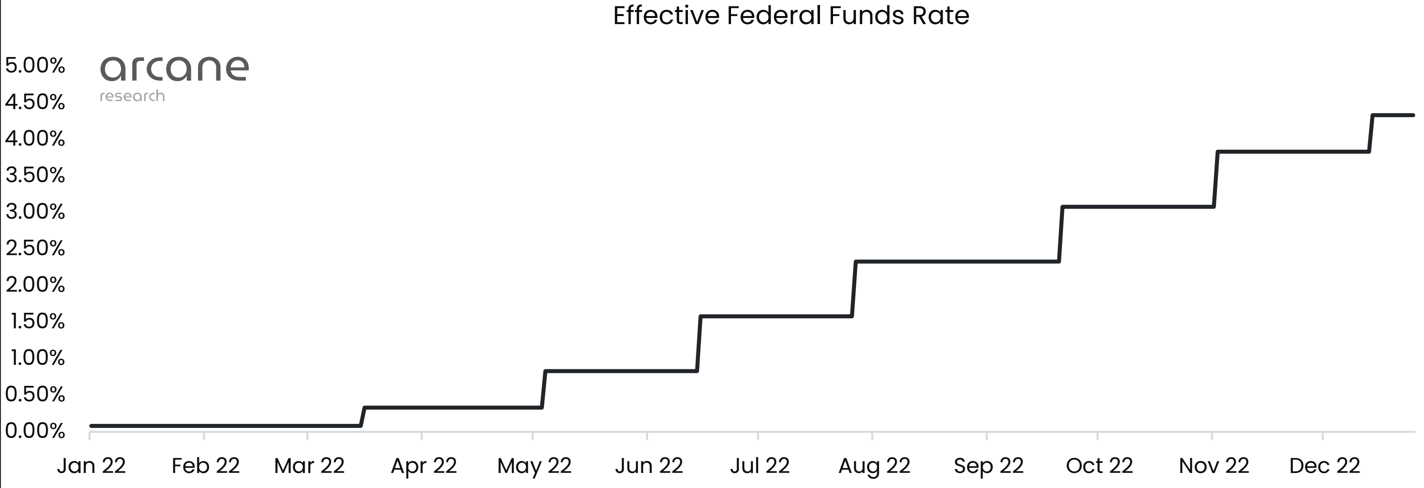
# A year of tightening

**The horrible year in the market has predominantly been caused by central bank tightening.**

- 2022 has seen near-constant downward trending markets due to central banks, and particularly, the Federal Reserve, tightening.
- In 2022, the Federal Reserve's effective funds rate grew from 0% to 4.25%, leading to a massive repricing of risk assets that all benefitted from easy money and a low-interest rate regime in late 2020 and throughout 2021.
- BTC is the only risk asset that surpassed its yearly open in 2022 due to "artificial" unsustainable demand from the Luna Foundation Guard alchemists (as we elaborate in the contagion section). The fall-out has been deeply sobering.
- In general, 2022 was one big dollar trade. All assets were repriced as the dollar became more expensive. The elevated 2022 correlations shown in slide 7 illustrate this phenomena.

**2023 prediction:** The Federal Reserve will hike interest rates throughout H1 2023.



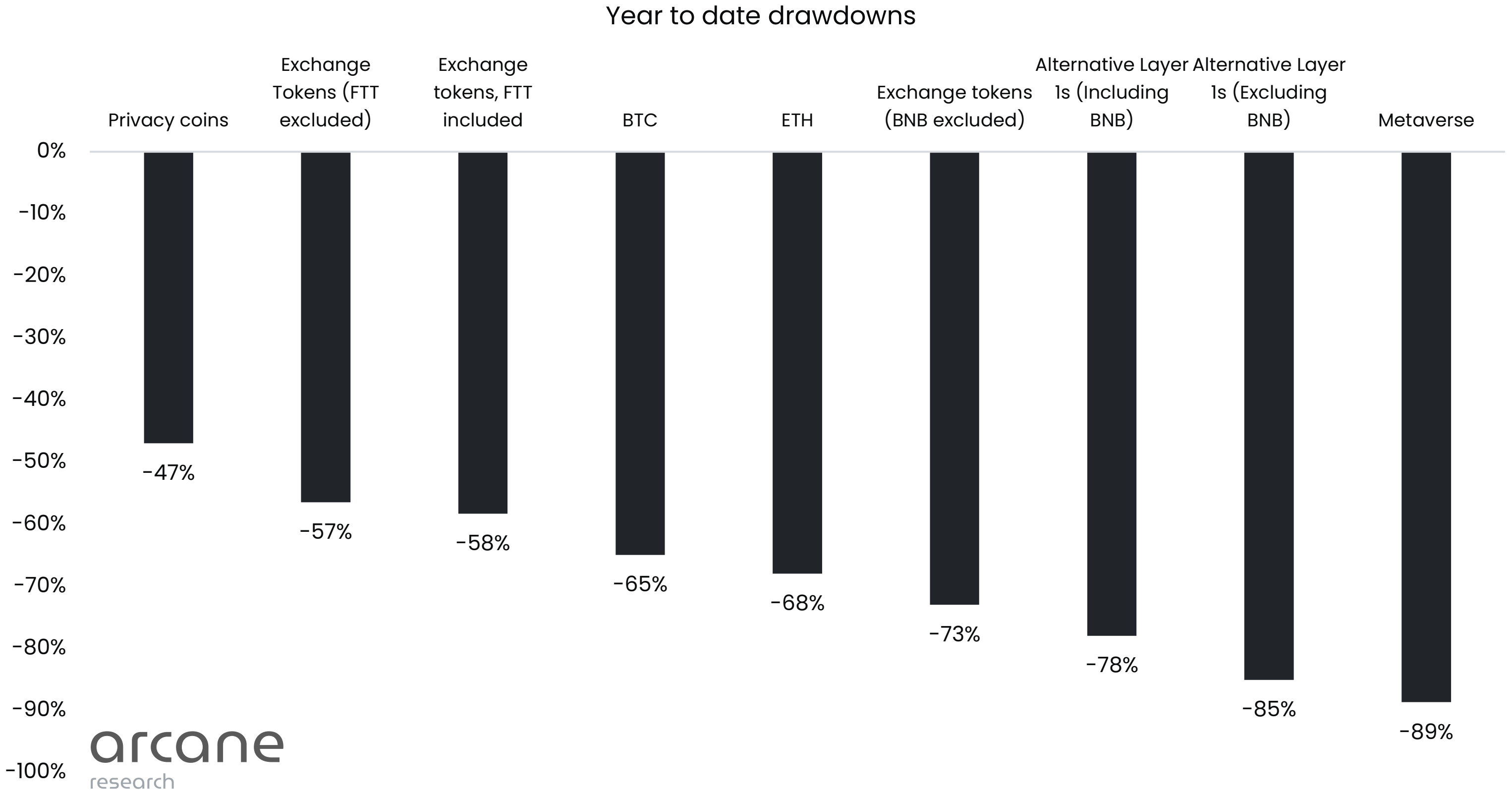

Source: Tradingview

# It all falls down

## The death of 2021's narratives

**Alternative layer 1s and the mythical metaverse was 2021's killer narrative. In 2022, both have seen valuations plunge by more than 85%.**

- Privacy coins outperformed the rest of the market this year, seeing a year-to-date loss of 47%. The relative strength of privacy coins is likely caused by the sustained utility of Monero related to darknet transactions.
- Surprisingly, exchange tokens outperformed BTC and ETH this year, even when including FTT. The exchange token performance is highly dependent on how BNB is labeled. When excluding BNB, we note that exchange tokens underperformed BTC and ETH.
- Last year's alternative layer-1 craze and metaverse hype has seen a brutal collapse, and these sectors are the year's worst performers.




Source: Tradingview

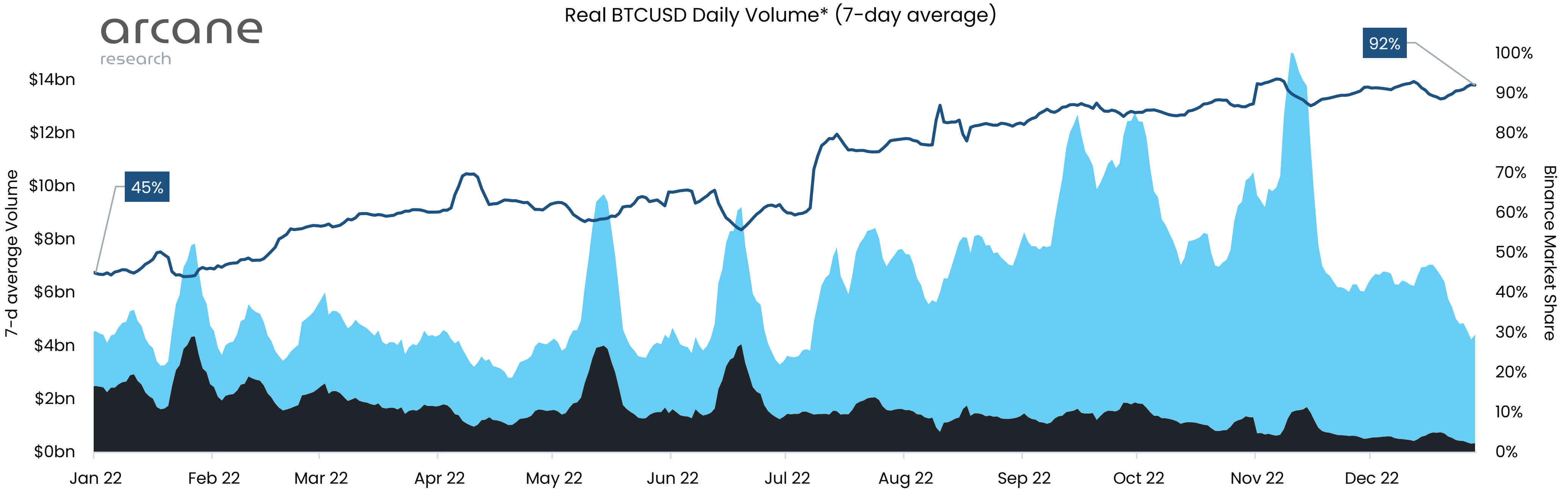
**2023 prediction:** Privacy coins will maintain softer price reactions both up and down due to utility demand.

**2023 prediction:** Exchange tokens will face serious regulatory scrutiny due to the FTX collapse, and certain tokens will be labeled as securities.

# Binance represents 92% of the “Real volume”

After Binance lifted trading fees for its BTC spot pairs this summer, the exchange has completely overtaken the spot market trading volumes, currently representing 92% of the BTC spot market volume in the last seven days. We have to go all the way back to Mt. Gox's heydays to find a period where a single exchange dominated BTC spot market volume in a similar manner. A fair share of this trading volume is likely related to in-organic trading activity, as the fee removal facilitates previous non-economical trading strategies.

However, the comparison to Mt. Gox stops there. While trading volumes are currently largely concentrated on Binance, BTC reserves are not. Binance's BTC balance represents approximately 25% of the BTC held at exchanges, as the systemic risks related to Binance are less present than they were during the Mt. Gox era.




Source: Tradingview

*Includes Bitwise 10 exchanges

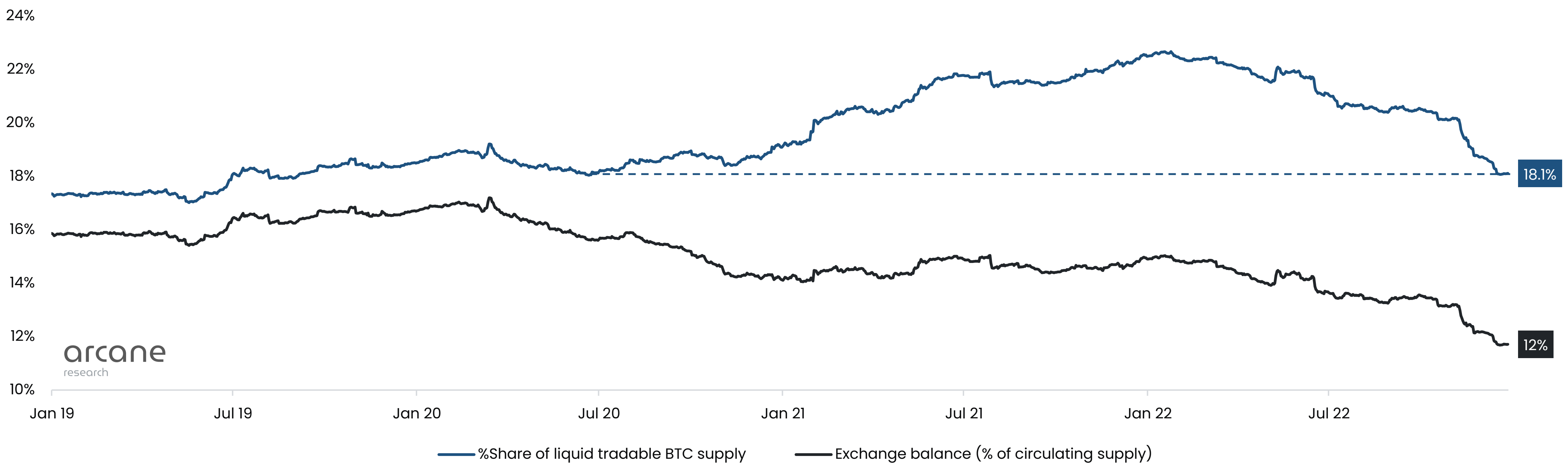
**2023 prediction:** Binance will implement BTC trading fees again, leading to a normalization of the market dominance.

# Liquidity is drying up: BTC is being pulled out of markets

Related to BTC reserves. There has long been a misconception in the market that BTC is becoming more and more scarce due to significant exchange withdrawals. In April, we argued that this was not the case, and that those monitoring exchange balances overlooked the highly relevant financialization of BTC and access to trade BTC through alternative venues.

Now, however, our view starts to align with on-chain conclusions earlier in 2022. Our "Liquid Tradeable BTC" proxy has fallen to June 2020 lows, while exchange balances have fallen to 12% due to growth in self-custody. This has direct implications for BTC liquidity and, in particular, experienced BTC scarcity. With fewer BTC available to trade, the impact of the net buyer or net seller will be more significant, and we believe the market is slowly headed towards a scenario where the net buyer will once again make a difference.

Bitcoin Liquidity: Exchange Balance vs "Liquid Tradeable BTC" Proxy



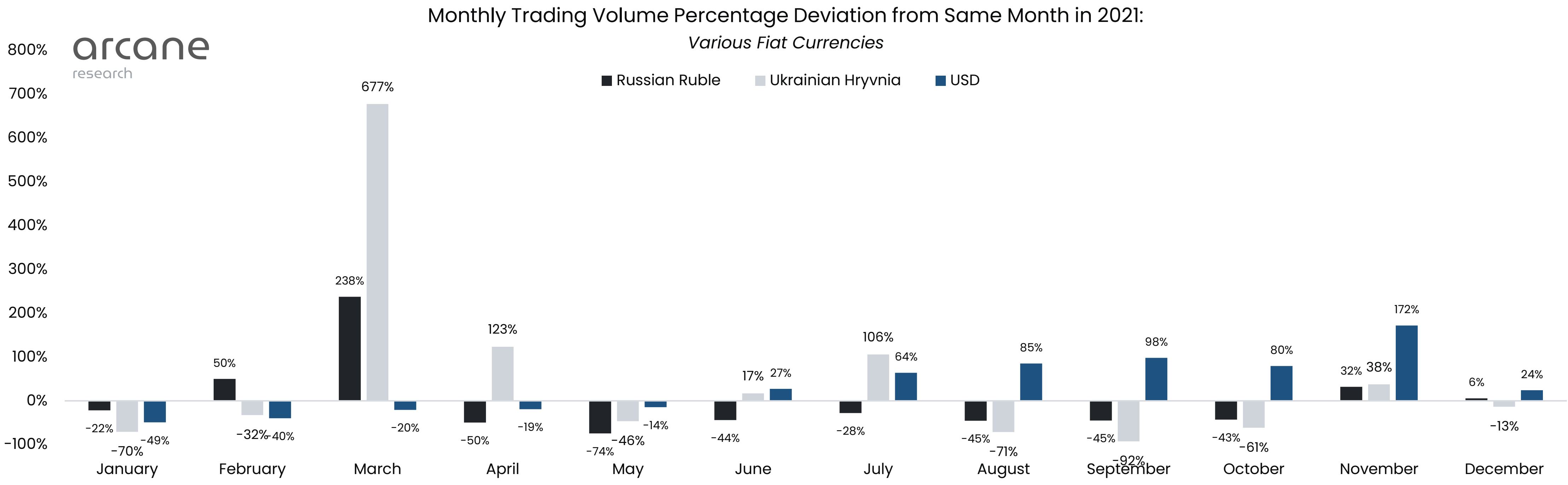

Source: Glassnode, Skew, Dune, MicroStrategy, Tesla, Square, Meitu, Aker, Bytetree, VanEck, Proshares, Hashdex, StatusInvest

# Bitcoin, war and sanctions

While 2022 will be remembered for the scams and collapse of several core institutions in the crypto market, we should not forget bitcoin's core attribute as a non-censoring global store of value.

2022 started with Canadian Covid demonstrations, leading to the financial sanctioning of demonstrators, once again showing the need for censorship-resistant money, even in democratic countries.

Following the tragic war in Ukraine, BTC volumes in both the Ukrainian Hryvnia and Russian Ruble surged. March 2022 saw a 677% higher trading volume in BTCUAH compared to March 2021, while BTCRUB experienced a 238% growth. Meanwhile, USD volumes were 20% lower than in March 2021. Excess volumes ensued for a while, while market meltdowns saw a smaller volume impact in these currencies compared to the USD, suggesting that BTC volumes in Russia and Ukraine have been more a trend of necessity rather than speculation.




Source: Tradingview

# Winners of 2022

BINANCE

KIRKLAND & ELLIS

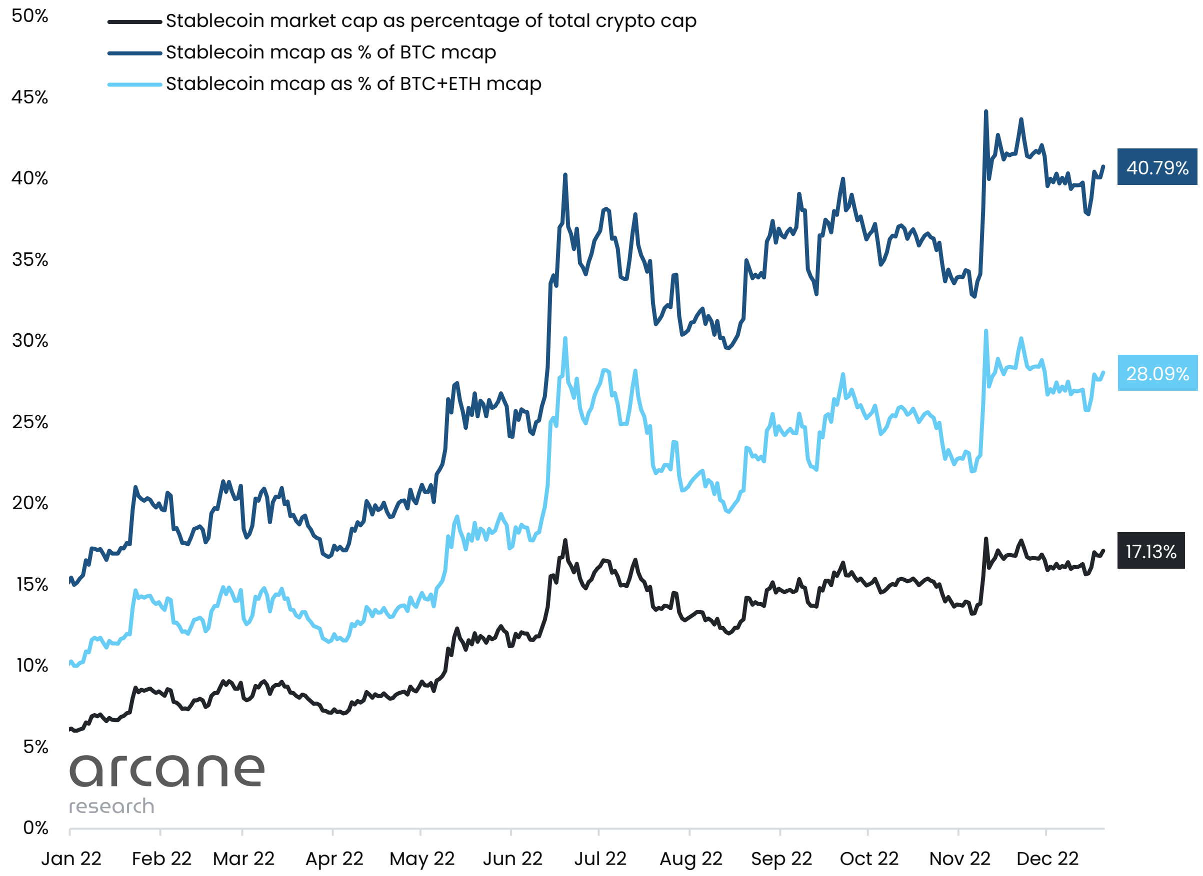
# Stablecoins: The winner of the year

**The total stablecoin market cap relative to BTC's market cap rose from 15% to 41% in 2022.**

- 2022 was a good year for centralized, non-algorithmic stablecoins. Tether, USDC, and BUSD have all seen their market share increase substantially throughout the year.
- The stablecoin trio currently has a combined market cap representing 41% of BTC's market cap, 28% of BTC and ETH's combined market cap, and 17% of the total crypto market cap. Starting the year, the stablecoin market cap represented 15% of BTC's market cap, 10% of BTC and ETH's combined market cap, and 6% of the total crypto market cap.
- The growing stablecoin dominance has a very natural explanation: **Cryptocurrency valuations have deteriorated this year, and stablecoins are stable.**
- In theory, the stablecoin market cap could surpass that of bitcoin, assuming that investors seek stables to hold dollar exposure. This makes sense from a utility and stability point of view in distressed economies.
- But how much of the stablecoin supply can be tied to utility usage? We believe a substantial amount of the stablecoin issuance is related to reducing friction and causing a more efficient trading environment for market makers and high-frequency traders.
- With the efficiency related to trading in mind, we view the growing stablecoin dominance as a long-term net positive signal from large market participants. Stablecoins are not redeemed for dollars in size, signaling that a healthy share of long-term liquidity is still glued to the crypto market. In turn, this reflects a positive long-term view from market participants related to market opportunities in crypto.

**2023 prediction:** Stablecoins will maintain material crypto market dominance throughout the year.

Stablecoin market cap as Percentage of various crypto caps




Source: Tradingview

# Binance: The winner of the year

As will be made clear through various charts later in this report, there are no other evident "winners" of 2022 other than Binance when it comes to the crypto market structure and market dominance. No matter how you look at it in terms of trading activity, Binance is the crypto market. After lifting trading fees for its BTC spot pairs this summer, Binance completely overtook all market share in the spot market. While the organic nature of some of this volume may be negotiable, it's non-negotiable that this has consolidated Binance's dominance over BTC spot markets.

Derivatives have not benefitted from a similar fee removal, but still, the trend is clear. Binance is home to a vast majority of the trading volume in crypto derivatives, representing more than 60% of the BTC derivative volume and crypto perp volume.

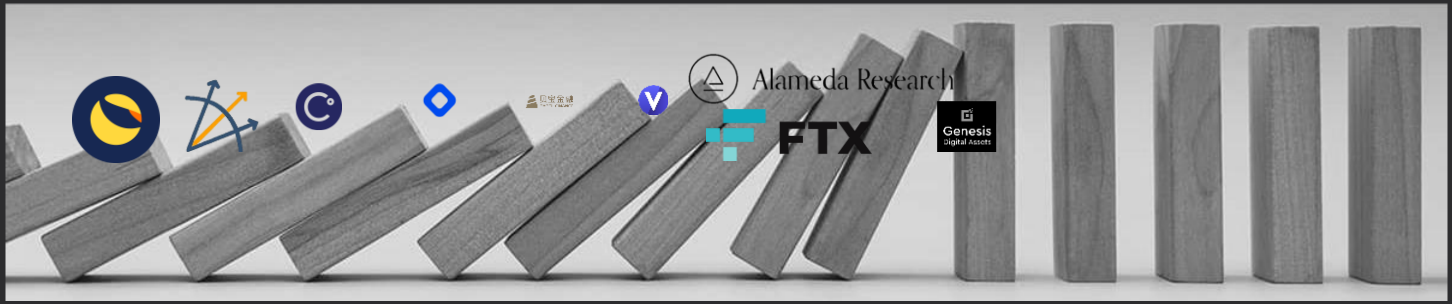
**Additionally, in 2022 Binance has:**
1) Taken market share in the stablecoin market
2) Seen its token vastly outperforming BTC and ETH
3) Been a clear outlier in terms of employment, doubling its employee stack in a year when several competitors have laid off half its workforce or gone bankrupt.

| Binance Dominance | Jan 1, 2022 | Dec 28, 2022 (Current market share) | Change (In Percentage Points) |
|---|---|---|---|
| BTC Spot volume dominance (Bitwise Real Volume) | 45% | 92% | **+47%** |
| BTC Futures/Perps Open Interest Dominance | 29% | 30% | **+1%** |
| BTC Futures/Perps volume dominance | 47% | 61% | **+14%** |
| Crypto Perps OI dominance | 39% | 49% | **+10%** |
| Crypto Perps volume dominance | 56% | 66% | **+10%** |
| BUSD stablecoin dominance (USDT+USDC+BUSD) | 11% | 14% | **+3%** |

**2023 prediction:** Binance's dominance in the spot market will decline, while the BUSD dominance will increase.

Word of the year:

# Contagion

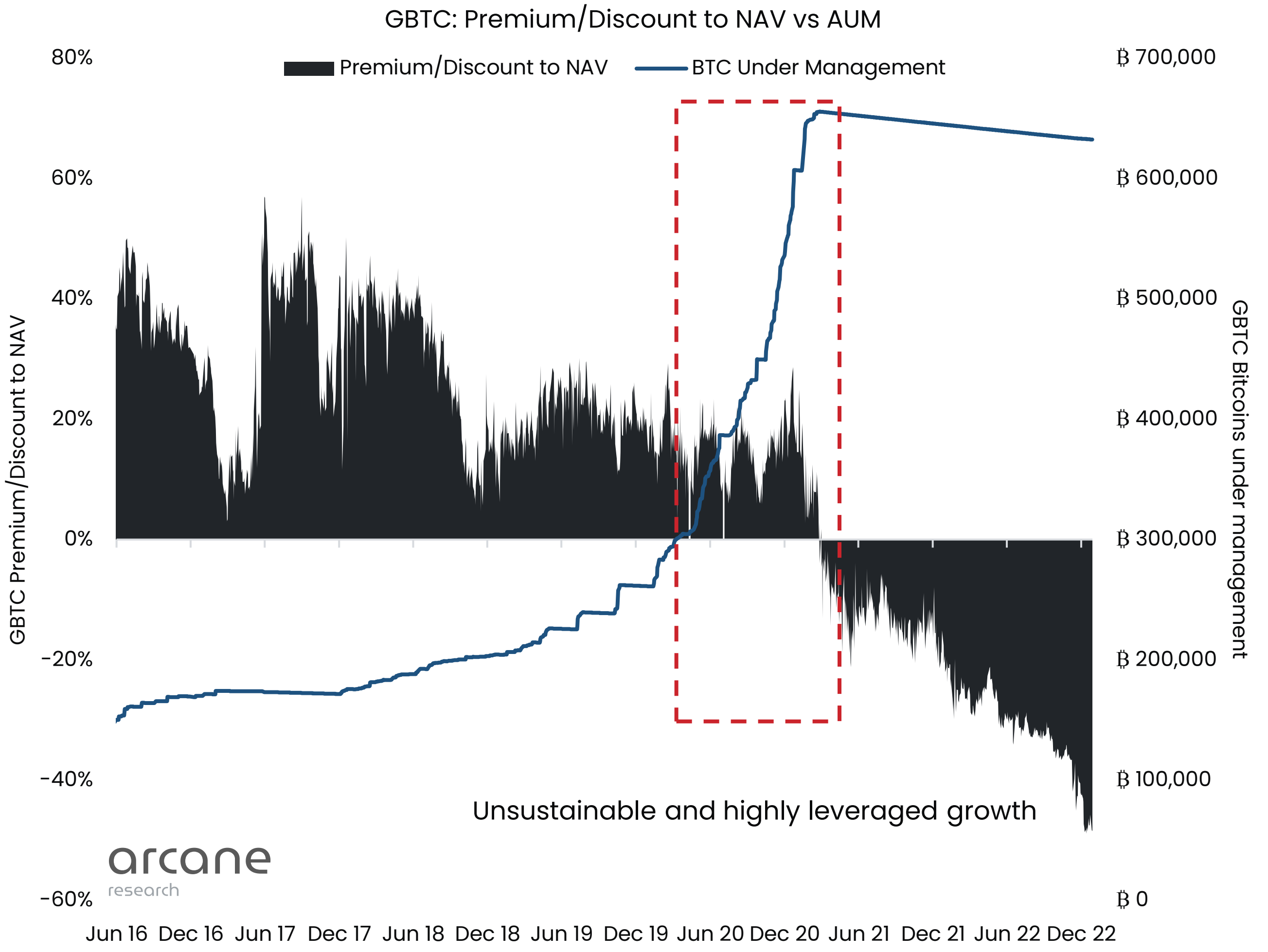


# The birth of crypto contagion: Grayscale

**Cheap dollars, utter conviction, poor risk management, and bad business decisions were the precursor for the devastating credit crisis experienced in crypto this year.**

- The crypto credit crisis originates from the massive buoyancy and prolonged premiums of the trusts of DCG's subsidiary Grayscale. As the contagion still ravages, the credit loop is about to close full circle, with DCG subsidiary Genesis currently facing massive pressure following FTX's fall.
- Simplified hindsight analysis to follow. Grayscale's trusts always traded at strong premiums in secondary markets up until 2021. Funds "arbed" this premium successfully for a while by allocating in-kind to Grayscale's trusts. In 2020 this "arb" was massively scaled up, with the likes of 3AC and BlockFi flocking to the trade facilitated by credit, in part provided by Genesis. Meanwhile, accommodative monetary policies fueled investor demand for risk assets and alternative investments, propping crypto toward higher highs.
- This created massive spot demand for bitcoin and ether and caused credit to build up in the crypto trading ecosystem. Grayscale shares later saturated the market, and the "arb" became unprofitable.
- This created massive spot demand for bitcoin and ether and caused credit to build up in the crypto trading ecosystem. Grayscale shares later saturated the market, and the "arb" became unprofitable.
- In 2021, this was no problem. Monetary policies remained accommodative, and crypto soared. Enter 2022, the FED pivots – easing turned into tightening. The built-up leverage represented a structural risk in crypto, and for the music to stop, a catalyst was needed.

**2023 prediction:** Grayscale's funds will not be dissolved. DCG will either resolve the current crisis, or a big traditional finance conglomerate will acquire the massive cash cow that is Grayscale's close-ended funds.




Source: Ycharts, Skew

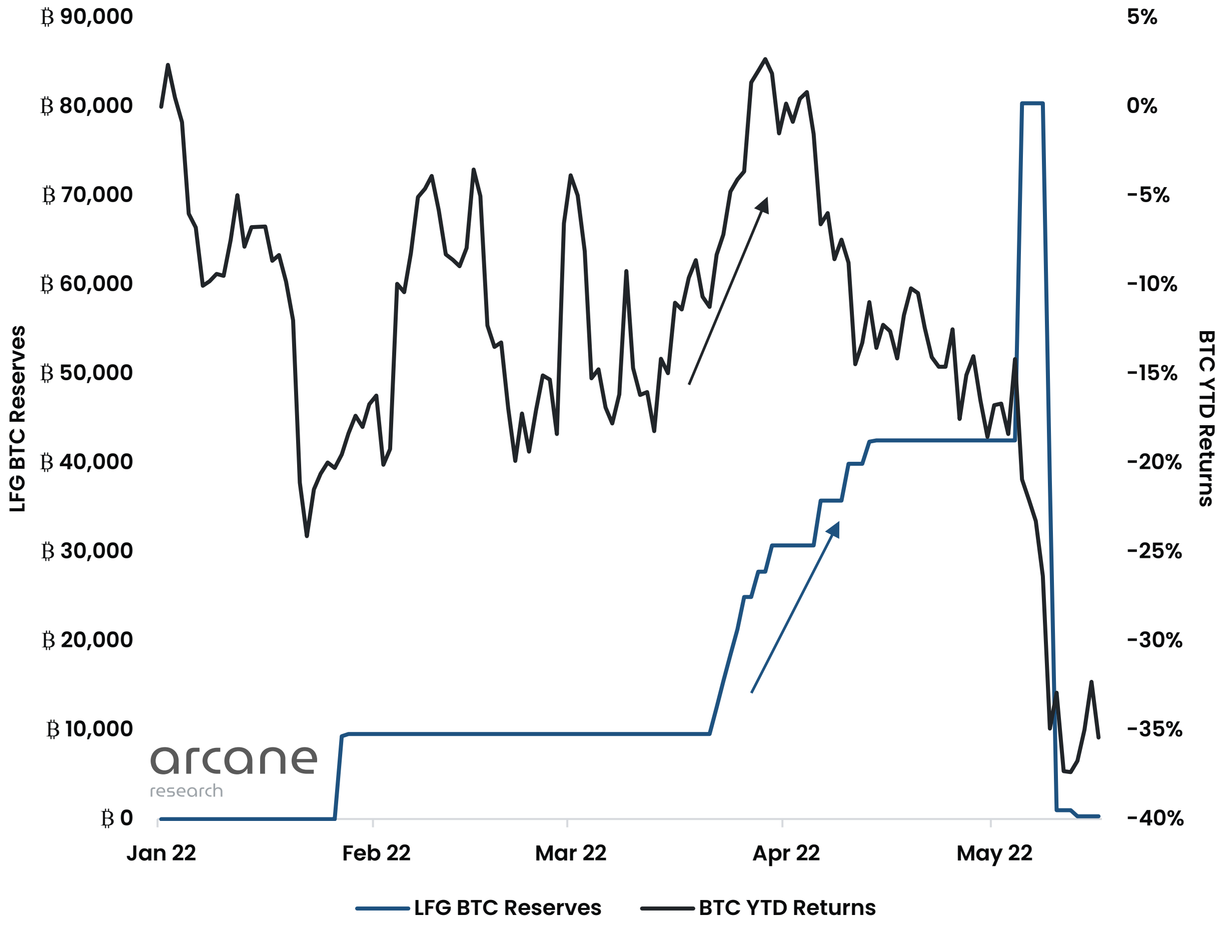
# The catalyst of crypto contagion: Terra

**The contagion erupted from Luna's collapse closely after Luna introduced its BTC reserves strategy.**

- Algorithmic stablecoins was the key narrative as we entered into 2022. Subsidized by unsustainable yields, both retail and institutional investors flocked into UST to earn a 20% yield on the quazi-cryptodollar through Anchor.
- Crypto lenders entered Luna to facilitate high yields for retail deposits and funds invested in Luna. Luna acknowledged a need for building reserves to have fire powder to maintain a peg in periods of distressed markets and built a $2.5bn BTC reserve of 80,000 BTC to be used in dire times.
- Luna's BTC purchases were partly financed by Three Arrows Capital, who borrowed funds to invest in Luna from crypto lenders who sought more yields to service a growing base of retail customers.
- The initial BTC purchases from Luna in March were conducted through open market orders, leading BTC to outperform other risk assets. The last BTC batch was purchased using an OTC swap with Genesis and Three Arrows Capital. Shortly after the initial BTC acquisition target of $2.5bn BTC was reached, UST's peg was challenged and quickly buckled under the pressure.
- In the process, Luna sold off massive amounts of BTC, leading BTC to plunge in a highly correlated punishing market meltdown. Investors with leveraged long exposure to the crypto market were pressured. Funds and lenders with direct exposure in Luna saw massive irreversible losses. **Contagion was unleashed and would ravage the market throughout 2022.**

**2023 prediction:** Contagion has not fully settled.

Luna Fondtation Guards BTC reserves vs BTC YTD returns



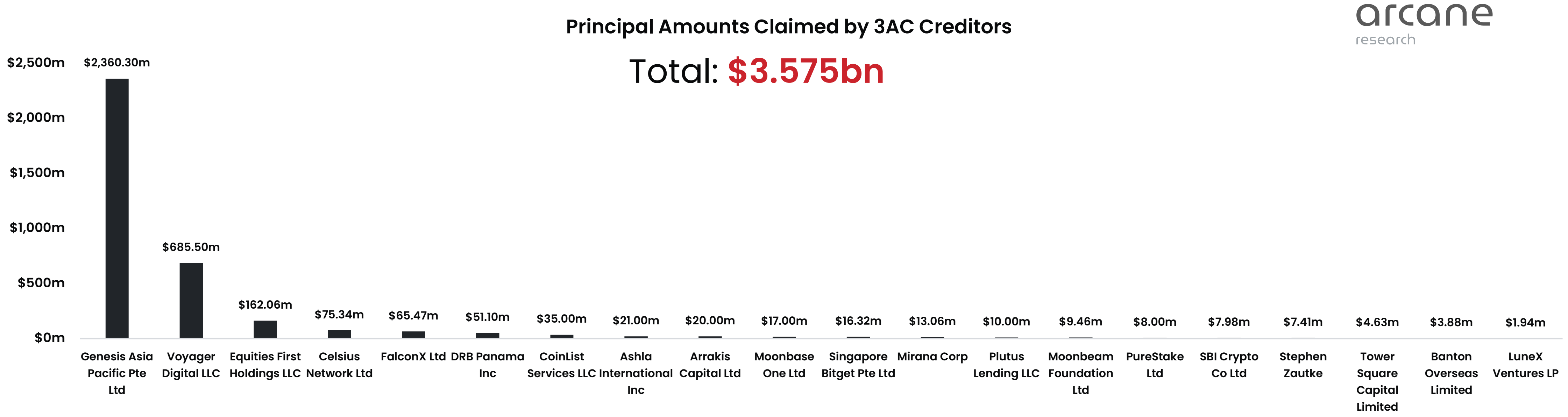

Source: Blockchair, DeBank, Tradingview

# A wave of selling ensued: The virus is spreading

One fund was particularly involved in Luna - Three Arrows Capital. The fund also had a very sizeable exposure to GBTC and suffered from a lack of illiquid assets. Regardless, 3AC had a strong reputation in the space and had vast access to credit from more or less all crypto credit providers. Keep in mind that during the zero interest rate policy regime, the name of the game for growth companies was to focus on growth at all costs. Crypto lenders battled for venture funding by propping themselves up as the biggest loan facilitators in the crypto space, expanding their loan books. Forgetting principles such as caution, due diligence, risk management, and sound growth along the way.

Per the massive 1,157-page-long 3AC liquidation recognition, 3AC had borrowed from just about every institutional lender in the business while also cooking their books and using borrowed funds to pay off the interest on other loans, enabled by the opaque nature of backdoor lending agreements with centralized crypto lenders. Celsius, Babel Finance, Voyager, BlockFi, and miners fell shortly after that. Voyager and BlockFi were temporarily bailed out through credit lines from FTX, which seemingly withstood the market turmoil and utilized the distressed market to consolidate. Of course, November taught us that also FTX was swimming naked.

We estimated 240,000 BTC to be sold by known entities from May 12 to July 31, in what turned out to be BTC's worst quarterly performance since 2011.




Source: Leaked Affidavits

**2023 prediction:** Contagion will settle in early 2023.

# The final blow: FTX

**Sam was a scam.**

- A period of calmness ensued after the summer contagion havoc. BTC traded at low volatility, Ethereum finally merged, and promising inflation figures prompted investors to grow slightly more optimistic.
- Then, in early November, Coindesk published the most important crypto news article of 2022, illustrating a huge concentration of FTT in Alameda's balance sheet.
- A bank run on FTX ensued, and suddenly withdrawals were halted. It came to light that FTX was indeed insolvent, defrauding customers by co-mingling customer deposits while attending Capital Hill meetings contributing to laying the groundwork for crypto regulation and attracting institutional capital en masse.
- FTX's balance sheet whole is estimated to $8-10bn. Genesis, Galois, Galaxy Digital, GSR, FalconX, Wintermute, CoinShares, Coinbase, Crypto.com, and several other crypto institutions were impacted.
- Genesis Lending quickly suspended withdrawals and sought an emergency loan due to illiquid assets in Genesis' balance sheet. Gemini's Earn program was halted, and the market geared towards more Chapter 11s to follow.
- BlockFi filed for a Chapter 11 bankruptcy after FTX's collapse and became the third crypto lender to be guided by Kirkland & Ellis in the Chapter 11 proceedings this year, alongside Celsius and Voyager. Per now, Kirkland & Ellis have netted more than $15m on the chapter 11 frenzy in crypto.
- Legal proceedings directed towards the FTX fraudsters have begun and are likely to end with well-deserved jail time for those involved. Nevertheless, no amount of jail time will reimburse the real losers in this chaotic and sad year for crypto – the 8 million honest market participants at FTX who trusted the company or the 300 million crypto owners who have suffered extended losses due to a complete negligence of risk-management by trusted crypto institutions. The industry can do better, and hopefully, we have learned.

**2023 predictions:** FTX fallout implications

1. Negative regulatory implications on the market, exchange tokens to be labelled as securities.
2. A further dampening of institutional presence in the market.
3. Contagion to last longer.
4. A new un-eventful low volatility trading range will ensue, and it will define most of 2023.
5. Correlations between crypto and other risk assets will subdue as general interest in crypto dwindles.
6. The SEC to reassess its stance towards BTC ETFs, leading towards spot ETFs being approved to safeguard investors from dabbling in offshore markets and maintain investments onshore.

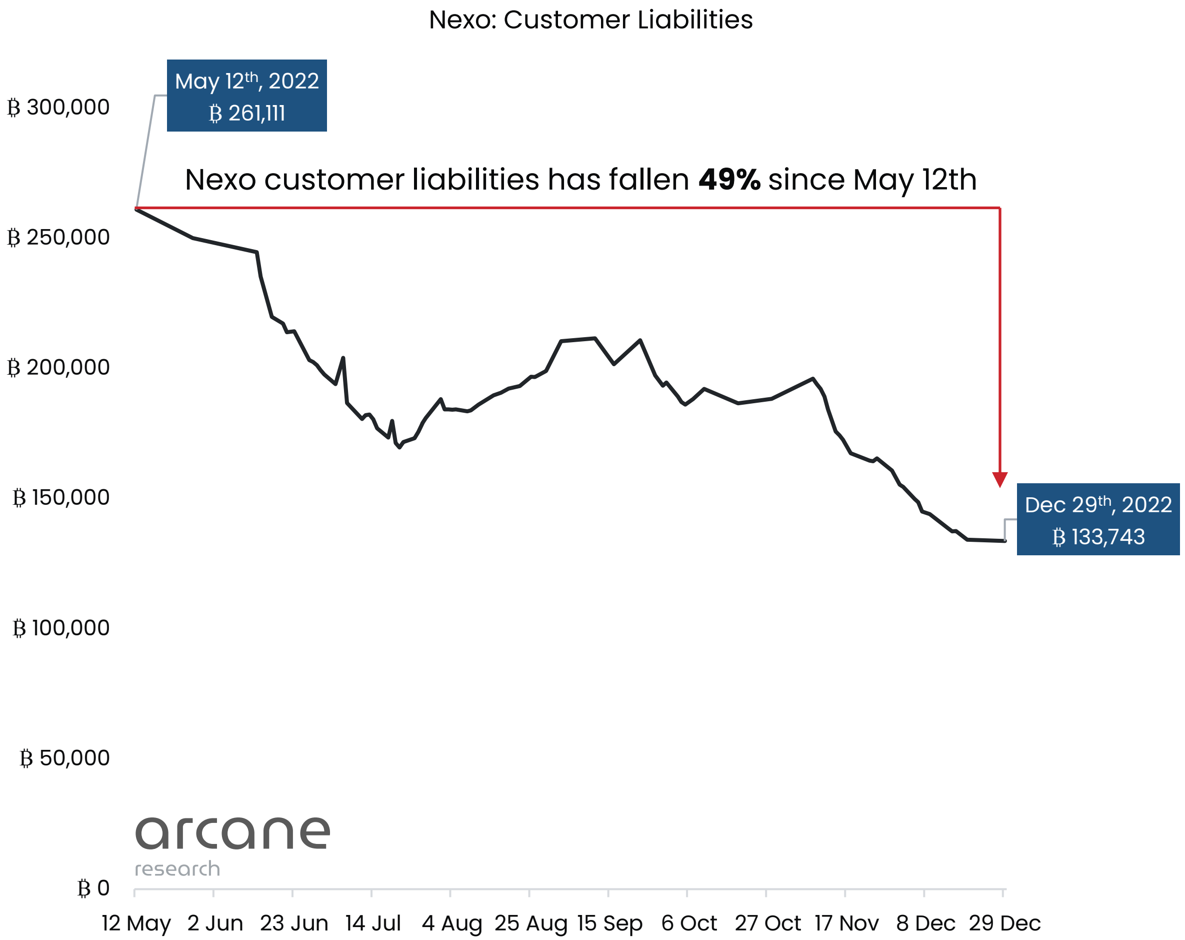
**2023 prediction:** The FTX bankruptcy case will not be anywhere near settled by the year end, and will be a long-lasting scar, similar to the still on-going Mt. Gox bankruptcy proceedings.

# Crypto Credit Market Outlook

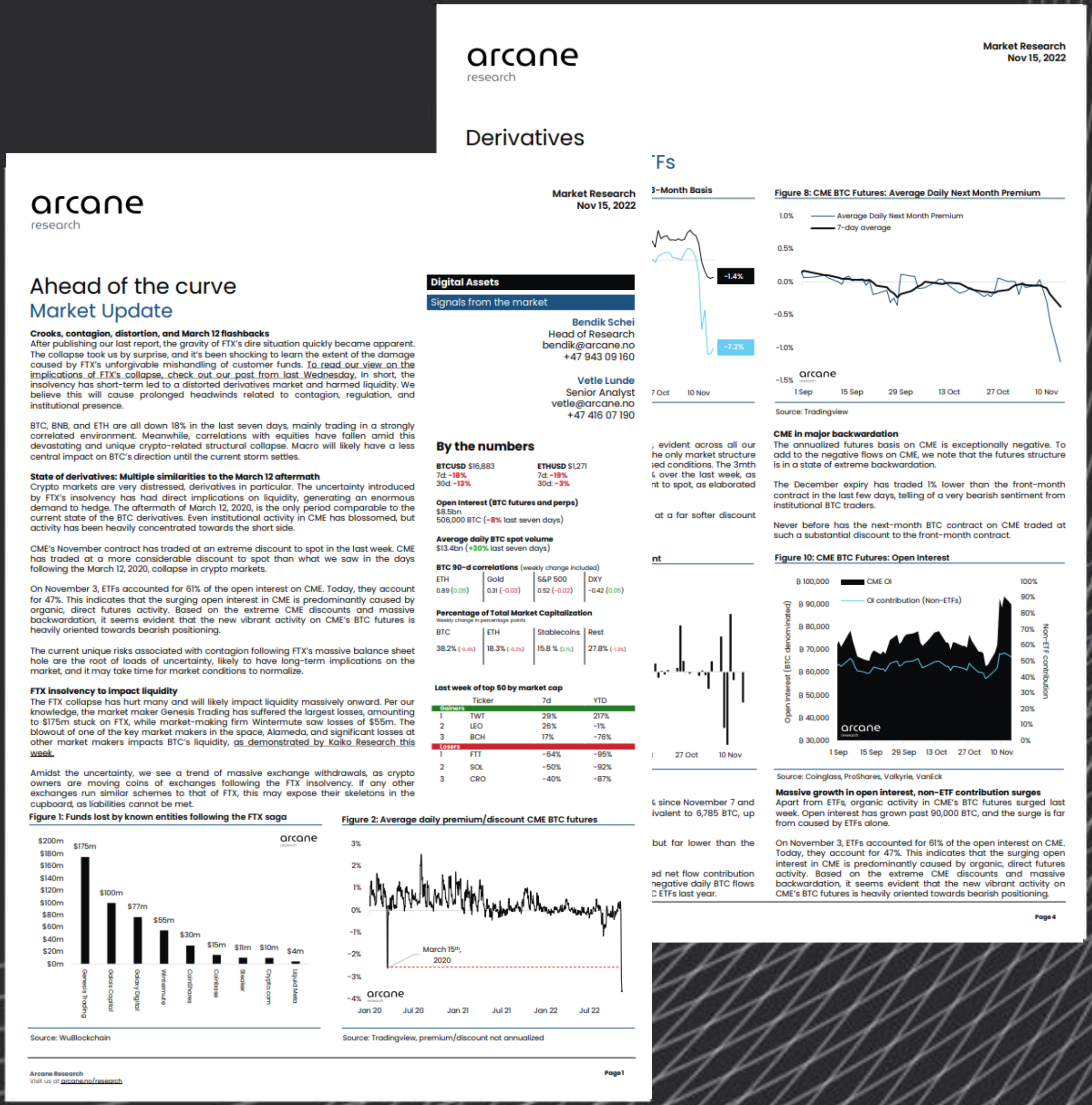
**While 2022 has seen a multitude of crypto lender bankruptcies, some entities maintain their operations.**

- At face value, the main task of a bank is to provide maturity and liquidity transformation services – to provide users with a homogenous and liquid IOU (money) in exchange for claims on diverse and non-liquid assets.
- The liquidity contributes to narrowing spreads, increasing market efficiencies, and financing growth. Such needs are also present in the crypto market, and centralized crypto lenders will serve a role, also in the future, despite all incidents of horrifying risk management witnessed this year.
- Of the retail-oriented lending venues, Nexo is one that has yet to buckle under the pressure. However, per their Armanino attestations, NEXO has experienced a near-constant bank run ever since the Luna crash, leading its customer liabilities to half since May 12th.
- While we believe that credit serves a role in crypto, we hold steadfast on our view the current yields far from outweigh the risks of bankruptcies, and investors should take a very cautious approach towards yield-bearing crypto services.
- The crypto lending market started to boom in an environment where futures traded at annualized premiums of 50%, GBTC traded at a premium, and DeFi generated massive yields. This is no longer the case. We have already illustrated the GBTC discounts and will later illustrate that the crypto derivatives market offers few viable yield opportunities.

**2023 prediction:** Some crypto lenders will weather the storm and service the market, but yields will be slim, and times will be dire throughout the year. Retail investors should shy yield-bearing crypto products.




Source: Nexo, Armanino, WebArchive (Wayback Machine)

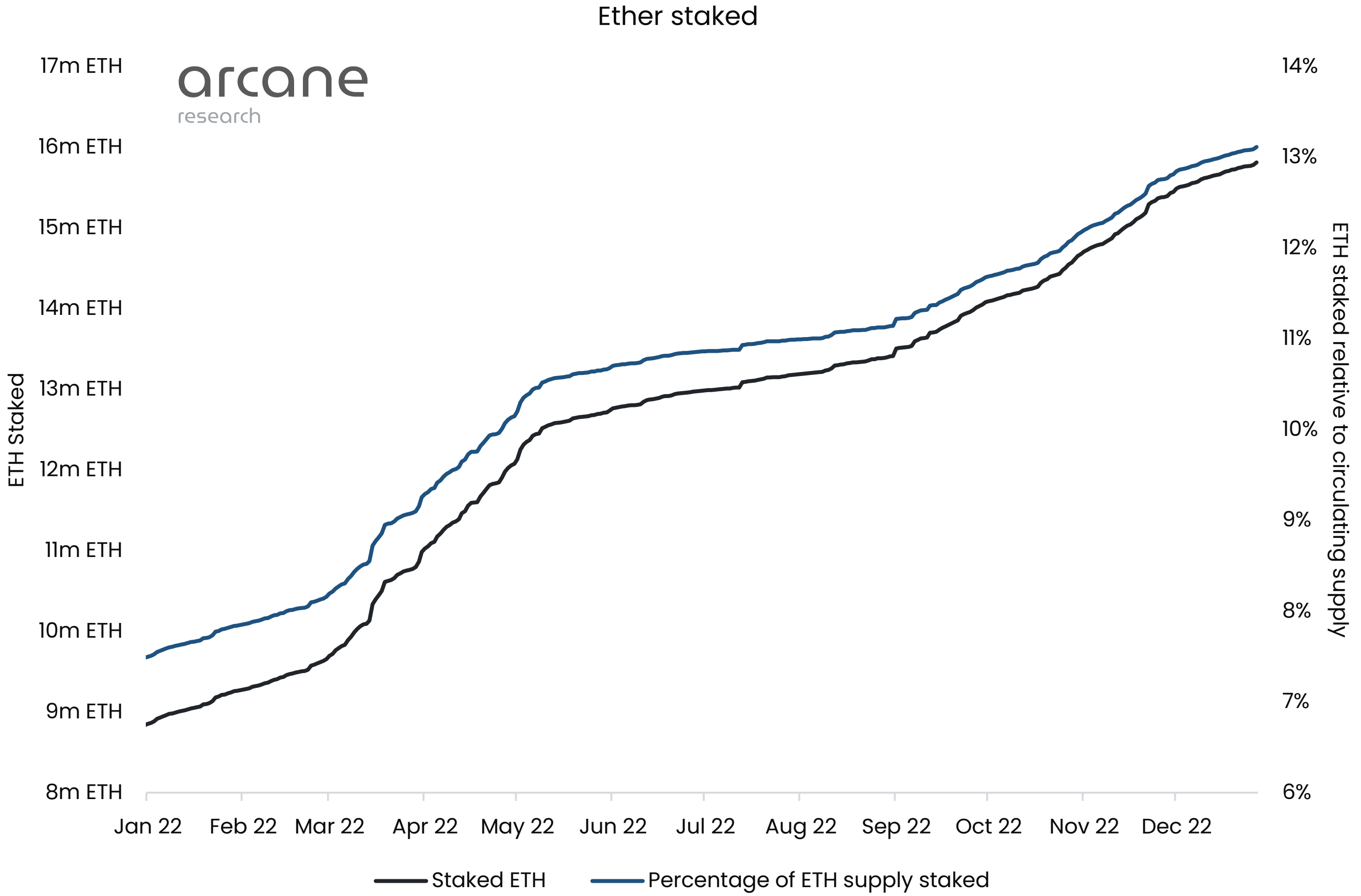

arcane research
Market Research
Nov 15, 2022
Ahead of the curve
Market Update
Digital Assets
Signals from the market
By the numbers
Derivatives
Figure 1: Funds lost by known entities following the FTX saga
Figure 2: Average daily premium/discount CME BTC futures
Figure 8: CME BTC Futures: Average Daily Next Month Premium
Figure 10: CME BTC Futures: Open Interest

# Ethereum

# The Merge finally happened!

**2022 was a landmark year for Ethereum as the chain transitioned from Proof of Work to Proof of Stake.**

- Long awaited and highly debated, but it finally happened. Ethereum merged from PoW to PoS.
- In essence, this transition left miners redundant in Ethereum. Now committed holders to validate transactions, while energy consumption directly related to Ethereum has declined substantially.
- The transition was efficiently executed, and now the two largest blockchains are based on different consensus mechanisms.
- The transition has not been solemnly positive and has highlighted different centralization concerns as Binance, Coinbase, and Kraken represent 27% of the staked Ether, and 58% of all Ethereum blocks post-merge have been OFAC compliant.
- There are clearly drawdowns of any design choice, Ethereum's choice of PoS has been known and communicated long in advance, and generally been viewed positively by the market.
- Throughout the year, the market signaled optimism toward the transition. ETH's price relative to BTC has held greater than most altcoins. This suggests that there is room for both consensus mechanisms. Market participants should appreciate how the two largest chains, which currently aim to service wildly different needs, saw yet another differentiator implemented in 2022.




Source: Dune Analytics

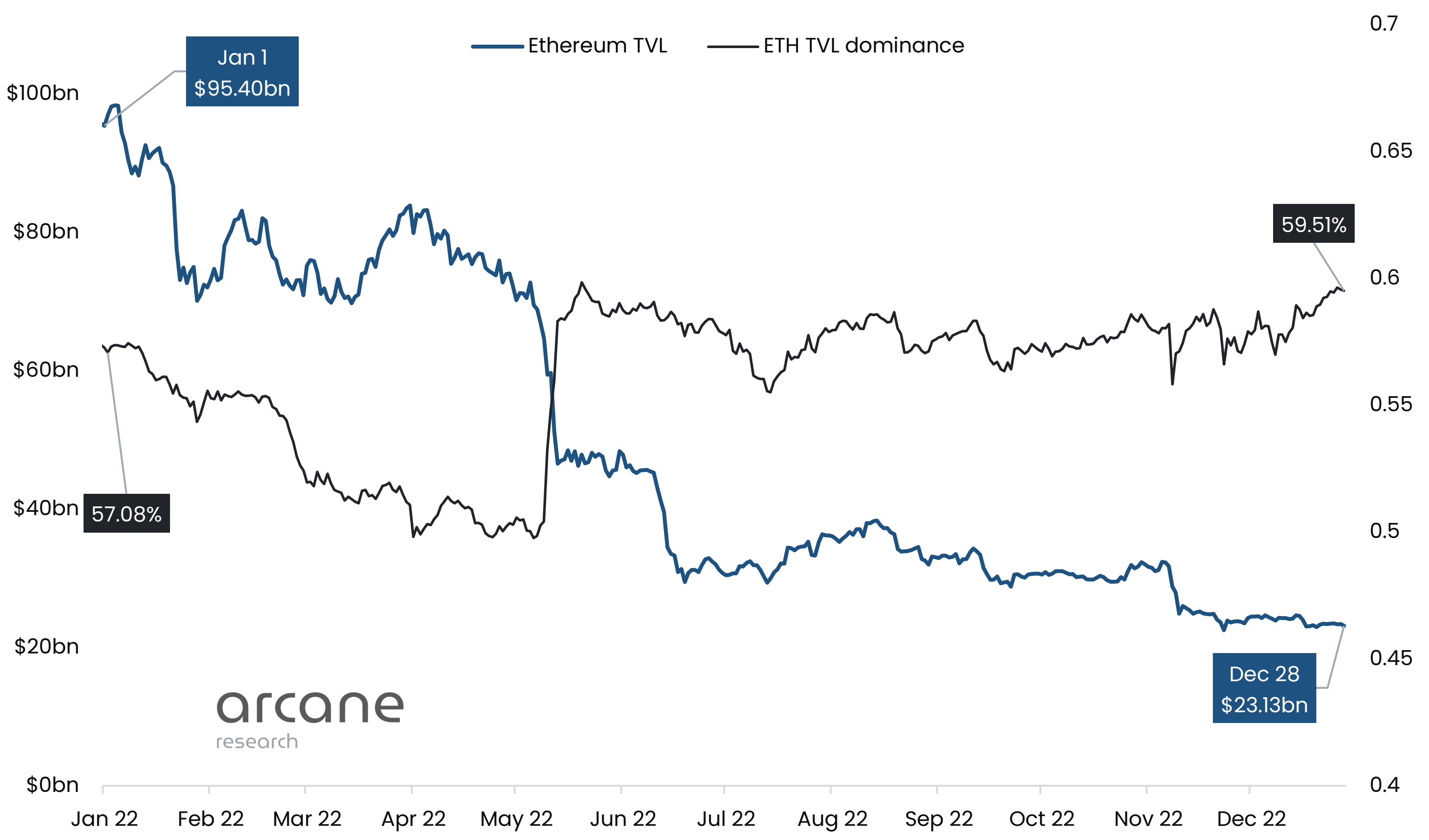
**2023 prediction:** We expect ETH to maintain its strength vis-à-vis BTC, due to the PoS narrative

# Total value locked in ETH DeFi TVL falls 76% in 2022

**The total value locked in Ethereum DeFi fell 76% in 2022 from $95.4bn to $23.13bn**

- The total value locked in DeFi has experienced a massive decline in 2022, in line with the generally falling markets.
- Nevertheless, DeFi has withstood chaotic and turbulent times in crypto credit markets and offered well-needed transparency and reliability in contrast to the centralized crypto lenders in the last year.
- That said, DeFi has far from been exempt from chaos in the last year. Hacks, in particular, related to bridges (next slide) have been frequent and large, and DeFi tokens have failed to materialize any meaningful value due to a lack of revenue sharing with token holders, currently predominantly acting as governance tokens with no material evident cash flow spill-overs for token holders.
- This could be caused by DeFi solutions acting in a legal grey area, which may disincentivize DeFi project creators to add further scrutiny by offering securities like benefits to holding the token.
- Still, proper revenue sharing may be the single most important tokenomics adjustment to DeFi, and a more attractive dividend policy from tokens related to protocol revenue could re-ignite DeFi usage through better incentives.

DeFi: ETH TVL + ETH Dominance vs. alternative layer 1 chains

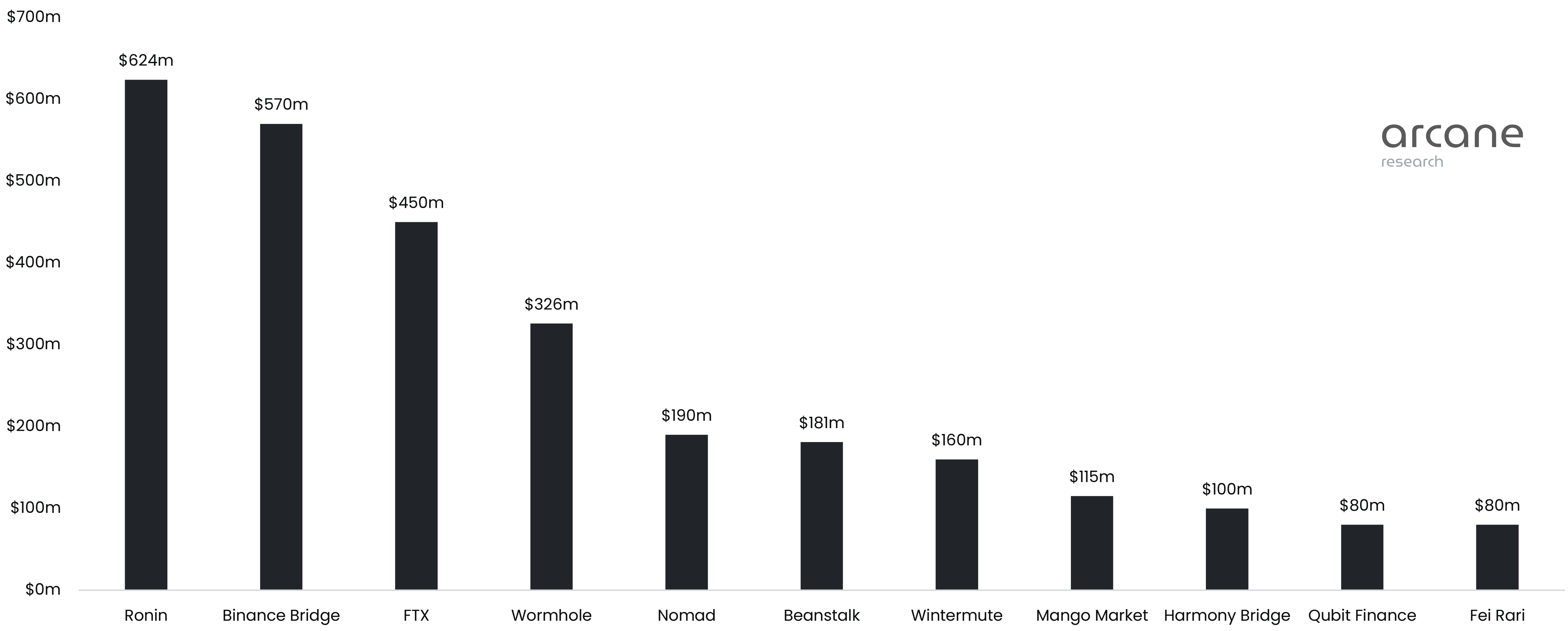



Source: DefiLlama

**2023 prediction:** Proposals and implementations of revenue rights for token holders will gain momentum

# DeFi and bridge related hacks amounted to $3bn in 2022

Notable DeFi/Bridge related hacks/exploits this year

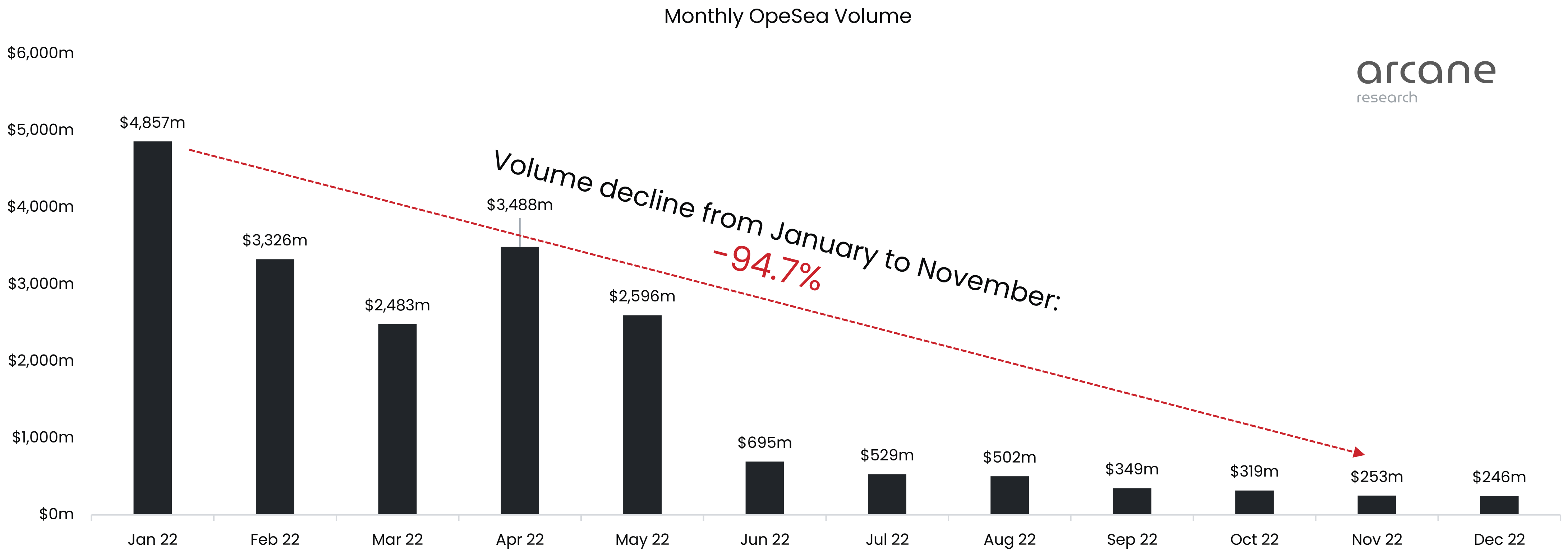



Source: DefiLlama

**2023 prediction:** DeFi, bridges and Web3 in general will remain experimental and susceptible for further hacks and exploits.

# NFT volumes collapsed in 2022

OpenSea volumes saw a 95% decline from January to November as NFTs largely remain a niche in the crypto market. Still, current NFT enthusiasts stay active in the market, and NFTs have attracted meaningful mindshare both within and outside of crypto markets, and revitalized strength in crypto down the line will likely contribute to rejuvenating the NFT market.



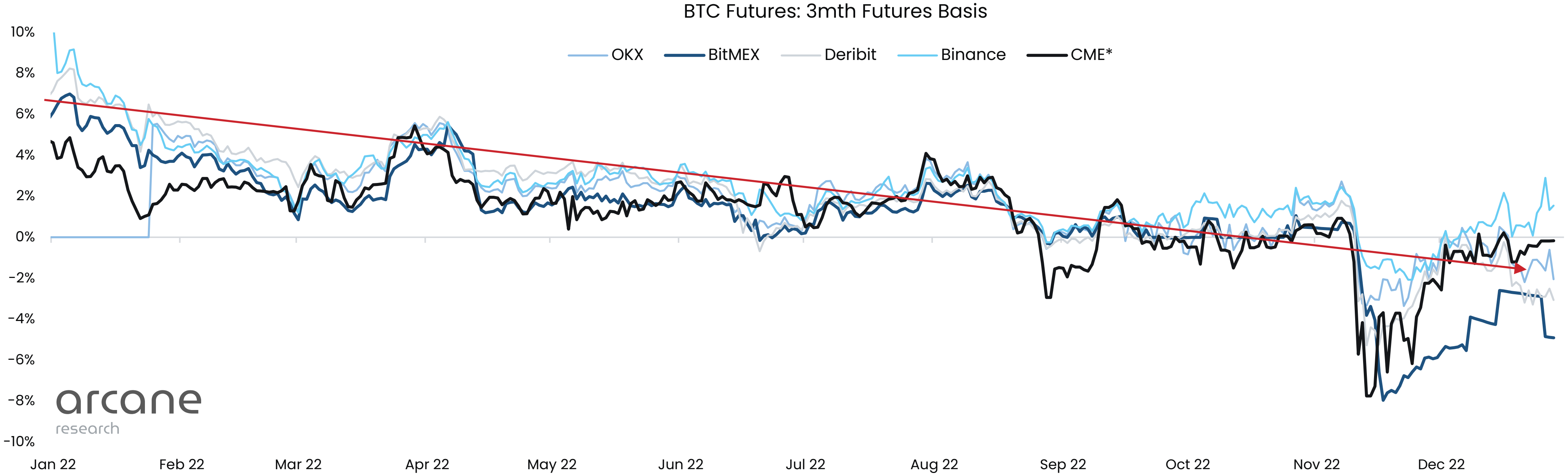

Source: Dune Analytics

# Derivatives

# A year for the bear

**Futures premiums have been on a slow and steady trend south, with most BTC futures currently trading at substantial discounts to spot.**

- Throughout the year, futures premiums have trended lower, both on offshore futures exchanges and on CME. The contrasts are stark to 2021, where the annualized 3-month futures basis peaked at 50% on offshore exchanges during the euphoric April days.
- Following the FTX collapse, most futures started trading in backwardation at a discount to spot. Sentiment has gradually deteriorated, and hedging or naked shorts have taken over, leading premiums to ebb lower.




Source: Skew, Laevitas, Tradingview, CME Group

*Closed Saturday - Sunday

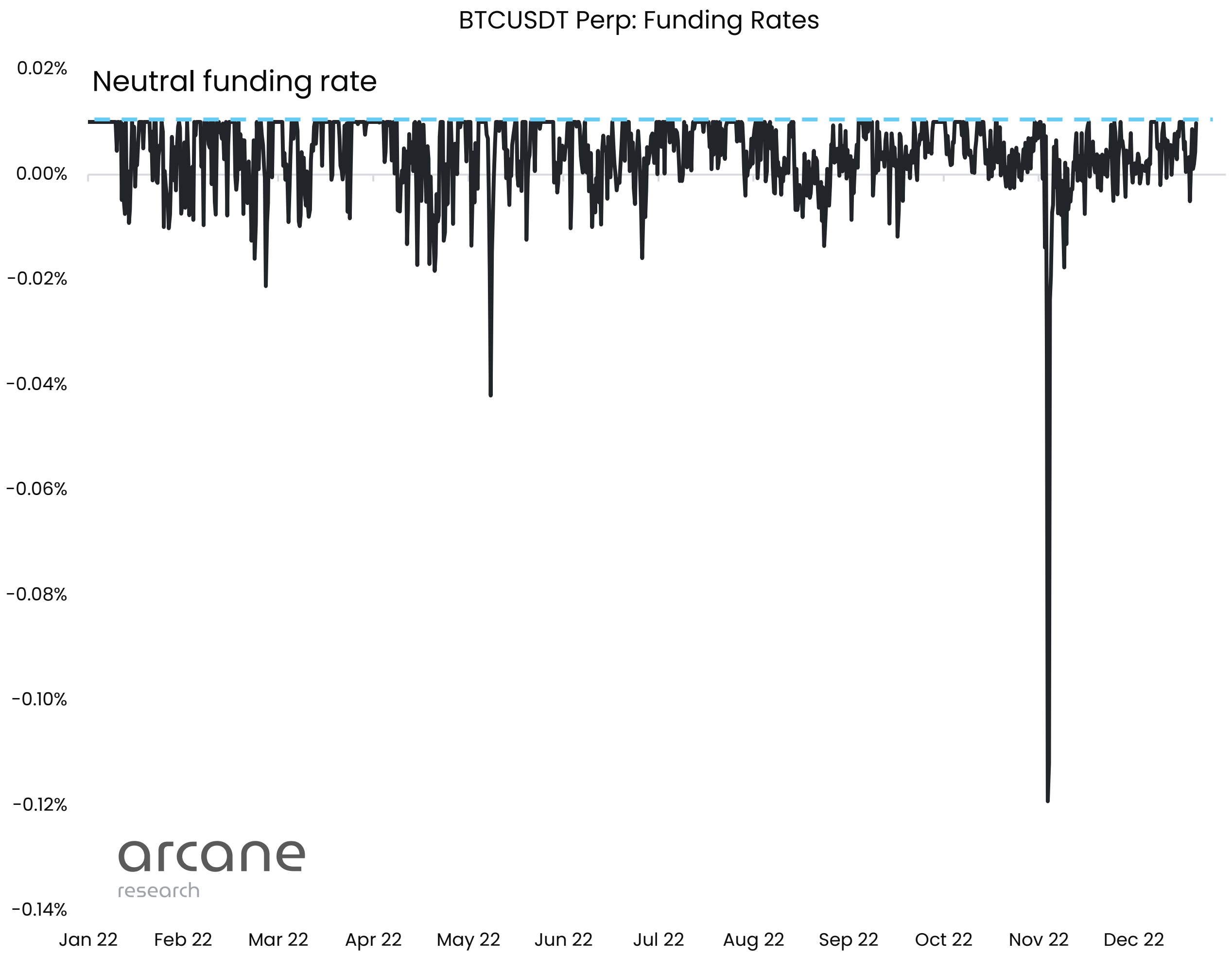
**2023 prediction:** Futures basis will recover into a contango, but yields will remain suppressed throughout most of the year.

# Not a single instance of funding rates above neutral

**Perps have been trading at "bearish" rates throughout the year.**

- Funding rates on Binance saw exactly zero instances of climbing above the neutral 0.01% threshold in 2022.
- This illustrates the prolonged pessimistic sentiment in crypto markets but is likely also caused by funds actively shorting and hedging during any sign of strength in the market due to funding rates' tendency to climb towards neutral terrain ~ 10.95% APY.
- Funding rates on Binance's BTCUSDT perp have not been above neutral levels since December 4, 2021. The current funding rate regime is unique, as the previous record long duration of funding rates at neutral to below neutral levels lasted for 2.5 months, compared to the current 13-month consistent trend of neutral to below neutral funding rates.
- The neutral funding rate threshold of 0.01% every eight hours represents one of the few somewhat viable yield strategies in crypto, making a case for a structural contango in crypto.
- The 0.01% level is a relic from the past when BitMEX landed at that funding rate to incentivize participation from shorts to reduce alternative cost implications from shorting BTC and ensuring that perps traded more reliably aligned with spot markets. The market has since matured, and liquidity has improved, and we argue that the time is ripe for rethinking the 0.01% neutral funding rate threshold.

**2023 prediction:** Funding rates will climb above neutral territory during 2023. The 0.01% neutral funding rate threshold will remain unchanged.



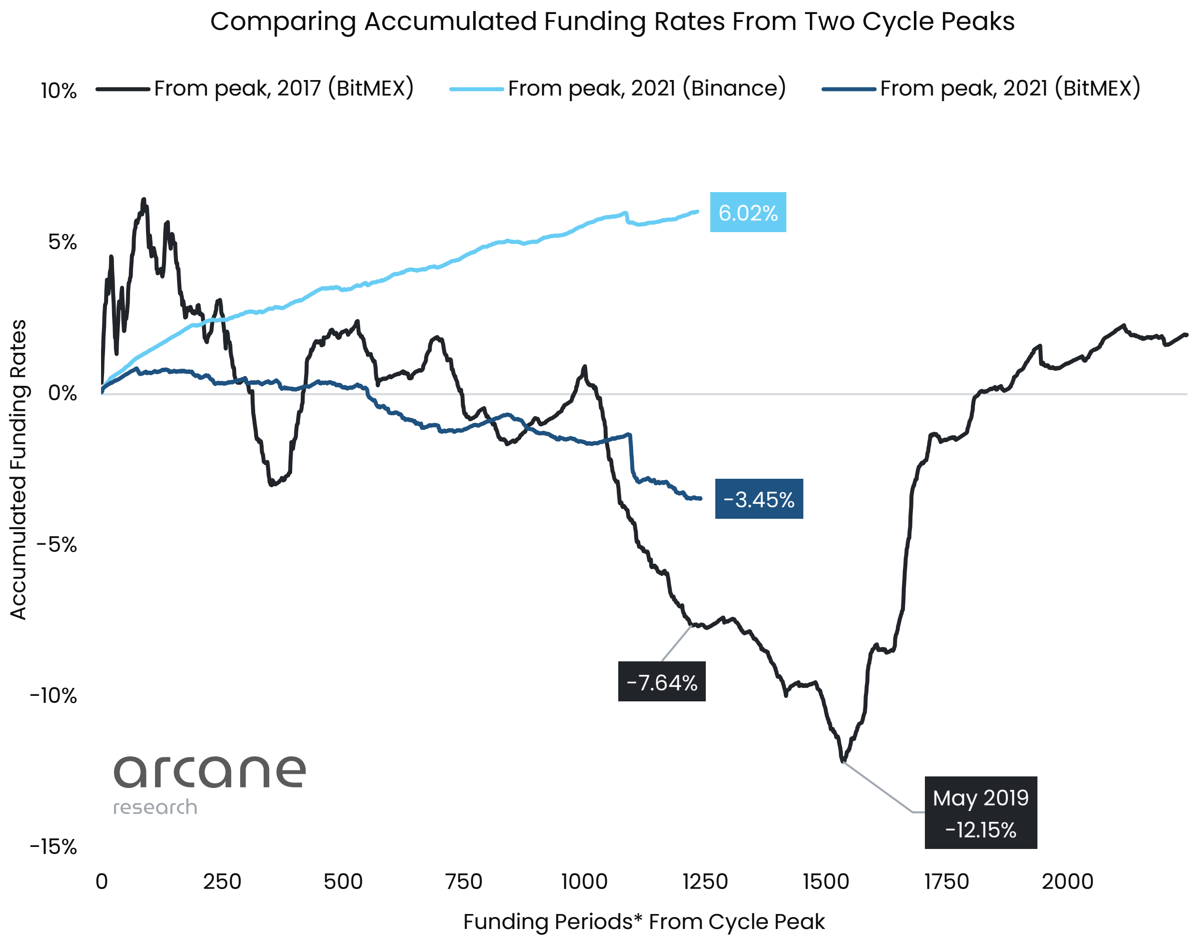

Source: Skew, Binance

# A different kind of bear market?

## Comparing 2018 funding rates to the current regime

**Perps behaved very differently during the 2022 bear market compared to 2018. In 2018, funding rates periodically pushed above neutral levels, while the negative extremes were far lower than in the current bear market.**

- Funding rates on Binance have remained neutral to below neutral since December 4th. But how does the current funding regime compare to the 2018 bear cycle? We compare accumulated funding rates from the 2017 cycle peak to the funding rates from the 2021 cycle peak.
- Since November 10th, 2021, a short in Binance's BTCUSDT perp would've yielded 6.02% to shorts. In other words, while funding rates have never been above neutral, longs have still paid shorts.
- BitMEX dominated the derivatives market in 2018. 400 days after the 2017 peak, the accumulated BitMEX funding rates reached -7.64%, albeit in a far more volatile manner compared to the funding rate regime of today. Thus, during the 2018 bear, shorts tended to pay longs on aggregate.
- Derivatives are complex, and funding calculations vary across derivatives instruments, and in this instance, even the collateral structure of the derivatives. Thus, to compare like for like, we've included the 2022 funding rates of BitMEX's inverse perp in the chart. Since the 2021 peak, BitMEX's perps have yielded an accumulated funding rate of -3.45%, lower than the funding rates yielded in the first 400 days of the 2018 bear market.
- Nevertheless, BitMEX currently represents 3.3% of the open interest in perps versus >50% in the 2018 bear market. BitMEX is less relevant than it once was.
- BitMEX's accumulated funding rates from the cycle peak bottomed at -12.15% in May 2019. Then, funding rates were far more extreme than today. While funding rates currently tend to float below neutral terrain, deeply negative funding rates of -0.375% were typical in the more nascent derivatives market in 2018 and 2019. More efficient market makers and a more efficient market in general likely contribute to less extreme downward pushes in funding rates, in addition to balancing funding rates at neutral levels of 0.01%.



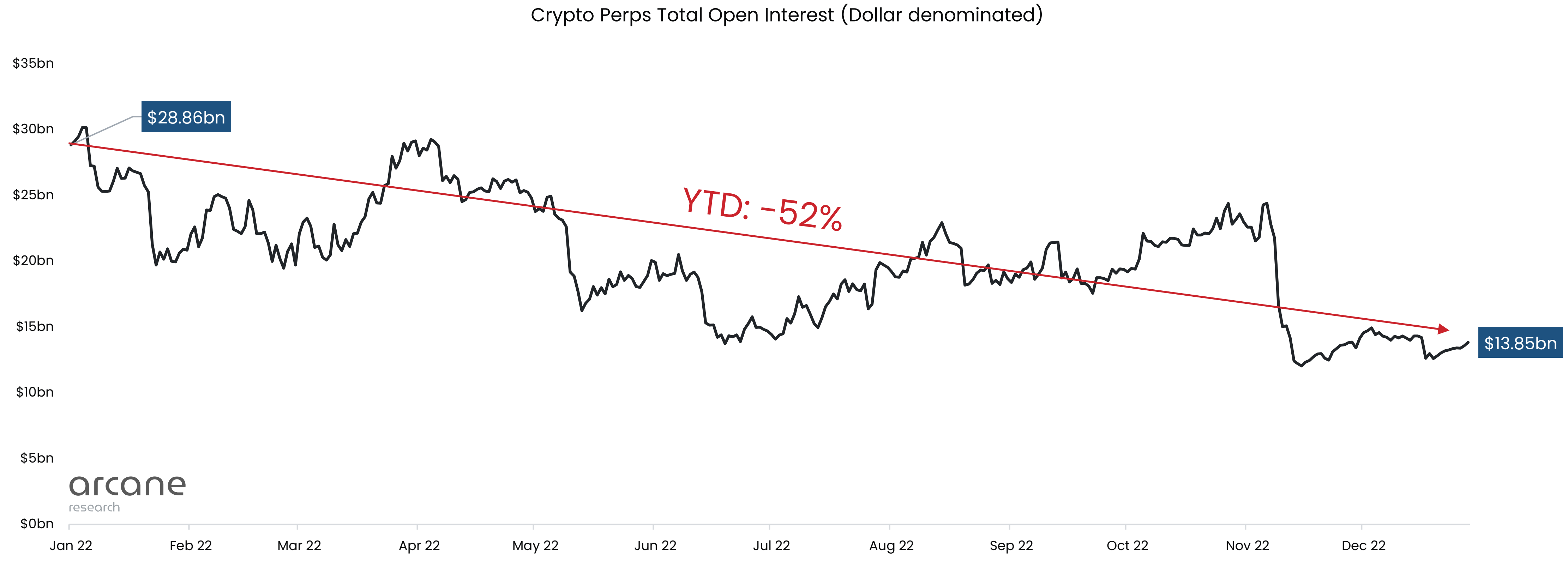

Source: Skew, BitMEX, Binance

*3 Funding Periods per day

# Open interest across all crypto perps down 52% this year

The aggregated open interest across all crypto perps has fallen by 52% this year from $28.9bn to $13.9bn. While this decline is substantial, we note that the total crypto market cap has fallen by 65% in 2022, meaning that leverage, in relative terms, is currently higher than it was as we entered the year in crypto derivatives.

We have seen several massive declines in perp OI this year, with the by far most distinct washout occurring during the FTX collapse when OI fell by 50% over a 10-day period.

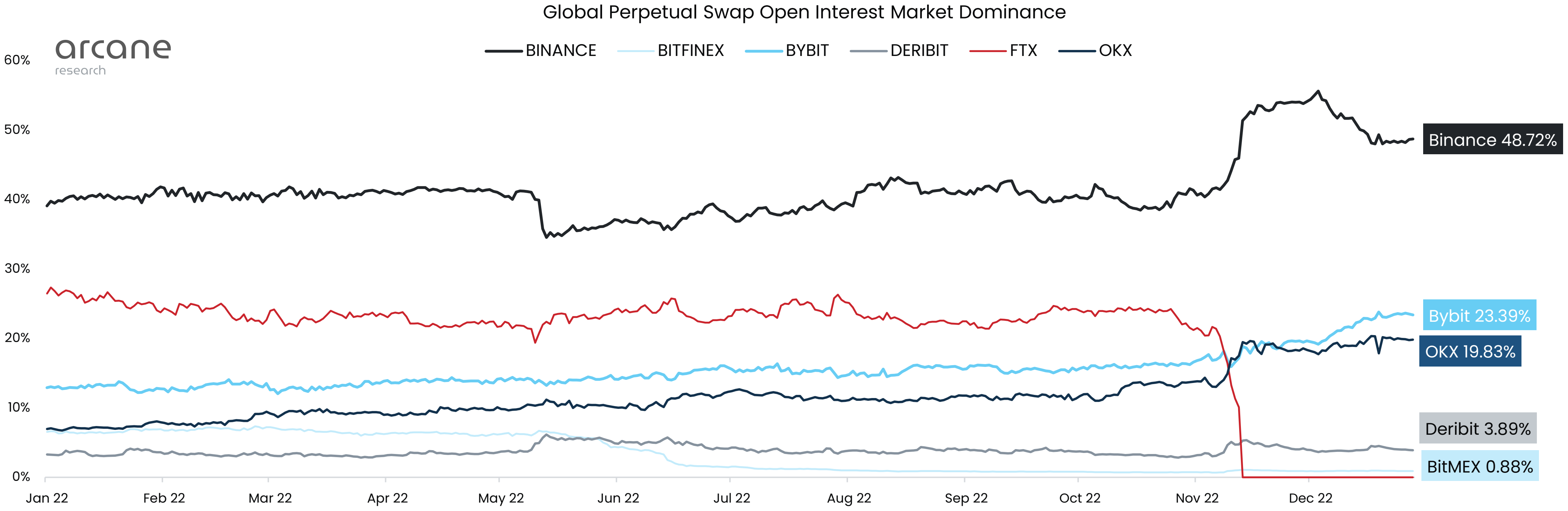



Source: Laevitas

**2023 prediction:** Open interest will decline relative to the total crypto market cap.

# Half of perp leverage sits on Binance

Binance represents nearly half of the total open interest across crypto perps. Following the FTX collapse, Binance's market share peaked above 50%, but dominance fell slightly after traders closed trades. Bybit and OKX are the second and third largest crypto derivatives venues measured by market share, representing 23% and 20%, respectively.



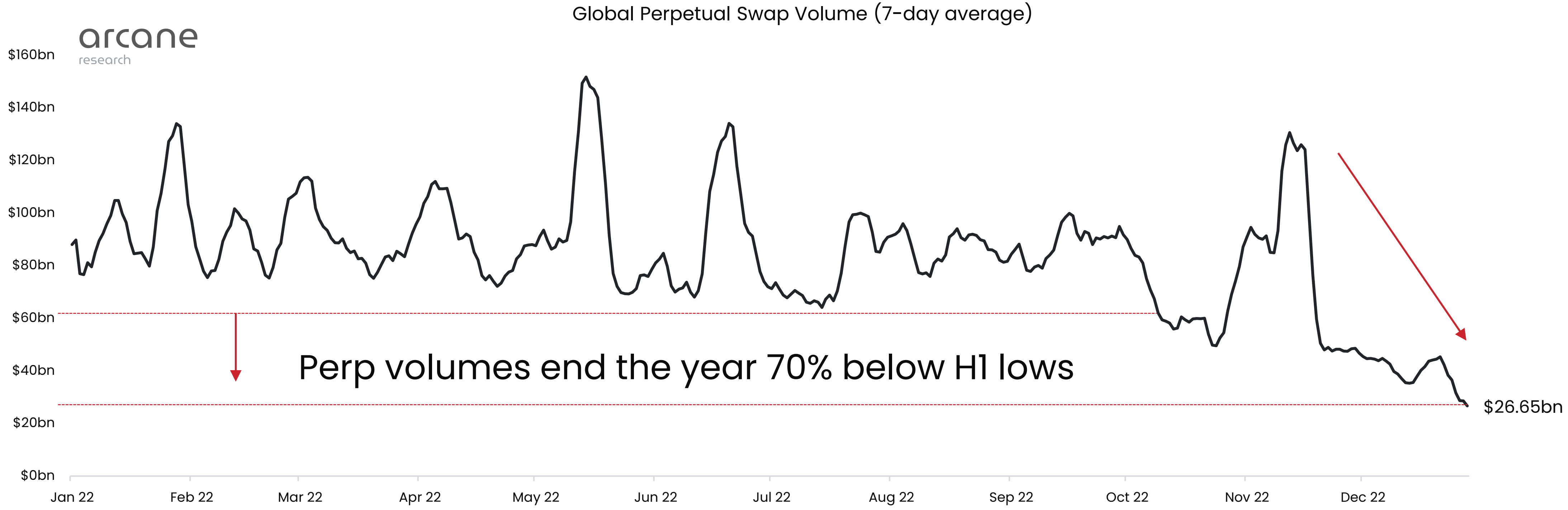

Source: Laevitas

**2023 prediction:** Binance will maintain its leadership role in crypto perps

# Trading activity in perps dwindles

Trading activity in perps was fairly stable throughout most of 2022, with bursting volumes during periods of sharp market drawdowns, with all volume peaks coinciding with price plunges. However, following the FTX collapse, the 7-day average trading volume in perps has fallen substantially.

Currently, trading volumes in crypto perps sit 70% lower than the low levels faced before Q4 2022. The declining perp volume illustrates a less active market. While the Christmas period represents a uniquely idle period in markets, we expect subdued volumes to prevail and daily perp volumes to trail in a $30-40bn range with crypto consolidating, leading trading interest to dwindle.




Source: Laevitas

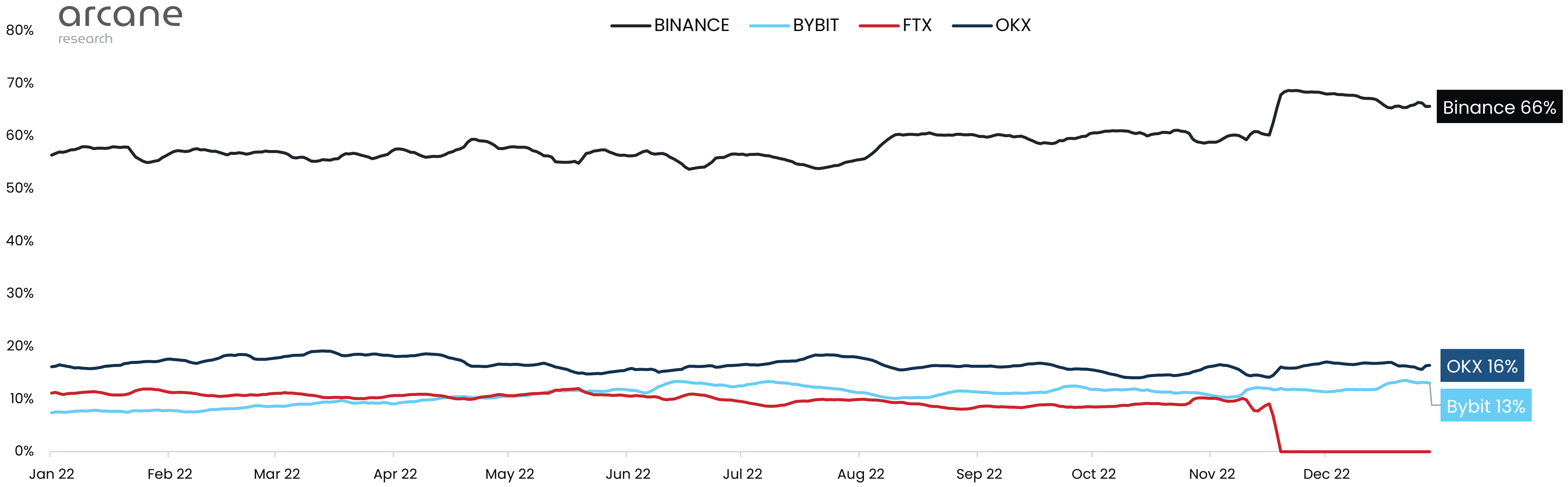
**2023 prediction:** Perps will experience subdued volumes as trading interest dwindles.

# Binance perps account for two thirds of perp trading volume

Binance's dominance becomes even more apparent when examining perp volumes, as Binance currently represents 66% of the total trading volume in perps. Until November, Binance represented 55% of the trading volume in perps, but following FTX's collapse, more or less all market share in perp trading was overtaken by Binance, leading to rapid and prevailing growth in market dominance.

OKX and Bybit are the second and third largest trading venues for perps, with OKX holding a firm grip as the second largest perp venue when measured by trading volumes throughout 2022.

Global Perpetual Swaps Volume: Market Dominance



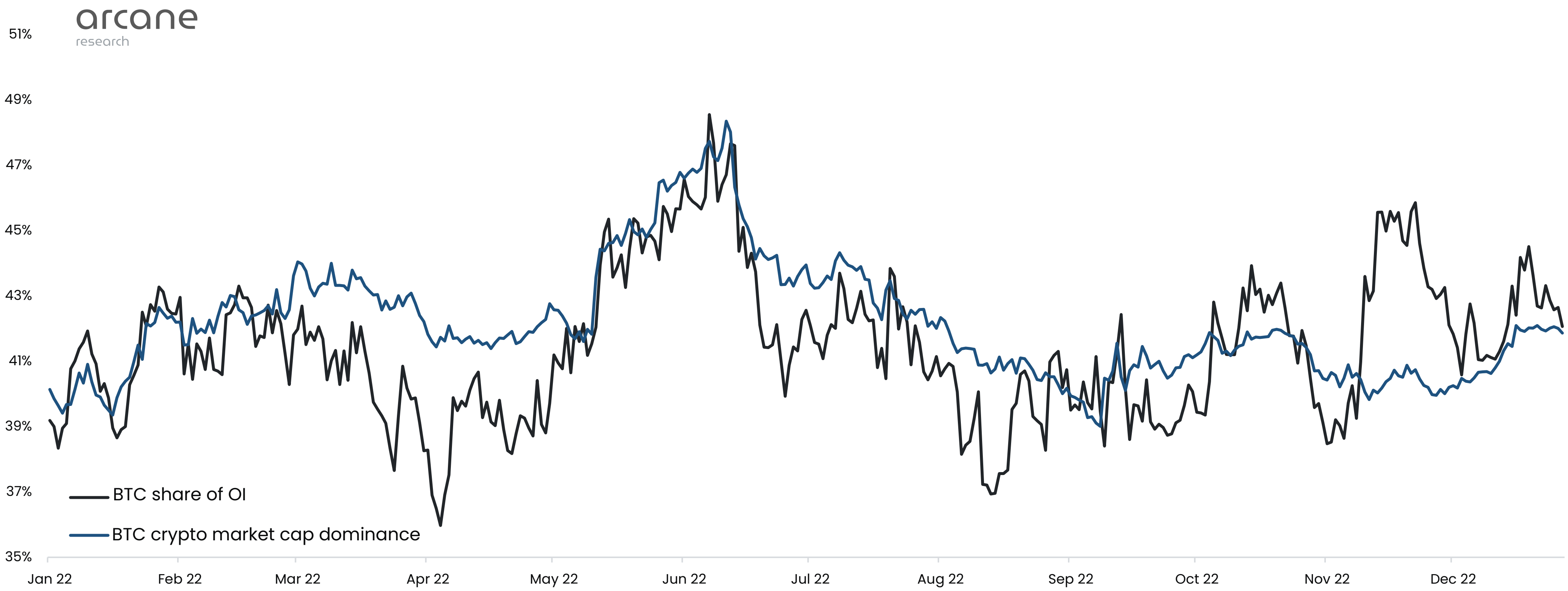

Source: Laevitas

**2023 prediction:** Binance will maintain its leadership role in crypto perps

# BTC’s share of global crypto OI aligns with market dominance

BTC’s open interest dominance has mostly followed BTC's crypto market dominance throughout the year. Deviations have been sparse and few, with the most notable variation occurring in early April during the peak Luna frenzy.

BTC Perp OI market share versus BTC market cap dominance

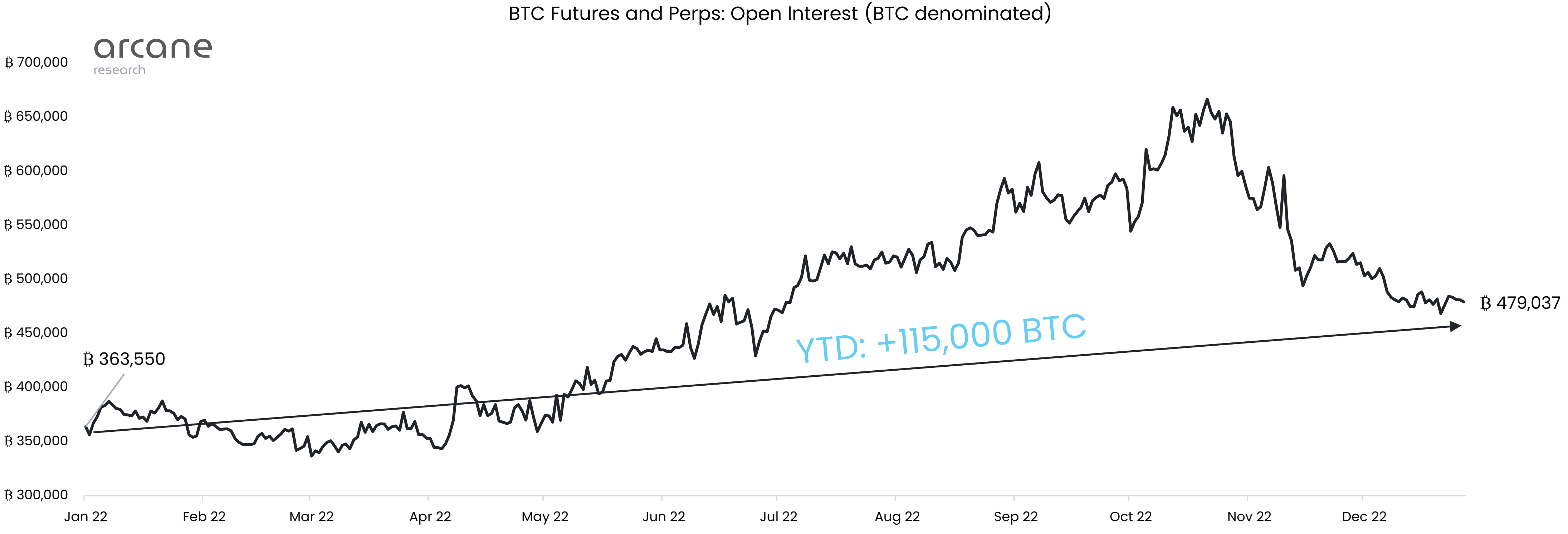



Source: Laevitas, Tradingview

# Constantly upward trending open interest in BTC until November

Leverage in BTC was in a constant uptrend from the Luna collapse until late November, peaking at a new notional all-time high of 666,000 BTC on October 21st. After the FTX debacle, open interest plunged to current levels of 479,000 BTC but stays elevated compared to highs seen throughout 2021.

In fact, the notional open interest has only been higher once before 2022, during the build-up towards the March 2020 collapse. Nevertheless, most of the growth in open interest has coincided with a downward trending market, and several blatant shorts or hedges are sitting in well-profitable trades. The closing of said orders may cause buying pressure in BTC and lead to a positive structural change in BTC prices down the line.




Source: Laevitas

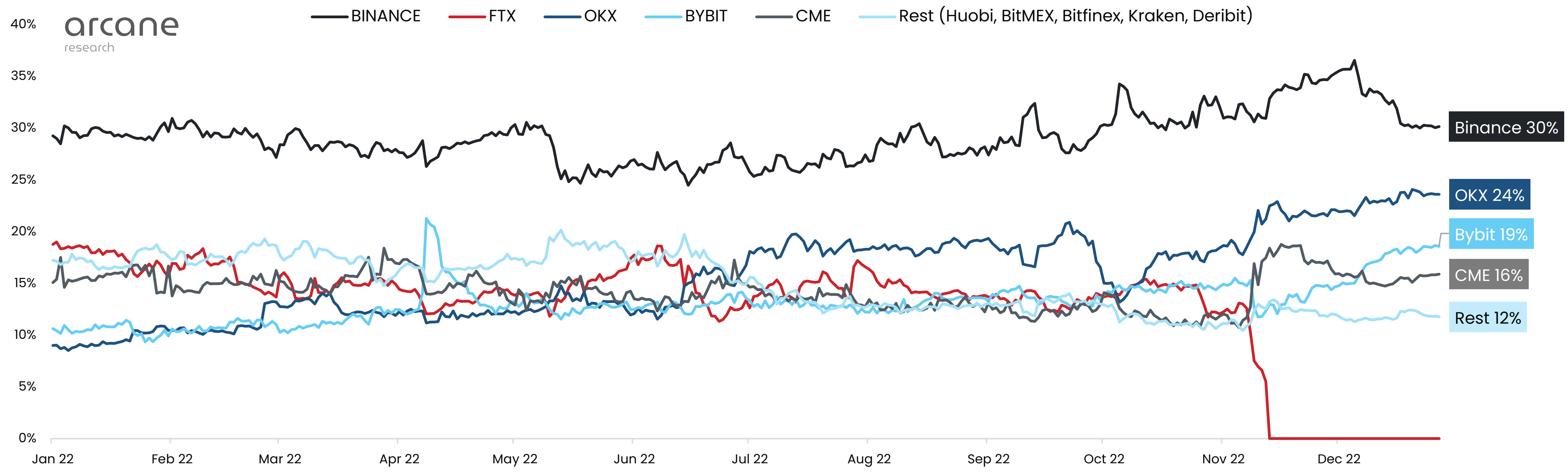
**2023 prediction:** The notional open interest in BTC will decline towards 300,000 BTC.

# Binance dominating throughout the year – OKX massive recovery

Binance dominance in BTC futures and perps is slightly less pronounced than Binance's dominance in the crypto perp market. Nonetheless, Binance has been the market leader throughout the year in terms of open interest and has stably maintained a market share of 25-35% of the open interest in BTC derivatives. Regardless, the most remarkable development in 2022 has been OKX's massive recovery, as illustrated in slide 40.

CME's market share has been fairly stable at 10-15% throughout the year but saw a short-lived sharp uptick after FTX collapsed, as we have previously illustrated. However, market conditions have since normalized on CME and the activity was short-lived during the chaotic November days.

BTC Futures and Perps OI dominance



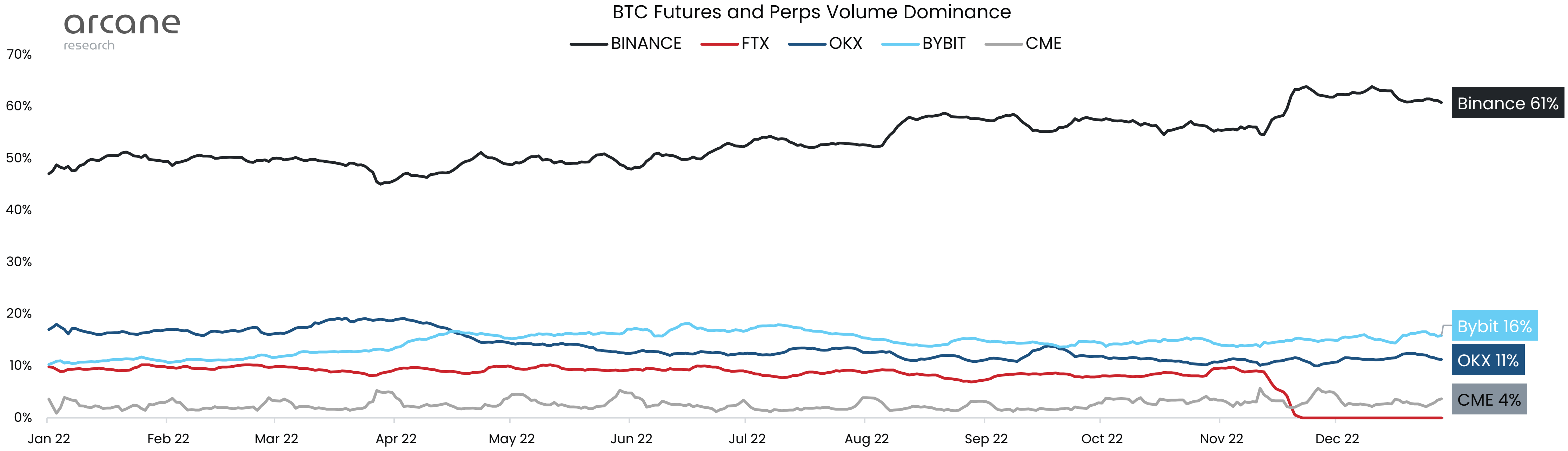

Source: Laevitas, CME Group, Skew

**2023 prediction:** Binance will maintain its leadership role in BTC futures

# Binance represents 61% of BTC derivatives volumes

We conclude our exercise of illustrating Binance's sheer dominance of the crypto market by presenting Binance's trading volume dominance in BTC perps and futures. Binance represents 61% of the trading volume in BTC derivatives, and its dominance is nearly as high within BTC as it is across all crypto perps. Binance's share of the market has only grown throughout the year, and more or less, the entire market share of FTX fled to Binance in November.

CME currently only represents 4% of the trading volume in the market. It's somewhat unfair to compare CME to offshore derivatives due to substantially fewer trading days, but it's still obvious that most of the trading activity of BTC derivatives originates on offshore derivatives exchanges. Nonetheless, this has been the case ever since CME launched BTC futures, and several price discovery analyses (see Bitwise, and Arcane) point towards CME being an influential venue in BTCs price discovery, despite the comparably low trading volumes.




Source: Laevitas, CME Group, Skew

**2023 prediction:** Binance will maintain its leadership role in BTC futures

# OKX's remarkable recovery


**Since January 2020, OKX has seen its market dominance fall from 30% to 8% and recover to 25% in a truly remarkable recovery.**

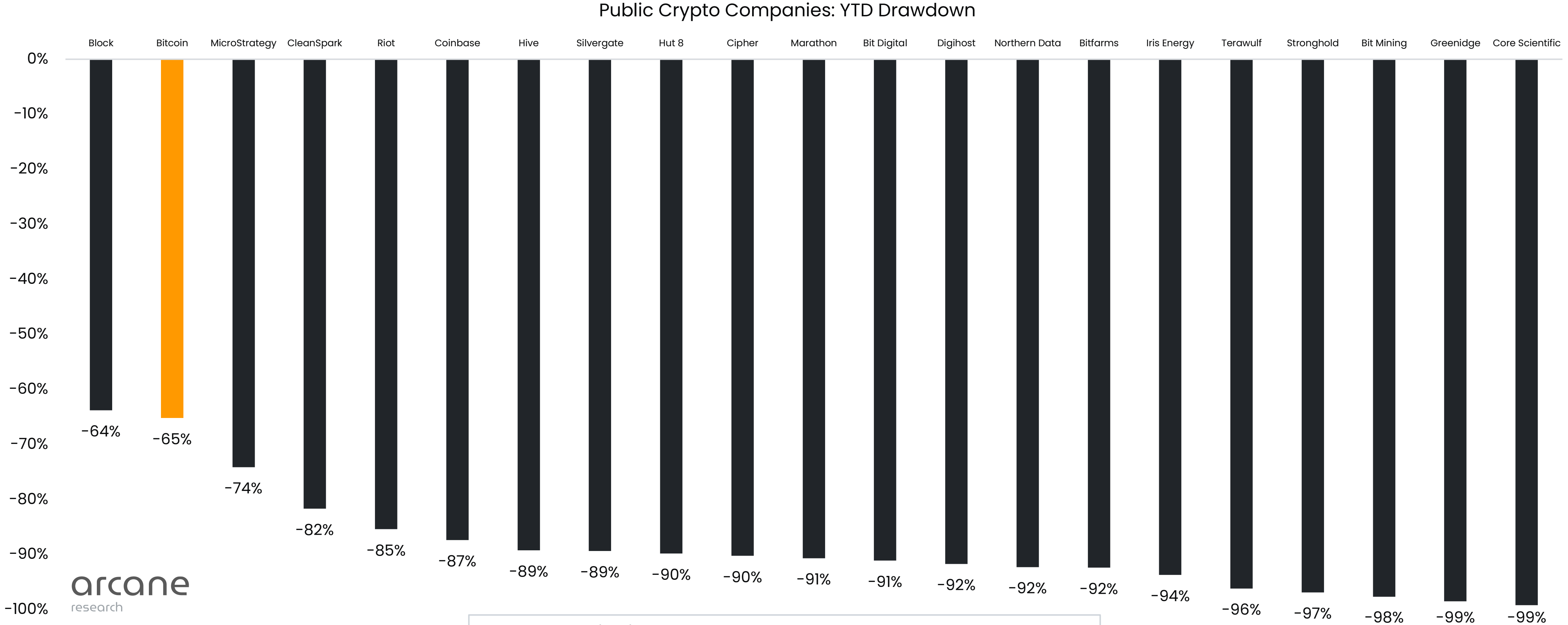
- OKX's recovery is the most overlooked and remarkable structural change in BTC derivatives in 2022.
- While 2021 was a devastating year for OKX due to Chinese crypto bans, leading the exchange's market dominance to plunge from 30% to 8%.
- OKX made more ambiguous statements regarding Chinese mainland traders in 2021 compared to Huobi, and it's likely that OKX had more flexible enforcement on Chinese accounts compared to Huobi, who then saw its market share plunge from 6% to 2% overnight.
- 2022 has mostly been an upwards journey for OKX. Open interest has slowly and gradually grown, and OKX has reappeared as one of the most relevant crypto derivatives markets.
- While OKX's growing market share of BTC's open interest is highly impressive, we note an odd observation from the previous slide that OKX's market share in terms of volumes has declined from 20% starting the year to 11% today.

# The Industry

Public companies, venture capital and restructuring

# Fortune did not favour the brave

2022 was, by all accounts, an extremely challenging year for public crypto companies, with most miners facing year-to-date drawdowns of 90% or more. Similar to how crypto lenders were incentivized to prioritize short-term growth over long-term sound business decisions to attract private capital, public miners were incentivized to take on debt and rapidly expand its hashrate share to attract more capital. However, an awful trifecta of higher interest rates, plunging BTC prices, and surging energy prices pressured several public BTC miners well beyond repair.




Source: Tradingview

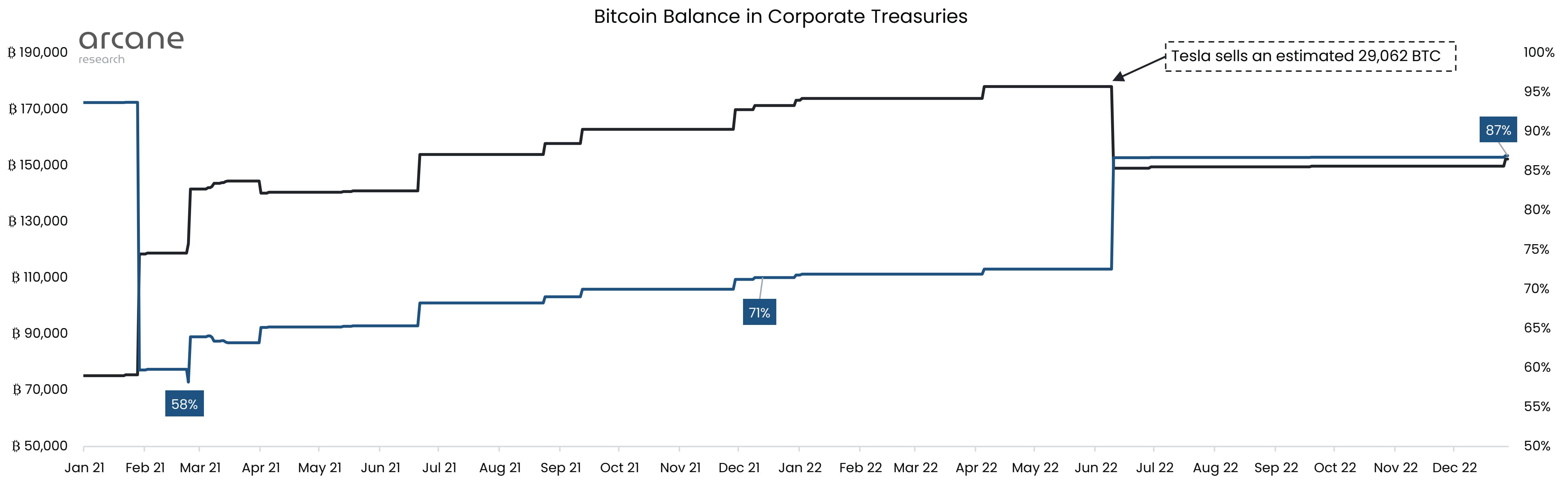
**2023 prediction:** We will see new Chapter 11s in 2023

# Bitcoin as a corporate treasury strategy

## Tesla almost out, while Saylor Texas hedges

**MicroStrategy's bitcoin treasuries account for 87% of the BTC held by publicly listed companies with bitcoin on their balance sheet after Tesla reduced exposure this summer.**

- MicroStrategy has increased its BTC exposure by 8,110 BTC in 2022, currently holding 132,500 BTC, aiming to accumulate more BTC through issuing $500m worth of Class A MicroStrategy stocks.
- Tesla, on the other hand, reduced its BTC balance by an estimated 29,062 BTC in May and June and currently holds less than 10,000 BTC.




Source: MicroStrategy, Square, Tesla*, Meitu, Aker

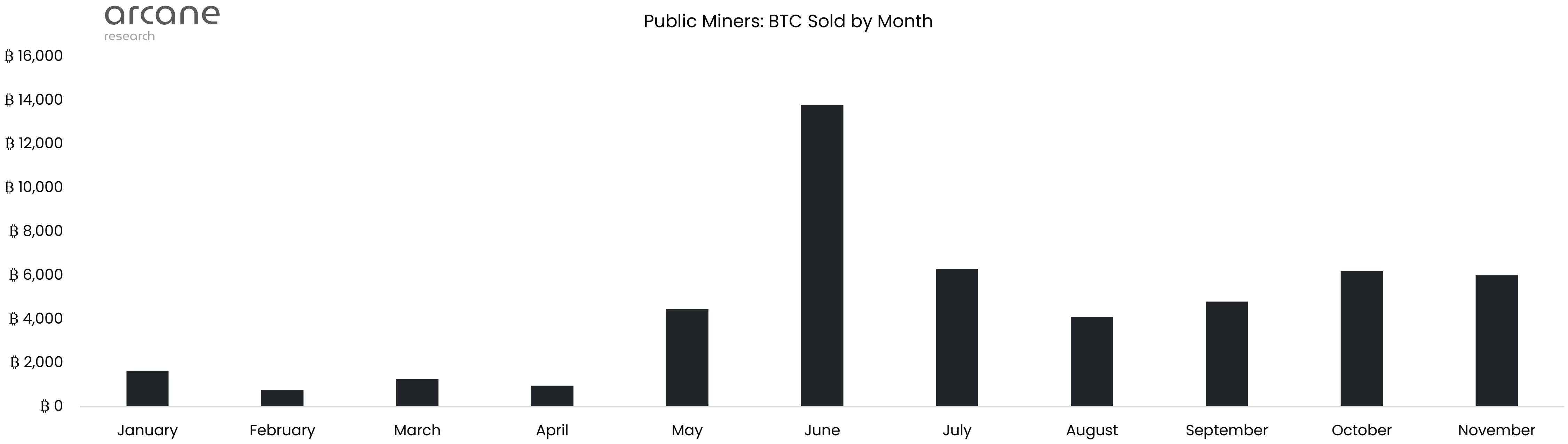
*Assumption based on VWAP price. Period: Jan 4th-29th

**2023 prediction:** Tesla will hold zero BTC by the end of the year.

# Public bitcoin miners sold more than 50,000 BTC in 2022

Throughout 2021 and the first four months of 2022, public miners held on to more BTC than they produced. However, this behavior changed in May, as several public BTC miners began selling BTC in size as markets plunged. Public miners sold more than 50,000 BTC from January to November, with peak selling occurring in June as Core Scientific, in particular, sold off substantial amounts of BTC.

Hashrate Index made a case for miner selling having a largely irrelevant impact on BTC prices, with public miner selling at 100% of its production rate constituting 0.2% of the total volume on Binance. We believe that constant selling pressure from miners has a relevant market impact, as volumes at large are shuffled between desks with a mostly neutral market view, leading the impact of a net seller or net buyer to have noticeable effects on BTC markets.




Source: Hashrate Index, Arcane Research

**2023 prediction:** Selling pressure from miners will become less pronounced in 2023, and current fears of the impact of a miner capitulation on the market are overestimated.

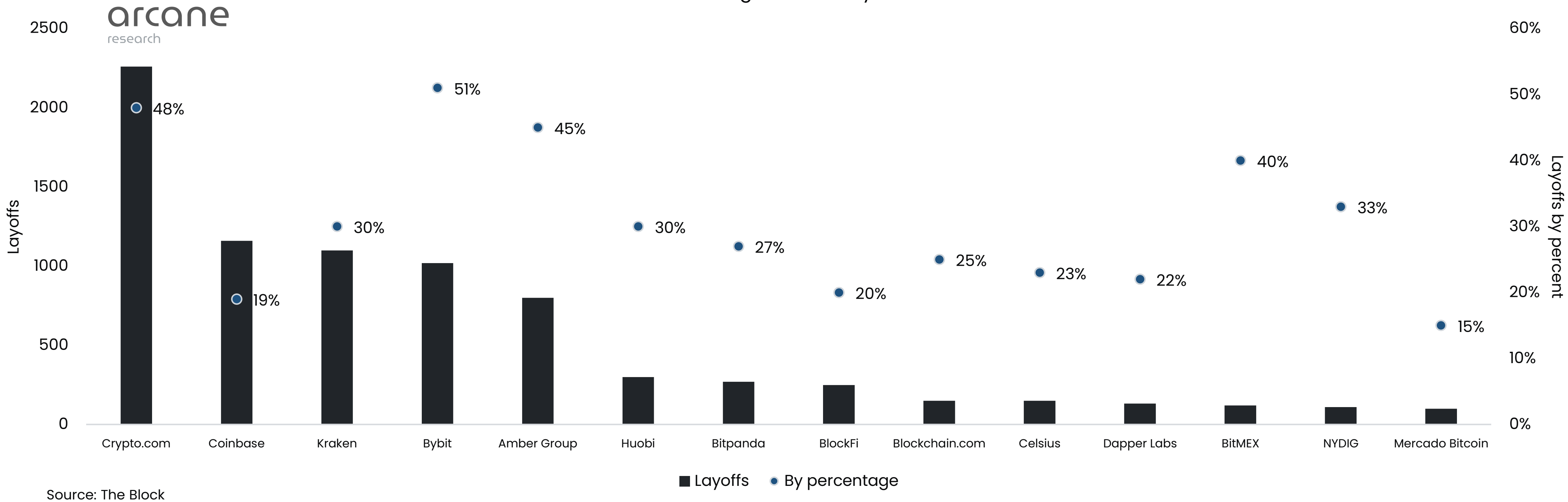
## A year for restructuring

# 9,564 digital asset layoffs according to The Block

The new market conditions have forced crypto companies' hands into restructuring. In The Block's thorough year-end review report (well worth the read!), The Block estimated that companies related to digital assets had experienced 9,564 layoffs in 2022, a slashing of approximately 10% of the workforce. Still, employment within crypto is vastly higher than The Block estimated in 2018, currently estimated to a range of 120k-280k employees in the Digital Asset Industry.

Crypto.com, Bybit, and Coinflex have halved their workforce this year. A very notable exception from the layoff trend in 2022 is Binance, which doubled its size to 7,300 employees compared to one year ago.

Most Notable Digital Asset Layoffs in 2022



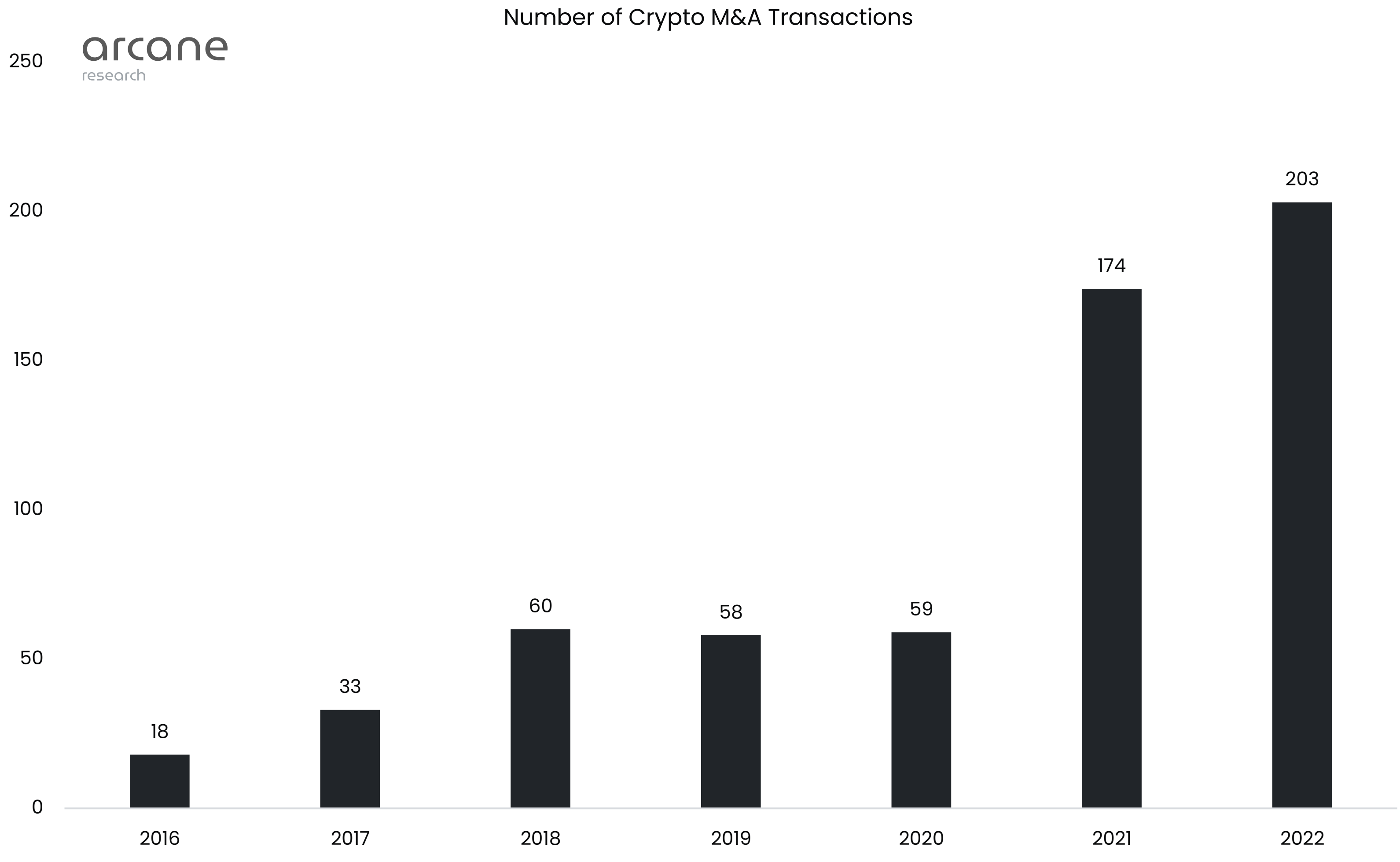

Source: The Block

**2023 prediction:** More heads will roll in 2023. Our view of a less active crypto market in 2023 will directly impact revenues, leading to further layoffs.

# Record breaking M&A year for crypto

**In 2022 we saw an all-time high of 203 crypto-related M&A transactions.**

- While the crypto winter has been punishing by most accounts, venture arms have maintained their activity throughout the year, as 2022 saw a record-breaking 203 crypto-related M&As.
- Apart from a temporary M&A slowdown in mid-November, the amount of crypto M&As was fairly stable week-over-week, typically ranging from 4 to 6 deals per week.

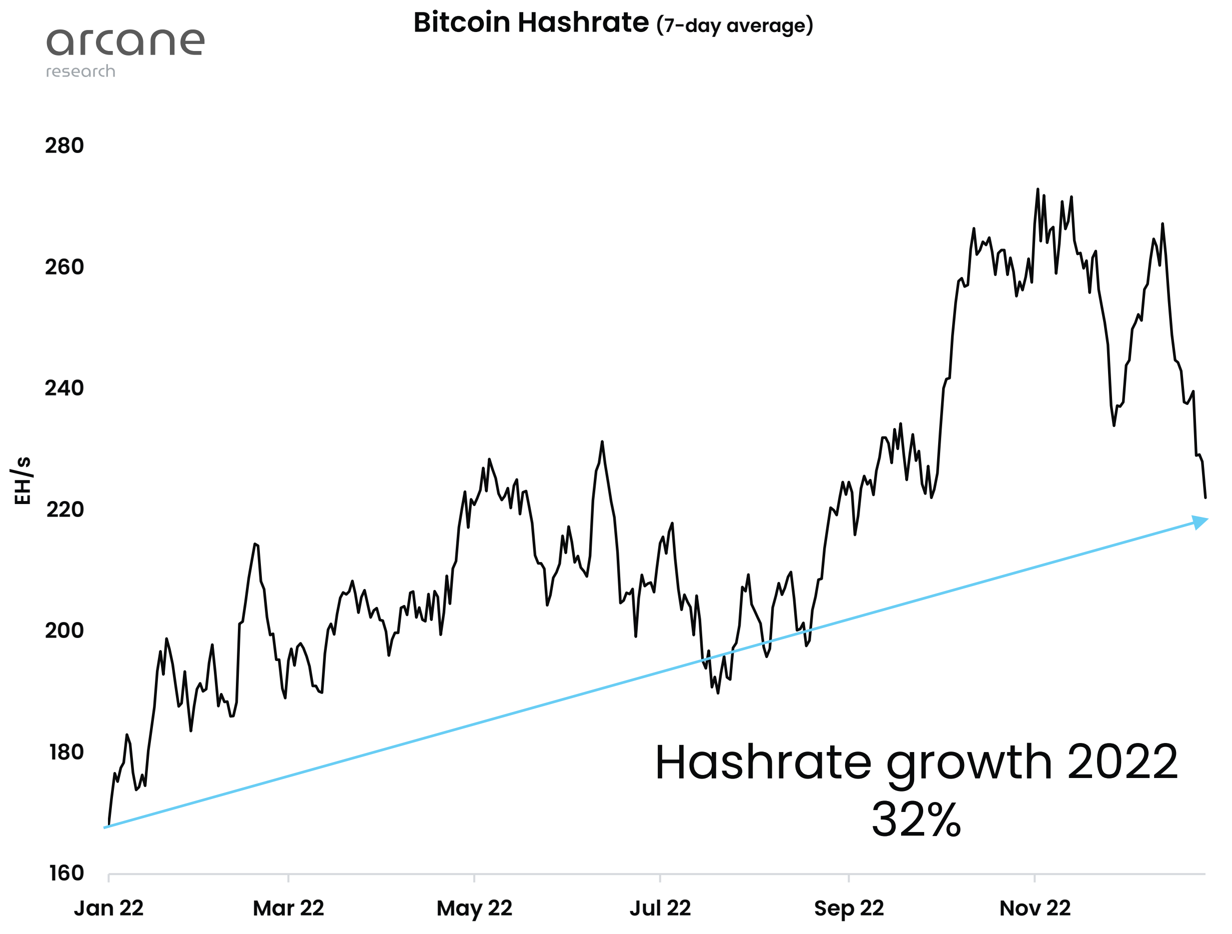



Source: Architect Partners

# Hashrate grew by 32% in 2022

**While miners have faced a very challenging year, hashrate has grown by 32%.**

- We have already illustrated the pressured situation among BTC miners, with most public miners experiencing a yearly drawdown of 90% or more.
- Higher energy prices, rising interest rates, and plunging BTC prices have generated this difficult environment for miners.
- Regardless, hashrate has grown throughout the year and sits 32% higher than it did on January 1st.
- This illustrates that competition is still fierce among BTC miners and represents a fourth burdensome challenge for BTC miners due to BTC's difficulty increases.
- All in all, the growing BTC hashrate increases BTC's security by reducing the likelihood of 51% attacks (which were already unlikely at 170 EH/S). This is a welcome development, but it represents yet another challenge for already pressured BTC miners.




Source: Blockchain.com

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